TROPICAL AFRICAN FLOWERING PLANTS

Ecology and Distribution
Vol. 11 – Cyperaceae

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A. L. STORK

Conservatoire et Jardin botaniques de Genève
2020
This volume is dedicated to the memory of Jean Raynal (1933–1979), an eminent French specialist of the family Cyperaceae (biography in Adansonia, Sér. 2, 19: 251–256, 1980).

Cover page illustration: Scirpoides holoschoenus (L.) Soják, photograph by Florian Mombrial; Cyperaceae are rarely photographed. This picture of a common species was chosen by us for its beauty.

Back cover illustration: Pycreus demangei J. Raynal [syn.: Cyperus demangei (J. Raynal) Lye] is an annual herb with submerged leaves and emergent inflorescences. It grows in seasonal pools or flooded plains and pans scattered over the African continent (See p. 288 and map p. 287). Drawing by Aline Raynal-Roques who generously offered us the use of her art work, and donated all her drawings of Cyperaceae to the Conservatoire et Jardin botaniques de la Ville de Genève as well.
CONTENTS

Acknowledgements .............................................................................................................. 7
New combinations ................................................................................................................ 8
I. Introduction .......................................................................................................................... 9
II. General bibliography .......................................................................................................... 11
   A. General references (Tropical Africa) ............................................................................ 11
   B. Additional useful literature ........................................................................................... 11
III. Statistical summary ............................................................................................................. 12
IV. How to use this book .......................................................................................................... 15
V. Cyperaceae: Introductory notes and bibliography .............................................................. 17
   A. Introductory notes ......................................................................................................... 17
   B. Bibliography ................................................................................................................. 17
VI. The Checklist ...................................................................................................................... 25
VII. Index to Genera ................................................................................................................ 367

He was killed in a car accident on the 12th of October, 1979, between Niamey and Dosso (Niger). The remains of the car are seen below. Photograph: E. Boudouresque, comm. A. Raynal-Roques.
ACKNOWLEDGEMENTS

First of all we wish to thank the Director of the Conservatoire et Jardin botaniques of Geneva, Dr. P.-A. Loizeau, for offering us excellent working facilities. We are also most indebted to Dr. M. Callmander, Curator of the Library and Editor of publications, for his interest in our work and his support, and to the whole Staff of the Library for their infatigable help with literature research. We extend our thanks to Mr. N. Fumeaux for his never-failing assistance in solving nomenclatural problems.

We are also most grateful to Mr. M. Christe of our Printing Office who formatted the text and prepared the cover pages; and to Mrs. Véronique Compagnon, as well as Mrs. Paulette Mérigout (Créteil, France) for their assistance and friendship.

We wish to thank Professor Aline Raynal-Roques for the photographs she provided for our Dedication page, and for the beautiful drawing she offered as cover illustration.

Last but not least we express our sincere thanks to Dr. C. Chatelain, editor of this as well as the other volumes. Texts and maps are under his control and supervision.
New combinations

New combinations first published in Candollea 74: 147–149, 2019, and figuring in this Volume:

*Kyllinga brunneofibrosa* (Lye) J.-P. Lebrun & Stork ............................................................... p. 212
*inselbergensis* (Lye) J.-P. Lebrun & Stork ................................................................. p. 219
*microcristata* (Lye) J.-P. Lebrun & Stork ............................................................... p. 220
*rheophytica* (Lye) J.-P. Lebrun & Stork ................................................................. p. 228

*Mariscus absconditicoronatus* (Bauters, Reynders & Goetgh.) J.-P. Lebrun & Stork .......... p. 250
*baobab* (Lye) J.-P. Lebrun & Stork ............................................................... p. 253
*boreochrysocephalus* (Lye) J.-P. Lebrun & Stork ................................................ p. 253
*cunduduensis* (Chiov.) J.-P. Lebrun & Stork .......................................................... p. 255
*gyrophilus* (Lye) J.-P. Lebrun & Stork ............................................................... p. 258
*kitaleensis* J.-P. Lebrun & Stork, nom. nov. ........................................................... p. 260
*micromedusaeus* (Lye) J.-P. Lebrun & Stork ...................................................... p. 263
*ossicaulis* (Lye) J.-P. Lebrun & Stork ................................................................. p. 264
*plaricephalus* (Lye) J.-P. Lebrun & Stork ............................................................ p. 266
*recurvissipicus* (Lye) J.-P. Lebrun & Stork ...................................................... p. 267
*somaliidunensis* (Lye) J.-P. Lebrun & Stork ...................................................... p. 270
*soyauxii* (Böckeler) C. B. Clarke subsp. *pallescens* (Lye) J.-P. Lebrun & Stork .......... p. 270
*unispicatus* (Bauters, Reynders & Goetgh.) J.-P. Lebrun & Stork ................ p. 274

*Pycreus micropelophilus* (Lye) J.-P. Lebrun & Stork .............................................. p. 294

New combination published in this Volume:

*Mariscus boreohemisphaericus* (Lye) J.-P. Lebrun & Stork ........................................ p. 254
1. INTRODUCTION


This volume covers the family Cyperaceae in tropical Africa. The family is nearly cosmopolitan, with 5450–5550 species in c. 108 genera. It forms the third largest family of Monocotyledons. It is represented in our area by 46 genera and 829 (+ 13 ?) species. A few of these species are incompletely known, at least to judge from flora accounts or herbarium material: 1 species for which rhizome/roots are lacking, 11 species (= c. 1 %) for which (ripe) fruits are not known, 19 (+ 1 ?) species (= c. 2 %) for which the ecology is not recorded, and approximately 92 (+ 6 ?) species (= 11 %) are known only from the type gathering.

The generic concept adopted by us is the same as that used in several traditional floras, and in our Enumération Volumes 3: 161–212 (1995). In its main lines it corresponds to the classification proposed by Goetghhebeur (1998; in K. Kubitzki, The families and genera of vascular plants 4: 141–190). This system differs much from that adopted by, e.g., The World Checklist of Selected Plant Families (Royal Botanic Gardens, Kew). The differences of opinion mainly concern the genus Cyperus where Goetghhebeur recognizes several segregate genera. These plants “are difficult to classify due to the complex structure of their inflorescences, which leads to different interpretations and to establishing uncertain hypotheses of homology” (Reutemann & al. in Bot. Rev. 78: 184, 2012).

“… plant taxonomy, especially in its traditional forms, is now going through some bad times… The last two decades have seen profound changes in techniques and approaches to the subject… The development of efficient and much cheaper computing has greatly facilitated the handling of vast datasets, and molecular taxonomy has an academic respectability that traditional taxonomy failed to achieve… In particular, DNA sequencing and the whole field of molecular systematics have produced a revolution in the classification of even familiar plants… Nevertheless, wise councils… have urged caution, emphasizing that these molecular methods should be seen as techniques and not themselves become the end rather than the means of taxonomy… molecular research is also leading to re-classification of familiar genera…” “generic name changes… should never be taken lightly… Changes are inevitable but too many among familiar genera and species confuse most users outside the rarified world of professional taxonomy. As phylogeny redraws the existing system, its practitioners should remain mindful of the consequences of these changes, which affect not just taxonomy users but also vegetation taxa used in phytosociology” (Akeroyd on “Flora Europaea” in Contrib. Bot. Cluj-Napoca 49: 31–36, 2014). Akeroyd also reminds us of the “large non-professional public, including naturalists, gardeners and conservationists”. Strid (Atlas of the Aegean Flora 1: 9, 2016) summarized the consequences in the following way: “Because of the nomenclatural consequences, rearrangements at the generic level can be particularly disturbing to ecologists, biogeographers, horticulturists and just about everybody else”… “So, some middle ground between lumping and splitting is required for practical, if not scientific purposes. That middle ground won’t be provided by DNA analysis, but if current tendency for genus/species names to keep changing can be stopped it would be progress” (Al Laius in Cactus World 34: 55, 2016).

“…So why should we try to make all taxa holophyletic in our taxonomy?” (Brummitt in Ann. Missouri Bot. Gard. 100: 89, 2014). “The theoretical basis for cladistic classification into monophyletic (holophyletic) ranked taxa is fatally flawed and is promoting bad taxonomy… In taxonomy a balance must be found between lines of descent and characters… the cladistic movement has adopted lines of descent rather than characters as the sole basis of taxonomy… But as soon as one imposes ranks on a phylogeny, one must create paraphyletic taxa. These are natural products of evolution, which should be recognized in taxonomy… Adoption of ranked taxa is incompatible with recognition of only complete clades… A monophyletic (= holophyletic) system recognizing only complete clades, is producing it as ‘cladonomy’… Cladograms are not classifications, and they need critical taxonomic assessment. The great majority of users of taxonomy are interested in characters and not cladistic theory…” (Brummitt, ibid). – For further thoughts we recommend an article by J. R. I. Wood entitled “Towards a taxonomy of taxonomists”, published in Oxford Plant Syst. 25: 9–10, 2019.

* * *

The descriptions of the species and the ecological notes figuring in our checklist are mainly borrowed or adapted from the floras and papers cited here or in our Enumération Volumes 3: 161–212, 1995, and 4: 597, 603, 1997.

* * *

Readers may notice that we still use the name “Zaire” for the now known “Democratic Republic of Congo” (compare also the World Checklist of Selected Plant Families, Royal Botanic Gardens, Kew). Names of many countries have changed more or less recently. Our choice is such in order to avoid confusion with “Congo” Brazzaville.
II. GENERAL BIBLIOGRAPHY

A. GENERAL REFERENCES (TROPICAL AFRICA)


B. ADDITIONAL USEFUL LITERATURE


This volume (Cyperaceae) covers 46 genera and 829 (+13) species. The genera are listed in Table 1 which also summarises our lack of information relating to vegetative organs, fruits, ecology, and herbarium material.

With a total of 829 (+13) species Table 1 shows the following results (figures within brackets indicate uncertain data):

- 1 species for which rhizome/roots are unknown;
- 11 species (= c. 1 %) for which (ripe) fruits are not known;
- 19 (+1 ?) species (= c. 2 %) without records on their ecology;
- 92 (+6 ?) species (= c. 11 %) which are only known from the type gathering/type locality.

We are aware of the fact that our figures do not reflect the absolute truth. They are certainly too high and should be considered as an indication only.
Table 1. – Genera included in *Cyperaceae*. Statistical summary: number of species (Nr. spp.); number of species for which vegetative organs, i.e. rhizome, roots (no veg.), ripe) fruits (no fr.), and ecology (no ecol.) are not recorded.; and number of species known only from the type collection/or locality (Only type). Figures within brackets indicate uncertain data.

<table>
<thead>
<tr>
<th>Genus</th>
<th>Nr. spp.</th>
<th>no veg.</th>
<th>no fr.</th>
<th>no ecol.</th>
<th>Only type</th>
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</thead>
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<td>1</td>
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<td>2 (+ 1)</td>
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<td>17</td>
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<td>4</td>
<td>13 (+ 2)</td>
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<tr>
<td>Diplacrum</td>
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<td>5 (+ 1)</td>
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<td>Ficinia</td>
<td>6</td>
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<td>Fimbristylis</td>
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<td>Kyllingiella</td>
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<td>65+9 (+4)</td>
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<td>Nemum</td>
<td>8</td>
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<td>1</td>
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<tr>
<td>Oxycaryum</td>
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<tr>
<td>Pycreus</td>
<td>63</td>
<td>5</td>
<td>12 (+ 1)</td>
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<td></td>
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<tr>
<td>Queenslandiella</td>
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<td>Remirea</td>
<td>1</td>
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<td>Rhynchospora</td>
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<td>Schoenoplectiella</td>
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<tr>
<td>Schoenoplectus</td>
<td>5 (+ 1)</td>
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<td>Schoenoxiphium</td>
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<td>Tetraria</td>
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<td>Torulinium</td>
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<td>Volkliella</td>
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<td>Websteria</td>
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<tr>
<td><strong>Total Cyperaceae genera:</strong></td>
<td><strong>46</strong></td>
<td><strong>829 (+ 13)</strong></td>
<td><strong>11</strong></td>
<td><strong>19 (+ 1)</strong></td>
<td><strong>92 (+ 6)</strong></td>
</tr>
</tbody>
</table>
IV. HOW TO USE THIS BOOK

For each species there is a description and a simplified map of distribution. In a few cases two species figure on the same map but with different symbols.


• Bibliographical references are sometimes given at the beginning of families and genera, as appropriate. They mostly refer to monographs or articles published after the issuing in 1997 of Volume 4 of our “Enumération” (an updating of the bibliographies is found at the end of each volume in the chapter “Additions et corrections...”).

• Basionym and synonym(s) are only cited if they do not figure in the “Enumération”.

• A short description, mainly with regard to life form, is given, e.g. tree, shrub, subshrub, liane, (annual, perennial) herb, and to the height of the plant; for trees sometimes also other characters, such as diameter and/or girth of the bole or presence of buttresses, are mentioned. Presence of rhizomes, tubers or bulbs and of spectacular features, such as showy flowers, exceptionally small or large leaves, flattened or rounded shoots, etc., or particular uses, are often specified.

• Ecological data are recorded, sometimes in rather detailed form if known; range of altitude is generally given.

• If a species comprises two or more intraspecific taxa, this is mentioned, but their names are not always quoted, as most of them appear in our “Enumération”. However, there may have been changes since the publication in 1991, and in this case the names figure in the text.

• Extraterritorial geographical distribution is given (i.e. not marked on the accompanying map of distribution which includes only the tropical part of Africa as defined in our “Enumération”).

• Extraterritorial geographical distribution is given (i.e. not marked on the accompanying map of distribution which includes only the tropical part of Africa as defined in our “Enumération”).

• On the maps of distribution (Fig. 1) we indicate the northern and southern limits of our area, as well as the political frontiers of the countries within these borders. Arrows (at the margin of the continent, W Africa) indicate the situation of four particular countries, viz. Western Sahara, Guinea Bissau, Togo, and Benin.

The main phytotaxies, based upon Frank White’s classification and indicated on the maps that figure in Volume 1 of this Series (p. 19), have been slightly modified. In the following list Section B has been split into two areas. From North to South, and East to West the phytotaxies are (Figs. 1 and 2):

• A. Southern Sahara-Sindian zone [corresponding to the southern part of White’s phytotaxonomic XVII (Sahara regional transition zone)].

• B. Sahelien-Sudano-Zambezian zone:
  Ba. Sahel regional transition zone [corresponding to White’s zone XVI];
  Bb. Sudano-Zambezian zone [corresponding to the following phytotaxonomic of White: III (Sudanian regional centre of endemism); XI (Guinea-Congolia/Sudania regional transition zone); X (Guinea-Congolia/ Zambezian regional transition zone); II (Zambezian regional centre of endemism); XIII (Zanzibar-Inhambane regional mosaic); and the north-eastern tip of XV, i.e. the southernmost part of Mozambique]; the enclosed parts of the “Afromontane archipelago-like regional centre of endemism” (VIII) and of the “Afroalpine archipelago-like region of extreme floristic impoverishment” (IX) have not been taken into account here (precluded by the small scale of our map).

• C. Guineo-Congolian rain-forest zone [corresponding to phytotaxonomy I of White (Guineo-Congolian regional centre of endemism)].

• D. Ethiopian Afromontane zone [the northern part of White’s phytotaxonomic VIII (see above under Bb)].

• E. Somalia-Masai/Afroriental zone [phytotaxonomic IV of White (Somalia-Masai regional centre of endemism) and the northernmost part of XIII (see above under Bb)]. The “Afromontane” (VIII) and “Afroalpine” (IX) archipelago-like regional centres are included (see above under Bb).

Fig. 1. – Main phytogeographical zones of tropical Africa used in the present work. For zones A through F, see explanations in the text.
• F. Lake Victoria mosaic [White's phytochorion XII (Lake Victoria regional mosaic)]. As is the case in our zones Bb and E, the “Afromontane” (VIII) and “Afroalpine” (IX) archipelago-like regional centres are included here (see above under Bb).

Madagascar is not included in our compilation although present on the map (Fig. 1). The maps are based on literature records at our disposal; thus they are indicative, but not exhaustive. In certain cases it has even been impossible to find the exact locality. Although it will always be possible to add dots on the maps, we believe that in most cases such additions will not change fundamentally the general pattern of distribution for a particular species.

The distribution of the species is shown on the maps in the following way:

• For small countries only one dot is used. For larger countries, and in particular if the distribution falls into different phytochoria, two (or more) dots are present.
• Dots are also placed in particular “subdivisions” of large countries, according to those given in the following floras: Adumbratio Florae Aethiopicae, Flora of Ethiopia and Eritrea, Flora of Somalia, Flora of Tropical East Africa, Flora Zambesiaca, Flore du Congo Belge et du Ruanda-Urundi (succeeded by Flore du Congo Belge, du Rwanda et du Burundi, and ultimately by Flore d’Afrique centrale), and Conspectus Florae Angolensis.

Readers will notice that plants seem to be more common (as dots are more numerous) in the eastern part of tropical Africa. This is often an illusion due to the subdivision of large countries mentioned above.

At more or less regular intervals, and at the end of a family, one or two maps are left blank, in order to allow for mapping of newly described species (or species overlooked by the compilers).

**BASIC REFERENCE**

V. CYPERACEAE: INTRODUCTORY NOTES AND BIBLIOGRAPHY

A. INTRODUCTORY NOTES

The Cyperaceae family (sedges) includes some 108 genera and 5450–5550 species. It has a nearly cosmopolitan distribution, absent from the Antarctica and inland areas of Greenland; with an altitudinal range from sea level to up to 5475 m. There is a concentration of genera in the tropics, such as northern S. America, southeastern Sudano-Zambesian Africa, and SW Australia. The African distribution patterns of Cyperaceae are illustrated by Lye (Biol. Skr. 54: 195–212, 2001) who notes that the highest number of species is recorded from southern Tanzania and adjacent Zambia and Zaire, then decreasing S-wards, W-wards and N-wards (the number of species present in different regions and individual countries figures on Lye’s maps, Figs. 1 and 2, respectively).

“Sedges are often viewed as difficult subjects for morphology-based phylogenetic analysis, due to several difficulties, including finding an adequate number of characters to yield well-resolved and well-supported trees, correctly assessing homology of characters and character states, and selecting appropriate outgroups for character state polarizations” (Naczi in Bot. Rev. 75: 67, 2009).

Cyperaceae are often mistaken for grasses, however, their stems are usually ± triangular in cross-section, and often leafless above the base. The leaves contain unique conical silica bodies, which distinguish them from all other monocots. The structure of the inflorescences has significant systematic value. “The basic reproductive units... are the spikelets..., which bear highly simplified flowers... Spikelets are arranged in inflorescences that are generally compound” (Reutemann & al. in Flora 210: 3, 2015). “However, the structure and primary homologies pose a challenge to their interpretation” (idem). “The main problems in the interpretation of the inflorescence structure results from studies, which did not consider the entire inflorescence; instead, attention was restricted to the position and arrangement of flowers in the final units of the often copiously branched inflorescence”.

“Misapplications of terms in formal taxonomical descriptions have led to morphologically erroneous examples...” (Vegetti in Ann. Bot. Fennici 40: 35–36, 2003). It seems that one of the most phylogenetically informative structures in the family is the embryo (Semmouri & al., 2019).

The fruit is an achene (nutlet). The achenes of a “large number of species of the family... can be identified from a single well developed achene” (Lye in K. L. Wilson & D. A. Morrison, eds., Monocots: Systematics and Evolution: 627, 2000). The presence and morphology of silica bodies (phytoliths) in the pericarp are well known from many genera and species (Lye in Flora 223: 147, 2016).

“This family is known by its unusual cytological features, such as holokinetic chromosomes, post-reductional meiosis and pseudomonad development... it is possible to find even an odd chromosome numbers [sic !] in the Cyperaceae” (Arguello & al. in Caryologia 65: 140, 2012).

Cyperaceae play an important, and dominant, role in wetland vegetation. They are abundant in humid, riverine or flooded places, where their rhizomes help prevent erosion and contribute to the natural water purification process. These vegetation types support a rich (avifauna) (Larridon & al. in Scripta Bot. Belg. 46: 261, 2010). However, they also harbour feared vectors of diseases, such as ticks. Some species have adapted to drier conditions and are present in grassland, or occupy shaded niches in the transition zone from woodland to grassland. But they are often poor pasture plants and little used as fodder because of the silica bodies they contain.

Some Cyperaceae are well predisposed to survive recurrent burning, such as Ascolepis lineariagnaima, Bulbostylis ignea, et al., Coleoschoenus setiferus, Cyperus linearilamis, C. margarinareus, C. tenax, Kyllinga platyphylla, Kyllingia micropetala, Mariscus deciduus, Scleria bulbifera, et al. (See Flora 176: 61–71, 1985); and also Microdactyloides and Rynchospora gracilima.

A few weedy species affect natural plant communities negatively. Some are among the most troublesome weeds which are difficult to control, with an adverse effect on agriculture and forestry. For example, Cyperus rotundus is one of the world’s worst weeds, which, due to its very resistant subterranean tubers, is extremely difficult to eradicate. Cyperus sculentus is another aggressive weed that recently invaded NW Europe from the Americas (Goetghhebeur 1998: 153).

On the other hand, sedges have a considerable economic importance as several species of various genera are used in different ways. They provide food, fuel, and medicines or materials for household utensils, weaving, thatching and perfumery. Cyperus involucratus is a well-known house plant, and, together with C. papyrus, a garden favorite in warmer countries. The latter is the source of ancient (and now tourist) papyrus rolls, and is gaining interest as a possible source for bioenergy. Species of Schoenoplectus are used in sewage treatment, for land-winning, and in scattered localities for building small boats or rafts (Goetghhebeur, o.c.). The Orthodox Church in Ethiopia also uses sedges in ceremonies associated with Easter (Lye in Fl. Ethiopia & Eritrea 6: 391, 1997).

The nursery trade is an important vector for the inadvertent introduction and dispersal of weed species (Verlooie & al. in Fl. Medit. 24: 198, 2014). Traditionally several smaller genera, e.g. Alinula, etc. are/were recognised at generic level because they possess specialized inflorescence and/or flower characters. “Recent molecular phylogenetic analyses show that many of these genera are nested in a paraphyletic Cyperus s. str. and therefore should be viewed as part of a broadly circumscribed genus Cyperus” (Larridon & al. in Phytotaxa 166: 33, 2014). Cyperus thus becomes the largest genus in the family, followed by Carex. But until now the exploration of molecular characters in plants... is not complete, for genera there are important gaps, at the species and population level we are still at the beginning... but for the moment it cannot be assumed that genomic investigation can resolve every problem in plant systematics” (Pignatti in H. Malmgren & al., eds., Philosophy and Botany, Essays on Ivar Segelberg: 238, 2014). The generic concept adopted in our Checklist does not follow this “phylogenetic” classification. A tentative natural classification of Cyperoideae was proposed by J. Raynal in Adansonia, Sér. 2, 13: 161–170, 1973.

B. BIBLIOGRAPHY


SIMPSON, D. A. & al. (2003). Phylogenetic relationships in Cyperaceae subfamily Mapanioideae inferred from


SPALINK, D. \& al. (2016). Biogeography of the cosmopolitan sedges (Cyperaceae) and the area-richness correlation in plants. \textit{J. Biogeogr.} 43: 1893–1904.


* * *

There is no recent revision of the family for Zaire and the Flora Zambesiaca area (2019).
Pyreus felicis J. Raynal, see p. 289
Aline Raynal-Roques
Actinoschoenus repens J. Raynal, see p. 27
Aline Raynal-Roques
VI. THE CHECKLIST: Cyperaceae
VI. THE CHECKLIST

CYPERACEAE 46 g. / 829 (+ 13 ?) spp.

ABILGAARDIA / 3

Genus of some 10 (9–15) species in all tropical regions but mainly in Australia; only a few species are pantropical; *A. ovata* is a widespread weed.

*Abilgaardia* as defined by Goetghheber 1998 (p. 167) comprises annual or perennial herbs with depauperate or capitate inflorescences or these reduced to one single spikelet; flowers bisexual, style deeply 3-fid, achene stipitate with often warty surface (cf. also Goetghheber & Coudijzer in Bull. Jard. Bot. Natl. Belg. 54: 1984).

“Although *Abilgaardia* spp. have been placed in *Bulbostylis* and *Fimbristylis*, embryological and anatomical data support segregation as a separate genus…” (Bryson & Carter, Sedges: Uses etc.: 30, 2008).


bas.: *Fimbristylis hygrophila* Gordon-Gray

Perennial herb, erect or slightly drooping, densely tufted, to 44 cm tall; rhizome woody, contracted, 5 mm, obliquely vertical in soil, clothed with pale yellow, ± spongy leaf bases; leaves reduced to spongy sheaths < 3 mm long closely investing flowering stems; flowering stems conspicuous, erect; inflorescence variable, to 2,3 cm long, 3,5 cm wide, composed of either 1 sessile spikelet with 1–4 pedicelled spikelets added, or a single head of 2–4 sessile spikelets, or a head of 2–4 sessile spikelets with 1–4 additional pedicelled heads or pedicilled spikelets added, or 1 sessile spikelet only, all possibilities being represented on single plants.

*Brachystegia* woodland on sand near edge of grassland; on sandy black turf soils of vlei areas often with other sedges; dambos; *Hyphaene/Sclerocarya* woodland on sand near edge of grassland; on sandy black turf soils of vlei areas often with other sedges; dambos; 450 m alt.

S. Africa, Swaziland. – Also in Zaire?


bas.: *Carex ovata* Burm. f.

syn.: *Abilgaardia monostachya* (L.) Vahl; *Cyperus monostachyos* L.; *Fimbristylis monostachya* (L.) Hassk.; *F. ovata* (Burm. f.) J. Kern; for full synonymy, see World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew (under *Fimbristylis ovata*).

Perennial densely tufted herb 5–40 cm tall; rhizome short, hardened at base, covered with persistent leaf bases and old stilt propyllys; stems 0,5–1 mm Ø, deeply ridged; leaf blade flat, 5–25 cm × 0,8 mm, margin with many spine-like teeth; sheaths with 2 very conspicuous keels; inflorescence of 1(–2) large, ± compressed spikelets 0,5–1 cm long, to 1,5–2,3 cm in fruit.

Grassland, wooded grassland, sometimes waterlogged but not marshy, often in heavily grazed areas; wet grassland, not abundant; seasonally swampy vlei grassland; grazed fallows; sandy, clayey meadows among short herbage; lawn with *Sporobolus*, *Craterostigma*; gravelly ravine; gallery; pastures; rice fields; 0–2400 m alt.

Also in Cameroon? (cf. Onana, Vascul. pl. Cameroon…: 159, 2011); S. Tomé, Annobón; Namibia, S. Africa. – In most tropical regions of the World, growing as a weed in Asia, N. America (in USA, S Florida occasionally a weed of gravelly soils in waste areas, along highways, in lawns), W. Indies, S. America, Pacific Islands.


bas.: *Cyperus triflorus* L.


Perennial herb, densely tufted, 30–75 cm tall; *rhizome thick,* stems angular, flattened, 1–3 mm thick, with golden red-brown to dark brown leaf sheaths at base; leaves flat, 10–30 cm × 0,2–2,5 mm, margins scabrid; inflorescence of 1 sessile and 1–4 stalked spikelets, rarely with 1 spikelet; spikelets ovoid, 1–2,5(–4 in fruit) × 0,4–1 cm.

Tidal mud; sand flats; seasonally swampy depressions with black soil; salt marsh; *Hyphaene/Sclerocarya* wooded grassland bordering *Avicennia* mangrove swamp; 0–45 m alt.


TAXA OF UNCERTAIN STATUS:


*Abildgaardia mettalliphila* Lye, l.c. (Zaire)

SYNONYMS:

*Abilgaardia abbreviata* Lye = *Bulbostylis abbreviata* abortiva (Steud.) Lye = *B. abortiva* acutisipicata Lye = *B. acutisipicata* afro-orientalis Lye = *B. afro-orientalis* angustesipicata Lye = *B. angustesipicata* argenteobrunnea (C. B. Clarke) Lye

= *B. argenteobrunnea* boeckeleriana (Schweinf.) Lye, incl. var. boeckeleriana R. W. Haines & Lye = *B. boeckeleriana* boeckeleriana var. transiens (K. Schum.) Lye

= *B. boeckeleriana* var. transiens buchananii (C. B. Clarke) Lye = *B. buchananii* burchellii (Ficalho & Hiern) Lye = *B. burchellii* capitata Lye = *B. capitata* cardiocarpoides (Chern.) Lye = *B. cardiocarpoides* clarkeana (Hutch. ex Bodard) Lye = *B. clarkeana* coleotricha (Hochst. ex A. Rich.) Lye = *B. coleotricha* coleotricha var. miegiei (Bodard) Lye = *B. coleotricha* var. miegiei
ABILGAARDIA
collina (Ridl.) Lye = B. scabricaulis
compressa J. Presl & C. Presl = Abildgaardia ovata
congolensis (De Wild.) Lye = Bulbostylis pusilla subsp.
congolensis contexta (Nees) Lye = B. contexta
crucifloris Lye = B. crucifloris
densa (Will.) Lye = B. densa
densa subsp. afrormontana Lye = B. densa subsp.
afrormontana densicespitosa Lye = B. densicaespitosa
densiflora Lye = B. densiflora
elegans Lye = B. elegans
eratica (Hook. f.) Lye = B. erratica
erratica subsp. schenoides (Kunth) Lye = B. schenoides
filamentosa (Vahl) Lye = B. filamentosa
filamentosa var. holubii (C. B. Clarke) Lye
= B. scabricaulis
filamentosa var. metrals (Cherm.) Lye = B. filamentosa
glaberrima (Kük.) Lye = B. glaberrima
hensii (C. B. Clarke) Lye = B. hensii
hispidula (Vahl) Lye = B. hispidula
hispidula subsp. brachyphylla (Cherm.) Lye = B. hispidula
subsp. brachyphylla
hispidula var. filiformis (C. B. Clarke) Lye = B. hispidula
subsp. filiformis
hispidula subsp. filiformis (C. B. Clarke) Lye
= B. hispidula subsp. filiformis
hispidula subsp. halophila Lye = B. hispidula subsp.
halophila
hispidula subsp. intermedia Lye = B. hispidula subsp.
intermedia
hispidula subsp. longispicata (Lye) J.-P. Lebrun & Stork
= B. hispidula subsp. longispicata
hispidula subsp. macroglumis (Lye) J.-P. Lebrun & Stork
= B. hispidula subsp. macroglumis
hispidula var. oligostachys (Hochst. ex A. Rich.) Lye
= B. oligostachys
hispidula subsp. pyriformis (Lye) Lye = B. hispidula
subsp. pyriformis
hispidula var. pyriformis Lye = B. hispidula subsp.
pyriformis
hispidula subsp. senegalensis (Cherm.) J.-P. Lebrun & Stork
= B. hispidula subsp. senegalensis
humilis (Kunth) Lye = B. humilis
igneotonsa (Raymond) Kornás = B.igneotonsa
indica (Rich. ex Pers.) Nees = Abildgaardia ovata
johnstonii (C. B. Clarke) Lye = Bulbostylis johnstonii
lacunosa Lye = B. lacunosa
lanceolata Schumach. = Abildgaardia triflora (fide Fl.
Trop. E. Afr.)
lanifera (Boeckeler) Lye = Bulbostylis lanifera
laxispicata Lye = B. laxispicata
leiolepis (Kük.) Lye = B. leiolepis
longispicata Lye = B. longispicata
macra (Ridl.) Lye = B. macra
macroanthes Lye = B. macroanthes
macrostachya Lye = B. macrostachya
malawiensis Lye = B. malawiensis
megastachya (Ridl.) Lye = B. megastachya
metalliphila Lye = ?
microcarpa Lye = Bulbostylis microcarpa
microcephala Lye 1985 = B. afromicrocephala
microlegans Lye = B. microlegans
microrotundata Lye = B. microrotundata
miegei (Boddart) Lye = B. coleotricha var. miegei
monostachya (L.) Vahl = Abildgaardia ovata

ABILGAARDIA
nervosa J. Presl & C. Presl = Filimbristylis schenoides
nudiuscula Lye = Bulbostylis nudiuscula
oligostachys (Hochst. ex A. Rich.) Lye = B. oligostachys
oritrephes (Ridl.) Lye = B. oritrephes
pallescens Lye = B. pallescens
parva (Ridl.) Lye = B. pusilla subsp. pusilla
parvinux (C. B. Clarke) Lye = B. parvinux
piosa (Willd.) Nees = B. piosa
pluricephala pusilla (Hochst. ex A. Rich.) Lye = B. pusilla
pusilla subsp. conglobensis (De Wild.) Lye = B. pusilla
subsp. conglobensis
pusilla subsp. yalingensis (Cherm.) Lye = B. pusilla subsp.
pusilla
rhizomatosa Lye = B. rhizomatosa
rottboelliana Nees = Abildgaardia ovata
rotundata (Kük.) Lye = Bulbostylis rotundata
schimperiana (Hochst. ex A. Rich.) Lye
= B. schimperiana
schlechteri (C. B. Clarke) Lye = B. schlechteri
scleropus (C. B. Clarke) Lye = B. scleropus
scrobiculata Lye = B. scrobiculata
setifolia (A. Rich.) Lye = B. atrosanguinea
sphaerocarpa (Boeckeler) Lye = B. sphaerocarpa
squarrosa Lye = B. squarrosa
striatella (C. B. Clarke) Lye = B. striatella
subumbellata Lye = B. hensii
tanzaniae Lye = B. tanzaniae
taylorii (K. Schum.) Lye = B. taylorii
trabeculata (C. B. Clarke) Lye = B. trabeculata
trabeculata var. microglumis Lye = B. trabeculata
var. microglumis
tristachya Vahl = Abildgaardia tristachya
ugandensis Lye = Bulbostylis ugandensis
vanderystii (Cherm.) Lye = B. vanderystii
wallichiana (Schult.) Lye 1983 = B. barbata subsp.
barbata
barbata
wombaliensis (De Wild.) Lye = B. wombaliensis
yalingsis (Cherm.) Lye = B. pusilla subsp. pusilla

(ACORELLUS)
Acorellus distachyos (All.) Palla = Cyperus laevigatus
subsp. distachyos
distachyos (All.) Palla × A. laevigatus (L.) Palla
= C. laevigatus subsp. laevigatus
laevigatus (L.) Palla = C. laevigatus
laevigatus subsp. distachyos (All.) Holub
= C. laevigatus subsp. distachyos
pallae Kneuck. = C. laevigatus subsp. laevigatus

(ACRIULUS)
Acriulus greigiifolius Ridl. = Scleria greigiifolia
madagascariensis Ridl. = S. greigiifolia
titan C. B. Clarke = S. greigiifolia
**ACTINOSCHOENUS** / 2


The genus is close to the Australian genus *Arthrostyleis*.

*(Actinoschoenus aphyllus* (Vahl) ined.) See below under *A. thouarsii*.


Perennial erect herb 30–50 cm tall with **long horizontal bare stolons**; inflorescence terminal, capitate, of 2–4 spikelets; achene big, **2.5 x 1.5 mm** (not 1–2 x 1 mm).

Grassy sandy place near the head of Zambezi River.

Known only from the type collected in 1963 by E. A. Robinson (cf. Lock in Kew Bull. 70/4: § 46: 3, 2015).


bas.: *Arthrostyleis thouarsii* Kunth

syn.: *Actinoschoenus chinensis* (Benth.) Benth.; *A. humbertii* Cherm.; *A. filiformis* (Thwaites) Benth.; *A. aphyllus* (Vahl 1805) ined. in World Checklist of Selected Plant Families, Cyperaceae, Royal Gardens, Kew; *Schoenos aphyllus* Vahl 1805; *Arthrostyleis aphylla* (Vahl) Boeckeler 1872, nom. illeg.; *A. humbertii* (Cherm.) Kük.; *A. filiformis* Thwaites; *A. chinensis* Benth.; *Fimbristylis chinensis* (Benth.) Tang & F. T. Wang; *F. aphyllus* C. B. Clarke, incl. var. chinensis (Benth.) C. B. Clarke, and var. thouarsii (Kunth) C. B. Clarke; *F. thouarsii* (Kunth) Merr.; *F. filiformis* (Thwaites) Druce, nom. illeg.; See also World Checklist of Selected Plant Families, l.c.

Perennial herb with **short creeping to erect rhizome** (without underground stolons!); stems 20–65 cm tall, 0.3–0.5 mm Ø, trigo- nal, edges prominent, with 2–4 cinnamon-brownish leaf sheaths at base; inflorescence ± dense spherical head 0.8–1.4 cm Ø of 25–40 sessile spikelets; spikelets light reddish brown with recurved awns; achene small, **1.15–1.35 mm long**.

Inselbergs, rocks in forest; *Loudetiosio glabratae-Antherotho- rion irvingianae* community, with *Actinoschoenus “filiformis”* as one of the character species (*Phytocoenologia* 36: 565–597, 2006); **500–850 m alt.**

Zaire; Madagascar, Mauritius; Sri Lanka, India, Thailand, Cambodia, Viet-Nam, China, Malaysia, Philippines, New Caledonia, Australia. – Disjunct area.

Sometimes confused with *Rhynchospora holoschoenoides*.

SYNONYMS (See above under *A. thouarsii*, and):

*Actinoschoenus erinaceus* (Ridl.) Raymond = *Sphaerocyperus* (Cyperus) *erinaceus* (AEGOPOGON)

*Aegopogon gracile* Peter, nom. nud. = *Scleria melanotricha*

**AFROTIRLEPIS** / 2

syn.: *Catagyna* Hutch. & Dalziel 1936, nom. illeg.

Genus of 2 species allied to the tropical American genus *Trilepis* with 5 species in SE Brazil and the Guayaena Shield in S Venezuela, Guyana, French Guiana. They have a “peculiar, sac-like structure of fructification...a utricle” (Koyama in Makinoa, N. S. 6: 15, 2007; Goethegehe 1998: 183).


**Procumbent cushion**, perennial herb 10–20 cm tall, with an erect or a ascending trunk-like rhizome covered with remains of old leaves, or with roots; leaves **1,5–2,5 cm long**, covering the slender stem on a long distance; blades acuminate, 1 mm wide; fertile branches axillary, 7–13 cm long; inflorescence terminal of 1–4 spikes, 4–6 mm long, 3–4 mm wide.

Granitic rocks, inselbergs (Porembski & Barthlott, Inselbergs...: 206, 2000); 1400–1550 m alt.


bas.: *Trilepis pilosa* Boeckeler

syn.: *Eriospora pilosa* (Boeckeler) Benth., incl. var. *longipes* C. B. Clarke; *Catagyna pilosa* (Boeckeler) Hutch.

Perennial stout tufted herb to 1.3 m tall, desiccation-tolerant; rhizome simple or branched, ascending or erect; stem with leaves on a short (not long) distance only; leaves 10–45 cm long; inflorescence terminal, with numerous spikes.

Plant with a wide degree of morphological and ecological variation. Forming large island-like mats (1,25–2,5 cm thick, fide Burkill, l.c.) on inselbergs of granite, gneiss or dolerite, surrounded by large outcrops in savanna, or in rain-forest (where even the steepest slopes bear nearly continuous *Afrotirlepis pilosa* mats); these mats are species-poor or monospecific. Mats of *A. pilosa* on inselbergs are sometimes colonised by certain species of *Polystachya* (*Orchidaceae*), e.g., *P. microbambusa* (Porembski in Nord. J. Bot. 23: 505–512, 2004); a resurrection plant that can endure prolonged periods of drought; 450–1470 m alt.


Selected references (general works):


AFROTIRELIPS PILOSA


References to Afrotirelepis pilosa:


Very polymorphic species covering a wide range of forms: two varieties were recognised by J. Raynal, viz. – var. pilosa, with glabrous achenes; – var. tricoccara J. Raynal, with longer, hairy achenes, described from Mankono, Ivory Coast. – Cf. comments by Napper in Fl. W. Trop. Afr., ed; 2, 3/2: 347, 1972.

The species is used for thatching hut-roofs (Burkill, Useful pl. W. Trop. Afr., ed. 2, 1: 606, 1985), and also in a superstitious sense to ward off lightning (Simpson & Ingles in Kew Bull. 56: 259, 2001).

(ALINIELLA J. Raynal)

Aliniella lipocarphioides (Kük.) J. Raynal = Alinula lipocarphioides

LINULA / 4


Small tufted annual plants; spikes with many small spikelet bracts; spikelets reduced to a small prophyll and a large glume (Goethghebeur 1998: 171).


bas.: Ficinia lipocarphioides Kük.

syn.: Alinieila lipocarphioides (Kük.) J. Raynal; Raynalia lipocarphioides (Kük.) Soják, comb. superfl.; Cyperus lipocarphioides (Kük.) Lye

Annual herb; stems 2–15 cm long, 0,03–0,06 cm wide, 3-angled; leaf blade shorter than stem, sheaths purple at least below;

ALINULA LIPOCARPHIOIDES

inflorescence a congested anthela 3–8 mm wide, of 2–6 sessile, ovate, dark red-brown spikes 2–5 mm long.

Wet rock crevices; seasonally wet grassland; temporary rocky marshes; bare wet soil along stream; 1500 – c. 2400 m alt.

A. malawica (J. Raynal) Goethg. & Vorster bas.: Mariscus malawicus J. Raynal syn.: Cyperus malawicus (J. Raynal) Lye

Annual herb c. 15 cm tall; leaf sheaths purplish, blade 5 cm long, 15 mm wide; inflorescence an umbel with 3–6 ovoid-cylindrical spikes, thereof 1–2 on pedicel 0,8–1,5 cm long, the others sessile, crowded; spikes 7 × 4 mm.

Temporarily humid sandy soil.

Only known from the type collected in 1961.


bas.: Lipocarpha paradoxa Cherm.


Annual herb 5–25 cm tall with few basal leaves; inflorescences open, laxly branched, of 1–2-compound anthelae, similar to a Fimbristyli with 5–many spikes; rays to 3 cm long; spikes dark reddish brown, round to ovoid, 1–4 mm long.

In and near ricefields; in moist soil adjacent to water; 0–30 m alt.

Namibia, S. Africa; Madagascar.


bas.: Alosclepsis peteri Kük. 1936 (1932).

syn.: Mariscus peteri (Kük.) Goethg.; Cyperus microaureus Lye, nom. nov.

Clustered annual herb 3–20 cm tall, with a few pale grey to pinkish leaf-bases; root system minute; leaves shorter than culm, to 1 mm wide, margins hyaline, sparsely ciliolate; inflorescence bright yellow, capitate, with 1–8 spikes, the central one ovoid, 3–6 mm long, laterals more globose, 2–5 mm long.

Bushland; sandy hollows near saline lake shore; wet rocky outcrops in grassland; 900–2500 m alt.

(ANDROPOGON; POACEAE)

Andropogon dulce Burm. f. = Eleocharis dulcis

ANOSPORUM / 2


Genus (or subgenus) of 3 species, often floating plants with reduced leaves and digitally arranged or capitately condensed spikelets. A. cephalotes (Vahl.) Kurz (bas.: Cyperus cephalotes)
ANOSPORUM


Anosporum cubense (Poir.) Boeckeler – Icon.: Boeckeler; Atomostylis cyperiformis Steud.; A. flavescens Steud.

SYNONYMS:

bas.: Cyperus pectinatus Vahl


SYNONYMS:
Anosporum cubense (Poir.) Boeckeler = Oxyccaryum cubense
nudicaule (Poir.) Boeckeler = Anosporum pectinatum paraguayanum Maury = Oxyccaryum cubense

(APARTEA; RAPATEACEAE)
Aparatea le-testui Pellegr. = Mapania ampligavina

(ARCHAEOCAREX)
 Archaeocarex dregena (Kunth) Pissjauk. = Schoenoxiphium rufum
 kunthiana (Kük.) Pissjauk. = S. sparteum
 rufis (Nees) Fédde & J. Schust. = S. rufum
 spartea (Wahlenb.) Pissjauk. = S. sparteum

(ARTHROSTYLIS)
Arthrostylis aphylla (Vahl) Boeckeler = Actinoschoenus thouarsii
chinensis Benth. = A. thouarsii

ARTHYOSTYLIS

filiformis Thwaites = A. thouarsii
humberti (Chern.) Kük. = A. thouarsii
thouarsii Kunth = A. thouarsii

ASCOLEPIS / 21 + 1 ?

Genus of 20/21/22 species (cf. Larridon et al. 2014: 35), pantropical but mainly in Africa; two extending to Madagascar, one of them to Thailand, Viet-Nam, Laos; and the other to C. & S. America from Panama, Guyanas S to Argentina (cf. Goetghheuer 1998: 171).

In tropical Africa A. lineariliglumis var. pulcherrimo has a bright orange inflorescence, and in A. protea it is sometimes orange or red.

Ascolepis species have elugulate leaves, capitule inflorescences with 1-2 few spikes; primary bracts are leaflike, and the spikes have many densely spirally arranged spikelet bracts, much smaller than their spikelet; the nuts are exceptionally small (Cook, Aquat. pl. book, ed. 2: 67, 1996).


UBERTI, N. & al. (2016). See above under Alinula.


syn.: Cyperus ampluslcea (J. Raynal) Bauters

Annual slender herb 5-10 cm tall; leaves setaceous, to 3 cm long, sheaths purple; stems filiform; inflorescence a solitary head c. 6 mm Ø, of 2-3 snow-white spikes c. 4 mm long, 3.5 mm wide. Lateritic plain at edge of marsh.

Known only from the type collected in 1961.


bas.: Platylepis brasiliensis Kunth

syn.: P. guianens Nees; P. leucocephala Nees; P. xanthocephala Nees; Ascolepis leucocephala (Nees) L. T. Eiten; Kyllinga decora Steud.; Cyperus brasiliensis (Kunth) Bauters

Perennial erect, loosely tufted herb; stem base slightly bulbously thickened, covered by a few reddish brown not fibrous sheaths; stem 15-50 cm tall, 0.6-1 mm Ø; inflorescence of 1-4 spikes, creamy white to pale yellowish brown; apical spike ovoid, 0.8-1.4 mm long, lateral ones more rounded, 0.3-0.8 mm long. Swamps; marshland; swampy near river.

Madagascar; C. America, Panama, S-wards in S. America from Venezuela, Guyanas S to Argentina.
ASCOLEPIS BRASILIENSIS


Similar in habit to A. capensis but stouter.


bas.: Platelepis capensis Kunth, non Cyperus capensis (Steud.) Endl.
syn.: P. dioica Steud. 1855, non Cyperus dioicus Johnston 1924; Cyperus ascocapensis Bauters

Tufted perennial herb on a wood short ascending rhizome with subterranean runners; stem base slightly bulkily thickened, covered by dark brown to blackish fibrous sheaths; stem 20–80 cm tall, 0.5–1.3 mm Ø; inflorescence of 1–6 spikes, creamish-white, ± sphericoidal, 0.6–1 cm long, 1.1–2 cm Ø, simulating an Eriocaulon. A very elegant plant (Rendel, Cat. Afr. Pl. Welwitsch 2(1): 131, 1899).

Spongy meadows grown with short herbage with Eriocaulon spp.; swamps; boggy grassland; temporarily wet grassland; spongy marshy places with Disa spp., Habenaria spp.; 100–2590 m alt. S. Africa, Swaziland.

syn.: Cyperus asdocdens Goetgh.

Tufted perennial herb; stem base bulkily thickened, covered by a few withering leaf sheaths; stem 10–40 cm tall, 0.3–1 mm Ø; leaves basal and sub-basal, blade to 8 cm long, 0.5–1 mm wide; inflorescence capitulate, ± globose, a solitary spike 5–8 mm Ø, whitish.

Seasonally waterlogged depression; dambo; 1400–1900 m alt.


bas.: Kyllinga dipsacoides Schumach.
syn.: Ascolepis gracilis Turrill; A. setigera Hutch., nom. invalid.; Cyperus dipsacoides (Schumach.) Bauters

Loosely tufted annual herb; stem 5–20 cm tall, 0.4–0.6 mm Ø; leaves 2–4, only near base of stem, 2–4 cm long, sheaths purplish; inflorescence of 1–5 spikes, yellowish green; apical spike 4–6 mm long, ovoid, lateral ones 2–3 mm, more sphericical.

Sands temporarily humid, swampy places; often in cultivated places.


Resembling Lipocarpha kernii.


ASCOLEPIS ELATA

According to Haines & Lye (l.c.) A. elata “is superficially most similar to A. lineariglumis, but A. elata is a more robust species, with thicker and shorter squamellae [glumes 6–9 mm long] and a much larger nutlet” [1,6–1.8 mm long, 0.5–0.6 mm wide]. On the other hand, Larridon & al. (Phytotaxa 166: 35–36, 2014) include the species in the complex of Ascolepis protea, and do not combine these two names under Cyperus.

Type (Welwitsch 1670, Pungo Andongo) from Angola. Meneses (l.c.) considered A. bellidiformis (Welw.) Chemr. [= A. protea subsp. bellidiforma] and A. protea var. splendida K. Schum. in Warburg, Kunene-Sambesi-Exp.: 177, 1903 [= A. lineariglumis] as synonyms of A. elata. He cites two Gossweiler specimens (2165, 3804) from Huila, Ganguelas.


bas.: Kyllinga eriocauloides Steud.
syn.: Isolepis ascolepis A. Rich.; Cyperus eriocauloides (Steud.) Bauters

Loosely tufted perennial herb; stem base slightly bulkily thickened, covered by a few brownish sheaths, at last becoming fibrous; stems few, 5–26 cm long, 0.3–0.7 mm Ø; leaves 1–3, blade to 10 cm long; inflorescence capitulate, the solitary spike 0.4–1 cm Ø, hemispherical, whitish.

Seasonally wet grassland or seepage areas on shallow soils over rocks; 1300–2500 m alt.

syn.: Cyperus erythrocephalus (S. S. Hooper) Bauters

Annual, very slender herb with minute root-system; stems angular, 3–10 cm tall, 0.25–0.5 mm Ø; leaves basal or nearly so, 1–4 cm long, 0.5 mm wide; inflorescence terminal, solitary, reddish brown, 2.5–5 mm Ø, consisting of 1 rounded to cylindric spike and sometimes with 1–5 smaller spikes as its base.

Damp sandy ground between grass tussocks; drying ditch in secondary grassland; 900–1650 m alt.

Near A. pusilla and growing together with it; ephemerol that tends to escape observation.

syn.: Cyperus ascofibrillosus Goetgh.

Tufted perennial herb; stem base bulkily thickened, covered by a dense fibrous coat of withered sheaths; stems 40–70 cm tall, 1–1.5 mm Ø; leaves 20–35 cm long, 1.5–2.5 mm wide; inflorescence capitulate, the solitary spike 1.5–2.5 cm Ø, sphericoidal, yellowish white.

Grass savanna; degraded open Brachystegia woodland.


syn.: Cyperus ascohemisphaericus Goetgh.

Perennial (may look like an annual) herb, very often with thin stolons 1–10 cm long; stem base slightly thickened with remnants of leaf sheaths; stems 3–40 cm tall, 0.5–1.2 mm Ø; leaf blades 5–15 cm long, 1–2 mm wide; inflorescence white, globose to hemispherical, 0.8–1.3 cm Ø.

Moist roadside ditch and bank; seasonally inundated grassland; wooded grassland; often on sand beside water courses; 1250–1860 m alt.


syn.: A. protea Welw. var. splendida K. Schum.

Annual or perennial tufted herb; stem bases enclosed in old fibrous leaf sheaths; stems compressed or triangular, 10–50 cm tall, 0.4–1.2 mm wide; leaves 10–25 cm long, 1 cm wide, midrib of blade strongly protruding beneath, margin with minute scattered teeth; inflorescence white (bright orange in var. pulcherrima), spherical, 1.5–5 cm Ø; “all glumes about equally long, the apical part very elongated, giving the head a most beautiful appearance” (Adansonia, l.c., p. 281).

Moist or boggy grassland; seasonally wet swamps; swampy source near river side; 300–1900 m alt. – Said to be common in S Tanzania.

The locality in Angola (Baum 158) is often erroneously situated in the literature.

Larridon & al. (Phytotaxa 166: 35–36, 2014) include A. lineariglumis, as well as A. elata (See above), in the complex of A. protea and do not combine them under Cyperus as separate species.


syn.: Cyperus majestuusus (P. A. Duvign. & G. Léonard) Bauters

Tufted perennial, xerophytic herb; stem base bulbously thickened, covered by a dense coat of reddish brown to black brown leaf sheaths, coming fibrous; stems 20–100 cm tall, 0.8–2 mm Ø; leaves 15–40 cm long, 1–4 mm wide; inflorescence capitate, of 1 spike 3–8 cm Ø, hemispherical, yellowish white to pale yellowish brown; involucral bracts 2–4, to 15 cm long, reddish-nerved.

Swampy grassland; 800–1700 m alt.

Confused with luxuriant forms of A. protea var. bellidiflora, A. lineariglumis.


Perennial tufted herb on ascending rhizome; stem base slightly bulbously thickened, covered by pale brown to red-brown leaf sheaths; stems 20–40 cm tall, 1–1.8 mm Ø, triquetrous near the top, canaliculate, sharply keeled; inflorescence capitate, of 1 spike creamish white, spheroidal, c. 1 cm Ø.

Humid grassy valley.

Only known from the type collected in 1906.

Taxonomic status uncertain. According to Larridon & al. (Phytotaxa 166: 35–36, 2014) this plant “is probably an aberrant form of A. protea”. So they did not combine the name under Cyperus.
ASCOLEPIS PROTEA

A. protea-complex are yet well established and sharply limited: I consider them as species, e.g. A. eriocauloides, A. hemisphaeri-
ca, A. metallorum, ... The limits of other taxa are very diffuse,
for intermediate specimens are not infrequent, although typical
plants are very easily recognizable and widely different from one
another: for the time being, varietal names seem appropriate to
give expression to these diverging taxa.”

Goetheheur then proposed 7 varieties. This treatment was fol-
lowed by us in our Enumération 3: 170–171, 1995. Later, the
Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard.,
Kew, recognised 4 varieties, the same as those retained by Beentje
in Flora of Tropical East Africa, Cyper.: 270 ... var. protea
Welw.; var. protea protea

The following varieties figure in Fl. Trop. E. Afr., Cyper.: 270–
271, 1995. These are the correct spellings: Danamadji.

specimen Audru 1245 cited was not collected in Senegal but in
another: for the time being, varietal names seem appropriate to
keyed quite easily, intermediates do occur”.

In our present compilation we do not formally divide the/herb
into varieties (or sub-species as proposed by Lye in Haines &
Lye, Sedges and rushes E. Africa: 304–307, 1983). However,
we give a summary of names and synonyms. In the actual World
Checklist of Selected Plant Families Ascolepis protea Welw. is
cited under Cyperus as C. proteus (Welw.) Bauters (cf. Phytotaxa
166: 38, 2014).

syn.: A. elata sensu Andrews, Flow. pl. Sudan 3: 328, 1956,
non Welw.; Cyperus proteus (Welw.) Bauters – See also
below under the varieties.

Perennial ± tufted herb without runners; stems obscurely 3-angled,
5–60 cm tall, 0,5–2,3 mm ∅, base sometimes swollen, often cov-
ered by fibrous remains of leaf sheaths; leaves filiform, 7–26 cm
long; inflorescence globose or flattened, 0,5–4 cm ∅, snow-white,
pale yellow, orange, or red – “the rayed heads bear a remarkable
resemblance to those of many Compositae with numerous rows

Miombo woodland in seepage zones or along streams; swampy
grassland; seasonal floodplain; seasonally moist depression; lat-
eric zones; rather damp rocky somewhat spongy pastures with
Rather damp lofty pastures flooded in rainy season, with
Thymelaeaceae; c. 1650 m alt.
ASCOLEPS


syn.: Cyperus ascospinulosus Goetgh.

Tufted perennial herb with stem base conspicuously bulbously thickened, covered by dark red brown to blackish leaf sheaths, becoming fibrous; stems 5–20 cm tall, 1 mm Ø; leaves rather thick; inflorescence capitate of 1 spike 7–10 mm wide, hemispherical, yellowish white; tip of bract and glume minutely spinulose due to projecting cells.

Grassy plateau in wet savanna zone; 1100–1700 m alt.


syn.: Cyperus ascotrigonus Goetgh.

Loosely tufted perennial herb with stem base slightly thickened, surrounded by a few withering leaf sheaths; stems 10–25 cm tall, 0,3–0,6 mm Ø; inflorescence capitate, of 1 spheroidal spike 5–7 mm Ø, whitish or yellowish; apical part of glume 0,5–1 mm long, dorsiventrally flattened, plump triangular; ripe fruit unknown.

Ecology unknown. – Robinson collected this plant in Zambia, N. long, tall, 0,3


A. trigona

Loosely tufted perennial herb with stem base slightly thickened, surrounded by a few withering leaf sheaths; stems 5 becoming fibrous thickened to dark red brown


A. spinulosa

5

7 mm


(ASCOPHOLIS)

Ascopolis gamblei C. E. C. Fisch. = Mariscur amomodorus

(ASTEROCHAE)T)

Asterochaete angustifolia Nees = Carpha glomerata glomerata (Nees) Nees = C. glomerata tenuis Kunth = C. glomerata

(ATOMOSTYLIS)

Atomostylis cyperiformis Steud. = Anosporum pectinatum flavescens Steud. = A. pectinatum

(BAEOTHRYON)


(BAUMEA)

Baumea iridifolia (Nees) Boeckeler = Machaerina flexuosa subsp. flexuosa iridifolia subsp. laevinux J. Raynal = M. flexuosa subsp. laevinux

(BISBOECKELER)A

Bisboeckelera paporiensis Suess. = Diplacrum capitatum

BOLBOSCHOENUS / 3 + 1 ?

“A genus of 6–15 species from Europe, N America and Australia” (Walters & Knees in European Garden Flora, ed. 2, 1, Monocot.: 413, 2011). Cook (Aquatic and wetland plants of southern Africa: 83, 2004) cites “+ 6 or 1 polymorphic species: cosmopolitan”. Five species (out of 15) are listed as weeds; B. maritimus is considered among the world’s worst weeds, … a pest in agricultural lands and waterways in Africa, Asia, Australia, Europe, and North and South America (Bryson & Carter in Nacci & Ford, eds., Sedges: Uses, diversity and systematics of the Cyperaceae: 30–31, 2008). Bolboschoenus (Asch.) Palla is a segregate of the genus Scirpus s.l. (Pignotti in Webbia 58: 281, 2003). There has been much controversy in the taxonomical treatment of the species. The taxonomic treatment was dependent on a new lectotypification of the name Scirpus maritimus. The original lectotype of this name was in serious conflict with the protologue, because of its North American origin; a new lectotype together with an epitype, representing a specimen from coastal E Sweden, was chosen. This new lectotypification enabled an unequivocal interpretation of the name S. maritimus and subsequently to solve the questions of correct nomenclature [cited from Marhold & al. in Phyton (Horn) 44: 3, 2004].

“The circumscription of numerous species is difficult due to morphological variation associated with the poorly understood influence of habitat conditions and likely interspecific hybridization… As the most distinguishing characters are found in the achene shape and pericarp anatomy” (Amini Rad & al. in Nord. J. Bot. 28: 588–589, 2010).

Bolboschoenus species are perennial herbs with rhizomes often forming hard ovoid tubers. When young such tubers are sometimes used for nutrition, because of the high content of polysaccharides. “There is evidence that they were in use in this respect already in the Neolithic…” (Marhold & al., l.c.).

The leaves are keeled beneath; the inflorescences terminal, head-like or with 1–3 shortly stalked clusters of spikelets, the latter are rounded in section; the nut is flattened.


BOLBOSCHOENUS


BOLBOSCHOENUS GLAUCUS


Amini Rad & al. revised the genus Bolboschoenus in Iran (Nord. J. Bot. 28: 588–602, 2010). They recognised B. glaucus at species level. As key character they use the achene structure: "achenes with the pericarp formed by a thin exocarp layer and a thick sclerenchymatic mesocarp".

The holotype of Scirpus glaucus Lam. (“Senegal, Roussillon s. n. in P-Herb. Lamarck 673 /14") was not seen by Amini Rad & al. (o.c.). J. Raynal determined this specimen as Scirpus maritimus (Nord. J. Bot. 18: 478, 1998). The difference between the species given by Amini Rad & al. is dubious. They write, themselves, that “the circumscription of numerous species is difficult due to morphological variation associated with the poorly understood influence of habitat conditions and likely interspecific hybridization”. African material of B. maritimus s.l. was investigated by Browning & Gordon-Gray (S. Afric. J. Bot. 59: 311–318, 1993). They recognise that “features of achene and embryo may afford criteria useful in improving the classification of Bolboschoenus”. But “until there has been investigation worldwide, it is premature to modify the existing hierarchical classification of sub-Saharan African plants…”.

Like them we treat B. maritimus as a variable (widespread) species “without recognition in hierarchical classification”.


Variable perennial plant resembling B. maritimus with erect stem, rarely > 30 cm tall; leaves narrow, long-tapering towards apex; inflorescence terminal, dense, of 1–7 ovoid subsessile spikelets, pale yellowish gray, each 1,4–2,3 cm long, 0,8–1,2 cm; achene biconvex with 2 style branches (not subtrigonal with 3 style branches); in these respects it also differs from B. nobilis (achene trigonal with 3 style branches).

“Niayes”, i.e. humid depressions, or inundated for a long time by standing water, behind the littoral dunes (figures in Vanden Berghen, o.c.: 31–32), on sandy, very humus-rich soil. – Endangered by local drying.

Cape Verde Isl.: Boa Vista.
Ascolepis menonguensis
Ascolepis metallorum
Ascolepis neglecta
Ascolepis pinguis
Ascolepis protea
Ascolepis pseudopeteri
Ascolepis pusilla
Ascolepis speciosa
Ascolepis spinulosa
Ascolepis trigona
Bolboschoenus grandispicus
Bolboschoenus maritimus subsp. maritimus
### BOLBOSCHOENUS MARITIMUS

**Syn.:**  
*S. corymbosus* Forssk. 1775, nom. illeg.; *S. mucronatus* Pollich 1776, nom. illeg.; *S. macrostachyss* Lam. 1791; *S. compactus* Hoffm.; *S. maritimus* L. var. *compactus* (Hoffm.) DC.; *S. aegyptiacus* Poir.; *Schoenoplectus maritimus* (L.) Lye; *Bolboschoenus compactus* (Hoffm.) Drobow; *B. maritimus* subsp. *compactus* (Hoffm.) Hejny;  

Perennial herb 0.4–1.2 m tall; rhizome stiff, spreading, richly branched with cormose swellings; stem base swollen; stem sharply trigonous, 0.2–1 cm ∅, lower half with green leaf sheaths with brown slightly hairy throat; leaves shorter to longer than stem; blades flat, 2.5–4 cm long, 0.5–1 cm wide, scabrid on keel and margins; inflorescences 2–3, *compound*, open, each with 20–50 golden brown to reddish brown spikelets 5–6 mm long; achene subtrigonal, convex-sided, with 3(2) style branches (cf. *B. grandispicu* above).

Often locally abundant in shallow permanent or semi-permanent water; seasonal swamps; grassland; often on black cotton or saline soil; muddy river banks; salt tolerant helophyte; ricefields; 0–1800 m alt.


Large stands are important refuge for wildlife. However, it is also considered among the world’s worst weeds: a pest in agricultural lands and waterways in Africa, Asia, Australia, Europe and N. and S. America. It is a troublesome weed in paddy fields, but it seems to be less a problem in the equatorial zone. Achenes are readily dispersed by birds (Bryson & Carter in Monogr. Syst. Bot. Missouri Bot. Gard. 108: 30–31, 2008).

The species is also grown by lakes and ponds. – Culms are used for thatching.


**Bas.:** *Scirpus nobilis* Ridl.

**Syn.:**  

=B. glaucus* tuberosus* (Desf.) Hadac = B. glaucus

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### BOLBOSCHOENUS NOBILIS


In and along rivers and streams, forming “dense small forests”; cottonfields; 700–1200 m alt.

W Namibia.

**Synonyms:**

*Bolboschoenus compactus* (Hoffm.) Drobow  
=Bolboschoenus maritimus*  
=glaucus* (Lam.) S. G. Sm. var. *macrostachys* Tatanov  
=B. glaucus*  
=macrostachys* (Willd.) Grossh.  
**B. glaucus**  
=maritimus* (L.) Palla: for subspecies and varieties, See above under *B. glaucus* and *B. maritimus* var. *macrostachys* (Willd.) T. V. Egorova

=B. glaucus* tuberosus* (Desf.) Hadac = B. glaucus

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### BULBOSTYLISTIS / 94


**Syn.:** *Abildaardia* Vahl subgen. *Bulbostylis* (C. B. Clarke) Lye – *Nemum* Desv. ex Hamilton is not included as a synonym here as proposed by Roalson & al. (2019). In our area some species are poorly known: 1 species without fruit (*B. melanocaphala*); no ecology recorded for 4 + 1 species; 17 species known only from the type (or type locality) = c. 18 %.

In tropical Africa 2 species are very small, viz. *B. melanocaphala* and *B. meruensis* (1.5–5 cm tall).

In our area some species are poorly known: 1 species without fruit (*B. melanocaphala*); no ecology recorded for 4 + 1 species; 17 species known only from the type (or type locality) = c. 18 %.


BULBOSTYLIS

Bulbostylis abbreviata (Lye) Lye
Annual herb; inflorescence simple, of 1–3 spikelets; glumes 4–5 mm long, ovate, mucronate; nutlet transversely rugose (from the brief Latin diagnosis).
Ecology unknown.
Only known from the type collected in 1961 (Robinson 4647).

bas.: Filbristylis abortiva Steud.
syn.: Abildgaardia abortiva (Steud.) Lye; Bulbostylis capillaris (L.) Kunth ex C. B. Clarke var. abortiva (Steud.) H. Pfeiff.; Scirpus schweinfurthianus Boeckeler; Isolepis schweinfurthiana (Boeckeler) Oliv.; Filbristylis flexuosa Ridl.; Bulbostylis flexuosa (Ridl.) Goeth.; B. camporum K. Schum. ex C. B. Clarke, pro syn.; B. caesessii De Wild. – See Note below referring to B. coleotricha var. lanifera (Boeckeler) C. B. Clarke
Tufted annual herb 15–80 cm tall; stems to 1.5 mm thick, deeply grooved, usually with dense short white spine-like hairs; leaf blades to 20 cm long, 0.5 mm wide, with spine-like hairs, sheaths with hairs 1.5 cm long; inflorescence open, umbelliform, of 10–60 spikelets each 3–7 mm long, 1.2 mm wide.
Shallow soils over rocks; (wooded) grassland; seasonally damp; near streams; rather damp understory; seasonally wet seepage grassland with scattered trees; 80–300 m alt.

B. africomicrocephala Lye
syn.: Abildgaardia microcephala Lye 1985, non Bulbostylis microcephala Gardner 1846 [= Ectuatorium mygdalimum Gardner; syn.: Ayapana mygdalina (Lam.) R. M. King & H. Robinson, Asteraceae].
Annual herb; inflorescence simple, of 2–7 spikelets; glumes 1.5–2 mm long, chestnut-coloured; nutlet transversely rugose (from the brief Latin diagnosis).
Pans; c. 1600 m alt.
Known only from the type collected in 1962 (Robinson 5048).

bas.: Abildgaardia afroorientalis Lye
Annual tufted herb 5–20 cm tall; root-system minute; leaves numerous, 1–10 cm long, almost filiform, scabrid; leaf sheaths straw-coloured to light reddish-brown, hairy to glabrous, mouth with long flexuose hairs; inflorescence 0.5–2.5 cm wide of 1 sessile and 1–6 stalked ovoid spikelets, each 3–6 mm long, 2–4 mm wide; glumes ovate, 2–2.5 mm long, densely short hairy.
Grassland, savanna; seasonally wet seepage grassland with scattered trees; 30–80 m alt.

Perennial herb 15–40 cm tall; rhizome creeping; stems 1–6 per plantlet, glabrous; leaves basal, filiform, glabrous, blades c. 1–4 cm long, mouth of sheaths whitish, translucent, with 0.2–2.5 mm long hairs; inflorescence with 1 terminal dense spikelet, ovoid-elliptic; glumes 11–20, closely packed, ovate, c. 2.7–3.5 mm long, membranous; nutlet trigonous, c. 1 mm long, outer layer white, velate and removable, pale brown underneath, surface reticulate. Similar to B. schlechteri but leaf blades present, glumes with translucent margins that results in a light colour and lacking filamentous-pilose marginal hairs, and nutlets whitish, reticulate (comparative table B. albidiectricta – B. macra – B. ortrephes – B. rhizomatosa – B. schlechteri in Phytotaxa 201: 222, 2015).
“Near stagnant pools c. 30–50 cm deep in eroded, deforested areas with annual burns, only a few small shrubs present (dambo wetland)”; c. 1750 m alt.
Known only from the type collected in 1951 (Hess & Hess 51/253).

bas.: Filbristylis andongensis Ridl.
Annual tufted herb 10–30 cm tall; stems very slender, deeply ridged, densely hairy, or glabrous at tops, leafy in lowest parts; leaf sheaths reddish; blades 2–5 cm long, c. 0.3 mm wide, hairy beneath; inflorescence umbel-like c. 3 cm Ø, of 2–6 ovoid reddish brown solitary spikelets, each 3.4–2–3 mm; glumes densely short hairy.
Seasonally wet soil on rock outcrops; near streams; rather damp shortly grassed pastures; secondary thickets; wooded places among Dicranum sphagnoideum in short grassed pastures on volcanic rocks; marshy places; 400–700 m alt. (Gabon), 1800 m (Angola).
Note 1: The type of Filbristylis andongensis Ridl. is Welwitsch 6823, Angola, “Pungo Andongo, in pascuis breviter graminosis rupium volcanicarum ipsius Praesidii inter caespites”.
Note 2: As to F. andongensis var. glabra Ridl. the type is Welwitsch 6825, “Pungo Andongo, in pascuis breviter graminosis rupium volcanarum ipsus Praesidii inter Dicrani sphagnoidei caespites”.
– Rendle in Cat. Welwitsch’s Afric. pl. 2/1: 125, 1899, treats F. quaternella Ridl. as a synonym, citing the following gatherings: Welwitsch 6820, 6821, 6827, 6830 b. These specimens figure
CYPERACEAE

BULBOSTYLS ANDONGENSIS

under *F. quaternella* n. sp. Ridley in Trans. Linn. Soc. London, Ser. 2, 2: 152, 1884 (See below under *Bulbostylis quaternella*).


bas.: *Abildgaardia angustespicata* Lye

Annual herb 10–22 cm tall; stems angular with prominent longitudinal ridges, 0.2–0.3 mm Φ, minutely scabrid below inflorescence; leaves 1–7 cm long, 2–4 mm wide, margins and ribs scabrid; sheaths straw-coloured to pale reddish brown, mouth with whitish hairs 0.5–2 mm long; inflorescence umbilicate, open, 2–2.8 cm long, 1–3 cm wide, of 1 sessile spikelet and 3–5 stalked and sessile spikelets, these ± linear, 3–6 × 0.8–1.2 mm; nutlet pyriform. Cultivated ground; school playing fields; abandoned chicken runs; c. 1560 m alt.

Known only from the type collected in 1970 (Wingfield 812).


syn.: *Abildgaardia argenteobrunnea* (C. B. Clarke) Lye

Short-lived perennial (sometimes annual) herb 10–35 cm tall, with short woody rhizome; stems 0.5–1 mm Φ, obscurely triangular or round, sometimes hairy, glabrous or minutely scabrid below inflorescence; leaves at basal 5 cm of plant; blades 3–8 cm long, 0.3–0.5 mm wide, with 3 prominent ribs beneath; sheaths pale reddish brown or whitish, with scattered brown dots, minutely hairy and with many flexuous hairs at mouth; inflorescence open, 1–3 cm wide, 1–2 cm long, of 1 sessile spikelet and 3–5 stalked spikelets or spikelet clusters (peduncles 0.5–1.5 cm long); spikelets pale brown, ovate, 4–7 × 1.5–2.5 mm.

Occurs as isolated plants in sand pockets in rock crevices; mixed grassland on granite rock pavements; pasture derived from cleared bushland; 150–1050 m alt.


bas.: *Scirpus atrosanguineus* Boeckeler


Densely tufted perennial herb 10–70 cm tall forming large tussocks from a short creeping much-branched rhizome; stems 0.4–0.7 cm Φ, glabrous or with short spine-like hairs; leaf sheaths pale brown or with reddish dots or streaks, glabrous, but mouth with long hairs; outer sheaths often burnt off; blades 5–12 cm long, 0.5 mm wide, margins with many spine-like hairs; inflorescence a compact head of 3–8–10 sessile spikelets, each to 1 × 0.3 cm; glumes pale to dark brown-purple or almost black, 2–4 mm long. Heath; ericaceous scrub; rocky moorland; grassy glades in *Juniperus* forest; rocky mountain slopes; decomposed sandy schist; 1800–3700 m alt.

Yemen.


**BULBOSTYLIS BARBATA**


bas.: *Scirpus barbatus* Rothb., excl. var.


Tufted annual herb 3–30 cm tall; stems many, 0.2–0.4 mm wide, angular; leaf sheaths pale brown, with long hairs at mouth; blades 1–10 cm long, 0.2–0.5 mm wide, margins scabrid near tips; inflorescence a head of few to many spikelets 0.3–1.5 cm Φ; spikelets 3–8 mm long, 1–1.5 mm wide.

Mixed woodland and bushland with grass; dry river beds; crevices in granite outcrops; deep roadside ditches; denuded sands well drained; savannas; open forests; fallows; hardpan; weed in ± disturbed sandy places; 0–1300 m alt.

Cape Verde Isl.: Boavista & Fogo only (Bromchamm & Rustan in Garcia de Orta, Ser. Bot. 16: 22, 2002); Swaziland (Bothalia 27: 145–146, 1997); Madagascar, W Indian Ocean islands; widespread in the Old World tropics and subtropics (locally); as a weed in SE USA, C. America, West Indies (Acevedo-Rodriguez & Strong, Cat. seed pl. West Indies: 257, 2012). – Nacci & Ford, Sedges: uses…: 31, 2008: “occasional weed on sandy soil in flowerbeds and poorly managed turf in SE USA… can be a conspicuous feature of the landscape when en masse its reddish brown inflorescences appear in sandy cultivated fields”.


Perennial herb, rhizomatose and caespitose, 6–30 cm tall; leaves in basal rosette, 0.3–1 cm long, filiform, sheaths long ciliate; inflorescence a terminal ovoid spikelet, *brownish red*, 0.7–1 cm long. Humid sand in savanna; spongy meadow around pool; on wet laterite; c. 1300 m alt.


bas.: *Scirpus boeckelerianus* Schweinf.

syn.: *Abildgaardia boeckeleriana* (Schweinf.) Lye

Tufted perennial herb 15–70 cm tall, with a short creeping rhizome; stems densely crowded, ridged, 0.6–1 mm Φ, with a few
Bulboschoenus nobilis

Bulbostylis abbreviata

Bulbostylis abortiva

Bulbostylis acutispicata

Bulbostylis afromicrocephala

Bulbostylis afroorientalis

Bulbostylis albidostricta

Bulbostylis andongensis

Bulbostylis angustespicata

Bulbostylis argenteobrunnea

Bulbostylis atrosanguinea
short spine-like hairs beneath inflorescence; leaves 5–15 cm long, 0.5–1 mm wide; sheaths pale brown with long flexuous hairs at mouth; inflorescence of 2–12 spikelets, either sessile and capitate or 1–3 additional stalked inflorescences (sometimes only 1 spikelet).

Dry grassland; wooded grassland; forest glades; swamp margins; in shallow soil over rocky outcrops with Acaea; seepages in Brachystegia woodland; open bushland; damp depressions; savannas; 100–2700 m alt.

S. Africa.

Comprises 2 vars.: – var. boeckleri (syn.: Scirpus collinus) Boeckeler var. boeckleri var. boeckleri 

short spined, hairs beneath inflorescence; leaves 5–15 cm long, 0.5–1 mm wide; sheaths pale brown with long flexuous hairs at mouth; inflorescence of 2–12 spikelets, either sessile and capitate or 1–3 additional stalked inflorescences (sometimes only 1 spikelet).

Dry grassland; wooded grassland; forest glades; swamp margins; in shallow soil over rocky outcrops with Acaea; seepages in Brachystegia woodland; open bushland; damp depressions; savannas; 100–2700 m alt.

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Dry grassland; wooded grassland; forest glades; swamp margins; in shallow soil over rocky outcrops with Acaea; seepages in Brachystegia woodland; open bushland; damp depressions; savannas; 100–2700 m alt.

S. Africa.

Comprises 2 vars.: – var. boeckleri (syn.: Scirpus collinus) Boeckeler var. boeckleri var. boeckleri

short spined, hairs beneath inflorescence; leaves 5–15 cm long, 0.5–1 mm wide; sheaths pale brown with long flexuous hairs at mouth; inflorescence of 2–12 spikelets, either sessile and capitate or 1–3 additional stalked inflorescences (sometimes only 1 spikelet).

Dry grassland; wooded grassland; forest glades; swamp margins; in shallow soil over rocky outcrops with Acaea; seepages in Brachystegia woodland; open bushland; damp depressions; savannas; 100–2700 m alt.

S. Africa.


bas.: Fimbristylis cioniana Pi. Savi

syn.: F. hispidula (Vahl) Kunth var. cioniana (Pi. Savi) Boeckeler; F. vernoesenii De Wild.

Annual caespitose herb 8–30 cm tall; stems 3-angular, subwinged under inflorescence, striate, hispidulous to scabrid, leaf-less; leaf sheaths densely hairy, hairs hyaline, 2–5 mm long; blades < 10 cm long, 0,3–0,5 mm wide, with hyaline hairs; inflorescence umbellike, 1–3 cm wide, with 6–8 rays, erect to obliquely patent, often divided near apex; spikelets > 12 in an umbel, 3–5 mm long. Dry sandy places, in particular in sandy beds of seasonal rivers; riverbanks; sandy shores, sand banks; sandy grassland; margins of pond; 300–700 m alt.

Morocco; extinct in (N) Italy, SW Spain.

Three specimens from Zaire, Shaba, cited by Goetghebeur & Coudijzer (l.c.) are perhaps B. cioniana, or a form of B. hispidula (not figuring on our map). B. cioniana is near B. hispidula.


syn.: Abildgaardia clarkeana (Hutch. ex Bodard) Lye

Perennial herb 50–80 cm tall with creeping rhizome and ± closely set stems 0,4–0,8 mm wide, angular, glabrous or minutely scabrid above; stem base covered by brown-dark purple leaf sheaths ending in lobes to 2 cm long, blades absent; inflorescence of 1 terminal spikelet, sometimes with 1–2 additional spikelets, peduncle 1–6 mm long; spikelets ovate, 8–12 × 2–4 mm.

Miscanthus swamp with Sphagnum and other perennial wet bogs; marshy land; seepage zone; 1200–2000 m alt.

B. clarkeana is treated as a synonym of B. oritrephes by Lisowski, Fl. Rêp; Guinée 1: 393, 2009. But in Fl. Trop. E. Afr., Cyperaceae (l.c.) B. clarkeana is maintained as a good species. The specimen Scott-Elliott 5244 from Guinea cited by Lisowski, is probably B. clarkeana, a plant growing in permanent wet bogs; the other specimens from Guinea cited by Lisowski (l.c.) are B. oritrephes, a plant growing on laterite. The gathering Scott-Elliott 5244 is treated by Lisowski, or a form of B. oritrephes.


bas.: Fimbristylis coleotricha Hochst. ex A. Rich.

syn.: Abildgaardia coleotricha (Hochst. ex A. Rich.) Lye; Scirpus coleotrichus (Hochst. ex A. Rich.) Boeckeler

Annual tufted slender herb 8–40 cm tall, all parts hairy; stems 0,3–0,8 mm Ø, deeply grooved, ridges scabrid-hairy; leaf sheaths with hairs 3–10 mm long; blades distinctly ridged, 3–15 cm long, 0,2–0,5 mm wide, with short stiff dense hairs; inflorescence lax, with 1 sessile spikelet and 2–8 stalked spikelets, or groups of spikelets, sometimes only 1–3 spikelets; these ovoid, 2–5 × 1,5–3 mm.

Degraded savanna; seasonally damp grassland; dry meadows on inselbergs; cracks in granite boulders or sandstone rocks; laterite outcrops; in shallow soil overlying rock outcrops and crevices; dry river beds; cultivations; 70–2900 m alt.

Comprises 2 vars. – var. coleotricha [syn.: Bulbosylost eretti De Wild.], with large spikelets (2–3 mm wide); – var. miegei (B. R. W. Haines [bas.: B. miegei Bodelor; syn.: Abildgaardia miegei (Bodler) Lye; A. coleotricha var. miegei (Bodler) Lye] with small spikelets (1–2 mm wide).


bas.: Trichelostylus contexta Nees


Perennial tussocky herb 15–50 cm tall with a short woody rhizome; stems angular or ± flattened, 0,4–0,8 mm Ø, scabrid or shortly hairy; leaves basal, tufted; sheathes pale reddish brown, glabrous or shortly hairy, throat with long hairs; blades to 10 cm long, 0,3–0,5 mm wide, shortly hairy or scabrid; inflorescence open or compact, 1–3 cm wide, of 1 sessile spikelet and 2–5 stalked spikelets, and sometimes 1–2 additional spikelets at base of the stalked ones; peduncles 5–15 mm long; spikelets 5–12 mm long, 2–3 mm wide.

Rocky hillsides; c. 1650 m alt. (F.T.E.A.-area).

Namibia, Botsswana, Swaziland, S. Africa.

“Extremely common in Natal, polymorphic and taxonomically difficult” (according to Gordon-Gray, fide Fl. Trop. E. Afr., Cyper.: 80, 2010). It is not for certain “that B. boeckeliana should be kept distinct from B. contexta and the specimen is not really different from B. boeckeliana var. transiens”.


syn.: Stenophyllum craspedota (Chiov.) Chiov., nom. inval.

Tufted perennial herb with a woody horizontal rhizome and crowded shoots at the growing end; stems 20–70 cm long, 0,5–1,5 mm Ø, angular, with minute spine-like hairs below inflorescence; leaf sheaths light brown, with long flexuose hairs at throat; blades 1–15 cm long, 0,5–1 mm wide; inflorescence of
BULBOSTYLIS CRASPEDOTA

2–12 spikelets in a head or with 1–3 additional stalked spikelets or spikelet-clusters; spikelets ovoid, 6–10×2–4 mm. Dry grassland; near 0–100 m alt. ? N Kenya (no specimens seen for Fl. Trop. E. Afr., Cyper.: 112, 2010).

B. cruciformis (Lye) R. W. Haines – Icon.: Haines & Lye, Sedges & Rushes E. Afr.: 127, 1983; Fl. Eth. & Eritrea 6: 423, 1997. bas.: Abildgaardia cruciformis Lye Tufted annual herb 4–18 cm tall; stems angular, 0.2–0.4 mm wide, scabrid below inflorescence; leaves 1–3 cm long, 0.2–0.4 mm wide, main ribs and margins scabrid; sheaths straw-coloured to pale brown, scabrid to hairy with long hairs at mouth; inflorescence a head of 3–5 sessile spikelets often arranged in a cross, 5–8 mm wide. Open sand in dry open bushland; dwarf woodland with Acacia, Lanseria alata, Euphorbia matabelensis and a ground cover of perennial grasses; woodland with Commiphora, Cordia, Acacia, Euphorbia; 200–1300 m alt. Known only from Kenya fide Fl. Trop. E. Afr., Cyper.: 108, 2010, but indicated from Ethiopia (Sidamo; specim. Friis & al. 2870), but indicated from Ethiopia (Sidamo; specim. Friis & al. 2870), and eventually Bale (specim. Smeds 1, 1109) according to Fl. Eth. & Eritrea: l.c.

B. cupricola Goeth.; Bull. Jard. Bot. Natl. Belg. 54: 92, 93 (fig.), 1984; ibid. 55: 246, 1985; Faunon & al. in Pl. Ecol. Evol. 143: 9, 2010. – Icon.: Malaisse & al., Copper-cobalt flora & Upper Katanga: 323, 2016. Annual herb 5–15 cm tall; stems solitary or fasciculate, sulcate, shortly hairy like leaves and inflorescence branches; leaves several to many; leaf sheath throat with long white hairs; blade 3–8 cm long, 0.2 mm wide, uniformly sulcate below; inflorescence open, of 2–20 spikelets, pedicels 0.4–0.2 cm long, pilose or sparsely so; spikelets acute, multiflowered, 3–5 mm long, 1–1.5 mm wide. Dried mud flats of copper contaminated soil; cobalt steppe; copper polluted soils and on sites of washing of extracted rocks; peri-odically very humid compact soil (plant forming greensward); 1200–1400 m alt. “Great interest, even if it is an annual plant. Able to develop into a closed lawn” (Malaisse & al., l.c.).

B. cylindrica C. B. Clarke; Figueiredo & Smith, Pl. Angola: 178, 2008. Slender annual herb; stems tufted, 10–15 cm tall, sessate except at top; leaves to 2.5 cm long, sulcate; sheaths with a few very slender white hairs at throat; inflorescence of 1 sessile + 2 long-pedicelled spikelets; spikelets narrow-cylindrical, 8 × 2 mm, rusty brown. Ecology unknown.

BULBOSTYLIS DENSIA

& al., Pl. Sudan & S. Sudan: 102, 2015. – Icon.: J. Agric. Trop. Bot. Appl. 8: 117, 1961 (as Fimbristylis marrana); Haines & Lye, Sedges & Rushes E. Afr.: 120, 1983 (subsp. afromontana); Bull. Jard. Bot. Natl. Belg. 55: 252, 1985; Berhaut, Fl. ill. Sénégal 9: 158, 1988; Streitzius 2: 28, 1995 (nutlet); Fl. Eth. & Eritrea 6: 419, 1997; OH, Young Cha, Korean Cyperaceae: 34, 2000; Ravi & Mohanam, Common tropical and sub-tropical sedges and grasses: 14, 2002; Burrows & Willis, Pl. Nyika Plateau, Malawi: 296, 2005; Fl. Trop. E. Afr., Cyper.: 99, 2010; Fl. China, Ill. 23: 293–294, 2012. bas.: Scirpus densus Wall. syn.: Isolepis densa (Wall.) Schult.; Fimbristylis densa (Wall.) T. Koyama & T. I. Chuang 1960, nom. illeg., non Abildgaardia densa (Wall.) Lye 1974; Bulbostylis tenensis Nakai 1952, nom. illeg.; Isolepis tenuissima Don 1825, nom. illeg. Tufted variable annual herb 5–30 cm tall, glabrous or with scattered short spine-like hairs on stem and leaves; stems deeply grooved, 0.2–0.4 mm; leaf sheaths with many slender hairs 1–2 mm long; blades caniculate, grooved, 0.2–0.3 mm wide, inflorescence of 1 sessile spikelet and to 8 stalked spikelets each 2–5 × 1.5–3 mm. Aquatic biotopes; margins of water bodies; grassland, both dry and bordering swampy streams; murrum pits, dry rocky places with thin or eroded soil particularly in Juniperus, bamboo forest clearings, damp rocks of waterfalls; Combretum, Acacia scrub; Loutdetia arundinacea grassland with scattered trees, on rocky outcrop with wet flushes and thin soil with Selaginella njanjam-janjam, Aevallanthus spp., Aloe spp. and many annuals; meadows; lava plains; crops; weed in cultivated fields, rice fields, waste places, roadbanks; 5–500–3300 m alt.


Comprires in Africa: – subsp. afromontana (Lye) R. W. Haines [bas.: Abildgaardia densa (Wall.) Lye subsp. afromontana Lye; syn.: Isolepis trifida Nees; Bulbostylis capillaris (L.) C. B. Clarke var. trifida (Nees) C. B. Clarke; B. triffida (Nees) Nelmes, nom. superfl., incl. var. biegensis Cherm.; Fimbristylis minutissima Maire; F. marrana Miré & Quèzel, non rite publ.]; widespread in Africa, with nutlets with + obscure tubercules and glumes with distinct keel; – var. cameronensis S. S. Hooper [syn.: Bulbostylis puberula (Poir.) C. B. Clarke var. cameronensis C. B. Clarke, nom. in Dur. & Schinz, Conspl. Fl. Afr. 5: 615, 1895, nom. nud.], with nutlets with very clearly seen tubercules and glumes rounded on back; a Cameroon endemic “differing from all other species in Africa in having spikelets on short pedicels producing a compact inflorescence and glumes with a distinctly excursive nerve”. – Until the 1990s, this variety was known only from the type collection (Mann 1360b) on Mt Cameroon, believed to be from the Mann’s Spring area. It was then rediscovered there in 1992 (Thomas 9407)… Subsequently it has been recorded at other montane grassland sites…” (Onana & Cheek, o.c.: 364–365, 2011). Cf. also Cable & Cheek, Pl. Mt Cameroon: LXVI, 1992; Harvey & al., Pl. Bali Ngemba…: 70; J. Agric. Trop. Bot. Appl. 8: 117, 1961 (as Fimbristylis marrana); Haines & Lye, Sedges & Rushes E. Afr.: 120, 1983 (subsp. afromontana); Bull. Jard. Bot. Natl. Belg. 55: 252, 1985; Berhaut, Fl. ill. Sénégal 9: 158, 1988; Streitzius 2: 28, 1995 (nutlet); Fl. Eth. & Eritrea 6: 419, 1997; OH, Young Cha, Korean Cyperaceae: 34, 2000; Ravi & Mohanam, Common tropical and sub-tropical sedges and grasses: 14, 2002; Burrows & Willis, Pl. Nyika Plateau, Malawi: 296, 2005; Fl. Trop. E. Afr., Cyper.: 99, 2010; Fl. China, Ill. 23: 293–294, 2012. bas.: Scirpus densus Wall. syn.: Isolepis densa (Wall.) Schult.; Fimbristylis densa (Wall.) T. Koyama & T. I. Chuang 1960, nom. illeg., non Abildgaardia densa (Wall.) Lye 1974; Bulbostylis tenenis-sima Nakai 1952, nom. illeg.; Isolepis tenuissima Don 1825, nom. illeg. Tufted variable annual herb 5–30 cm tall, glabrous or with scattered short spine-like hairs on stem and leaves; stems deeply grooved, 0.2–0.4 mm; leaf sheaths with many slender hairs 1–2 mm long; blades caniculate, grooved, 0.2–0.3 mm wide, inflorescence of 1 sessile spikelet and to 8 stalked spikelets each 2–5 × 1.5–3 mm. Aquatic biotopes; margins of water bodies; grassland, both dry and bordering swampy streams; murrum pits, dry rocky places

“B. densa and B. pusilla are not always easily distinguished and a number of specimens with neither tubercule nor transversely...
BULBOSTYLLS DENSIA

rugulose sculpture, but with merely reticulate cell pattern, resemble both…” (Fl. Trop. E. Afr., Cyper.: 100, 2010).


bas.: Abildgaardia densifica Lye

Perennial herb forming a dense clump 25–60 cm tall with a thick woody rhizome c. 5 mm 2; stems many, crowded, 0,5–1,5 mm 2; triangular, scabrid or almost glabrous; leaf sheaths light reddish brown, densely woolly with very long white hairs at throat; blades c. 1 cm long, filiform, scabrid; inflorescence of 1 central sessile spike and 2–5 stalked spikelets on 1–2,2 cm long stalks, the whole 4–6 cm wide; spikelets ovoid, 8–12 mm long, 4–5 mm wide.

On black clay soil admixed with sand, scattered Terminalia, Euphorbia, Acacia with tangled shrub clumps of Grewia, Lannea, Commiphora, Lecaniodiscus, Cordia, Boswellia, Strychnos, Combretum; Cynometra; Brachylaena coastal forest; 50–300 m alt.

“…the only species of …Bulbostylis with a typical open Fimbristylis-like inflorescence…” (Haines & Lye, o.c.: 100).

B. densiflora (Lye) Lye

Annual herb; inflorescence of 1 spikelet; glumes 2–3 mm long; nutlet transversely rugose (from the brief Latin diagnosis).

Top of waterfalls; 1260 m alt.

Only known from the type collected in 1957 (Richards 9339).


bas.: Abildgaardia elegantissima Lye

Annual herb 10–20 cm tall with tufted stems; stems glabrous below but with spine-like teeth below inflorescence; leaves to 5 cm long, 0,5 mm wide, margins and ribs scabrid, sheath with long white hairs at throat; inflorescence open with 1 sessile and 5 stalked spikelets on 1–2,2 cm long stalks, the whole 4–6 cm wide; spikelets ovoid, 8–12 mm long, 4–5 mm wide.

On black clay soil admixed with sand, scattered Terminalia, Euphorbia, Acacia with tangled shrub clumps of Grewia, Lannea, Commiphora, Lecaniodiscus, Cordia, Boswellia, Strychnos, Combretum; Cynometra; Brachylaena coastal forest; 50–300 m alt.

There has been confusion about the synonyms: C. B. Clarke in Fl. Trop. Afr. 8: 435, 1902, cites Isolepis schoenoides Hook. f., Chaetospora nigricans Boeckeler, p.p., etc. as synonyms.

(B. festucoides (Poir.) C. B. Clarke); Fl. Trop. Afr. 8: 430, 1902.

A tufted annual herb 5–20 cm tall, with striate stems and scanty leaves with hairy sheaths with long white hairs at mouth; inflorescence of 1 spikelet.

Cited from “French Guinea, Sylimania, Erimakuma” (Scott Elliott 5244) by C. B. Clarke, l.c.; Lisowski, Fl. Rép. Guinée 1: 393, 2009, mentions this gathering under B. oritrephes, but in Fl. Trop. E. Afr., Cyper.: 78, 2010, it is considered as B. clarkeana (See above under that species).

B. festucoides occurs in the W Indian Ocean islands.


bas.: Scirpus filamentosus Vahl


Perennial caespitose herb 0,2–1 m tall; stems crowded on a short rhizome 0,6–1 mm 2; stems and leaves glabrous or minutely hairy; leaf sheaths brownish, throat with long hairs, old sheaths often fibrillose; blades 10–15 cm long, 0,3–0,5 mm wide, strongly scabrid; inflorescence a dense crowded head of 6–20 spikelets 0,5–1,5 cm 2; spikelets 5–8 mm long. The plant resembling Juncus jucquini. Seasonally wet habitats; grassland; Terminalia, Lannea, Pappea and Brachystegia woodland; crevices in rock faces; poor soils on laterite; savanna; rather dry grassland; wooded savannas; mostly on sandy soil or shallow soil overlying outcropping rocks; copper rocky sites; also a weed (Naczi & Ford, Sedges: uses…: 77, 2008); c. 0–2700 m alt.

S. Africa, Botswana, Swaziland. Record from Namibia erroneous (Sabanet News 9:1: 18, 2004). – Also in Equat. Guinea?

Very close to B. scabricaulis.


syn.: B. cyrtathera Cherm.

Annual herb, tufted, 15–20 cm tall; basal leaves filiform, 5–8 cm long, sparingly hairy with long white hairs; sheaths reddish;
Bulbostylis craspedota
Bulbostylis cruciformis
Bulbostylis cupricola
Bulbostylis cylindrica
Bulbostylis densa
Bulbostylis densicaespitosa
Bulbostylis densiflora
Bulbostylis elegantissima
Bulbostylis erratica
Bulbostylis filamentosa
Bulbostylis fimbrystyloides
Bulbostylis fusiformis
BULBOSTYLIS FIMBRISTYLOIDES

inflorescence globose, sessile, 5–8 mm ∅, red-brown; spikelets reflexed, ovate, compressed, 3 mm long, minutely hispid.
Damp places in savanna; temporary hollow on sand; vegetation on laterite; humid gravel.
Undercollected.

Annual tufted herb 5–20 cm tall, “with the habit of a robust B. pseudopeneris”; stems sulcate, scabrid; leaves several, with long white hairs at mouth of sheaths; blades scabrous, 2–10 cm long, c. 0,3 mm wide; inflorescence umbel-like or reduced to one spikelet; spikelets spindle-shaped, 9–14 mm long, 2–3 mm wide, acute, multiflowered.
Copper steppe savanna and sward; strictly endemic of Cu-rich soil (Faucon & al., l.c.).

Annual herb to 2 cm tall, base covered with many pale multi-veined prophylls; stems green, ridged, 0,2 mm ∅, glabrous or with few hairs; leaves c. 1 cm long, 0,2–0,4 mm wide, glabrous, with few teeth at apex; sheaths pale; inflorescence of one spikelet and (less often) 1–2 additional ones; spikelet 2–4 mm long.
Marshes; rocky outcrops in Erica belt; 3000–3600 m alt.
“Closely related to (and perhaps conspecific with the Madagascarian species [Abildgaardia] Bulbostylis heterostachya Chern.”

Perennial herb, erect, tufted with woody base, 0,2–1,25 m tall; leaves basal, canaliculate, of the same length; sheaths glaucous at mouth; panicle spreading with 20–35 spikelets, each 5–6 × 1–2 mm, reddish-black, neat elliptic.
Swamp on hard-pan; wet places in savanna; 1600 m alt.

bas.: Fimbristylis hensii C. B. Clarke
Perennial tussocky herb to 20–40 cm tall (difficult to tell in some specimens if they are perennial or annual) with a short erect rhizome; stems ridged, 0,3–0,6 mm ∅, with dense hairs c. 0,5 mm long; leaves with similar hairs; sheaths greenish or pale reddish brown; blades green, filiform, 1–2 cm long; inflorescence a simple umbel-like structure with 2–5 (rarely 1) spikelets, each ovoid, acute, 5–15 mm long, 2–3 mm wide.
Dry grassland in hilly areas; roadside banks; old quarry floor; open swampy places, often in meadows or savanna; 0–1400 m alt.
Near B. hispidula but usually forming larger tufts, and with a simple darker umbel with 2–5 spikelets or rarely 1, and nutlets smooth (not transversely wrinkled). B. hensii “could also be regarded as a subspecies of B. hispidula” (Haines & Lye, o.c.: 110).
Not in Angola: Loango (Soyaux 151); confusion with Congo-Brazzaville.

bas.: Scirpus hispidus Vahl
Tufted perennial herb, highly polymorphic, 10–80 cm tall with a short woody creeping rhizome, with remains of burnt-off basal leaves, or annual herb with slender root system; stems angular, ridged, 0,3–1 mm ∅, glabrous to densely set with transparent hairs; leaves flat or channelled, 1–15 cm long, 0,2–0,5 mm wide, usually densely hairy; leaf sheaths densely hairy with long (to 15 mm) slender hairs at mouth; inflorescence simple or compound, lax, with 1 sessile and 2–many additional stalked spikelets or groups of sessile and stalked spikelets, or rarely all spikelets sessile.
Grassland often with scattered shrubs or trees; bushland often on seasonally water-logged soil but also in shallow soils over rocks; coastal wooded grassland; Terminalia, Julbernardia, Uapaca woodland; Acacia scrub; muddy tidal inlets; sandy beaches; old cultivations; weed in cultivated fields, crops, ricefields, roadsides, lake fringes, aquatic biotopes; niaies; inselbergs; mostly on sandy soil; member of the Abildgaardio arbitrariae-Indigoferetum guminatet association (Wittig & al. in Phytoconologia 41: 130, 2011) in the Sudanian and Sahelian zone; thousands of individuals growing in large sandy plains of S Ennedi with Panicum turgidum; 0–2000 m alt.
Cape Verde Isl.; Annobón; Namibia, Swaziland (Bothalia 27: 145, 1997), Botswana, S. Africa; Madagascar, Seychelles; tropical Asia; tropical America.– Pantropical.


bas.: *Isolepis humilis* Kunth

syn.: *I. humilimia* Hochst. ex C. B. Clarke, nom. inval.; *I. breviculmis* Kunth; *Abildgaardia humilis* (Kunth) Lye; *Scirpus brevicolmis* (Kunth) Boeckeler; *S. arenarius* (Nees) Boeckeler; *Bulbostylis brevicolmis* (Kunth) C. B. Clarke; *Fimbristylis arenaria* Nees [*Bulbostylis arenaria* (Nees) Lindem. is *B. juncoideus* (Vahl) Kük. ex Osten !., a plant from S USA, Mexico, West Indies, C. & S. America].

Tufted annual herb 1,5–20 cm tall; leaves 4–10 cm long, glabrous; inflorescence of 1–2 greenish-brown spikelets each 5–8 mm long. Ecology unknown in Mozambique. According to Nacci & Ford, Sedges: Uses...: 68, 77, 2008, it is probably a wool alien, and a weed in gardens, potted plants.


**B. humpatensis** Meneses – Icon.: García de Orta 4: 255, 1956. Annual tufted herb; stems 10–20 cm long, erect, almost setaceous, grooved, glabrous, somewhat hispid at apex; leaves setaceous, acute, hispid, measuring half the length of the stems; sheaths membranous, red-brown, mouth ciliate; inflorescence of 1 sessile and 1–2 stalked spikelets; peduncle 7–10 mm long; spikelet ovate, 8–11 × 3–4 mm. Sub-shrubby vegetation on river side; 1800 m alt. Near *B. cylindrica*.


syn.: *Abildgaardia igneotons* (Raymond) Kornaś

Perennial herb 13–60 cm tall with thick strong horizontal rhizome; stems many, the old ones burnt right down leaving stubs of ± equal length on the rhizome and new leaves and flowering shoots arising from within these burnt bases; stems 1 mm Ø, sulcate, graceful but stiff, glabrous or very shortly pilose; leaves with sheaths cinnamon-coloured, acute, with multicellular hairs to 2 cm long at mouth, often forming tangled woolly masses; inflorescence pale to dark brown, capitate, obturbinate, ± 1 × 1 cm, mostly with long white hairs at base but sometimes glabrous; spikelets 2–5, sessile, oblong, acute. *Brachystegia* woodland; rocky grassy places near streams; 1100–2100 m alt.
**CYPERACEAE**

**BULBOSTYLOS IGNEOTONSA**

Fire resisting plant, very common in Zambia. The specimen Richards 18536 from Tanzania (Mbeya Distr.) has some inflorescences with 1–2 of the spikelets with pedicels 10–15 mm long.


syn.: *Abildgaardia johnstonii* (C. B. Clarke) Lye

Tufted annual or short-lived perennial herb 10–30 cm tall with creeping rhizome; stems glabrous; leaves filiform; blade 8–12 cm long, conspicuously curved, transversely concave-trigonous, scabrid; mouth of sheaths fimbriate; inflorescence umbel-like, with 5–15 many-flowered acute spikelets each 5,5–7,5 mm long, 1,5–2 mm wide.

River bed on large lateritic rock slabs; c. 700 m alt.


Annual (? sometimes perennial) herb; stems 20–25 cm tall, tufted, erect, ribbed, sometimes minutely scabrous; leaves numerous, filiform; blade 8–12 cm long, conspicuously curved, transversely concave-trigonous, scabrid; mouth of sheaths fimbriate; inflorescence umbel-like, with 5–15 many-flowered acute spikelets each 5,5–7,5 mm long, 1,5–2 mm wide.

**B. lacunosa** (Lye) Lye – Icon.: Nord. J. Bot. 7: 45, 1987 (under *Abildgaardia*).

bas.: *Abildgaardia lacunosa* Lye

Annual herb 5–15 cm tall; stems 0,2–0,4 mm Ø, red, minutely scabrous, hairless; leaves from near base of stems, ± 3; sheaths with long flexuous whitish hairs at mouth; blades 1–3 cm long, 0,2–0,4 mm Ø, with a prominent midrib and 1–2 prominent lateral veins on either side beneath; inflorescence of 1–3 spikelets; glumes ovate, 2,5–3 mm long; nutlet pyriform, pitted due to many prominent depressions.

Seasonally damp soil, shallow soil over laterite; pans; 1350–1650 m alt.

Two collections made in 1961 and 1962, respectively, from N Zambia cited by Lye.


bas.: *Scirpus laniceps* Boeckeler

syn.: *Fimbristylis laniceps* (Boeckeler) K. Schum.; *Abildgaardia laniceps* (Boeckeler) Lye; *Bulbostylis coleotricha* (A. Rich.) C. B. Clarke var. laniceps (Boeckeler) C. B. Clarke p.p. quoad specim. ex Afr. occid.; *B. togoensis* Chemn. Tufted perennial herb 11–22–30 cm tall with a thick felt of brownish hairs at base; leaves filiform, often nearly as long as stems, with short stiff hairs; lower part of old flowering stems persisting; stiff; flowering stems thin, c. 0,25 mm Ø; inflorescence small, a simple umbel of 1 terminal spikelet, usually with 2 branches from near the base, sometimes more, or only one; spikelets brown, ovoid, 3–4 × 1–1,5 mm.

Savanna woodland or grassland; humid savanna.


bas.: *Abildgaardia laxispicata* ("laxispicata") Lye

Annual herb; inflorescence lax; glumes 1,7–2 mm long; nutlets smooth (from the brief Latin diagnosis; the figure shows a tufted plant with filiform leaves hairy at the mouth of sheaths, and a branched inflorescence of stalked long spikelets and branches ending in stalked spikelets).

Ecology unknown. Known only from the type collected in 1966.


syn.: *Abildgaardia leiolepis* (Kük.) Lye

Tufted annual herb 15–30 cm tall; stems ridged, glabrous; leaves c. 6 cm long, 0,5 mm wide, minutely scabrous, sheaths with scattered long hairs; inflorescence a small head 4–8 mm Ø of 2–3 sessile spikelets but appearing umbellate when lower glumes and nutlets are shed; spikelets ovoid, 4–8 × 2,5–3,5 mm.

Wet ground over rocks; 1250–1400 m alt.

Only known from the type (Peter 37918) collected in 1926, and another gathering (Peter 38496).


Annual tufted herb 10–20 cm tall; stems sulcate, glabrous; leaves numerous with long white hairs at mouth of sheaths; blade 2–5 cm long, 0,2 mm wide; inflorescence an umbel of many stalked spikelets and additional stalked spikelets from base of stalked spikelets; spikelets acute, 3–4 mm long, 1–1,3 mm wide, many-flowered.

Ecology not recorded; river plains.

Closely resembling *B. densa*, *B. pusilla*.


**BULBOSTYLOS LANICEPS**

Meadows on pans; in light, poor soils; swamps; esobe; dambo; lateritic soils; burned-, humid- and grassy savannas; seashores; 0–800 m alt.


bas.: *Scirpus laniferus* Boeckeler

syn.: *Fimbristylis lanifera* (Boeckeler) K. Schum.; *Abildgaardia lanifera* (Boeckeler) Lye; *Bulbostylis coleotricha* (A. Rich.) C. B. Clarke var. *lanifera* (Boeckeler) C. B. Clarke p.p. quoad specim. ex Afr. occid.; *B. togoensis* Chemn. Tufted perennial herb 11–22–30 cm tall with a thick felt of brownish hairs at base; leaves filiform, often nearly as long as stems, with short stiff hairs; lower part of old flowering stems persisting; stiff; flowering stems thin, c. 0,25 mm Ø; inflorescence small, a simple umbel of 1 terminal spikelet, usually with 2 branches from near the base, sometimes more, or only one; spikelets brown, ovoid, 3–4 × 1–1,5 mm.

Savanna woodland or grassland; humid savanna.
B. lolokweensis Verdc., Fl. Trop. E. Afr., Cyper.: 111–112, 2010. Tufted annual herb 8–20 cm tall with very reduced rootstock; leaf sheaths with long hairs; blades linear to, 8 cm long with sparse short spine-like hairs; inflorescence of 1 terminal spikelet or with a second beneath but with separated subseessile bracts 2–4 mm long or sometimes absent; spikelets c. 5 mm long, 1.5–3.5 mm wide. Rocks with semi-permanent stream and wet flushes, with Myrothamnus, Isotetes, Utricularia; c. 1650 m alt. Only known from the type (Gilbert 5377) collected in 1979. Verdcourt explains the complicated mixture of the Kew specimen; most of the specimens belong to B. densa.

B. longiradiata Goetgh. – Icon.: Bull. Jard. Bot. Natl. Belg. 55: 221, 254, 1985. Annual tufted herb; stems 15–30 cm tall, erect, grooved, slightly hispid; leaves several; throat of sheaths with many white long hairs; blade 4–12 cm long, c. 0.3 mm wide, hispid; inflorescence (twice) umbellate of 0–2 branched peduncles to 4 cm long; spikelets < 10, 5–8 mm long, c. 1.5 mm wide, acute, multi-flowered. Ecology not recorded. Often confused with B. pusilla subsp. congolensis, and also with B. hispidula. The single specimen from Zaire is said to differ from those in Burundi.


B. macra (Ridl.) C. B. Clarke; Rendle, Cat. Welwitsch’s Afric. pl. 2/1: 124, 1899; Bull. Jard. Bot. Natl. Belg. 55: 227, 1985; Strugnell, Checklist spermat. Mt. Mulanje, Malawi: 75, 2006; Figueiredo & Smith, Pl. Angola: 178, 2008; Fl. Trop. E. Afr. 35, 1986. – Icon.: Haines & Lye, Sedges and rushes E. Afr.: 97, 1983. bas.: Fimbristylis macra Ridl. syn.: F. zambesica K. Schum. (“zambesica”); Bulbostylis zambesica (K. Schum.) C. B. Clarke; Abildgaardia macra (Ridl.) Lye Tufted perennial herb 5–35 cm tall with ± swollen base; stems slender, 0.2–0.5 mm Ø, angular, scabrid below the inflorescence; leaves numerous, filiform, bright emerald green, 2–12 cm × 0.3–0.5 mm, scabrid or slightly hairy; sheaths with dense long whitish hairs at mouth; inflorescence a solitary terminal ovoid to lanceolate, spikelet 6–13 × 2–4 mm. Rather poor thick-grown pastures on river; dambo; Brachystegia woodland on rocky hilltops and slopes; dry grassland; miombo woodland; 800–1900 m alt.

B. macroantha (Lye) Lye bas.: Abildgaardia macroantha Lye Annual herb; inflorescence lax; glumes 2–2.5 mm long; nutlets 0.7–0.9 mm long, transversely rugose (from the brief Latin diagnosis).

B. macroanthela (Lye) Lye bas.: Abildgaardia macroanthela Lye Sandy woodland. Only known from the type collected in 1966 (Robinson 6877).

B. macrostachya (Lye) R. W. Haines; Fl. Trop. E. Afr., Cyper.: 71, 2010. – Icon.: Haines & Lye, Sedges and rushes E. Afr.: 97, 1983. bas.: Abildgaardia macrostachya Lye Densely tufted perennial herb 25–80 cm tall with thick swollen base covered with old flattened leaf sheaths, often with dense thick long greyish silky hairs within; stems 0.6–1.5 mm Ø, very scabrid; blade leaves 5–20 cm long, 0.3–0.5 mm wide, strongly scabrid, straw-coloured to brown; inflorescence of 1 sessile and very 3–5 stalked spikelets; peduncles flattened, 0.5–4 cm long, densely-scabrid; spikelets 1–4 cm long, 3.5–5 mm wide. Bushland; rocky hillsides in miombo woodland with Brachystegia spiciformis, Julbernardia, Isoberlinia angolensis, Burkea, Monotes africanus; 1350–1600 m alt.

B. malawiensis (Lye) Lye bas.: Abildgaardia malawiensis Lye Perennial herb; inflorescence simple of 1–3 spikelets; glumes 3–4.5 long; nutlets minutely papilllose (from the brief Latin diagnosis). Mountains; 2200 m alt. Only known from the type collected in 1962 (Robinson 5307).

B. megastachys (Ridl.) C. B. Clarke; Rendle, Cat. Welwitsch’s Afric. pl. 2/1: 125, 1899; Meneses in Garcia de Orta 4/2: 254, 1956; Bull. Jard. Bot. Natl. Belg. 55: 223, 254 (fig. nutlet), 1985. bas.: Fimbristylis megastachys Ridl. syn.: Abildgaardia megastachys (Ridl.) Lye; Bulbostylis stricta Turrill Perennial herb with stems densely tufted, 30 cm tall; stems rigid, glabrous at top; leaves hardly 8 cm long, filiform, glabrous or minutely scabrous on margins; mouth of leaf sheaths glabrous; inflorescence a simple umbel of 3–5 solitary oblong spikelets, each 1.1 × 0.3 cm and more, many-flowered, rusty brown. Rather dry low hills at edges of woods; dambo; wet grassland: 1150–1538 m alt. Also in Namibia ? (Archer & Craven in Sabonet News 9/1: 19, 2004).

B. melanocephala (Ridl.) C. B. Clarke; Rendle, Cat. Welwitsch’s Afric. pl. 2/1: 124, 1899. bas.: Fimbristylis melanocephala Ridl. Stems 2.5–5 cm tall, erect, canaliculate, glabrous; leaves numerous, filiform, acute, glaucescent, shorter than stems; sheaths purple, hispid, membranous; inflorescence of 1 spikelet (rarely 2), chestnut-red, ovalob lanceolate, c. 0.3–0.4 cm long; nutlets unknown. Pastures among short herbage with Xyris, Ericacioufon, Fimbristylis schoenoides (Retz.) Vahl in places full of thorn-bushes. S. Africa (Transvaal).

B. meruensis Verdc., Fl. Trop. E. Afr., Cyper.: 109, 2010. Tufted annual herb 1.5–3 cm tall with reduced rootstock with a few slender roots; stem scarcely developed; leaves overtopping the very short flowering stems, linear, 1.5–3 cm long; sheaths with long hairs; blades grooved with very short spine-like hairs and many brown dots; inflorescences 1 to several per plant, shorter than leaves, each with one spikelet; peduncles to 1 cm long.
**BULBOSTYLIS MERUENSIS**

Along track, W flank of Mt Meru, dense moor-like shrub forma-
tion; c. 2610 m alt.

Only known from the type collected in 1985.


bas.: *Abildgaardia microcarpa* Lye

Tufted annual herb 5–20 cm tall; stems 2–4 mm Ø, with prominent ridges, *strongly scabrid*; leaves dense, many, filiform, 1–10 cm long, scabrid; sheaths scabrid and with long white hairs at mouth; inflorescence 1.5–3 cm wide of 1 sessile and 1–3 pedunculate spikelets; spikelets ovoid, 4–6 × 2–4 mm, often with spreading glumes, 10–20-flowered.

Saline grassland with bushes on ± bare sandy soils; savanna; 400–600 m alt.

Endemic in Tanzania. However, Goetgh. & Coudijzer (Bull. Jard. Bot. Natl. Belg. 55: 240, 1985) report the plant from Zaire. They state that the 3 Zairean specimens are somewhat deviating from the original description. And that eventually, one specimen from Shaba might be included. Presence in Zaire uncertain (not mapped by us).


bas.: *Abildgaardia microlegans* Lye

Tufted annual herb 5–25 cm tall; stems grooved, 0.2–0.3 mm Ø, glabrous; leaf blades channelled, c. 2 mm wide; leaves glabrous save for some flexuous hairs c. 3 mm long on sheaths; inflorescence umbel-like of 1 sessile and 2–6 stalked spikelets in groups of sessile and stalked spikelets, these long, narrow, 3–5 × 0.7–1 mm.

Grassland and scrub on poor soil; wet grassland; lateric pans; shallow wet soil over rocks; bare soil at edge of grassland paths; murram pits; recently disturbed soil; c. 500–1800 m alt.

Most similar to *B. pusilla* but nutlets different.


Tiny tufted annual herb 4–12 cm tall; stems ribbed, glabrous; leaves numerous, filiform, with numerous long white hairs at mouth of sheaths; blade 2–5 cm long, 2 mm wide, margins scabrous; inflorescence umbel-like of 3–8 spikelets, branches 0.2 to 1 cm long; spikelets long, acute, many-flowered, 2.5–3.5 × 2 mm; glumes with a conspicuous, recurved mucro.

Grassy plateau; dried up swamp.

Known only from the type collected in 1933, and perhaps another collection in S Zaire.

Near *B. micronata* C. B. Clarke from Namibia (? and Angola).


Annual herb with few to many stems and a minute root-system, sometimes forming slender erect rhizomes; stems 15–18 cm long, 0.2–0.3 mm Ø, triangular with 6–9 prominent rounded ridges, glabrous; leaves from the basal 3 cm only, usually 2 on each stem, all with blades; sheaths palid to light reddish brown, glabrous or

with a few scattered hairs and with 1–2 mm long flexuose whitish hairs at mouth, usually with 3 slender nerves on each side of midrib; blades 2–6 cm long, 0.2–0.3 mm wide, scabrid at least on margins; lower surface with 3 prominent nerves; upper surface without nerves; inflorescence a 0.5–1.2 cm wide and 0.5–2 cm long, lax, often simple umbel of 1 sessile spikelet subtended by 2–5 stalked spikelets; peduncles 2–9 mm long, 0.2 mm Ø, angular, glabrous; spikelets ± ovate, 2.3–3.5 × 1.2–2 mm, apex obtuse, with numerous densely set spirally arranged glumes, 25–40-flowered; nutlets triangular-pyrriform, 0.4–0.5 mm long.

Sandy roadside; shallow soil over flat rocks; 1700 m alt.

Only known from the type collected in 1983 (Lye 9694).

Near *B. taylorii* (with spikelets 2 mm long, less hairy glumes, nutlets 0.8–1 mm long).


Very densely tufted perennial herb 15–40 cm tall with up to several hundred rigidly erect narrowly striate stems with *dense upwardly directed hairs* c. 0.5 mm long; leaf sheaths pale yellow-brown, to 5 cm long, densely appressed-pubescent with long hairs at mouth; blades 1.2 cm long; inflorescences obtriangular of 1 sessile spikelet and 4–5 stalked spikelets; stalks stout, 5–7 mm long, strongly-striate; spikelets 9 mm long.

Very hot soil by stream-jets; 1700–1950 m alt.

“It is extraordinary that this plant, well known to the many visi-
tors to Hell’s Gate, appears to be new. It has mostly been named *“Fimbristylis exilis” but differs from* *B. hispidula* indumentum, habit and nutlet; it has also been confused with four other quite different species” (Verdcourt, l.c.). *Fimbristylis exilis* (Kunth) Roem. & Schult. is cited as a synonym of *Bulbostylis hispidula* subsp. *hispidula* by Haines & Lye, Sedges and rushes E. Afr.: 104, 1983 (See above under that species).

**B. multiplicata** Chern., Arch. Bot. 4, Mém. 7: 38, 1931.

Perennial herb with a short, woody rhizome; stems 50–80 cm long, 1–1.5 mm Ø, shortly hairy, grooved, base not bulbous; leaves 35–45 cm long, 0.5 mm wide, flexuose, subcanaliculate, shortly hairy; sheaths pale brown, mouth pilose; inflorescence compound, 3.5 cm Ø, with 30–100 spikelets; primary branches 8–12, erect, unequal, to 5–8 cm long; secondary branches 0.6–0.3 cm long; spikelets single, lanceolate, acute, 6–8 × 2 mm.

Rocks.

Near *B. argenteobrunnea* from Kenya.


Annual herb; stems 8–20 cm tall, solitary or clustered, erect, ribbed or grooved, glabrous, sometimes scabrous at apex; leaves few or several; mouth of sheaths with several long, white hairs; blades 3–10 cm long, 0.3 mm wide, scabrid below; inflorescence a simple umbel of 2–5 spikelets, rarely 1; branches to 1.5 cm long, glabrous, sometimes slightly scabrous at apex; spikelets spherical or subcylindric, 3.5–6.5 × 3–3.5 mm, obtuse, multiflowered.

On sand; palm savanna; steppe with *Bulbine abyssinica*; 780–800 m alt.
BULBOSTYLIS

**B. nudiuscula** (Lye) – Icon.: Lidia 1: 34, 1986.

bas.: *Abildgaardia nudiuscula* Lye

Annual herb without leaves (blades); inflorescence a lax simple umbel, 2–3-radiate; glumes 5–7 mm long; nutlets transversely rugose (from the brief Latin diagnosis).

Shallow laterite pan, seasonally damp.

Only known from the type collected in 1961 (Robinson 4622).


Tufted annual herb 5–45 cm tall with many stems 0,7 mm wide, deeply ridged, glabrous to densely shortly pubescent; leaf sheaths densely glabrous to densely hairy; blades 5–15 cm long, 0,5 mm wide, densely hairy or glabrous, or with short spine-like hairs; inflorescence condensed umbel-like with sessile and short stalked spikelets, ± triangular in outline; stalks to 5 mm long; spikelets short with few glumes.

Wet rocks and flushes in wooded grassland; grassy ditches; seasonally wet soils, especially on shallow soils over rocks; 900–2700 m alt.

Also in Angola according to Figueiredo & Smith, Pl. Angola: 178, 2008.

*Fimbristylis* sp. sensu Wickens, Fl. JebeL Marra, on riverbanks, represents perhaps this species (Darbyshire & al., Pl. Sudan & S. Sudan: 102, 2015).


syn.: *B. mozambica* Raymond; *Scirpus parvinux* (C. B. Clarke) K. Schum.; *Abildgaardia parvinux* (C. B. Clarke) Lye; *Bulbostylis collina* Kunth in herb. (Fde Raymond, l.c.).

Perennial densely tufted herb with an oblique hard rhizome c. 1 cm in, brown, with long rigid roots; stems many (7–8), 45–55 cm long, slender but rigid, striate, glabrous; leaves reduced to sheaths ending in short acute blades, woolly hairy at mouth and apex; inflorescence a dense globular head 1,5–2 cm in of ovate flattened distichous spikelets each 7 mm long, woolly hairy when young later glabrescent.

Wetland; on sandy, white and pale red soils…in *Terminalia* and *Acacia burkei* woodland (S. Africa).

S. Africa.

The German plant collector F. R. R. Schlechter (1872–1925) worked in S Mozambique (Lourenço Marques) in 1897. His collection of this plant, 11543 (30–11–1897) and the type of the name *B. mozambica* Raymond (J. G. da Costa 23, 1958), “are so alike that they seem to have been collected from the same clump, at an interval of 60 years” (Raymond, l.c.). Distributed as *B. collina* Kunth to various herbaria, “a variable species whose correct name is *B. contexta* (Nees) Bodard… [which] has little in common with *B. mozambica*”.

Vegetatively resembling *B. boeckeleriana*.


bas.: *Schoenus pilosus* Willd.
BULBOSTYLIS PILOSA

syn.: Abildgaardia pilosa (Willd.) Nees; Isolepis pilosa (Willd.) Steudel; Fimbristylis pilosa (Willd.) K. Schum. 1895, non (Poir.) Vahl 1805, nom. illeg.; F. africana C. B. Clarke 1894, nom. nud., and C. B. Clarke 1902; F. aphylanthoides Welv. ex Ridl.; Bulbostylis aphylanthoides (Welv. ex Ridl.) C. B. Clarke; “Fimbristylis (Abildgaardia pilosa)” Nees

Densely tufted perennial herb 20–80 cm tall with a stout creeping rhizome; stems crowded, 0.5–2 mm Ø, scabrid above, and minutely hairy below, glabrous or hairy towards base; leaves 5–25 cm long, 1–3.5 mm wide, flat, ribbed, minutely hairy; sheaths brown or reddish brown, hairy and with long white hairs on margins of mouth; glabrescence a terminal head of 3–10 clustered compressed ovoid spikelets, each 8–15 × 3–8 mm.

Seasonally flooded wooded grassland; mangrove swamps; some sunny wooded hills near river; bushland; Brachystegia etc. woodlands; coconut groves; burnt grassland; savanna on deep soil; often on white sand; fallows; gallery forest; 1–1400 m alt.

Stems and whole plant used in Ghana to make brooms.

“Simulating Statue”.


Annual herb with 1–few stems 1–15 cm long, 0.2–0.3 mm Ø, angular with 3–6 rounded longitudinal ridges, glabrous; leaves from the basal 3 cm only, usually 4–6 on each stem and at least the 2–4 upper with well developed blades; sheaths light reddish brown with many prominent glabrous longitudinal ridges; the oblique mouth with many long flexuose whitish hairs; blades to 6 cm long, 0.2–0.3 mm wide, flat or canaliculate, often minutely scabrid near tip, and with 3 prominent nerves beneath; both leaves numerous; blades 2–32 cm long, 0.04–0.3 mm wide, flat or canaliculate, often minute scabrid near tip, and with 3 prominent nerves beneath; both leaves sometimes reddish-dotted; glabrescence umbel-like, 0.4–3 cm long, 0.5–5 cm wide, of 1 sessile group of spikelets subtended by 1–3 stalked groups of spikelets; major peduncles 0.5–3 cm long; spikelets ovate and angular, 3–4 × 1–2 mm, apex acute with few spirally arranged glumes, 5–10-flowered.

Sandy hills; 1200–1400 m alt.


Annual tufted herb 1–3–10–15 cm tall; stems grooved, ± scabrous; leaves numerous; blades 2–8 cm long, 0.2 mm wide, scabrous, with long white hairs at mouth of sheaths; glabrescence umbel-like or completely condensed; spikelets ± ovate, many-flowered, 4–7 mm long.

 Copper-contaminated soils; steppe savannas on copper outcrops; copper polluted soils.

Rather variable.

 Copper-belt vicariant of B. mucronata C. B. Clarke (Namibia).

(B. puberula (Kunth) C. B. Clarke = B. thouarsii).


BULBOSTYLIS PUSILLA


bas.: Fimbristylis pusilla Hochst. ex A. Rich.

syn.: Abildgaardia pusilla (Hochst. ex A. Rich.) Lye; Scirpus hochstetteri Boeckeler, nom. superfl.; Stenophyllus capitillaris var. striatinus H. Pfeiff.

Tufted slender annual herb 3–40 cm tall; stems few to many, rounded, 0.2–0.5 mm Ø, glabrous to densely hairy; leaf sheaths straw-coloured to light brown, scabrid to hairy with long white hairs at mouth; blades to 40 cm long, 2–4 mm wide, scabrid or hairy; glabrescence simple or compound, lax with 1 sessile spikelet and 1–10 stalked spikelets and additional groups of sessile and stalked spikelets, to 40 spikelets in all, the whole to 5 cm long; spikelets ovoid or lanceolate, 2.5 × 1–2 mm.

Loudetia kagerensis grassland; marshes by lakes, etc.; shallow soil on rock outcrops with seepage; open Acacia, Juniperus, Olea woodlands; moist grassy or marshy places; disturbed areas; sand banks; esobe; often on sandy soil; wooded marshes; soil pockets on rocks; wet places in savanna; lateritic flats; wet flushes; iron ore cliffs; 0–2300 m alt.


The record of B. pusilla subsp. pusilla from Kordofan, El Abiad, Sudan, has not been confirmed by Darbyshire & al. (l.c.) – it is perhaps a misidentification.


bas.: Fimbristylis quaternella Ridl.

Tufted perennial herb to 32 cm tall; stems glabrous (but minutely scabrous above), bases thickened and covered by enlarged hard, brownish-blackish, shining old leaf sheaths; leaves linear, short, glabrous; inflorescence umbel-like with 1–5 spikelets, branches minutely scabrous, equal in length.

Treeless lateritic flats; sunny wooded places.

The 4 syntypes of Fimbristylis quaternella Ridl. are: Welwitsch 6820, 6821, 6827 and 6830b.

(B. rarissima (Steud.) C. B. Clarke in Durand & Schinz, Conspl. Fl. Afric. 5: 615 !, 1894; Fl. Trop. Afr. 8: 431, 1902.)

bas.: Cyperus rarissimus Steud.

Stems filiform, 5–8 cm long with 1 spikelet or 2 sessile spikelets together, glabrous; leaves nearly glabrous, sheaths not ciliate at mouth; spikelets 3 by c. 2 mm, 8–12-flowered; “resembling small examples of B. barbata” (Fl. Trop. Afr., l.c.). – Schimper s.n.


bas.: Abildgaardia rhizomatosav Lye, non Fimbristylis rhizomatosa Pires de Lima 1924.

Perennial slender herb 20–60 cm tall with solitary stem or 2–3 well-spaced stems from a horizontal rhizome 2–5 cm long, 3–4 cm ∅, covered with blackish acuminate scales; stems triangular, glabrous to ± scabrid, 0.7–1.3 mm ∅; leaves from the lower 10 cm only; sheaths green to light reddish brown, minutely scabrid, with long (5–10 mm) white or reddish hairs at mouth; blades 1–18 cm long, 0.7–1.5 mm wide, margins densely scabrid; inflorescence umbel-like, 1–3 cm wide, 1–4 cm long, of 1 sessile and 2–4 stalked spikelets on 5–30 mm long peduncles; spikelets ovoid, 4–9 × 2–3 mm, 5–10-flowered.

Rather dry open Brachystegia woodland; 1200–1300 m alt.

When young, may be mistaken for a Fimbristylis.


bas.: Fimbristylis rotundata Kük.

syn.: Abildgaardia rotundata (Kük.) Lye

Annual herb 10–30 cm tall; stems few to many, crowded, 0.4–0.6 mm ∅, angular, distinctly ribbed, scabrid and sometimes with scattered hairs; leaves filiform, 5–10 cm long, scabrid or slightly hairy; inflorescence of 1 sessile and 1–4 stalked spikelets, peduncles 0.2–2 cm long; spikelets reddish brown, ovoid, 4–7 × 2–4 mm.

Seasonally flooded grassland; open Combretum-Terminalia woodland; 1200–1350 m alt.


Annual tufted herb 10–25 cm tall; stems ribbed, shortly hairy; leaves several, shortly hairy, with some white long hairs at mouth of sheaths; blade 7–17 cm long, 0.3 mm wide, sulcate and shortly hairy beneath; inflorescence umbel-like of 4–16 spikelets, branches 0–4, to 2 cm long, glabrous; spikelets ovate, 4–5.5 × 1.2–2 mm, acute, many-flowered.

Old lava fields; fissures in granite rocks; 1450–1800 m alt.

A member of the B. pusilla complex.


bas.: Abildgaardia rhizomatosav Lye, non Fimbristylis rhizomatosa Pires de Lima 1924.

Perennial slender herb 20–60 cm tall with solitary stem or 2–3 well-spaced stems from a horizontal rhizome 2–5 cm long, 3–4 cm ∅, covered with blackish acuminate scales; stems triangular, glabrous to ± scabrid, 0.7–1.3 mm ∅; leaves from the lower 10 cm only; sheaths green to light reddish brown, minutely scabrid, with long (5–10 mm) white or reddish hairs at mouth; blades 1–18 cm long, 0.7–1.5 mm wide, margins densely scabrid; inflorescence umbel-like, 1–3 cm wide, 1–4 cm long, of 1 sessile and 2–4 stalked spikelets on 5–30 mm long peduncles; spikelets ovoid, 4–9 × 2–3 mm, 5–10-flowered.

Rather dry open Brachystegia woodland; 1200–1300 m alt.

When young, may be mistaken for a Fimbristylis.


bas.: Isolepis schimperiana Hochst. ex A. Rich.

syn.: Scirpus schimperianus (Hochst. ex A. Rich.) Boeckeler; Trachelostylis schimperiana (Hochst. ex A. Rich.) Hochst. ex Boeckeler; Fimbristylis schimperiana (Hochst. ex A. Rich.) K. Schum. 1895, nom. illeg.; F. schimperiana Boeckeler 1858; Fl. humilis Peter; Abildgaardia schimperiana (Hochst. ex A. Rich.) Lye

Tufted annual herb 5–25 cm tall; stems 0.4–1 mm ∅, ridged, glabrous; leaves to 8 cm long, 1 mm wide, glabrous or with scattered hairs and 2–5 mm long hairs at mouth of sheath; inflorescence usually a single head of dark spikelets but sometimes an additional stalked head, or with 1 sessile and 1–8 stalked spikelets, each dark, 4–7 × 2–5 mm wide.
Bulbostylis pilosa
Bulbostylis pluricephala
Bulbostylis pseudoperennis
Bulbostylis pusilla
Bulbostylis quaternella
Bulbostylis rhizomata
Bulbostylis rotundata
Bulbostylis rumokensis
Bulbostylis scabricaulis
Bulbostylis schimperiana
Bulbostylis schlechteri
Bulbostylis schoenoides
**BULBOSTYLIS SCHIMPERIANA**

Grassland; *Acacia* woodland; *Tarchonanthis-Acacia* thicket; wet crevices in rockfaces; roadside ditches; weed in experimental plots; seasonally wet soil, often near seepage in grassland; 1200–2900 m alt.

*B. schimperiana* sensu Napper 1965 quoad descr. et dist. = *B. ugdensis*.


syn.: *Abildgaardia schlechteri* (C. B. Clarke) Lye

Perennial herb with thin creeping rhizome c. 3 mm Ø, 0.1–1 cm between plantlets; stems numerous, solitary, c. 20 cm tall, conspicuously striate (11–14 grooves), almost leafless; tip of leaf sheath 1–2 cm long, barely leaf like, to absence of blade, with few to no hairs at mouth; inflorescence of 1 terminal spikelet, chestnut-red, dense, ovoid, 8 mm long; glumes c. 3 mm long, (dark) reddish brown, pubescent, margins filamentous-pilose.

Ecology not reported.

S. Africa (Transvaal).


Densely tufted perennial herb; stems glabrous, 25–40 cm long, enclosed at base by 0.5 cm broad, harsh, chestnut-black, striate sheaths glabrous at top; leaves often 2/3 the length of stem, c. 0.5 mm wide, channelled, minutely scabrous on the edges; inflorescence head-like or reduced to a single spikelet; spikelets cylindric-lanceolate, 6–10 × 4 mm, chestnut-black.

Cylindrical grassland; demombo; edges of lakes; often on superficially semi-dry sandy soil overlying lateritic bed; dry forest on burned soil; c. 2000 m alt.

S. Africa, Lesotho.

A variable plant; a member of the *B. schoenoides* complex.


bas.: *Abildgaardia scrobiculata* Lye

Annual herb; leaves short; inflorescence lax, a compound umbel-like structure, with pedunculate spikelets in groups; glumes 1.4–1.6 mm long; nutlets minutely pitted (*scrobiculatus*; drawing in Stearn, Bot. Latin, under fig. “Types of surfaces and seeds”).

From the brief Latin diagnosis and the drawing in Lidia 1: 39, 1986.

Sand pits on seasonally damp sand.

Only known from the type collected in 1962 (Robinson 5043).


Tussocky annual herb; stems 5–25 cm tall, 0.3–0.6 mm Ø, angular, densely short-hairy; leaf sheaths pale to light reddish brown with green central part; blades 2–6 cm long, 0.2–0.5 mm wide, flat or inrolled, densely hairy on midrib and margins; inflorescence a lax umbel to 2 × 2 cm consisting of 1 sessile spikelet and 1–4 stalked ovate to lanceolate angular spikelets, each 4–7 × 2–2.5 mm, with acute tip, 10–15-flowered.

Sand over flat or open limestone rocks; open grassland often on sand or shallow soils over rocks; sandy seasonally damp soil; 0–350 m alt.


bas.: *Scirpus sphaerocarpus* Boeckeler

syn.: *S. nindensis* Ficalho & Hiern; *Fimbristylis sphaerocarpa* (Boeckeler) K. Schum.; *Abildgaardia sphaerocarpa* (Boeckeler) Lye
BULBOSTYLIS SPHAEROCARPA

Annual herb forming tufts with many stems 3–10 cm tall; leaves filiform, 2–10 cm long, scabrid; inflorescence a terminal spikelet, with additional cleistogamous flowers at base of stem, which give rise to underground fruits; spikelet ovoid-ellipsoidal, 3–8 × 1–1.5 mm, 5–10-flowered. Rather bare soil in Brachystegia woodland; seasonally damp soil; 1000–2000 m alt.


bas.: Abildgaardia squarrosa Lye

Very bright green annual herb 12–20 cm tall; stems 0.2–0.4 mm Ø, triangular, ridged, with scattered minute spine-like hairs; leaf sheaths light reddish brown, with 5–7 prominent veins with short spine-like margins, with 1–2 mm long hairs at mouth; blades flat with incurved margins, 1–5 cm long, 0.2–0.3 mm wide, strongly dotted with red dark brown glands, veins and margins with dense scabrid hairs; inflorescence congested, 3–6 mm long, 4–10 mm wide, of 2–7 sessile erect or spreading linear-lanceolate spikelets each 3–6 × 1.2–1.5 mm.

Dense mixed bushland with Boswellia, Commiphora, Lannea, Acacia; c. 200 m alt.

Only known from the type collected in 1977.


Tufted annual or short-lived perennial herb 12–25 cm tall, often forming dense cushions c. 5 cm tall; stems angular, 0.2–0.4 mm Ø, glabrous; leaf sheaths pale brown; blades 2–6 cm long, 0.3–0.8 mm wide, flat but appearing almost filiform, densely scabrid; inflorescence of 1 solitary terminal spikelet or 2–3 clustered spikelets on peduncles 1–12 cm long but often with additional sessile spikelets at plant base; normal spikelets 3–8 mm long, 2–4 mm wide, often with spreading glumes.

Rocky river slopes; sandy soil in rock crevices; Pennisetum grassland; roadsides; weed in grass plots; seasonally damp soil in disturbed grassland or among rocks; 1800–2800 m alt.

S. Africa, Botswana, Swaziland, Namibia.

As a weed: wool alien (cf. Naczi & Ford, l.c.).


bas.: Abildgaardia tanzaniae Lye

Annual herb growing in small tussocks, 5–25 cm tall, each with 1–10 stems 0.5–0.8 mm Ø, scabrid or slightly hairy at least above; leaves 5–10 mm long, < 0.5 mm wide, strongly scabrid on margins; inflorescence of 1 sessile ovate spikelet and few to several stalked spikelets or additional groups of sessile and stalked spikelets, each spikelet 5–9 × 2 mm; involucral bracts with long white hairs. Seasonally wet grassland; often on sandy soil; also limestone and dry rocky areas; on shallow soil overlying outcropping rocks

BULBOSTYLIS TANZANIAE

or laterite; beaches; copper contaminated soil; often weedy; 800–2000 m alt.

Specimens from central Africa are very similar to B. abortiva; further collections needed.


syn.: Fimbristylis taylorii K. Schum., nom. nud.; Abildgaardia taylorii (K. Schum.) Lye

Tufted annual herb 3–13 cm tall; stems 0.3–0.6 mm Ø, angular, almost glabrous; leaf blades 1–5 cm long, 0.4–0.8 mm wide, flat, margins scabrid; sheaths hairy, light brown and straw-coloured, mouth with longer hairs; inflorescence of 1 sessile spikelet and 1–3 stalked spikelets on 2–7 mm long peduncles; spikelets almost black, ovoid, 3–5 × 2–3 mm, apex obtuse.

Open Brachystegia, Pterocarpus woodland with rock outcrops; 400–1550 m alt.

The exact locality of the gathering W. E. Taylor s.n. is unclear (cited as Zanzibar; cf. Fl. Trop. E. Afr., l.c.).


bas.: Scirpus thouarsii Roem. & Schult.
	syn.: S. puberulus Poir. 1805, non Michx. 1803; Isolepis thouarsii (Roem. & Schult.) Nees 1834, non I. thouarsii A. Dietr. 1803, nom. illeg.; I. puberula Kunth; Bulbostylis puberula (Kunth) C. B. Clarke, nom. illeg.; Stenophyllus puberulus (Kunth) Killip, nom. superfl. – Perhaps also Fimbristylis puberula Backh. ex Steenis, nom. nud.

Annual herb 10–35 cm tall; stems very slender, 0.4–0.5 mm Ø, puberulous or glabrous; leaves much shorter than stem, 0.3–0.5 mm wide, lower surface and margins puberulous, some of the leaves reduced to sheaths with mouth with long white hairs; inflorescence usually simple, often congested to a headlike inflorescence, rarely reduced to 1 spikelet, 1–1.5 cm wide, with 1 to few spikelets, these solitary, ovoid, 3–5 × 1.5–2 mm.

Sandy places at low altitudes, often near the sea. A common weed in paddy fields.

In Fl. Trop. Afr. 8: 439, 1902, the specimens cited from Cameron, i.e. Mann 1360 partly and 2093 partly, figure under the name B. puberula Kunth. In Fl. W. Trop. Afr., ed. 2, 3/2: 318, 1972, the specimen Mann 2093 is cited under B. densa var. densa, whereas the specimens Mann 1360b and 2093b figure under B. densa var. cameroonensis. Cable & Cheek in their checklist “Plants of Mount Cameroon” (p. 153, 1998; Cyperaceae by Leye) follow Fl. W. Trop. Afr., l.c.

All specimens from tropical Africa (incl. coll. Smith fromZaire and Whyte from Malawi) are in need of revision.

The true B. thouarsii is known from an area from Madagascar and the Indian Ocean Island E-wards to SE China, W Malaysia (cf. Fl. China text, 23: 218–219, 2010).

Not mapped by us.
**BULBOSTYLIS**


\[\text{syn.}: \text{Abildgaardia trabeculata} \] (Rendle !) Lye

Annual herb 3–10 cm tall; stems few to many, 0,2–0,3 mm 2, angular, ridged, almost glabrous; leaf sheaths whitish to pale brown with long hairs at mouth; blades to 2 cm long, 0,3 mm wide, scabrid on margins and ribs; inflorescence a head 3–6 mm wide of 1–4 sessile spikelets, each 2–4 mm long, 1–1,5 mm wide. Seasonal swamp on mud under *Acacia seyal*; gravelly soil; here and there on sandy sea-shore; lofty short-grassed mountain places; rather damp places on river banks; 1–660 m alt. Namibia, Botswana (var. *trabeculata*).


Annual delicate herb; stems 5–20 cm tall, clustered, erect, grooved, glabrous; leaves several; mouth of sheaths with several long white hairs; blades 1–4 cm long, 0,2 mm wide, bases grooved, scabrous; inflorescence umbell-like with 2–3 spikelets on peduncles to 2 cm long, glabrous, smooth; spikelets angular-ovate, 5–7×1,5–2 mm, acute, many-flowered.

On dry schistose soils and fine lateritic gravels; lateritic plateau periodically flooded.

Near *B. pusilla*.


bas. *Abildgaardia ugandensis* Lye


Rather densely tufted annual or perennial herb 5–50 cm tall; stems 0,3–0,5 mm 2, glabrous save for some scattered spine-like hairs beneath the inflorescence; leaves 5–20 cm long, 0,3–0,7 mm wide, with short spine-like hairs on the ridges; hairs at mouth of sheaths to 1 cm long; inflorescence a compact head of 3–10 sessile spikelets each 4–8 mm long, 2–3 mm wide, obtuse. 

*Loendetia, Anropogon, Eragrostis* grassland over laterite ironstone platforms; water-logged sandy soil, by rock pools; forest margins; savanna to wet grassland; 1100–2700 m alt.


\[\text{syn.}: \text{Abildgaardia vanderystii} \] (Chem.) Lye

Tufted herb 25–45 cm tall with horizontal, short, woody rhizome; stems 0,5–0,75 mm 2, smooth, glabrous, striate; leaves: all burnt off ± 5 cm above top of roots in cited specimens (F.T.E.A., i.e.; described as 10–20 cm long, 0,25 mm wide, channelled, slightly scabrid, glabrous; sheaths red-brown, mouth densely long-pilose; inflorescence a head 7–10 cm wide of 6–10 spikelets each lanceolate, 6–8×2–2,5 mm, acute.

Grassland, sometimes wet; sand overlying rock; burnt savanna; savanna-forest border; 400–1710 m alt.

Goetghbeur & Coudijzer in Bull. Jard. Bot. Natl. Belg. 55, l.c., did not find the holotype (Vanderyst 16050) at BR nor at P, and proposed a neotype: Vanderyst 28319b at BR. However, Verdcourt (Fl. Trop. E. Afr., l.c.) indicates Vanderyst 16050 as present at BR, thus not lost.


bas. *Fimbristylis viridecarinata* De Wild.


Annual tufted herb 30–90 cm tall; stem base ascending, rooting and branching from the lower nodes, or perennial with centrifugal growth, stem base with red-brown cataphylls; stems 0,4–0,7 mm 2, ridged, scabrid to shortly hairy or spreading hairy; leaf sheaths with a few long white hairs 5–10 mm long at mouth; blades flat, 10–25 cm long, 0,5–1,5 mm wide, scabrid to shortly hairy; inflorescence simple or compound umbel-like, with 1–3 sessile spikelets and with 1–8 rays each with a solitary spikelet or a group of 1 sessile and 1–3 stalked spikelets; spikelets ovoid, 8–15×2,5–4 mm. Miombo; humid grassland, often overgrazed; marsh border; often on sandy soils; abandoned shallow flooded cultivations; 650–1750 m alt.


bas. *Fimbristylis wombaliensis* De Wild.

\[\text{syn.}: \text{Abildgaardia wombaliensis} \] (De Wild.) Lye

Annual herb with crowded stems 5–30 cm tall from a slender erect rhizome 0,5–1 mm 2 with remains of scales; stems 0,1–0,5 mm 2, rigid, glabrous; leaf sheaths glabrous but margins of mouth with hairs 0,5–2 mm long; blades mostly only 3–5 mm long, 0,1–0,3 mm wide, margins scabrid; inflorescence a simple or sometimes sub-compound umbel-like head; spikelets narrow, 5–8 mm long, acute. Flat grassy patches on rock outcrop; poor sandy raised grazed beaches; swamp; 1100–1200 m alt.

**SYNONYM:**

*Bulbostylis andongensis* (Ridl.) C. B. Clarke var. *glabra* Ridl. in Rendle, Cat. fl. pl. Welwitsch, excl. syn. *Fimbristylis quaternella* – *Bulbostylis andongensis*
Bulbostylis scleropus

Bulbostylis scrobiculata

Bulbostylis somaliensis

Bulbostylis sphaerocarpa

Bulbostylis squarrosa

Bulbostylis striatella

Bulbostylis tanzaniae

Bulbostylis taylorii

Bulbostylis trabeculata

Bulbostylis trullata

Bulbostylis ugandensis

Bulbostylis vanderystii
ANGOLENSIS (C. B. Clarke) Larridon & Roalson = Nenum angolensis
aphyllanthoides (Welw. ex Ridl.) C. B. Clarke = Bulbostylis pilosa
atracum (Larridon, Reydners & Goeth.) Larridon & Roalson = Nenum atracum
brevisculum (Kunth) C. B. Clarke = Bulbostylis humilis
brunneoacuminata (Larridon & Roalson = Brunneoacuminata Larridon & Roalson, nom. nov.
Phytotaxa 418: 113, 2019, nom. inval.; ibid. 420: 300, 2019 = Nenum megastachyum
bulbostyloides (S. S. Hooper) Larridon & Roalson = Nenum bulbostyloides
burkii C. B. Clarke = Bulbostylis contexta
caesiptosa Peter = B. oritrephes
camporum K. Schum. ex C. B. Clarke = B. abortiva
capillaris (L.) C. B. Clarke var. abortiva (Steud.) H. Pfeiff.
= B. abortiva
capillaris var. trifida (Nees) C. B. Clarke = B. densa
cardiocarpa C. B. Clarke 1894 = B. filamentosa
cardiocarpa var. holubii C. B. Clarke = B. scabricaulis
cinnamomea (Boeckeler) C. B. Clarke, incl. var. longiglumis Kük. = B. schoenoides
cinnamomea sensu Fl. Cap. 1898 = B. collina
var. boeckeleriana = B. boeckeleriana
claessensii De Wild. = B. abortiva
clarkeana sensu Adam 1962, non Hutch. ex Bodard
= B. bodardii
coleotricha (A. Rich.) C. B. Clarke var. lanifera (Boeckeler) C. B. Clarke, p.p. quoad specim. ex Africa occid. = B. lanifera
colla (Kunth) C. B. Clarke 1894, p.p. = B. contexta
colla sensu Fl. Trop. Afr., 1902 = B. boeckeleriana
congolensis De Wild. = B. pusilla subsp. congolensis
cyrtathera Chern. = B. fimbriostyloides
elegans Chern. 1931, non Gardner 1846 = B. pusilla
subsp. pusilla
equitans (Kük.) Raymond = Nenum equitans
exilis (Kunth) Lye = Bulbostylis hispidula subsp. hispidula
fasciculata Chern. 1931, non Uititien 1925 (Guyana)
= B. viridecarinata
filamentosa (Vahl) C. B. Clarke var. ? barbata C. B. Clarke 1894
= B. barbata subsp. barbata
filamentosa var. metralis (Chern.) R. W. Haines = B. filamentosa
filamentosa var. scabricaulis (Chern.) Bodard = B. scabricaulis
filamentosa (Vahl) Kunth = B. scabricaulis
filamentosa sensu auctt. = B. scabricaulis
filiformis C. B. Clarke = B. hispidula subsp. filiformis
flexuosa (Ridl.) Goeth. = B. abortiva
genitalicula (L.) Steven = Eleocharis genitalicula
grandibulbosa Kük. = Bulbostylis scleropus
heterostachya sensu Bodard 1963, non Chern.
= B. glaberrima
hirta (Thunb.) Svenson = Fimbriostylis squarrosa
var. squarrosa
holotricha Peter, incl. fa. depauperata Peter = Bulbostylis pusilla subsp. congolensis
humilis sensu auctt., i.a. Napper, non (Kunth) C. B. Clarke
= B. striatella

BULBOSTYLIS

junciformis var. filamentosa (Vahl) H. Pfeiff.
= B. filamentosa
kirkii C. B. Clarke = B. contexta
lanifera (Boeckeler) Kük. var. glabra (Ridl.) Kük.
= B. angendongias
longispicata (Lyne) Lye = B. hispidula subsp. longispicata
lyer Verde. = B. viridecarinata
megastachyum (Chern.) Larridon & Roalson = Nenum megastachyum
metralis Chern. = Bulbostylis filamentosa
migierod Bodard = B. coleotricha var. migierod
mozambica Raymond = B. parvina
neocapitata Larridon & Roalson = Nenum capitatum
oritrephes (Ridl.) C. B. Clarke var. major Meneses
= Bulbostylis oritrephes subsp. oritrephes
= B. oritrephes
parva (Ridl.) C. B. Clarke = B. pusilla subsp. pusilla
polytricha Chern. = B. pusilla subsp. congolensis
pubera (Kunth) C. B. Clarke or (Poir.) C. B. Clarke
= B. thourasii
pubera var. cameronensis C. B. Clarke 1895, nom. nud.
= B. densa var. cameronensis
pubera var. gracilis C. E. Fisch. = B. thourasii
pubera var. viguieri sensu Bodard 1963
= B. cardiocarpoides
pubera sensu Robyns & Tournay 1955
= B. cardiocarpoides
pusilla (Hochst. ex A. Rich.) C. B. Clarke subsp. yalingensis (Chern.)
R. W. Haines = B. pusilla subsp. pusilla
raynalli (S. S. Hooper ex Larridon & Goeth.) Larridon & Roalson = Nenum raynalli
rehmanni C. B. Clarke = Bulbostylis filamentosa
schimperiana (Hochst. ex A. Rich.) C. B. Clarke var. leiolepis Kük. = B. leiolepis
schimperiana sensu Napper 1965 = B. ugandensis
schoenoides sensu Vollesen 1980, non (Kunth)
C. B. Clarke = B. boeckeleriana var. boeckeleriana
seretii De Wild. = B. coleotricha var. coleotricha
setifolia (A. Rich.) Bodard 1963, non Beetle 1949
= B. atrosanguinea
spadicea (Lam.) Larridon & Roalson = Nenum spadiceum
spadicea subsp. spadolensis (Larridon & Goeth.) Larridon & Roalson = N. spadiceum subsp. spadolense
sp. nov. sensu Cheek & al., Pl. Mt Oku...: 77, 2000
= Bulbostylis pusilla subsp. pusilla ("subsp. yalingensis")
stricta Turrill = B. megastachys
subumbellata (Lye) R. W. Haines = B. hensii
subumbellata (K. Schum.) Prain = B. ugandensis
tenuissima Nakai 1952 = B. densa
tisserantii Chern. 1931 = B. viridecarinata
tisserantii (Chern.) Lye 1971 = B. viridecarinata
togoensis Chern. = B. lanifera
transiens (K. Schum.) C. B. Clarke = B. boeckeleriana var. boeckeleriana
trichobasis (Baker) C. Clarke var. caesiptosa (Peter) Kük., var. leiolepis C. B. Clarke and var. uniseriata
C. B. Clarke = B. oritrephes
trifida (Nees) Nelmes, incl. var. biegensis (Chern.)
= B. densa subsp. afromontana
vaginosa Kük. = B. boeckeleriana var. boeckeleriana
willdenovii C. B. Clarke = B. barbata subsp. barbata
wittei Chern. = B. laniceps
BULBOSTYLVIS

yalingensis Cherm. = B. pusilla subsp. pusilla
zambesica (K. Schum.) C. B. Clarke = B. macra
zambesica var. occidentalis Bodar = B. bodardii
zezheri (Boeckeler) C. B. Clarke = B. contexta
specimens = B. contexta
zezheri sensu Fl. Trop. Afr. 8, l.c., p.p. = B. boeckeleriana
var. boeckeleriana

CAREX / 37 + 4 ?

Carex L. (1753). Generic synonyms are listed in the World
Checklist of Selected Plant Families, Cyperaceae, Roy. Bot.
Gard., Kew. However, for our area Schoenoxiphium Nees (1832)
is recognized as a segregate genus by us (See below).

"Carex L. is one of the largest angiosperm genera. [It] is also well
known for its difficult taxonomy and as a result it has undergone
many rearrangements in recent years to reflect our greater under-
standing of evolutionary relationships within the genus… Despite
more than 15 yr of phylogenetic investigation…, the phylogeny
is still imperfectly known" (Jiménez-Mejías & al. in Syst. Bot.
41: 500, 2016). This study was based on 50, 23 % of the species
accepted. “The first outcome… was the nomenclatural revi-
sion of Carex to formally include all satellite genera in the tribe
Cariaceae (Cymophyllus, Kobresia, Schoenoxiphium, and Uncinia)
within a more broadly circumscribed Carex" (o.c.: 501). “The
former genus Schoenoxiphium, a monophyletic group nested in the
Schoenoxiphium clade, has about 20 species, with its center of
diversity in the southeastern parts of Africa” (Villaverde &

“With about 2,150 species, Carex is among the largest genera of
vascular plants… It has an almost worldwide distribution and
is absent only in the Antarctic and some desert areas… [it] is
comparatively species-poor in the lowland tropics” (Hoffmann &
Gebauer in Syst. Bot. 41: 552, 2016). “It has a centre of diversifi-
cation in the cold and temperate areas of the northern hemisphere,
where it is the most diversified angiosperm genus” (Escudero &

Carex is poorly represented in Africa compared with other parts
or countries in the world: tropical Africa with 34 species, 24 in
Madagascar, 19 in S. Africa. Some figures: 222 species occur in
Europe (J. Koopman, Carex Europaea: The genus Carex… in
Europe, 1: 7, 2011); 527 in China (Nord. J. Bot. 29: 670, 2011);
528 in Carex subg. Vignea (Cyperaceae) using symbolic data analysis.

Global Carex Group (2015). Megaphylogenetic specimen-level approaches
to the Carex (Cyperaceae) phylogeny using ITS, ETS, and matK sequences:

Carex spp. are commonly associated with moist to wet habitats
in which they are often dominant or co-dominant. However, the
genus is also common in drier habitats, such as montane and alpine
grasslands, montane rocky habitats and forest understory…”

Gehrke, o.c.: 53).

Rust fungi of the genus Puccinia and the form genus Uredo have
been observed by Gjærum (Lidia 4/5: 133–137, 1999), who
recorded a low frequency in African Carex spp.

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tance dispersal in the diversification of Carex sect. Spirostachyae (Cyperaceae).

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913–925.

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GLOBAL CAREX GROUP (2016). Megaphylogenetic specimen-level approaches
to the Carex (Cyperaceae) phylogeny using ITS, ETS, and matK sequences:

Calyx 5/1: 15–16.

diversification in Carex. Syst. Bot. 41: 498–499

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JIMÉNEZ-MEJÍAS, P. & al. (2016). Clarification of the use of the terms perigy-

MÍGUEZ, M. & al. (2017). Carex sect. Rhynchocystis (Cyperaceae): a Miocene former for the following reasons. Thus treated apart as a segregate genus, although we may admit its identification can be problematic in some cases. Often only well-developed material with full-sized and mature utricles can be identified with confidence, especially for those unfamiliar with the group. Problems arise mainly because of morphological variation throughout the ontogeny of an inflorescence, resulting in differences in the appearance of the spikelet at anthesis and at fruiting. In addition, differences can be observed within one inflorescence or even between terminal and distal parts within a single partial inflorescence spike... “A more thorough taxonomic investigation is necessary”.


As noted above our compilation treats Carex in its traditional sense, such as found in the main African floras and works, e.g., Gordon-Gray, Cyperaceae in Natal (Streitza 2): 36–43, 1995; Flora of Ethiopia & Eritrea 6: 501–511, 1997; Haines & Lyde, Sedges & rushes E. Africa: 368–384, 1983; Goetghebeur in Kubitzki, Families & genera of vascular plants 4: 187–188, 1998; Cook, Aquatic & wetland plants of southern Africa: 84–86, 2004; Flora of Tropical East Africa, Cyperaceae: 421–448, 2010 (by B. Verdcourt); Gehlke, Synopsis of Carex... in Bot. J. Linn. Soc. 166: 51–99, 2011; Browning & Goetghebeur, Sedge (Cyperaceae) genera of Africa and Madagascar: 35, 2017. Schoenoxiphium is thus treated apart as a segregate genus, although we may admit that the morphological differences between Carex and that genus are rather insignificant. Even the Global Carex Group (2016: 505) including the segregate genera Cymophyllus, Kobresia, Uncinia, and Schoenoxiphium in Carex, admits that “caution is still recommended in interpreting our results”.

Referring to the tropical African Carex one has the choice between the lumpers (Verdcourt, Fl. Trop. E. Afr., Cyper., 2010) and the splitter (Gehlke, 2011). In our compilation we have chosen the former for the following reasons. We have noted certain inconsistencies in Gehlke’s monograph. An example: under C. leptosaccus C. B. Clarke (p. 62) she treats C. erythrorrhiza Boeckeler var. scabrida Kük. (1925) as a synonym, designating R. E. Fries & Th. C. Fries 677, BR, as lectotype (isotypes: K, UPS). However, the same Fries & Fries gathering (i.e. 677) also figures under C. lycurus K. Schum. ex Engl. [synonym C. lycurus K. Schum. ex Engl. subsp. scabrida (Kük.) Verd., here cited as synonym, with holotype: UPS, isotype: K]. On the other hand, the morphological characters used to separate the above-mentioned species are disputable.


Gehlke (o.c.: 57) herself summarises the situation: “Species identification can be problematic in Carex. Often only well-developed material with full-sized and mature utricles can be identified with confidence, especially for those unfamiliar with the group. Problems arise mainly because of morphological variation

C. angolensis Nelmes); Figueiredo & Smith, Pl. Angola: 178, 2008; Gehlke (2011): 83, 85. – Icon.: Gehlke, o.c.: 58 (Fig. 4 D 1–2).

Perennial plant with a short rhizome; stems 1–2.5 mm in diameter, obtusely trigonous, leafy; leaves ± as long as stems, 5–8 mm wide, long-attenuate; inflorescence panicle with 6–8 secondary panicles; spikes 7–13 mm long, androgynous, male part very short; utricles 4 mm long, ± obovate; stigmas 3.

(C. aethiopica Schkuhr); Gehlke (2011): 76. This S. African species (Cape) is recorded by Burrows & Willis (Pl. Nyika Plateau, Malawi: 298, 2005) from N Malawi: “perennial, tufted and leafy; leaves often red at base; inflorescence of several erect spikes from upper nodes of culm, glumes reddish brown; along forest margins near watercourses”.

This brief description does not allow us to determine the plant (coll. Smook 10917, PRE, MAL). It may correspond to C. vallis-rosetto K. Schum. (syn. C. cyrtosaccus C. B. Clarke) present in the area.
CAREX ANGOLENSIS


Brachystegia woodland on sand.

Not mapped (Angola, Zimbabwe, Zambia, Malawi).

(C. antoniensis) A. Chev.


Near C. pseudocyperus L.

Tufted herb; stems 40–70 cm tall, sharply 3-angled; leaves long, 10–15 mm wide; male spike solitary, linear, 3–5 cm long; female spikes 4–6(–10), erect, close to the male spike; utricles ovoid, glabrous, 5 mm long, terminating in a long 2-fid beak.

At foot of waterfall; margins of permanent rivulets; 800 m alt.

Endemic to Cape Verde Isl., Santo Antão.


syn.: C. robusta Hochst. ex Boeckeler 1876, pro syn.; C. petiti-ana sensu auct., non A. Rich. (See Fl. Trop. E. Afr., l.c.);

C. mildbraediana sensu Napper (l.c.) p.p., non KüK.

Perennial herb with short curved stolons 2–5 mm long, 1 cm ∅, covered with hard shiny scales; stems 0,6–2 m tall; leaf blades ± flat, 70–80 × 1,2–1,5 cm, glabrous but minutely papillate, margins scabrid above; sheaths 15–20 cm long; inflorescence 6–9 long and usually pendulous dark brown spikes borne singly at the nodes and often widely spaced; spikes 4–22–0,7–1 cm; peduncles to 15–25 cm long; utricles ovoid, 3–4 × 1,5 mm, with reddish dots, beak very short.

Hagenia forest; lower alpine ericaceous zone; Juniperus forest; mist forest; seepage zones near craters; swamps; flushes; buffalo wall; streamsides in grassland; upper bamboo zone; 1950–4000 m alt.

Variable in size. Var. maxima very large with broader spikes is the largest Carex in E. Africa.


Similar to C. pendula Huds. (Europe-Asia): a number of specimens have been misidentified as such (Gehrke, o.c.: 72).

C. bequaertii sensu Hedberg (1957) = D. mildbraediana.

(C. biegensis) Chemr.


Abridged description:

Rhizome woody, thick; stems 70–150 cm tall, 2–3 mm ∅, trigono-nous; basal leaves not very much shorter than stems, flat, 6–8 mm wide, margins and tips scabrous, sheaths blackish purple; inflorescences laxly paniculate, 25–40 cm long; secondary panicles

CAREX BIEGENSIS

8–12, ramose, lax, 4–8 cm long; bracts leafy, the lowermost to 40 cm long; spikes ovate-lanceolate, 10–15 mm long, erect, male part shorter than female; utricles 7–7,5 mm long, narrowly lanceolate, purple, 2-nerved, beak long, scabrid; styles 3. – Said to be near C. johnstonii but spikes shorter and more densely flowered, with glumes as long as utricles that are smaller, purplish and more pubescent.

Based on Humbert 7679, 7679 bis from Monts Biega E of Lake Kivu, E Zaire. Ecology not recorded; 2400–2790 m alt.

Gehrke (2011: 67–68) mentions a gathering from Tanzania, Udzungwa Mts (Luke & al. 6905), which, as she points out, is cited in Fl. Trop. E. Afr., Cyper.: 435, 2010, and figuring there under C. johnstonii but “may be a distinct taxon”. It has “very dark chestnut glumes and dark utricles with pale ribs densely shortly pubescent. The whole inflorescence appears dark brown”.

Compared with C. johnstonii the plant is larger with basal leaf sheaths dark red to brown, blades 60–80 (not 25–60) cm long, utricles always dark red (not green) and shorter (7–7,5 not 8–12 mm long) covered in short appressed hairs.

Open places in forest; 2500–2800 m alt.

Taxonomic status uncertain. Not mapped by us (Zaire, Uganda, Rwanda, Tanzania).


Erect perennial herb forming clumps, 80–120 cm tall, base surrounded by reddish-purple sheaths; leaves much shorter than stems, ± flat, 3–4 mm wide, sheaths purplish red; inflorescence narrowly paniculate, 30 cm long; secondary panicles 7, lax, 5–7,5 cm long, 2,5–3 cm wide; spikes bisexual, sessile, 8–17 mm long; female glumes 4–5 mm long; utricles 5–6 mm long incl. beak, c. 1 mm wide; stigma 3.

Scattered on banks of a stream in dense forest shade; river beds; 1000–2100 m alt.

Said to be (Nelmes) related to C. spicatopaniculata, but leaves narrower, spikes longer and utricle longer. However, according to Gehrke (2011: 85) the type specimen (Brass 16714) resembles much more C. tricholepis and C. angolensis but leaves narrower (3–5,5 mm, not 5–11 mm), utricles a little longer (5–6 mm, not 4–5 mm), and female glumes shorter (4–5 mm, not 5–6 mm).

Only known from S Malawi, Mt Mulanje. However, Burrows & Willis (Pl. Nyika Plateau, Malawi: 298, 2005) report the plant from N Malawi, Nyika Plateau, sine loco (Patel 1999).


Tussocky perennial herb with a compact woody rhizome giving rise to many crowded stems 30–60 cm tall, 0,1–0,15 cm ∅, 3-angled, scabrid to subglabrous on angles; leaves many; lower sheaths dark red brown, nerves almost black, sometimes splitting into fibres; blades to 40 × 0,3–0,4 cm, flat, margins and ribs scabrid; inflorescence of 1–3 slender, stalked or subsessile spikes from each upper 5–8 sheaths; spikes 10–30 × 3 mm; flowers markedly separated from each other in a cluster (at base 5–15 female flowers, above 2–6 male flowers /male part much shorter than female); utricle lens-shaped, c. 3,5 × 1,2 mm, beak c. 1 mm long, nerves prominent.

Podocarpus forest, in shade; rocky gully in deep shade in evergreen bushland with Buxus, Juniperus, Olea, Pistacia, Acokanthera on limestone; 1400–2060 m alt.
CAREX BRUNNEA SUBSP. OCCIDENTALIS


Subsp. brunnea distributed from Madagascar, Mauritius, Réunion E-wards to India, Vietnam, China, Japan, Korea, Nepal, Philippines, Australia, New Caledonia.


syn.: C. filicina Nees var. ceylanica sensu Peter 1938, non (Boeckeler) Kük.

Tufted leafy perennial herb 60–150 cm tall; leaves shorter than stems, flat, 1 cm wide; inflorescence chestnut brown, paniculate, consisting of many smaller delicate secondary panicles, with a triangular outline; spikelets 4–10 mm long, c. 1 mm wide when young but wider when mature utricles spread; glumes dark, chestnut brown like the utricles that are 4–4.5 mm long incl. the 1.5 mm long beak, narrow, scabrid with long white hairs and usually distinctly curved at maturity. Moist forest, forest edge; bamboo thicket; 1500–2300 m alt.

Distribution: Kenya, Tanzania, but Gehrke (l.c.) also cites a gathering from Burundi (Reekmans 8638).

Near C. filicina Nees from India E-wards to China, a species split into many infraspecific taxa, which are all very variable. “There is no doubt that C. castanostachya will have to be sunk into C. filicina...” (Fl. Trop. E. Afr., l.c.).


syn.: C. echinochloe Kunze var. chlorosaccus (C. B. Clarke) Kük.; C. leptoclados C. B. Clarke; C. wahlenbergiana sensu auct., non Booth (Fernandoo Poo).

Perennial tussocky herb 30–120 cm tall with woody rhizome; basal leaf sheaths dark red; blades 50–90 cm long; 0.5–0.9 cm wide, scabrid on margins and veins; inflorescences green, slender, much branched panicles 8–50 cm long, often with one short and one longer branch at the lower nodes; inflorescence axis and side branches densely pubescent; spikelets 6–20 mm long, 3–5 mm wide; utricles 4–5.5 mm long incl. 1.5–2.2 mm long beak.

Evergreen forest, forest edges, rain- and riparian forest; mossy damp streambanks in forest; bamboo swamp edges extending to Erica belt; in shade; along paths and roads; 1300–3300 m alt.


Closely related to C. echinochloa. Very similar to C. spicataniculata.

C. cognata Kunth, incl. var. congolensis (Turrill) Lye, var. drakensbergensis (C. B. Clarke) Kük.; but excl. var. abyssinica (Chiov.) Lye (= C. phragmitoides); See Note below referring to Gehrke

CAREX COGNATA


syn.: C. pseudocyperus L. var. cognata (Kunth) Boott; C. retorsa Nees 1835, non Schweinitz 1824, nom. illeg.; C. drakensbergensis C. B. Clarke; C. congolensis Turrill; C. pseudosphaerogyna Nelmes; C. acutiformis H. E. Hess

Tufted perennial herb from creeping rhizome with short scaly stolons; stems 30–100 cm tall; leaf blades 10–120 cm long, 3–10 cm wide, plicate; inflorescence of 4–6 pale erect crowded sessile or subsessile spikes (penduncles 1–3 cm long sometimes well developed); spikes 2–3, brown, 1–4 cm long, 2–4 mm wide; utricles ovoid, 3–4.5 mm long incl. beak c. 1 mm long, with 2 long-divaricate teeth.

Swampy areas in bamboo forest; perennially wet bogs; sometimes in standing water; Syzygium forest; plateau grassland; grassland along small stream; c. 1400 – c. 3000 m alt.

S. Africa, Namibia, Lesotho, Swaziland.

Note: Gehrke (2011: 74–75) synonymised C. cognata Kunth under C. clavata Thunb. (in Cape Province, S. Africa). Her treatment is thoroughly discussed by Archer & Balkwill (Bothalia 42: 190–193). “The glabrous utricle plus the spikelet bracts = equalling the utricle in length, are ... diagnostic of C. cognata, but certainly not of C. clavata in which the utricles are hairy, ... and the spikelet bracts are usually much shorter than the utricles”. Further, “Clarke (1898) [= Fl. Cap. 7: 229–310] distinguished C. drakensbergensis with its longer, drooping, distant, pedunculate spikes with dark ferruginous female bracts from C. cognata with shorter, erect, clustered, nearly sessile spikes and greenish female bracts. Shortly afterwards Kükenthal (1909) found that the two taxa were not separable at species level and reduced C. drakensbergensis to a variety of C. cognata ... Intensive herbarium studies ... (Reid 1991) indicated that plants matching C. drakensbergensis occurred mainly at high altitude, growing in open sunny habitats, whereas plants matching C. cognata sensu stricto occurred near the coast, ... at waterholes in ... Namibia, growing in lightly shaded habitats ... In practice, however, it is not possible to divide herbarium specimens into two meaningful taxa since there are always intermediate examples ... We concluded that the differences between these two taxa are entirely habitat-related.” Gehrke (2011: 74) treated C. drakensbergensis as a separate species, as well as C. congolensis (o.c.: 75).


Closely related to C. echinochloa. Very similar to C. spicataniculata.
**CAREX CONFERTA**

syn.: C. leptosaccus C. B. Clarke; C. koestlinii Hochst. ex Steud. (fide Fl. Eth. & Eritrea 6: 503, 1997); C. erythrorrhiza Steud. 1855, non Boeckeler 1875, nom. inval.

Perennial herb with tufts 15–45 cm tall from a mostly long-creeping rhizome, usually well spaced; leaves to 35 cm long, 0,2–0,8 cm wide; basal sheaths brownish; inflorescence of green and brown narrow paniciles, 2–5 cm long, 1–1,5 cm wide, upper branches with solitary spikelets densely set, 2–5 lower branches with 2–10 spikelets each; spikelets ovoid, 5–10 mm long, 3–10 mm wide; utricle 3,6–4 mm long, incl. 1–2 mm long scabrid beak.

Grassland with Acacia; moorland; bogs; clearing; moist ground along streams in swamps; cloud forest and scrub; forest with Podocarpus latifolius, Olea capensis subsp. hochstetteri, Szyszgium guineense subsp. afroomontanum, with open glades and patches of mountain bamboo and Hagenia abyssinica, Hypericum revolutum woodland, in open, recent burnt glade; grassland with Acacia; 2000–4000 m alt.


Tufted perennial herb 40–120 cm tall, with shortly creeping rhizome; stems and inflorescence branches shortly hairy; leaf blades flat, 90–120 cm long, 0,5–1,4 cm wide; sheaths brownish or dark, 2–6 cm long; inflorescence a slender densely branched panicle of spikes, green and brown, 50–55 cm wide, 5 cm wide, often with one longer and one shorter branch at each node; spikes 0,5–1 cm long, 0,5 cm Ø, bisexual, female flowers below, male ones above; utricles 3–,4,5 mm long incl. scabrid beak 1 mm long, green with prominent longitudinal ribs.

Parinari, Brachystegia woodland with termite mounds and often on termite mounds; riverine forest; grassland, thicket, secondary bushland in rocky places; bracken; seasonal Papyrus swamps; edges of lakes, streams; riverine forest; Combretum woodland; Acacia lahai woodland; forest of Hagenia and bamboo; margins of cultivation; pasture at edge of woodland, wooded grassland; rain-forest with Albizia, Macaranga, Croton, Ocotea at forest edge; 900–2750 m alt.

Bioko/Fernando Poo. – Senegal reported by Gehrke, l.c. Comprises 2 subspp.: – subsp. echinocloeh, with pale green glumes and green utricles 3,5–4 mm long (incl. 1 mm beak); – subsp. nyasensis (C. B. Clarke) Lye [bas: C. nyasensis C. B. Clarke; syn. C. echinocloeh var. nyasensis (C. B. Clarke) Kük.] with more reddish brown glumes and utricles, these 4–,4,5 mm long, in Upland Kenya, Tanzania, Malawi, Zimbabwe.

Similar to C. chlorosaccus, but utricles shorter (not 4–6 mm long) narrowed abruptly (not gradually) into the 1,5–2,2 mm long beak.

CAREX ELGONENSIS


syn.: C. mildbraediana Kük. var. alpicola Kük.

Perennial herb forming small tussocks 25–110 cm tall, with a caespitose rhizome; leaf sheaths brown to dark purple; blades 8–21 cm long, 0.3–0.6 cm wide, keeled to plicate; inflorescence 9–30 cm long, of 5–7 erect or pendulous spikes 1–5.5 cm long, 0.4–1 cm wide, heteromorphic, arising singly; peduncles 3–5 cm long; glumes dark purplish to blackish, often with a very narrow yellowish keel; utricles ellipsoid, 4–6 × 1–1.5 mm, narrowed into a bifid beak 1–2 mm long.

Stream banks; borders of peat bogs; 3290–3810 m alt.

Endemic to Mt Elgon (Uganda/Kenya), according to Escudero & Luceño, l.c. (with map).


syn.: C. koestlinii Hochst. ex Steud. var minor Boot

Perennial robust herb forming dense pillar-like tussocks with a “trunk” to > 1.5 m tall and 30–40 cm Ø at apex; rhizome not or shortly creeping; roots usually covered with a bright brownish red filamentose layer; apex of “trunk” with a great tuft of stems and leaves; stems 30–50 cm long, e. 1 mm Ø, 3-anuged; leaves slender; blades 10–60 cm long, 1–5 mm wide, margines scabrid; inflorescence a narrow dense panicle 4–7 cm long, 0.6–1.2 cm wide; spikelets to 1.2 cm long, 0.5–0.8 cm wide; utricles not projecting beyond glumes, 3–4 mm long, incl. a c. 1 mm long smooth beak.

In swamps, grassland near and in streams; wet places in shade; heath zone; 1900–4050 m alt.

According to Fl. Trop. E. Afr., l.c., the status of many specimens is dubious, as rootstocks and field observations are lacking. The pillar-like habit seems not to have been recorded for Ethiopia, the habit then being much like that of C. conferta.

C. fischeri K. Schum. (See also text below).

C. fischeri K. Schum. was “resurrected” at species level by Escudero & Luceño (Anales Jard. Bot. Madrid 68: 232–234, 2011). It was cited by Clarke in Flora of Tropical Africa 8: 523, 1902, as follows: “This has the spikes more slender than the slenderest examples of C. peti-tiana, and the distinctly bifid beak to the utricle distinguishes it. It appears to be allied to C. peti-tiana, but the description of K. Schumann is so short, and the concept of C. petitiana (Sedges & rushes E. Afr.: 382, 1983) did so, in writing: “The concept of C. peti-tiana used here includes much material previously identified as C. fischeri, C. cuprea, C. longipeduncu-lata, C. ninagongensis and C. vallis-rosetto.” Their Figure 789 (p. 382) may represent C. fischeri subsp. recedens.

In more recent treatments and floras C. fischeri is considered as a synonym, mostly under C. peti-tiana A. Rich.; Haines & Lye (Sedges & Rushes E. Afr.: 382–383, 1983) did so, in writing: “The concept of C. peti-tiana used here includes much material previously identified as C. fischeri, C. cuprea, C. longipedunculata, C. ninagongensis and C. vallis-rosetto.” Their Figure 789 (p. 382) may represent C. fischeri subsp. recedens.


In Flora of Tropical East Africa, Cyperaceae: 439, 441, 2010 B. Verdcourt treated C. peti-tiana in a broad sense citing no fewer than 17 synonyms. He wrote: “My attempts to resurrect some of these previously recognised taxa perhaps at infraspecific level have not been satisfactory. Plants with dull to bright greenish slim spikes 5–9 cm long, 5–6 mm wide with leaves up to 8 mm wide, match C. fischeri, widespread from the Kenya Highlands to N Tanzania; and have been so annotated by Nelmes...”.


The next step was taken by Escudero & Luceño in Anales Jard. Bot. Madrid 68: 232–234, 2011, who made a thorough study of the group. The following text is based on their work, incl. maps.

C. fischeri K. Schum. (Continuation of text above).

Tufted perennial rhizomatous herb; stems 30–115 cm tall; leaves 15–65 cm long, 0.3–1 cm wide, keeled to folded; sheaths dark to reddish-brown to purplish; inflorescence 11.5–54 cm long, of 4–10 heteromorphic spikes; terminal 1(–2) spike(s) male or gyn-eccordrous, and 3–9 female lateral spikes; spikes linear to clavate, 2–8 × 0.2–1 cm, sessile or shortly pedunculate (1–3.5 cm); utricles ellipsoid, 3–6 × 1–2 mm, tapering into a bifid beak 1–2 mm long. Wet or shady forests, meadows; swamps, peat bogs; stream banks; bamboo and Hagenia zones; 2150–4300 m alt.

Variable plant: “we have seen several specimens that exhibit intermediate morphological features, but most of these materials can be classified in one of the two races... some individuals studied show intermediate characters between this species and C. mannii (e.g. spikes arising in pairs... and red basal sheaths)...”.

Comprises 2 subspp.: – subsp. fischeri (syn.: C. simensis Hochst. ex A. Rich. var. mauensis Kük.; C. fischeri var. basianda Kük.), with non-rigid leaves and pale female glumes; – subsp. recedens (Kük.) Luceño & M. Escudero (bas.: C. longipedunculata K. Schum. var. ninagongensis Kük. fa. recedens Kük.), with rigid leaves and purplish female glumes, occurring on the volcanoes on the Zaire-Uganda-Rwanda border at high altitude. “The putative isotype... consists of just a few utricles.”

C. greenwayi Nelmes


Tufted rhizomatous herb; stems 66–153 cm tall, very stout, smooth, base densely dark purplish spotted or tinted; leaves 44–98 cm long, 0.8–1.4 cm wide, folded; sheaths dark purplish; inflorescence 32–64 cm long, of 9–24 spikes each bearing only a few male flowers at top; terminal spike terete, 3.5–11.4 × 0.4–0.8 cm with peduncle to 2 cm long; lateral spikes terete, densely flow-ered, arising in pairs (or groups of 3), with peduncle to 7.5 cm

71
CAREX GREENWAYI  
long; utricles elliptic, 4.5–5.5 × 1–1.5 mm, straight, beak ± bifid 1.1–1.5 mm long.  

Damp places in shade, with ferns and *Philippia* (Erica) excelsa, *Hagenia abyssinica*, *Podocarpus* forest; swamp; river banks; 1900–3050 m alt.  

In Kenya: Mt Kenya, Aberdares; Tanzania: Kilimanjaro.  


Perennial herb 60–80 cm tall with stolons 2–5 cm long, 0.3–0.5 cm φ; stems trigonous, scabrid; leaves flat, dark green, 3–5 mm wide, scabrid, apex long-attenuate; basal sheaths yellowish to reddish-brown, fibrous with age; inflorescence 25–40 cm long of 4–7 ovate panicles 4–6 × 2–3 cm, pedunculate; spikes ovate, few-flowered, often with only 3 male flowers at apex; utricle trigonous, 3.5–4 mm long, 1.3–1.5 mm Φ, beak 1.5 mm long, recurved; stigmas 3.  

In a deep gorge on horizontal calcareous sediments and in rock crevices; 1650 m alt. (SW Angola).  

Distinguished from (*C. nelmesii = C. tricholepis* and (*C. euryphylla = C. haematosaccus*) C. B. Clarke (Madagascar) by the narrower leaves.  

Taxonomic status uncertain: “The status of *C. humpatusensis* should be more carefully investigated, as it might not vary sufficiently from *C. spicato-paniculata* to be recognized as a distinct species” (Gehrke, l.c.).  

Not mapped by us: Angola, Chela Mtns, between Tchhvinguiro and Chela (São da Bandeira range / Bezirk).  


Tufted perennial herb 35–150 cm tall with short creeping rhizome; leaf blades 25–60 cm long, 0.4–1 cm wide; sheaths dark red or reddish brown, 1–4 cm long, glabrous; inflorescence a very narrow slender panicle, mostly unbranched (sometimes with 2–3 branches from each node); spikes 1–7 cm long, 0.5 cm wide, upper ones shortly stalked or sessile, lower ones on 5–20 cm long peduncles; utricle lanceolate, 8–12 mm long incl. beak 2–4 mm long.  

GIant heath zone; Podocarpus, Hagenia bamboo forest; Arundinaria and Erica-Hagenia forests; forest edges; Juniperus forest; usually in shade; 750–3600 m alt.  

Variable species: several colour forms exist, with basal leaf sheaths yellow to dark red; utricles light green to brown.  

Distinguished from other *Carex* species by its very long and narrow utricle.  

Plants from Tanzania, Iringa Distr., Udzungwa Mts (Luke & al. 6905) have been described as *C. biegenisis* Cherm., a taxon of uncertain status (See above under that species).  

(C. ludwigii ( Hochst. ) Luçêñ -o & Martin-Bravo) – See Schoenosiphium rufum below.  


CAREX LYCURUS  


Perennial herb 0.2–2 m tall with stout tufts from a creeping rhizome, bases stout and triangular; leaves to 60 cm long, 5–12 mm wide; basal sheaths pale brownish; inflorescence a very dense panicle, green and brown, 3–11.5 cm long, 1–3 cm wide, interrupted and ± lobulate; individual spikes 1.5–2.5 cm long, mainly female with some males at top; utricle ovoid, c. 4 mm long with a narrow beak 1–2 mm long, prominently ribbed.  

*Sphagnum* bogs; swamps; seepage bogs in grassland or forest or woodland; by river in forest; lake margins; sometimes growing in water; 1200–3800 m alt.  

Comprises 2 subspp.: – subsp. *lyurus* (syn.: *C. robinsonii* Podlech), a robust plant to 2 m tall and wide leaves (5–12 mm); – subsp. *scabrida* (Kük.) Verdc. (bas.: *C. eyrthrorrhiza* Boeckeler var. *scabrida* Kük.), a smaller plant (50–60 cm tall) with smaller leaves (3–5 mm wide), also found in Cameroon. – “However, the characters are not consistent enough to unambiguously separate a subspecies” (Gehrke, l.c.).  


Perennial herb 25–60 cm tall forming large tufts from a short woody rhizome; leaves V-shaped in section or ± flat, 5–60 cm long, 2–5.5 mm wide, the upper overtopping the inflorescence, long-attenuate, with long basal sheaths which become blackish and fibrous; inflorescence an interrupted panicle, each panicle 1.5–4 cm long, 1–2 cm wide; secondary panicles 5–6, not pendulous, quite dense, the lower single, the upper paired, subpyramidal; the lower long-pedunculate, the upper more shortly so; spikes densely flowered, 7–10 mm long; utricles 5–6 mm long incl. beak c. 1.5 mm long, longitudinally ribbed.  

Short grassland under open Isoberlinia, Brachystegia woodland; open bushland; sometimes on termite mounds; pathisides in grassland; edges of streamside forest; 1100–2800 m alt.  

C. mannii E. A. Bruce  


Robyns & Tournay (Fl. spermat. Parc Natl. Albert 3: 292–294, 1955) treat *C. mannii* (with synonyms) and *C. ninagonensis* as two entities, both considered as belonging to *C. mannii* subsp. *mannii* by Escuderó & Luceño, l.c. – In Troupin, Fl. Rwanda 4: 430, 1988, *C. mannii* is recognised apart, whereas *C. ninagonensis* and *C. longipedunculata* are cited as synonyms under *C. pettiana*. — Haines & Lye, Sedges & rushes E. Afr.: 380–381, 1983, with figures, keep *C. mannii* and *C. thomasi* as two separate
Bioko/Fernando Poo (subsp. mannii) Variable in length of glumes and utricles.

Verdcourt in Fl. Trop. E. Africa, Cyperaceae, 2010, treats the material differently. What is now considered as C. mannii var. friei-siorgum is partly cited under C. elongensis as syn. C. mildbraediana Kük. var. friei-siorgum Kük. (p. 439). C. thomasii (p. 443) is treated at specific level (now C. mannii subsp. thomasii). C. petiti-nana is treated in a broad sense by Verdcourt who includes various synonyms now considered to belong under C. mannii subsp. manni-ii: C. longipedunculata K Schum. var. ninagongensis Kük., C. ninagongensis (Kük.) Robyns & Tournay, C. simensis A. Rich. var. ninagongensis (Kük.) Kük. However, C. vallis-rosetto K Schum. var. heterostachya Kük. is now placed under C. manni-ii var. friei-siorgum.

Gehrke (2011: 77–81) discusses the circumscription of C. mannii, C. elongensis, C. mildbraediana, C. vallis-rosetto, C. simensis, C. fischi-eri and C. ninagongensis. Her conclusions are not the same as those of Escudero & Luceño (l.c.). She maintains 2 subspecies within C. mannii, viz. subsp. mannii and subsp. thomasii: But the synonyms are quite different from those cited by Escudero & Luceño. The details are not given here. C. ninagongensis is treated apart as a good species, but the synonym given, viz. C. fisch-eri K Schum. var. basiandra Kük., belongs to C. fischeri subsp. fischeri according to Escudero & Luceño.

Tufted rhizomatous perennial herb 40–150 (–170) cm tall; stems often dark purplish spotted; leaves 10–60 cm long, 0,3–1 cm wide, keeled to plicate, edges scabrid, basal sheaths dark purplish; inflorescence 9–59 cm long, narrowly paniculate, of 4–13 spikes; terminal spike ovoid, 2–8 × 0,3–1,3 cm, sessile or with a peduncle to 3,5 cm long; lateral spikes terete-ovoid, 1–9 × 0,5–1 cm, arising singly or in pairs, peduncle 5–7 cm long; glumes dark brown with a narrow yellowish midrib, mucronate to aristate; utricles ellip-tic, 3,5–6 × 1,2 mm, narrowed into a beak 1–2 mm long.

Forest with swampy areas; open forest and bushland; edges of streams; swamps with Lobelia wollastonii; wet meadows; bogs; 2200–3900 m alt.

Variable in length of glumes and utricles.

Bioko/Fernando Poo (subsp. mannii).

Comprises 3 subsp.: – subsp. mannii [syn.: C. boryana Schkuhr var. simplisima Kük. and var. minor Boott (fig. in Boott, Illustr. Carex 3: pl. 348, 1862); C. longipedunculata K Schum. var. ninagongensis Kük.; C. simensis Hochst. ex A. Rich. var. ninagon-gensis (Kük.) Kük.; C. ninagongensis (Kük.) Nelmes ex Robyns & Tournay] with stems 40–120 cm long, lateral inflorescence spikes 0,5–1 cm wide, female glumes pale purplish-red; – subsp. friei-siorgum (Kük.) Luceño & M. Escudero [bas.: C. mildbraediana Kük. var. friei-siorgum Kük., syn.: C. vallis-rosetto K Schum. var. heterostachya Kük.] with stems 42–100 cm long, lateral inflorescence spikes 0,6–1,1 cm wide, female glumes dark purplish-red, occurring in Kenya; – subsp. thomasii (Nelmes) Luceño & M. Escudero [bas.: C. thomasii Nelmes] with stems 100–150 cm long, leaves wide (> 7,5 mm), lateral inflorescence spikes 7 × 0,8–1 cm, female glumes purplish-red, utricles 5–6 mm long, occurring in Ethiopia, S. Sudan. – Specimens of C. mannii subsp. manni-ii may resemble C. greenwayi but the plants are smaller than the latter.


although she places Rugege Forest, Rukarara, in Tanzania (specim. Mildbraed 966, holotype) and not in Rwanda. On the other hand, Escudero & Luceño (2011: 238–239, with map) maintain C. mildbraediana as a good species, citing C. ramosis-pes as a possible synonym; and they advice not to treat C. ramosi-pes as a synonym of C. greenwayi. However, they state that “more data are needed to elucidate if [it] might be considered an independent taxa [sic]! or a simple deviant form of C. mildbraediana”. These authors also underline that the “putative isotype material of Carex mildbraediana J. Mildbraed 966 (K363486 photo !) comprises just a few utricles”. And so does the possible isotype material of C. ramosis-pes (Humber 7939, K363481 photo !).


Perennial rhizomatous herb; rhizome creeping, long; stems 50–90 cm tall, trigonous, smooth, (yellowish) green, with dark purplish red spots; leaves 15–35 cm long, 5–11 mm wide, plicate, rigid, coriaceous, margins revolute; sheaths brown, reddish brown to purplish red; inflorescence 28–49 cm long; sheath 5–7,5 cm long, inner side dark purplish red; spikes 7–13, solitary; terminal one terete, 2,5–8,5 × 3–12 mm, sessile or with a peduncle to 1,2 cm long; utricles elliptic, 3,5–5 × 1,1–1,6 mm, beak 0,8–1,5 mm long, bifid.

Stream sides; peat bogs, 2750 m alt.

Near C. vallis-rosetto.


C. triquetrifolia Boeckeler; C. parasitica Kunze, nom. nud.; Uncinia digyna Hochst. ex Steud., nom. superfl.:

Perennial herb 12–70 cm tall with short creeping rhizome, the shoots shortly separated or forming dense tufts; stems triangular, scabrid, both fertile and sterile; leaves narrow, 10–30 cm × 1,5–4 mm; basal sheaths chestnut brown; inflorescence a solitary terminal spike, reddish brown, 1–4 cm long, 2–8 mm wide, with male flowers above and female below; glumes (light) brown with broad hyaline margins; utricles obovoid, 3,5–4 × 1,2–1,5 mm, glabrous, hidden by glumes; styles 2.

CAREX MANNII

CAREX MILDBRAEDIANA
**CAREX MONOSTACHYA**

Bamboo and *Hagenia* forest; grassland in ericaceous belt; swamps, lakes and streams near glaciers; bogs; often dominating; at and above limit of trees and shrubs; 2400–4500 m alt.

Reported to form hybrid swarms with *C. runssoroensis* particularly on Mt Elgon (fig. in Haines & Lye, o.c.: 371). Such plants can be difficult to distinguish as characters can be intermediate between these species. The hybrids have terete scabrid stems and short green leaf blades (Fl. Trop. E. Afr., Cyper.: 425, 2010). A recent study (Gizaw & al. in. Alp. Botany 126: 59–71, 2016) confirms that “putative hybrids from Mt Elgon were placed between the two species, but clustered with *C. runssoroensis* (bootstrap support 94%)”. *C. monostachya* is widespread in Ethiopia and eastern E. Africa, whereas *C. runssoroensis* (stems terete, leaves short or absent, uricles with scabrid hairs) is mainly western E. African.

“The samples of *C. monostachya* were divided into two genetic groups, one confined to the Simen Mts in northwestern Ethiopia… and one which was widespread, occurring in the Bale Mts in southeastern Ethiopia as well as in the East African mountains Mt Kenya, Mt Aberdare, and Mt Kilimanjaro” (Gizaw & al., o.c.: 63).


Perennial herb with a horizontal rhizome often producing stems at 1 cm intervals; stems 10–90 cm long, 1–2 mm ∅, triangular, angles scabrid, the larger part covered by leaf sheaths; leaves numerous, high up the stem; lower sheaths brownish, upper green, mostly glabrous; blades ± flat, 10–30 cm long, 2–3 mm wide, scabrid; inflorescence of 1–2 stalked or subsessile spikes from each of the uppermost sheaths; spikes 1–2.5 cm long, 3–4 mm ∅, with female flowers at base, male part above longer than female part; uricles obovate, 3-angled, 3.5–4.5 × 1.5 mm, beak 1–1.5 mm long; style with 3 long stigmas.

*Juniperus-Podocarpus* forest, in open glades or meadows; 1500–2700 m alt.


**C. neochevalieri** Kük. ex A. Chev.; Jaeger & Adam, Végét. vascul. 8 mm long, androgynous; utricles longer than 2.5 mm, with 2 prominent longitudinal ribs; utricles ovate, 2–3.5 × 1.5–2 mm, incl. a 0.2–0.5 mm long beak, surface densely papillose.

Open forest; *Syzygium* relic forest patches in valley bottoms; 1650–2400 m alt.

Very closely related to *C. madagascariensis* Boeckel which has slightly less densely papillose uricles, and narrower leaves. Perhaps also in SE-most Zaire (Gehrke, i.c.).


Very fine-leaved tufted perennial herb 20–30 cm tall with c. 0.5 mm wide stolons; basal sheaths brown; leaf blades 1–20 cm long, 0.5–1.5 mm wide, appearing filiform when margins incurved; inflorescence a solitary, loose, terminal spike 2–3 cm long, 2–4 mm ∅, with 4–10 female flowers below; glumes 2–5 mm long; uricles 2 prominent longitudinal ribs 6–7 mm long, incl. narrow beaks 2–2.5 mm long; styles 2. Forest with *Podocarpus, Hagenia*; mossy ground in giant heath zone; wet swampy grassland along stream; 2300–3300 m alt.


“Easily recognized by the presence of only a few… flowers per spikelet and the thin, …leaves” (Gehrke, i.c.).


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**CAREX**


Tufted perennial herb 50–100–120 cm tall; leaves 3–5 mm wide; inflorescence elongate, laxly paniculate, 10–23 cm long; glumes straw-coloured; uricles ovate-lanceolate, 3.8–4.2 × 1.4–1.8 mm, narrowed into a winged beak 1.3–1.5 mm long.

Damp places, seepage area in rock face; 800–1200 m alt. Endemic to Sto. Antão, Cape Verde Isl. – Not mapped by us.


Tufted perennial herb 60–120 cm tall with many basal leaves; stems triangular; leaf blades 20–80 cm long, 0.4–1 cm wide; inflorescence a single pedunculate slender spike from each of the upper 3–5 leaf sheaths, usually pendulous, 4–11 × 0.4–0.6 cm; uricles ovate, 2.8–1.5 × 2–5 mm, incl. a 0.2–0.5 mm long beak, surface densely papillose.

Very closely related to *C. madagascariensis* Boeckel which has slightly less densely papillose uricles, and narrower leaves. Perhaps also in SE-most Zaire (Gehrke, i.c.).
**CAREX PETITIANA**

We follow Escudero & Lučeno (2011: 240–242, with maps). – In Fl. Trop. E. Afr., Cyper.: 439–442, 2010, Verdcourt treated *C. petittiana* in a broad sense, including synonyms which now are to be found under *C. fischeri* and *C.mannii* (See under these species above). He was “unable to separate *C. preussii* from East African material of the *cuprea* form of *C. petittiana*... There are a number of confusing statements in the literature concerning the structure of the spikelets in *C. petittiana*... Nelmes has introduced some additional confusion...” In Verdcourt’s treatment the following synonyms refer to *C. petittiana*: *C. aesthipea* var. *stolonifera*, *C. longipedunculata* incl. var. *preussii*, and subsp. *cuprea*, *C. preussii* incl. var. *camerunensis*, *C. cuprea*, and *C. sinensis* var. *stolonifera*.

Gehrke (2011: 78–79) distinguished 2 species, viz. *C. preussii* and *C. petittiana*, giving a list of synonyms of the latter, incl. *C. sinensis* var. *mauenensis* Kük. as a “syn. nov.”. However the latter name should belong in *C. fischeri* according to Escudero & Lučeno (2011: 232).

Perennial tussock-forming herb 40–130 cm tall with a (usually) short rhizome; stems stout, smooth, trigonous; leaves 12–60 cm long, 0.4–1 cm wide, keeled to folded, rigid, sheaths (reddish-brown); in florescence 7–43 cm long of 3–9 erect or drooping spikes arising singly at nodes, with the male part of each increasingly longer upwards the stem; lateral spikes + ellipsoid, 1–6 × 0.7–1.2 cm, dense-flowered; the terminal spike clavate, 3.2–6.5 × 0.5–1.2 cm; peduncles 1–12.5 cm long; glumes 5–9 mm long, dark brown to dark reddish-brown with straw-coloured midrib, mucronate or acuminate; utricles ellipsoid-trigomous, 3.7–6.5 × 1.2–2.5 cm, tapering to a deep bifid beak 1–1.8 mm long.

Open and wet habitats, often along streams or paths; swamps, swampy ditches, bogs; wet meadows; 1800–3600 m alt.


**syn.: C. abyssinica** Chiov.; *C. cognata* Kunth var. *abyssinica* (Chiov.) Lye; *C. taylorii* Nelmes

Tufted leafy perennial herb 40–90 cm tall with creeping woody rhizome; leaves overtopping the stems, 6–12 mm wide, flat; sheaths brown; inflorescence of 4–5 clustered dense spikes 4 cm long, 4 mm Ø; glumes (dark brown), oblong, 5.5–7 mm long including the 2.4–4.5 mm green or reddish brown excurrent scabrid-hairy awn; utricles much shorter than glumes, ellipsoid, 3–4 mm long, sparsely hispid.

Bogs, marshes in ericaceous zone; streambeds; crator lake edges; 2500–3100 m alt.


**CAREX**


**syn.: C. austroafricana** (Kük.) Raymond; *C. cernua* Boett var. *austroafricana* Kük.; *C. phacota* sensu C. B. Clarke, non Spreng.

Perennial loosely caespitose herb shortly stoloniferous; stems 20–47–65 cm tall, strong, sharply 3-angled; leaf blades 10–50 cm long, 5–7 mm wide, flat, rigid, pale yellow-green, margins scabrous; sheaths rusty, scarcely reticulate; inflorescence of 3–7–(11) spikes, each cylindric, 1.5–9 cm long, the terminal spike male, laterals females with some male flowers towards tip, stalked, nodding; utricles flat, ovate, 2.5–4 mm long, green, yellow or white, turning brownish green when dry, almost without a beak and teeth (abruptly beaked if compared with *C. cernua*); stigmas 2.

Seasonally wet habitats; streamlets; muddy pools of rocks, full of water; sometimes rooted in shallow still or flowing water; occasionally fringing *Typha* reed-beds in deeper water; 610–2225 m alt.

S. Africa, Lesotho, Swaziland.

Commonly known as *C. austroafricana*.

The rust fungus *Uredo carici-rhodesiaca* Gjaerum is described on plants in Zimbabwe (Lidia 4/5: 134–135, 1999). Also reported from Cameroun?


**syn.: Uncinia runssoroensis** (K. Schum.) Chiov.

Perennial herb forming high and stilted tussocks 0.3–1.5 m tall, to > 1 m Ø, rhizome sometimes distinctly creeping; stems round below the spike, glabrous, 20–60 cm long, remaining green when fruiting; leaves scarcely developed, or sheaths with brown blades 0.5–5 cm long, smooth; basal sheaths dark chestnut brown; inflorescence a solitary terminal spike, dark chestnut brown, 2–5 cm long, to c. 1 cm Ø, male flowers above, females below; glumes spreading, dark chestnut brown without hyaline margins; utricles compressed, ± oblong, 3.5–5 × 1.2 mm, beak < 1 mm long, hidden by the glumes. – Plant bases often slimy from slime-forming bacteria or algae.

Swamps; bogs; lake sides; ericaceous belt and giant *Alchemilla* zone; alpine moorland; often on exposed rocks and tarn shores; in wide pure stands in depressions and on black mud; 2700–4400 m alt.

Comprises 2 vars. (but according to Gijaw & al., l.c., “it seems reasonable to recognize them at the subspecies level”): – var. *runssoroensis*, densely tufted plants with thicker stems and brown to blackish margins of female bracts, in E Zaire – Rwanda – Uganda – Kenya (Mt Elgon); – var. *aberdaresensis* Kük. in Kenya: Aberdare, Mt Elgon; with thin stems and hyaline margins of female bracts.

Putative hybrids with *C. monostachya* have been reported from Elgon, Aberdare and Kenya, described by Haines & Lye, o.c.: 270, fig. p. 371, and then accepted by Verdcourt (Fl. Trop. E. Afr., Cyper.: 425, 2010). Gijaw & al. tested whether there is a “genetic signature of hybridization in Mt Elgon plants”. They clearly distinguished the two species. The “putative hybrids were placed between *C. runssoroensis* and *C. monostachya*”, and indicated a
mixed ancestry for the populations from Mt Elgon, but “clustered with C. rurossorosensis”.


Perennial herb with short woody rhizome; stems 70–85 cm tall, obtusely trigonous, leafy; leaves 2–4 mm wide, ash-grey-green, strongly rolled back, scabrous above; basal sheaths brownish purple; inflorescence paniculate; secondary panicles 3–8, paired, subpyramidal, pedunculate, each with 1, rarely 2 spikes; spikes 8–12 mm long, androgynous, male part much shorter than the female; utricles longer than glumes, 4 mm long, the beaks half as long; stigmas 3.

Forest understorey in river basin.

Easily recognised by the narrow scabrous, rolled-back, whitish grey-green leaves, and dark red leaf-bases. Gehrke (2011: 85) who examined the type specimen, remarks that the utricles are 5 mm long with a distinct 2 mm long beak and prominent teeth.

Known only from the type collected in 1931 (Schlieben 598; Tanzania, Lusambe).


syn.: C. karisimbiiensis Cherm.

Tussock-forming rhizomatous perennial herb 15–80 cm tall; stems trigonous, smooth; basal leaf sheaths short, purplish-blackish; blades 6–31 cm long, 0,3–1,2 cm wide, plicate and keeled, very rigid; inflorescence 4–43,5 cm long, of 5–12 erect or slightly drooping spikes born singly or paired at nodes, the upper ± sessile, male, the lower female, pedunculate, the stalks 1–25 cm long; spikes 1–10 cm long, 0,4–1 cm; glumes blackish with broad yellowish or greenish keel area enclosing midrib and 2 lateral ribs; utricles speckled, 4–7 mm long incl. beak 1–1,5 mm long.

Swampy areas in grassland and moorland; montane forest in Hagenia, Hypericum alpine belt; moist ground near streams; ericaceous scrub; moist forest, in vertical rock faces; 1850–4300 m alt.


syn.: C. wahlbergianii Boott var. schimperi Boott

Tufted robust herb 40–70 cm tall with short rhizome; stems obtusely trigonous, stiff, glabrous; leaf blades flat, 5–30 cm long, 0,3–1,2 cm wide, midrib and margins strongly scabrid; inflorescence dense, well defined in outline and uninterrupted, of several narrow dense, often pendulous brown panicles, 1–2 from each of the uppermost sheaths; spikes lanceolate, 6–15 × 1–2 mm; utricles 5–6 mm long incl. beak (2 mm long), ridged, densely scabrid on beak and major ribs.

Grassland, well-drained slopes in grassland; bushland; rocky places; ericaceous scrub; forest edge; 2000–3800 m alt.

In Kenya only Cherangani Hills.

Note: In Fl. Trop. E. Africa, Cyper., l.c., Verdcourt took “a broad view of this species which probably will not be accepted in South Africa”. Gehrke (2011: 83) noted that Verdcourt “stated, correctly, that the material currently identified as C. steudneri probably represents two species and a detailed study of the material is needed… he suggested that…. C. zuluensis should be included into C. steudneri, with which I do not agree. The two species are similar, but can be distinguished by panicles which are dense, well defined in outline and uninterrupted in C. steudneri, as opposed to open, lax, often not well defined in outline and more or less interrupted in C. zuluensis”. – We have taken this view in the present compilation.

A new species, C. socotrana Řepka & Madéra, morphologically similar to C. steudneri, was described in Novon 25: 467–472, 2017; from Socotra.


syn.: C. nelmesii H. E. Hess
Perennial herb to 105 cm tall with short rhizome; stems obtusely trinodorous; leaves shorter than inflorescence, 8–11 mm wide, canaliculate, scabrid, with many distinct nerves; sheaths long, brown or yellowish; inflorescence narrowly paniculate, interrupted; secondary panicles 8–10, lax, subpyramidal, usually arising in pairs; branches pubescent, each with 1–3–6 spikes; spikes bisexual, 1–1.5 cm long, male part much shorter than female; glumes ovate, pale, aristate, as long as utricles; utricles 5 mm long, densely hispid, with many nerves, beak 1.5 mm long; stigmas 3.

Brachystegia woodland; moist slope in closed forest; 1100 m alt.

Differs from *C. brassii* in width of leaves (3–4 mm), hairiness of utricles (glabrous except for beak), and glumes much shorter than utricles; and differs from *C. angolensis* in width of leaves (5–8 mm), hairiness of utricles (glabrous except for beak), and glumes much shorter than utricles.

Also resembling *C. spicato-paniculata* but differs from the latter by the more lax secondary panicles, scales pale aristate, and the more densely pubescent utricles. – Cf. also *C. angolensis* above.


Perennial tufted herb 50–90 cm tall; stems stout, trigonous, smooth, (yellowish) green; leaves 13–26 cm long, 0.7–0.9 cm wide, keeled to plicate, very rigid, coriaceous, margins revolute, ± scabrid; sheaths reddish-brown to purplish-red; inflorescence 8.5–20.5 cm long, of 5–8 spikes, heteromorphic, terminal spike male; female spikes lateral, 4–7, dense-flowered, arising singly or in pairs, each 1–3.5 cm long, 0.4–1 cm ∅; glumes dark purplish-red, midrib wide and straw-coloured, acuminate (acumen 1–2 mm long); utricles ellipsoid-trigonus, straight, 4.5–5 mm long, veins not prominent, tapering into the beak 1–1.6 mm long. Hill in savanna, marshy grassland; 2400 m alt.

Known only from the type collected in 1933 (Schlieben 3516). Similar to *C. mildbraediana* from which it differs by its narrower leaves and spikes borne singly or in pairs.

Occurs in the Uluguru Mts, Tanzania, where only *C. vallis-rosseto* belonging to the same species group, is present. The two are "clearly different".


syn.: *C. cyrtosaccus* C. B. Clarke; *C. vallis-rosseto* var. *cyrtosaccus* (C. B. Clarke) Kük. in sched. B.

Tufted perennial herb with thick rhizome, 50–215 cm tall; stems trigonous, smooth, very stout, base densely dark purplish-red spotted like the basal leaf sheaths; leaf blades 25–76 cm long, 0.8–1.3 cm wide, plicate, margins revolute and ± scabrid; inflorescence 14 – c. 100 cm long, medium brown, of 7–22 spikes, 0–6 male spikes at top and up to 17 female or androgynous spikes; spikes terete, sessile or stalked (peduncles 3–6 cm long), 1–12 × 0.7–1.1 cm, densely flowered, often arising in pairs or groups of 3, frequently with some short branches at base of the largest spikes; utricles ellipsoid, 4–5.5 × 1.2–1.8 mm, greyish-green speckled with purplish-red, *curved*, narrowed into a beak 1–2 mm long.

Damp or swampy places in forest; bogs and streambeds in Hagenia forest and grassland; 1750–2700 m alt.


Near *C. modesti* (Martín-Bravo & al. in Blumea 57: 145, 2012).


syn.: *C. huttoniana* Kük.; *C. condensata* sensu C. B. Clarke in Fl. Trop. Afr. 8: 521, 1902, non Nees

Perennial robust herb c. 60–100 cm tall with short woody rhizome; stems trigonous, smooth; leaves shorter than stems, 6–12 mm wide, glabrous, coriaceous, margins scabrid; inflorescence 20–40 cm long, oblong, of many panicles, *open*, *lax*, *often not well defined* in outline and ± interrupted (compared with *C. steudneri*); secondary panicles 10–14 arising in pairs from each of the uppermost leaf sheaths, peduncles scabrid; spikes androgynous, oblong, 8–10 mm long, glumes lanceolate, acuminate; utricles elliptic, flattened, 12–15-veined, distally scabrid, c. 5 mm long incl. a long straight beak (1.5–2 mm); stigmas 3. — “Dissection of the … utricles is essential if confusion with *C. spicato-paniculata* and species of *Schoenoxiphium* is to be avoided”; Gordon-Gray o.c.: 43.

Swampy places; grassy mountain slopes; open grassland; stream banks; 500–2100 m alt.

S. Africa, Lesotho, Swaziland.

In Fl. Trop. E. Afr., Cyper. (l.c.) Verdcourt took a broad view of *C. steudneri*, including *C. zuluensis* "which probably will not be accepted in South Africa". He noted that "much of the material from S. Tanzania has smaller 5–6 mm long utricles which are glabrous save for a few scabrid hairs on the margins of the beak or scattered elsewhere … All the material [from Ethiopia S-wards to S. Africa] however has the same habit and general appearance".

A rust fungus *Uredo caricis-zuluensis* is described by Gjaerum (Lidia 4/5: 135, 1999) on *C. zuluensis* from Zimbabwe, Inyanga Distr.

**SYNONYMS:**

coarctata Boot = C. divisa
cognata Kunth var. abyssinica (Chiov.) Lye
   = C. phragmitoides
cognata var. congolensis (Turritt) Lye = C. cognata
condensata sensu C. B. Clarke 1902, non Nees
   = C. zuluensis
   = C. lycurus
conferta var. lycurus (K. Schum. ex Engl.) Lye
   = C. lycurus congolensis Turritt = C. cognata
cuprea (Kük.) Nelmes = C. petittiana subsp. petittiana
cytosaccus C. B. Clarke = C. vallis-rosetto
densennervosa Chiov. = Schoenoxiphium schimperianum
dilata M. Bib. var. bottae C. B. Clarke ex Blatter
   = Carex distans subsp. distans
distans L. fa. sinaí (Boott) Boeckeler = C. distans subsp.
distans
distans fa. sinaica (Nees in Steud. 1855) Kük. = C. distans subsp.
distans
divisa subsp. chaetophyllya (Steud.) Nyman, and
   var. chaetophyllya (Steud.) Daveau = C. divisa
-drakensbergensis C. B. Clarke = C. cognata
dregeana Kunth, incl. var. major C. B. Clarke
   = Schoenoxiphium spartem
   = Carex chlorosaccus
echinochloë var. nyasensis (C. B. Clarke) Kük.
   = C. echinochloë subsp. nyasensis
erythrorrhiza Steud. 1855, non Boeckeler 1875
   = C. conferta
erythrorrhiza Boeckeler var. curva Chiov. = C. divisa
erythrorrhiza var. scabrida Kük. = C. lycurus subsp.
scafrida
esenbeckiana Boeckeler = Schoenoxiphium spartem
-filicina Nees var. ceylanica sensu Peter 1938, non Kük.
   = Carex castanostachya
fischeri K. Schum. var. basiandra Kük. = C. fischeri subsp.
fischeri
guthnickiana J. Gay = C. peregrina
-hirtella (Sw.) J. F. Gmel. = Scleria hirtella
-huttoniana Kük. = Carex zuluensis
-indica Schkuhr 1801, non Wahlenb. 1860
   = Schoenoxiphium spartem
-indica J. Koenig ex Willd. 1805, non L. 1771, etc.
   = Scleria tessellata var. tessellata
johnstonii Boeckeler var. brevifructus Kük., nom. nud.
   = Carex spicato-paniculata
karisimbienis Chem. = C. simensis
-koestlinii Hochst. ex Steud. = C. conferta
-koestlinii var. curva Chiov. = ?
koestlinii var. minor Boot = C. erythrorrhiza
kuechenthalii K. Schum. ex C. B. Clarke 1906, non Dörfl.
ex H. Zahm = C. johnstonii
-leptoclados C. B. Clarke = C. chlorosaccus
-leptosaccus C. B. Clarke = C. conferta
-lithosperma (L.) L. = Scleria lithosperma
-longipedunculata K. Schum., incl. subsp. cuprea Kük.,
   and var. preussii (K. Schum.) Kük. = Carex petittiana
-subsp. petittiana
-longipedunculata var. attenuata Kük. = C. petittiana subsp.
-attenuata

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longipedulactata var. ninagongensis Kük. = C. mannii
longipedulactata fa. redecens Kük. = C. fischeri subsp.
-redecens
-ludwigii (Hochst.) Luceho & Martin-Bravo = Schoenoxiphium rufum
-macrostylon Lapeyr. var. gutthickiana (J. Gay)
   = Schoenoxiphium rufum
-mildbraediana Kük. var. alpicola Kük. = C. elgonensis
-mildbraediana var. friesiorum Kük. = C. mannii subsp.
friesiorum
   = C. bequaerti
-mossii Nelmes = C. bequaerti subsp. mossi (S. Africa)
nelmesii H. E. Hess = C. tricholepis
-ninagongensis (Kük.) Nelmes ex Robyns & Tournay
   = C. mannii subsp. mannii
-nyasensis C. B. Clarke = C. echinochloë subsp. nyasensis
-ovata Burm. f., non Merino = Abildgaardia ovata
-parastica Kunze, nom. nud. = Carex monostachya
-petittiana sensu auct., non A. Rich. = Carex bequaerti
-phacota sensu C. B. Clarke, non Spreng. = C. rhodesiaca
-poiliformis (Retz.) J. F. Gmel. = Scleria poiliformis
-poiretti J. F. Gmel. = Fuirena pubescens var. pubescens
-preussii K. Schum., incl. var. cameronensis Nelmes
   = Carex petittiana subsp. petittiana
-pseudocyperus L. var. cognata (Kunth) Boot = C. cognata
-pseudosphaerogyna Nelmes = C. cognata
-pubescens Poir. = Fuirena pubescens
-ramostipes Chem. = Carex ? mildbraediana
-retrorsa Nees 1835, non Schweinitz 1824 = C. cognata
-riparia Curtis var. acutiformis (Ehrh.) Fiori
   = C. acutiformis
-robinsonii Podliech. = C. lycurus subsp. lycurus
-robusa Hochst. ex Boeckeler 1876 – C. bequaerti
-rufa (Nees) Bail. = Schoenoxiphium rufum
-sagittifera Lowe = Carex peregrina
-schimperiana Boeckeler = Schoenoxiphium
-schimperianum
-simensis Hochst. ex A. Rich. var. maurus Kük.
   = Carex fischeri subsp. fischeri
-simensis var. ninagongensis (Boeckeler) Kük.
   = C. petittiana subsp. mannii
-simensis var. stolonifera (Boeckeler) Kük. = C. petittiana
-subsp. petittiana
-sinai Boot = C. distans subsp. distans
-sinica Nees ex Steud. = C. distans subsp. distans
-spartea Wahlenb. 1803 = Schoenoxiphium spartem
-spartea Thunb. 1811 = S. spartem
-sprechelii Boeckeler 1876 = S. spartem
-taylorii Nelmes = Carex phragmitoides
-thomassii Nelmes = C. mannii subsp. thomassii
-triquetrafolia Boeckeler = C. monostachya
-ulhigii K. Schum. ex C. B. Clarke = Schoenoxiphium
-lehnmannii
-vallis-rosetto K. Schum. var. cytosaccus (C. B. Clarke)
   Kük. in sched. = Carex vallis-rosetto
-vallis-rosetto var. heterostachya Kük. = C. mannii subsp.
friesiorum
-vallis-rosetto var. purpurea Kük. = C. greenwayi
-vallis-rosetto var. ramosus Kük. = C. greenwayi
-vallis-rosetto sensu auct. plur., non K. Schum.
   = C. greenwayi
-vlokensii K. Schum. = C. johnstonii
-wahlenbergiana Boot = Carex schimperi Boot = C. steudneri
CARPHA / 2 + 1?

Genus of 15 species in E. and S. Africa, W Indian Ocean, S Japan, New Guinea to New Zealand, and in the New World S S. America, viz. S Argentina and S Chile.

“The limits, definitions and relationships of Carpha have been controversial and unclear” (Zhang & al., o.c.: 93, 2007). – “A number of mechanisms involving dispersal of achenes by wind (anemochory) are known in Cyperaceae… In Carpha… a persistent perianth adnate to the achene is modified into long, silky bristles of hairs that facilitate transport by wind” (Naczi & Ford, Sedges; uses…: 24, 2008). Cf. also Goethgebeur 1998: 177, and Browning & Goethgebeur, Sedge (Cyperaceae) genera of Africa & Madagascar: 36, 2017.


syn.: *Schoenus glomeratus*Thumb. 1794, nom. illeg.

Perennial tussocky robust herb to 90 cm tall with very tough stolons 3 mm; culms trigonous, glabrous, leafy; leaves 42–80 cm long, 2,6–4,5 mm wide, very tough, basal leaves many with thick green or light-brown sheaths, V-shaped, the upper 5–10 leaves producing a lateral inflorescence at their axils; inflorescence bracts leaf-like; inflorescence a panicle, primary branches 3–4, 6–10,5 cm long; spikelets many in very dense clusters, lanceolate, 4–6×1–2 mm; perianth bristles 1,5–3 mm long; nutlet ellipsoid, 2,4–2,7×0,6–0,7 mm, reddish brown.

Swamp; 2500 m alt.

A single collection reported from Tanzania, Uluguru Mts. – Not reported from E. Africa in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

S. Africa (abundant).

“There are some doubts concerning the identity of this species, it is possible that plants from the mountains of tropical East Africa belong to another species” (Cook, l.c.).

SYNONYMS:

*Carpha ernii* (K. Schum.) C. B. Clarke var. angustissima (Chern.) Kük. = *Carpha angustissima* schweinfurthiana Boeckeler = *Coleochloa schweinfurthiana* uluguresis Nelmes, nom. nud. = *Carpha glomerata* (CATAZYNA)

*Catagyna pilosa* (Boeckeler) Hutch. = *Afrotrilepis pilosa* (CHAETOSPORIA)


*Chamaexiphium clandestinum* (Steud.) Hochst. = *Ficinia clandestina* (CHLOROCHARIS)

*Chlorocharis geniculata* (L.) Riki = *Eleocharis geniculata* (CHLOROCYPERUS)

*Chlorocyperus abyssinicus* (Hochst. ex A. Rich.) Riki = *Pycreus flavescens* subsp. *flavescens* aegyptiacus (Gloxin) Riki = *Cyperus capitatus* alopeucroides (Rottb.) Grossh. = *Cyperus alopeucroides articulatus* (L.) Riki = *Cyperus articulatus*
**CHLOROCYPERUS**


**CLADDIUM / I**

syn.: *Mariscus Scop.; Trisap P. Beauv. ex T. Lestib.*
Genus of 3 species, cosmopolitan, i.e., in tropical and warm temperate regions of Europe, Asia, Australia, Pacific Islands, N. & S. America.

“The genus *Cladium* exhibits polymorphism. Kükenthaler (1942), recognized 3 subspecies [C. mariscus], viz. subsp. *mariscus*, subsp. *jamaicense* Britton (including C. leptostachyum Nees et Meyen and C. *chinese* Nees) and subsp. *intermedium Kük.* Blake (1943), recognized 5 species, viz. C. *leptostachyum* Nees et Meyen, *C. mariscus* (L.) Pohl, *C. procurnum* S. T. Blake, *C. chinesis* Nees and *C. jamaicense Crantz.* Kern (1974) opined that there is no sharp line of demarcation among Blake’s species and followed Kükenthaler’s (I.c.) treatment. Koyama (1978) reduced C. *chinese* Nees to subspecies under *C. jamaicense* Crantz… However, the diagnostic character as given by Koyama (I.c.) shows that *C. jamaicense* Crantz is distinguished from *C. jamaicense* subsp. *chinese* only by the length of the nut i.e., c. 2,5 mm in the former and 1,8–2 mm in the latter. Critical observation of available specimens reveals that the length of the nut varies between 2 and 3 mm … The Indian plant, reported only from Kashmir is characterized by terefe culm and compact partial inflorescences with 3–10–14 spikes in each cluster. It is identical with the type specimen of *C. mariscus* and concurs with the diagnostic character given in the protologue and therefore … it is identified as *C. mariscus* (L.) Pohl subsp. *mariscus*“ (Dey & Prasanna in Rheedea 20: 2–3, 2010, with Fig. 1).


**CLADDIUM MARISCUS SUBSP. JAMAICENSE**

bas.: *Schoenus mariscus L.; Cladium jamaicense Crantz* syn.: *Mariscus jamaicensis* (Crantz) Britton; *Cladium occidentale* Schrad.; *C. leptostachyum Nees; Mariscus leptostachyus* (Nees) Kuntze; See also World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Perennial herb 1–3(–5) m tall, stoloniferous, and with an erect woody rhizome c. 1 cm (2); multiple stolons arizing from one rhizome, 5–20 cm long, 0,5 cm (2), with many scales; stems rounded, sometimes bluntly trigonous, 0,4–2,2 cm (2), hollow except for nodes; basal leaves without sheaths, linear, plicate, with spine-like teeth on margins and midrib; cauleine leaves spirally arranged, linear, plicate; sheaths brown, 5–18 cm long; blades 0,59–2,25 m long, 0,7–2,8 cm wide, with spine like teeth, apex acuminate; lowermost inflorescence bracts leaf-like; inflorescence a panicle 30–90 cm long, primary branches long; secondary and tertiary branches 0,5–2 cm long; each main branch bearing 100–1500 spikelets; spikelets 3–7 per spike, lanceolate, 3–5,7 mm long, nutlet ovoid, pale brown, rugose.

Bogs, swamps, lake edges; dry marshes; marshy woodland; marshy bases of sand dunes (cf. Adam & Naegele in Not. Syst. Paris 16: 317–322, 1961); floating mats (meadows); sometimes in large stands (S. Africa); can tolerate saline conditions; near sea-level to 2300 m alt.

Canary Isl. (Gran Canaria; Verloove in Webbia 67: 93–99, 2012); Cape Verde Islands; N Africa from Morocco to Egypt (subsp. *mariscus*); Namibia, S. Africa, Botswana; Madagascar, Mauritius; SW N. America, C. & S. America, West Indies. Perhaps only native in the New World. – Susp. *jamaicense* is dominant in the Florida everglades (“saw-grass” or “twig-rush”).

Subsp. *mariscus* [syn.: *C. mariscus subsp. martii* (Roem. & Schult.) Egor.; *C. mariscus var. martii* (Roem. & Schult.) Kük.; *C. grossheimii* Pobod.; *Isolepis martii* Roem. & Schult.] occurs in more temperate areas, and is known as ‘thatching sedge’ or ‘fen sedge’, a first-class thatching material (Burkill, l.c.). It is characterized by rather compact partial inflorescences with 3–10 spikelets in the clusters, spikelets 6–8 mm long, and nut smooth and dark brown to blackish, 2–3 mm long. It “appears to be restricted to Europe, N Africa and SW Asia, including Caucasus… not found in Siberia East or Ural, neither does it occur in regions north of Caspian Sea” (Flora of Pakistan 205: 163, 2001. Cf. Boulos, Fl. Egypt 4: 404, 2005).

Ornamental; fibres used for cheap paper; thatching; weed in rice-fields. Large stands are important as a refuge for wildlife. Can be confused with *Rynchospora corymbosa*, but spikelets are longer in the latter species (7,5–10 mm long, not 3,1–5,7 mm). Perianth bristles are absent in *Cladium* but present in *R. corymbosa*.

**SYNONYMS:**

*Cladium flexuosum* (Boeckeler) C. B. Clarke, incl. var. *polyanthemum* Kük. = *Machaerina flexuosa* subsp. *polyanthemum*

See also above under *C. mariscus* and World Checklist of Selected Plant Families, Cyperaceae, Royal Bot. Gard., Kew.
COLEOCHLOA / 8


Genus of 8 species in tropical and S. Africa, Madagascar.


bas.: Eriospora abyssinica Hochst. ex A. Rich. and var. castanea C. B. Clarke

syn.: Trilepis abyssinica (Hochst. ex A. Rich.) Boekelker Tufted perennial herb with branching scaly stolons; stems 40–105 cm tall, 1–4 mm Ø, in lower part covered by old leaf sheaths; blades to 30–59 cm long, 0,2–0,7 cm wide, folded, with spine-like teeth on margins and midrib; ligule a very dense band of stiff white hairs 1–2 mm long; blade linear, 27–100 cm long, 2–9 mm wide, midrib densely hairy, sheaths glabrous; inflorescence a lax, pendulous panicle with 2–6 main branches protruding from the upper leaf sheaths; spikes 4–9 mm long, c. 3 mm wide of numerous densely clustered spikelets 4–6 mm long; nutlet linear, 4–6,2 mm long, smooth, beak curved, style breaking off, tips not recurved.


bas.: Eriospora abyssinica Hochst. ex A. Rich. and var. castanea C. B. Clarke

syn.: Trilepis abyssinica (Hochst. ex A. Rich.) Boekelker Tufted perennial herb with branching scaly stolons; stems 40–105 cm tall, 1–4 mm Ø, in lower part covered by old leaf sheaths; blades to 30–59 cm long, 0,2–0,7 cm wide, folded, with spine-like teeth on margins and midrib; ligule a very dense band of stiff white hairs 1–2 mm long; blade linear, 27–100 cm long, 2–9 mm wide, midrib densely hairy, sheaths glabrous; inflorescence a lax, pendulous panicle with 2–6 main branches protruding from the upper leaf sheaths; spikes 4–9 mm long, c. 3 mm wide of numerous densely clustered spikelets 4–6 mm long; nutlet linear, 4–6,2 mm long, smooth, beak curved, style breaking off, tips not recurved.


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bas.: Eriospora abyssinica Hochst. ex A. Rich. and var. castanea C. B. Clarke


syn.: Eriospora abyssinica Hochst. ex A. Rich. var. brevirostrata Peter

Perennial loosely tufted herb to 134 cm tall; stems 21–90 mm long, 1,5–4 mm wide, glabrous; leaves flat or conuplicate, to 120 cm long; ligule a very dense band of white hairs 1–2 mm long; blades linear, 27–100 cm long, 2–9 mm wide, midrib densely hairy, sheaths glabrous; inflorescence a lax, pendulous panicle with 2–6 main branches protruding from the upper leaf sheaths; spikes pedicellate (pedicels 1–3 cm long) in fascicles of 5–8, ovoid, 3–6 mm long; spikelets many per spike, lanceolate, 2,5–4 mm long; utricle lanceolate, 2–4 mm long, overtopping the glumes, beak straight; nutlet yellow, obovoid, 1,5–1,5 mm long, apex with knob.

Bare rocky hillock in mist-forest in wet places; savanna hills; among large grasses on rock face; crowded in rock clefts; sometimes common or abundant, sometimes as isolated specimens; 550–1750 m alt.

In habit very similar to C. abyssinica which has, however, bigger spikes, spikelets, glumes and nutlets.


Tufted perennial herb 30–70 cm tall; stems pubescent or villous; leaves flat or conduplicate, 2,5–4,5 mm wide; usually hairy above and beneath; inflorescence a lax panicle of few to many fascicles of spikes on slender peduncles; spikelets oblong, 2,5–3 mm long; utricle 3–3,5 mm long.

Granite rocks and sandstone-quartzites; in crevices; bare hill slopes, grasslands; c. 1100 m alt.

S. Africa.

Similar to C. schweinfurthiana but leaf blades narrower, spikes shorter (5–7 mm long), nutlet smaller.


bas.: Carpha schweinfurthiana Boekelker

syn.: Eriospora schweinfurthiana (Boekelker) Benth. ex C. B. Clarke

Perennial loosely tufted herb; stems 68–92 cm tall; leaves flat or conuplicate, 4–6 mm wide, yellow above, midrib glabrous, sheaths glabrous; inflorescence an erect, lax, slender panicle composed of 5–7 fascicles of spikes, unequally peduncled; peduncles very slender, erect, curved or flexuous; spikes few to numerous in each fascicle, mostly elliptoid, 0,6–1 cm long; spikelets ± oblong, 4–5 mm long; utricles lanceoloid, trigonous, 4,5–5,25 mm long, incl. beak 1–1,25 mm.

Frequent on upper rocky slopes; 924 m alt.
COLEOCHLOA SCHWEINFURTHIANA

Known only from Mt Baginze (border S. Sudan/Zaire).
Differs from C. abyssinica and C. microcephala by having leaf midrib glabrous, and the glumes are paler.


bas.: Fintelmanna setifera Ridl.
syn.: Trilepis setifera (Ridl.) Kunztee; Eriospora setifera (Ridl.) C. B. Clarke

Perennial densely tufted grass-like herb 10–84 cm tall, sometimes the whole plant villous; stems rounded to trigonous, 14–55 cm long, 0.4–1 mm Ø, glabrous or sparsely to densely hairy; leaf sheaths sometimes blackened basally, brown to straw-yellow, 1–7 cm long, ligulate; blade convolute-cylindric, 21–60 cm long, 0.5–2.5 mm wide, ± hairy basal, ± glabrous above, apex acuminate; inflorescence a lax, slender, erect or slightly curved panicle with 1–3 fascicles of spikes on slender peduncles, 4–7 × 2.5 mm; spikelets many per spike, oblong-lanceolate, 2–4 × 0.5–1.1 cm; utricle lanceolate, 2.3–4.2 mm long, incl. beak 1.5–2 mm.

Miombo woodland; forest/woodland transition; on shallow soils overlying rocks with Dicadzi glaucum; pioneer vegetation with Aeolanthus heliotropioides, Icomum lineare, Andropogon fastigiatus, etc., on dome-shaped granitic outcrop; flat wet rocks; dry granite rocks by river; cliff edges; humid Natura, Forschung, Museum 141: 20, 2011); sloping bank of river; wet flat rocks; dry granite rocks by river; cliff edges; humid sand soil between blocks of quartzose sandstone; 30–2650 m alt.

S. Africa, Swaziland (Bothalia 28: 190–192, 1998); Madagascar.

Comprises 2 subsp.: – subsp. setifera [syn.: See above, and, Trilepis oliveri Boeckeler; Eriospora oliveri (Boeckeler) C. B. Clarke; E. villosula C. B. Clarke; E. rehmanniana C. B. Clarke; Trilepis rehmanniana Boeckeler ex C. B. Clarke; Coleochoila rehmanniana (C. B. Clarke) Gilly; Villosula (C. B. Clarke) Gilly; Oleri (Boeckeler) Gilly], with stems sparsely to densely villous, widespread in E & S Africa, except Kenya; – subsp. glabrescens Hoenselaar & D. A. Simpson (cited as var. glabrescens in Fl. Trop. E. Afr., Cyper.: 377, 2010) with stems glabrous or nearly so, in Kenya ...”as the two taxon a strongly geographically disjunction, the rank of subspecies is considered most appropriate” (Kew Bull. 64: 683, 2010).

The plant has some economic value: in S. Africa the wiry leaves and stems are used to make ropes or are woven into mats. C. setifera and C. pallidior closely resemble each other and are sometimes difficult to separate. C. pallidior is courser and has broader pubescent leaves.


bas.: Eriospora virgata K. Schum.

Perennial, densely tufted herb, 40–85 cm tall, base of plants blackened; stems glabrous; leaves convolute-cylindric, to 60 cm long, 1.5–3 mm wide, densely but minutely hairy above, glabrous beneath; sheaths glabrous; inflorescence a dense interrupted panicle of clustered sessile spikes; spikelets oblong, c. 4 mm long; glumes dark reddish; utricles immature only (mature not known). – Differs from all the other Coleochoila species by its densely hispidulous leaves (above) and clustered sessile spikelets. Bright green clumps frequent on shallow rocky soil in grasslands; peaty fibrous base of tussocks sometimes 1 m high and eroded into vase-shaped forms, forming massive tussocks on open grasslands; scrubby grassland; 1890–2100 m alt. (fide Nelmes, 1953).

Rarely collected (Fischer 624, K, B destroyed; Chapman & Chapman EG 8761; Brass 16635 (by some authors cited as Brass 16653), 16737.

SYNONYMS:

Coleochoila oliveri (Boeckeler) Gilly = Coleochoila setifera subsp. setifera rehmanniana (C. B. Clarke) Gilly = C. setifera subsp. villosula (C. B. Clarke) Gilly = C. setifera subsp. setifera

(COSTULARIA)


Gordon-Gray (Cyperaceae in Natal, in Strelitzia 2: 187–191, 1995) summerised the situation as follows: “Tetraria was established by Beauvois (1814) to accommodate a type species with a supposed numerical constancy in floral parts (multiples of four) that has proved non-existent (Levyns 1947). With improved knowledge, the considerable variability exhibited by southern African species has become evident, so that Steudel’s genus Macrochaetium (1855) and Clarke’s Costularia (1897/98) are now doubtfully distinct from Tetraria. Macrochaetium comprises only two described species both from the southern Cape: Costularia is larger with about eleven species represented in southeastern and tropical Africa, Madagascar and Australia. Koyama (1961) believed observed differences were insufficient for discrimination and so absorbed Costularia as congeneric with Tetraria. This is the arrangement followed by Reid (1985) and it will be adopted here (Costularia natalensis is the only species affected). Considering the poor representation of Tetraria, Macrochaetium and Costularia in Natal both in number of species and in frequency of distribution, and bearing in mind the great need for re-evaluation of the whole complex, it is simplest and least controversial in this work to place in Tetraria all Natal plants that qualify for affinity with this genus. Some of the entities are very inadequately known, so this arrangement is tentative.”

SYNONYM: Costularia natalensis C. B. Clarke = Tetraria natalensis
COURTOISINA

Gordon-Gray (l.c.) continues: “As stated in the introductory note to Tetraria (p. 187), T. natalensis is maintained under the allied genus Costularia by some workers because of difference in the positions within the spikelet of the male and the bisexual florets; the more markedly distichous glumes; the slender, flexuous perianth bristles and the more or less rounded (hardly 3-angled) achene with a persistent, scabrid style-base. None of these criteria considered singly, is adequate to distinguish the genera: when taken collectively there is still doubt of generic disjunction. However, collective consideration of the features listed, together with the rather copious, branching inflorescence densely provided with small, dark spikelets, effectively distinguish T. natalensis from other Natal species of Tetraria. Clarke (1897/98) states that, from their habit, species of Costularia have been referred to Cladium. In Natal no confusion is possible between Tetraria natalensis and Cladium mariscus subsp. jamaicense since habitats are so distinctive, the latter species occurring only on the coast, in or very close to, water.”

(COURTOISIA)

Courtoisina assimilis (Steud.) C. B. Clarke
— Courtoisina assimilis cyporioides (Roxb.) Nees, incl. var. africana C. B. Clarke and var. spicata C. B. Clarke = C. cyperoides olivacea Boeckeler = Oxyacaryum cubense

COURTOISINA / 2


Genus of 2 species (Goethite River 1998: 170) occurring in E & S. Africa, Madagascar, India and SE Asia. They are tufted annuals with fibrous roots, with a strong scent of curry. Leaves basal, 3-ranked, ligule absent; glumes winged; spikelets falling off entire (Uberti & al. in Bot. Rev. 82: 244, 2016) when mature and often on black cotton soil or in rocky areas; roadsides; swamps; humid meadows and basins; newly excavated hollows; streams with fluctuating water-level; 250–2500 m alt.

Namibia, Botswana, S. Africa; Madagascar.

Culms cooked as vegetable and famine food (Simpson & Inglis in Kew Bull. 56: 280–281, 2001).


bas.: Kyllinga cyperoides Roxb.

syn.: Mariscus cyperoides (Roxb.) A. Dietr., incl. subsp. africanus (Kük.) Podl.; Courtoisia cyperoides (Roxb.) Nees 1833, incl. var. africana C. B. Clarke, nom. nud. and var. spicata C. B. Clarke, nom. nud., non Cyperus cyperoides (L.) Kunze 1898; Cyperus pseudokyllingoides Kük., incl. var. africanus Kük.; Cyperus kleinianus Hochst. ex Steud.; Pseudomariscus cyperoides (Roxb.) Rauschert; Indocourtoisina cyperoides (Roxb.) Bennet & Raizada

Annual herb 12–80 cm tall, yellowish green; culms tufted, 11–80 cm long, 1.3–3.1 mm ∅, trigonous; leaf sheaths loose and thick, 2.5–6 cm long; blades flat, 15–40 cm long, 2–6 mm wide, scabrid on margins and primary veins; inflorescence a simple to compound anthela; spikelets in digitate to globose spikes, sessile, 20 to many per spike, spikelets 1–2-flowered, 4–6 mm long.

Dense riverine vegetation; marshes and boggy grassland; seasonal ponds on black cotton soil; rice fields; wet depressions in cultivations; dry pond with Oryza longistaminata; 70–1850 m alt.


(CREPIDOCARPUS)

Crepidocarpus cubensis (Poeppl. & Kunth) Klotzsch ex Boeckeler = Oxyacaryum cubense schinzii Klotzsch ex Boeckeler = O. cubense

(CYLINDROLEPIS)

**CYPERUS s. str. / 140 + 1 ?**


A few species in our area are insufficiently known. Rhizome and roots are lacking in 1 species; no mature fruit seen in 1 species; no ecology recorded for 4 species; and 13 + 2 ? species are known only from the type.

“*Cyperus* is a large, ecologically diverse, and important sedge genus. Recent systematic work resolved problems with generic delimitation and implicated *Cyperus* phytosynthesis as a possible key innovation spurring diversification” … “For many years, the circumscription of *Cyperus* was problematic. Early molecular studies resolved a well-supported clade that included *Cyperus* s. str., but also inferred a paraphyletic genus with the inclusion of up to thirteen other embedded genera. However, recent work has broadened the circumscription of *Cyperus* to include previously segregated genera, rendering *Cyperus* monophyletic. But “most of the c. 950 *Cyperus* species have not been included in phylogenetic studies. Due to the massive size of the genus, a comprehensive phylogeny for *Cyperus* is not imminent” (Reid & al. in Pl. Ecol. Evol. 150: 343–344, 2017).

“Even when treated in its most narrow taxonomic concept, *Cyperus* L. is the second largest sedge genus. Typical *Cyperus* (sensu stricto) is recognized as having an herbaceous habit with basally disposed leaves, a terminal anhelic florescence immediately subtended by leafy bracts, spikes clustered on often elongate peduncles (rays), laterally flattened spikelets with two-ranked floral scales, and flowers lacking a perianth.” … “The question ‘What is *Cyperus* ?’ has not always been easy to answer… With *Cyperus* as its core genus, the well-supported *Cyperus* clade also includes the genera *Alinula* Raynal, *Androtrichum* (Brongn.) Brongn., *Ascolepis* Nees ex Steudel, *Courtoisina* Sojak, *Kyllinga* Rottb., *Kyllingiella* R. W. Haines & Lye, *Lipocarpha* R. Br., *Oxycaryum* Nees, *Pycerus* P. Beauv., *Queenslandiella* Domín, *Remirea* Aubl., *Sphaerocyperus* Lye, and *Volkiella* Merxm. & Čežek… Some of these genera have been treated as infra-generic taxa of *Cyperus*… Nested in *Cyperus* are difficult to key, with many characters showing considerable variability. Therefore, good specimens are essential, and that means flowering or fruiting material complete with basal parts… Without a complete specimen you have no hope of getting a name…” (Fl. Trop. E. Afr., *Cyperus*: 132, 2010).

**Cyperus**

However, merging 12 genera into *Cyperus* on the basis of photosynthetic pathways through a *C₄* or *C₃* cycle seems disputable… The discovery that *C₄* plants arose across evolutionary distantly related species implies repeated evolution of this complex photosynthetic pathway from the ancestral *C₃* system… and the number of unrelated groups of *C₄* plants has grown steadily…” (Hibberd & Furbank in Nature 538/7264: 177–178, 2016). “By now, *C.* plants have been found in 19 plant families, with the largest number of species appearing in grasses, sedges and chenopods. Molecular phylogeny estimates that *C.* photosynthesis has been evolved independently over 60 times” (Voznesenskaya in “Programme of events devoted to the 300-years anniversary of the Komarov Botanical Institute of the Russian Academy of Sciences, June, 23, 2014: 6). To cite J. Raynal (Adansonia, Sér. 2, 7: 84, 1967): “Une filiation, même certaine, ne saurait impliquer une réunion taxinomique”.

* * *

*Cyperus* as treated by us below comprises some 600 (700) species. They are small to large rhizomatous, stoloniferous or bulbiferous annuals or perennials.

They are cosmopolitan, mostly tropical (“the second-largest genus in *Cyperaceae* and its most important genus in the tropics” fide Larridon & al. in Taxon 60: 868, 2011). The distribution of individual species ranges from nearly cosmopolitan (e.g. *C. squarrosus* L. and *C. odoratus* L.) to regional and narrow endemics (Tucker in J. Bot. Res. Inst. Texas 11: 39, 2017). *Cyperus* species are represented in almost all types of habitat, although dominantly in seasonal and permanent wetlands (Muasya & al. in Syst. Geogr. Pl. 71: 539, 2002).

Although the percentage of *Cyperus* taxa of economical-ethnobotanical importance is high (27 % of *Cyperaceae* according to Naczki & Ford, Sedges: Uses…: 3, 2008), few are well-known. *Cyperus papyrus* L. was an important source of paper in the early history of western civilization; *C. esculentus* L. possesses edible tubers, and is, as well, an important wildlife food, while regarded in some settings as a weed; *C. rotundus* L. is considered as the world’s worst agricultural weed; many other species are ecologically important and are valuable to wildlife (Reid & al. in Brittonia 66: 292–294, 2012; See also H. Kráhmer, ed., Atlas of weed mapping: 75, 76, 78, 2016). Only a few are of horticultural interest, and are offered for sale by nurseries, e.g. *C. papyrus*, *C. alternifolius*, *C. involucratus*, *C. profiler*, *C. longus* and *C. eragrostis* (often mistakenly known and quoted as ‘*C. glaber’*); Pellizzari & Verloove in Webbia 72: 127, 2017); others are recorded as local, probably ephemeral weeds (*C. compressus*, *C. distans*, *C. iria*, *C. pumilus*; Verloove & Saiain in Webbia 70: 133, 2015). – Cf. also Kukkonen, Economic aspects of *African Cyperaceae* in Proceedings IX Plenary Meeting A.E.T.F.A.T., Las Palmas 18–23 March 1978, ed. G. Kunkel: 72–74, 1979.

* * *

Our compilation is a compromise between traditional and the most recent treatments of *Cyperus*. We think that a more narrowly defined genus is preferable to a broad generic concept with subgeneric divisions. These segregate genera are often morphologically...
distinct and the species easily recognized in the field. Some examples: Courtoisina has deciduous intact spikelets, Kyllingiella spirally arranged glumes, Oxycaryum spirally arranged glumes and dorsiventrally flattened dimerous gynoecia, etc. (See Table 1 in Uberti & al., Bot. Rev. 82: 244, 2016; Larridon & al. in Pl. Ecol. Evol. 144: 329, 2011).

There is also the question of a “very complex generic and subdivisional nomenclature with approximately 350 generic and subdivisional names to accommodate the roughly 950 species present in the group” (Larridon & al. in Taxon 60: 686, 2011). When Bodard (Bull. Soc. Bot. France 99: 61, 1952) described a new species of Cyperus (C. Mariscus plurinervosus) from Chad he followed the “actual international trend”, i.e. to merge Mariscus into Cyperus, he remarked on the large number of new combinations that would follow but not called for (“cette solution entraîne un grand nombre de combinaisons nouvelles qui ne s’imposent pas”); “Especially as many collectors distinguish easily the genera Mariscus, Pycreus and Kililingia in the field; these genera are now considered subgenera of Cyperus”.

It is true that the distinction between Cyperus and Mariscus is sometimes difficult, e.g., in Cyperus distans L. f. certain specimens have some spikelets falling off as intact units (Mariscus character), whereas other spikelets on the same plant have glumes breaking off from a persistent rachilla (Cyperus character), fide Haines & Lye, Sedges & rushes E. Afr.; 200, 1983.

Other species are difficult to place in a particular subdivision of the genus Cyperus, e.g. C. vandervenekii, due to the strong reduction of most parts of the plant (Reynolds & al. in Novon 16: 513, 2006). Further, C. micromorcarus is intermediate between Pycreus and Mariscus (Lye in Nord. J. Bot. 3: 215, 1983). And also, some species are doubtfully distinct from each other, such as C. dichrostachyus – C. difformis, C. denudatus – C. haspans, etc. There is a very confused and often confusing group of taxa: C. ajasa, C. derreilema, C. fischerianus, C. glaucophyllus, C. laxus, and even C. renchi. And also C. articulatus L. and C. corymbosus Rothb. are sometimes considered as conspecific (See S. Afric. J. Bot. 72: 147–149, 2006).

Some Cyperus species are characteristic by their yellow, golden brown, golden to bright yellow orange spikelets: C. altocrysocephalus, C. boreochromecephalus, C. corymbosus subsp. auricomus, C. esculentus, C. karshuminanni, C. kibweus, and C. permaceae.


Cyperus abietinus (Goeth.) Bauters – See below under Lipocarpha abietina Goeth.

C. absconditicoronatus Bauters, Reynders & Goeth. – See below under Mariscus absconditicoronatus (Bauters, Reynders & Goeth.) J.-P. Lebrun & Stork

C. acaulescens Reynders – See below under Pycreus acaulis Nelmes

C. acholiensis Larridon – See below under Kyllingiella ugangensis R. W. Haines & Lye

C. acuticarinatus Kük. – See below under Pycreus acuticarinatus (Kük.) Chemn.

C. aethiops Welw. ex Ridl. – See below under Pycreus aethiops (Welw. ex Ridl.) C. B. Clarke
C. afriflorus – See below under Pycreus africanaus (S. S. Hooper) Reynolds

C. afro-occidentalis (Lye) Huygh – See below under Kyllinga afro-occidentalis Lye


Perennial herb with short rhizome, to 40 cm tall; culms many, crowded, 24.5–36 cm long; 1.1–1.6 mm Ø, trigonous; leaves to 31 cm long; sheath 3–7 cm long; blade linear, flat, 19–24 cm × 2–3.5 mm; inflorescence capitulate or anthelate, simple, spikelets in a dense cluster, 3–7 per cluster, ovate-lanceolate, 4.7–5 × 2.7 mm; stamens 3; nutlet elliptoid, 1–1.5 mm long, apiculate, strongly papillose.

Clearings in forest, bamboo and giant heath; swampy areas; grassland; roadside banks; 1150–2250 m alt.

C. afrorobustus Michx. – See below under Kyllinga afrorobustus Michx.


Perennial herb, densely tufted, to 55 cm tall; culms 0.85–40 cm long; 1.5–2.7 mm Ø, trigonous; leaves to 46 cm long; sheath 3–8 cm long; blade linear, flat at base 5–10 cm long, higher up 10–38 cm long; 3–8 mm wide; inflorescence a simple anthela, primary branches 7–8, 3–5 cm long; spikelets rather turgid, in lax, ± digitate groups, 4–12 per cluster, linear-lanceolate, 8–20 mm long; stamens 3; nutlet obovoid-trigonal, c. 2 mm long, minutely papillose.

Sand dunes; sandy soil near sea-shore; more rarely a weed in gardens and sandy cotton fields; sea-level.

C. afrorobustus – See below under Kyllinga afrorobustus Michx.

C. afro-pumilus (Lye) Lye – See below under Kyllinga afro-pumilus Lye


Perennial tussocky herb to 64 cm tall; culms tufted, 30–60 cm long, 1–2.5 mm Ø, trigonous, base cylindrical and slightly swollen; leaves to 36 cm long; basal sheaths splitting into fibres, 7–10 cm long; blade linear, flat, to 19–31 cm × 1.9–3 mm; inflorescence a simple anthela; primary branches 2–5, 0.5–3 cm long; spikelets in very densely crowded spherical spikes 7–11 mm long; spikelets lanceolate, 3–4 mm long, falling off entirely when mature; stamens 3; mature nutlet not known.

Seasonally wet habitats; rock crevices; shallow soil over rocks; 1900–2250 m alt.


syn.: C. derreilema Steud. var. aijale (C. B. Clarke) Kük. Perennial herb, robust, to 2.1 m tall, with thick woody rhizome to 1.2 cm Ø; culms 0.85–2 m long; 4–7 mm Ø, trigonous; leaves many, crowded, to 2.15 m long; sheath reddish-brown, 4–14 cm long; blade linear, flat, 0.6–2 m long, 1.4–3.7 cm wide; inflorescence compound, primary branches 6–many, 3–20 cm long; spikelets in digitate clusters, sessile and at the end of primary, secondary and tertiary branches, 3–7 per cluster, ± lanceolate, 3–6 mm long; glumes mucronate; stamens 3; nutlet elliptoid, c. 1 mm long.

Thickets; open and degraded forests; sometimes along riverbanks; swamps; forest gallery; spray zone below waterfall on river; 950–2850 m alt.

C. alatus (Nees) F. Muell. – See below under Kyllinga alba Nees

C. albescens (Steud.) Larridon & Govaerts – See below under Lipocarpina chinesis (Osbeck) J. Kern

C. albiceps Ridl. – See below under Kyllinga albiceps (Ridl.) Rendle

C. albogracilis (Lye) Lye – See below under Kyllinga albogracilis Lye

C. albovaricosus (C. B. Clarke) Kük. – See below under Mariscus albovaricosus C. B. Clarke

C. albosanguineus Kük. – See below under Mariscus albosanguineus (Kük.) Napper


Perennial herb with elongate rhizomes, irregularly tuberous; culms 18–60 cm tall, linear, trigonous at top; leaves numerous, all near the stem base, as long as the stem or only 1/2 that length; leaves and bracts with 3 main veins that become whitish; inflorescence anthelate, open, graceful, with thread-like branches, often 8–24, of different length, some of which carry only solitary spikelets; spikes lanceolate, 6–13 cm long, single or in groups of 2–4.

Wetland.

Namibia, S. Africa, Botswana, Swaziland, Lesotho. Adventive in Australia, New Zealand as a weed in gardens and waste places
A decorative pot plant (ornamental); var. ‘Variegatus’ has longitudinally striped leaves and bracts.

*Cyperus albostriatus* (Kew Bull. 56: 281, 2001) and in USA: Texas, Florida (Richardson & King, l.c.).


*C. albostriatus* (Rottb.) (C. B. Clarke; J. pallidiflorus Peter; *Cyperus fastigiatus* Forssk.; *C. exaltatus* Retz. var. *digynus* (Boeckeler) F. N. Williams; See also World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew. – See also Note below.

Perennial tufted herb 0.5–1.7 m tall; culms few, 0.2–1.4 m long, 3.5–8.4 mm ∅, *rigorous*; leaves basally crowded, 3–5, to 1 m long; sheath 3–7 cm long; blade leathery, linear, flat to W-shaped, 37–75 cm long, 4–15 mm wide; inflorescence a compound anthera, primary branches 6–10, 3–20 cm long; involucral bracts leaf-like, 4–7, the lower ones overtopping the inflorescence; spikelets in crowded clusters, many per cluster, sessile at end of primary, secondary (and tertiary) branches; spikelets ovoid, 2–6 mm long, 10–30-flowered.

Swamps; seasonally wet grassland; old cultivations; on wet silt; river beds; margins of lakes; in standing water; rice-fields; 0–2100 m alt.


Note: Boulos (Fl. Egypt 4: 380, 2005) put *C. dives* Delile as a synonym under *C. alopecuroideus*. *C. dives* was described as having long inflorescence branches, narrow keeled glumes, 3 stamens, 3 stigmas and 3-sided nutlets. *C. alopecuroideus* was described as less robust… having short branches, broad and flat, keeled glumes, 2 stamens, 2 stigmas and plano-convex nutlets. These characters are not constant. Many specimens were examined in which flowers on the same plant were found to have 2 or 3 stigmas… and the nutlet is either plano-convex or unequally 3-sided. Therefore both species are treated here as conspecific… “.

*C. alternifolius* L. 1767, non Vahl 1806 (“alterniflorus” spalm.), non *C. alternifolius* R. Br. 1810 (Australia); subsp. *flabelliformis*
Perennial herb with a rhizome producing many crowded stems; parts of Angola and Zaire. Usually covered by minute mineral particles particularly quartz.  


“Used as an ornamental in water gardens and as a potted plant for more than 200 years” (Nacci & Ford, Sedges: uses…: 38, 2008); as home plant under the name papyrus; escape of cultivation along canals and around ponds. For economic uses, see Kew Bull. 56: 282, 2001.


Perennial herb with a woody horizontal rhizome producing a single culm at end, and covered in densely imbricated scales stuck together by a purple glue; young rhizomes produced at base of culm, densely covered by pallid or light reddish brown multi-nerved scales, tips bright purple; the purple patches are very sticky and usually covered by minute mineral particles particularly quartz grains; culm 80–90 cm long, 1.5–5 mm Ø, triangular to winged, scabrid on angles; leaves 5, widely spaced, to 20 cm high on the culm; blades flat, 18–65 cm long, 8–10 mm wide, margins and keel of midrib scabrous; inflorescence a congested yellow-orange head c. 15 mm Ø, consisting of numerous crowded lanceolate spikelets each 7–8 mm long.  

Woodland in sandy area at edge of watershed grassland. Known from only 2 collections, but likely to turn up in adjacent parts of Angola and Zaïre.


Perennial herb with a rhizome producing many crowded stems; these 50–80 cm long, 2.3–3 mm Ø, triangular at least below inflorescence, glabrous; leaves many; the two uppermost leaf sheaths usually developing blades 5–20 cm long, 2–4 mm wide; inflorescence lax, 3–9 cm Ø, of 1–several (sub-)seessile clusters of spikelets subtended by new groups of sessile and stalked digitately arranged clusters of spikelets on up to 4 cm long major branches; involucral bracts leafy, to 20 cm long.  

Damp ground near a spring; c. 200–375 m alt.


**C. amauropus** Schrad.; – subsp. **muelleri** Steud.; syn.: **C. thunbergii** Boeckeler; incl. var. *oligostachyus* (*Kunth*) Boeckeler and var. *macrostachyus* Boeckeler; *C. mulleri* Boeckeler; *C. castaneum* Willd. subsp. **amabilis** (Vahl) Lye, ined.; See also World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew. Annual herb 7–31 cm tall with solitary or more often tufted culms 5–27 cm long, 0.5–1.8 mm Ø, trigonous, glabrous; leaves to 16 cm long; sheaths 0.5–3 cm long, purplish-red; blade 1.5–13 cm long, 1–2.5 mm wide, apex acuminate; inflorescence an open anthera, capitate, more often simple, occasionally compound; primary branches 3–10, 1.5–9 cm long; spikelets in digitate, ovoid clusters, sessile at end of primary branches (when present secondary branches 5–25 per cluster); glumes pale orange brown, reddish brown or golden brown; spikelets linear, 3–17 mm long.  

Gravely places flooded in rainy season; seasonally wet habitats; often on sandy or silty soils near roads, lakes, swamps; sandy hollow on rocky soil; open savanna; cultivated or waste ground; *Hyparrhenia* woodland, abandoned fields; open savanna cultivated on waste ground; (Burkill, Useful pl. W. Trop. Afr., ed. 2, 1: 609–610, 1985); thatched-grown pastures flooded in rainy season; sandy woods; forming the weed community of arable fields; *Cypero amabilis* – Spermacocetum filifoliae ass. (Witty & al. in Phytocoenologia 41: 130, 2011); near sea-level – 2700 m alt.  

Cape Verde Isl. (introd., Scripta Bot. Belg. 50: 375, 2013); Socotra; Namibia, S. Africa, Botswana, Swaziland; Madagascar, Comoros; Asia, India to Vietnam; S N. America, C. America, S. America. “Widely distributed in tropical and subtropical, and warm temperate regions of both E. and W. hemispheres”.

**C. amarilis** Steud. – See below under *Mariscus amarilis* (Steud.) Cuatred.  

**C. amplacæus** (J. Raynal) Bauters – See above under *Ascolepis amplacæa* J. Raynal


Perennial stoloniferous herb with solitary culms from swollen stem bases or bulbs; stolons 1–11 cm long, 2–6 mm Ø, densely covered by brown scales sometimes split into fibres; culms 14–140 cm long, trigonous, smooth, basal part covered in leaf sheaths; leaves to 64 cm long, sheaths 2.5–10 cm long; blades linear, 7–36 cm long, 3.5–8 mm wide, margins and primary vein
scabrid, apex acuminate; inflorescence a congested anthela, capitata, 1.5–2 cm Ø; spikelets numerous per head, ovoid, 6–11 mm long, creamy or grayish white to sometimes pinkish; involucral bracts leaf-like, 3–4, 2.5–13 cm long. Clefs in rocks; Loudetia arundinacea grassland on shallow soil recently burnt; Hyparrhenia, Exotheca grassland; savanna with Kotschya lutea; dry grassland with shrubs and scattered trees; often in places where burning is frequent; grassland on gravelly soil; on low rather dry hills; 0–2650 m alt. S. Africa.

“A bulb is formed at the base of each year’s culm. These solitary bulblets, arranged in rows are especially conspicuous in C. angolensis, in which they are nearly woody and particularly well protected by very tough scales. They contain considerable water reserves, even after several months of drought as shown e.g. by the 53% loss of weight in bulbs of C. angolensis collected at the end of the dry season, in October, and dried for further 9 months”; (Flora 176: 67, 1985).

C. aromaticus (Ridl.) Mattf. & Kük. and var. elatior (Kunth) Kük. (= Kyllinga ruwenzoriensis C. B. Clarke) – See below under Kyllinga polyphylla Willd. ex Kunth


The World Checklist of Selected Plant Families, Cyperaceae (Roy. Bot. Gard., Kew) maintains C. corymbosus septate culms than the former but these differences are phenotypic. The latter bears laminae, has longer bracts and frequently has less septate culms than the former but these differences are phenotypic. Phenotypes formerly referred to C. corymbosus are generally rare and scattered, occupying the drier fringing zones of populations… Synonymy is further supported by distribution. C. articulatus, except for Malaysia, is common pantropically; C. corymbosus is reported from numerous localities within, or fringing the range of C. articulatus but is rare. The only exception to this pattern known to us is in Sri Lanka (Ceylon) where Koyama (1985) reported the apparent replacement of C. articulatus by C. corymbosus over a century”. A map of distribution in south Africa figures on p. 148. The World Checklist of Selected Plant Families, Cyperaceae (Roy. Bot. Gard., Kew) maintains C. corymbosus as a distinct entity, and we have chosen the same approach.

C. ascofibrillosus Goetgh. – See above under Ascolepis capensis (Kunth) Ridl.

C. ascodensus Goetgh. – See above under Ascolepis densa Goetgh.

C. ascofibrillosus Goetgh. – See above under Ascolepis fibrillosa Goetgh.

C. ascohemisphaericus Goetgh. – See above under Ascolepis hemisphaericus Peter ex Goetgh.

C. asconeglectus Goetgh. – See above under Ascolepis neglecta Goetgh.

C. ascopinguis Goetgh. – See above under Ascolepis pinguis C. B. Clarke

C. ascopusillus Goetgh. – See above under Ascolepis pusilla Ridl.

with Pistia stratiotes; swamps; lake-shores; wet grasslands; in or near open water; often in standing water; widely reported as a weed, crops, rice fields; cultivated around dwelling places and on channels of sandy fields for retaining banks (erosion control) often occurring in pure stands; 0–1970 m alt. There are many variants (hybrids ?, introgression ?). Cape Verde Islands (Garcia de Orta, Sér. Bot. 16: 23, 2002, Santo Antâo); Bioko/Fernando Poo; Algeria, Egypt; Namibia, S. Africa, Botswana, Swaziland; Madagascar, Mauritius, Réunion, Seychelles; Arabia, Yemen (Wood, Handbook Yemen flora: 323, 1997), Palestine, Iran, India, Sri Lanka; Australia; Americas: SE USA near the coast, to C. & S. America. Type from Jamaica. – Pantropical; “ranges widely in tropical, subtropical, and warm temperate regions around the world” (Naczi & Ford, l.c.).


C. articulatus

There are many variants (hybrids ?, introgression ?). Cape Verde Islands (Garcia de Orta, Sér. Bot. 16: 23, 2002, Santo Antâo); Bioko/Fernando Poo; Algeria, Egypt; Namibia, S. Africa, Botswana, Swaziland; Madagascar, Mauritius, Réunion, Seychelles; Arabia, Yemen (Wood, Handbook Yemen flora: 323, 1997), Palestine, Iran, India, Sri Lanka; Australia; Americas: SE USA near the coast, to C. & S. America. Type from Jamaica. – Pantropical; “ranges widely in tropical, subtropical, and warm temperate regions around the world” (Naczi & Ford, l.c.).


C. articulatus

C. articulatus

C. articulatus

C. articulatus
CYPERUS

C. ascospinulosus Goetgh. – See above under Ascolepis spinulosa Goetgh.

C. ascrorubidus Nelmes – See above under Ascolepis trigona Goetgh.

C. assimilis Steud. – See above under Courtoisina assimilis (Steud.) Maquet

C. aster (C. B. Clarke ex Chem.) Kük. var. biflorus Peter & Kük. figures at the end of Mariscus, “species in need of study” (p. 275).


syn.: C. atrorubidus C. B. Clarke

Perennial herb 0,2–1,5 m tall with short creeping rhizome; culms few, 28–62 cm long, 1,9–7 mm Ø, trigonous; leaf sheaths 4–20 cm long; longest leaf blades 30–70 cm long, 0,4–1,2 cm wide, flat, linear; inflorescence a compound anthera, primary branches 4–10, 1,5–12 cm long; spikelets in crowded spikes, giving the inflorescence a brush-like appearance, with to 82 spikelets per spike, 8–15 mm long; glumes dark reddish-brown, sometimes almost black.

Wet grasslands; swamps and bogs; alongside water; damp places in forest; forest gallery; 1200–3350 m alt.

Bioko/Fernando Poo (reported under the name C. adoensis Hochst. ex A. Rich.).

C. atrorubidus (Nelmes) Raymond – See below under Pycreus atrorubidus

Nelmes


syn.: C. conglomeratus Rothb. var. aucteri (Jaub. & Spach) C. B. Clarke, and fa. oligostachys Kük.

C. aurichuchi Iljin – See below under Kyllinga alba

alata (Nees) C. B. Clarke

(C. auriculatus (Lye) Lye – See below under Kyllinga alba

Nees subspp. alata (Nees) C. B. Clarke

(C. aureobrunneus C. B. Clarke (“aureobrunneus”), Fl. Trop. Afr. 8: 346, 1901.)


“The collection [A. Whyte] consists of five umbels. The species does not resemble any one in this group, and is perhaps really allied to C. amabiliis, Vahl, though of very large size” (C. B. Clarke, l.c.).

Top of the stem triquetrous; umbel 20 cm ∅, decompound, dense with numerous golden-brown spikes; bracts 3–4 together, c. 1 cm long, compressed, 14–30-flowered; nut small, 1/3 length of the glume, brown (“many white and infertile”).

Known only from the type (A. Whyte) collected in 1896 at Fort Hill (= Chitipa, N Malawi, 9°42’S × 33°16’E), 3500–4000 ft. (= c. 1300 m) alt.

Kükenthal (l.c.) treated the plant as a variety of C. denudatus, a widespread species in E. Africa.

C. aureochrysanthus Mattf. & Kük., – See below under Kyllinga chrysanthus K. Schum.

C. aureovillosus (Lye) Lye – See below under Kyllinga aureovillosus Lye

C. austroafricanus C. Archer & Goetgh. – See below under Mariscus dregeanus Kunth and M. dubius (Rothb.) Kük.


According to Kükenthal in Fl. Pakistan, l.c. and Väre & Kükonen in Nord. J. Bot. 24: 291, 2006, C. aucteri occurs in Afghanistan to Pakistan. However, Kükenthal in Engler, Pflanzenreich IV. 20/101: 274, 1936, cites a collection by Vogel from S Niger, on a sand hill at Agadem (6°50’N × 13°11’E), an oasis situated on the (ancient) main road N-S (for Lake Chad). He also refers to a collection by Schubert from “Lower Egypt”, Belbeys Desert (? 30°25’N × 31°34’E). In Fl. W. Trop. Africa, ed. 2, 3/2: 292, 1972, Hooper remarked that “the relationship between this specimen [Niger, Agadem] and typical examples of the species from the Persian Gulf requires further study”. It is for certain that this and other collections from N Africa need re-evaluation.

C. aucteri is treated as a “good” species in Fl. W. Trop. Afr., l.c., “similar to C. conglomeratus Rothb. in habit but with a broader spikelet and winged achene”. It is maintained as such by Simpson & Inglis in Kew Bull. 56: 285, 2001. However, Boulos (Fl. Egypt 4: 395–397, 2005) took a broader view: “Cyperus conglomeratus is a drought-resistant species, widely distributed in arid regions from Senegal to Pakistan, with a wide range of variation in its populations. Many taxa were described due to its variable morphology and habit, these are listed here [incl. C. aucteri] as synonyms”.

Not mapped by us.


THE COLLECTION [A. Whyte] consists of five umbels. The species does not resemble any one in this group, and is perhaps really allied to C. amabiliis, Vahl, though of very large size” (C. B. Clarke, l.c.).

Top of the stem triquetrous; umbel 20 cm Ø, decompound, dense with numerous golden-brown spikes; bracts 3–5, usually much shorter than the umbel; spikelets 5–12 together, c. 1 cm long, compressed, 14–30-flowered; nut small, 1/3 length of the glume, brown (“many white and infertile”).

Known only from the type (A. Whyte) collected in 1896 at Fort Hill (= Chitipa, N Malawi, 9°42’S × 33°16’E), 3500–4000 ft. (= c. 1300 m) alt.

Kükenthal (l.c.) treated the plant as a variety of C. demuthus, a widespread species in E. Africa.

C. aureochrysanthus Mattf. & Kük., – See below under Kyllinga chrysanthus K. Schum.

C. aureovillosus (Lye) Lye – See below under Kyllinga aureovillosus Lye

C. austroafricanus C. Archer & Goetgh. – See below under Mariscus dregeanus Kunth and M. dubius (Rothb.) Kük.

Cyperus austrochrysanthus

Perennial herb with crowded culms, base slightly swollen; culms 6–16 cm long, 0.3–0.5 mm Ø, obtusely triangular; leaves from the basal 2 cm only; sheaths pallid to light reddish brown, as old often splitting up into pallid fibres; blades 2–10 cm long, 0.2–0.5 mm wide, flat or somewhat folded and twisted when dry; inflorescence a congested bright yellow anthela 0.8–1.6 cm Ø with 4–12 erect, spreading, sessile spikelets; spikelets 4–9 mm long, 2.5–5.5 mm wide, strongly compressed.

Wet sand over flat granite; 650–1700 m alt.

In herbaria the species has been identified as (confused with) *Cyperus niveus* Retz. var. *flavissimus* (Schrad. L.) J.-P. Lebrun & Stork

C. baobab Lye – See below under *Mariscus baobab* (Lye) J.-P. Lebrun & Stork

C. baouensis Kük. – See below under *Mariscus baouensis* Hutch. 1936 and 1972 (no Latin description) ex J.-P. Lebrun & Stork

(C. baronii) C. B. Clarke, J. Linn. Soc., Bot. 20: 289, 1883

was described from Central Madagascar. C. B. Clarke in Fl. Trop. Afr. 8: 344–345, 1901, cited specimens from Tanzania, Usambara (Holst 3385), and N Malawi, Khondowe – Karonga (c. 10°36’S × 34°11’E, Whyte s.n., and Buchanan 647). He stated that the latter two gatherings “are identical with the typical *C. baronii* from Madagascar. As to Holst, 3385, it is nearer *C. Deckenii* than *C. Mannii*...” – Kükenthal (Engler, Pflanzenr. IV. 20/101: 201–202, 1936) cited collections from Cameron, Buea (Deistel 34) and Musake (Hinzte 11). He listed 4 varieties, viz. var. *densus* C. B. Clarke from C. B. Clarke var. *squarrosus* C. B. Clarke from the Comoros. var. *interpositus* Kük. from Cameroon, Buea (Preuss 671), Malawi, Mt. Zomba (Whyte), Rwanda (Graf Götzen), Tanzania, Uluguru (Stuhlmann 8814) and Mahenge (Schlieben 1186), and var. *mannie* (C. B. Clarke) Kük. with synonyms *C. mannii* C. B. Clarke (basionym), *C. leptoctadius* Boeckeler, *C. ingratus* Hook. f., and *C. elegans* Ridl., present in W Africa, Mt Cameroon (Mann 1358, 2107, Johnston 46, Preuss 564, 979), and Fernando Poo (Bioko) and S. Tomé.

Hooper in Fl. W. Trop. Afr., ed. 2, 3/2: 289, 1972 cites *C. baronii* var. *mannii* as a synonym under *C. mannii* (present in Sierra Leone, Liberia, N Nigeria, W Cameroon, Mt Cameroon, and Fernando Poo. She adds: “Perhaps to be equated with one of the east African species of this section of the genus.” – The specimens from West Africa are treated by us under *C. mannii*.

Haines & Lye (Sedges & rushes E. Africa: 156–158, 1983) refer to *C. pseudoepitadius* Kük. and *C. glaucophyllus* Boeckeler as closely related, also adding that “more research is needed to clarify the taxonomic relationships between *C. glaucophyllus*, *C. pseudoepitadius*, *C. baronii* C. B. Cl. and *C. fischartanus*.”

One the one hand Beentje in Fl. Trop. E. Afr., Cyper.: 198, 200, 2010, treats *C. baronii* p.p. (in FTA 8: 344, 1902) as a synonym under *C. glaucophyllus*. On the other hand, he cites *C. baronii* var. *interpositus* as a species with inadequate data (o.c.: 252). The specimen he had seen (Schlieben 1186 from Tanzania, Mahenge, cf. above) keys to *C. exaltatus* (Stuhlmann 8814 from Uluguru not found by him). – Other specimens from E. Africa (Holst 3385, Lutindi), Malawi (Whyte s.n.; Buchanan 647, without precise locality) need further study.

*C. baronii* C. B. Clarke seems to be a plant from Madagascar, Réunion, Comoro Islands.


Cyperus beentjei

Perennial rhizomatous herb to 1.5 m tall; culms few to many, 0.18–1.38 m long, 1–5 mm Ø, trigonous, smooth or sometimes minutely barred near apex; leaf sheath light brownish-red with red dots and occasionally red-veined 5–40 cm long; blade flat, linear, 6–59 cm long, 2–6 mm wide, sometimes barred to scabrid on midrib and margins, apex acuminate to acute; inflorescence anhelaetic; involucral bracts leaf-like; primary branches 4–19, 1–32 cm long; secondary branches 0.4–5.7 cm long; tertiary branching sometimes present; spikelets in digitate terminal clusters, sessile and at end of various types of branches, 3–7 per cluster, 0.6–1.5 cm long, 1.1–2.9 mm wide, 5–16-flowered.

Shaded areas; forests, edge of forests; often near water; 1350–1900 m alt.

Near *C. glaucophyllus* but: leaf sheaths 5–40 cm (not 2–11); nutlets 0.9–1.1 × 0.7–0.9 mm (not (1.3–1.8–1.0) × 0.6 mm).

C. benadirensis (Samain, Reynders & Goeth.) Huygh – See below under *Kyllinga beninensis* Samain, Reynders & Goeth.


Stoloniferous perennial herb with c. 10 cm long curving stolons; culm solitary from the end of a stolon, 80–90 cm long, 1–3 mm Ø, trigonous; leaves from the lower 10 cm only, c. 5–8 per culm; upper leaf sheaths prominently whitish, the lower brown; blades linear, 5–22 cm long, 2–3 mm wide; inflorescence a lax simple anthela c. 4–10 cm Ø with 1 sessile and 5–10 stalked digitate clusters of spikelets on to 5 cm long peduncles. *Connniphora* grassland, edge of cultivation; sand dunes, bushland; near sea-level to c. 1000 m alt.

C. benincas (Samain, Reynders & Goeth.) Huygh – See below under *Kyllinga beninensis* Samain, Reynders & Goeth.

C. blepharoleptos Steud. – See below under *Oxycaryum cubense* (Poepp. & Kunth) Palla


Perennial herb to 30 cm tall with a basal bulb covered by brown to blackish scales and with very slender stolons ending in new bulbs; culms 5–20 cm long, 0.3–1 mm Ø, triangular or compressed, with many crowded leaves in lower half to 35 cm long; blades linear, flat, 6–30 cm long, 0.8–3.8 mm wide; inflorescence ± paniculate.
with 4–10 spikelets spread out on a 3–10 cm long central axis; spikelets ovoid, 7–15 mm long; involucral bracts absent.

Seasonally wet habitats; flooded grasslands; swamp areas; shallow soils on rocky outcrops; weed in cultivation; 30–250 m alt. Saudi Arabia, Yemen (Wood, Handbook Yemen flora: 323, 1997).

“Distinct from C. bulbosus in the inflorescence consisting of a simple spike; and the absence of involucral bracts. The distribution areas are the same” (Fl. Trop. E. Afr., Cyper.: 1.c.).


Annual (perhaps perennial) herb growing in tussocks, sometimes mat-forming, to 21 cm tall; culms tufted, 5–7 mm long; blade flat, 5.5–15 cm long, 0.5–1 mm wide; inflorescence capitate with 4–7 spikelets per head, ± lanceolate, each 7–20 mm long.

Damp shallow sandy soil over rocks; rocky pools; 350–400 m alt. Only known from 2 collections made in 1953 and 1998, respectively.

Similar to C. kirkii but with larger glumes, and occurs only in SE Kenya.

C. boreochrysocephalus Lye – See below under Mariscus boreochrysocephalus (Lye) J.-P. Lebrun & Stork

C. boreohemisphaericus Lye – See below under Mariscus boreohemisphaericus (Lye) J.-P. Lebrun & Stork

C. brachileama (Steud.) Mattf. & Kük. – See below under Kyllinga pulchella Kunth

C. brasiliensis (Kunth) Bauters – See above under Ascolepis brasiliensis (Kunth) Benth. ex C. B. Clarke

C. brevifolius (Rottb.) Hassk. – See below under Kyllinga brevifolia Rottb.

C. breviglumis Lye – See below under Kyllinga tisserantii Chemn.

C. brunneoalatus (Chemn.) Huygh – See below under Kyllinga brunneoalata Chemn.

C. brunneoalbus (Lye) Lye – See below under Kyllinga brunneoalba Lye

C. brunneofibrosus Lye – See below under Kyllinga brunneofibrosa (Lye) J.-P. Lebrun & Stork

C. bulbipes Mattf. & Kük. – See below under Kyllinga crassipes Boeckeler


Perennial herb with a basal bulb 0.5–1 cm Ø enclosed in a hard dark brown to black striate coat which splits into lanceolate valves, and with very slender stolons ending in new bulbs 0.3–0.7 cm Ø from which the culms emerge; culms 5–50 cm long, trigonous; leaves numerous, basal, slender, nearly equalling the stems (5–40 cm long); sheath 2.5–8 cm long; blade 11–31 cm long, 2.4–5.7 mm wide; inflorescence a lax anthera 3–12 cm long, 5–12 cm Ø, consisting of 4–6 leafy bracts, 1 sessile spike and 3–6 stalked spikes, reduced to 1 single spike; spikelets in loose clusters at end of primary branches or in a single spike, dark red brown, linear, 5–25 mm long.

Sandy shore near river mouth; seasonally wet grassland; sandy-clayey soil with salt during dry season; open sand; dunes; weed of cultivations (Sudan, Kenya, Tanzania); near sea-level to 2500 m alt.

Morocco, Algeria (Hoggar), SE Egypt; Cape Verde Isl.; Arabia, Yemen (Wood, Handbook Yemen flora: 324, 1997), Iran, Pakistan, India, Sri Lanka through to Vietnam, Malaysia, N Australia. Tubers are eaten roasted or boiled (Naczi & Ford, Sedges: uses…: 10, 2008); used as famine food (Simpson & Inglis in Kew Bull. 56: 285–286, 2001). Plant also used as an ornamental.

Similar and very near to C. blysmoides but more robust; also resembling C. rotundus.

Cyperus camerunensis Lye – See below under Kyllinga stenophylla K. Schum. ex C. B. Clarke

Cyperus capensis (Steud.) Endl. – See below under Mariscus capensis (Steud.) Nees

Cyperus capillifolius A. Rich., incl. var. major (Chemn.) Kük. See below under Pycreus capillifolius (A. Rich.) C. B. Clarke

**Cyperus capitatus**


Creeping, glaucous (in vivo), yellowish (dried) perennial herb; roots sand-binding; rhizomes horizontal, much elongate, with acute scales; culms 10–18 cm long, 2–4 mm \( \varnothing \), erect or incurved, terete at base, subtended towards tip, thickened basally by several leaf sheaths, almost bulbous at base; sheaths red-brown or pale purple-brown; blades 2.5–6 mm wide, flexuous or recurved, equaling or longer than culms; inflorescence 1.5–4 cm \( \varnothing \), capitate, spherical or lobed, with 1–several ± confluent spikes; bracts 3–6, leaf-like, much longer than inflorescence; spikelets numerous, densely crowded, lanceolate, 11–15-flowered, 1–1.5 cm long.

Coastal sands; near sea-level.


**C. cardoso** (Meneses) Huygh – See below under *Kyllinga cardoso* Meneses

**C. carinalaevis** (Lye & Mesterházy) Huygh – See below under *Kyllinga carinalaevis* Lye & Mesterházy

**C. cartilagineus** (K. Schum.) Mattf. & Kük. – See below under *Kyllinga cartilaginea* K. Schum.

**C. castaneobellus** Kyllinga cartilaginea Chiov.

**C. chersinus** (N. E. Br.) Kük. – See below under *Mariscus chersinus* N. E. Br.
**CYPERACEAE**

**CYPERUS CLAVINUX**

long, 0.8–0.9 mm \( \varnothing \), trigonous; leaves to 15.5 cm long; sheath pale brown, 1–2.5 cm long; blade linear, folded, 7–13 cm long, 0.8–0.9 mm wide, apex acuminate; inflorescence capitulate with up to 25 spikelets per inflorescence, each elliptic, 7.5–10.5 mm long; bracts 2, leaf-like.

Wet depression in *Terminalia spinosa* wooded grassland; seasonally damp sandy ground; 125–1240 m alt.

Botswana. – Not in Sénégal (Berhaut 1722 = *C. lateriticus*). Not in Congo-Brazzaville (Chevalier 4170 = Pycreus scaetae).

**C. cylindricus** Kotschy & Peyr. – See above under *Anosporum cylindricus* (Kotschy & Peyr.) Boeckeler


Perennial herb with a short woody rhizome sometimes with slender stolons; culms few, 20–30 cm long, 0.7–2 mm \( \varnothing \), obtusely triangular; leaves basal only on lower 5 cm, usually 3–4 per culm; blades 5–40 cm long, 1–2.5 mm wide; flat; inflorescence a lax anthela of 1 sessile and 1–4 stalked digitate groups of 3–6 spikelets.

Small lakes or pools with very variable water level; sometimes inundated at high water level; 500–1000 m alt.

Darbyshire & al., Pl. Sudan & S. Sudan: 104, 2015, note that the identity of a single Sudan specimen (Broun 49 of February 1903) is doubtful.

Simpson & Inglis (Kew Bull. 56: 286, 2001) indicate that young vegetative shoot apices are eaten (food).

The type, Hildebrandt 873c, at Kew seems to be lost, “but the vegetative shoot apices are eaten (food).”

**C. comospes** Mattf. & Kük. – See below under *Kyllinga comospes* (Mattf. & Kük.) Napper


Perennial tussocky yellowish-green herb with a short woody rhizome and numerous wiry, deep-rooting roots densely covered with sand-binding hairs; culms 50–100 cm tall, 1–3 mm \( \varnothing \), triangular to 3 terete, rigid; leaves many from the basal 3–5 cm only; sheaths 4–12 cm long; blade 5–25 cm long, 1–3 mm wide, hard, crescentiform; inflorescence a terminal head of 3–20 crowded spikelets, 1–4 cm \( \varnothing \), or once-branched; spikelets compressed or subterete, lanceolate, 5–20 mm long, greyish white or variegated grey and reddish brown (See note below under *C. jeminicus* p. 113 and *C. plurinervosus* p. 131).

Drought-resistant species; sandy soils often saline; clay soils; gravel; rocky areas; sand with shells; sand stone; sand dunes, often extensive dominant stretches; 0–800 m alt.
Very variable.

N Africa from Morocco to Egypt, not in Nigeria, Central African Rep., Gabon, E Africa (See note below) – only in dry and hot parts of Africa; W Asia from Afghanistan, Iraq, Iran to NW India; Aldabra, Mauritius, Seychelles, Madagascar.

In E. Africa only known from a very young specimen from Northern Kenya (Haines & Lye, l.c.). No specimen cited. “…it is possible that it [C. conglomeratus] does occur in our area”… but “… ‘i place it ‘species of uncertain occurrence’ (Fl. Trop. E. Afr., Cyper.: 255, 2010).

– Subsp. curvulus (Boeckeler) Kukkonen occurs in the Arabian Afr., Cyper.: 255, 2010).


C. constrictus (Goeth.) Bauters – See below under Lipocarpha constricta Goeth.

C. controversus (Steud.) Mattf. & Kük. – See below under Kylidina controversa Steud.


Perennial herb to 1,6 m tall with rather thick scale-covered stolons; culms 0,6–1,5 m long, 0,2–1 cm Ø, rounded to obtusely triangular, not prominently septate; leaves to 41 cm long; basal sheaths without or with blades, 5–18 cm long; blades linear, flat, 10–24 cm long, 4–8 mm wide; inflorescence a compound anthera, with primary and secondary branches; primary branches 7–9, 4–20 cm long; spikelets in loose clusters on elongated axis, at end of secondary branches, 4–10 per cluster, linear, 6–13 mm long.

Riverbanks; seasonally flooded habitats; swamps; thickened green marshes on riverbanks; 300–600 m alt.

Algeria; S. Africa; Madagascar; Iraq through to S E Asia, India, Burma, N Australia (?); West Indies, Cuba; tropical S. America. – Not in Namibia (Clarke & Mannheimer, Cyper. Namibia: 91, 1999). Perhaps not in Togo (Kersting 440, reported by Kükenthal

C. cremenomariscus Lye – Perhaps better placed in Mariscus; See below at end of Mariscus p. 275.
C. cruentus Rothb. – See below under Mariscus schimperi Hochst. ex A. Rich.

C. cuanzenis Ridl. – See below under Pycreus cuanzenis (Ridl.) C. B. Clarke

C. cunduendoensis Chiov. – See below under Mariscus cunduendoensis (Chiov.) J.-P. Lebrun & Stork


Annual herb with a minute root system; culms 3–20 cm long, 0.2–0.5 mm Ø, 3-angled; leaf blades 1–8 cm long, 0.2–0.8 mm wide; sheaths reddish brown to purple; inflorescence a single spikelet-cluster of 4–20 (rarely 1–3) spikelets, or of 1 sessile and 1–3 stalked spikelet-clusters; anthela 2,5–3 mm long, 0.2–0.4 mm Ø; inflorescence a small anthea of 1–2 sessile spikelets or an up to 1 cm wide digitate cluster of 3–6 spikelets with or without an additional stalked spikelet or digitate cluster of 2–3 spikelets; spikelets linear, 3–8 mm long; nutlet known only immature.

Near pool with greatly changing water-level; c. 600 m alt. Only known from the type collected in 1944; described in (1995) 1996.

C. densibusulosus Lye – See below under Pycreus demangei J. Raynal


Perennial tufted herb with scale-covered rhizome to 3 cm Ø; culms 19–95 cm tall, 3-angled; leaf blades absent or to 1 cm long, usually red-brown, rarely green, sheaths light to dark red-brown, ending usually in a 3-angled red-brown tip; inflorescence an open or congested anthea, 2–15 × 2–12 cm; largest inflorescence-branches 1–8 cm long, carrying a subumbel-like cluster of digitately arranged spikelets; spikelets linear, 3–10 mm long; nutlet tuberculate.

C. excelsa (L.) Kunze – See below under Mariscus sumatrensis (Retz.) J. Raynal

C. ceylonensis (Retz.) J. Raynal

C. cyanus (L.) Kunze ex E. G. Pfitzer – See below under Mariscus cyanus (Rottb.) J. Raynal

C. cruentus Rothb. – See below under Mariscus schimperi Hochst. ex A. Rich.
Cyperus denudatus

Rain-forest with Albizia, Macaranga, Croton, Ocotea, forest edge; small seepage area in Hagenia abyssinica grassland; swamps; along ditches and other wet habitats (river-sides; flood plains; damp grassland, moist rock crevices; dried-up ponds; rice fields); often in water or growing in mats of floating vegetation; 0–3000 m alt.

Namibia, S. Africa, Botswana, Lesotho, Swaziland; Madagascar; India, Viet-Nam; N. Australia.

Variable species that intergrades into C. haspan L. subsp. juncoideus (Lam.) Kük. in Asia. It has also been confused with C. sphaeroperpus anther rather similar species with leafy culms; further investigations are needed (Cook, o.c.: 89). – “Very close to and probably a variety of C. haspan without blade or reduced to 1 cm long”.


syn.: C. deckenii Boeckeler; C. tsaratananensis Chern. C. tichinsendensis Turrill; C. pustulatus Vahl var. tichinsendensis (Turrill) Kük.

Tussock perennial herb 0.6–2.25 m tall with thick woody rhizome; culms tufted, trigonous to triquetrous; leaves 0.6–1.2 m long, 1–3 cm wide; sheaths not prominent, only seen at the very base of the culm, brown; blades linear, w-shaped or flat, 0.6–1 m long, 1–2.2 cm wide; inflorescence a compound anthera, primary branches 6–15, 5–17 cm long; spikelets in digitate clusters at end of primary, secondary and tertiary branches, 1–6 per cluster, ovoid, 4–8 mm long, glumes rounded at apex.

Bamboo forest, often in open areas; Hagenia formations; sometimes in swamp, along streams, river beds; Podocarpus latifolius, Dombeya open forest; mountain forest ravines and in scrub; forest clearings; 1700–3170 m alt.

Madagascar.

C. dewildeorum (J. Raynal) Lye – See below under Pycreus dewildeorum J. Raynal


Plant with a short woody rhizome; culms tufted, 30–50 cm tall, covered at base by old leaf sheaths; leaves shorter than culms, 3–5 mm wide, margins hyaline, gnawed; inflorescence a simple anthera with 5–6 branches to 3 cm long; spikelets 6–14, congested, obovate, 8–12 × 4–5 mm, 10-flowered.

Grassland.

Said to be near C. poecilis C. B. Clarke.

Collected in 1901, in flower; Ellenbeck 2195: Gallahochland, Jeroko (3°24'N × 41°16'E).

Polhill & Polhill (E. Afr. plant collectors: 123–124, 2015) give the following information. Dr Hans Ellenbeck joined Baron von Erlangen’s expedition to Aden, Somalia and Kenya in 1900–1901 as physician and botanist. They entered Kenya (K1) on 2 May 1901. Herbarium numbers 2153–2207 were collected in Kenya. 12–13 May they stayed at Jeroko (nº 2193, 2194), nº 2195 is not cited here. Ellenbeck’s collections were deposited at B.

Taxonomic status uncertain.


Perennial stoloniferous herb to 100 cm tall; stolons reddish-brown to black, to 12 cm long, 1–3 mm ∅; culms 25–90 cm long, 0.4–1 cm ∅, 3-angled; leaves to 95 cm long, linear; blades flat, 0.4–1.8 cm wide; sheaths light to dark brown, the basal ones without blades; inflorescence a small to large, open (rarely congested), simple to compound anthera; primary branches 5–12, 1–9 cm long; secondary branches 0.1–3.5 cm long; spikelets in digitate clusters, sessile and at end of secondary and tertiary branches, 3–20 per cluster; spikelets ovoid, 2.5–4 mm long.

Wet habitats near streams and pools in forest or near cultivations; swamps; swampy depressions in grassland; riverine forest; rain-forest with Albizia, Macaranga, Croton, Ocotea on moist slope along trail; rice fields; ditches; 1170–3200 m alt.

S. Africa; Madagascar.

Culms used for thatching (Simpson & Inglis in Kew Bull. 56: 289, 2001).

Similar to C. difforsis but: stoloniferous; inflorescence less congested, usually larger; leaves and bracts larger (fide Haines & Lye, l.c.).


Annual or perennial herb; culms 6–80 cm tall, 0.7–4 mm ∅, trigo-nous; basal leaves without blades; sheath green to reddish-brown, 2–10.5 cm long; blade 5–38 cm long, 2.4–8.3 mm wide; inflorescence simple to compound, sometimes almost capititate, 1–8 cm wide; primary branches 0–14, 0.7–7 cm long; spikelets in dense digitate clusters, 10–60 per cluster; each spikelet head 5–12 mm ∅; spikelets 2–6 mm long, c. 1 mm ∅, 6–30-flowered.

Swampy depression with Miragyna stipulosa; clayey bottom of dried-up ponds; on spongy islands in river; damp sandy places near river; grassy places flooded in summer on river bank; alongside

C. scirpoides R. Br. ex Fresen. 1837, nom. illeg., non Vahl 1805 (= C. crassipes); C. fresnii Steud.; C. andschoa A. Rich.
CYPRESSACEAE

CYPERUS DIFFORMIS

crops in Somalia (fide Simpson & Inglis in Kew Bull. 56: 290, 2001); 0–3300 m alt.
Egypt; Namibia, Botswana, S. Africa.
Subsp. digitatus occurs in E & tropical Asia, N Australia, tropical and subtropical America.
Culms used for weaving mats and baskets (Simpson & Inglis, l.c.); and used as substitute for perfume (also rhizome slightly fragrant); culms suitable for pulping (Burkill, Useful pl. W. Trop. Afr., ed. 2, 1: 613, 1985).

syn.: C. tenuiculmis Boeckeler 1879, nom. illeg., non 1870; C. gracilinus C. B. Clarke; C. pseudosphaelatus Chiov. 1915, nom. illeg., non Boeckeler 1890 (America); C. esphoclatus Kük.

Perennial herb to 82 cm tall with solitary stems and somewhat swollen stem bases arising from the end of long slender stolons; culms few, 27–70 cm long, 1,5–3,5 mm 2, triangular or somewhat compressed; leaf sheaths green or reddish; blades linear, flat, 15–32 cm long, 3,5–10 mm wide; inflorescence simple; primary branches 5–8, 2–11 cm long; spikelets in loose clusters, sessile and at end of primary branches, 11–20 per cluster; spikelets linear, 9–20 mm long.
Damp grassland; seasonally wet habitats; swamps; wooded savannah; open forests on sand; along roads in forest; humid clayey or sandy soils; shrubland; sandy beaches; fallows; ruderal in plantations; weed in gardens, irrigated fields; “a pest of lawns in Ghana and difficult to eradicate” (Burkill, Useful pl. W. Trop. Afr., ed. 2, 1: 613, 1985); 0–1150 m alt.
Bioko/Fernando Poo.

Used in folk medicine.
Resembling C. sphacelatus but: with arcuate stolons, and glumes without dark spots.

C. dioloensis (Kük. ex Cherm.) Kük. – See below under Pycreus dioloensis Kük. ex Cherm.

C. dipsacoides (Schumach.) Bauters – See below under Ascolepis dipsacoides Schumach.

C. distans L. f. 1782, non G. Mey. 1818 – See below under Mariscus longibracteatus Cherm.

C. diurensis Boeckeler – See below under Mariscus diurensis (Boeckeler) C. B. Clarke

C. dives Delile – Treated below as C. exaltatus Retz. var. dives (Delile) C. B. Clarke
Cyperus conglomeratus (incl. C. jeminicus,
C. mauretaniensis, C. sahelii)

Cyperus corymbosus

Cyperus crassipes (incl. C. subtilis)

Cyperus cuspidatus

Cyperus densibulbosus

Cyperus denudatus

Cyperus derreilema

(Cyperus dichromus)

Cyperus dichrostachyus

Cyperus difformis

Cyperus digitatus subsp. auricomus

Cyperus dilatatus
Cyperus

C. dubius Rottb. – See below under Mariscus dubius (Rottb.) Kük. ex G. E. C. Fischer

C. durus Kunth – See below under Mariscus durus (Kunth) C. B. Clarke


C. echinus (J. Raynal) Bauters – See below under Lipocarpha echinus J. Raynal

C. elegantulus Steud. – See below under Pycreus elegantulus (Steud.) C. B. Clarke


Perennial herb to 75 cm tall with a very slightly swollen culm-base emitting ± 1 mm thick scale-covered stolons; culms few, 40–60 cm long, 1–2 mm Ø, trigonous; leaves to 40 cm long; sheath green to dark brown, 4–11 cm long; blade linear, 10–34 cm long, 2,3–6,4 mm wide; inflorescence a simple anhelia, primary branches 3–6, 1,5–9 cm long; spikelets in loose clusters at end of primary branches, linear, 6–13 mm long.

Grassland; wooded grassland; in damp places; swamp; 400–600 m alt.

Known from very few, and old, collections. The gathering Endlich 778 (type) from Kilimanjaro, Kibohöhe, 1150 m alt., is not dated. Rudolf Endlich (not Endlicher !) came to Kilimanjaro in 1908, and in 1910 he left German East Africa, where he collected ca. 1000 numbers (Polhill & Polhill, E. Afr. plant collectors: 126, 2015). There are 3 Peter collections made in 1914–1915. A further gathering is due to Edward Armitage Robinson (Nº 1640), from 1000 numbers (Polhill & Polhill, o.c.: 397–400) m alt.

Perhaps a high altitude and reduced form of C. rotundus.

C. erectus (Schumach.) Mattf. & Kük. – See below under Kyllinga erecta Schumach.

C. erinaceus (Ridl.) Kük. – See below under Sphaerocyperus erinaceus (Ridl.) Lyce

C. eriocauleoides (Steud.) Bauters – See above under Ascolepis eriocauleoides (Steud.) Nees & Steud.

C. erythrophalchus (S. S. Hooper) Bauters – See above under Ascolepis erythrophalchus S. S. Hooper


syn.: Pycreus esculentus (L.) Hayek; Cyperus aureus Ten. subsp. esculentus (L.) Nyman; Pterocyperus esculentus (L.) Opiz; Chlorocyperus aureus (Ten.) Pallà ex Kneuck.; Cyperus melanorhizus Delile; C. nervosus Bertol.; C. tenorei C. Presl.; C. tenoreanusSchult. & Schult. f.; C. callistus Ridl.; C. buchananii Boeckeler; See also World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Perennial stoloniferous herb 50–100 cm tall; stolons to 15 cm long; 5–15 mm Ø, covered with brown scales and ending in a blackish tuber 3–8 mm Ø; culms 10–74 cm long, 1,5–4,5 mm Ø, trigonous or triquetrous; leaf sheaths pale brownish-green to green, 2–9 cm long; blades linear, flat, 11–29 cm long, 2–8 mm wide, apex acuminate; inflorescence simple or compound, primary branches 5–10, 1–18 cm long; spikelets golden or rust in loose clusters, sessile, 9–20 per cluster, linear, 5–16 mm long.

Swamps; seasonally wet grassland; damp grassy places; hollows; savannas; gravelly places; inselbergs; riverbeds; sand beaches; muddy and sandy soils; disturbed ground; weed of gardens and cultivations; invasive; 0–2200 m alt.

Variable species. Certain infraspecific taxa may be distinguished at variety level according to certain authors, e.g. var. esculentus “roughly corresponds with the cultivated plant (chufa) and probably originates in The Old World tropics. The other varieties are natives of the New World and var. leptostachyus Boeckeler apparently is the most widespread taxon in most parts of western Europe and in North America” (Verloove & Sánchez Gullón in Fl. Medit. 20: 144, 2010). For further notes on varieties, See, e.g., Schippers & al. in Syst. Bot. 20: 461–481, 1995; Pascual & al. in Econ. Bot. 54: 439–448, 2001; Bohren & Wirth in Agroforschung Schweiz 4: 460–467, 2013; De Castro & al. in Ann. Bot. 115: 733–745, 2015; Follak & al. in Perspectives Pl. Ecol. Evol. Syst. 23: 33–51, 2016. – A weedy cultivar or a cultivated weed ? (See F. T. de Vries in Econ. Bot. 45: 27–37, 1991).

Cape Verde Isl.; Bioko/Fernando Poo, Princip; Madeira, Azores; N Africa to Egypt; Namibia, S. Africa, Botswana, Lesotho, Swaziland; Comoros, Mauritis, Madagascar. A weed in all continents. S & C Europe (map by Follak & al., o.c.: 38); SW Russia, Palestine, Turkey, Syria, Caucasus, Iran, India, Pakistan; newly naturalized in Taiwan (Taiwania 52: 59–60, 2007); Malaysia (uncommon); Australia; N., C. & S. America.

Wideley cultivated for its edible tubers (chufa or tiger nut) eaten raw or cooked. They have a sweet or nutty taste. Used as substitute for almonds in confectionary; and after roasting and grinding used as substitute for coffee or cocoa (See Simpson & Inglis in Kew Bull. 56: 292–293, 2001; Burkil, Useful pl. W. Trop. Afr., ed. 2, 1: 614–616, 1985). According to Naczi & Ford (Sedges: uses…: 5, 18, 22, 35–36, 2008) the plant is ranked as the world’s 16th worst weeds; it reproduces primarily from tubers which can remain dormant for prolonged periods, and it can survive cold winter conditions. It is often planted to provide food for deer,
turkey, wild hogs, and also for domesticated animals. Formerly it was cultivated in the Mediterranean. According to Dajdok & al. (in Fragn. Florist. Geobot. Polon. 14: 9, 2007) the plant is continuously increasing in distribution. As a weed it causes substantial yield losses in field crops, but remains difficult to control by mechanical, chemical or biological means (cf. Follak & al., o.c.; Bohren & Wirth, o.c.).

Sometimes confused with C. rotundus: “Often mixed with pale coloured races of C. rotundus, but stolons more slender and tubers more regularly zoned, glumes less closely imbricating and glume sides with several distinct, pale nerves” (Fl. Pakistan, l.c.).

**C. exaltatus** Retz., excl. var. digynus (Boeckeler) F. N. Williams (= *C. alopeucoyrides*). – Cf. text below.

In Flora of Tropical East Africa (Cyperaceae: 244–246, 2010) Beentje “decided to re-instate varietal status for *dives*. The taxa occur in the same area and in the same type of habitat.” *C. dives* has been kept separate based on more numerous and more crowded spikelets and slightly shorter glumes (1,2–1,7 mm, not 1,8–2,9 mm). This concept was followed by Gereau & al. (Lake Nyasa florist. checklist: 46, 2012) as well as by Darbyshire & al., (Pl. Sudan & S. Sudan: 106, 2015). However, some authors of Asian floras published earlier had re-instated the varietal status; e.g. Prasad & Singh (Sedges of Kamataka, India, in J. Econ. Taxon. Bot., Add. Ser. 21: 95–97, 2002), and Patil & Prasad (Notes on Cyperaceae of Goa 1 in Ind. J. Forestry 32: 447, 2009). Flora of China 23 (Texts): 230–231, 2010, recognizes var. *exaltatus* but adds 3 varieties, viz. var. *hainanensis* L. K. Dai, var. *megalianthus* Kük., and var. *tenuspicatus* L. K. Dai. An eventual var. *dives* does not figure there as it has a more westerly distribution area.

Verloove published a thorough study of some Cyperaceae in Europe (Webbia 69: 179–223, 2014), including *Cyperus exaltatus*. He wrote: “*Cyperus exaltatus* is a member of the small but very complex section *Exaltati* and its taxonomy is not undeated. The two other members of this section [*C. dives* (incl. *C. immensus* C. B. Clarke) and *C. imbricatus*] are not easily told apart and the exact placement of a third species, *C. alopeucoyrides*, is also controversial. Boulou (2005) considers the latter to be conspecific with *dives*, as characters separating these species are not constant. However, although *C. alopeucoyrides* superficially resembles *C. dives* both are readily distinguished on glume, nutlet and stigma characters.” Verloove further discussed the varieties *megalianthus* Kük. and var. *iwasaki* (Makino) T. Koyama, which are characterized by very densely arranged, larger and multi-flowered spikelets. He also mentioned the European populations (Italy) with “untidily arranged spikes and spikelets… more characteristic.” Verloove further discussed the varieties *dives* However, although superficially resembles *C. dives* it is also another confusion possible, i.e. with *C. imbricatus*, but southern European populations are referable to *C. exaltatus* s.l.

The name *Cyperus exaltatus* Retz. 1789 was lectotypified by Mallick & al. in Phytotaxa 375: 187–188, 2018. We have opted for a wide concept of *C. exaltatus*, thus including *C. dives* at a varietal rank.


**Cyperus exaltatus var. exaltatus**


syn.: *C. alopeucoyrides* J. Koenig ex Roxb. 1820, non Rothb. 1773; *C. iwasaki* Makino; *C. exaltatus var. iwasaki* (Makino) T. Koyama; *C. exaltatus var. minor* J. M. Black, var. *divergens* Kük., and var. *serpens* Kük.; See also World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Perennial herb with crowded stems on a short, ± vertical, woody rhizome c. 1 cm ∅; culms tufted, 0,4–1,8 m long (var. *exaltatus*) or 0,5–1,5 mm ∅ (var. *dives*), triangular, base slightly swollen; basal leaves many, to 80 cm long; blade 0,8–1,2 cm wide (var. *exaltatus*) or 1,3–3,5 mm wide (var. *dives*), flat; sheaths thick, green to purple, 7–15 cm long; inflorescence an open, simple to compound anthela, 10–30 cm long, 10–40 cm wide, consisting of 4–6 subsessile and stalked spikes and 5–15 stalked groups of spikes on 5–20 cm long rays; involucral bracts leaf-like, 4–6, 20–80 cm long, 8–12 mm wide (var. *exaltatus*), 14–28 mm wide (var. *dives*); spikelets in dense elongate clusters, sessile and at end of primary and secondary branches, 15–120 per cluster, 6–12 mm long (var. *exaltatus*) or 3,4–7 mm long (var. *dives*).

Water edges; swamps; in open water; 0–1800 m alt.

Widespread in tropical W. and C. Africa, down into Angola; S. Tomé; Seychelles; S & SE Asia to Japan and S-wards to S Australia; C. & S. America.

Var. *dives* (Delile) C. B. Clarke

bas.: *C. dives* Delile


Description: See above under var. *exaltatus*. The distinguishing characters are: leaf blade wider (1,3–3,5 cm); involucral bracts wider (1,4–2,8 cm); spikelets spreading, very numerous and crowded so as to obscure the rachis; spikelets golden-yellow (not reddish-brown), shorter (3–7 mm long); glumes with a narrow keel (not mucronate, 1,2–1,7 mm long, with a clear green keel).

Swamps; river banks; moist depressions; in open water; sugar cane fields; 0–2450 m alt.

Egypt; Madagascar; Syria, Pakistan, India, Vietnam.

**C. eximius** (C. B. Clarke) Mattf. & Kük. – See below under *Kyllinga eximia* C. B. Clarke

**C. felicis** (J. Raynal) Lye – See below under *Pycreus felicis* J. Raynal
Cyperus

*C. fenzelianus* Steud. – See below under *Cyperus longus* L. subsp. *longus*.


syn.: *C. lanceola* Ridl.

Annual (or perennial) herb, tufted, with a slightly thickened base; culms flaccidly decumbent, 2–20 cm long, 1–2 mm Φ, triquetrous with longitudinal crests, with 5–10 leaves close to the base; leaf blades flaccid, plane, lanceolate-elliptic (wider above than below), 5–17 cm long, 0.5–2.5 cm wide, margins and main nerves slightly scabrid, in form resembling those of *Plantago lanceolata*; inflorescence a simple umbel with 6–9 rays 20–30 cm long, each bearing a cluster of 2–4 flattened, white or light brown spikelets; spikelets 5–10 mm long; involucral bracts leaf-like, 5–10 cm long; culms sometimes decumbent and rooting at viviparous spikelets. Roadsides, along tracks in forest, stream sides; swampy forest; marshy clearing or damp places in forest; 0–2100 m alt.


*C. fibrillosus* Kük. – See below under *Pycreus fibrillosus* (Kük.) Chern., and *P. scactae* Chern.


Perennial herb to 1.3 m tall with erect woody rhizome 3–9 cm Φ, trigonous; leaves ± as long as culms, 0.9–1.2 m long, 3–5.7 mm Φ, trigonous; leaves to 1.45 m long; sheaths dark purple, glossy, 5–27 cm long; blades linear, flat, 0.54–1.3 m long, 0.9–1.6 cm wide; margins and major veins scabrid; inflorescence compound, often proliferating; primary branches 7–17, 3–10 cm long; spikelets in digitate clusters at end of primary, secondary and tertiary branches, 1–5 per cluster, linear-lanceolate, 4–12 mm long.

Rocky outcrops; riverine forest; woodland; forest margins; often near wet habitats; in shade and semi-shade; open places in upland forest; 400–2650 m alt.


Stoloniferous perennial herb, stolons covered by brown scales; culms single, 5–12 cm long, triangular, base surrounded by brown fibrous leaf sheath remains; leaves ± as long as culms, 2 mm wide, apex long-acuminate; inflorescence a simple anthela, a dense head subtended by 2–3 bracts longer than anthela; spikelets 5–7, dark brown, lanceolate, 6–10 mm long, glumes with a green keel and prominent lateral veins.

Mountain meadows. In Yemen in grassland 2900–3200 m alt.

Type: Schimper 992, Ethiopia, Simen, Gessgessa. According to Fl. Ethiopia, l.c., the type material is very immature, and it is not possible to refer the plant to any other species with certainty. Kükenthal (l.c.) also cites a specimen (Gregory 102) from Sabaki River (Kenya 4/7, c. 3°S × 38°31′–40°08′E), a specimen not seen for Fl. Trop. E. Africa.

Clarke in Fl. Trop. Afr. 8: 368, 1902, compares the plant with *C. rotundus*. According to Wood (l.c.) it is closely related to *C. rigidifolius*. A doubtful species not mapped by us.

*C. flavescens* L. – See below under *Pycreus flavescens* (L.) P. Beauv. ex Rebb.

(*C. flavissimus* Schrad. 1821 non Steud. 1829 = *C. denuatus*) – See below under *C. sphaerocephalus* Vahl


Perennial herb to 1.4 m tall with erect woody rhizome 3–8 mm Φ, culms 0.9–1.2 m long, 3–7 mm Φ, trigonous, yellow at least in lower half; leaves many at base; sheath green and yellow with a wide transparent margin, base dark purplish, 3–12 cm long; blade flat, 40–70 cm long, 6–10 mm wide, scabrid on margins and major veins; inflorescence a compound anthela, primary branches 7–8, to 13 cm long; spikelets in loose clusters, 6–30 per cluster, linear, 20–35 mm long.

Edge of seasonal pool in salt-marsh; 1650 m alt.

Only known from the type collected in 1971.

*C. fluminalis* Ridl. – See below under *Cyperus fluminalis* (Ridl.) Rendle


Annual herb to 78 cm tall; culms 3–59 cm long, 1.3–4 mm Φ; trigonous; leaves to 52 cm long; sheath green to greenish-brown, 1–7.5 cm long; blade flat, 3–44 cm long, 2–10 mm wide, often with distinct transverse bars and prominent veins; inflorescence a compound anthela; primary branches 7–15, 2–13 cm long with a green-pale brown prophyll at base; spikelets in digitate clusters, sessile and at end of primary, secondary and tertiary branches, 1–4 per cluster, linear, 3–11 mm long.

Woodlands; seasonally wet habitats; swamps; along streams and pools; usually on sandy soil; rice fields; 0–1100 m alt.

Species with a “confusing variability” even within the same collection (See Fl. Trop. E. Afr., l.c.).

Near in structure to S. S. Hooper Kyllinga echinata 546, 1936. – Icon.: R. E. Fries in Wiss. Erg. Schwed. Rhodesia- (Zimbabwean vascular plants). Report 33: 89, 2004 (Mapura & Timberlake, eds., A checklist of cited under Mariscus in South. Afric. Bot. Divers. Network (Archer & Goetghebeur in Bothalia 41: 301, 2011). is in need of revision. The whole group primary branches, 10 long; spikelets in lax clusters on an elongated axis, at end of shining; inflorescence simple, primary branches 2–12, trigonous; leaves sheath reddish brown to straw-co-oured, to 7 cm long; blade flat, linear, 20–30 cm long, 6–9 mm wide; inflorescence capitulate, 2.5–3 cm across, of many spikelets in a dense congested head, each 10–12 mm long; glumes white. Seasonally wet habitats (near river); waste ground by road-side; 100 m alt. Only known from the type collected in 1955.


cyperaceae


Perennial herb with c. 3 cm thick swollen base containing many to 7 cm long brown tough leaf sheaths from previous years growth, the outer splitting into fibres; culms solitary, 70–80 cm long, 2–4 mm 2, trigonous; leaf sheaths pale reddish brown to straw-coloured, to 7 cm long; blade flat, linear, 20–30 cm long, 6–9 mm wide; inflorescence capitulate, 2.5–3 cm across, of many spikelets in a dense congested head, each 10–12 mm long; glumes white. Seasonally wet habitats (near river); waste ground by road-side; 100 m alt. Only known from the type collected in 1955.


Perennial herb with creeping woody rhizome; culms 28–120 cm long, 1–4 mm 2, trigonous; leaves to 80 cm long; sheath purplish at base, brown, 2–11 cm long; blade linear, flat, 22–75 cm long, 3.7–12 mm wide; inflorescence a compound anthela, primary branches 5–11, 1–12 cm long; spikelets in digital clusters at end of primary and secondary branches, 2–8 per cluster, ± linear, 4–12.5 mm long, 10–12-flowered.

Forest; riverine forest; secondary areas in forest zone; openings in rain-forest; shrubby forest borders; in dense shade on forest floor; forest/woodland transition, in shade of rocks or bluff; path sides; 750–2500 m alt.

S. Africia, Swaziland. – Identification of the single S. Sudanean specimen requires confirmation (Darbyshire & al., l.c.).

Note: In Fl. Trop. E. Afr. (l.c.) C. pseudoleptocladus Kük. is treated as a synonym of C. glaucocephalus. We follow this concept, as we consider the differences very small. However, Gardner & al. (o.c.), like Haines & Lye (o.c.: 156), point out that the involucral bracts are “much wider at the base” in C. pseudoleptocladus “than in any other species in this group”. In their comparative table Gardner & al. (p. 3) give the following data: C. glaucocephalus 1.58–7.51, mean 3.11 mm, versus C. pseudoleptocladus 1.79–12.9, mean 5.8 mm. More important, though, seems to be the chromosome number: C. glaucocephalus n = 16, C. pseudoleptocladus n = 9. The distribution areas are different although they overlap in Rwanda and Malawi-Mozambique. C. pseudoleptocladus has a western distribution, whereas C. glaucocephalus occurs in the eastern part of the area, with an outlyer in C. Congo-Brazzaville (See map partly based on Gardner & al.).

C. gossweijeri Kük. – See below under Pycreus pubescens Turrill 1914.

Perennial herb to 55 cm tall with a short creeping rhizome; culms tufted, crowded, many, slender, 20–50 cm long, 0,5–0,6 mm 2, trigonous to angular, wiry; leaves to 50 cm long; sheath light reddish-brown above, dark purplish below; blade (when present) flat, filiform, 20–50 cm long, 0,5–0,6 mm wide; inflorescence capitate; spikelets in digitate clusters, 2–3 per cluster, sessile, more rarely with an additional stalked spikelet on a 2–5 cm long peduncle, ± linear, 3–6 mm long. – Recognisable by its wiry and slender habit.

Very steep slopes, partly with vertical bare rocks, on summit edge; 2075 m alt.

Only known from the type collected in 1978.


C. gracilimus (Chiov.) Kük. – See below under Pycreus gracilimus Chiov.


syn.: C. giosii Chiov., incl. var. nogalensis (Chiov.) Kük.; C. bulbosus Vahl var. flavus Chiov., nom. nud.; Mariscus nogalensis Chiov.

Perennial herb to 60 cm tall with 0,7–1 cm thick black bulbs; culms 10–60 cm long, 1–2, 4 mm 2, trigonous, growing directly from the bulb; leaves many from base, to 42 cm long; sheath pale brownish-green, 1,5–10 cm long, somewhat fleshy; blade linear, 19–32 cm long, 1,9–4 mm wide; inflorescence (loosely) simple to compound, primary branches 0,3–0,4 cm long; spikelets in loose digitate clusters, many per cluster, lanceolate, 8–20 mm long.

Seasonally wet habitats; wooded grassland and grasslands; often on red loamy or sandy soil; often in irrigated land; near sea-level-1500 m alt. – Also a weed (Kenya).


Perennial herb with culms 1,1–2 m tall, 0,9–1,2 cm 2, trigonous; leaves to 2 m long; sheath reddish-brown to reddish-black, 17–35 cm long; blade 0,8–1,75 m long, 1,7–4 cm wide, flat; inflorescence simple to compound, primary branches 3–10, 10–30 cm long; spikelets in crowded clusters on elongated axis, sessile and at end of primary and secondary branches, many per cluster, linear, 5–24 mm long.

Swamps, in stagnant or moving water; sea-level-400 m alt.

? W Madagascar.


syn.: C. macrorrhizus sensu Thulin, Fl. Somalia 4: 126, 1995 p.p., quoad specim. Hemming 2380. Perennial glaucous cespitose rigid herb 60 cm tall; rhizome lacking; culm erect, 6 mm 2, cylindrical, distinctly furrowed; leaves almost equal to stem; basal sheaths to c. 10 cm long; blades to 30 cm long, 3 mm wide, straight, channeled, flexuous, apex long-attenuate; inflorescence an anthela 9 × 6,5 cm; spikelets in spreading clusters 26–36 per cluster, sessile, ellipsoid, 12–18 mm long; nutlet distinctly winged.

Sand dunes by coastal hills; < 140 m alt. (450 ft.)

Perhaps related to C. conglomeratus and C. eremicus (from Arabian Pen. to Afghanistan). It is characterized by the stout and rigid habitus, and especially by very thick stem; as in these two species it has also winged nutlets.

Perhaps a coastal form of C. conglomeratus. Only known from the type collected in 1962.

C. gypsophilus Lye – See below under Mariscus gypsophilus (Lye) J.-P. Lebrun & Stork

C. hamulosus M. Beeh. – See below under Mariscus hamulosus (M. Beeh.) S. S. Hooger

Cyperus endlichii

Cyperus esculentus

Cyperus exaltatus (incl. C. dives)

Cyperus fertilis

Cyperus fischerianus

Cyperus flavoculmis

Cyperus foliaceus

Cyperus fulgens (s.str.)

Cyperus gigantobulbes

Cyperus glaucophyllus (incl. C. pseudoleptocladus ▲)

Cyperus graciliculmis

Cyperus grandibulbosus
Cyperus haspan

["tannes", Casamance, Senegal, with Hygrophi a auriculata, Sp aeroanthemum senegalensis (sphaeranthetosum senegalensis sub- ass. of Hygrophilum barbatae; Müller & Del in Phytocoenologia 35: 362, 2005)]; weed in rice fields and rotation crops; sometimes locally common; 0–2700 (≈3000) m alt.

C. haspan is among the top 5 tropical weed species (Nacci & Ford, o.c.: 5, 36–37, 2008), i.e. among the world’s worst weeds. “An individual plant can produce more than 50,000 achenes per year… and although plants produce achenes during the first season of growth, they do not form rhizomes until the second year… it germinates and grows well in wet, sandy, acid soils”.

Tropical and subtropical regions of the world, widespread; S. Africa; Madagascar, Comoros, Seychelles. Not in Namibia (Archer & Craven, Sabonet News 9/1: 20, 2004; cited specimens are C. demudatus var. demudatus and C. sphaeropuspermus; cited by Podlech 1967). Occurrence in S Somalia (S2, S3) needs confirmation.

Fibres used for mats and baskets (Simpson & Inglis in Kew Bull. 56: 295–296, 2001); plant also used for obtaining potash salts; also planted as an ornamental.

Close to C. demudatus, but more slender. Plants without rhizome and with a more short-lived look are referred to C. foliaceus, which might only be a form of C. haspan (Fl. Trop. E. Afr., Cyper.: 207, 2010).

Comment on the spelling of haspan vs. halpan (cf. Fl. Trop. E. Afr., Cyper.: 207, 2010). Kartesz & Gandhi (in Phytologia 72: 19, 1992) thoroughly investigated the use of these two epithets, and concluded that Linnaeus’ use (1753: 45) of C. haspan was deliberate. This spelling goes back to his Flora Zeylanica (1747: 15) where Linnaeus cites both spellings from the pre-Linnean literature: ‘haspan’ from Burman (1737: 108) and ‘halpan’ from P. Hermann (K. Wilson in Telopea 5: 598, 1944). Cf. also Wilson in Cyperaceae Newsletter 9: 8, 1991.

C. hemisphaericus Boeckeler – See below under Mariscus hemisphaericus (Boeckeler) C. B. Clarke


Perennial glabrous herb with short hard rhizome; culms 20–50 cm tall, decumbent at base, ± rounded; leaves c. 1/3 the length of the culm; sheaths red-brown, torn, scarios; inflorescence a simple anthela, contracted, with 1–6 rays 0–1,2 cm (rarely to 4 cm) long; spikelets digitate, sessile, 12–20 to a spike, compressed, c. 1 cm long, 16–24-flowered.

Brook sides in humid sandy places; riverside on white sand; waterfalls; flooded plain; 300–1170 m alt.

C. hirtellus (Chiov.) Kük. – See below under Mariscus hirtellus

C. hirtellus


C. holostigma

Dwarf perennial herb with short woody rhizome, 14 cm tall; culms tufted, 4,5–12 cm long, 0,4–0,8 mm Ø, trigonous; leaves to 6 cm long; sheath pale brown to brown, 0,5–1 cm long; blade linear, 2–5 cm long, 0,6–1 mm wide; inflorescence capitulate with 3–8 spikelets per head, these linear, 5–16 mm long; glumes almost black with prominent pallid margin.

Waterep fellows; flooded plain; 300–1200 m alt. Perhaps a true Pycreus; more material is needed.


Perennial herb to 1,15 m tall, with stolons c. 2 mm Ø covered by loose scales; culms few, 45–67 cm long, 3,5–6 mm Ø, trigonous; leaves 1–3, to 50 cm long; sheath pale brown, sometimes pale reddish-brown, 6–12 cm long; blade flat, 16–38 cm long, 5,5–10 mm wide; inflorescence a compound anthela, primary branches 5–12, 6–26 cm long; spikelets in digitate spikes, 6–20 per spike, sessile and on primary and secondary branches; spikelets linear, 5–30 mm long.

Seasonally wet grassland; alongside pools; swamps; 0–250 m alt. Very similar to C. longus from which it differs by its longer peduncles (10–30 cm vs. 0,5–10 cm), more numerous (6–9 vs. 2–5) and larger involucral bracts (15–40 × 0,4–0,8 cm vs. 6–28 × 0,2–0,5 cm).

C. hyalinus Vahl – See below under Queenslandiella hyalina (Vahl) Ballard

C. hystricoides (B. Nord.) Bauters – See below under Lipocarpha rehmannii (Ridl.) Goetheh.


Brook sides in humid sandy places; riverside on white sand; waterfalls; flooded plain; 300–1170 m alt.

C. irroratus (Chiov.) Kük. – See below under Mariscus irroratus

C. irroratus

C. schinzii

C. schinzii

C. sphaerocarpus


syn.: C. radiatus Vahl 1805, nom. illeg. (based on the same König type, India); Dichostylis radiata (Vahl) Palla; Pycreus verticillatus Roxb.; C. digitatus Nees 1834, nom. illeg., non Roxb. 1820; C. radicans var. capitatus Boeckeler, and var. elongatus Boeckeler, and var. minor Boeckeler; C. flexifolius Boeckeler; C. involucratus Poir. 1806, nom. illeg., non Rothb. 1772 (= C. alternifolius subsp. flabelliformis), nec R. Br. 1814 (= C. conglomeratus
**Cyperus imbricatus**

Perennial herb 0.25–1.35 m tall with a short woody rhizome; culms few, 26–60 cm long, 3–4.3 mm \( r \); trigonous; leaves few, to 50 cm long; sheath pale brown and purple, 3.5–17 cm long; blade flat, linear, 22–33 cm long, 4.2–7 mm wide; inflorescence a compound anhela, primary branches 4–8, 0 (var. capitatus)–2.5–6 cm long; spikelets in very dense spikes; spikes elongate, 2–3.5 cm long; spikelets 30–80 per spike, ± ovoid, 3–6 mm long. — Habit of *Mariscus*.

Swamps; along streams, lakes, rivers; forest edges; sandy clayey places; also in muddy- or clayey denuded soils; rice fields; fallows; 0–1250 m alt.

Species highly polymorphous.

Egypt; Namibia, S. Africa, Botswana, Swaziland; Madagascar, Seychelles; S & SE Asia from Afghanistan, Iran, India, Sri Lanka, E-wards to China, East Indies, Philippines; C. & S. America. In tropical regions of all continents.

Fibres used for mats & screens. Provides grazing for animals in Sudan.


**C. impubes** Steud. — See below under *Mariscus impubes* (Steud.) Napper

*(C. inauratus* (Nees ex Boeckeler) Mattf. & Kük. — See below under *Kyllinga inaurata* (Nees ex Boeckeler) Mattf. & Kük.


Annual or perennial erect tufted herb 0.4–1 m tall; culms triangular, almost 3-winged; leaves from the basal 30 cm; sheaths reddish-brown; wide; blades flat, 30–60 cm long, 2–8 mm wide; inflorescence a simple or compound anhela, primary branches 5–10, very unequal, 5–25 cm long with 1 to several (sub-)sessile spikes or new groups of sessile and stalked spikes 1.5–3 cm long, each with 3–10 spreading lanceolate spikelets 10–17 mm long.

Seasonally wet habitats; swampy river banks and near water; rice fields.

N Madagascar (disjunct area).

“Has been distributed as *C. compressus* L.: the obtuse round-backed glumes are very different” (Fl. Trop. Afr., l.c.)

**C. indecorus** Kunth – See below under *(Mariscus indecorus* (Kunth) Podlech)

**C. inselbergensis** Lye – See below under *Kyllinga inselbergensis* (Lye) J.-P. Lebrun & Stork
**CYPERUS JENNICUS**


For a more complete treatment of *C. jennicus* we list synonyms and literature references below. However, *C. jennicus* is mapped by us with *C. conglomeratus* (p. 105).


Literature references:


Herb with short rhizome; culms several, tufted, 20–30 cm tall, compressed with obtuse angles; leaves with long purplish sheaths, the upper 1–2 with a short narrow blade; involucral bracts 2, longer than inflorescence; inflorescence a simple anthela with 2–4 rays to 2 cm long, each with 5–10 spikelets, these compressed, 12–16 mm long, 14–26-flowered.

Riverside: 990 m alt.

Known only from the type (Peter 36328); Tanzania (T4), Kigoma Distr., Uvinza, Malagarasi stream (5°06’S × 30°50’E).

– Insufficiently known species (known from the illustration), not mapped. – Certainly a true *Pycreus* without a valid name in that genus.


In Index Kewensis, Suppl. 10, 1947, both names figure, viz. *Cyperus kabarensis* Cherm. … 1937 (p. 69), and *Pavetta kabarensis* Bremerk. … 1937 (p. 162), with the same reference. – Conclusion: “*C. kabarensis* Cherm.” is a true “ghost species”.

**CYPERUS KAESERNERI**

reddish-brown, 1–3 cm long, with many veins; blade linear, 2–6 cm long,1,3–3 mm wide; inflorescence capitate; spikelets 4–20 per head, squarrose, 6,5–12 mm long.

Seasonally damp habitats, on limestone rocks; bushland; 0–900(–1500?) m alt.

Perhaps only a variety of *C. rubicundus*.

**C. karisimbiensis** (Cherm.) Kük. – See below under *Mariscus karisimbiensis* Chern.


Stiffly erect perennial herb 0,7–1,2 m tall; stem-base thickened and bulb-like, rounded-triangular; sides 1,5–2 mm wide; leaf sheaths purple; blades glaucous, to 5 mm wide; inflorescence a digitate cluster of 1–5 golden-yellow spikelets 1,5–3,2 cm long, 1 cm wide (a specimen from Ghana has spikelets nearly 5 cm long, with 25 glumes along each side; fide Lowe & Stanfield, o.c.: 43).

Open savanna woodland or grassland; slope with stone blocks; from ? to 1200 m alt.

Near *C. margaritaceus* but: – glumes less closely overlapping, maximum 13 above each side, 6–7 mm long (a specimen from Ghana has 25 glumes).

The presence of this species is uncertain in Mali: Fl. W. Trop. Afr., ed. 2, 1: 292, 1972, cites 2 specimens from Mali, Bamako to Ouagadougou, viz. Adam 15234 and 15237. As a matter of fact, specimen Adam 15234 was collected at Banfora (Burkina Faso) and 15237 probably so, too.

Kükenthal in Engler, Pflanzenreich IV. 20/101: 285, 1936, also treats 3 Peter specimens (37172, 36322, 36329b) from Tanzania, which were not seen for the Flora of Tropical E. Africa, Cyperaceae, treatment. The presence of this species in E. Africa is uncertain, if not doubtful.


Herb with a creeping thick woody rhizome; culms 30–40 cm tall, somewhat terete, leafless, basal part with 2–3 brownish sheaths enlarged at mouth; blades very short; inflorescence bracts 2–3, much shorter than the anthela; inflorescence a compound anthela, primary branches 4–15, unequal, 0,5–2,5 cm long, with 1–3 digitate clusters of spikelets, these linear, 3–10 mm long, 1 mm wide, flattened, 8–20-flowered, glumes very short (1,5 mm long). Ecology not recorded.

“A conspicuous species that can only be compared with *C. marginatus* Thum.” from which it differs by its smaller spikelets (not 2–3 mm wide), shorter glumes (not 2 mm), and very short and smooth inflorescence bracts (not scabrid).

Known only from the type (Robinson 4021) collected in 1960.

**C. kernii** (Raymond) Bauters – See below under *Lipocarpha kernii* (Raymond) Goetgh.

**C. kerstenii** Boeckeler – See below under *Mariscus kerstenii* (Boeckeler) C. B. Clarke
Cyperus


A plant “only 8–10 cm tall forming dense mats”.

Occurs in Djur, Sudan.


A nomen subnudum, figuring in World Checklist of Selected Plant Families, Cyperaceae, as an “unplaced name”.


Perennial bulbous herb 10–35 cm tall; bulbs blackish, not shiny, 1–2 cm long and wide, in a row; leaves linear, 5–15 mm long, 0,5 mm wide, glaucous; culms trigonous, c. 0,5 mm Ø; inflorescence subcapitate, subtended by 2 filiform bracts 0,5–2 cm long; spikelets 2–4, 7–15 mm long, 5 mm wide, flattened, dark yellow or orange, 7–13-flowered; glumes 4 mm long, 2–3 mm wide, with numerous longitudinal clefts.

Open forest; grassland; copper steppe savanna; superficial rocky, lateritic or clayey compact soils; steppe rich in Gladiolus on a cupriferous hillside; cupriferous soils with ± linear 4,5–17 mm long.

Seasonally wet grassland; roadside ditch; 400–700 m alt.

Related to C. tanganyicanus, also similar to C. boreobellus.

C. kilianii (Muasya & D. A. Simpson) Lye – See below under Kyllinga kilianii Muasya & D. A. Simpson


Perennial herb to 95 cm tall, with a thick creeping woody nodular rhizome, covered by fibrous remains of old scales; culms tufted, 15–72 cm long, 2–3 mm Ø, trigonous, base swollen, almost corm-like; leaves to 62 cm long; sheath green to pale brown, 3,5–10 cm long; blade linear, flat, 14–52 cm long, 3–4,7 mm wide; inflorescence dark, almost black, a compound anthela primary branches 4–7, 6–20 cm long; spikelets in loose clusters, ± linear, 4,5–17 mm long.

Seasonally wet grassland; open forest; stream banks; swamps; seasonal pools; black cotton soil; 1100–3300 m alt.

According to Fl. Ethiopia, l.c., the specimens examined from that flora area are without mature achenes, and the identifications were provisional.


Perennial tussocky herb with base slightly swollen and covered with some fibrous dark remains of old leaf sheaths, to 21 cm tall; culms tufted, 10–19 cm long, 0,6–0,9 mm Ø, trigonous; leaves to 21 cm long; sheaths brown, 1–3 cm long; blades linear, 6–18 cm long, 0,6–1 mm wide; inflorescence capitulate, spikelets 4–15 per head, ± lanceolate, 7–15 mm long.

Shallow peaty soils in rock crevices; rocky outcrops; 300–900 m alt.

Related to C. tanganyicanus, also similar to C. boreobellus.


Annual to short-lived perennial herb to 1,2 m tall; culms few, 0,48–1,18 m long, 0,2–0,6 cm Ø, trigonous; leaves to 56 cm long; sheath 17,4–26 cm long, pale to mid-brown; blade linear, 23–36 cm long, 0,5–0,8 cm wide, flat; inflorescence a lax, compound anthela; primary branches 7, 5,6–15,5 cm long, secondary branches 2–3,2 cm long; spikelets in loose clusters at end of primary and secondary branches, 5–25 per cluster, linear, flattened, 10–32 mm long, spreading during maturation.

Seasonally moist grassland; roadside ditch; 400–700 m alt.

Near C. kwaleensis. Easy to recognise due to its nutlet structure: the nutlet surface has prominent ridges reminiscent of that of Hypolytrum or Mapania. This is the first time such a feature has been observed in Cyperus.

Occurs in a small area in SE Kenya, i.e. it is vulnerable.


Perennial “Papyrus-like” herb, tufted with short rhizome, to 2 m tall; culms fleshy, 0,6–1,5 m long, 5–7 mm Ø (at apex), ±3-angled, angles blunt, not bulbous at base; leaves usually longer than flowering stems, 1,5–2 cm wide, flat; sheaths straw-coloured to dark brown; inflorescence a compound anthela 20–25 cm Ø; with 10–12 primary erect branches, often equal, to 20–35 cm long, 2–3,5 mm Ø, drooping; secondary branches up to 20 cm long subtended by bracts c. 10 cm long; tertiary branches (if present) short, thread-like; secondary and tertiary branches bearing clusters of fastigiate spikelets at apex of each branch, slender, 0,5–2 cm long, c. 1 mm wide; glumes golden-brown.

Swamps, wet marshy places; humid depression with Panicum repens; (200–)1580–1250 m alt.

Bioko/Fernando Poo.
The four species C. elephantinus (C. B. Clarke) C. B. Clarke from S. Africa, C. prolixus Kunth from C. & S. America, C. koyalien-sis Cherm. from W & WC tropical Africa, and C. ankaratrensis Cherm. from C Madagascar, are very close, and with a remarkable disjunction (map in Adansonia, Sér. 2, 6: 388, 1966; also with key and figs.). – There is a note by Hooper in Fl. W. Trop. Afr., ed. 2, 3/2: 288, 1972, on a specimen from Ivory Coast (de Wit 971); it has spikelets 2.5 mm wide and mucronate glumes 3 mm long and seems close to the S. American C. prolixus: “it may be introduced”.


Perennial, tussocky herb with short woody rhizome; culms tufted, 35–50 cm long, 1.5–2.5 mm Ø, trigonous; leaves many from base; sheath pale reddish brown; blade linear, stiff, 20–40 cm long, 1–5 mm wide; inflorescence a simple to compound anhelta 8–15 cm Ø, with 1–2 (sub-) sessile spikes and 5–7 stalked spikes on stalks 2–12 cm long and consisting of 12–22 spikelets in loose clusters, at end of primary and secondary branches; spikelets linear, 1–2.5 cm long.

Shallow sandy soil over outcropping rocks; c. 360 m alt.

Similar to C. roundus but without stolons.

Known only from the type collected in 1953.

C. kyllingiella Larridon – See below under Kyllingiella microcephala (Staudt.) R. W. Haines & Lye

C. kyllingiformis Lye (“kyllingaformis”); – See below under Marisicus kitaleensis J.-P. Lebrun & Stork

C. laevigatus L.

syn.: Pycreus laevigatus (L.) Nees; Juncellus laevigatus (L.) C. B. Clarke; Chlorocyperus laevigatus (L.) Palla; Acorellus laevigatus (L.) Palla


Perennial herb to c. 1 m tall; rhizome long, creeping, to >30 cm long, 1–5 mm Ø, pale brown to purple-black; culms tufted, crowded, or spaced, in rows; 3–95 cm long, 0.5–4.4 mm Ø, rounded to trigonous, sometimes triquetrous, base covered with short scales; leaves to 16 cm long; sheath pale to dark purple brown, 1.5–14 cm long; blade sometimes absent or when present linear, inrolled, culm-like, 2.2–6.5 cm long; infloresence appears lateral, capitate, with 1–24 spikelets per head, loosely crowded, white, ± lanceolate, 5–25 mm long; involucral bract 1, leaf-like, upright.

(Salt-)lake shores; streambanks, in (temporary) pools and flood areas; near hot springs; often forming dense mats, or vast stands; hollows in coastal dunes; margins of brackish pools; immersed rocks; seepage zones; weed in aquatic biotopes; 0 hollows in coastal dunes; margins of brackish pools; 0 km alt.

– Subsp. distachyos (All.) Ball; Boulou, Fl. Egypt 4: 394, 2005.

– Subsp. distachyos All. syn.: C. laevigatus var. distachyos (All.) Coss. & Durieu; Acorellus distachyos (All.) Palla; A. laevigatus subsp. distachyos (All.) Holub; Juncellus distachyos (All.) Turrill; J. laevigatus subsp. distachyos (All.) P. H. Davis

– According to Boulos, l.c., synonyms are: Cyperus jun-iformis Cav. 1795 !; ? C. laevigatus var. pictus Boeckeler;

? Chlorocyperus junciformis (Cav.) Rikli

The morphological differences between the 2 subssp. are:

– subsp. distachyos: spikelets slightly compressed (= compressed in cross-section); glumes not closely imbricate, ovate, usually dark coloured; glumes with incurved apicula;

– subsp. laevigatus: spikelets terete; glumes closely imbricate, broadly ovate, usually pale; glumes with often incurved apicula.

Geographical distribution areas:

– subsp. distachyos: Madeira, Tenerife, Mediterranean region (N Italy, Po riverbeds widespread and expanding, fide Webbia 72: 129, 2017), Cyprus, Sinai, W Asia from Turkey to C Asia (syn.: Juncellus calananthus (Pallas), India, S. Australia, Mexico, Ecuador; – S Europe, N Africa, Mauritania, West Sahara, Sudan;

– subsp. laevigatus: Macaronesia, Mediterranean area, Sinai, Palestine, W Asia from Turkey through to India, Polynesia, Australia, Hawaii, S N. America, C. & S. America. – In Africa subsp. laevigatus is recorded from N Africa from Morocco to Egypt; Cape Verde Islands (Bromchmann & Rustan in Garcia de Orta, Sér. Bot. 16: 23, 2002); Namibia, S. Africa, Botswana, Swaziland, Lesotho; Madagascar, Mauritius. – Pantropical.


A very variable species (with many synonyms and many varieties described). “Reduction of all inflorescences on a plant, each to a solitary, more or less erect spikelet... is frequent in tropical Africa. Such reduction alters the overall facies of the species quite markedly” (Gordon-Gray, o.c.: 59, 1995).

Plant confused with Pycreus species, but nutlet morphology and position different.

C. lanceolatus Poir. – See below under Pycreus lanceolatus (Poir.) C. B. Clarke

Perennial herb 10–12 cm tall with a short rhizome; culms slender, 0.6 mm Ø, trigonous, base bulbous covered by brownish scales; leaves basal, filiform, 5–9 cm long, 0.3 mm wide; inflorescence a pseudolateral cluster of 5–10 sessile spikelets, recurved towards the top as in *C. laevigatus*, each 15–40–flowered, 7–17 mm long; glumes much imbricate, 2.2 mm long; involucral bracts 2.4–6 cm long, much overtopping the inflorescence. – Similar to *C. meeboldii*, of similar size and habit, but inflorescence different (key to the species in Adansonia, l.c.).

Lateritic pool, edge of temporary water, bowé.


syn.: *C. labiatus* Peter 1928 (fide Kükenthal in Engler, Pflanzenreich, o.c.: 87); *C. herana* Chern.

Perennial caespitose herb 0.5–3 m tall, with hardened base producing 1–3 mm thick stolons covered with blackish scales; culms few, triquetrous; leaves to 2.7 m long; sheath green to reddish-brown, 8–20 cm long; blade linear, 0.53–2.56 m long, 0.9–2.8 cm wide; inflorescence a compound anlatha, primary branches 6–9, 2.5–23 cm long; spikelets in loose clusters, spreading and rather distantly placed, sessile and at end of primary and secondary branches, 5–20 per cluster; spikelets linear, 7–30 mm long.

Swamps; marshes; boggy or wet grasslands; roadsides; ditches; along streams; inundated soils; lake sides; rice fields; wooded savanna; drier sides of *Cyperus papyrus* swamps; also a weed in pastures; 0–2400 m alt.

S. Africa, Botswana, Swaziland; Comoros, Mauritius, Madagascar, Réunion; Palestine. Culms used for thatching.

**C. laxespicatus** Kük. – See below under *Pycreus laxespicatus* (Kük.) Hoenselaar


Perennial herb to 1.2 m tall, with short woody rhizome; culms tufted, 0.2–1.3 m long, 1.1–4 mm Ø, trigonous to triquetrous; leaf sheath reddish-brown to purple, 4–9 cm long; blade linear, flat, 25–53 cm long, 0.3–1.3 cm wide; inflorescence simple to compound, primary branches 6–10, 2–7 cm long; spikelets in small digitate clusters at end of primary, secondary and sometimes tertiary branches, 3–5 per cluster; spikelets 4–6 mm long. Forest, forest gallery; secondary vegetation; stream banks; glades; gallery in savanna; path sides and other openings in forest; on wet stones close to waterfalls; steep and rocky places with leaching water; herbaceous fringes of inselbergs, transition between *Loudetiopsis giblatae* – *Virezietrium belinganae*, etc. (Parmentier, Phytoecologiaen 36: 575, 2006); 0–2400 m alt. “Not uncommonly proliferous, the achenes being replaced by green shoots giving the inflorescence a witches’-broom appearance” (Fl. W. Trop. Afr., ed. 2: 3/2: 289, 1972, as *C. diffusus* subsp. *buccholzi*).

Biok/Fernando Poo; possibly in Rwanda and Senegal. Comprises 3 subsp.: – subsp. *laxus*; syn. *C. diffusus* Vahl (Mexico, Cuba S to Paraguay – Bolivia; SE Asia, with subsp. *macrostachyus* (Boeckeler) V. P. Prasad & N. P. Singh, Sedges of Karnataka (India), J. Econ. Taxon. Bot., Add. Ser. 21: 104–106, 2002; – subsp. *buccholzi* (Boeckeler) Lye [bas.: *C. buchholzi* Boeckeler; syn.: *C. diffusus* Vahl 1805 subsp. *buccholzi* (Boeckeler) Kük.; *Torulinium angolense* (Turrill), a smaller plant with culms 28–49 cm long, 1.1–2.4 mm Ø; leaves 23–31 cm long, 3.2–8 mm wide; glumes 1.1–1.4 mm long; widespread in Africa; – subsp. *sylvestris* (Ridl.) Lye [bas.: *Cyperus sylvestris* Ridley; syn.: *C. diffusus* subsp. *sylvestris* (Ridl.) Kük.], larger, with culms 0.5–1.13 m long, 2.8–4 mm Ø; leaves 36–53 cm long, 9–13 mm wide; glumes 1.9–3 mm long; in Uganda, Tanzania, Zimbabwe; occurring in shady forest, open woodland, plantations, on rocky outcrops with thin soil at rather low altitude (450–1830 m). The concept of *C. laxus* and its subspecies has varied considerably. The World Checklist of Cyperaceae (Govaerts & Simpson: 334–335, 2007) maintains only 2 subsp., viz. subsp. *buccholzi* including, e.g., *C. sylvestris* Ridley, and subsp. *laxus*, a tropical American taxon.

**C. leptorhachis** Mattf. & Kük. – See below under *Kyllinga debilis* C. B. Clarke

**C. leucas** (J. Raynal) Bauters – See below under *Lipocarpha leucas* J. Raynal


syn.: *Sorostachys leucocephalus* (Retz.) Lye (Nord. J. Bot. 1: 190, 1981); *Scirpus coronarius* Vahl; *Issolepis coronaria* (Vahl) Roem. & Schult.; *Cyperus coronarius* (Vahl) Kunth; *Kyllinga pterean* E. G. Camus


**C. ligularis** L. – See below under *Mariscus ligularis* (L.) Urb.

**C. lipoater** Goeh. – See below under *Lipocarpha atrata* Ridl.

**C. lipocarphioides** (Kük.) Lye – See above under *Alinula lipocarphioides* (Kük.) J. Raynal
**Cyperus**

*C. lipocomasus* Goeth. – See below under *Lipocarpha comosa* J. Raynal

*C. lipofiliformis* Goeth. – See below under *Lipocarpha filiformis* (Vahl) Kunth

*C. lipomonostachya* Goeth. – See below under *Lipocarpha monostachya* R. Gross & Mattf.

*C. liporibinsonii* Goeth. – See below under *Lipocarpha robinsonii* J. Raynal

*C. lipothentialis* Goeth. – See below under *Lipocarpha thermales* J. Raynal

*(C. locuples* C. B. Clarke) – See below under *Cyperus sphaelatus* Rothbl.

*C. longi-involucratus* Lye; Lye in Biol. Skr. 54: 204, 2001; Fl. Trop. E. Af., Cyper.: 214–215, 2010. – Icon.: Nord. J. Bot. 3: 221, 1983; Haines & Lye, Sedges & russels E. Afr.: 208, 1983. Perennial tussocky herb with short rhizome; culms moderately to densely covered at base, 30 cm long, 0,8 mm wide; inflorescence an open simple anthela, primary branches 3–5 cm long composed of 2–5 rounded reddish brown spikelets, many more congested to a solitary head < 1 cm Ø (perhaps only in young specimens); spikes shortly cylindric to ± spherical, 5–6 × 5–7 mm, each spike with c. 10–30 spreading spikelets; these lanceolate, 2,5–3,7 mm long, 0,7–1 mm Ø, few-flowered, falling off entire when mature; involucral bracts leaf-like, 3–4, 8,5–20–40 cm long. Granite slab; rock-crevices; (1050-)1700 m a.l.

“Perhaps most similar to *C. amanusus* (= *Mariscus amanusus*).” – Certainly a true *Mariscus* without a valid name in that genus. See at end of *Mariscus* p. 275.

*C. longispicula* Muasya & D. A. Simpson – Icon.: Kew Bull. 59: 597, 2004. Perennial herb with short rhizome; culms moderately to densely tufted, 18–22 cm long, 0,7–0,9 mm Ø, terete to trigonous, densely covered at base by mid- to dark brown sheath remains; leaf blade linear, 6–20 cm long, 0,4–0,7 mm wide; sheath 2,5–3,5 cm long, mid-brown; inflorescence lax, capitate, 2,5–5 × 4–5,5 cm; spikelets 14–18 per inflorescence, linear, 1–3 cm long, flattened. Peaty soil in rock fissures; shallow soil on rock outcrops; vlei grassland on quartzite sands; 430–500 m a.l.

Related to *C. kirkii*.

*C. longistolon* Peter & Kük. – See below under *Pyreus longistolon* (Peter & Kük) Napper


**Cyperus Longus**


syn.: *Eucyperus longus* (L.) Rikli; *Chlorocypserus longus* (L.) Palla; *Pyreus longus* (L.) Hayek (See also under the subspecies below).

Perennial herb with rather thick horizontal, often curved, scale-covered stolons; culms few, slightly swollen at base 0,2–1,5 m long, 1,9–4 mm Ø, trigonous above, terete below; leaves few, withering early, to 50 cm long; sheath pale to dark reddish-brown, 3–10 cm long; blade flat, 16–40 cm long, 3–5 mm wide; inflorescence a simple to compound anthela; primary branches 4–8, 0,5–10 cm long; spikelets in almost digitate spikes, sessile and at end of primary branches, 3–15 spikelets per spike, linear, 8–25 mm long. Lake edges; black cotton soils; ditches; periodically flooded depressions in grassland or bushland; swamps and temporary pools; clayey zones; sandy pools; rice fields; canal banks; 0–2700 m a.l.

Very variable species, often confused with *C. rotundus* (cf. treatment by Boulos, l.c.). “Most plants from Ethiopia are intermediate between *C. longus* and *C. rotundus*. Only plants with 2–2,5 mm long glumes and a thick rhizome not emitting stolons can be safely ascribed to *C. longus*” (Fl. Eth. & Eritrea, l.c.). “Most easily identified by long, linear, fairly wide spikelets (11–22 × 1,5–2 mm) numerous and dense on inflorescence rays, softly textured dark glumes that give a ‘heavy’ handsome look to the inflorescence and scarcely swollen stolons and culm bases” (Gordon-Gray, o.c.: 61). Also very similar to *C. hostii* which differs by its longer peduncles (10–30 cm, vs. 0,5–10 cm), less numerous (6–9, vs. 2–5) and narrower involucral bracts (15–40 × 0,4–0,8 cm, vs. 6–25 × 0,2–0,5 cm).

Widespread in C & S. Europe (Italy, Webbia 72: 129, 2017), Africa (Morocco, Lagascalia 30: 325, 2010), W Asia (Yemen uncertain; Wood, Handbook Yemen flora: 326, 1997); Azores, Madeira, Canary Islands; Cape Verde Islands. In Asia E as far as E Kazakhstan, Pakistan, NW India. – Uncertain in Togo. – In Africa: Morocco, Algeria, Egypt; Namibia, S. Africa, Botswana, Lesotho, Swaziland; Madagascar. According to Boulos (l.c.) in Egypt, N, NW tropical Africa, Arabia, India; naturalized elsewhere.

Comprises 2 subssp.: – subsp. *badius* (Desf.) Bonnier & Layens [bas.: *C. badius* Desf. 1798, non Steud. 1829 (= *C. congestus*), nec (Willd. ex Kunt) Boeckeler 1870 (= *C. subbadius* Kük., Madagascar); *C. longus* var. *badius* (Desf.) Cambess.; *Chlorocypserus badius* (Desf.) Palla; *Ch. longus subsp. badius* (Desf.) Soó; *Pyreus badius* (Desf.) Hayek] – subsp. *longus* [syn.: *C. tenuiflorus* Rothb. 1773, non Roxb. 1820; *C. longus* var. *tenuiflorus* (Roth.) Boeckeler; *C. amoenus* Kunth; *C. fenzelianus* Steud.; *C. rotundus* L. var. *fenzelianus* (Steud.) El-Hadidi; *C. longus* var. *palidis Boeckeler; *C. fenzelianus var. badiiformis* Chiov.; *C. longus* fa. *badiiformis* (Chiov.) Kük.]. See also World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew. The distinction between the two subspecies is given by Desfayes in Fl. Mediterr. 14: 185, 2004, as follows:
Cyperus longus

C. longus Plant usually over 100 cm; longest primary inflorescence rays well over 10 cm; number of rays 7 or more
C. radius Plant usually under 70 cm; longest primary inflorescence rays under 10 cm; number of rays 7 or less
C. longus is used as an ornamental in gardens; in ponds, lakes, water gardens (Naczi & Ford, Sedges: uses...: 27, 86, 2008; European Garden Flora, ed. 2, 1: 415, 2011); a hardy specie

C. luteus Boeckeler – See below under Mariscus luteus (Boeckeler) C. B. Clarke

C. macranthus Boeckeler – See below under Pycreus macranthus (Boeckeler) C. B. Clarke


C. pungens Boeckeler, incl. var. elatus Boeckeler, var. multisceps Boeckeler and var. tenue Boeckeler
Tufted perennial herb 10–70 cm tall; rhizome horizontal, creeping deep in soil, 2 cm (2); culms, 1.5–2.5 mm (2), obtusely trigonous, yellowish; leaves shorter than culms; sheaths to >10 cm long, brown or brownish, “disintegrating into fibres”; blades to >40 cm long, 1.5–2 mm wide, rigid, curved, apex long attenuate, pungent; inflorescence a globose cluster of spikes, 25–40 mm (2), or compound with 2–3 primary branches to 5.5 cm long; cluster of spikes composed of 10–22 digitately arranged spikes (ovoid, 8–20 mm long, 3–6 mm (2)).
Coastal plain; near sea-level.
According to Darbyshire & al. (Pl. Sudan & S. Sudan: 107, 2015) “C. cf. macrorhizus” in SW Sudan (Schweinfurth 645, April 1868) requires confirmation.

A “poorly circumscribed species” (Väre & Kukkonen, l.c.) near C. algeriensis Väre & Kukkonen, o.c.: 481. These authors excluded specimen Hemming 2380 (Fl. Somalia, l.c.) which they described as C. gubanii (see under this species above). Boulos (Fl. Egypt 4: 395, 2005) included C. macrorhizus within the more widespread C. capitatus. This was already done by Kükenthal (Engler, Pflanzenreich IV. 20/101: 267–268, 1936).
Occurring in ? Egypt, ? Arabia, Palestine, Iran.
We consider C. macrorhizus a doubtful species in Somalia – Sudan.

C. macrostachys Lam. – See below under Pycreus macrostachyos (Lam.) J. Raynal


C. pungens Boeckeler, incl. var. elatus Boeckeler, var. multisceps Boeckeler and var. tenue Boeckeler
Tufted perennial herb 10–70 cm tall; rhizome horizontal, creeping deep in soil, 2 cm (2); culms, 1.5–2.5 mm (2), obtusely trigonous, yellowish; leaves shorter than culms; sheaths to >10 cm long, brown or brownish, “disintegrating into fibres”; blades to >40 cm long, 1.5–2 mm wide, rigid, curved, apex long attenuate, pungent; inflorescence a globose cluster of spikes, 25–40 mm (2), or compound with 2–3 primary branches to 5.5 cm long; cluster of spikes composed of 10–22 digitately arranged spikes (ovoid, 8–20 mm long, 3–6 mm (2)).
Coastal plain; near sea-level.
According to Darbyshire & al. (Pl. Sudan & S. Sudan: 107, 2015) “C. cf. macrorhizus” in SW Sudan (Schweinfurth 645, April 1868) requires confirmation.

A “poorly circumscribed species” (Väre & Kukkonen, l.c.) near C. algeriensis Väre & Kukkonen, o.c.: 481. These authors excluded specimen Hemming 2380 (Fl. Somalia, l.c.) which they described as C. gubanii (see under this species above). Boulos (Fl. Egypt 4: 395, 2005) included C. macrorhizus within the more widespread C. capitatus. This was already done by Kükenthal (Engler, Pflanzenreich IV. 20/101: 267–268, 1936).
Occurring in ? Egypt, ? Arabia, Palestine, Iran.
We consider C. macrorhizus a doubtful species in Somalia – Sudan.

C. maderaspatanus Willd. – See below under Mariscus maderaspatanus (Willd.) Napper


C. zollingeri sensu auct. (specim. Kuntze 202, Mozambique), non Steud. (fide Kükenthal, l.c.)

Ecology in Mozambique not recorded. In Madagascar: swamps on humid sand.

C. malawicus (J. Raynal) Lyne – See above under Alinula malawi- ca (J. Raynal) Goeth. & Vorster

Cyperus Mannii

Shady spongy places; by springs on rocks; in very shady places, — ear, 15 pale brown to greenish, often papery, 3 — swollen base from a short woody nodular rhizome; leaf sheath culms few, 25 — 2 m tall, with short rhizome or swollen base; culms leafy tufted, sharply triangular, sides 2–3 mm wide; leaf sheaths reddish at base; blades probably longer than flowering stem, 1–2 cm wide; inflorescence 15–30 cm across, a compound anthera with primary rays 10–15 cm long, secondary 2–5 cm long, tertiary 0,5 cm long; ultimate branches ending in small digitate clusters of brown spikelets, each 3–5 mm long.

Woodland and grassland, beside streams; forest-grassland transition; montane forest; edges of meadows; cracks in rocks; grassy corridors on dolerite escarpments; forest gallery; 500–2200 m alt.

Bioko/Fernando Poo, S. Tomé. Perhaps present in higher part of Gabon (Fl. Gabon 44, Cyper.: 105, 2014).

Cf. above under C. baronii.


C. dichromeniformis Kunth var. major Boeckeler; C. major (Boeckeler) Chern., incl. var. micranthus Chern. Perennial leafy herb; rhizome creeping, 1 cm long, 0,8 cm wide; inflorescence capitate, 2–4 cm across; spikelets 1–9 per head, white and shining, ovate, 0,6–2,2 cm long, 0,5–1 cm wide.

— Bare sandy soils, temporarily waterlogged; open woodland; grassland; riverbanks; often on sandy or loamy soil; often rather abundant; meadows; rocky slopes; also on hardpan soils; copper steppe savannas with low copper content; 0–2000 m alt.


C. brunneovaginatus Boeckeler, Eucyperus brunneovaginatus Boeckeler; Kük. and var. prionodes Steud.; Kük. and var. pseudoniveus (Boeckeler) Rikli

Perennial herb; rhizome horizontal, 5 cm long, 1,6 cm wide; inflorescence a simple or compound, contracted (sometimes reduced to a head) or branched anthela; spikelets digitally arranged by groups of 2–10 (often some solitary), glossy red-brown, flattened, c. 1–2 cm long.

Rather damp sandy maritime places; near river banks; open coastal areas; salt-loving.

Namibia, S. Africa, Swaziland, Lesotho. — Not in Kenya (perhaps confusion with C. congolensis).
Cyperus marginatus

Known to reproduce by pseudovivipary (Gordon-Gray & al. in S. Afric. J. Bot. 75: 166, 2009).

Cyperus marginatus, a complex of 3 entities (Browning & al., S. Afric. J. Bot. 65: 374–381, 1999, with illustrations of all forms): entity 1 (= sp. sens. str.), with short leaf blade to leaf sheath; entity 2, segregated as var. blandus, recorded from Swaziland and Lesotho; entity 3, a dryland plant, described as C. fonticola, common in Namibia & Angola.

Welwitch collected C. marginatus in SW-most Angola in swampy places on the sea coast S of the town of Benguela, and on the edges of Riv. Bero (Kükenthal in Engler, Pflanzenreich IV. 20/101: 189, 1936).

C. matagoronsis Muasya & D. A. Simpson; Fl. Trop. E. Afr., Cyper.: 205, 2010. – Icon.: Kew Bull. 59: 594, 2004. Rhizomatous perennial herb to 55 cm tall with short rhizome; culms moderately to densely tufted, 30–50 cm long, 0.7–0.9 mm Ø, trigonous, densely covered at base by fibrous, dark reddish-brown to blackish leaf sheath remains; blade linear, V-shaped in cross section, 17–30 cm long, 0.5–0.7 mm wide; sheath 1.5–2 cm long, brownish; inflorescence with simple branching, lax, 2.5–3.5 cm long; primary branches 3–4, 0.5–3 cm long; spikelets in digitate clusters, 2–4 per cluster, lanceolate, 8–10 mm long. Woodland; grassland; dry stream banks; shallow soils overlying rocks; 1410–2100 m alt. Near C. nyerei but with: – narrower leaves (0.5–0.7 mm not 1.3–3); longer inflorescence branches (0.5–3 cm long not 0–3); shorter glumes (2.3–2.7 mm not 2.7–4); mid-reddish-brown spikelets (not dark reddish-brown with pale brown margins).


C. mbitheanus (Muasya) Hyugh – See below under Kyllinga mbitheana Muasya

C. medusaeus Chiov.; Engler, Pflanzenreich IV. 20/101: 272, 1936; Kukkonen & Lye, Ann. Bot. Fennici 33: 21–27, 1996 (redescription); Väre & Kukkonen, Nord. J. Bot. 24: 292, 2006 (typification). – Icon.: Chiovenda, Fl. Somala: pl. 38/2, 1929; Thulín, Fl. Somala 4: 128, 1995. Tusssocky perennial herb with a prominent woody rhizome, to c. 5 mm Ø; culms solitary or a few together, 5–25 cm long, 0.7–1.5 mm Ø, obtusely angular to somewhat compressed or almost terete; leaves numerous, mostly basal and only 2–3 cm up the stem; blade to 20 cm long but mostly prominently coiled up and then often < 3 cm long, 0.5–2 mm wide, very thick; sheath straw-coloured to reddish-brown, margin membranous; inflorescence a terminal head, 0.9–1.3 cm Ø with numerous crowded sessile spikelets, these ovate, 5–7 mm long, 10–20-flowered.

Cyperus medusaeus

Sand dunes; coastal grassland; probably < 50 m alt. The holotype consists of a single non-flowering shoot. Close to C. mogadoensis.


syn.: C. sphaeranthelus Chiov.; C. adamii Raymond Perennial herb with root system much reduced; culms 4–25 cm long, 0.4–1.3 mm Ø with swollen base covered by blackish fibres, triangular; leaf blades 3–13 cm long, 0.5–2 mm wide; sheaths grey to light brown, 0.5–2.5 cm long; inflorescence a congested anthela 0.7–2 cm Ø with 15–60 crowded, sessile spikelets, these linear, 4–10 mm long, 15–30-flowered.

In small, light stands on clayey-siliceous soils, humid in rainy season, not cracked when becoming dry; seasonally wet habitats in grassland or on rocks; clayey soils at edge of temporary water; often in wet sandy soil or mud; clayey-sandy depressions; 30–1600 m alt. – For more details on ecology, See: Adansonia, Sér. 2, 6: 304, 1966.

NW & S India (Hyderabad, Badami). – Probably not in Mali (specimen Duong Huu Thoi not surely localized). According to Darbyshire & al. (l.c.) the Darfur occurrence (Quézel, 1969) needs confirmation. Closely related to C. clavinus.

C. melanacne (Nelmes) Raymond – See below under Pycreus melanacne Nelmes

C. melanospermus (Nees) Václ. – See below under Kyllinga melanosperma Nees

C. melas Ridl. – See below under Pycreus melas (Ridl.) C. B. Clarke


C. metzii (Hochst. ex Steud.) Mattf. & Kük. – See below under Kyllinga squamulata Vahl


bas.: Scirpus michelianus L.

syn.: Isolepis micheliania (L.) Roem. & Schult.; Fimbristylis micheliania (L.) Rchb.; Dichostylis micheliania (L.) Nees; Juncellus michelianus (L.) Blatt. & McCann; Pycreus pygmaeus Rottb. var. michelianus (L.) Boeckeler
Tufted annual herb with reddish roots; culms 1–2–28 cm long, 1–1,5 mm  1, diffuse or long, often bulbously thickened at base; leaves basal with sheaths with purple veins, purple-dotted, the outermost becoming fibrous, 0,7–3 cm long; blade 1–15 cm long, 1–2 mm wide; inflorescence capitate, 0,5–1,7 cm across, of irregular outline, spikes several each with many crowded spikelets; these green, oblong, 2,5–4 mm long, 8–15–flowered; inflorescence surrounded by 4–8 long leafy spreading bracts 3–12 cm long. Seasonally wet habitats; damp sandy places near pools and in mud; pool margins; clayey, emerging river bank; sometimes abundant (Tibesti, all wadis from Totous to Zouarké); near 0 to 1200 m alt. Comprises 2 subsp.: – subsp. michelianus [syn.: C. italicus (Tibesti, all wadis from Totous to Zouarké); near 0 to 1200 m alt.]; see also World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew; – subsp. pygmaeus (Rottb.) Asch. & Graebn. [bas.: C. pygmaeus Rottb.; syn.: Dichostylis pygmaea (Rottb.) Nees; Pycreus pygmaeus (Rottb.) Nees; Juncellus pygmaeus (Rottb.) C. B. Clarke; Scirpus occultus C. B. Clarke; Cyperus paradoxus Steud.]. Distinction between the 2 subspecies: – subsp. michelianus with spirally arranged glumes; stamens 1–2; nut 0,8–0,3 mm; – subsp. pygmaeus with distichously arranged glumes; stamens 1–0; nut 1 × 0,4 mm. – Cf. A. Ghosh & al., Lectotypification of Cyperus pygmaeus (Cyperaceae) and notes on its distinctness with C. michelianus. Phytotaxa 376: 123–125 (2018). Geographic distribution: – subsp. michelianus. Canary Islands; Algeria; C & S Europe, E Mediterranean region to Turkey, Caucasus; Asia E to Altai Mts, Middle East, N India, south to Vietnam, Pakistan, disjunct in Iraq; – subsp. pygmaeus has a more southern distribution and both subspecies meet in Pakistan & N India: Algeria, Morocco, Egypt; Namibia; Madagascar, Mauritius; Canary Islands (Gran Canaria, Verloove in Webbia 67: 96–97, 2012); from Greece to Turkey, Israel; in Asia: Iraq, Azerbaijan, Pakistan, Kashmir, India, Sri Lanka E to Taiwan, Philippines, Malesia, Australia. For Italy, see Webbia 72: 129, 2017. See also Raynal in Adansonia, Sér. 2, 6: 586–588, 1966.

C. microaureus Lye – See above under Alinula peteri (Kük.) Goethg. & Vorster
C. microbolbos C. B. Clarke – See below under Mariscus microbolbos (C. B. Clarke) Vorster
C. microbracteatus (Lye) Lye – See below under Kyllinga microbracteata Lye
C. microbulbosus (Lye) Lye – See below under Kyllinga microbulbosus Lye
C. microcristatus Lye – See below under Kyllinga microcristata (Lye) J.-P. Lebrun & Stork comb. nov.
C. microglumus D. A. Simpson; Thulin, Fl. Somalica 4: 119, 1995; Fl. Eth. & Eritrea 1: 266, 2009. – Icon.: Kew Bull. 45: 493, 488 (map), 1990. Perennial slender herb; culms swollen at base and covered by fibrous remains of old leaf sheaths; culms 2–15 cm long, 0,2–0,5 mm  1, terete to triangular; leaf blades to 10 cm long, 0,4–0,6 mm wide; inflorescence a congested dense anhela 0,4–1 cm  1, with to 30 spikelets, these linear, 2–6 mm long. Seasonally wet sandy areas; Acacia, Commiphora bushland on sand; 160–500 m alt.

Resembling C. pulchellus but glumes smaller (0,7–1 mm long, not 1,3–1,5 mm).

C. micromedusaeus Lye – See below under Mariscus micromedusaeus (Lye) J.-P. Lebrun & Stork comb. nov.
C. micromelas Lye – See below under Cyperus micromelas Lye
C. micropelophilus Lye – See below under Cyperus micropelophilus (Lye) J.-P. Lebrun & Stork comb. nov.
C. microstylus (C. B. Clarke) Mattf. & Kük. – See below under Kyllinga microstylus C. B. Clarke
(C. microumbellatus Lye); Lye in Biol. Skr. 54: 204, 2001; Fl. Trop. E. Afr., Cyper.: 157, 2010. – Icon.: Nord. J. Bot. 3: 215, 1983; Haines & Lye, Sedges & rushes E. Afr.: 292, 1983. Annual herb to 12 cm tall; culms tufted 1–10 cm long, 0,5–1,5 mm  1, trigonous, smooth; leaves to 12,5 cm long; sheath green to purple, 1–2,7 cm long; blade flat, linear, 2–9,8 cm long, 0,5–2,4 mm wide, margin and primary vein scabrid, particularly near the acuminate apex; inflorescence capitate or a simple anhela, primary branches 0–4, 0,7–1,5 cm long; spikes sessile and at end of primary branches, 0,5–1 cm long, 0,4–0,8 cm wide; spikelets in dense clusters, many per spike, ovoid, 2–3,5 × 1,5–2,2 mm, falling off entire when mature; involucral bracts leafy, 3–9 cm long, similar to the basal leaves and far overtopping the inflorescence. Weed of ricefeld beside tidal creek; near sea-level. Only known from the type ?, from near Dar-es-Salaam, Tanzania. Intermediate between Pycreus and Mariscus (See Nord. J. Bot. 3: 215, 1983).

C. micromedusaeus Lye – See below under Mariscus micromedusaeus (Lye) J.-P. Lebrun & Stork comb. nov.
C. micromelas Lye – See below under Cyperus micromelas Lye
C. micropelophilus Lye – See below under Cyperus micropelophilus (Lye) J.-P. Lebrun & Stork comb. nov.
C. microstylus (C. B. Clarke) Mattf. & Kük. – See below under Kyllinga microstylus C. B. Clarke
(C. microumbellatus Lye); Lye in Biol. Skr. 54: 204, 2001; Fl. Trop. E. Afr., Cyper.: 254, 2010. – Icon.: Haines & Lye, Sedges & rushes E. Afr.: 170, 1983. Perennial slender herb with a creeping horizontal rhizome 3–5 cm long; culms few from the growing apex, 10–15 cm long, 1–2 mm  1, sharply triangular; leaves from the lower 1–5 cm only; sheaths 2–3 per culm, straw-coloured, brown or purplish; blades absent in some culms, in others 10–20 cm long, 3–5 mm wide; inflorescence an open anhela 3–13 cm long, 3–9 cm wide, of 7–15 digitate clusters of spikelets or groups of such clusters on 2–11 cm long peduncles, these of various lengths; spikelets in clusters of 2–6, linear, 3–9 mm long, 6–20-flowered, light reddish-brown; involucral bracts 5–10, leafy, to 5–13 cm long; nutlet known only immature. Swampy area; 380 m alt. Only known from the type collected in 1968 (Kenya, Shimba Hills). Intermediate between C. prolifer and a C. haspan group – and probably a hybrid.

C. mindorensis (Steud.) Huygh – See below under Kyllinga nemoralis (J. R. Forst. & G. Forst.) Dandy ex Hutch. & Dalziel
CYPERUS MINUTUS

“A very small annual” herb; culms 2–4 cm long, trinodose; leaves basal, few, 2–8 cm long, c. 1 mm wide; inflorescence a single sessile head of 8 spikelets; bracts 2, leaf-like, to c. 2.5 cm long; spikelets compressed, 4 × 1 mm, reddish, 6–8-flowered; glumes closely packed, boat-shaped, with green keel; nutlet minute, pyriform.

In mountain; ecology not recorded; c. 900 m alt. Known only from the type collected in 1989. Botswana (var. mwinilungensis). Comprises 2 vars. – var. mwinilungensis; – var. maior Podlech with tall culms (35–40 cm), in NE Zambia.

C. mwinilungensis Podlech; Fl. Trop. E. Afr., Cyper.: 203, 2010. Perennial, stoloniferous herb to 34 cm tall with small round tubers at base of culms; culms few, 20–40 cm long, 0.5–1.4 cm Ø, trigo-rous to triquetrous; leaves to 33 cm long; sheaths reddish-brown, greenish-brown to brown, 1.5–5 cm long; blades linear, flat, 5–30 cm long, 1.1–2.9 mm wide; inflorescence a simple anthela, primary branches 1–4, 0.5–3 cm long; spikelets in digitate clusters, sessile and at end of primary branches, 2–11 per cluster, ovoid, 5–13 mm long. Seasonal bogs or swamp, in damp hollows; 1000–1400 m alt. C. myrmecias Ridl. – See below under Mariscus myrmecias (Ridl.) C. B. Clarke

C. myrmecias Ridl. – See below under Mariscus myrmecias (Ridl.) C. B. Clarke

C. mogadoxensis Chiov.; Thulin, Fl. Somalia 4: 129, 1995. Perennial herb with 1–5 crowded culms with small swollen bases c. 5 mm thick frequently set in a horizontal row and covered by reddish-brown leaf sheaths sometimes splitting into fibres; culms 3–25 cm long, 0.5–1 mm Ø, obtusely triangular to terete; leaves from the basal 1–5 cm only, usually 4–6 per culm; blades to c. 10 cm long, 1–2 mm wide, serrulate on margins; upper sheaths conspicuously whitish; inflorescence a terminal cluster 1–3 cm Ø consisting of 5–20 densely crowded spikelets, rarely with 1–2 additional clusters on to 1.5 cm long peduncles; spikelets ovate, 5–10 mm long, flattened, 15–30-flowered. Sand dunes and coastal bushland; to 50 m alt. Very close to C. medusaeus, which has smaller and less compressed spikelets with smaller glumes (2–3 mm, not 3–3.5 mm long) and nutlets (c. 1 mm long, not 1.2 mm).

C. mollipes (C. B. Clarke) K. Schum. – See below under Mariscus amomodorus (K. Schum.) Cufod.

C. monoflorus Lye – See below under Kyllinga uniflora Mtot.

C. mortonii (S. S. Hooper) Lye – See below under Pycreus mortonii S. S. Hooper

C. mundi (Nees) Kunth (“mundii”) – See below under Pycreus mundii Nees

C. muricatus Kük. – See below under Pycreus muricatus (Kük.) Napper

C. mwinilungensis Podlech; Fl. Trop. E. Afr., Cyper.: 203, 2010. Perennial, stoloniferous herb to 34 cm tall with small round tubers at base of culms; culms few, 20–40 cm long, 0.5–1.4 cm Ø, trigo-rous to triquetrous; leaves to 33 cm long; sheaths reddish-brown,


Perennial robust herb with thick, sometimes nodular, creeping rhizome; culms few, 0.36–1.2 m long, 0.15–0.6 cm Ø, trigonous; leaves to 60 cm long; sheath greenish, yellow or reddish-brown, 4–21 cm long; blade flat, linear, 19–45 cm long, 3–8 mm wide; inflorescence a simple or compound anthela, primary branches 4–7, 2–9 cm long; spikelets in crowded spikes, sessile and at end of primary branches, many per spike, ovoid, 5–8 mm long. Stream banks, damp meadows on stream bank; in or near seasonal swamps, pools or streams; swampy grassland; 800–2300 m alt.
Var. nutans, with loosely arranged spikes with fewer flowers (4–12, vs 10–40) occurs in Asia and Australia. Fibres (culms) used for making mats or rope.

**C. nyasensis** (Podlech) Lye – See below under *Mariscus nyasensis* Podlech

Perennial herb to 42 cm tall, densely tufted; culms with hard base, covered with black fibres from old leaf sheaths; culms tufted, 15–40 cm long, 0.5–1 mm Ø, trigonous; leaves to 21 cm long; sheath purple to black, 1–3 cm long; blade flat, 5–18 cm long, 1.3–3 mm wide; inflorescence loosely capitulate to simple, primary branches 0–3, 0–3 cm long; spikelets 3–12 per digitate clusters, sessile and at end of primary branches; spikelets ovoid, 6–8 mm long.
Woodland; grassland; in thin soil over rock; scree slopes; 1600–2740 m alt.

**C. nyikanus** Goeverts – See below under *Kyllinga oblonga* C. B. Clarke

**C. obbidiensis** Chiov. – See below at end of *Mariscus* (p. 275).

**C. oblongoincassatus** Küök. – See below under *Mariscus taylorii* C. B. Clarke

**C. oblongus** (C. B. Clarke) Küök. – See below under *Kyllinga nervosa* Steud., *K. oblonga* C. B. Clarke, and *K. ruwenzoriensis* C. B. Clarke


(= **C. obtusiﬂorus** Vahl var. *membranaceus* Küök.) – See note under synonyms of *C. niveus* var. *leucocephalus* (Kunth) Fosberg above.

**C. odorus** L. – See below under *Toruliniumpilatum* (L.) S. S. Hooper

**C. ossicaulis** Lye – See below under *Mariscus ossicaulis* (Lye) J.-P. Lebrun & Stork, comb. nov.

**C. overlaetii** (Cherm. ex S. S. Hooper & J. Raynal) Lye – See below under *Pycreus overlaetii* Cherm. ex S. S. Hooper & J. Raynal

**C. owanii** Boeckeler – See below under *Mariscus owanii* (Boeckeler) C. B. Clarke

**C. pachystylus** (Kük.) Küök. – See below under *Kyllinga pachystyla* Küök.

**C. pagotii** (J. Raynal) Lye – See below under *Pycreus pagotii* J. Raynal

**C. palma** (Lye) C. Archer & Goetgh. – See below under *Cyperus usitatus* Burch. subsp. *palma* Lye


syn.: *Chlorocyperus papyrus* (L.) Rikli (See also below under the subssp.)

Perennial robust herb to 5.5 m tall (one of the largest sedges) with a creeping rhizome 2–6 cm Ø with a white central part of air-tissue and a light brown harder outside cylinder; outside of rhizome densely covered by blackish scales 5–10 × 5–10 mm; roots many, 10–30 cm or more long, 2–5 cm Ø; culms 0.2–5.5 m long, 1–4 cm Ø, trigonous with rounded angles; leaf sheath brown to black, leathery to almost woody, 4–26 cm long; blade absent; inflorescence simple, primary branches to 350, 7–40 cm long; spikelets on an elongated axis and at end of primary and secondary branches, to 40 per axis, lanceolate-cylindric, each 3–10 mm long.
Humid savanna with *Persicaria* sp.; river banks with *Caladium*, *Costus* *afra*; swamps; margins of water bodies; sometimes forming dense stands in aquatic wetland habitats and dominates swamps with low biodiversity (Nacci & Ford, o.c.: 39); also forming dense, impenetrable floating mats in deeper water; seasonally inundated permanent grasslands (often called “herbaceous swamps”); <100–2500 m a.l.t. — “Among the swamps of Africa, papyrus swamps are a distinctive type, a wetland that is easy to spot from air, land, or water...” because papyrus... develops into a monoculture with a light green canopy that looks like a fluffy blanket from above, ... the papyrus swamps in the middle of Africa are now considered to be among the most productive plant communities on earth because papyrus has one of the highest growth rates in the world” (Gaudet, o.c.: 7). — Papyrus “becomes a harmful weed when it either encroaches on open water from the banks or forms sudd...” In the Sudan papyrus sudd is estimated to be responsible also for the loss of 50 per cent of the White Nile’s water through evaporation and transpiration... it also encroaches for irrigations” (Kirkia 2: 16, 1961). — “Papyrus cannot compete with other vegetation...” (Gaudet, o.c.: 270). Further, “papyrus cannot compete...” (Gaudet, o.c.: 316). — “Papyrus is still found at the headwaters of many of the major rivers in Africa, where it protects and nurtures. Years ago it disappeared from Egypt; now it is gone from Lake Chad and many places in West Africa. With the exception of the papyrus growing around the headwaters of the Blue Nile in Ethiopia, papyrus has virtually disappeared from Africa north of the 10th parallel. From 30°N to 10°N, a matter of 1,000 miles [= c. 1600 km], it is gone. The large papyrus swamp in the Sudd is the last bastion, a swamp that is in danger of being drained to provide water for irrigation” (Gaudet, o.c.: 270). Further, “papyrus cannot compete with *Typha or Phragmites* on sites subject to seasonal drought or salinity” (Peters, o.c.: 491). The plant is known to form hybrids with other species (Gordon-Gray, o.c.: 66; Cook, o.c.: 92). The Greek word *pápyros* designated the plant as well as the product derived from it. It was adopted by Latin and from there entered into the “modern” languages. Around the year 800 B.C. the papyrus with its consonant script reached the Greek. Nowadays the word *pápyros* is often interpreted as derived from the Egyptian pa-per-aa, meaning Pharao’s possession; this might indicate that the king had the monopoly of manufacture and trade (see further Latacz, o.c.). — “Papyrus is still found at the headwaters of many of the major rivers in Africa, where it protects and nurtures. Years ago it disappeared from Egypt; now it is gone from Lake Chad and many places in West Africa. With the exception of the papyrus growing around the headwaters of the Blue Nile in Ethiopia, papyrus has virtually disappeared from Africa north of the 10th parallel. From 30°C to 10°C, a matter of 1,000 miles [= c. 1600 km], it is gone. The large papyrus swamp in the Sudd is the last bastion, a swamp that is in danger of being drained to provide water for irrigation” (Gaudet, o.c.: 270). Further, “papyrus cannot compete with *Typha or Phragmites* on sites subject to seasonal drought or salinity” (Peters, o.c.: 491). The plant is known to form hybrids with other species (Gordon-Gray, o.c.: 66; Cook, o.c.: 92).
syn.: C. morandinii Pic. Serm.

Perennial herb with thick woody rhizome; culms closely set on rhizome, 1–3 m tall, 1–2 cm Ø, sharply-triangular to almost winged; leaf sheath dark reddish-brown; blade 5–10 cm long; inflorescence a compound anhela to 40 × 40 cm, primary branches 15–30, 5–35 cm long, ending in simple umbels of 1–10 spikes; spikes 2–4 cm long, 1–2 cm wide, each with many spreading spikelets, these cylindric, 5–9 mm long.

In water at lake-shore; very wet swamps; 1650–1850 m alt.

Material (Guinea 122–90) from Equatorial Guinea has been identified as this species by the purple lines in the axis of the inflorescence (a lax pseudoumbel), etc. (Cabezas & al. in Belg. J. Bot. 137: 9, 2004). Velayos & al. Fl. Guinea Ecuat. 11: 353, 2014, present an illustration of the specimen cited. The identification is uncertain.

C. penzoanus is perhaps a hybrid C. papyrus × C. latifolius, characters are intermediate.

syn.: C. zollingeri Steud. var. permacer (C. B. Clarke) Kük.

Perennial rhizomatous herb 0.5–1 m tall; culms slender, flexuose, triangular, sides c. 3 mm wide; leaves ± as long as culms, blade 2–6 mm wide; inflorescence an anthela, long and narrow, c. 30 × 5 cm; primary branches filiform 5–20 cm long; spikes cylindrical or oblong, c. 3 × 1 cm, each of 5–10 erect short golden-brown spikelets 12–18 mm long; glumes distinctly keeled and apiculate, 4–5 mm long.

Damp places; river sides; swamps; savanna and humid places; 600–90 cm long, 5–7 mm Ø, triquetrous to slightly winged; leaves to 2 cm long; sheath reddish-brown, 5–23 cm long; blade 0 or maximum 1 cm long; inflorescence almost capitate or a simple anhela, primary branches 4–13, 1–6 cm long; spikelets in dигitate clusters, sessile or at end of primary branches, 2–10 per cluster, ± linear, 5–12 mm long.

Mainly in wet areas: swamps, bordering lakes and ponds; swamp in bamboo forest; 950–2950 m alt.

S. Africa; Madagascar.

Very close to C. denudatus, and sometimes classified as a subspecies of it.

C. pluribracteatus (Kük.) Govaerts – See below under Mariscus psilostachys C. B. Clarke

C. pluriceps Lye – See below under Mariscus pluriceps (Lye) J.-P. Lebrun & Stork, comb. nov.


Perennial herb with a creeping woody thick rhizome giving rise at short intervals to flowering culms 30–35 cm tall; leaves from culm base, 2–4 mm wide and reaching half the length of culms; sheaths short, brown; inflorescence a simple anhela, primary branches 4–5, to 2 cm long; spikes hemispherical, each with 8–12 lanceolate spikelets 8–12 mm long, 10–18-flowered; glumes mucronate, reddish brown, with 12–16 nerves.

Ecology not recorded.

Type: Chad (not Central African Republic!), Somka (or Souka), P. Creac’h 199.

We have seen a colour photograph of the type (P). We consider it a form of the C. conglomeratus/ C. jeminicus complex (cf. C. jeminicus above, p. 113).
**Cyperus plurinervosus**


Not mapped by us separately but with *Cyp. conglomeratus* (p. 105).

We acknowledge with thanks the contribution by Dr. Cyrille Chatelain who helped us to identity the plant and its geographic location (region Fort Lamy, SW Chad).

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Tufted annual herb 15–40 cm tall; culms 0,5 mm 2; leaves few, mostly as long as stem, c. 0,5 mm wide; inflorescence apparently borne about 3/4 of the way up the culm, because the bract of the inflorescence stands upright and looks like a continuation of the culm; inflorescence either a single digitate cluster of (1–2)–6 spikelets, or with 1–2 rays (stalked clusters) as well as a sessile cluster; spikelets 4–12 mm long, 2–3 mm wide, not very flattened. Damp grassland; marshes and beside pools on rock outcrops; humid soils; seasonally inundated sites.

Very variable in size, having a depauperate form with one to a few spikelets similar to *C. pustulatus* var. *deblitus* from which it can be distinguished by the much more acute, often curved spikelets (Fl. W. Trop. Afr., ed. 2, 3/2: 289, 1972).


Tusssocky perennial herb with horizontal rhizome set with 1 fresh stem and few-many old culm-bases often in a straight row; culm 20–35 cm long, 1–2 mm 2; terete to angular; leaves from the basal 6 cm only; sheaths loose, pallid above, brown below; blade linear, flat, trigonous; leaves to 90 cm long; sheath brown, sometimes slightly fibrous and blackish at base, 1–11 cm long; blade linear, flat, 30–86 cm long, 0,5–1 cm wide; inflorescence simple to compound, primary branches 3–7, 0,5–12 cm long; spikelets loosely clustered, sessile and at end of primary branches, 7–20 per cluster, linear, 9–28 mm long.

Seasonally wet grasslands and swamps; growing in water; pools; rice fields; clayey soil; 30–1650 m alt. Often abundant.

Egypt; Namibia, S. Africa; Madagascar; India, Sri Lanka, Indo-China, SE China, Taiwan, Malesia, N Australia. Record from Somalia (Macaluso 67) uncertain, specimen not seen by Thulín; Ethiopia? (Jansen 5686), specimen not typical.

“Small specimens may be confused with *C. esculentus* and large specimens with *Pycreus macrostachyos*, both of which lack the hairs on the rachis” (Lowe & Standfield, o.c.: 51, 1974).

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**C. prieurianus** (Steud.) T. Koyama – See below under *Lipocarpha prieuriana* Steud.

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Perennial herb to 1,35 m tall, stoloniferous, stolons covered by distantly spaced black scales; culms 0,42–1,19 m long, 2–5 mm 2, trigonous; leaves to 90 cm long; sheath brown, sometimes slightly fibrous and blackish at base, 1–11 cm long; blade linear, flat, 30–86 cm long, 0,5–1 cm wide; inflorescence simple to compound, primary branches 3–7, 0,5–12 cm long; spikelets loosely clustered, sessile and at end of primary branches, 7–20 per cluster, linear, 9–28 mm long.

Seasonally wet grasslands and swamps; growing in water; pools; rice fields; clayey soil; 30–1650 m alt. Often abundant.

Egypt; Namibia, S. Africa; Madagascar; India, Sri Lanka, Indo-China, SE China, Taiwan, Malesia, N Australia. Record from Somalia (Macaluso 67) uncertain, specimen not seen by Thulín; Ethiopia? (Jansen 5686), specimen not typical.

“Small specimens may be confused with *C. esculentus* and large specimens with *Pycreus macrostachyos*, both of which lack the hairs on the rachis” (Lowe & Standfield, o.c.: 51, 1974).

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syn.: *C. aequalis* Vahl 1805; *C. aequalis* C. Krauss 1845, nom. illeg.; *C. isocladus* Kunth; *C. jocladus* E. Mey.; *C. esculentus* Drège & E. Mey. 1843, non L.; *Papyrus aequalis* (Vahl) Bojer; *P. laxiflorus* Sprée.; See also World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Perennial herb 0,25–1,3 m tall, with thick creeping rhizome and purple to blackish-brown roots; culms crowded, 0,25–1,2 m long, 3–7 mm 2; terete to trigonous; leaf sheath reddish-brown to dark purple, 2–32 cm long, the tip ending in a sharp point; blade absent, inflorescence a simple to compound anthela, primary branches to 50–100–260, all equal in length giving the inflorescence a spherical to umbel-like appearance, 3–11 cm long; spikelets in digitate clusters at end of primary branches and sometimes secondary branches, 1–5 per cluster, 3–17 mm long, 7–25-flowered.
CYPERUS PULCHELLUS


syn.: Sorostachys pulchella (R. Br.) Lye; S. kyllingioides Steud. (1850 nom. nud.) 1855; Cyperus sorostachys Boeckeler 1868, nom. illeg. superfl., based on S. kyllingioides; C. zanzibarenensis C. B. Clarke (1895, nom. nud.), 1901 (cf. Note ref. spelling); C. androhibensis D. A. Simpson – Note: “Dr. K. Schumann may be correct, from his great linguistic knowledge, in altering the spelling to Sansibar. I would gladly accept the correction if it would obviate our Indices being afflicted for all time with two words (instead of one), but Dr. Schumann’s alteration of a first letter has made me helpless” (Clarke in Fl. Trop. Afr. 8: 324, 1901).

Perennial herb sometimes almost rhizomatous; culms tufted, 6–40 cm long, 0,3–1,5 mm ∅, trigonous, base swollen and covered with fibrous remains of old leaf sheaths; leaves to 18,5 cm long; sheaths pale green to pale reddish-brown, basal sheaths darker, 1–3,5 cm long; blades linear, 2–15 cm long, 1,8–4,2 mm wide; inflorescence white, of 15–60 spikelets in a very dense globose head 0,7–1,5 cm ∅; spikelets ± ovate, 3–7 mm long, flattened. Bushland, grassland on wet soil; edge of pond; sandy-muddy soil; seasonally wet habitats; 300 (? and less) – 1500 m alt.


Near C. leucocephalus Retz. 1788, non Hassk. 1848, from the Indian subcontinent.


C. pulchellus is sometimes confused with Kyllingiella microcephala (Steud.) R. W Haines & Lye, with a similar distribution. C. pulchellus is recognised by its dirty whitish congested inflorescence and distinctly flattened spikelets. Also confused with Ascolepis protea.

In Fl. Trop. E. Afr., Cyber.: 163, 2010, the synonym C. zambeziensis C. B. Clarke in Trans. Linn. Soc. London, Bot. 4: 53, 1894, nom. nud., and in Fl. Trop. Afr. 8: 344, 1902, with type Buchanan 647, Malawi, Mt Mlanje, cited under C. baronii C. B. Clarke, is given. There seems to be a confusion with C. glaucophyllus Boeckeler (See above under that species), and with C. zanzibarenensis C. B. Clarke.

C. pulchellus L. 1756, non Rothb. 1773 – See below under Pycreus pumilus (L.) Nees

C. purpureolutes (Ridl.) Bauters – See below under Lipocarpha albiceps Ridl.


CYPUS PULCHELLUS

Swamp edges; stream-sides; seasonally flooded grasslands; in and along permanent pools, especially along coastal areas; forming local stands; 0–500 m alt. – Cannot withstand long periods of waterlogging.

S. Africa; Madagascar, Mauritius, Réunion. Naturalised from cultivation (as an ornamental), and invasive, in C Florida and Hawaii (USA), growing in floating mats.

“It superficially resembles a dwarf papyrus, but the spikelets are arranged digitally at the ends of rays and not in spikes” (Cook, o.c.: 94, 2004).


[57x421]aphanus
(S. S. Hooper) Reynders – See below under
Cyperus Purpureoviridis


Perennial herb to 67 cm tall with a thick creeping rhizome; culms scattered, 33–66 cm long, 1,4–1,8 mm Ø, trigonous; leaves to 40 cm long; sheath reddish-brown, rather wide and baggy, 2–5 cm long; blade linear, flat, 15–36 cm long, 2,8–4 mm wide; inflorescence simple, primary branches 2–5, 3–5 cm long; spikelets in digitate clusters, sessile and at end of primary branches, purplish-black, 2–9 per cluster, ± ovoid, 6 mm long.

Forests; also on steep rocky slopes; swampy lake edge; 1700–2050 m alt.

A specimen from Kilimanjaro (T2) is similar but inflorescence rather young.


syn.: Juncellus pustulatus (Vahl) C. B. Clarke; Cyperus barteri Boeckeler; Chlorocyperus barteri (Boeckeler) Rikli; Pycreus djalonis A. Chev., nom. nud.

Annual herb 0.3–1 m tall; culms 22–70 cm long, 0.7–2.1 mm Ø, trigonous; leaves to 45 cm long; sheath brown-grey to purplish-red, 2–10 cm long, blade linear, flat, 13–37 cm long, 1.7–4 mm wide; inflorescence simple, sometimes capitately; when simple primary branches 2–7, 1.8–20 cm long; spikelets in digitate clusters, sessile and at end of primary branches, 1(1)–3–21 per cluster, ± elliptic, 7–12 mm long, to 25 mm in fruit.

Grassy swamps; muddy bed of stream; edges of pools; often on thin soil over rock; wet flushes in grassland; savannas; sands and clayeys sands, bare; rice-fields; salt tolerant; temporary pools on sandstone; gallery forest; 0–1600 m alt.


C. recurvispicatus (Lye) J.-P. Lebrun & Stork, comb. nov.

Annual herb to 35 cm tall; culms tufted, 3.5–35 cm long, 0.8–2.2 mm Ø, trigonous; leaves to 36 cm long; sheath green to pale brown, 1,5–6 cm long; blade linear, flat, 7–30 cm long, 2 mm wide; inflorescence simple to compound, primary branches 4–8, 2–8.5 cm long; spikelets in laxly sub-digitate clusters, sessile and at end of primary and secondary branches, 3–10 per cluster, 5–12 mm long, with spreading glumes.

Wet areas; seasonally flooded grasslands; swamps; pools; rice fields; gallery forest; clayey-sandy river sides; 700 (? and less) –1600 m alt. – In plant community Sagittario guyanensis-Nymphoides pusilla (seasonal lakes, Burkina Faso; Müller in Syst. Geogr. Pl. 75: 244, 2005).


Annual tufted herb; culms 10–30 cm tall, 1–2.5 mm Ø, trigonous, angles sharp; leaves usually reduced to sheaths; inflorescence compound with 1 lanceolate solitary spikelets at end of branches; spikelets 5–9 mm long, greenish and remaining narrow at maturity; glumes green, staying erect, and not moving aside when the nutlets are ripe; resembling C. remotispica that has, however, a diffuse inflorescence with long branches and neat elliptical spikelets 2–3 together, and spreading glumes at maturity.

Sandy low-lying ground of old cultivation; falls; waste land; flooded depressions; damp places on disturbed ground; rice fields.


bas.: Mariscus remotus C. B. Clarke (cf. under that name below p. 268).

Perennial herb; culms 16–32 cm tall, slender, trigonous above, thickened by leaf-sheaths; leaves 2/3 the length of culms, c. 1.5 mm wide; inflorescence a globose anthela 8 mm Ø, of 30–40 golden-yellow spikelets; spikelets 2-flowered; glumes very remote on the rhachilla; ripe fruit unknown: “the acuminate nut is not like Mariscus: the genus of this plant is thus not certain” (Fl. Trop. Afr., l.c.).

Dry grassland, bushland; woodland.

Type not seen for the treatment in Fl. Trop. E. Afr. (l.c.). C. remotus “is possibly conspecific with (C. boreocephrosphalus Lye =) Mariscus boreocephrosphalus.” Our map of the latter species (p. 257) also includes the distribution (S Zaire) of Mariscus (Cyperus) remotus.

CUPREUS RENSCHII


“A gigantic plant, with very sharp cutting edge and keel to the leaves” (Rendle, Cat. Welwitsch’s pl. 2: 1/13, 1899). – Perennial herb 0.7–2 m tall; rhizome woody, 1–1.5 cm Ø; culms tufted, 70–83 cm long, 4–8 mm Ø, trigonous to slightly triquetrous; leaves many, to 1.4 m long; sheath reddish-purple near base, 3–13 cm long; blade 0.68–1.3 m long, 1.3 cm wide; inflorescence compound, large, spreading, 20–30 cm Ø, with primary, secondary and tertiary branching, primary branches few to many, 3.5–18 cm long; bracts leaf-like, 7–9, 40–90 cm long, 1–3 cm wide; spikelets in small crowded clusters, at end of secondary and tertiary branches, 3–9 per cluster, ovoid, dark, 1.5–3.5 mm long; apex of glumes recurved, mucronate.

Forests; forest swamps; along forest streams; occasionally in grassland or roadsides; secondary forest; gallery forest; cultivation edges; doleritic crevices, grassy corridors in escarpments of forest; flat, 7–13 cm long; blade 0.68–1.3 m long, 1.3 cm wide; spikelets in small crowded clusters, at end of secondary and tertiary branches, 3–9 per cluster, ovoid, dark, 1.5–3.5 mm long; apex of glumes recurved, mucronate.

C. rhenophyticus Lye – See below under Kyllinga rhenophytica (Lye) J.-P. Lebrun & Stork, comb. nov.

C. rhizomafragilis (Lye) Lye – See below under Kyllinga rhizomafragilis Lye

C. rhynchosporoides Kük., based on Rhynchospora ochrocephala Boeckeler 1879, non Cypres ochrocephalus C. B. Clarke 1894 (= C. angolensis) nec C. ochrocephalus Steud. 1842 (= C.东亚ensis) – See below at end of Mariscus as C. rhynchosporoides Kük.; it is perhaps a true Mariscus: p. 276.

C. richardii Steud. – See below under Kyllinga bulbosa P. Beauv.

C. ridleyi Mattf. & Kük. – See below under Kyllinga pauciflora Ridl.


syn.: C. adoensis Hochst. ex A. Rich.; C. longus L. var. adoensis (Hochst. ex A. Rich.) Boeckeler

Perennial herb with woody base and curving horizontal stolons to 15 cm long, 1.5–3 mm Ø; culms few, 5–1 cm long, 0.7–4.4 mm Ø, trigonous, sometimes almost triquetrous; leaves to 35 cm long; sheath green to pale brown, 3–10 cm long; blade flat, 7–28 cm long, 1.5–5 mm wide; inflorescence capitulate or a simple and compact anhelma, primary branches 0–6, 0–11 cm long; spikelets blackish, in crowded digitate spikes, erect, sessile and at end of primary branches, 5–10 spikelets per spike, lanceolate, 7–18 mm long; glumes nearly black.

Seasonally wet grassland; swamps; bushland; fallows; meadows; forest gallery; forests; cultivation edges; near roads and other disturbed areas; grassy clearing in forest; sometimes a weed in lawns, disturbed grassland, crops, gardens, pastures; 1400–3100 m alt.


C. robinsonianus (Mot.) Lye, non C. robinsonii Podlech – See below under Kyllinga robinsoniana Mtot.

C. robinsonii Podlech, non C. robinsonianus (Mot.) Lye (= Kyllinga robinsoniana Mtot.).

Herb with shortly creeping woody rhizome; culms 80–85 cm tall, trigonous, base swollen; leaves shorter than culm, 2.5–3 mm wide, sheath long; inflorescence simple anhelma, much spreading, branches very unequal in length, 0.5–16 cm long; spikes oblong, each of 2–8 spikelets; spikelets erect or obliquely spreading, linear-lanceolate, 10–13 cm long, 3 mm wide, flattened, 8–12-flow ered; glumes subdently imbricate, ovate, obtuse, 3.5–4.4 mm long, 7–11-veined, pale brown, margins hyaline, white, keel pale green, shortly mucronate; stamens 3; style long, with 3 long branches; nutlet 2 mm long, obovate, triquetrous, brown, sides concave, surface densely minutely pitted.

Ecology not recorded.

? Known only from the type collected in 1959 (Robinson 3243).

C. rohlfssii Boeckeler – See below under Mariscus rohlfssii (Boeckeler) C. B. Clarke


syn.: Chlorocyperus rotundus (L.) Palla; Pycreus rotundus (L.) Hayek; Schoenus tuberosus Burm. f.; Cyperus tuberosus Rottb. (1772), 1773, non Pursh 1813 (= C. esculentus); C. tetraastachys Desf.; C. rotundus var. tetraastachys (Desf.)
Perennial or sometimes seemingly annual herb 0.1–1 m tall, gregarious but not clump-forming; roots with white nut-like nodules turning brown; culms few, somewhat swollen at base, arising from rather thick scale-covered stolons; culms green, 1–3 mm 2, triangular; leaves glossy green; sheath green to reddish-brown; blade linear, 10–40 cm long, 2–8 mm wide; ± M-shaped in cross-section; inflorescence a simple or compound panicle, primary branches 1–8, 0.5–12 cm long; spikelets in rather dense clusters, 3–15 per cluster, bright to golden to dark brown, ± lanceolate, ± flattened, 6–70 mm long.

Swamps; damp sites; riverbanks; drainage lines in coastal bush or forest glades; seasonally wet grassland; clay; sandy well drained soils; fallow fields; forest gallery; also dry places; margins of streams and streams; depression in wadi; temporarily inundated sites (Études flor. veg. Burkina Faso 9: 35, 38, 2005); inselbergs (Bois Forêts Trop. 325/3: 26, 2015); weed of roads and margins of fields; Atlas of weed mapping: 75–76, 78, 2016, with maps; E. Weber, Invasive plant species of S Europe, Italy (Webbia 72: 129, 2017); N Africa from Morocco – Algeria, Tunisia, Egypt; Central Asia, S Asia from India – Sri Lanka through to Indonesia – Malaysia; S. Africa, Lesotho, Swaziland; Arabia, Yemen (Wood, Handbook Yemen flora: 326, 327, 1997); India, Lesser Sunda islands, Australia; S. Africa, Swaziland; Madagascar; Canary islands; Oman, Saudi Arabia, Yemen (Wood, Handbook Yemen flora: 326, 327, 1997); India, Lesser Sunda islands, Australia (Queensland). Not in Puerto Rico. – Disjunct distribution.

**C. kaessneri** C. B. Clarke is perhaps only a variety of *C. rubicundus*.

Under *C. fontinalis* (Chern.) Kük. (bas.: *Pycreus fontinalis* Chern.) – p. 109 above – we discussed the eventual identity of that plant with reference to *Pycreus sanguineosquamatus* Van der Veken (1955) collected at Elisabethville, SE-most Zaire. In the World Checklist of Selected Plant Families, Cyperaceae, *Pycreus sanguineosquamatus* is treated as a synonym of Cyperus fontinalis, treated by us below under *Pycreus sanguineosquamatus*. Van der Veken compared his plant with *Pycreus atrorubidus* Nelms, but also with *Pycreus tenuiflora* Poir., a synonym of *C. rubicundus* Vahl. The latter suggestion seems plausible. *C. fontinalis* is a plant from Central Madagascar. However, we prefer treating Van der Veken’s plant under *Pycreus sanguineosquamatus* below (see p. 300).

**C. rubidomontanus** (Browning) Larridon – See under *Pycreus rubidomontanus* Browning

**C. ruvurus** Hugh – See below under *Kyllinga alba-purpurea* Lye


**C. rotundus** Trab.; *C. comosus* Sm.; *C. rotundus* var. *comosus* (Sm.) Nyman; *C. rotundus* subsp. *comosus* (Sm.) K. Richt.; *C. retzii* Nees; *C. longus* Boeckeler 1880, nom. illeg., non L. 1753 (= *C. longus*); *C. nubicus* C. B. Clarke; *C. taylorii* C. B. Clarke; *C. merkeri* C. B. Clarke; *C. polystachys* Chern. 1922, See also below under the introduction, and further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

It regenerates from greater soil depths than most annual weeds.

"Chinese herbal medicine (fig. in Naczi & Ford, o.c.: 9). “Cyperus rotundus” is the most pestiferous plant in the world. It is based on length and colour of glumes, and form of midrib of leaves.

Annual tussocky herb 5–30 cm tall, with a small root system; culms tufted, trigonous, 3–28 cm long; leaves to 17,5 cm long; sheath 1–4,5 cm long, frequently not enclosing culm base; blade linear, flat, 3–14 cm long, c. 2 mm wide; inflorescence capitate with spikelets in digitate clusters, 3–30 per inflorescence, ± lanceolate, square-rounded, 5–20 mm long.

Seasonally wet habitats; near temporary pools and swamps; wet grassland; wooded grassland; wet rocks; lava screes and shallow soils on rocks; also on alkaline soils; temporary pool on lateritic slab; 0–2500 m alt.

Tropical and subtropical areas of all continents, also in temperate regions. – Madeira, Canary Islands; Cape Verde Islands (Brochmann & Rustan in Garcia de Orta, Sér. Bot. 16: 23, 2002; Romeoirs & al. in Scripta Bot. Belg. 50: 375, 2013); Annobón; S Europe, Italy (Webbia 72: 129, 2017); N Africa from Morocco to Egypt; N Madagascar and W Indian Ocean Islands; Namibia, S. Africa, Lesotho, Swaziland; Arabia, Yemen (Wood, Handbook Yemen flora: 326, 327, 1997, incl. *C. rubicundus*); SW Asia, Middle East, Central Asia, S Asia from India – Sri Lanka through to Indonesia and China, Japan, Philippines, Australia; N., C. & S. America. Tubers strongly aromatic. Rhizomes are an important part of Chinese herbal medicine (fig. in Naczi & Ford, o.c.: 9).

“Cyperus rotundus” is the most pestiferous plant in the world. It reproduces and disperses primarily from vegetative tubers, with many biotypes rarely producing viable seeds” (Naczi & Ford, o.c.: 22). – It is one of the world’s worst weeds, and the world’s most damaging weed. With adverse effect on agriculture. It regenerates from greater soil depths than most annual weeds. Very difficult to eradicate.


*C. kwaleensis* (from SE Kenya, Kwale, K7) is similar but larger and tussocky and does not produce stolons. *C. endlichii* (from N Tanzania, T 2, 3) is also similar but is smaller and with smaller and narrower spikelets.
**Cyperus rupestris**

Perennial densely tufted mat-forming herb, leafy; culms 5–15 cm tall, triquetrous above, thickened at base by dense persistent brown leaf-sheaths becoming fibrous (rarely in var. amnicola); leaf-blades stiff or wiry, often as long as culms, linear, 1 ± 1 mm wide; inflorescence a solitary head of 5–9 blackish-brown, shining, compressed, sessile spikelets c. 1 cm long with coarsely serrate margins.

In shallow soil over rock outcrop; dried up swamp; 750–900 m alt. (300–1800 m in S. Africa).


**C. ruwenzoriensis** (C. B. Clarke) Huygh – See below under *Kyllinga polyphylla* var. elatior (Kunth) Kük.


Rosette-forming annual herb 5–60 cm tall; roots tomentose with sand grains affixed to root hairs; culms erect, terete, 1–2 mm Ø, with soft basal leaf-sheaths; leaves few, 2,5–8 mm wide; inflorescence an anthela, primary branches 2–10 cm long, margins serrate; spikelets ovoid, 10–25 × 4 mm, glumes distichous.

Dunes at desert margins.

Distribution area: Sahel, from Mali to Niger and Chad.

Said to be near *C. ephemerus* Kükkenon & Väre (from Iran), but notlet not winged; and also *C. forsskallii* A. Dietr. (= *C. fuscus* L.) but inflorescence compound. *C. fuscus* does not occur in tropical Africa.

**C. sableii** is probably an annual form of *C. conglomeratus*, and is mapped by us together with that species (p. 105).

**C. sanguinolentus** Vahl – See below under *Pycreus sanguinolentus* (Vahl) Nees ex C. B. Clarke


Somewhat tussocky perennial herb with a few crowded culms with swollen bases from a very short woody rhizome; culms 10–30 cm long, 1–2 mm Ø, terete to obtusely triangular, minutely or prominently scabrid at least on some ridges; leaves from the lower 1–6 cm, c. 5–8 per culm; lower sheaths brown, sometimes splitting into fibres; blades 5–20 cm long, 2–3 mm wide; inflorescence a dense head of crowded spikelets 2–2,5 mm Ø, or more commonly a single dense head of spikelets and 1–7 additional stalked heads of spikelets; spikelets ovate, acute at apex, compressed, 7–9 mm long, 15–20-flowered.

Sand dunes near the coast; 0–140 m alt.

**C. scactae** (Cherm.) Reynolds – See below under *Pycreus scactae* Cherm.

**Cyperus schimperianus**

*C. nudiculmis* Sieber ex C. B. Clarke; *C. tegetum* C. B. Clarke 1884, nom. illeg., non Roxb. 1820 (1832); *C. tegetum* var. protracta C. B. Clarke

Perennial herb to c. 1 m tall with a woody rhizome 0,5–1 cm Ø covered by brown to blackish scales; culms 56–94 cm long, 2–4 mm Ø, trigonous, sometimes rounded near apex; leaves to 30 cm long; sheath 10–21 cm long, wide, loose; blade linear, flat, 4–10 cm long, 1,5–3 mm wide; inflorescence simple, primary branches 4–9, 2–9 cm long; spikelets in loose clusters at end of primary branches, 6–14 per cluster, ± lanceolate, 10–22 mm long.

Sandy or stony river banks; near or in water; seasonal swamps; 450–2600 m alt.

Egypt; Saudi Arabia. Easily recognised by its wide leaf sheaths and short blades.

**C. schinzii** Boeckeler; Clarke in Fl. Trop. E. Afr. 8: 335, 1901 (as a synonym under *C. apricus* Ridl.); Engler, Pflanzenreich IV. 20/101: 301, 1936 [under *C. semitrifidus* Schrad. var. *apricus* (Ridl.) Kük.; bas.: *C. apricus* Ridl.; with syn. *C. purpureus* Boeckeler]; as *C. schinzii* Boeckeler in Clarke & Mannheimer, Cyper. Namibia: 21, 2004 (with synonyms *C. holostigma* Schweinf., *C. purpureus* Boeckeler); as *C. schinzii* by Figueiredo & al. from Amboland, on the Angola-Namibia border (17°08’S) collection by August Wulfhorst (1861–1936) in 1898. – Under *C. holostigma* C. B. Clarke ex Schweinf, above (p. 112) a note refers to a figure in Proc. Rhodesia Sci. Assoc. 33: 63, 1934, which may represent *C. schinzii*. – Icon.: Clarke & Mannheimer, o.c.: 41, fig. 12.

**C. sanguinolentus** – Icon.: Engler, Pflanzenreich IV. 20/101: 301, 1936 (under *C. schinzii* Boeckeler); as *C. sanguinolentus* (as a synonym under *C. schinzii* Boeckeler); Clarke in Fl. Trop. E. Afr. 8: 335, 1901 (as a synonym under *C. apricus* Ridl.).

**C. schimperianus**

*C. nudiculmis* Sieber ex C. B. Clarke; *C. tegetum* C. B. Clarke 1884, nom. illeg., non Roxb. 1820 (1832); *C. tegetum* var. *protracta* C. B. Clarke

Perennial herb to c. 1 m tall with a woody rhizome 0,5–1 cm Ø covered by brown to blackish scales; culms 56–94 cm long, 2–4 mm Ø, trigonous, sometimes rounded near apex; leaves to 30 cm long; sheath 10–21 cm long, wide, loose; blade linear, flat, 4–10 cm long, 1,5–3 mm wide; inflorescence simple, primary branches 4–9, 2–9 cm long; spikelets in loose clusters at end of primary branches, 6–14 per cluster, ± lanceolate, 10–22 mm long.

Sandy or stony river banks; near or in water; seasonal swamps; 450–2600 m alt.

Egypt; Saudi Arabia. Easily recognised by its wide leaf sheaths and short blades.

**C. schinzii** Boeckeler; Clarke in Fl. Trop. E. Afr. 8: 335, 1901 (as a synonym under *C. apricus* Ridl.); Engler, Pflanzenreich IV. 20/101: 301, 1936 [under *C. semitrifidus* Schrad. var. *apricus* (Ridl.) Kük.; bas.: *C. apricus* Ridl.; with syn. *C. purpureus* Boeckeler]; as *C. schinzii* Boeckeler in Clarke & Mannheimer, Cyper. Namibia: 21, 2004 (with synonyms *C. holostigma* Schweinf., *C. purpureus* Boeckeler); as *C. schinzii* by Figueiredo & al. from Amboland, on the Angola-Namibia border (17°08’S) collection by August Wulfhorst (1861–1936) in 1898. – Under *C. holostigma* C. B. Clarke ex Schweinf, above (p. 112) a note refers to a figure in Proc. Rhodesia Sci. Assoc. 33: 63, 1934, which may represent *C. schinzii*. – Icon.: Clarke & Mannheimer, o.c.: 41, fig. 12.

**C. purpureus** Boeckeler Description from Verh. Bot. Vereins Prov. Brandenburg 29: 45, 1888, abridged:

Herb with numerous thin roots; culms (densely) tufted, erect, 5–8–18 cm tall, covered at the bulbous base with dark brown fibres; leaves few, 2,5–5–13 cm long, margins denticulate; sheath short; inflorescence a solitary anthela, primary branches 2–5, to 2,5 cm long; spikelets 1–8 to a spike, (See below), dark blood-red, compressed, 7–10–12 mm long, 16–22–28-flowered. Ecology not recorded; at Olokanda, Amboland.

Namibia, Botswana, S. Africa.

According to Clarke in Fl. Trop. Afr. 8, 1.c., *C. purpureus* has 4 spikes, *C. schinzii* 1 spike.

**C. schweinfurthii** (Chiov.) Kük., non *C. schweinfurthianus* Boeckeler (= *C. tenuiculmis* var. *schweinfurthianus*) – See below under *Mariscus schweinfurthii* Chiov.

**C. scleropodus** Chiov. – See below under *Mariscus scleropodus* (Chiov.) Cufod.


Cyperus pustulatus

Cyperus reducens

Cyperus remotispicatus

(Cyperus remotus)

Cyperus renschii

Cyperus rigidifolius

Cyperus robinsonii

Cyperus rotundus

Cyperus rubicundus

Cyperus rupestris

Cyperus scabricalis

Cyperus schimperianus
CYPERUS SEMITRIFIDUS

**C. crinitus** Spreng., Flora 12/1, Beil. 5, 1829: err. typ. pro **C. cruentus**, nom. illeg., non Poir. 1804; **C. usitatus** Nees 1832, non Burch. 1824, var. sanguinolentus Nees; **C. herbiyagus** Kunth; **C. apricus** Ridl.; **C. multiglumis** Turrill; **C. lapidicolum** Kük.

Perennial herb with rhizome densely covered with coarse stiff fibres (remains of scales); culms 5–30 cm tall, trigonous at top, base surrounded by stiff fibres; leaves c. 25 cm long, 1–4 mm wide; inflorescence an umbel with 1–4 rays to 3,7 cm long, often very short, or inflorescence contracted into 1 head; spikelets 3–12 per spike, subdigitate, brown-red.

Sunny places on rocks with *Actinopteris flabellata*.

Extremely variable; in need of detailed study (fide Gordon-Gray, l.c.).

S. Africa, Swaziland, Lesotho.

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**C. senegalensis** (C. B. Clarke) Mattf. & Kük. 1936, non C. B. Clarke 1894, nom. nud. (= *C. conglomeratus* subsp. *conglomeratus*) – See below under *Kyllinga polyphylla* Willd. ex Kunth

**C. serratangularis** (Peter & Kük.) Huygh, Phytotaxa 166: 40, 2014. – See below under *Kyllinga serratangula* (Peter & Kük.) comb. ined.

**C. sesquiflorus** (Torr.) Mattf. & Kük. – See below under *Kyllinga odorata* Vahl


syn.: **C. webbianus** Steud.

Perennial herb with a short woody rhizome; culms 30–90 cm tall, *subequally hexagonal* at top; leaf blades absent, but with brown sheaths at culm base; inflorescence a compound anthela of many branches and subtended by 8–12 leaf-like green bracts 3–8 mm wide, much longer than anthela. Otherwise similar to *C. alternifolius* subsp. *flabelliformis*.

Margins of rivers; wet places; swampy meadow on flat river bank; can survive under drier conditions.

Namibia, S. Africa, Swaziland.

Ornamental in water gardens. Has been planted in paddy fields (S. Africa); used for craftsmanship: to make a wide range of products, incl. sleeping and work mats, traditional house construction, baskets, etc.

**C. simpsonii** (Muasya) Larridon – See below under *Kyllingiella simpsonii* Muasya

**C. smithianus** Ridl. – See below under *Pycreus smithianus* (Ridl.) C. B. Clarke, and also under *P. fluminalis* (Ridl.) Rendle

**C. somalidonensis** Lye – See below under *Mariscus somalidonensis* (Lye) J.-P. Lebrun & Stork, comb. nov.


Tussocky perennial herb with numerous crowded basal leaves and 1-few culms from each tussock; culm 5–20 cm long, 0,5–1 mm 2,

**C. serratangularis** (Peter & Kük.) Huygh, Phytotaxa 166: 40, 2014. – See below under *Kyllinga serratangula* (Peter & Kük.) comb. ined.

**C. sesquiflorus** (Torr.) Mattf. & Kük. – See below under *Kyllinga odorata* Vahl


syn.: **C. webbianus** Steud.

Perennial herb with a short woody rhizome; culms 30–90 cm tall, *subequally hexagonal* at top; leaf blades absent, but with brown sheaths at culm base; inflorescence a compound anthela of many branches and subtended by 8–12 leaf-like green bracts 3–8 mm wide, much longer than anthela. Otherwise similar to *C. alternifolius* subsp. *flabelliformis*.

Margins of rivers; wet places; swampy meadow on flat river bank; can survive under drier conditions.

Namibia, S. Africa, Swaziland.

Ornamental in water gardens. Has been planted in paddy fields (S. Africa); used for craftsmanship: to make a wide range of products, incl. sleeping and work mats, traditional house construction, baskets, etc.

**C. simpsonii** (Muasya) Larridon – See below under *Kyllingiella simpsonii* Muasya

**C. smithianus** Ridl. – See below under *Pycreus smithianus* (Ridl.) C. B. Clarke, and also under *P. fluminalis* (Ridl.) Rendle

**C. somalidonensis** Lye – See below under *Mariscus somalidonensis* (Lye) J.-P. Lebrun & Stork, comb. nov.


Tussocky perennial herb with numerous crowded basal leaves and 1-few culms from each tussock; culm 5–20 cm long, 0,5–1 mm 2,
Perennial herb to c. 60 cm tall; culms crowded, 14–56 cm long, c. 1–2 mm Ø, trigonous to rounded with longitudinal grooves, bases swollen and fused into a horizontal rhizome; leaves to 42 cm long; sheath almost black at base, brown on culm, 2.5–5 cm long, at base breaking up into thin fibres; blade linear, flat, 14–37 cm long, 2–4.3 mm wide; inflorescence capitulate, with spikelets 4–17, ovoid, 9–19 mm long, 5–10 mm Ø; glumes bright yellow-orange; nutlet obvoid, 3-gonous, 2.2–3.3 mm long.

Open woodland, grassland; on sandy soil; drier pastures; open forest; rocky slopes; 1000–2000 m alt.

S. Africa, Swaziland.

Near C. niveus but glumes yellow-orange and nutlet much larger (not 1.3–1.8 mm long).


Ecology in Mozambique unknown; occurs in S. Africa “scrambling” among grasses and other plants along streamlets and in seeps where water is either plenty for short periods, or sparse but not wanting for much longer spells”; in damp areas of floodplains; “in almost pure stands in moist alluvium along margins of swamps and streamlets or on damp, grassy banks overhanging water” (Gordon-Gray, l.c., 1995).

Namibia, S. Africa, Botswana, Swaziland. Resembling C. denudatus (with uniseriate rhizome, leaves reduced to sheaths, culms winged, spikelets shining and dark chestnut brown, bracts short).

**C. spissiflorus** (C. B. Clarke) K. Schum. – See below under Pycreus spissiflorus C. B. Clarke – C. spissiflorus “C. B. Clarke” sensu Baum 1903 = Cyperus hensii C. B. Clarke

**C. squarrosus** L. – See below under Mariscus squarrosus (L.) C. B. Clarke

**C. steudneri** (Boeckeler) Larridon – Cyperus spiralis Larridon, nom. superfl. – See below under Kyllingiella polyphylla (A. Rich.) Lye

**C. stramineoferrugineus** Kük. – See below under Mariscus stramineoferrugineus (Kük.) Napper

**C. sublaevicarinatus** Mattf. & Kük. – See below under Kyllinga buchananii C. B. Clarke

**CYPERUS**

*C. subumbellatus* Kük. [= *C. cyperoides* (L.) Kuntze] – See below under *Mariscus sumatrensis* (Retz.) J. Raynal

*C. sambawangensis* (Hoenselaar) Lye – See below under *Pyreucus sambawangensis* Hoenselaar


Perennial tufted herb with short woody rhizome; culms 15–60 cm tall, 1–5 mm Ø, trigonous, *seabrid* with minute retrorse prickles, at least below involucral bracts; leaves only at base of culms; lower leaf sheaths often reddish-brown; blades linear, to 15–40 cm long, 2–5 mm wide; inflorescence a compound anthemula, lax, 5–20 × 5–15 cm, with at base a group of spikelets subtended by 3–12 branches each with a group of spikelets, or another group of fasciculate sessile and pedunculate spikelets; main inflorescence branches to 10 cm long; fascicles of spikelets neither in spines nor digitately arranged but densely grouped together in small irregular heads; involucral bracts 5–10, leaf-like, to 5–30 cm long; spikelets ovate to linear, 4–6 mm long, compressed, whitish, 15–30-flowered; nutlet fusiform, 0,7–0,9 mm long.

Seasonally wet places on inselbergs; wet disturbed sandy soil, spreading along roads (ditches); 0–560 m alt. (Gabon) – 1050 m (Bioko). – Seems to be invasive.


bas.: *C. bellus* Kunth var. *tanganyicanus* Kük.

Perennial herb with minute swollen plant-base, to 20 cm tall; culms tufted, 4–12 cm long, c. 0,5 mm Ø, trigonous; leaves to 13 cm long; sheath pale brown, 1–2 cm long, sometimes breaking up into fibres; blade linear, 4–11 cm long, c. 1 mm wide; involucral bracts 2, leaf-like, lowermost 2–4,5 cm long, the upper shorter; inflorescence capitulate with 3–5 spikelets per head; spikelets linear-lanceolate, c. 5–12 mm long, few- to 10-flowered; glumes 1,9–2,1 mm long, 0,9–1,1 mm wide, keel greenish, without pale margin; nutlet 0,8–1,1 × 0,5–0,8 mm.

Temporarily wet habitats; damp shallow soil over rocks; 850 – c. 1350 m alt.

Near *C. kirkii* with, however, larger glumes (1,9–2,4 × 1–1,3 mm) with pale margins.

*C. tanyphyllus* Ridl. – See below under *Mariscus tanyphyllus* (Ridl.) C. B. Clarke

*C. tanzaeae* (Lye) Lye – See below under *Kyllinga tanzaeae* Lye


**CYPERUS TATAANDAENSIS**

Perennial herb to 1 m tall with short rhizome; culms swollen at base, moderately tufted, 77–95 cm long, 1,9–2,8 mm Ø, tereete; leaves mostly basal, 1–3 sheath near the base, to 29 cm long; sheath brownish, 2–15 cm long, completely enclosing the culm on cauline leaves; blade flat, 10–16,5 cm long, 6–8 mm wide; inflorescence congested capitata, 1–1,4 × 2–2,5 cm; spikelets 10–15 per inflorescence, ovoid, 10–15 mm long, flattened.

*Brachystegia* woodland; 1700–1900 m alt.

Closely related to *C. margaritaceus* but leaves broader and nutlets narrower.


syn.: *C. grantii* Boeckeler; *C. monroviensis* Boeckeler; *C. actinostachys* Welw. ex Ridl.; *C. angustissimus* Ridl.; *C. boehmii* Boeckeler; *C. sabulicola* Ridl.; *C. amabilis* Vahl var. *pseudocastaneus* Kük.

Perennial, densely tufted herb to 73 cm tall, with erect rhizome covered by old basal sheaths and many stiff leaves; culms tufted, 5–68 cm long, 0,6–1,8 mm Ø, rounded; leaves to 33 cm long; sheath straw-coloured to purple, 1,5–7 cm long; blade linear, flat, 5–30 cm long; 1,1–4 mm wide; inflorescence a simple to compound anthemula, primary branches 3–12, 0,5–5 cm long; spikelets in digitate clusters, sessile and at end of primary and sometime secondary branches, 5–14 per cluster, linear, 3–20 mm long, glumes spreading.

Marshes; seasonally flooded grassland; swampy grassland; mangrove edges; woodland; sandy places; dry pastures; sand dunes along seashore; savannas; in hot sand on river banks; forming great sods on low gravelly hills; 0–1800 m alt. – Fire resistant. Variable species with 6 varieties described. “Variation in inflorescence from a branching anthemula to a compacted head; in glume colour from fawn to mid-brown to deep blackish-red; in spikelet length (3–20 mm)”.

Namibia, S. Africa.

Cyperaceae

Cyperus schinzii

Cyperus semitridifus

Cyperus sexangularis

Cyperus somaliensis

Cyperus sphacelatus

Cyperus sphaerocephalus

Cyperus sphaerospermus

Cyperus submicrolepis

Cyperus subtenax

(Cyperus surinamensis)

var. surinamensis

Cyperus tanganyicanus

Cyperus tatandaensis

143
CYPERUS TENUICULMIS


Perennial herb 0,2–1,5 m tall, with rather thick creeping rhizome; culms with swollen bases, 0,8–5 mm Ø, trigonous to triquetrous; leaves to 65 cm long; sheath green to brown, 2,5–10 cm long; blade sometimes rather stiff, linear, flat, 10–55 cm long, 2,5–11 mm wide, with multiple major veins; inflorescence simple (sometimes compound), primary branches 3–10, 2,5–25 cm long; spikelets in loose clusters at end of primary (sometimes secondary) branches, 2–11 per cluster, ± linear, 15–46 mm long, 6–20-flowered.

Dry or damp grasslands; sandstone under shadow; marshy ground and swamp; seasonally wet grassland; seepage areas; road sides; gardens; fallow fields; drainage ditches; usually on sandy soil; waste ground; savannas; wet flushes on rocks; meadow with Afrotritilepis pilosa; rags of dry meadow with Loudetia arundinacea; wooded savanna; with Aeschynomena pulchella at edge of granitic area; seasonal ponds; riverine forest; rice fields; 0–1900 m alt.

Annobon; S & SE Asia: India, Sri Lanka E-wards to Malaysia, Indonesia, S Japan, Philippines, to N Australia, Pacific islands.

Very variable species; and 3 varieties have been retained, and an inedicted species proposed (See below): – var. tenuiculmis [sy.: C. zollingeri Steud. var. condensatus Kük., var. livingstonii Kük., and var. longiramuslaus Kük.; C. tenuiculmis var. longiramuslaus (Kük.) Meneses; C. zollingeri var. parvus C. B. Clarke, cf. below; See also World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew,], with culms 0,8–2,2 mm Ø, smooth; leaf blade 3–4,8 mm wide; glumes pale to yellowish-brown, keel not excurrent; widespread in tropical Africa in humid places, S & SE Asia to Australia; – var. guineensis (Nelmes) S. S. Hooper [bas.: C. guineensis Nelmes], with smooth culms 1,5–1,7 mm Ø; leaf blade 2,5–3,2 mm wide; glumes (dark) reddish-brown, keel excurrent; on waste ground, in tropical W. Africa E to Uganda; – var. schweinfurthianus (Boeckeler) S. S. Hooper [bas.: C. schweinfurthianus Boeckeler; syn.: C. zollingeri var. schweinfurthianus (Boeckeler) Kük.], with culms 1,3–5 mm Ø, scabrid; leaf blade 2,5–11 mm wide; glumes pale to yellowish-brown, keel excurrent; in dry or damp places, in W & E tropical Africa to Angola.

Note 1: C. zollingeri var. parvus C. B. Clarke was described on basis of small plants with narrow leaves, and has been regarded as a synonym for C. tenuiculmis var. tenuiculmis. In Fl. Trop. E. Afr., Cyper.: 195, 2015, however, it is better considered as a synonym for C. zollingeri.

Note 2: C. tenuiculmis subs. mutica Lye, ined., is proposed by Onana & Cheek, Red Data Book flow. pl. Cameroon: 366, 2011, and later cited by Onana, Vascul. pl. Cameroon.: 161, 2011, and by Onana, Flore du Cameroun 40: 223, 2013. This plant has been collected once in 1998 (Pollard 113); it was found in a roadside ditch at Mt Kupé and there recorded as common, at 880 m alt. The identity of this plant is uncertain.

C. tenuifolius (Steud.) Dandy – See below under Kyllinga tenuifolia Steud.

C. tenuis Sw. 1788, non Muhl., 1817 (= Pyreus polystachyos) – See below under Mariscus flabelliformis Kunth

CYPERUS


Weak annual herb 5–50 cm tall with a small root system; culms few or several, 10–22 cm long, 0,2–1 mm Ø, trigonous to 6-angular; leaves basal to 19 cm long; sheath pale reddish-brown to dark brown, 1–4,5 cm long; blade flat, flaccid, 6,5–14 cm long, 1,3–8 mm wide; inflorescence simple to compound, primary branches 1–8, 1–9,5 cm long; spikelets in digitate clusters at end of primary branches, 2–6 per cluster, linear-lanceolate, 5–10 mm long.

 Sands and clayey sands temporarily humid, sometimes near salt ground; seasonally wet habitats; swamps; rice fields; humid cultivations; grasslands; fallows; damp wooded meadows; here and there on the clay of dried-up ponds; waste land; edges of ponds; hollows in coastal dunes; meadows; humid savannas; near sea-level to 1800 m alt. – “A weedy species of cultivation, especially rice cultivation that may well be overlooked”.

Very variable in height, number of culms, size of inflorescence and extent of leaf blade development (often basal leaves reduced to sheaths). Number of stamens (2–3 variable).

Namibia, S Africa; Seychelles tropical and subtropical Asia from India – Pakistan – Sri Lanka E-wards to Nepal, China, Malesia, S Japan, Australia. Naturalised in C. & S. America.

Confused with C. haspan, C. foliaceus. Differs from C. haspan in being very short lived and lacking rhizome; from C. foliaceus by filiform involucral bracts, in C. foliaceus leaf-like, > 4 mm wide.

C. testui (Cherm.) Reynolds – See under Pyreus testui Cherm.

C. tibialis (Poit. ex Ledeb.) Goovarts – See below under Kyllinga tibialis Poit. ex Ledeb. and K. vaginata Lam.

C. tisserantioides Cherm. 1931, non C. tisserantioides (Mtot.) Lye (= Kyllinga tisserantioides Mtot.). nec Fambristylis tisserantioides Cherm. 1931 (= Budystilys viridecarinata (De Wild.) Goeth.) – See above under Cyperus niveus Retz. var. tisserantioides (Cherm.) Lye

C. tisserantioides (Mtot.) Lye – See below under Kyllinga tisserantioides Mtot.

C. tomaiocephalus K. Schum. – See below under Mariscus tomaiocephalus (K. Schum.) C. B. Clarke

syn.: C. kottensis Chemn.

Perennial tufted herb with a knotted mass of pseudobulbs, swollen culm-bases; culms 10–20 cm long, 1.5–2.5 mm ±, obtusely trigonous; leaves basal; sheaths brown-purple, becoming fibrous; blades erect, coriaceous, 10–15 cm long, 2 mm wide; inflorescence a compound anthela, 2–3 cm ±, c. 8 cm long, narrow in outline; primary branches 1–4–1 cm long, ending in cylindrical spikes 2–3 cm long, usually with short secondary rays at the base; spikelets numerous, dense, erect, silvery, linear, 6–8–15 mm long, 12–24-flowered. Sand-banks in river beds; along water courses; also on rocks or coarse sediments (gravelly island).

Subsp. tonkinensis in SE Asia: Laos, Thailand, Viet-nam.

“Rather like Pycreus polyschistos when there are few inflorescence branches.”

C. triceps (Rottb.) Endl. – See below under Kyllinga tenuifolia Steud.


Culms c. 40 cm tall, trigonous, covered at base by remains of old leaves; leaves few, short, to c. 7 cm long; inflorescence an umbellate anthela of 4 pedunculate (peduncles 2 cm long) spikes; spikes ovate, c. 1.2 cm long, 1 cm wide at base, very loose; spikelets loosely arranged, linear, to 5 mm long, 2-flowered; glumes yellowish-brown; ripe nutlet not seen.

Dry Veld, cracks in rock (Marandellas, S. Rhodesia/Zimbabwe); (4500 ft =) c. 1360 m alt.

This plant is perhaps a true Mariscus. “This species may belong to Mariscus chersinus (N. E. Brown) Kük.”

C. unispicatus C. B. Clarke var. contractus C. B. Clarke – See below under Cyperus undulatus


Perennial, stoloniferous herb to 1.5 m tall; culms 0.54–1.3 m long, 2–3 mm ±, trigonous, with longitudinal grooves; leaves clasping the stem.

Seasonally wet habitats; bags and saline swamps; cultivated land; 250–1400 m alt.

Recognizable due to its yellow-coloured leaf sheaths, and nutlets transversely wrinkled with large surface-cells.

C. unispicatus Bauters, Reynolds & Goeth. – See below under Mariscus unispicatus (Bauters, Reynders & Goeth.) J.-P. Lebrun & Stork, comb. nov.


syn.: Mariscus usitatus (Burch.) Vorster ined.

Perennial herb to 44 cm tall, producing thin stolons 0.5–10 cm long, 0.2–1 mm ±, covered in light reddish-brown scales, sometimes fibrous; stolons producing bulbs 0.5–1 cm ±; culms few, 5–42 cm long, 1–3.8 mm ±, triquetrous to trigonous; leaves to 30 cm long; sheath grey, straw-coloured to pale brown, 1–5.5 cm long; blade flat, sometimes semi-fleshy, 3.5–25 cm long, 1–3.8 mm wide; inflorescence more often (loosely) capitulate then simple, when simple primary branches 0–2; spikelets in crowded digitate clusters, 7–25 to many more per cluster, linear, 8–21 mm long. Seasonally wet habitats; flooded grassland; rocky slopes and outcrops; lake shores; shallow soil on rocky outcrops; 100–2150 m alt.

Namibia, S. Africa, Botswana.

Comprises 2 subsp., one with 2 vars.: – subsp. usitatus with 2 vars.: – var. usitatus [syn.: Cyperus bulbifer Drège 1843, nom.; C. bulbifer E. Mey. ex Drège 1847; C. stuhlmannii C. B. Clarke ex K. Schum.; C. usitatus var. stuhlmannii (C. B. Clarke ex K. Schum.) Lye; C. edulis Dinter], with bulbs 6–10 mm ±, glumes reddish to ± black, nutlet ellipsoid, 0.6–0.8 mm ±; widespread; – var. macrobulbosus Kük, non C. microbolbosus C. B. Clarke [= Mariscus microbolbosus (C. B. Clarke) Vorster] with bulbs 10–20 mm ±; – subsp. palmatus Lye [syn.: C. palmatus (Lye) C. Archer & Goeth.; C. fulgens C. B. Clarke var. contractus Kük., non C. contractus Steud.; C. fulgens s. lat., Podlech in Merxmüller, Prodr. Fl. Südsüdafrika 165: 14, 1967; C. palmatus Vorster ined. 1978], with bulbs 5–6 mm ±, glumes golden brown, nutlet obovoid, 0.7–1 mm ±.

“…the section Umbellati…that in the interim it is preferable to treat it at species level” (Archer & Goethgebeur, l.c.).

Tubers eaten raw.

Readily identified by, from base of each shoot, a short scale-invested stolon ending in a scaly bulb. But stolons without bulbs are also known.


C. ciliata Steud. var. ciliata

C. welwitschii (Ridl.) Lye – See below under Pycreus xantholepis

C. vandervekenii

C. xantholepis (Nelmes) Lye – See below under Pycreus xantholepis

C. xerophilus Chemn.

C. zollingeri Steud., incl. robusta K. Schum., and ? var. parvus C. B. Clarke (or = C. tenuiculmis var. tenuiculmis; cf. under C. tenuiculmis above); but excl. var. condensatus Kük., var. livintonii Kük., and var. longiramulosus Kük. and var. longiramulosus (Kük.) Meneses, and fa. levicaulis C. B. Clarke (all = C. tenuiculmis var. tenuiculmis), and excl. var. schweinfurthianus (Boeckeler) Kük. (= C. tenuiculmis var. schweinfurthianus), and excl. var. permacer (C. B. Clarke) Kük. (= C. permacer); Renier, Fl. Kwango, 1: 71, 1948; Berhaut, Fl. ill. Sénégal 9: 217, 1988; Gordon-Gray, Cyper. Natal: C. B. Clarke (all)

C. tenuiculmis

C. subxerophilus Kük. 1936 in Engler, Pflanzenreich IV. 20/101: 200, 1936

A plant from C Madagascar, cited by Chermezon as new for Zaïre, mountains W of Lake Kivu, at 2000 m alt., collected by Humbert 7813, 7813 bis. Identity unknown.

C. zollingeri

C. rubroviolidus Chemn., incl. var. unicapitatus Kük.; C. ramosii Kük.; C. lucidulus C. B. Clarke 1884; C. sphaelatus Rothb. var. tenuior C. B. Clarke

C. vandervekenii

Pycreus sp. in Cable & Cheek, Pl. Mt Cameroon: 155, 1998. Specimen Tchouto 379 from E slopes of Mt Cameroon; specimen Cheek 3541 from Mabeta-Moliwe.
**Cyperus**

*Cyperus* sp. nov. in Cable & Cheek, Pl. Mt Cameroon: 156, 1998. Specimens Cable 203, Cheek 5542, Thomas 9713, Williams 53, from Mt Cameroon, Etinde (“endemic”); streams; 1–600 m alt. – Flowering in November.


**SYNONYMS:**

*Cyperus longi-involucratus* Lye (See p. 120); species above certainly belong to: Listed by Wickens as sp. nov. from Jebel Marra (Wickens 2679, *Cyperus* 15284) 8695, 4143; Tanzania, Kilosa District (Greenway & Kanuri Specimens (3) from Zimbabwe, Gokwe (Bingham 505; Brain Sandy river bed; c. 510 m alt. 291).

— *Pycreus* cyperaceae chinesis

— *Cyperus* albepectus

— *Kyllinga* albitas

— *Pycreus* albida

— *Pycreus* adventitius

— *Pycreus* alternifolius

— *Pycreus* amabilis

— *Pycreus* amphibolus

— *Pycreus* amnicola

— *Pycreus* amomodorus

— *Pycreus* angolensis

— *Pycreus* angulatus

— *Pycreus* angustifolius

— *Pycreus* angustus

— *Pycreus* angustus

— *Pycreus* angustus

— *Pycreus* anserina

— *Pycreus* ascolepidioides

— *Pycreus* atrofuscus

**Cyperus**

CYPRESS

angulatus Nees 1834 = P. unioloides
antiquorum (Willd.) Chiov., incl. var. paleaetinae Chiov.
 = Cyp. papyrus subsp. papyrus
aphyllus Hassk. 1844 = Kyllinga vaginata
aphyllus Vahl 1798 = Cyperus haspan
aphyllus (Kunth) F. Muell. 1874 = Kyllinga tibialis
apricus Ridl. = Cyp. seminifludu
arcuatus Boeckeler = Cyp. conglomeratus subsp.
conglomeratus
aristatus Hook. f. & Thomson ex C. B. Clarke 1884
 = Cyp. reduncus
aristatus Rothb. 1773 = Mariscus squarrosus
aristatus Rothb. var. floribundus E. G. Camus, and fa.
inflexus (Muhl.) C. B. Clarke, and var. inflexus (Muhl.)
Boeckeler ex Kük., and var. perennis M. E. Jones, and
var. semiglobosus Kük. = M. squarrosus
aristatus Rothb. subsp. hamulosus (M. Bieb.) Asch. &
Graebn., and var. hamulosus (M. Bieb.) Boeckeler, and
subsp. hamulosus var. pitardii (Trab. ex Pitard) Maire
 = M. hamulosus
aromaticus (Ridl.) Mattf. & Kük. = Kyllinga polyphylla
var. polyphylla
aromaticus var. brachyrhizomatous Kük. = K. polyphylla
var. polyphylla
aromaticus var. elatior (Kunth) Kük. = K. polyphylla
polyphylla var. elatior
aromaticus var. elatus (Steud.) Kük. = K. polyphylla
var. polyphylla (African specimens); the true K. elata
is from Comoro islands
aromaticus var. repens Kük. = K. polyphylla
var. polyphylla
aromaticus var. teres (C. B. Clarke) Kük., and fa. aphylla
(Cherm.) Kük. = K. polyphylla var. polyphylla
articulatus Benth. 1844 = Cyp. articulatus L.
articulatus L. “forma hauud articulata…” sensu Ridl. 1884
 = Cyp. corymbosus
articulatus L. var. conglomeratus Britton, and
var. erythrostachys Graebn., and var. fistulosus Kük.,
and fa. longispiculous Kük., and var. multiflorus
Kük., and var. nodosus (Humb. & Bonpl. ex Willd.)
Kük. = Cyp. articulatus
ascocapensis Bauters = Ascolus capensis
ascocarpos Goeth. = A. densa
ascocarpilloso Goeth. = A. fibrillosa
ascoluscolouricus Goeth. = A. hemisphaericus
ascocarpoidoides (Cherm.) Kük. = Kyllinga alba subsp.
ascocarpoidoides
ascocarpus Goeth. = Ascolus neglecta
ascopadiis Goeth. = A. pinguis
ascopusilus Goeth. = A. pusilla (incl. var. cylindrica
S. S. Hooper, and var. echinata S. S. Hooper, and
var. microcarpus Lye)
ascospinulosus Goeth. = A. spinulosa
ascotrigonos Goeth. = A. trigona
asperifolius Desf. = Cyp. alternifolius subsp. textile
assimilis Steud., incl. var. depressa Steud. = Courtoisina
assimilis
aster (C. B. Clarke ex Cherm.) Kük. and var. biflorus Peter
& Kük. = Mariscus aster
ater Vahl 1805, non Dalzell & A. Gibson 1861
 = Pyreus nitidus
atratis Steud. = P. sanguinolentus
atratulus Kük. = P. atratulus
atrotexus Boeckeler, incl. var. minor Boeckeler and
subsp. angustifolius Lye = P. atrotexus

CYPRESS

1851 = P. elegantulus
atrorubidus (Nelmes) Raymond sensu str. = P. atrorubidus
atrorubidus sensu auctt. Afric. occ.
 = Pyreus rubidomonatus
atroanguineus (Hochst. ex A. Rich.) Steud.
 = Mariscus plateilena
atrovirdis C. B. Clarke = Cyp. aterianus
auceri Jaub. & Spach = Cyp. conglomeratus and See
under Cyp. auceri
auritus (Nees) Huygh = Kyllinga brevifolia
var. brevifolia
aurocolatus Lye = K. alba subsp. alata
aurobrannus C. B. Clarke (cf. Fl. Trop. Afr. 8: 346,
1902: “The collection consists of 5 fine umbels…
perhaps really related to C. amabilis…”) – See under
Cyp. aurobrannus
auroeuropus Boeckeler = Cyp. digitatus subsp.
auricoma
auroeurostamine Mattf. & Kük. = Kyllinga chrysanth
auroeurostamine var. decolorans (Kük.) Kük.
 = K. comosipes subsp. decolorans
auroeurovillosus (Lye) Lye = K. aureovillosa
aureus Kunth 1816, incl. var. aurantianus (Kunth)
Boeckeler, and var. macrostachyus Boeckeler, and
var. oligostachyus (Kunth) Boeckeler
 = Cyp. amabilis
aureus Ten. 1824, incl. subsp. esculentus (L.) Nyman
 = Cyp. esculentus
aureus J. Presl & C. Presl 1828 = Mariscus squarrosus
auroicoma Sieber ex Spreng., incl. var. microstachyus
Boeckeler, and var. minor C. B. Clarke = Cyp. digitatus subsp. auroicoma
aurotetraafricanus C. Archer & Goeth. = See under
Mariscus dregeanus and M. dubius
badus Desf. 1798, non (Willd. ex Kunth) Boeckeler 1870
 = Cyp. longus subsp. badus
baikiei C. B. Clarke & Kük. = Cyp. tonkinensis
var. baikiei
baobab Lye = Mariscus baobab
baoulensis Kük. = M. baoulensis
barbata (Rothb.) Poir. = Bulbostylis barbata
baroni C. B. Clarke = See under Cyp. manni
 = Cyp. glaucophyllus
baroni var. interpositus Kük. = ? Cyp. exaltatus var. dives
baroni var. manni (C. B. Clarke) Kük. = Cyp. baroni
barteri Boeckeler = Cyp. pustulatus
bells Kunth var. tanganyicanus Kük.
 = Cyp. tanganyicanus
beninensis (Samain, Reynders & Goeth.) Huygh
 = Kyllinga beninensis
bequaertii (Cherm.) Robyns & Tournay = Mariscus
ferrugineoviridis
bicolor = Vahl = Cyp. rotundus
blandus Kunth = Cyp. marginatus
blepharoleptos Steud. = Oxycaryum cubense
boehmii Boeckeler = Cyp. tenax
boivinii Boeckeler = Pyreus polystachyos
var. polystachyos
borochondrocephalus Lye = Mariscus
boroechrocephalus
boroechrocephalus
boroechrocephalus Lye = M. boroechrocephalus
bracheleima (Steud.) Mattf. & Kük. = Kyllinga pulchella
brasiliensis (Kunth) Bauters = Ascolus brasiliensis
braunii Vatke = Cyp. albostratius
CYPUS

CYPUS

C. B. Clarke = M. amauroeus
concolor Steud. = Pycreus sanguinolentus
congensis C. B. Clarke = See at end of Mariscus
congestus Vahl 1805 (non Poir. 1806) and
var. glandulifera (C. B. Clarke) Kük., var grandepraep.
Kük., and var. pseudonalensis Kük. = Mariscus
congestus
congestus Vahl var. Nees = Mariscus solidus
congestus var. brevis (Boeckeler) Kük.
= Cypus crassipes
conglobatus Link = Torulinium odoratum
conglomeratus Rottb. var. aucheri (Jaub. & Spach)
C. B. Clarke = See under Cypus aucheri
conglomeratus Wildl. 1813, nom. nud., non Rottb. 1773
= Cypus compressus
conglomeratus fa. excisus (Boeckeler) Kük.
= Cyp. conglomeratus (C. jeninicus)
conglomeratus subsp. jeninicus (Rothb.) Lye
= Cyp. conglomeratus (C. jeninicus)
conglomeratus var. major Boeckeler and fa. major
(Boeckeler) Kük.
= Cyp. conglomeratus subsp. conglomeratus
conglomeratus var. multicus (Boeckeler) Kük.
= Cyp. conglomeratus (C. jeninicus)
conglomeratus fa. oligostachys Kük. = See under
Cyp. aucheri
conglomeratus fa. pumilus (Boeckeler) Kük.
= Cyp. conglomeratus (C. jeninicus)
constrictus (Goetgh.) Bauters = Lipocarpha constricta
contractus Steud. = Cypus cuspidatus
controversus (Steud.) Mattf. & Kük. = Kyllinga
controversa
controversus var. subexalatus (C. B. Clarke) Kük.
= K. tenuifolia var. ciliata
cooperi (C. B. Clarke) Kük. 1934, non (C. B. Clarke)
K. Schum. 1900 = Pycreus cooperi
(another (C. B. Clarke) K. Schum. = Mariscus congestus
concorius (Vahl) Kunth = Cypus leucocepalus
costatus Mattf. & Kük. = Kyllinga nervosa
costatus subsp. jubensis (Mout.) Govaerts = K. nervosa
subsp. jubensis
costatus subsp. sidamoensis (Mout.) Lye = K. nervosa
subsp. sidamoensis
crasisacapis (J. Raynal) Bauters = Lipocarpha
crassicus
crassipes Vahl var. subtilis Kük. = Cypus crassipes,
but See also under Cyp. subtilis
crassivaginatus Lye = Mariscus platelema
cremeoamarus Lye = See at end of Mariscus
crinus Spreng. 1829 = Cypus semirufidus
crisatus (Kunth) Mattf. & Kük., incl. var. exalatus
Merxm. = Kyllinga alba subsp. alba
crisatus subsp. ascolepidoides (Cherm.) Lye = K. alba
subsp. ascolepidoides
crisatus var. nigritanus (C. B. Clarke) Kük. = K. alba
subsp. alba
cruceformis (Schrad. ex Schult.) Engl. = K. brevifolia
creunatus Rottb. = Mariscus schimperi
creunatus subsp. amauropus (Steud.) Lye = M. amauropus
creunus sensu Baker, Fl. Maurit. etc. = Pycreus mundiitii
crestaceus Raymond = P. acuticarinatus
crenulatus Ridl. = P. crenulatus
crenulansis Chiov. = Mariscus crenulansis
cylindrostachys Boeckeler = M. sumatrensis
creperoides (L.) Kuntze 1898, incl. vars. and subspp.
= M. sumatrensis

cyperoides Sw. = Rhynchospora holoschoenoides
dactyliformis Boeckeler = Mariscus solidus
decidia Steud. = M. deciduus
decennii Boeckeler = Pycreus derreilema
decolorans (Kük.) Lye = Kyllinga comosipes subsp.
decolorans
decurvatus (C. B. Clarke) C. Archer & Goeth.
= Mariscus rehmannianus,
but compare also under M.
albomarginatus and M. indecorus
delisserianus Webb & Berthel. = Cypus rubicundus
delicateatus Steud. = Cyp. tenuisipica
demangei (J. Raynal) Lye = Pycreus demangei
densicapsitpusus Mattf. & Kük., incl. var. rigidulus
(Steud.) Kük. = Kyllinga pumila
densicapsitpous var. major (Nees) Kük. = K. pumila
densicapsitpous var. stenophyllus (K. Schum. ex
C. B. Clarke) Kük. = K. stenophylla
densiflorus Hemsl. 1885 = Mariscus longibracteatus
densiflorus Link 1820 = Cypus imbricatus
densiflorus G. Mey. 1818 = Torulinium odoratum
densifolius Kunth 1837 = Pycreus mundii var. mundii
densifolius Steud. 1854 = P. mundii var. mundii
densus Link = P. lanceolatus
denudatus L. f. var. aureobrunneus (C. B. Clarke) Kük.
= Cypus aureobrunneus
denudatus var. delicatilis C. B. Clarke = Cyp. platycaulis
denudatus var. lenticinigricans (K. Schum.) Kük.
= Cyp. platycaulis
denudatus var. serpens (Cherm.) Kük. = Cyp. platycaulis
denudatus var. sphaeraspermoidea (Cherm.) Kük.
= Cyp. denudatus
denudatus var. sphaeraspermus (Schrad.) Kük.
= Cyp. sphaeraspermus
depauperatus Vahl = Eleocharis retroflexa subsp.
retroflexa
deremennis K. Schum. = Cypus renshii
derreilema Steud. var. ajar (C. B. Clarke) Kük.
= Cyp. ajar
dewildeorum (J. Raynal) Lye = Pycreus dewildeorum
dichromeniformis Kuntt var. major Boeckeler
= Cypers mapanioides
dichromus C. B. Clarke 1906 = taxonomic status uncertain
(described from Kenya, Jeroko, 3°24'N x 41°18'E, on
the collection Ellenbeck 2195 made in 1901), near
Cyp. pocius
diffusus Roxb. 1820 = Cyp. michelianus
diffusus Vahl 1805 = Cyp. laxis
diffusus Vahl 1805 subsp. buchholzii (Boeckeler) Kük.
= Cyp. laxis subsp. buchholzii
diffusus subsp. sylvestris (Ridl.) Kük. = Cyp. laxis subsp.
sylvestris
diffusus misapplied = Cyp. albostratiatus
digtatus Nees 1834 = Cyp. imbricatus
dilatoloiensis (Kük. ex Cherm.) Kük. = Pycreus dilatoloiensis
diphyllys Retz., incl. var. elaior Benth. and
var. triangularis Boeckeler = Cypers corymbosus
dipsacoides (Schumach.) Bauters = Ascolepis dipsacoides
distachychos All. = Cypers laevigatus subsp. distachychos
distans L. f. 1782, incl. subsp., vars. and forms = Mariscus
longibracteatus
distans L. f. var. mucronatus Berh. = Cypers corymbosus
See at end of Mariscus
distans G. Mey. 1818 = Torulinium odoratum
distichophyllus Steud. 1842 = Pycreus mundii
var. uniceps
CYPERUS

diurensis Boeckeler, incl. vars. = Mariscus diurensis
dives Delile = Cyperus exaltatus var. dives
drakensbergensis (Vorster) Govaerts
  = cf. Mariscus solidus
dubius Rothb. = Mariscus dubius
dubius var. buchananii (C. B. Clarke) Kük. = M. dubius
subsp. dubius
dubius var. caespitosus Boeckeler, var. capitatus (Cherm.)
Kük., var. coloratus (Vahl) Kük., subsp. coloratus
(Vahl) Lye, var. decaryi (Cherm.) Kük., var. detersus
(C.B. Clarke ex Cherm.) Kük., var. polyactis Peter ex
Kük., var. stenactis Peter ex Kük. = M. dubius
subsp. dubius
dubius var. macrocephalus (C. B. Clarke) Lye,
var. macrocephalus (C. B. Clarke) Kük. and fa.
macrocephalus Boeckeler = M. dubius subsp.
macrocephalus
duchaisingii Steud. = Cyperus sphaelatrus
ducis Buscal. & Muschl. = Cyp. kirkii
durandii Boeckeler = Pycreus flavescens subsp. flavescens
durus Kunn. = Mariscus durus
dussianus Duss = M. flabelliformis
dussii Boeckeler = M. flabelliformis
dwarkensis K. C. Sahni & H. B. Naithani = Pycreus
dwarkensis
eburneus Thonn. ex Kunn. = Cyperus marigliancus
echinolepis T. Koyama = Lipocarpha albiceps
echinus (J. Raynal) Bauters = L. chinicus
edulis Dinter = Cyperus usitatus var. usitatus
elatior (Kunnth) Boeckeler 1870 = Mariscus solidus
elatior Boeckeler 1879 = Cyperus tenuiculmis
var. tenuiculmis
elatus Rothb. 1773, non L. 1756 = Mariscus
longibracteatus
elegans misapplied = Cyperus albostratius
elegantulus Steud., incl. var. submelanostachyus Kük.
= Pycreus elegantulus
eleusinoides Kunth = Cyperus nutans var. eleusinoides
eleusinoides var. dinklageanus (C. B. Clarke) – See at end of Mariscus
ellottianthus Schult. = Pycreus lanceolatus
elongatus Lej. ex Nees 1834 = Cyperus longus subsp.
longus
elongatus Sieber ex Kunth 1837 = Cyp. rotundus
elongatus Steud. 1854 = Pycreus intactus
elongatus Hochst. ex C. B. Clarke 1884 = Cyperus
schimperianus
ensifolius Nees & Ehrenb. ex Boeckeler
= Cyp. conglomeratus subsp. conglomeratus
eragrostis Kunth 1807, non Lam. 1791 = Pycreus
sanguinolentus
eragrostis Vahl 1805 = P. sanguinolentus
eragrostis var. flaccidulus Boeckeler, and fa. flaccidulus
(Boeckeler) Cufod. = P. sanguinolentus
eragrostis C. Krauss 1845 = P. flavescens subsp.
intermedius
erectus (Schumach.) Mattf. & Kük. subsp. erectus
= Kyllinga erecta
erectus subsp. albescens (Lye) Lye = K. erecta
erectus var. auratus (Nees) Kük. = K. brevifolia
var. brevifolia
erectus var. intercedens (Kük.) Kük. = K. erecta
erectus var. intricatus (Cherm.) Kük. = K. brevifolia
var. brevifolia
erectus subsp. jubensis (Chiov.) Lye = K. erecta
erectus var. luridus (Kük.) Kük. = K. brevifolia
var. lurida

CYPERUS

erectus fa. minor Kük. = K. erecta
erectus fa. pallescens Kük. = K. erecta
erectus var. pleiocarpus (Kük.) Kük. = K. erecta
erectus var. schlechteri (Kük.) Kük. = K. erecta
erectus sensu Andrews 1956 = K. brevifolia var. brevifolia
erinaeus (Ridl.) Kük. = Sphaerocephrus erinaeus
(Actinoschoenus erinaeus)
eriocaloides (Steu.) Bauters = Ascolepis eriocaloides
erthyraeus Schrad. = Pycreus sanguinolentus
erythrocephalus (S. S. Hooper) Bauters
= Ascolepis erythrocephalus
esculentus Drège & E. Mey. 1843, non L. 1753
= Cyperus prolifer
esphaelattus Kük. = Cyp. dilatatus
exaltatus Retz. var. digynus (Boeckeler) F. N. Williams
= Cyp. alopocuroides
exaltatus var. divergens Kük. = Cyp. exaltatus
var. exaltatus
exaltatus var. dives (Delile) C. B. Clarke = Cyp. exaltatus
var. dives
exaltatus var. iwaskii (Makino) T. Koyama
= Cyp. exaltatus var. exaltatus
exaltatus var. minor J. M. Black = Cyp. exaltatus
var. exaltatus
exaltatus var. serpens Kük. = Cyp. exaltatus var. exaltatus
exicus Boeckeler = Cyp. conglomeratus (C. jemicinus)
eximius (C. B. Clarke) Mattf. & Kük. = Kyllinga eximia
eximius var. kellert (C. B. Clarke) Kük. = K. comosipes
subsp. comosipes
fallaciosus (Cherm.) Raymond = Pycreus flavescens
subsp. flavescens
familiaris Steud. = Toruliumoidum odoratum
fascicularis Poir. 1806 = Pycreus polystachyos
var. polystachyos
fastigiatum Forsk., non Rothb., nec Willd. ex Kunth
= Cyperus alopocuroides
felicis (J. Raynal) Lye = Pycreus felicis
fenzelianus Steud., incl. var. badiiformis Chiov.
= Cyperus longus subsp. longus
ferax Rich., incl. many vars. = Toruliumoidum odoratum
ferox Vahl = T. odoratum
ferrugineoviridis (C. B. Clarke) Kük., incl.
var. distantiformis and var. luteiformis Kük.
= Mariscus ferrugineoviridis
ferrugineoviridis (C. B. Clarke) Kük., incl.
var. distantiformis and var. luteiformis Kük.
= Mariscus ferrugineoviridis
ferrugineoviridis (C. B. Clarke) Kük., incl.
var. distantiformis and var. luteiformis Kük.
= Mariscus ferrugineoviridis
ferrugineoviridis (C. B. Clarke) Kük., incl.
var. distantiformis and var. luteiformis Kük.
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var. distantiformis and var. luteiformis Kük.
= Mariscus ferrugineoviridis
ferrugineoviridis (C. B. Clarke) Kük., incl.
var. distantiformis and var. luteiformis Kük.
= Mariscus ferrugineoviridis
ferrugineoviridis (C. B. Clarke) Kük., incl.
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var. distantiformis and var. luteiformis Kük.
= Mariscus ferrugineoviridis
ferrugineoviridis (C. B. Clarke) Kük., incl.
var. distantiformis and var. luteiformis Kük.
flavescens fa. abyssinicus (Hochst. ex A. Rich.) Kük., and var. abyssinicus (Hochst. ex A. Rich.) C. B. Clarke = P. flavescens subsp. flavescens
flavescens subsp. fallaciosoicus (Cherm.) Lyne = P. flavescens subsp. flavescens
flavescens subsp. intermedium (Rikli) Lyne = P. flavescens subsp. intermedium
flavescens subsp. laevius (Lye) = ? P. overlaetii
flavescens subsp. microglumis (Lye) = P. flavescens subsp. microglumis and var. castaneus
flavescens var. rehmannianus (C. B. Clarke) Kük. = P. flavescens subsp. microglumis var. castaneus
flavescens var. rubromarginatus (C. B. Clarke) Kük., incl. var. fluminalis longifolius Schrenk, and fa. var. rubromarginatus (Schrenk) Regel = P. sanguinolentus
flavescens var. tanaensis (Kük.) Lyne = P. flavescens subsp. tanaensis
flavidus sensu C. B. Clarke, Fl. Trop. Afrik. 8: 333, 1901, and Rendle 1899, non Retz. 1788 = Cyperus tenus silica
flavissimus Steud. 1829 = Cyp. denudatus
flavissimus Schrad. 1821 = Cyp. sphaerocephalus
flexilis Boeckeler 1879, non Boeckeler ex Reinecke 1898 = Cyp. imbricatus
fluitans (L.) Missbach & E. H. H. Krause = Isolepis fluitans
fluminalis Ridl., incl. var. longifolius (Cherm.) Kük. = Pyreus fluminalis
foliosus Willd. ex Kunth = P. intactus
foliosus K. Schum., 1895. = Mariscus luteus
fontanesii Kunth = Pyreus flavescens
fonticola Kunth = Pyreus marginatus
fontinalis (Cherm.) Kük. = Pyreus sanguinolentus sqamesquamatus (cf. also under P. fontinalis)
freirei C. B. Clarke = Cyp. crassipes
freirei sensu Chiov. 1916 = Cy. benadrensis
fresenii Steud. = Cyp. dichostachyus
friesii Kük. = Mariscus amauropus
fulgens C. B. Clarke var. contractus Kük. = Cyperus usitatus subsp. palmaus
fulgens s. lat. sensu Podlech 1967 = Cyp. usitatus subsp. palmaus
fulgens
fulvus Ridl. = Pyreus nitudus
fuscocavatinus Kük. = See at end of Mariscus
geminiflorus (Steud.) Wickens = Kyllinga bulbosa
glundechatitus Huqgh = K. echinata
ginge Welw. 1859 = Cyperus alternifolius subsp. flabelliformis
giofi Chiov., incl. var. nolagennis (Chiov.) Kük. = Cyp. grandibulbusous
glaucoviridis Boeckeler = Mariscus ligularis
globei (C. B. Clarke) Lyne = M. amomodorus
globoeus Forsk. 1775, non All. 1789 = M. schimperi
globoeus var. nurensis (Boeckeler) Kük. = Pyreus nurensis
goeressii Stud. = Cyp. aff. difformis
gondamus Boeckeler = Mariscus diuresis
gossweileri Kük. = Pyreus pubescens
graciliculmis sensu Trupin, Fl. Rwanda 4: 446, 1988, non Lyne = Cyp. vandervekenii
gracilinus C. B. Clarke = Cyperus dilatatus
graciliums (Chiov.) Kük. = Pyreus gracilumis
gradatus Forsk. = Pyreus alternifolius subsp. flabelliformis
grantii Boeckeler = Cyp. tenax
gratus C. B. Clarke = Cyp. cuspidatus
guanipensis Schnee = Pyreus pelophilus

CYPUS

guineensis Nelmes = Cyperus tenuiculmis var. guineensis
ghysophilus Lyne = Mariscus ghysophilus
hamiltonii Kunth = Torulinum odoratum
hamulosus M. Bieb. = Mariscus hamulosus
haspan L. var. sphaeroespermoids (Cherm.) Chern.
haspan Rottb. 1773, non L. 1753 = Cy. tenuisica
hemadriti M. R. Almeida 2009 = Cy. tenuiculmis
hemisphaericae Boeckeler, incl. var. gregorii (C. B. Clarke) Kük. and var. longiforbus Pet. ex Kük. = Mariscus hemisphaericae
herana Chern. = Cy. latifolius
herbivagus Kunth (non herbivacus Melliss) = Pyreus semitridius
heterophyllus Boeckeler = Cyp. crassipes
heudeletii C. B. Clarke = Cyp. maculatus subsp. maculatus
hilibranditii Boeckeler = Mariscus hemisphaericae
heritellas (Chiov.) Kük. = Mariscus hirtellas
hirtus Thunb. = Iminosilis squarrosa var. squarrosa
hochstetteri Nees ex Krauss, incl. var. russa C. B. Clarke and var. tenuis Boeckeler = Pyreus macrostachyos
holoschoenus (L.) Missbach & E. H. H. Krause 1900 = Spirocles holoschoenus
holosericea Link = Pyreus polystachyos var. microdontus
hortensis (Salzm. ex Steud.) Dorr = Kyllinga pumila
hulalensis Ridl. = Cyperus denudatus
hyalinus Vahl, incl. var. substretis (E. G. Camus) Kük. = Queenslandla hyalina
hylaes Ridl. = Cyp. renichii
hystericois (B. Nord.) Bauters = Lipocarpha rehmannii
ibeensis C. B. Clarke = Mariscus amauropus
inermensis Boeckeler = Cyperus papyrus subsp. madagascariensis
inmissis Nelmes = Cyp. koalensis
immunis C. B. Clarke, incl. var. petherickii (C. B. Clarke) Kük. and var. taylorii C. B. Clarke = Cyp. dives
impubes Steud. = Mariscus impubes
impubes var. breviscopiclous Kük. = M. impubes var. impubes
impubes var. rohlfssii (Boeckeler) Kük. = M. rohlfssii
inauratus (Nees ex Boeckeler) Mattf. & Kük. = Kyllinga inaurata
inauratus var. laovicaractinatus Kük. = K. inaurata
indecorus Kunth var. indecorus = Mariscus sumatrensis
indecorus var. decurvatus (C. B. Clarke) Kük. = M. rehmannianus
indecorus var. dinteri Kük. = M. rehmannianus
indecorus var. influenza (C. B. Clarke) Kunth and var. nanaquensis Kük. = M. alboternarius
inferus Muhl., incl. var. acutifl. Hook. f. and var. elongus Hook. f. = M. squarrosus
insetbergensis Lyne = Kyllinga insetbergensis
intercostus Vahl = Pyreus intactus
intermedius Steud. 1842 = P. flavescens subsp. intermedius
involutus Rottb. 1772 = Cyperus alternifolius subsp. flabelliformis
involutus Poir. 1806 = Cyp. imbricatus
involutus R. Br. 1814 = Cyp. conglomeratus subsp. conglomeratus
CYPERACEAE

CYPERUS

involutus (C. B. Clarke) K. Schum. 1900
= Mariscus solidus

ischnocornus Steud. = Pycreus elegantulus

isochlaud Künth = Cyperus prolifer

isolepis (Nees) Bauters = Lipocarpha hemisphaerica

italicus Rottb. 1772, non Tod. 1861 = Cyperus michelianus subsp. michelianus

iwasaki Makino = Cyp. exaltatus var. exaltatus

jacquemontii Boeckeler = Pycreus lanceolatus

jardinei Steud. = Cyperus crassipes

javanicus Houtt. = Mariscus albecens

jemicinus Retz. 1786 = Cyperus bulbosus

jeminicus Rottb. 1773 = (Cyp. jeminicus =)

Cyp. conglomeratus

joculatus E. Mey. = Cyp. prolifer

junciformis Desf. 1798 = Cyp. laevigatus subsp. distachyos

junciformis Cav. 1795 = Cyp. laevigatus subsp. distachyos

juncoides Lam. = Cyp. haspan

kalli (Forsch.) Murb. = Cyp. capitatus

kamphoevenerii Boeckeler = Cyp. maculatus

karisimiensis (Chern.) Kük., incl. var. longinux (Kük.)

= Mariscus karisimiensis

keniensis Kük. = M. longibracteatus

kernii (Raymond) Bauters = Lipocarpha kernii

kerstenii Boeckeler, incl. var. irregularis Kük.

= Mariscus kerstenii

kerstingii Engl. 1908 = ? (unplaced name)

kiliianii (Muasya & D. A. Simpson) Lyce = Kyllinga kilianii

kiphasensis sensu Haines & Lye 1983, non Cherm. 1934

= Cyperus haspan

kivimensis Chern. = Cyp. platycaulis

kleiniana Hochst. ex Steud. = Courtoisina cyperoides

koenigii Vahl = Cyperus corymbosus

kotchyanus Fenzl ex Steud. = Cyp. nutans

var. eleusinoides

kottensii Chern. = Cyperus tonkinensis var. baikiei

kuebensiensis Kük. = Cyp. hensii

kyllinga Endl. 1842, incl. forms = Kyllinga nemoralis

kyllingia var. laticollis (Boeckeler) Kük. = K. nemoralis

kyllingiella Larrdon = Kyllingiella microcephala

killingiformis (“kyllingaformis”) Lyce = Mariscus kitalennis

kyllingoides Vahl, incl. var. incrassatus (C. B. Clarke)

Kük. = Mariscus dubius

labiatus Peter 1928 = Cyperus latifolius

laevigatus L. var. albidus Vahl, and subsp. albidus (Vahl)

Maire & Weiller, and fa. alitrus Peter ex Kük., and var. ramulose Sickenb., and var. subaphyllus (Boeckeler ex Schinz) Kük. = Cyp. laevigatus subsp.

laevigatus

laevigatus var. distachyos (All.) Coss. & Durieu

= Cyp. laevigatus subsp. distachyos

laevigatus subsp. distachyos (All.) P. H. Davis

= Cyp. laevigatus subsp. distachyos

laevigatus var. pictus Boeckeler = Cyp. laevigatus subsp. laevigatus or subsp. distachyos

lanatus Ruiz ex Boeckeler = Limbristylis pilosa

laceola Ridl. = Cyperus fertilis

laceolatus Poir. = Pycreus lanceolatus

laceous Thunb. 1794 = P. nitidus

lanceus var. angustifolius Ridl., and var. macrostachya

Künth = P. macranthus

lanceus F. Muell. 1874 = P. unioloides

lanceus var. angustifolius Ridl., and var. macrostachya

Künth = P. macranthus

lanceus fa. densior (Chern.) Kük., var. divaricatus

Kük., var. granitii C. B. Clarke, var. humilis Künth, var. melanopus (Boeckeler) Kük., var. palaetinensis Kük., and var. ramosus Kük. = P. nitidus

lanceus var. macroranthus Künth = P. permutatus

lapidicoleus Kük. = ? = Cyperus seminitridus

lateralis Forssk. = Cyp. laevigatus subsp. laevigatus

lateriflorus Torr. 1858 = Cyp. difformis

latteriflorus Steud. 1829 = Cyp. longus subsp. longus

axespicatus Kük., incl. var. brunneotinctus Kük., and var. percrassus Kük. = Pycreus laxespicatus

laxespicatus var. testu (Chern.) Kük. = P. testu

laxus R. Br. 1814, non Lam. 1791 = Cyperus bulbosus

laxus Vahl 1806 = Mariscus longibracteatus

ledermannii (Kük.) S. S. Hooper, and var. polyphyllus

Boeckeler = Cyperus niveus var. leucocephalus

leptocladus Oliv. 1887, nom. nud., non Künth 1837

= Cyp. glucophyllus

leptolepis Peter ex Kük. = Mariscus amaruopus

leptophyllus Hochst. ex Steud. 1854, in syn., and (Hochst. ex Steud.) C. B. Clarke, incl. fa. conglobata Kük., var. delicisious Kük., var. frissis (Kük.) Kük., and var. ibensis (C. B. Clarke) Kük. = M. amaruopus

leptorrhachis Mattt. & Kük. = Kyllinga debilis

leptostachyus Nees, non Kunth 1837

= Cyperus tenuspicia

leucaspis (J. Raynal) Bauters = Lipocarpha leucaspis

leucocephalus Retz. 1872, non Hassk. 1848

= Cyperus ? pulchellus (from India to Viet-Nam)

leucocephalus Hassk. 1848 = Kyllinga nemoralis

liebmannii Steud. = Pycreus polystachyos

var. polystachyos

ligularis L. (non Hems.) incl. var. spicatocupitatus

“[Jardin”] (Steud.) Kük. = Mariscus ligularis

lipooater Goeth. = Lipocarpha atra

lipocarpa T. Koyama = L. chinensis

lipocarpoides (Kük.) Lyce = Alinula lipocarphioides

lipomososus Goeth. = Lipocarpha comosa

lipofiliformis Goeth. = L. filiformis

lipomonostachyus Goeth. = L. monostachya

liporobinsonii Goeth. = L. robinsonii

lipothermalis Goeth. = L. thermalis

localeps C. B. Clarke = Cyperus spachelatus

longibracteatus (Chern.) Kük., incl. var. niger

(C. B. Clarke) Lyce, var. rubrotinctus (Chern.) Kük., and var. subdistans Kük. = Mariscus longibracteatus

longisotolon Peter & Kük., incl. subsaturofusus (Lyce) Lyce = Pycreus longistolon

longus Boeckeler 1880, non L. 1753 = Cyperus rotundus

longus L. var. adoensis (Hochst. ex A. Rich.) Boeckeler

= Cyp. rigidifolius

longus var. badiformis (Chiov.) Kük. = Cyp. longus subsp. longus

longus longus (Desf.) Cambess. = Cyp. longus subsp. longus

longus subsp. longus (Desf.) Soó = Cyp. longus subsp. longus

longus var. maculatus (Boeckeler) Boeckeler = Cyp. maculatus

longus var. pallescens (Desf.) Coss. & Durand

= Cyp. corymbosus

longus var. pallidior Kük. = Cyp. longus subsp. longus

longus var. pallidior Boeckeler = Cyp. longus subsp. longus

longus
**CYPUS**

longus var. tenuiiflorus (Rottb.) Boeckeler = **Cyp. longus** subsp. longus
lucentinigricum Schum. = **Cyp. platycaulis**
lucidulus C. B. Clarke 1884 = **Cyp. zollingeri**
luteus Boeckeler, incl. var. manongarivensis (Cherm.) Kük.
= **Mariscus luteus**
luzuliformis Boeckeler = ? var. sumatrensis
macranthus Boeckeler, incl. var. angustifolius (Ridl.) Kük.
= **Pycreus macranthus**
pacranthus fa. acuticarinatus (Kük.) Kük.
= **P. acuticarinatus**
macranthus var. angustifolius (Ridl.) Kük.
= **P. macranthus**
macranthus var. macranthus (Kunth) Kük.
= **P. permunatum**
macranthus var. mucronatus fa. acuticarinatus (Kük.) Kük.
= **P. acuticarinatus**
macrocarpus (Kunth) Boeckeler, incl. var. excelsior Kük., var. hambertii (Cherm.) Kük., var. kraussii (Boeckeler) Kük., var. pseudoflavus (C. B. Clarke) Kük., and var. submacrocarpus Kük. = **Mariscus sumatrensis**
macropus Boeckeler = **M. amomodorus**
melanospermus var. macranthus (Kük.) Kük., var. margaritaceus (Cherm.) Kük., var. prorepens var. margaritaceus (Miq.) Valck. Sur. 1898 = **Pycreus macranthus**
= **Pycreus micromelas**
melanospermus var. angustiflorus (Rottb.) Boeckeler = **M. sumatrensis**
melanocarpus (Cherm.) Kük. = **M. sumatrensis**
melanorhizus Delile = **Cyp. conglomeratus**
melanorhizus (Musaiva) Huygh = **Kyllinga michelianae**
mebolidii Kük. var. gigas Berhaut = **Pycreus clavinus**
meleacme (Nelmes) Raymond = **Pycreus melanosperma**
meleacme R. Br. 1814, nom. nud., non Miq. 1856
= **P. elegantulus**
melanosperma Boeckeler = **P. nitidus**
melanorhiza Delile = **Cyperus esculentus**

**CYPERUS**

melanosperma (Nees) Valck. Sur. = **Kyllinga**
melanosperma
melanosperma var. hexalatus (Lye) Lye
= **K. melanosperma var. hexalata**
melanosperma var. inermensis (Cherm.) Kük., var. perrieri (Cherm.) Kük., and var. plurifoliatus (Kük.). Kük. = **K. melanosperma var. melanosperma**
melanosperma subsp. elatus (Steud.) Lye = **K. polypylla**
var. polypylla
melas Ridl. = **Pycreus melas**
merxmuelleri (Podlech) Lye = **Kyllinga albiceps**
metal lorum (P. A. Duvign. & G. Léonard) Bauters = **Ascolepis metallorum**
metzii (Hochst. ex Steud.) Mattf. & Kük.
= **Kyllinga squamulata**
micans Kunth = **Pycreus intactus**
microareaureus Lye = **Aalinula pteri**
microbolbos C. B. Clarke = **Mariscus microbolbos**
microbracteatus (Lye) Lye = **Kyllinga microbracteata**
microbulbosus (Lye) Lye = **K. microbulbosus**
microcephalus F. Muell. = **K. eecta**
microcristatus Lye = **K. microcristata**
microdornt Torr. = **Pycreus polystachyos**
var. microdorntus
microlepis Boeckeler 1879, non Baker 1877
= **Pycreus subnicrolepis**
micromariscus Lye = **Cyp. (Mariscus) micromariscus**
micromedusaeus Lye = **Mariscus micromedusaeus**
micromegas Lye = **Pycreus micromegas**
micropeltiphilus Lye = **P. micropeltiphilus**
microstachyus Vahl = **Pycreus amabilis**
microstachys (C. B. Clarke) Mattf. & Kük.
= **Kyllinga microstyla**
microumbellatus Lye = **? Pycreus prolifer** × **Cyp. haspan**
mindorensis (Steud.) Huygh = **Kyllinga membralis**
minor Steud. = **Pycreus intactus**
minutulus C. B. Clarke. = **Pycreus hildebrandtii**
mollipes (C. B. Clarke) K. Schum. = **Mariscus amomodorus**
mollipes var. amomodorus (K. Schum.) Kük., and var. bulbocaulis (Boeckeler) Kük., and var. globifer (C. B. Clarke) Kük. = **M. amomodorus**
mollipes var. paolii (Chiov.) Kük. (= **M. paolii**
= **M. owanii** = **M. solidus**
monocephalus Baker 1887, nom. illeg., non F. Muell.
= **Pycreus fluminalis**
monocephalus F. Muell. 1874 = **Kyllinga eecta**
monoflorus Lye = **K. uniflora**
monostachyos L., non Link 1879 = **Abildgaardia ovata**
monostachyos Link 1879 = **Cyperus laevigatus** subsp. laevigatus
= **Pycreus sceattac**
monovriens Boeckeler = **Cyperus tenax**
morandini Pic. Serm. = **Cyp. clavinaux**
morandina C. B. Clarke p. minim. p. (Chevalier 4170)
= **Pycreus sceattac**
morovriensis Boeckeler = **Cyperus tenax**
morandini Pic. Serm. = **Cyp. clavinaux**
morrutini (S. S. Hooper) Lye = **Pycreus mortonii**
mortinii sensu Haines & Lye 1983: 273, 277
= **P. unioideis**
mossambicensis Parl. = **Cyp. papyrus subsp. papyrus**
mossici Turrill = **Cyp. albostratiatus**
mucronatus (L.) Mabbile 1867, non Steud. 1854, nec Rotth. 1772 = **Cyp. mucronatus**
mucronatus Rottb. 1772 = **Cyp. laevigatus** subsp. distachyos or subsp. laevigatus
CYPERACEAE

CYPERUS

‘muelleri’ Boeckeler = Cyp. amabilis

‘multiglumis’ Turrill = Cyp. semitriditus

‘mundii’ (Nees) Kunth = Pyreus mundii

‘mundii var. densispiculus’ Kük. = P. mundii

‘var. densispiculus’

‘mundii fl. distichophyllas’ (Steu.) Kük. and

‘var. distichophyllas’ (Steu.) Kük. = P. mundii

‘var. uniceps’

‘mundii var. glaucus’ Boeckeler and var. gracilis (Cherm.)

Robyns & Tourney = P. mundii var. mundii

‘mundii var. uniceps’ (C. B. Clarke) Kük. = P. mundii

‘var. uniceps’

‘muricatus Kük. = P. muricatus

myrticaeus Ridl. = Mariscus myrmecias

naumannianus Boeckeler = Cyperus maenaulus subsp.

‘maculatus’

neobarteri T. Koyama = Lipocarpa barteri

neocooperi Reynders = Pyreus cooperi

neoschimperi Kük., incl. var. subvirescens Peter & Kük., and var. viridis (Hochst. ex Schweinf.) Kük.

‘mariscus schimperi’

‘nervosus Bertol. = Cyperus esculentus

neurotrisp Steud. = Pyreus sanguinolentus

ngothe (Mtot.) Huygh = Kyllinga ngothe

‘niger Ruiz & Pav. = Pyreus niger

‘niger subsp. elegantulus’ (Steu.) Lye = Pyreus elegantulus

‘nigricans Steud., incl. var. firmior Kük. and var. simulans’ (Cherm.) Kük. = P. nigricans

‘nigriceps Huygh = Kyllinga brevifolia var. lurida

‘nigripes’ (C. B. Clarke) Kük. = K. nigripes

Malawi, K. nigripes subsp.‘alba subsp.‘alba

‘nigritanus’ (C. B. Clarke) Lyce = K. alba subsp. alba

‘niloticus Forsks. = Cyperus articulatus

‘nitens Retz. 1788, incl. var. muticus Boeckeler

= Pyreus pumilus

‘nitens Vahl 1805 = P. pumilus

‘nittidus Lam. = P. nittidus

‘niveus Retz. var. flavissimus’ (Schrad.) Lye = Pyreus spathoerophalus

‘niveus var. flavissimus auct., non (Schrad.) Lye, (misidentified) = Cyp. austrochrysanthus

‘niveus var. ledermannii’ (Kük.) Lye = Cyp. niveus var. leucoerophalus

‘njombensis Huygh = Kyllinga uniflora

‘nodosus Humb. & Bonpl. ex Willd., incl. var. aphylus

Boeckeler and var. subnodosus (Nees & Meyen)

Boeckeler = Cyperus articulatus

‘nubianus Gand. = Cyp. (jemicinus =) conglomeratus

‘nubicus’ C. B. Clarke = Cyp. rotundus

‘nudicaulis Poir. = Anosporum pectinatum

‘nudicus’ Sieber ex C. B. Clarke = Cyperus schimperianus

‘nudus’ Roxb. 1832, non Kunth 1816 = Cyp. corymbosus

‘nudus Kunth 1816 = Cyp. haspan

‘nuernersis Boeckeler = Pyreus nuernersis

nuernersis Retz. 1883, non Kunth 1805 = Mariscus longibracteatus

‘nutans Sieber ex C. Presl 1828, non Vahl 1805 = Cyp. nutans subsp. eleusinoides (Kunth) T. Koyama

‘cyperus nutans var. eleusinoides (Kunth) Haines

‘nyasensis’ (Podlech) Lye = Mariscus nyasensis

‘nyassicus Chiov. = Cyperus papyrus subsp. nyassicus

‘nyikanus Govaerts = Kyllinga oblonga

CYPERUS

‘obbiadensis Chiov. = Mariscus (See at end of genus)

‘oblongoincassatus Kük. = M. taylorii

‘oblongoincassatus Kük. var. clarior Kük. = M. rohlfisii

‘oblongoincassatus var. grotemanus Kük. and var. udigenisis

‘Kük. = M. taylorii

‘oblongus’ (C. B. Clarke) Kük. = See under Kyllinga

‘nervosa and Kyllinga oblonga

‘oblongus subsp. flavis’ (C. B. Clarke) Lye = K. nervosa

‘subsp. flava

‘oblongus subsp. jubensis’ (Mtot.) Lye = K. nervosa

‘subsp. jubensis

‘oblongus subsp. nervosus’ (Steu.) Lye = K. nervosa

‘oblongus subsp. oblongus = K. oblonga

‘oblongus var. ravenzorizensis’ (C. B. Clarke) Kük.

= K. polyphylla var. elatior

‘obsoletenervosus Peter & Kük. = Mariscus albomarginatus


‘= Kyllinga vaginata’ (the true K. obtusata is from S. America)

‘obthusatus var. africans’ Kük. = K. erecta

‘obtusiflorus Vahl = Cyperus niveus var. leucoerophalus

‘obtusiflorus var. flavissimus’ (Schrad.) Boeckeler

‘= Cyp. spathoerophalus

‘obtusiflorus var. ledermannii Kük. = Cyp. niveus

‘var. leucoerophalus

‘obtusiflorus var. macrostachys’ (Gräbn.) Robyns & Tourney

‘= Cyp. niveus var. leucoerophalus

‘obtusiflorus var. membranaceous’ Kük. = Cyp. niveus

‘var. leucoerophalus

‘obtusiflorus var. niveoides’ (C. B. Clarke) Kük.

‘= Cyp. niveoides

‘obtusiflorus var. paramoecenus’ Kük. = Cyp. niveus

‘var. leucoerophalus

‘obtusiflorus var. rigidius’ (Vahl) Kük. = Cyp. niveus

‘var. leucoerophalus

‘obtusiflorus var. sphaeroerophalus’ (Vahl) Kük.

‘= Cyp. sphaeroerophalus

‘obtusiflorus var. ‘Stylo bifido’ Ridl. 1844

‘= Cyp. angolensis

‘obtusiflorus var. tenerier’ (C. B. Clarke) Kük.

‘= Cyp. niveus var. leucoerophalus

‘ochrocarpus K. Schum. = Cyp. renschii
orhidephalbus C. B. Clarke 1894 = Cyp. angolensis
orhidephalbus Steud. 1842 = Cyp. eragrostis
odoratus L. = Torulimum odoratum
olidus Vahl = Pyreus polystachyos var. polystachyos
olivevae Vahl = P. polystachyos var. polystachyos
olivetorum Murb. = Cyperus (jemicinus =)
conglomeratus
onustus Steud. = Cyp. alternifolius subsp. alternifolius
ornithphaloides Dellef, nom. nud. = Cyp. digitatus
subsp. auricomus
oryzototus Steud. = Cyp. diiformis
ossiculis Lye = Mariscus ossiculis
overlaetii (Cherm. ex S. S. Hooper & J. Raynal) Lye
Pyreus overlaetii

‘owanii Boeckeler, incl. var. rogersii Kük.

(= Mariscus owanii) = M. solidus
pachystylus (Kük.) Kük. = Kyllinga pachystyla
pagoti (J. Raynal) Lye = Pyreus pagoti
palmatus (Lye) C. Archer & Goethg. = Cyperus usitatus
subsp. palmatus
palmatus Vorster ined. 1978 = Cyp. usitatus subsp.
palmatus
panicoides Lam. = Cyp. iria
panormitanus Chiov. = Cyp. papyrus subsp. papyrus
paolii Chiov. = Mariscus papyrus (nom. altern.)
papyrus sensu auct. i. a. a. Chev., non L. 1753
  = Cyperus koyalienesis
papyrus subsp. antiquorum (Willd.) Chiov., and
var. antiquorum (Willd.) C. B. Clarke, and subsp.
antiquorum (Willd.) Kök., and subsp. hadidi Chretk & Slavíková, and var. nilisicus Tournay, and subsp.
ilisicus Tournay, and subsp. ugdanensis (Chiov.) Kök.
  = Cyp. papyrus subsp. papyrus
parvus Steud. = Cyp. michelianus subsp. pygmaeus
parvinus C. B. Clarke = Cyp. rupestris
paupe Hochst. ex A. Rich. = P. pauper
pectinatus Vahl = Ansporum pectinatum
pedunculatus (R. Br.) J. Kern = Remirea maritima
pelophilus Ridl., incl. fa. nanus Kök. = Pyreus pelophilus
pennatus Lam. 1791, non Boeckeler 1870 = See under
Mariscus abelsenus at end of genus Mariscus
permutatus Boeckeler = Pyreus permutatus
perrieri (Cherm.) Hoenselaar = Mariscus perrieri
perspicus (S. S. Hooper) Bauters = Lipocarpha
perspicua
persquarrosus T. Koyama = L. nana
peruvianus (Lam.) F. N. Williams = Kyllinga vaginata
peruvianus var. foliatus (Kük.) Kök. = K. tibialis
peteri Kök. = K. peteri
peterianus Boeckeler = Cyperus alternifolius subsp.
flabelliformis
pethericki C. B. Clarke = Cyp. exaltatus var. dives
phaeohirus K. Schum., incl. var. princeae (C. B. Clarke)
Kök. = Cyp. haspan
philippiae (C. B. Clarke) Kök. = Mariscus philippiae
piilosulus (C. B. Clarke) K. Schum. ex Kök. = Mariscus
piilosulus – See at end of Mariscus
pinguis (C. B. Clarke) Mattf. & Kök. = Kyllinga
polyphylga var. elatior
platelema (Steud.) Kök. = Mariscus platelema
platycaulis Baker var. kipasensis (Cherm.) Peter ex Kök.
  = Cyperus kipasensis
platycaulis var. lucentingricans (K. Schum.) Kük.
  = Cyp. platycaulis
platycaulis var. recedens Peter & Kök. = Cyp. denudatus
platycaulis var. serpens (Cherm.) Kök. = Cyp. platycaulis
platycaulis sensu auct., non Baker = Cyp. denudatus
pluribracteatus (Kük.) Govaerts = Mariscus psilostachys
C. B. Clarke
pluricephalus Lye = M. pluricephalus
plurifoliatus (Nees) Suringar = Kyllinga melanosperma
  var. melanosperma
plurinervosus Bodard (= Mariscus plurinervosus)
  = Cyperus conglomeratus (See also under
Cyp. jeminicus & Cyp. plurinervus)
poeicus C. B. Clarke var. evolutus Kök.
  = Cyperus benadirensis
poikilotachys (Nelmes) Reynolds, incl. var. heterochrous
(Nelmes) Reynolds = Pyreus poikilotachys
polyphyllus Vahl = Pyreus bulbosus
polytachyos var. caesius (Poir.) Kök., var. fasciculatus
(Poir.) Kuntze, var. thouarsi (Kunth) Kök., and
var. chlorotachys (Boeckeler) Kök. = Pyreus
polystachyos var. polystachyos
polystachyos Rottb. 1773 = P. polystachyos
polystachyos var. baronii C. B. Clarke, var. farrugineus
Boeckeler, and var. micans (Kunth) C. B. Clarke
  = P. intactus

CYPUS

polystachyos var. holosericeus (Link) C. B. Clarke and
subsp. holosericeus (Link) T. Koyama = P. polystachyos
  var. microdontus
polystachyos var. laxiflorus Bentham. and subsp. laxiflorus
(Benth.) Lye 1983 = P. polystachyos var. microdontus
polystachyos var. leptostachyos Boeckeler
  = P. polystachyos var. microdontus
polystachyos var. sanguineus Kök. = P. nurensis
polystachyos Chern. 1922 = Cyperus rotundus
polystachyos Boeckeler = P. polystachyos var. polystachyos
polystachyos Jungh. 1831, non C. polystachyos Rottb. 1773
  = Pyreus flavescens
praealtus Kök. = P. altus
pratensis Boeckeler = Mariscus pratensis
pratensis var. laevis C. B. Clarke = M. laxiflorus (syn.:
Cyperus turrillii Kök.)
prieurianus (Steud.) T. Koyama = Lipocarpha prieuriana
princeae C. B. Clarke = Cyperus haspan
prionodes Steud. = Cyp. marginatus
procerus Rottb. var. stenanthus Kök. and var. vanderystii
Kök. = Cyp. procerus
prolier Lam. var. isocladus (Kunth) Kök. = Cyp. prolier
proteinolepis Steud., non Boeckeler, incl. var. pumilus
  = Cyp. (jeminicus =) conglomeratus
proteus (Welw.) Bauters = Ascolepis protea
protractor Link 1821, non Delile 1813 = Cyperus
diformis
proximus Steud. = Cyp. alternifolius subsp. flabelliformis
pseudobrunneus (C. B. Clarke ex Cherm.) Kök., incl. vars.
  = Mariscus pseudobrunneus
pseudobulbosus (Mot.) Lye = Kyllinga pseudobulbosus
pseudocalisius Kök., incl. var. angustilatius Kök.
  = Mariscus albomarginatus
pseudodiaphanus (S. S. Hooper) Lye 1983 and 2011,
  incl. var. occidentalis (S. S. Hooper) Reynders
  = Pyreus pseudodiaphanus
pseudohildebrandtii Kök. = P. hildebrandtii
pseudokyllingioides Kök., incl. var. africanus Kök.
  = Courtoisina cyperoides
pseudoleptocladas Kök., incl. var. polycarpus Kök.
  = Cyperus glaucophyllus
pseudoniveus Bauters = Cyp. margarticaeus
pseudopenieteri (Goeth.) Bauters = Ascolepis pseudopenieteri
pseudopoliosus (C. B. Clarke) Govaerts = Mariscus
pseudopilosus
pseudosomaticus Kök. = M. somaliensis
pseudophacelatus Chiov. 1915, non Boeckeler 1890
(America) = Cyperus dilatatus
pseudovestitus (C. B. Clarke) Kök., incl. var. polycarpus
Kök. = Mariscus pseudovestitus
pseudovestitus fa. angustifolius (Cherm.) Kök., and
var. astrocephalus Kök., and var. perrieri (Cherm.)
Kök. = M. perrieri
pseudovestitus sensu Haines & Lye 1983: fig. 427 p. 212
  = M. albomarginatus or M. schimperi
psilostachys (C. B. Clarke) Kök., non Steud., incl. fa.
glabrescens Kök. and var. pluribracteatus Kök.,
and var. subrufus Kök. = M. psilostachys
pubescus Kök. = M. pubens
pumilus L. 1756, non Rottb. 1773, incl. var. patens (Vahl)
Kök. and other vars. = Pyreus pumilus
pumilus Rottb. 1773 = P. sanguinolentus
puentes Boeckeler ex Aitch. & Hemsl.
  = Cyperus conglomeratus subsp. conglomeratus

157
pungens Boeckeler var. elatus Boeckeler, var. multiceps Boeckeler, and var. tenuis Boeckeler  
= Cyp. macrorrhizus
pungens var. multicalmis Boeckeler = Cyp. jeminicus = conglomeratus
purpureoglandulosus Mattf. & Kük. = Kyllinga (phaeocarpa Boeckeler 1875) – See under K. bulboz
purpureovaginatus Boeckeler = Mariscus longibracteatus
purpureus Boeckeler = Cyperus sciuinii
pusillior Vahl = Pycreus pumilus
pustulatus Vahl var. debilis Kük., and var. djalonis A. Chev. ex Kük. = Cyperus pustulatus
pustulatus var. tschinsensendensis (Turrill) Kük.  
= Cyp. derreilema
pygmaeus Rothb. = Cyp. michelianus subsp. pygmaeus
pygmaeus Rothb. var. michelianus (L.) Boeckeler  
= Cyp. michelianus
pygmaeus Cav., non Rothb., nec Retz., nec Nett.  
= Mariscus hamulosus
quadriflorus Boeckeler = M. impubes
radiatus Vahl 1805, incl. var. capitatus Boeckeler, and var. elongatus Boeckeler and var. minor Boeckeler  
= Cyperus imbricatus
ramosii Kük. = Cyp. zollingeri
rarissimus Steud. = Bulbstylis rarissima
recursivipucatis Lyce = Mariscus recurvus
recrevisus Vahl = Cyp. cuspidatus
rehnmannianus (C. B. Clarke) K. Schum. 1898 sine descr.  
= Mariscus rehmannianus
rehnmannianus (C. B. Clarke) Boeckeler ex Kuntze, incl. var. bathiei (Cherm.) Kük., and fa. minor Kük., and var. rigidculmus Kük. = Pycreus flavescens subsp. microglumus
remotus (C. B. Clarke) Kük.  
= See under Mariscus boreochrysocephalus
resinosus Hochst. ex Steud. = Cyperus iria
retusus A. Rich. 1850 = Pycreus macrostachyos
retusus Nees ex Steud. 1854 = P. macrostachyos
retzii Nees 1834 = Cyperus rotundus
rhoeophyticus Lyce = Kyllinga rhoeophytica
rhoeophytum Lye “in press” = K. rheoaphytica
rhizomafragilis (Lye) Lye = K. rhizomafragilis
rhynchosporoides Kük. = Mariscus rhynchosporoides
comb. nov. (See at end of Mariscus)
richardii Steud. 1854, incl. var. angustior (C. B. Clarke) Kük. and var. oliganthus (Cherm.) Kük.
= Kyllinga (phaeocarpa Boeckeler) – See under K. bulboz
ridleyi Mattf. & Kük. = K. pauciflora
gidigofilius Steud. var. intercedens Kük.  
= Cyperus rigidifiolius
rigidis Vahl = Cyp. niveus var. leucosphalos
rionensis Boeckeler = Mariscus ligularis
riparius Schrad. ex Nees = Cyperus haspan
robinsonianus (Mott.) Lye = Kyllinga robinsoniana
rohlsii Boeckeler = Mariscus rohlsii
rotundus L. subsp. divaricatus Lye = Cyperus rotundus
rotundus var. fenzelianus (Steud.) El-Hadidi = Cyp. longus
subsp. longus
= Cyp. rotundus
rotundus Kunth 1837 p.p., non L. 1753 = Cyp. bulbosus
rubicundus Wild. ex Link 1820, non Vahl 1805  
= Cyp. rotundus
rubidomontanus (J. Browning) Larridon = Pycreus
rubrotrnctus (Cherm.) Kük. = Mariscus longibracteatus
rubrotrnctus (Cherm.) Kük. = Pycreus rubromonstans
rukwanus Huygh = Kyllinga alba-purpurea
rupestris Kunth var. annicola (Kunth) Kük., and var. parvarumus (C. B. Clarke) Kük. = Cyperus rupestris
ruzenzoriensis (C. B. Clarke) Huygh = Kyllinga polypylla var. elatior
sabulicola Ridl. = Cyperus tenax
saheli Väre & Kukkonen = ?, probably an annual form of Cyp. conglomeratus
salzmannii Steud. = Cyp. cuspidatus
ganguinolentus Vahl, incl. subsp. nairobienisis (Lye) Lye = Pycreus sanguinolentus
ganguinolentus var. uniceps C. B. Clarke = P. mundii
var. uniceps
scaetae (Cherm.) Reynders incl. var. vanderystii (Cherm.) Reynders = P. scaetae
schimerianus Steud. var. minor Boeckeler  
= Cyperus schimerianus
schweinfurthianus Boeckeler = Cyp. tenuiculmis
var. schweinfurthianus
schweinfurthii (Chiov.) Kük. = Mariscus schweinfurthii
scirpoidei Vahl 1805 = Pycreus crassipes
scirpoidei R. Br. ex Fresen. 1837 = Cyph. dichrostachyus
serlepodus Chiov. = Mariscus serlepodus
scott-elliottii Govaerts, Skvortsovia 4/3: 90, 2018  
= Kyllinga nervosa subsp. flav
semirigida Schrad. var. apricus (Ridl.) Kük., var. multiglumis (Turrill) Kük., and var. sanguinolentus (Nees) Kük. = Cyperus semirigida
senegalensis C. B. Clarke 1894, nom. nud.
= Cyp. conglomeratus subsp. conglomeratus
senegalensis (C. B. Clarke) Mattf. & K. Kük. 1936  
= Kyllinga ? polypylla var. polypylla
serpentis Chem. = Cyperus platycaulis
serra A. Rich. = Cyp. rubicundus
serratangula (Peter & Kük.) Huygh = Kyllinga serrangula
sesquiflorus (Torr.) Mattf. & Kük. = K. odorata
sesquiflorus et appendiculatus (K. Schum.) Lye  
= K. odorata var. major
sesquiflorus subsp. ciliardiciana (Nees) T. Koyama, and var. ciliardiciana (Nees) Kük., incl. fa. globosus Kük.
= K. odorata subsp. ciliardiciana
sesquiflorus subsp. elongatus (Boeckeler) Kük. = K. odorata
var. odortata
sesquiflorus var. fallax (Kük.) Kük. = K. odorata
var. major
sesquiflorus fa. globosus Kük. = K. odorata
var. ciliardiciana
sesquiflorus fa. latifolius (Boeckeler) Kük. = K. nemoralis
sesquiflorus var. major (C. B. Clarke) Kük. = K. odorata
var. major
sesquiflorus var. phrificeus (Kük.) Kük. = K. odorata
var. odortata
sesquiflorus subsp. sesquiflorus = K. odorata var. odortata
sesquiflorus fa. spinulosus Kük. = K. odorata var. odortata
setaceus (L.) Missbach & E. H. L. Krause
= Isolepis setacea
setaceus Raddi 1823 = Pyreces lancolatus
sispensonii (Muasya) Larridon = Kyllingiella simpsonii
sintensisii Boeckeler = Mariscus ligularis
smithianus Ridl. = Pyreces smithianus
smithianus sensu Kük. 1936 = P. fluminalis
smithii Schrad. 1832, non McLean 1927
= Cyperus alternifolius subsp. textilis (Thunb.) Verloove (S. Africa)
smithii McClean 1927 = Cyp. leptoclados Kunth
(S. Africa)
socialis C. B. Clarke = Mariscus pseudopilosus
solidus C. B. Clarke = M. solidus
solidus Kunth var. elatior Kunth = M. solidus
solutus Steud. = Cyperus cuspidatus
somalicus Gand. = Cyp. niveus var. leucocephalus
somalidensis Lye = Mariscus somalidensus
sonderi J. A. Schmidt = Pyreces polystachyos
var. polystachyos
songeensis (Lye) Lye = Kyllinga songeensis
sorostachys Boeckeler 1868 = Cyperus pulchellus
soyauxii Boeckeler, incl. subsp. pallescens Lye
= Mariscus soyauxii
speciosus Vahl 1805, and Torr. 1858, sed non Lojac. 1909
= Torulinum odoratum
speciosus Lojac. 1909 = Cyperus longus subsp. longus
sp. for. nov. A. Raynal = Cyp. congestis
(See at end of Mariscus)
sp. nov. Hoeneslaar ind. under (Cyp. chrysocephalus)
= Mariscus chrysocephalus
sp. nov. in Cable & Cheek, Pl. Mt Cameron: 156, 1998
= Kyllinga rheophytica
sphacelatus Rottb. var. tenior C. B. Clarke = Cyperus zollingeri
sphaeranthelus Chiov. = Cyp. meeboldii
sphaerocephalus Vahl var. leucocephalus Kunth
= Cyp. niveus var. leucocephalus
sphaerocapertoides Cherm., incl. var. transiens Cherm.
= Cyp. denudatus
spicatopappatus Steud. in Jardin, nom.
= Mariscus ligularis
spiculosus F. N. Williams 1904, non Rchb. 1828
= Pyreces fluminalis
spiralis Larridon, nom. superfl. = Kyllingiella polypylla
spissiflorus “C. B. Clarke” sensu Baum 1903, non
(C. B. Clarke) K. Schum. = Cyperus hensii
spissiflorus (C. B. Clarke) K. Schum. = Pyreces spissiflorus
spretus Steud. = Cyperus denudatus
squarrosus L. 1756, incl. var. congestus Benth. and
var. cylindraceus Benth. = Mariscus squarrosus (L.)
C. B. Clarke 1893
squarrosus F. Mull. 1874 = Cyperus conglomeratus
subsp. conglomeraetus
squarrosus var. stenocarpus F. Mull. 1874
= Cyp. conglomeraetus subsp. conglomeraetus
stendeliana Boeckeler = Mariscus sumatrensis
stendleri (Boeckeler) Larridon = Kyllingiella polypylla
stramineoferruginus Kük. = Mariscus stramineoferruginus
stuhnlmannii C. B. Clarke ex K. Schum. = Cyperus usitatus var. usitatus
susveolens Boivin ex Cherm. 1919 = Queenslandiella
hyalina
subaphyllus Boeckeler ex Schinz = Cyperus laevigatus
sub. laevigatus

subintermedius Kük., incl. var. angustisquamatus Kük. and
var. vicinus (Cherm.) Kük. = Pyreces flavescens subsp.
intermedius
subintermedius Lye 1993 = P. flavescens subsp.
intermedius
sulbaevicarinatus Mattf. & Kük. = Kyllinga buchananii
sublimis (C. B. Clarke) Dandy = Mariscus sumatrensis
submacropus Kük., incl. var. abbreviatus Kük.,
var. calocephalus Peter ex Kük., and var. fuscofibrosus
Peter ex Kük. = M. anomodorus
submaculatus (Vahl) T. Koyama = Lipocarpa chinensis
subparadoxus Kük. = Alnula paradoxa
subsquarrosus (Muhl.) Bauters = Lipocarpa micrantha
subtilis (Kük.) Väre & Kükkonen – A form of Cyperus
crassipes
subtrigonos (C. B. Clarke) Kük. = Pyreces subtrigonos
subumbellatus Kük., incl. var. sessilisepicatus Kük.,
var. subglobosus Kük., var. sublimis (C. B. Clarke)
Kük., and var. thomensis (C. B. Clarke) Kük.
= Mariscus sumatrensis
subxerophilus Kük. = Cyperus xerophilus
sumbawangensis (Hoenselaar) Lye = Pyreces
sumbawangensis
sylvestris Ridl. = Cyp. laxus subsp. sylvestris
sylvicola Ridl. = Cyp. renshii
tanaensis Kük. = Pyreces flavescens subsp. tanaensis
tanphyllus Ridl. = Mariscus tanphyllus
tanzaniae (Lye) Lye = Kyllinga tanzaniae
taylorii C. B. Clarke = Cyperus rotundus
tegutem C. B. Clarke 1884, non Roxb. 1820
= Cyperus schirmpianus
tegutem var. protracta C. B. Clarke = Cyp. schimperianus
tenax Boeckeler var. actinostachys (Welw. ex Ridl.) Kük.,
var. andongensis (Ridl.) Kük., var. angustissimus
Kük., var. monoviensis (Boeckeler) Kük.,
var. pseudocastaneus (Kük.) Kük., and var. sabulicola
(Ridl.) Kük. = Cyp. tenax
tenoretiae Poir., incl. var. longimucronatus Kük., and
var. succulentus Dinter ex Kük. = Cyp. rubicundus
teneristem Lye, Mattf. & Kük., incl. var. robustior (Kük.) Kük.
= Kyllinga pulchella
tenoreanus Schul. & Schult. f. = Cyperus esculentus
tenorei C. Presl = Cyp. esculentus
tenaculimus Boeckeler 1879, non Boeckeler 1870
= Cyp. dilatatus
tenaculimus var. longimucronatus (Kük.) Meneses
= Cyp. tenaculimus var. tenaculimus
tenafiorus Rottb. 1773, non Roxb. 1820 = Cyp. longus
subsp. longus
tenafiorus (Steud.) Dandy 1944, non T. L. Dai nec Walp.
= Kyllinga tenuifolia
tenafiorus Walp. 1849 = spalhm. = Cyp. tenuiflorus
= See under Cyp. rotundus
tenais Sw. 1788, non Mühl. 1817 = Mariscus
flabiliformis
tenais var. aximensis (C. B. Clarke) Kük., var. brevior
Kük., var. eurystachys (Ridl.) Kük., var. fulvescens
Kük., var. grandiceps Kük., and var. lobbii (T. Durand
& De Wild.) Kük. = M. flabiliformis
terex (C. B. Clarke) Lye = Kyllinga polypylla
testui (Cherm.) Reynders = Pyreces testui
tetragauchos Desf. = Cyperus rotundus
textilis Thunb. = Cyp. alternifolius subsp. textilis (Thunb.)
Verloove (S. Africa)
thouarsii Kunth = Pyreces polystachyos var. polystachyos
thrysiflorus Boeckeler = Mariscus ligularis
tibialis (Poit. ex Ledeb.) Govaerts

– See under Kyllinga tibialis and K. vaginata

tisserantiiferous K. = Kyllinga tisserantioides

tisserantoides (Mitt.) Lyne = Kyllinga tisserantioides
tomaiphyllosus K. Schum., incl. vars. = Mariscus
tomaiphyllosus

trachycladus Boeckeler, incl. var. tisserantii
tisserantii = Kyllinga tisserantioides

tremulus minor Boeckeler, and

var. opulentus = Pycreus Boeckeler stachyos
treces (Rottb.) Endl. var. angustifolius Kük., and.

var. obtusiflorus (Boeckeler) Kük. = Kyllinga
tenuifolia var. tenuifolia

treces var. ciliatus (Boeckeler) Kük. = K. tenuifolia

var. ciliata

treces var. obtusiflorus (Boeckeler) Kük. = K. bullosa

triflorus L. = Abildgaardia triffloa

trigonius Boeckeler = Mariscus ligularis

tristachyus Boeckeler, incl. var. elongatus Boeckeler, and

var. minor = Pycreus flavescens

truncatus Steud. = P. pumilus

truncatus A. Rich. 1850, non Turcz.

= Pycreus schimperianus
tsaranandanensis Boeckeler = C. derreilema
tschinsendensis Turrill = C. derreilema

tuberosus Rottb. (1772) 1773, non Pursh 1813

= Cyp. rotundus
tuberosus Pursh 1813 = Cyp. esculentus

turbatus Bajinath = Cyp. prolifer x Cyp. sensilis

(S. Africa)
turfossus Salzm. ex Kunth = Pycreus mundii var. mundii

turrillii Kük. = Mariscus laxiflorus

uganensis Chiou = Pycreus papyrus subsp. papyrus

ugogenis Peter & Kük. = Kyllinga ugogenis

umbellatus (Rottb.) Benth. 1861, non Burm. f. 1768

tec Thwaites 1864 tec Rebx. 1820 = Mariscus

sumatrensis

umbellatus Rtex. 1820 = Pycreus exaltatus

umbilensis (C. B. Clarke ex W. Watson) Boeckeler ex

Kunte (= Mariscus ovannii) = M. solidius

uncinatus Poir. 1806, incl. var. gratus (C. B. Clarke) Kük.

= Pycreus cuspidatus

uncinatus R. Br. 1810, non Poir. 1806

= Mariscus squarrosus

unioioides R. Br., incl. var. brooidoes (Link) C. B. Clarke

and fa. redactus Kük. = Pycreus unioioides

unispicus Bauters, Reynders & Goetgh. = Mariscus

unispicatbus

unistemten K. T. Koyama = Lipocarpha nana

usitatus var. sanguinolentus Nees = Pycreus semitrifidus

usitatus var. stuhlmannii (C. B. Clarke ex K. Schum.) Lyne

= Cyp. usitatus var. usitatus

vagnatissimus K. Schum. = Mariscus kerstenii

vahlii Boeckeler 1870, nom. illeg.

= Torulinium odoratum

varicatum (C. B. Clarke ex Cern. ex. Cern.) Kük.

= See at end of Mariscus

variegatus Boeckeler 1870 = Mariscus schimperi

variegatus Griseb. 1864 = Pycreus lanceolatus

variegatus var. atrorsangunceus (Hochst. ex a. Rich.)

Boeckeler = M. plateilema

vatkeanus (Boeckeler) Goetgh. = Ascolepis speciosa

verrucinus C. B. Clarke = Pycreus denudatus

verticillatus Roxb. = Cyp. imbricatus

vestitus Hochst. ex C. Krauss, incl. var. pseudocallistus

(Kük.) Kük. and var. pseudovestitus (Kük.) Kük.

= Mariscus albomarginatus

vexillatus Peter & Kük. = M. schimperi

vorsteri K. L. Wilson 1994 = M. solidus

vulgaris Hochst. ex Boeckeler 1868, non Sieber ex Kunth

1837 = Pycreus maculatus subsp. maculatus

wailly (Cern.) Lyne = Pycreus waillyi

waterloiti (Cern.) = Pycreus cuspolidus

webbianus Steud. = Cyp. sexangularis

weltwitschii (Ridl.) Lyne = Kyllinga tenuifolia var. ciliata

wissmannii O. Schwartz = See at end of Mariscus

witei (Cern.) = M. deciduus

xantholespis (Nelmes) Lyne = Pycreus xantholespis

xanthopoeus Steud. = Pycreus nutans var. eleusinoides

yemenicus Spreng. = Cyp. bulbosus

zairensis Chiou = Cyp. papyrus subsp. zairensis

zambesiensis C. B. Clarke 1894, 1902

= Cyp. glaucophyllus (quod typ. Buchanan 24 & 47)

zambesiensis C. B. Clarke = Cyp. pulchellus

(quo typ. Buchanan 647)

zanzibarenisis C. B. Clarke = Cyp. pulchellus

zollingeri Steud. var. condensatus Kük., and

var. livingstonii Kük., and var. longiramosus Kük.

= Cyp. tenuiculmis var. tenuiculmis

zollingeri var. longiramosus (Kük.) Meneses

= Cyp. tenuiculmis var. tenuiculmis

zollingeri var. parvus C. B. Clarke = Cyp. tenuiculmis

? or Cyp. zollingeri

zollingeri var. permacer (C. B. Clarke) Kük.

= Cyp. permacer

zollingeri var. robusta K. Schum. = Cyp. zollingeri

zollingeri var. schweinfurthianus (Boeckeler) Kük.

= Cyp. tenuiculmis var. schweinfurthianus

zollingeri sensu C. B. Clarke, Fl. Trop. Afr. 8: 360, 1901,

non Steud. = Cyp. tenuiculmis

zollingeri sensu auct., non Steud. = Cyp. majungensis

zonatissimus Kük. = Pycreus zonatus

zonatus Kük. = P. afrozonatus

(DICHOSTYLIS)

Dichostylis cuspodita (Kunth) Palla = Pycreus cuspodita

hamulosa (M. Bielb.) Nees = Mariscus hamulose

michelianna (L.) Nees = Mariscus micheliana

michelianna fa. congolomera (Bekk) Soo and fa. elata

(Kük.) Soo = Cyp. micheliana subsp. micheliana

niten (Retz.) Palla = Pycreus pumilus

patens (Vahl) Palla = P. pumilus

patens (Vahl) Rikli = P. pumilus

pygmaea (Rottb.) Soo = Mariscus micheliana

subsp. pygmaea

radiata (Vahl) Palla = Cyp. imbricatus

sugarosa (L.) Palla = Mariscus squarrosus

(DICHROMENA)

Dichromena candida (Nees) Ridl. = Rhynchospora candida

corymbosa (L.) J. F. Macbr. = R. corymbosa

triflora (Vahl) J. F. Macbr. = R. triflora

160
**DIPLACRUM / 2**

A genus of 8 species: 6 widely distributed in the Old World, and 2 endemic in C. & S. America, respectively. Two species present in tropical Africa, one in Vietnam, one in tropical and subtropical Asia to W Pacific, and one in N Australia.


Dwarf annual herb with minute red roots; culms triquetrous, often 15 cm long, 0.5 mm wide; leaf blade pale green with minute reddish dots, linear, 2–6 mm wide; inflorescence of 1–8 stalked axillary clusters of spikelets, protruding from leaf sheaths, with 1-flowered female spikelets above the several-flowered male ones; spikelets greenish–purple, 2–3 mm long.

Bare sand or mud in marshy grassland; wet sand close to seashore; sometimes on several m² in trampling places; river- and swamp sides; humid rice fields; forest gallery; flooded hollow; marshy meadow; on rock outcrops with wet flushes and thin soil with a cosmopolitan distribution. Most species occur in a warm wet climate, and most of the species diversity is concentrated in E Asia to W Pacific, and one in N Australia.


Bas.: *Scleria capitata* Wild.

Syn.: *S. longifolia* (Griseb.) Roberty 1954, nom. illeg., non Boeckeler 1882; *S. amphigaea* Raymond, incl. var. *angustifolia* (Kük.) Raymond; *Pteroscleria longifolia* Griseb.; *Diplacrum longifolium* (Griseb.) C. B. Clarke,

**Diplacrum capitatum** incl. var. *angustifolia* Kük., and *fa. gracilis* H. Pfeiff.; *Bisboekeleria paporiensis* Suess.

Perennial herb 0.3–1 m tall with long slender stolons covered by scales; culms usually 30–50 cm long, triangular, with few basal leaves and 5–7 leaves spaced out along the culm; leaf blade linear, 20–80 cm long, 0.7–1 cm wide, usually overtopping culms, margins and main nerve scabrous; inflorescence of 2–6 ± sessile dense axillary clusters 1 cm wide of sessile spikelets, each cluster protruding from a leaf sheath; spikelets lanceolate, 2.3 mm long, each 1-flowered; female flowers solitary.

Swamps; pools; mangroves; streams and other damp places; raphia formations; 0–500 m alt.


**SYNONYMS:**

*Diplacrum* – See above under the species.

**DISTIMUS**

*Distimus flavescens* (L.) Raf. = *Pycreus flavescens* *flavicomas* Raf. = *P. macrostachyos*

**DULICHIUM**

*Dulichium conforovoides* (Poir.) Alston = *Websteria conforovoides*

**DUVAL-JOUVEA**

*Duval-jouvea maritima* (Aubl.) Palla = *Remirea maritima* procerus (Rottb.) H. Pfeiff. = *Cyperus procerus*

**ECHINOLYTRUM**

*Echinolytrum dipsaceum* (Rottb.) Desf. = *Fimbristylis dipsacea*

**ELEOCHARIS / 30**


A genus of about 180–250 species and some 600 published names with a cosmopolitan distribution. Most species occur in a warm wet climate, and most of the species diversity is concentrated in E N. America, warm-temperate Asia, and the wet tropics especially America (Hinchliff & al. in Taxon 59: 709, 2010). Most grow in shallow water, the large perennial species are often locally dominant over large areas. Many are reported as weeds; some are cultivated for matting or as ornamentals, or food, e.g. *E. dulcis*, the Chinese water chestnut.

*Eleocharis* has undergone numerous superspecific reorganisations over the last two hundred years (Roalson & al. in Syst. Bot. 35: 17, 2010). There is considerable taxonomic disagreement within the genus, and a critical revision on a worldwide basis is much needed (Cook, Aquat. & wetland pl. south. Africa: 95, 2004).

“The structural simplicity of *Eleocharis* morphology and lack of phylogenetically informative characters make it one of the most...

The plants grow from heights of < 1 cm to greater than 3 m. The leaves are mostly reduced to the sheath (except *E. naumanniana*).

The inflorescence is reduced to 1 terminal spikelet not subtended by bracts. The nuts nearly always have a persistent style base, which is often referred to as a ‘tubercle’.

Several species in our area are poorly known, and their taxonomic status is uncertain: five-six species are probably known only from the type gathering, representing nearly 17 %.


Perennial herb 30–120 cm tall, stoloniferous, with 4–10 culms clumped together from a short vertical or horizontal base; culms green or pink, reddish-brown to purple near base, 30–100 cm long, 2–5 mm ∅, sharply 3-angled, pithy; stolons 10–20 cm long, 2–4 mm ∅, with short blackish scales at nodes or scales absent, rooting at nodes and ending in new plant clumps; sheaths much wider than culm, grey to purple, to 15 cm long, ending in a short acute lobe; inflorescence a terminal cylindrical green spikelet, 1–6 cm long, 0.3–0.5 cm ∅, with > 80 flowers, glume tips giving a serrate look.

**Eleocharis**

**Eleocharis acutangula**

Swamps with, e.g. *Miscanthus*; seasonally flooded grassland; marshy areas; ditches, shallow lakes and streams; rocky outcrops; ponds in the depression of Oushita (Angola) at the end of the dry season, in which *E. acutangula* occurs in loose stands several m² wide; among the numerous accompanying species: representatives of *Utricularia, Lythraceae, Eriocaulaceae* as well as delicate *Najas*; spongy valley in savanna with *Anadephia leptocoma*; may be locally dominant in up to 60 cm of water, especially where vegetation is choking a shallow lake; rice fields (weed); –500–2150 m alt.

Namibia, S. Africa, Botswana, Swaziland; Madagascar; Andaman & Nicobar Isl. (Kamble in Indian J. Forestry 36: 253 f., 2013); SE Asia, India, Sri Lanka, Malaysia, through to China, Japan, Papua New Guinea, N Australia, Philippines; S. N. America (Florida), C. America, Caribbean, S. America (Brazil: Trevisan & Boldrini, i.e.) – in the New World in various habitats, incl. cloud forests, forest depressions, savannas, grassland, palm swamps, lake margins, borrow pits, roadside ditches; 0–2000 m alt.

Comprises 2 subspp. in tropical Africa: – subspp. *acutangula* [syn.: *Scirpus fistulosus* Poir. 1805, nom. illeg., non Forssk. 1775, nec (Schult.) Kunte; *Eleocharis fistulosa* Schult. 1824, incl. var. *robusta* Boeckeler, but excl. var. *microantha* Chemn. (= *E. nupensis*); *Heleocharis robusta* (Boeckeler) H. E. Hess; *Baeothamnian fistulosum* (Schult.) A. Dietr.; *Limnochloa fistulosa* (Schult.) Nees; *Scirpus fistulosus* (Schult.) Kuntez, nom. illeg.; *Eleocharis fistulosa* Link 1820; *Scirpus medius* Roxb.; *Eleocharis media* (Roxb.) Schult.; *E. plan culmis Steud.; *Limnochloa media* (Roxb.) Nees; *Heleocharis pseudofistulosa* H. E. Hess; – subspp. *breviseta* D. J. Rosen. These subspp. are distinguished as follows (Rosen & al., o.c.: 879). Subssp. *breviseta* has perianth bristles shorter than achene or rarely few to all reaching its summit or slightly surpassing, spinules restricted to the distal half or more commonly only near the tip; achene 1.4–1.7 mm long, dark brown; tubercle 0.3–0.5 mm long. Subssp. *acutangula* has perianth bristles longer than achene (rarely one to few just reaching its summit or slightly shorter), spinules nearly to base or rarely spinules completely absent; achene 1.6–2 mm long, dark amber or rarely dark brown; tubercle 0.5–0.8 mm long. – A third subspp., viz. subspp. *neotropic a* D. J. Rosen (fig. in Rosen & al., o.c.: 882) occurs in NW S. America.

Provides fibres for matting and weaving. As pointed out in Fl. Trop. E. Afr., Cyper.: 40, 2010, the name *E. acutangula* is used for this taxon; its basionym dates back to 1820, while *fistulosus* has a basionym date of 1805. *Eleocharis fistulosus* Link 1820 is a *nomen invalidum*, but the combination was never made. It seems that Link assigned *Scirpus fistulosus* Poir. 1805 (non Forssk. 1775) to *Eleocharis* but did not make the combination *E. fistulosus*. “Therefore, there is no reason why Schultes’ combination should not be valid; and this name has priority.”


Annual tufted herb 5–12 cm tall; culms yellowish green, 0.3–0.5 mm ∅ and elliptic to ± rounded; sheaths membranous, hyaline, not inflated; spikelet 2–3 mm long, 1.5 mm ∅, ovoid to globose, many-flowered; achene 0.6–0.7 mm long. In humid depressions on marly soil; gregarious; c. 1150 m alt.


Annual tufted herb 5–10 cm tall; culms bluish green, elliptic, 0.1–0.3 mm ∅; sheaths membranous, white, oppressed
ELEOCHARIS ANTUNESII

to culm; spikelet fusiform, 3–5 mm long, c. 1 mm Ɠ, 1–2-flowered, often viviparous.

Edge of pond on sandy-clayey soil with Scirpus spp., Cyperus spp. and tiny species of Lythraceae and Eriocaulaceae; in the same place there are also Eleocharis onthitensis, and nearby in water (E. pseudoafistolusa =) E. acutangula; 1830 m alt.


bas.: Scirpus atropurpureus Retz.


Annual slender dwarf herb; culms 1–30 cm tall, filiform, 0,2–0,4 mm Ɠ, dark vivid green, often curved, rounded; sheaths 2, the lower usually dark red or purple, truncate, the upper paler with attenuate apex; spikelet ovoid, 2–8 mm long, 1–2 mm Ɠ, lower glumes often deciduous; glumes dark reddish brown.

Seasonal pools and seepage areas; rice fields; shallow pools over rock; seasonally flooded grassland; pond and lake edges; locally common, sometimes even mat-forming; damp grassy places; humid sand; clayey hollows, easily flooded; sometimes growing with *Huizera microglumis* in grassland between fields of *Fuirena microglumis*.

ELEOCHARIS BRAINII

near base; spikelet ovoid, 1–2 mm long, 0,5–1 mm Ɠ; glumes uncolored to dark reddish brown with paler margin and midrib; perianth absent or few minute bristles.

Very wet vly on granite sand; swampy grassland; rock pools; lake shores; often half- or entirely submerged; flooded savanna; spongy meadows in periphery of large pool, rather common; 950 (and certainly less) – 1450 m alt.

Botswana.

Darbyshire & al. (2015: 110) list *E. brainii*, specim. Schweinfurth 2583, for Sudan. This specimen was determined by Svenson (Rhodora 39: 251, 1937) as *E. brainii*. It was marked *E. chaetaria* Roem. & Schult., now considered as a subspecies of *E. retroflexa*. As pointed out in Fl. Trop. E. Afr., Cyper.: 44, 2010, Haines & Lyè (Sedges & rushes E. Afr.: 75–76) cite this plant from W Tanzania, 1200–1500 m alt. The latter authors write: “This plant is most similar to *E. brainii* and *E. setifolia*, but differs from both in the well-developed bristles and different outlet. When it produces decumbent culms and viviparous spikelets it is very different from other species of *Eleocharis*. The conclusion reached by Beentje in Fl. Trop. E. Afr., Cyper.: 44, 2010, reads as follows: “...it is possible *Eleocharis chaetaria* Roem. & Schult., ... (1817) is a synonym, or even the proper name. A problem is that for this taxon no type is mentioned, just in humid grassy places of Calcutta.”


bas.: *Scirpus caducus* Delile

syn.: *Eleocharis intricata* Kük., incl. var. peteri W. Schultz-Motel; *E. madagascariensis* Chern.; *E. ovata* (Roth) Roem. & Schult. var. gaetula Maire; *E. tibetica* Quézel; *E. carieba* sensu Täckholm, Stud. fl. Egypt, ed. 2: 780, 1974.

Greuter & al. made a thorough study of *E. caduca* and we follow their concept (Bot. Chron. 15: 17–30, 2002). The following description is taken from their article.

Perennial herb, first tufted, soon producing slender stolons rooting and with single culms at nodes, terminating in daughter rosettes; culms 1,3–12 cm tall, 0,6–0,9 mm Ɠ, uppermost leaf sheath reddish-brown below, straw-yellow above; spike 2,3–5,5 mm long, with 3–13 fertile and 1–3 sterile flowers; stigmas 2; bristles present, 7–8; c. 1–2 mm long (in *E. geniculata* lacking).

Swamp; pool margins; in rock crevices where water flows over the plants; marshy ground; by springs in limestone hills; ? – 1500 m alt.

Mediterranean region; Portugal (Fl. Medit. 20: 144, 2010), Balearic islands, ? S Italy (not confirmed), Sardinia (not Sicily !), Crete; Algeria, Libiya (Fezzan), SW Egypt, Socotra; S. Africa, Botswana; S Sinai, Yemen, ? Syria (not confirmed), Iran (Iran. J. Bot. 9: 171, 2002); Madagascar, Réunion, Mauritius.

“There is obviously no immediate kinship between *E. caduca* and *E. geniculata*. We agree with Haines & Lyè (1983) that *E. caduca* is much closer to *E. minuta* Boeck. ... than to *E. geniculata*” (Greuter & al., o.c.: 25). On the other hand, Gordon-Gray (l.c.) wrote: “Svenson (1939: 52) cited *E. caduca* as a synonym of *E. geniculata* ... Personally, I believe it to be correct, although not followed here. Further study in relation to distribution and habitat conditions is needed.”
**ELEOCHARIS CADUCA**

"E. tibestica" reported by Wickens from Jebel Marra is *E. palsestris* according to Darbyshire & al., Pl. Sudan & S. Sudan, 2015.


Tufted herb 10–15 cm tall; culms greyish green, curved, 0,3–0,4 mm (elliptic); leaf sheaths red below, yellow above, membranous, acute; spike 3,5–4,5 mm long, 1,5 mm (, 3–5-flowered, often viviparous.

Peaty marsh; c. 600 m alt.

Similar to *E. antunesii*; also to *E. caespitosissima* Baker from Madagascar.

? Known only from the type collected in 1950.


syn.: *E. anceps* Ridl.

Annual, densely tufted herb with many culms 5–30 cm long, 1–2 mm wide, strongly flattened; sheaths purple or reddish near base, greenish above, the upper ending in a triangular lobe; spikelet ovoid, 3–15 mm long, 1,5–3 mm (, with to 100 flowers.

Seeage areas on sand; moist depressions; rice paddies; dry sandy soil; savannas; degraded coastal thickets; pools; flooded cultivations; denuded, humid sandy soils; pool sides; damp grassy woods; damp sandy places; near sea-level to 1050 m alt.

Close to *E. nigrescens* but differs in its flattened culms and larger glumes and nutlets.

**E. confervoides** (Poir.) Steud. – See below under *Websteria confervoides* (Poir.). S. S. Hooper


Annual tufted spreading herb 2–3 cm tall with 2–4 mm long underground stolons; culms yellowish green, quadrangular, stiff, 0,1–0,2 mm wide; leaf sheaths rusty brown at base, white, membranous, hyaline above; spikelet 1–1,5 mm long, c. 1 mm (, acuminate, 3–5-flowered.

Margin of pond together with *E. nigrescens* aquatic; c. 1400 m alt.

Taxonomic status uncertain (cf. above).


Annual tufted herb; culms 2–5 cm tall when flowering, *later elongating* to 60 cm, 3-angled, 2–4 mm (, sides concave, olive green, spongy inside; leaf sheaths 2, the lower one scale-like, brownish, the upper to 4 cm long reddish below, grey above, ending in a very obtuse lobe; spikelet cylindric, c. 1 cm long when flowering, 3 mm (, *later elongating* to 2–4,5 cm, 4–5 mm ( in fruit; glumes lying flat and overlapping, ovate, c. 4 ’ c. 2 mm, green with a very distinct 0,2–0,5 mm wide dark reddish-brown or purple margin.

**ELEOCHARIS DECORIGLUMIS**

Seasonal and permanent pools in shallow water; marshy banks of pools; swamps; seasonally swampy depression; flooded clayey places; near sea-level to c. 1000 m alt.

Botswana?


Annual tufted herb 6–25 cm tall; culms flattened; spikelet narrowly ovoid or elliptic, greenish, 3–4 mm long.

Rice swamps; recently emerged soft mud; near sea-level – ?

In general appearance of spikelets resembling *E. complanata*.

**E. dulcis** (Burm. f.) Trin., incl. var. *tuberosa* (Schult.) T. Koyama;

bas.: *Andropogon dulcis* Burm. f.


Perennial herb 0,2–1,5 m tall; rhizome creeping, with stolons terminating in tubers 1–1,5 cm (; culms tufted from a contracted base, bright green, rounded (rarely 4-angled), *hollow*, 4–8 mm (, *septate* at 3–10 cm intervals, contracted immediately below spikelet; leaf sheaths to 1/2 or 1/3 of culm height, ending in a triangular lobe; spikelet pale green, cylindrical, 2,5–5 cm long, 2–6 mm (, *narrower than culm*.

Swamps; shallow parts of lakes; in deeper parts of marshes close to open water; at wooded ponds by river; river banks; edges of mangroves; humid rice fields; ponds, often in standing water, submerged or forming floating mats; sometimes locally common or forming pure stands; sometimes in salt or brackish water; 0–2170 m alt. – Troublesome in irrigated crops.

Variable species: stems and spikelets may be very short and narrow, perhaps due to dry habitat conditions.

Namibia, S. Africa, Botswana; Madagascar, Seychelles, Mauritius; tropical & subtropical Old World, from India (Patil & Prasad, Ind. J. Forestry 32: 448, 2009), Pakistan, Sri Lanka, Thailand, Vietnam, Malaysia, Taiwan, S China, Japan, Australia, Pacific islands. “Although originating in the Old World tropics, because this species is commonly cultivated for its tubers, the actual distribution is uncertain. As a cultivated plant, it is grown throughout most of China” (Fl. China, text 23: 191, 2010).
ELEOCHARIS DULCIS

A cultivated form, usually referable to var. tuberosa (Schult.) T. Koyama (bas.: *E. tuberosa* Schult. 1824; syn. *Scirpus tuberosus* Roxb. 1815, nom. illeg.), is the “Chinese water chestnut”. The crisp apple-flavoured tubers that terminate the stolons are eaten raw or made into chips. Plants in Natal lack these tubers! (Gordon-Gray, l.c.). In cultivated races tubers may measure to 5 cm Ø. Flour is also made from tubers.

Fibres used for matting. Also grown as ornamental.

*E. gosswieleri* is perhaps a large form of *E. dulcis* for which Lowe & Stanfield *Flora of Nigeria: Sedges*: 62, 1974 give flowering stems 45–70 cm high, 2–3 mm Ø.

**E. kirkii** C. B. Clarke; Fl. Trop. Afr. 8: 410, 1902

Glabrous annual herb; culms tufted, 7.5–12.5 cm tall; spikelet c. 0.5 cm long, ellipsoid, pale ochreous or reddish, many-flowered; perianth bristles 7, longer than nutlet. Island in River Zambesi, at Victoria falls.

? Known only from the type? (Kirk s. n., s. d.).


Tusssocky perennial herb with short horizontal rhizome and crowded culms 20–80 cm long, 0.15–0.2 cm Ø; sheaths reddish-purple, often dark purple below, acuminate; spikelet 0.8–2 cm long, 3–4 mm Ø; lanceolate, 20–40-flowered (sometimes with viviparous shoots). Wetter depressions in grassland; swampy grassland; ditches, pools; in mud beside streams; river flood plains; lake margins; sometimes very common locally; 1000–2900 m alt.

Botswana; ? Saudi Arabia.


Dwarf annual or perennial herb with densely tufted culms 1–9 cm long, 0.2–0.7 mm Ø, slightly flattened to quadrangular; sheaths 2, purple near base, grey above, the upper ending in a triangular or truncate lobe; spikelet ovoid 2–4 × 1–2 mm, 3–7-flowered, elongating to 7 mm in fruit.


Perennial herb; rhizomes elongated, reddish brown, to 1.5 mm Ø, with scales to 8.5 mm long; culms terete, 40.5–83 cm long, 1.3–2.8 mm Ø, brownish green, internally spongy, with incomplete transverse septa; sheaths 2, membranous, loose, friable, pinkish green to cinnamon basally, brownish to straw-colored distally, apex of upper sheath acute; spikelet cylindrical, obtuse, 1.6–2.5 cm long, 2–3 mm Ø.

In a stream.

Near *E. nupeensis* but with longer and wider culms (40.5–83 cm × 2.8 mm, not 30–50 cm × 0.5–2 mm); longer floral scales (4–4.5 × 2.8 mm, not 3.5–4 mm long); longer and more coarsely spinulose perianth bristles (subequal, usually all overtopping the nutlet, coarsely spinulose to ± the base); slightly larger nutlet (1.7 × 1.3–1.7 mm, not 1.6 × 1.2 mm); and stylodipodium longer (0.6–1.3 mm, not 0.3–0.5 mm) than wide.

**E. hooperiana** is perhaps a large form of *E. nupeensis* for which Lowe & Stanfield *Flora of Nigeria: Sedges*: 62, 1974 give flowering stems 45–70 cm high, 2–3 mm Ø.

**E. tuberosa** T. Koyama – Bot. Chron. 15: 19, 2002; Prasad & Singh, *Sedges Karnataka* Has been confused with (See comments under that species).

Cyperaceae

Eleocharis deightonii
Eleocharis dulcis
Eleocharis geniculata

Eleocharis gossweileri
Eleocharis hooperiana
Eleocharis kirkii

Eleocharis marginulata
Eleocharis minutula
Eleocharis monantha

Eleocharis mutata
Eleocharis naumanniana
Eleocharis nigrescens
ELEOCHARIS MINUTA

Lake shore; pond; swamp; 1150–1200 (? 1800–2100) m alt. Madagascar, Mascarene isls.; E Australia (introduced).

E. monantha Nelmes, Kew Bull. 7: 290, 1952.

Submerged herb; culms numerous, elongated, filiform, not septate, grooved-flattened, flacid, producing offsets; spikelet linear or oblong-lanceolate, becoming lanceolate in fruit, occasionally viviparous, 4–5 mm long, 1-flowered.

Marsh at source of river, pool in running water, floating, flowers expanded at the water level.

? Only known from the type collected in 1927.


bas.: Scirpus mutatus L. non Roxb. ex C. B. Clarke

Perennial tufted rhizomatous herb with stolons to 40 cm long; culms stiff, 0.4–1 m tall, 2–4 mm Ø, upper part markedly triangular with sides 3–5 mm wide, angles acute, sides concave; sheaths 2–3(–4), purple or brown, the uppermost one 5–23 mm long, terminating with a 5 mm long narrow triangular limb with a thread-like tip; spikelet subcylinhedral, 1.5–5 cm long, 3–5 mm Ø; glumes densely set, lying flat, obovate, 4–5 × 3–5 mm, dirty straw-coloured with a brown narrow strip.

Seasonal and permanent pools and along marshy banks of pools; swamps; muddy flat; brackish water in coastal swamps, lagoons, mangrove; rice fields near salty grounds; sometimes in large and pure stands; 0–1000 m alt. (a coastal species).

Eleocharis mutata-community, southern Togo at shorelines of permanent to semi-permanent ponds, in a water depth of up to 80 cm, on sand or clay (vide Phytocoenologia 35: 350, 2005).

Bioko/Fernando Poo; S. Africa; S N. America (only SE Texas), Angola also uncertain.


– Thiombiano & al. (Cat. pl. vascul. Burkina Faso: 49, 2012) cite E. mutata from Comô (≈ SW – most part of the country). – Occurrence in Angola also uncertain.

Very similar to E. acutangula in habit but differs from the latter in more glumes and different nutlets.


Annual submerged herb; stems thread-like, < 0.5 mm Ø, usually branching, producing a few similar stems with small leaf-shoots and roots at nodes, each branch ending in a single spikelet; this branching may continue indefinitely (Cook, l.c.); stems 15–80 cm long, rounded or angular, sepatate; leaves with sheath to 1.5 cm long; blade thread-like, to 11 cm long; inflorescence a solitary spikelet or an anthela of 1 sessile spikelet and a few spikelets on c. 5 cm long peduncles; spikelet 1.5–4.5 mm long, 1 mm Ø.

In still or slowly flowing oligotrophic water, sometimes in rapid streams; up to 1000 m alt.; when stranded forming non-flowering mats; such terrestrial sterile plants may be confused with Webstera confervoides; sometimes very common (c. 20 miles = 30 km E of Monrovia, Liberia, fide Nelmes & Baldwin 1952). Botswana (var. naumanniana).

Comprises 2 vars.: – var. cailel (Hutch. ex Nelmes) S. S. Hooper (bas.: E. cailel Hutch. ex Nelmes), with floating stems not or only obscurely sepatate, spikelets 1.5–3 mm long, in coastal W Africa; – var. naumanniana (syn.: E. testul Cherm.) with floating stems clearly sepatate, spikelets 4–5 mm long; widespread. Treated as a synonym of E. retroflexa subsp. subtilissima by Cook, Aquat. & wetland pl. south. Afr.: 101, 2004.


bas.: Scirpidium nigrescens Nees

Tufted annual herb with crowded stems 3–11 cm tall, filiform, obscurely 3–4-angular, often rather flattened, 0.2–0.7 mm Ø, often with branching base; sheaths reddish to purple near base, greyish above, the upper ending in an acute to attenuate lobe 1–2 mm long; spikelet ovoid, 2–5 × 1–2.5 mm; perianth absent.

Damp depressions; old rice paddies; pool edges; near waterfalls; 0–1700 m alt.

Madagascar; tropical & subtropical America: SE USA, C. America, West Indies, S. America. – Not in W Africa as cited in Fl. Trop. E. Afr., Cyper.: l.c.

Close to E. atropurpurea but lacking perianth bristles, and nutlet triangular, not flattened.


syn.: E. mitrata (Griseb.) C. B. Clarke var. africana C. B. Clarke; E. fistulosa Schult. var. micrantha Cherm.

Tufted perennial herb with reddish rhizome c. 1 mm Ø; culms 30–50 cm long, 0.5–1 mm Ø, cylindrical, channelled; sheath pale green or slightly red tinged, c. 10 cm long; spikelet cylindric, 1–3 × 1–4 mm, 15–25-flowered; perianth bristles markedly unequal.

Temporary pools on rocky outcrops; spongy savannas.

Not in Tanzania.

“Close to E. variegata but differs in being more slender and nutlets narrower above, and with very large light appendage”. Svenson in Rhodora (41: 6, 1939) mentions the great complexity
of the *E. fistulosa* (= *E. acutangula*)/ *nupeensis/mutata*/ *variegata* / *calocarpa* (= *E. variegata*) group (Fl. Trop. E. Afr., l.c.).


Annual tufted herb 4–6 cm tall with short stolons; culms 0,1–0,15 m ⌀, flaccid, 4-angled; sheaths yellowish brown, rarely rusty brown below, and membranous, hyaline above, margins irregularly divided or truncate; spikelet ovate, 1,5–2,5 mm long, 1–1,5 mm ⌀, 3–5-flowered.

Edge of pool on sandy-clayey soil, growing with *Scirpus* spp.

**E. retroflexa** subsp. *subtilissima* (= *E. acutangula*) subsp. *acutangula*; 1830 m alt.

Treated as a synonym of *E. retroflexa* subsp. *subtilissima* by Cook, l.c., who also cited *E. naumanniana* var. *cailei* as another synonym.

Taxonomic status uncertain. According to Hess, near *E. brainii*.

(E. palustris (L.) Roem. & Schult.)

*E. palustris* is a species occurring in the temperate northern hemisphere; in Africa it occurs in a belt from Morocco to Egypt present also in Madeira and the Canary Islands (cf. Boulos, Fl. Egypt 4: 363, 2005; Dobignard & Chatelain, Index synon. fl. Afr. N. 1: 119–120, 2010).

Darbyshire & al., Pl. Sudan & S. Sudan: 110, 2015, list *E. palustris* as presently possible in Sudan, Jebel Marra, marshy stream bank, 2600 m alt. The specimen Wickens 2676 (Wickens, Jebel Marra in Kew Bull. Add. Ser. 5: 163, 1976) was listed as *E. sp.* aff. *E. tibestica* Quézel.

Darbyshire & al., l.c., note: “the identity of this specimen requires confirmation; if correct, it represents the southernmost limit of *E. palustris* in Africa.”

(E. pseudofoxtulosa H. E. Hess); See above under *E. acutangula* (Roxb.) Schult. subsp. *acutangula*.


bas.: *Scirpus retroflexus* Poir.


Annual tufted herb; culms tufted, crowded, filiform, 3-angular, 4–20 cm tall, 0,3–0,4 mm ⌀, persistent after fruit has fallen, with small white basal tubers, covered in tough short scales; sheaths pale, ending in short triangular lobe; spikelet ovoid or obovoid, 2–5 × 1–2,5 mm, elongating to 5 mm in fruit.

Ponds, pools; seepage areas; seasonally swampy grassland; sometimes locally common; damp places on rocks; temporary pool with *Cyperus podocarpus*, *Isolepis melanotheca*; – 850–1700 m alt.

Madagascar (subsp. *setifolia*); Thailand, Philippines, Australia; S N. America, C. America, Caribbean, Brazil (introduced).

Comprises 2 subssp.: – subsp. *setifolia* [syn.: *E. minutiflora* Boeckeler: *E. nigrescens* (Nees) Kunth var. *minutiflora* (Boeckeler) Svenson; *E. carolina Small*]; – subsp. *schweinfurthiana* (Boeckeler) D. A. Simpson [syn.: *E. schweinfurthiana* Boeckeler; syn.: *E. helena* Buscal. & Muschl.], with perianth bristles at least half as long as nutlet; from Senegal to Sudan.
ELEOCHARIS

Probably perennial, tufted herb 10–25 cm tall, with to 1 cm long stolons; culms greyish green, 0.7–1.3 mm Ø, elliptic, succulate; sheaths rusty- to blackish brown, obliquely truncate, not inflated; spikelet cylindric to ovoid, 6–12 × 1.5–2 mm, many-flowered.
In a marsh around a source (pool); 2320 m alt.
Close to E. complanata (syn.: E. anceps) but differs in the form of the base of the style: in E. complanata the base is pyramidal and depressed, with only a short point excised from the centre, whereas in E. spongostyla it is spongy and placed flat on the nutlet like a mitre.

Tufted annual herb; culms 3–10 cm tall, hair-like; sheath reddish, ending by a narrow, 3-angular lobe; spikelet ovoid to subcylindric, 2–3 × 1 mm, brown-red, 4–8-flowered.
Stream beds on clay; moist sands; ground subject to flooding; near sea level to 1150 m alt.
Very near (“perhaps conspecific with”) the American (S U.S.A, C. & S. America, West Indies) E. minima Kunth from which it differs only in the somewhat larger glumes and achene (Fl. W. E. minima C. & S. America, West Indies)

Tufted annual, perennial herb ± tufted on a stout hard rhizome; culms erect or spreading, to 30 cm tall, hair-like; sheath reddish, 0.75–1 cm long, c. 2 mm Ø, many-flowered; perianth bristles 0–few, weak and straggly.

ELEOCHARIS WELWITSCHII

Perennial herb ± tufted on a stout hard rhizome; culms erect or ± curved, 10–25 cm tall, 0.75–1.5 mm Ø; sheaths often bright reddish; spikelet ovoid to cylindrical-ovoid, 0.6–1 cm long, 2.5–4 mm Ø, many-flowered; perianth bristles 0–few, weak and straggly.

* * *

UNPLACED NAME:


SYNONYMS:

ELEOCHARIS

- **ELEOCHARIS EUCYPERUS**
  - **ELEOCHARIS EUCYPERUS**
  - **Eleogiton cernua**
  - **Eriocaulon spadiceum**
  - **Elynanthus cuspidatus Hochst. ex A. Rich. subtilissima**
  - **Nelmes = Hochst. ex Steud., non Hochst. ex Engl. striata**
  - **pseudofistulosa H. E. Hess = plantaginoides Steud. = scariosa robusta (Boeckeler) H. E. Hess**
  - **planiculmis plantaginea Peter**
  - **tenerrima fascicularis fluitans (L.) Link = tibestica trilophus sensu Adam 1962, non C. B. Clarke**
  - **usambarensis Engl. 1894, nom. nud. = Boeckeler = microstachyus Nees = gracilis schweinfurthiana variegata (Boeckeler) Benth. ex C. B. Clarke
tuhestica C. virgata subsp. setifera C. setifera (Boeckeler) Rikli = Ficinia borealis Desmoschoenus spiralis (Ridl.) C. B. Clarke = Tetraria cuspidata C. microcephala C. alternifolius subsp. textilis (Thunb.) Verloove (S. Africa) **C. setifolia** subsp. **acutangula** subsp. **textilis** (Thunb.) Verloove (S. Africa)

**FICINIA / 6**

Ficinia Schrad., nom. conserv., of ± 78 species in tropical-subtropical temperate Africa, with a centre of diversity in the Greater Cape Floristic Region; with 1 species in C Madagascar (F. ciliata Boeckeler) and 1 (F. nodosa (Rothb.) Goetgh.) extending from St Helena through S. Africa, S & E Australia, New Zealand, St Paul island to Juan Fernández island (nearly circum-Antarctic), and 1 species, viz. **F. spiralis** (A. Rich.) Muasya & de Lange [Desmoschoenus spiralis (A. Rich.) Hook. f.], growing in the same coastal habitat as **F. nodosa**, is endemic in New Zealand (Muasya & al., 2009: 62).

Ficinia has a history of misunderstanding and misidentification (Gordon-Gray 2008: 67 ff.). It is still inadequately known. It has an extensive synonymy (cf. Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew). There is overlap in generic limits between **Isolepis** and **Ficinia**. “Features of the sheath mouth and ligule are important in identification”, and also the presence of a hypogynous disc (gynophore). “The ovary is seated on a small obconical stalk or gynophore which is expanded into a ‘disc’ that is often 3-lobed, the lobes generally alternating with the stamens. The presence of such a ‘disc’ is regarded as the main criterion of the genus, useful in distinction from close relatives that include Isolepis and Cyperus (Gordon-Gray 2008: 170). The gynophore takes the form of a short ‘cup’ of tissue enveloping the base of the young fruit. In the literature the disc is sometimes described as ‘lacking’. This refers to nutlets where the gynophore has dried and fallen away”. “To observe the gynophore accurately, mature achenes are required” (Gordon-Gray, Cyper. Natal: 81, 1995).

Poorly known genus in our area. Two species are known only from the type collection.

GARCÍA-MADRID, A. S. & al. (2015). See above under **Cyperus** [p. 88].


syn.: **F. eckloniae** sensu Fl. Eth. & Eritrea 6: 427, 1997, non (Steud.) Nees

Perennial tufted herb with a woody rhizome; culms 30–75 cm tall; leaves to c. 40 cm long, 1–2 mm wide, flat or channelled, densely scabrid particularly along margin; inflorescence an irregularly shaped brown head 1,2–1,5 cm with 15–40 crowded

(CEYPERACEAE)

**EUCYPERUS**

- **EUCYPERUS longus** (L.) Rikli = **C. longus**
- **pungens** Rikli = **C. alternifolius** subsp. **textilis** (Thunb.) Verloove (S. Africa)
- **textilis** (Thunb.) Rikli = **C. alternifolius** subsp. **textilis** (Thunb.) Verloove (S. Africa)

**EUCYPERUS bruneovaginatus** (Boeckeler) Rikli = **Cyperus marginatus**
**FICINIA BOREALIS**

spikelets each 3–9 mm long, green variegated red-brown when young, ultimately brown.

Grassland or moorland, often in the *Erica-* or *Protea-* zone; swampy meadows on gentle slope; 2200–3000 m alt.

Known only from the type collected in 1982.

The true *F. eckloniae* is a S. African plant.


bas.: *Cyperus clandestinus* Steud.

syn.: *Chamaeaphium clandestinum* (Steud.) Hochst.; *Melancranis clandestina* (Steud.) Kuntze; *Ficinia dregeana* H. Pfeiff. var. *byssistina* H. Pfeiff.

Perennial herb with stolons 10 × 0.15–0.3 cm, covered with old scales often splitting up into fibres; culms 1–3 cm long, entirely concealed by the crowded leaves; lower leaf sheaths form leathery brown scales; upper sheaths leathery, green; blades green, successively longer, to 4 × 0.2–0.4 cm; inflorescence a dense head of spikelets almost hidden in basal sheaths; spikelets 5–8 per head, terete, 1–1.4 cm × 1–2 mm, narrowly lanceolate; nutlet naked, and without a gynophore.

Grassy slopes (in grazed areas); 3000–4300 m alt.

The phylogenetic position is discussed by Muasya & al. (l.c.) who place it in the genus *Cyperus* (*C. Cyperus elodeae* and closely related to *Remirea maritima* and *Cyperus cyprius*).

Known from only 3 areas in Ethiopia.


bas.: *Schoenus filiformis* Lam. 1791.

syn.: *Ficinia capillaris* (Nees) Leyv. 1947 quad. comb. tantum; *Melancranis filiformis* (Lam.) Kuntze; *Ficinia teniufolia* Kunth; *F. ludwigii* Boeckeler; *F. filamentos* Nees 1835, nom. nud.; *F. capillaris* Nees ex C. B. Clarke 1894, nom. inval.; *F. rugulosa* C. B. Clarke, *Melancranis teniufolia* (Kunth) Kuntze; *Isolepis filiformis* sensu auct.


Tufted perennial herb with short woody rhizome; culms 15–46 cm long, 0.8–1.1 mm Ø (c. 1.6 mm across the sheath), terete; leaf sheath brown to blackish, 3–7 cm long, glabrous; blade 7–29 cm long, 0.8–1 mm wide, margins scabrid; inflorescence a terminal head of 6–25 spikelets each 3–7 mm long, 1.4–2.5 mm Ø, terete; gynophore absent to well developed.

Grassland; moorland; 2400–4500 m alt.

S. Africa, Lesotho.

Note: Gordon-Gray 1995 remarked on the figure published by Haines & Lye, i.e.: “the description states there are 3 style branches; only 2 are illustrated except in some florets of the spikelet (enlarged). All known Natal specimens have 3 style arms. The achenes (enlarged) is not accurate for Natal examples”.


According to Jessop’s list (p. 136) Schlechter nº 6423 was collected 21–25/1 1895, on Mount Frere or Mount Ayliff, both situated SW of Pietermaritzburg in S. Africa, Natal (map 2 p. 144).

Described as resembling *F. lateralis* Kunth as regards culm, sheath and leaves; spikes 1–3, terminal, solitary, linear-lanceolate, with many spikelets; spikelets densely clustered, suboblong; glumes lanceolate-elliptic, apex mucronate; Caryops small, 1/3 of length (enlarged). All known Natal specimens have 3 style arms. The achenes (enlarged) is not accurate for Natal examples”.

In Gordon-Gray’s review of *Ficinia* in Natal (p. 81–89, 1995) there is no mention of this plant.

FICINIA STOLONIFERA

syn.: *F. filiformis* Nees 1835, nom. illeg., non (Lam.) Schrad. 1832; *F. filiformis* fa. *contorta* Nees 1835; *F. contorta* (Nees) H. Pfeiff.; *Melanranis contorta* (Nees) Kuntze 1891; *Ficinia thyrsoida* H. Pfeiff.; *F. filiformis* sensu auctt. (misapplied).

Tussocky perennial herb with rhizome; culms crowded, 5–50 cm long, 0.3–0.6 mm Ø, angular; leaves from the basal 5 cm only; sheaths brown to almost blackish below, but culms with prominent grey translucent wide sheaths on the intravaginal new shoots; ligule a tubular delicate shining white (sometimes yellowish) membrane that is not always easily observed intact (fig. 30 D p. 82 in Gordon-Gray, 1995); inflorescence a head, 0.5–1 cm Ø, of 1–8 sessile spikelets that radiate and are easily counted; spikelets 4–7 × 2–3 mm.

Sparse, dry grassland in coarse gravel, often along disturbed roadsides; damper, more lush grassland (ecology in Natal fide Gordon-Gray, 1995).


FIMBRISTYLIS / 27

*Fimbristylis* Vahl 1805, nom. cons., excl. *Abildgaardia* Vahl 1805. Genus of c. 300 species accepted out of the c. 1063 names of taxa recorded (Desai & Raole, o.c.: 73). It is the 4th largest genus within Cyperaceae. Distribution worldwide but mostly in subtropical, tropical, and warm temperate regions; most of the species are concentrated in SE Asia, Malesia, NE Australia (J. & M. Kim, Korean J. Taxon. 45: 318, 2015).

“The few revisions of *Fimbristylis* available are already outdated or cover only a regional scale” (Nuenber Ronchi & al. in Syst. Bot. 41: 166, 2016).

“Ohwi (1944), Kern (1974) and Hooker (1894) included the genus *Abildgaardia* Lyce within the genus *Fimbristylis* Vahl. Molecular phylogenetic analysis of the family Cyperaceae depict *Abildgaardia* and *Fimbristylis* to be more closely related to each other than any other genera and suggested that few characters are available for proper construction of the phylogenetic tree” (Desai & Raole, l.c.) – “At present, molecular phylogenetic data support the division of *Abildgaardia*, *Bulbostylis* and *Fimbristylis*, but the relationships among these genera are still unclear” (Reutemann & al.(2012): 223).

“*Fimbristylis* species are generally characterized by the presence of leaf blades, leaf sheaths without long silk hairs at the apex, and nutlets without persistent style bases (J. & M. Kim, l.c.).”


GHAMKHAR, K. & al. (2007). See above under *Bulbostylis*.


REUTEMANN, A. G. & al. (2012). See above under *Bulbostylis*.


Annual tufted herb 3–5–30 cm tall; leaves similarly varying, 3–20 cm long, 0.5–1 mm wide, hairless or sparsely hairy; culms c. 0.5 mm Ø; inflorosence in small plants of 1 spikelet, in larger plants of 2–4 stalked spikelets from near the base of the terminal one, or with further branching, giving a second order umbel with c. 10 spikelets; inflorosence 1–1.5 cm long, 0.5–1 cm wide; spikelet 3–5 mm long, 1–3 mm wide; glumes pale green with a dark red patch in middle of each half, mucronate.

Shallow soil on rocks; damp flushes; swampy places; river banks; diagnostic species of *Cyperus pulchellus* – *Bacopetum hamiltonianae* vegetation of seasonal ponds (Müller & Deil in Phytocoenologia 35: 357, 2005); inselbergs (Porembski & Brown in Candollea 50: 358, 1995).

From India through to Java – Philippines; Goa (Patil & Prasad in Ind. J. Forestry 32: 448, 2009). For India, See Kumar & al. in Nelumbo 59: 165–166 (fig.), 2017. Record from Andaman
FIMBRISTYLIS ALBOVIRIDIS

Frequently confused with *F. dichotoma* but more rigid and slender


syn.: *F. quadrangularis* A. Dietr. ex Steud. var. cressa C. B. Clarke; *F. testui* Cherm.; *F. quinquangularis* (Vahl) Kunth var. testui (Cherm.) Robyns & Tournay; *F. vandervestii* De Wild.; *F. globulosa* (Retz) Kunth var. aphylla (Steud.) Miq.

Perennial tufted herb with short rhizome; culms acutely quadrangular, almost winged, to 75 cm tall, 1.5–3 mm Ø; leaves reduced to sheaths, few at base of culms, 4–10 cm long, blade scarcely reaching 1 cm long; leaves on sterile shoots well developed, flat, with blades to 30 cm long, 2–3 mm wide; sheaths loose, tubular, inflorescence terminal, compound, paniculate, widely spreading, umbellate in plan with inconspicuous involucral bracts; primary rays up to 13, angled, to 5 cm long; spikelets solitary, brown, ovoid, 2.3–3.5 × 1.5–2 mm, fairly pointed, lengthening with age to 10 mm incl. bare rachilla.

Swamps; damp savanna; near rivers; rice fields; c. 410–1200 m alt.

S. Africa; S & SE Asia: from India – Bangladesh, E-wards to Vietnam – Java – Philippines; Andaman & Nicobar Isl.

Distinguished from *F. quinquangularis* because the leaves are reduced to a few leaf sheaths at base.


syn.: *Iria barteri* (Boeckeler) Kunz; *Fimbrystylis chevalieri* Kük.

Perennial herb 21–80 cm tall with rhizome; culms swelling at base and covered with persistent sheaths becoming fibrous; culms erect, solitary or tufted, 0.6–1.5 mm Ø; leaf sheaths light brown; blade 5–25 cm long, 1.2–5 mm wide; inflorescence branched, 4.5–13 cm long, 2–6 cm wide, an umbel usually of the second order with relatively long (2–3 cm) branches; spikelets 20–40, ovoid-ellipsoidal, brown, 5–7 mm long, 2–2.5 mm wide.

Grassland; humid sand in savanna; temporarily flooded sands; 409, 1997 (idem).


Tufted leafy annual herb 5–35 cm tall; culms 0.5–1 mm Ø, ± triangular; leaf sheaths straw-coloured to brown; blade flat mostly much shorter than culms 1–2 mm wide; inflorescence open, 2–6 cm wide, with 10–40 spikelets, main branches 1–3 cm long; spikelets angular-elongate-ovoid, 3–8 × 1–1.5 mm; glumes boat-shaped, sharply keeled.

Seasonally submerged sandbanks in rivers; seasonal pools in woodland; mud flats; rocky and sandy river-banks; exposed bare alluvial loamy-sandy soil near streamlets and pans; dense *Acacia*, *Comniphora* bush with *Adansonia*; usually a sign of fertile soil; cultivated fields; 0–1500 m alt.

Not yet (2012) found in Gabon but presence possible ("there is an annual form of *F. dichotoma* much smaller than the perennial form"). – Canary Isl.; Mediterranean Europe from Portugal to Greece (Tan & al. in Phytoforma Balcan. 13: 81–82, 2007); N. Africa: Algeria, Morocco, Egypt; Namibia, S. Africa; Madagascar; SW Asia from Yemen, Arabia, Turkey, Palestine, Lebanon, Syria, Caucasus, through to Iran, Turkmenistan, Afghanistan, Pakistan, India, Sri Lanka – Malaysia – Indonesia – Japan – tropical Australia – Philippines, New Zealand; essentially tropical, frequently sympatric with *F. dichotoma*. Previous record of *F. bisumbellata* from Andaman & Nicobar Isl. refers to *F. dichotoma* (Prasad in Nelumbo 59: 158, 2017).

Hybridisation not uncommon with *F. dichotoma* (Natal). – “When dealing with older herbarium material anything labelled *F. diphylla* is what is now called *F. dichotoma* in recent literature and anything labelled *F. dichotoma* might well be *F. bisumbellata*” (Fl. Trop. E. Afr., l.c.).


bas.: *Scirpus biformellatus* Forsk.


Densely tufted rhizomatous perennial herb 0.6–1.8 m tall; stems crowded, conspicuously flattened, dotted; leaf sheaths greyish or pale brown; blades very narrow or absent; inflorescence a panicle of small, slightly crowded spikelets, 0.7–2 cm long; glumes many, reddish brown.

Waterlogged peaty areas and swamps by streams; road-sides; bushland; wet grassland in saline or alkaline habitats, particularly near sea-shore; 1–1700 m alt.

S. Africa; Madagascar.

“Unfortunately this name [*F. bivalvis*] has to replace the more well known *F. longiculmis* Steud. (1855)” (Lye in Lidia 3/5: 144, 175).
(F. cioniana Pi. Savi) – See above under Bulbostylis cioniana (Pi. Savi) Lye


bas.: Scirpus complanatus Retz.

Cyperus complanatus (Retz.) Willd. 1797, nom. illeg., non Forsk. 1775 (= C. conglomeratus subsp. conglomeratus), nec C. Presl 1828; Isolepis complanata (Retz.) Roem. & Schult.; Trichostelis complanata (Retz.) Nees; Fimbristylis autumnalis var. complanata (Retz.) Kük. – Cf. also below under F. complanata

Tufted rhizomatous perennial (sometimes annual) herb 0,5–1,2 m tall; culms densely packed, 1,5–3 mm, flattened (and twisted) at top; leaf sheaths closed, with hairy margin near the ligule; blades 1–3,5 cm long, flat, margins with dense spine-like hairs; inflorescence compound, 1,5–6 cm long, 1–4,5 cm wide, of a central spikelet and many stalked spikelets or groups of spikelets (brown, 0,5–1,2 cm long, c. 2 mm); style branches 3, nutlet trigonous.

Permanently inundated swamps; near water holes; along streams; (wet) grassland with mixed herbs; Juniperus, Nuxia, Agarica mixed forest; often in rocky places; ditches; swampy lake margins; floating meadows and swamps; sand banks; hot wells; dembos; rice fields, cultivated ground; 0–2900 m alt.

Plants very variable in robustness, degree of development of leaf blades. – “Constant characters that permit reliable identification: ligule a dense fringe of short white hairs at mouth of sheaths; spikelet rachilla winged and ragged except at extreme base”.

Namibia, S. Africa, Botswana, Swaziland; Seychelles, Madagascar; SW Asia: Yemen (Wood, Handbook Yemen flora: 330, 1997), Asia from India, Sri Lanka, Bhutan, Pakistan, E-wards through Malaysia, Indonesia, Japan – Philippines (very common in SE Asia); N Australia; Pacific Islands; C. America, West Indies, S. America. – In most tropical and subtropical regions – pantropical.

Subdivided into 2 subsp.: – subsp. complanata [syn.: F. bequaertii De Wild.; F. complanata Kunteh; Iria complanata (Kunth) Kunteh; Fimbristylis horsfieldii C. B. Clarke; F. subaphylla Boeckeler; F. complanata var. subaphylla (Boeckeler) Lye]; further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew; – subsp. keniaeensis (Kük.) Lye [bas.: F. keniaeensis Kük.; syn.: F. complanata var. keniaeensis (Kük.) Lye]

F. complanata

keniaeensis (Kük.) Lye) in Kenya (K 3–6). – Distinguishing characters: subsp. complanata with most spikelets on individual stalks, sessile spikelets not clustered, culms 0,15–0,3 cm; subsp. keniaeensis: spikelets more crowded with 2 or more on a stalk and 2 or more sessile spikelets together, culms < 0,15 cm. Both taxa occur together.

“Some authors maintain F. complanata as distinct (an entity of high altitudes, 1600–2300 m from F. complanata (0–1300 m alt.)” (Gordon-Gray, o.c.: 91). “A world survey of both taxa might be revealing”.


syn.: Scirpus cymosus (R. Br.) Poir. 1816, nom. illeg.; Iria cymosa (R. Br.) Kunteh; Scirpus glomeratus Retz. 1876, nom. illeg., non Roxb. 1820, nec L. 1753; Isolepis glomerata Schrad.; Scirpus cymosus Lam. 1791; S. obtusifolius Lam.; Isolepis obtusifolia (Lam.) Roem. & Schult.; Fimbristylis obtusifolia (Lam.) Kuntz 1837, nom. illeg.; Isolepis obtusifolia (Lam.) Nees; Fimbristylis cymosa R. Br. subsp. spathacea (Roth) K. Koyama; F. spathacea Roth (here considered as synonyms). – F. cymosa subsp. umbellato-capitata (Hillebr.) K. Koyama is a plant from S China to the Pacific islands. – “This species [F. obtusifolia] is part of the world-wide F. cymosa R. Br. complex of strand and atoll plants whose inter-relationships are not entirely clear” (S. S. Hooper in Fl. W. Trop. Afr., ed. 2, 3/2: 324, 1972). – The complex F. cymosa s. str., F. obtusifolia, F. spathacea need further studies.

Perennial rhizomatous herb forming dense tufts 10–20 cm tall and to 90 cm wide; leaves many, flat, 2–20 cm long, 0,7–2 mm wide, suddenly rounded at apex; inflorescence compound with many small pedunculate clusters of sessile spikelets pale brown or yellowish brown with often wide whitish margin, 1,5 mm long; style 3-branched in Africa, but sometimes 2-branched elsewhere. Sandy foreshores, edges of mangrove swamps; coral rock; salt marshes; grassy places on sandy soils; 0–c. 300 m alt.

Generally coastal with few exceptions inland (e.g. Niger); some other Cyperaceae have similar distribution, e.g., Eleocharis geniculata, Fimbristylis ferruginea, Pycreus polystachyos, Rhynchospora holoschoenoides, Scleria laeustris.

Very variable.


The differences between subsp. cymosa and subsp. spathacea are: – subsp. cymosa: nutlet 3-sided, stigmas 3, inflorescence
FIMBRISTYLIS CYMOSA

(anthelae) head-like with a few short rays, spikelets many, congested; – subsp. spathacea; nutlet mostly biconvex, stigmas 2–3, anthelae open with several elongated rays, spikelets solitary or a few fascicled.

**FIMBRISTYLIS DICHTOMA**

_F. dichotoma_ is one of the most important _Cyperaceae_ weeds in terms of its adverse effect on agriculture, and is ranked 40th among the world’s worst weeds (Naczi & Ford, o.c.; Verloove & al. in Fl. Mediterr. 24: 202, 2014). But it is also used as green manure and plowed into the soil.

“Easily identified by dark brown glabrous glumes, smoothly (not angled) spikelets, biconvex achenes with tuberculate surface” – Rather similar to _F. albovirdis_ but generally larger.

Hybridisation with _F. bisumbellata_ not uncommon (See above under that species). “Anything [herbarium material] labelled _F. dichotoma_ might well be _F. bisumbellata_.” But “when dealing with older herbarium material anything labelled _F. diphylla_ is what is now called _F. dichotoma_.” _F. dichotoma_ auct., non (L.) Vahl, e.g. C. B. Clarke 1902 = _F. bisumbellata_.


bas.: _Scirpus dipusaeus_ Rottb.

syn.: _Echinoltarum dipsaceum_ (Rottb.) Dest.; _Isolepis dipsacea_ (Rottb.) Roem. & Schult.; _Scirpus minimus_ Roxb.; _Isolepis elachista_ Schult.

Annual mostly ephemeral herb 3–20 cm tall with tufted angular culms 0.2–0.4 mm Ø; lower leaves without or with very reduced blades, upper 2–10 cm long, 0.2–0.3 mm wide; inflorescence with one sessile and 2–10 stalked spikelets and occasionally additional secondary stalked spikelets; peduncles 1–15 mm long; spikelets green turning yellowish brown, oblong to ovoid, 3–6 × 2–3 mm, densely many-flowered, squarrose; glume apices with a long curved awn.

Exposed mud flats becoming submerged in wet season; silty or muddy river banks, dry river beds; sandy places; swamps; laterite outcrops; sandy and clayey places; 200–400 m alt.

S & E Asia, India, Sri Lanka, E-wards to Korea, China, Japan, Malesia, New Guinea, N Australia; S. America, S Venezuela to Brazil. – Plant of scattered occurrence (first found in Nigeria in 1973).


Easily recognised by its bristly spikelets and small cylindrical nutlet often beset with stalked warts.


Said to be near _F. subaphylla_ Boeckeler [included in _F. complanata_ (Retz.) Link by Gordon-Gray & Browning, in Flow. Pl. Africa 53: pl. 2091, p. 54–58, 1994, and by us, cf. above under that species], from which it differs by its pubescent, inflorescence with few rays and transversely rugose nutlet. – A plant with culms to 55 cm tall; angular-striate; leaves with short blades (c. 1 cm long); sheaths with long hairs at mouth; inflorescence of 3–5 rays, subtended by 4 setaceous bracts; spikelets 10 × 3 mm, c. 15-flowered; nutlet trigonal, obovate, surface transversely rugose.

In uncultivated places.

**FIMBRISTYLIS ELONGATA**

Known from the type collected at Palma (10°48’S × 40°29’E), N Mozambique, 18 March 1917 (Pires de Lima 145).

Two varieties have been described: – var. _subaphylla_ (See above); – var. _longefoliata_ Pires de Lima, differing from the typical variety by its culms, that are hispidulous on their whole length, its bracts and much longer leaves. – In uncultivated places at Palma 24 August 1916 (Pires de Lima 32).

Not mapped separately by us.

_F. engleriana_ Buscal. & Muschl.

Said to be near _F. schweinfurthiana_ Boeckeler from which it differs by its very acute leaves and much branched inflorescence. Herb 20–35 cm tall with a much developed root system; culms filiform, nearly setaceous, erect or ± strongly curved; leaves very thin, forming a dense rosette above the ground, setaceous, 3–4.5 cm long, 0.5–0.75 mm wide, long-acuminate; sheaths glabrous; inflorescence compound, much-branched or rarely simple, with 5–6 rays, 0.75–1 cm long; spikelets ovate, c. 3–5 × 2–3 mm, glumes densely imbricate.

Swampy places along lake (Bangweolo, Zambia!).

This species is not cited by Phiri, A checklist of Zambian vascular plants, 2005, but _F. schweinfurthiana_ figures there, however the latter species is known only from W Africa, Guinea to Sudan and its presence in Zambia is doubtful. _F. engleriana_ is possibly a good species near _F. schweinfurthiana_.


syn.: _Iria falcifolia_ (Boeckeler) Kunz

Pale green, glabrous herb; roots fibrous, very slender; culms several, tufted, setaceous, 10–15 cm tall, obsolescent 5-angular, slightly compressed, furred, smooth; leaves few, 5–7.5 cm long, falcate (and _fexuose_), somewhat rigid, linear, 0.11 cm wide, narrowed toward the top, acute, flatish, minutely punctate, margins slenderly serrulate; sheaths short, margined by a hyaline membrane, obliquely truncate at mouth; umbel “half-compound”, 5–7-rayed; bracts 3–4, lower narrow-linear, scarcely ½ shorter than the umbel; rays spreading, capillary, angular, scabrous on the angles, the longer c. 25 cm, with 2–3 branches; spikelets oblong-lanceolate, acute, “rete subangular”, 10–18-flowered, 0.55–0.66 cm long; glumes in several ranks, rigid, rather close together, adpressed, broad-ovate, boat-shaped, obtuse or very shortly mucronate, keel green, 1-nerved, sides smooth, rusty straw-coloured, margins white, hyaline; nut small, by more than 1/2 shorter than glume, obovate; trigonous, the angles marked by a prominent line, with a small boss, cancellate, pale straw-coloured; style but little exserted, shortly 3-fid.

E Sudan: Gallabat, Matamma. Schweinfurth s. n.

The cover of this species in the Berlin Herbarium was found empty so that the plant has probably been removed to some known species (Fl. Trop. Afr. 8: 426, 1902); ? specimen lost (not in Andrews, _The flow._ pl. Sudan 3, 1956).

Taxonomic status uncertain. Known only from the type specimen not located.

Not mapped by us.

**CYPERACEAE**

**FIMBRISTYLIS FERRUGINEA**


- bas.: Scirpus ferrugineus L.

- syn.: Isolepis ferruginea (L.) Schltdl.; Fimbristylis spadicea (L.) Alph. Wood; Iria ferruginea (L.) Kuntze

- Tufed (short-lived) perennial herb 0,24–1,1 m tall with short rhizome, forming clumps 60 cm wide; culms compressed, 1–2 mm Ø; leaf sheaths greyish pale brown or brown; blades 9–30 cm long, 1–2 mm wide; inflorescence open or less so and sometimes subcapitate, 2–4 cm long, 2–2,5 cm wide; spikelets few to many, shortly stalked to sessile or subsessile, brown or greyish, 0,5–1,8 cm long, 3–5 mm Ø; glumes reddish-brown, densely set with short whitish hairs in upper part, 1–2 mm long; nutlet biconvex.

- Tidal inlets, lagoons; seasonally inundated Suaeda-Aviceaen mangrove swamps bordering Hyphaene-Sclerocarya wooded grassland; salt marshes; intertidal mudflats down to spring tide level; sandy beaches; muddy hollows in black cotton soil; moist valley bottoms in Combretum woodland; edges of rice fields; waste places; saline seepages; springs on gravel; lakesides; alkaline soils; gueltas; inselbergs (Porembski & Brown in Candollea 50: 358, 1995; Tindano in Bois & Forêts Trop. 325: 26, 2015); 0–2500 m alt. – Adapted to halophytic conditions and normally found towards coastal areas and near brackish waters. In inland areas also it is found in saline soils. – “Quite frequently plants of F. dichotoma and F. ferruginea grow intimately mixed” (Gordon-Gray 1995: 93). Often occurs with Eleocharis geniculata (Liberia, Mesterházy in Lidia 7/5: 108, 2012). Tropical, subtropical, and warm-tropical areas in the world. – N Africa from Morocco to Egypt; Cape Verde Isl. (Brodmann & Rustan in García de Orta 16: 23, 1993); Bioko/Fernando Poo, S. Tomé; Namibia, S. Africa, Botswana, Swaziland; Aldabra, Mauritius, Madagascar, Réunion; Canary islands (Gran Canaria first recorded in 1973, cf. Verlouwe in Webbia 67: 97, 2012); S. Europe: Spain, Crete, Cyprus; from W Asia to Middle East, Turkey, Oman, Saudi Arabia, Yemen, Syria, Caucasus, Iraq, Iran, Afghanistan, S Asia from India, Sri Lanka to Korea, Indonesia, Philippines, Japan; N Australia; Pacific islands; C. & S. America, West Indies. – For Andaman & Nicobar isl., See Prasad in Nelumbo 59: 156, 2017 (subsp. sieberiana).

- Comprises 2 subsp. in our area: – subsp. ferruginea [for synonyms See World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew], widespread in the tropics; – subsp. sieberiana (Kunth) Lye [bas.: F. sieberiana Kunth; syn.: F. ferruginea var. sieberiana (Kunth) Boeckeler; F. mauritiana Tausch in Roem. & Schult. 1824] in the tropics and subtropics of the Old World. – Subsp. ferruginea in coastal areas, with lower leaf sheaths shiny brown and leathery, leaf blades < 10 cm long, spikelets acute, nutlet 1,1–4 mm long; – subsp. sieberiana with lower leaf sheaths light brown or pale, not leathery or shiny; largest leaf blades > 10 cm long, spikelets obtuse, nutlet 1,3–1,7 mm long. Culms used as screens for huts. Planted as erosion control, to stabilise sandy areas. p. 1140

**F. ferruginea sensu auct. = F. turkestanica** (Regel) B. Fedtsch. (Fl. Pakistan 206, Cyper.: 72, 2001).

- Verlouwe (Webbia 67: 97–98, 2012) notes: “Kukkonen… found out that F. ferruginea from Iran and Pakistan in fact belongs to a closely related, predominantly Asian species, F. turkestanica… Spanish records were subsequently also referred to the latter species… Eventually, all records of F. ferruginea from the Euro + Med. area, including those from Gran Canaria, were – perhaps uncritically – renamed as F. turkestanica… Thus, at least for the time being and pending a (long-awaited!) worldwide revision of the Fimbristylis ferruginea – complex, plants from Gran Canaria are best ascribed to F. ferruginea s.l. …”.

- F. ferruginea is distinguished from F. dichotoma… and F. bisumbellata… by the smooth-surface achenes, round in outline, and by the glumes that are grey-velutinous… Distinctions from F. longiculmis… are less obvious” (Gordon-Gray 1995: 93).


- Perennial densely tufted herb with thickened base covered by a dense mass of dark fibres; culms 40–60 cm tall, erect; leaf sheaths rusty brown; blades 10–20 cm long, 0,2–0,3 cm wide, flat; ligule of firmbriate hairs; inflorescence a compound anthela of 25–35 spikelets; rays 4–6, unequal, to 4–5 cm long; spikelets oblong, 7–9 × 3–4 mm, several-flowered; nutlet lenticular, obovate, surface minutely warty, c. 1 × 0,8 mm.

- Savanna with Themeda triandra; dembo; 930–1120 m alt. Only 2 collections known, from 1958 and 1959.


- syn.: F. robusta Lye

- Perennial herb 35–50 cm tall from a creeping rhizome at least 4 cm long, somewhat flattened, 7 mm wide, 5–10 mm thick with sheaths), or with many crowded rhizomes giving rise to robust tussocks; culms 0,5–1 mm Ø, base swollen; leaves basal; sheaths pale brown, fibrous; blades 15 cm long, 0,8–1,5 mm wide; inflorescence open with one sessile and 4–5 stalked spikelets dark brown, lanceolate, 0,7–1,2 cm × 3,5–5,5 mm.

- Seasonally wet grassland; marshes; damp savannas; dembo; 500 (? and less) –1140 m alt.

- Near E. ferruginea but glumes glabrous.

- Known only from 1 locality in Uganda (cited under F. robusta in Fl. Trop. E. Afr., l.c.).


- Herb with a short rhizome; culms several, tufted, to 80 cm long, very stout, greyish green, with large leaf sheaths at base; inflorescence of many rays unequal in length each bearing 1–5 spikelets ellipsoidal to cylindrical, pedunculate, 5–16 mm long; nutlet obovate-oblong, surface tuberculate.

- Wet sandy edge of lake; also in water 10–20 cm deep on sandy soil.
FIMBRISTYLIS GIGANTEA

Said to be distinguished from (F. longiculmis) = F. bivalvis by its very thick culms and reticulate surface of nutlet. Should also be compared with F. ferruginea, which has, however smooth nutlets (fide Kükenthal).


“Any material labelled F. miliacea needs careful examination to determine whether it is F. littoralis or F. quinquangularis [= F. miliacea L.]” (Fl. Trop. E. Afr., l.c.).

(F. longibracteata) Pires de Lima

Herb with short rhizome; culms tufted, to 28 cm long, glabrous or pubescent; leaf blade thread-like; inflorescence an umbel of 3–5 spikelets each 3 × 6 mm; glumes rusty brown with green midvein terminating in a mucron.

Uncultivated places.

Said to differ from (F. exile (Kunth) Roem. & Schult. = Bulbosystis hispidula subsp. hispidula) by the presence of a rhizome, thread-like leaves and involucral bracts much longer than the umbel.

Type: Pires de Lima collected at Palma, Mozambique (10°48′N × 40°29′E), 10 February 1917 (Nº 104).

Not mapped. – Taxonomic status uncertain.


Perennial herb 0.3–0.9 m tall with erect woody rhizome, stoloniferous; culms solitary or few together, 30–60 cm long, 1–2 mm Ø, compressed, ridged; leaves 5–30 cm long, 1.5–2.5 mm wide, with short spine-like marginal hairs, apex rounded; sheaths with thin orange brownish wings; ligule a rim of dense hairs; inflorescence an open panicle; spikelets 0.4–1.6 cm long, 2–3 mm Ø; nutlet ± globose, 1–3 mm, with scattered large papillae.

Miscanthus swathes; lake and swamp edges; swap in miombo woodland; seasonally wet grassland; (70) – 2100 m alt.

Madagascar.

May be confused with F. complanata (cf. Fl. Trop. E. Afr., l.c.).


Glabrous robust metre-long herb; leaves 50–80 cm long, 6 mm wide; inflorescence umbel decompound, c. 16 cm high, 6 cm wide, i.e. with various compound ramifications, of 600 spikes, branches erect; spikelets solitary, linear-cylindric, 6 × 1–1.5 mm, reddish brown; style 3-fid, nutlet small, subtrigonus, warty.

Known only from the type, Congo, Brazzaville, collected by A. Chevalier 1–12 January 1904.

Taxonomic status uncertain. Not mapped.


syn.: Iris microcarya (F. Muell.) Kuntze; Fimbristylis complanata (Retz.) Link var. microcarya (F. Muell.) C. B. Clarke; F. autumnalis (L.) Roem. & Schult. var. microcarya (F. Muell.) Kük.; F. thommingiana Boeckeler (not F. castanea Vahl var. thommingiana Boeckeler = F. pilosa); Iris thommingiana (Boeckeler) Kuntze; further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.
Annual tufted herb 17–50 cm tall; culms flattened at top, 0.6–1 mm 2; leaves mostly basal, shorter than culm, flat, 3.5–25 cm long, 1–3 mm wide, tip abruptly acuminate; sheaths flattened, 1.5–9 cm long; ligule a fringe of short hairs; inflorescence branched, open, 1.5–7 cm long, 1.5–6 cm wide, an umbel of the third order; primary rays few to many, very unequal, compressed, lowest to 4.5 cm long; spikelets numerous, solitary, ovoid, 2–5 mm long (reaching 8 mm including the bare rachilla when old), 1.2–2.2 mm wide, pointed, few-flowered; rachilla winged. Dam grassland; wet exposed places; marsh in palm savanna; humid hollows and pools in meadows; 0–800 m alt. Namibia; widely distributed in E Asia; Thailand – India – Himalaya – Malesia; N Australia.

**Fimbristylis microcarya var. microcarya**


Said to be distinguished from (“F. hispidula Kunth” =) *Balbostylis hispida* (Vahl) R. W. Haines which is characterised by rarely spreading pubescence, spikelets half as long and glumes scarcely keeled; herb c. 30 cm tall, glaucous, with basal leaf sheaths rusty brown, fimbriate.

*Balbostylis hispida* is a very polymorphic species with culms glabrous to densely hairy with long slender transparent hairs, leaves 1–15 cm long, and spikelets 4–15 mm long, 2–4 mm wide. Taxonomic status uncertain. Not mapped.

**F. nigritana** C. B. Clarke; Lowe & Stanley, Fl. Nigeria: Sedges: 71, 1974; Brunel & al., Fl. analyt. Togo in Englera 4: 547, 1984. Perennial herb, ? rhizomatous, 20–60 cm tall; leaves (specimen incomplete) 27 cm long, 5 mm wide; culm 1.5–2 mm 2, bearing a much-branched inflorescence c. 14 cm long, c. 7 cm wide; inflorescence an umbel of the fourth order, with rather long erect branches with 74 spikelets; spikelets solitary, dark chestnut, 5–9 mm long, 2–3 mm 2, reaching 15 mm long when old incl. the bare rachilla; nutlet black, biconvex. Plains among grasses.

The type specimen (Barter 623) gathered c. 1858, is presumed to be collected in the Jebba area (Nupe), Nigeria.


**F. ovata** (Burm. f.) J. Kern – See above under *Abildgaardia ovata* (Burm. f.) Kral


Very densely tufted perennial herb 10–40 cm tall; culms many, flattened; leaves to 2/3 the height of culms, c. 1–2 mm 2; inflorescence 7–18 cm tall with a single straw-coloured or pale greenish brown ovoid to lanceolate spikelet 5–12–2–4 mm. Seasonally inundated mangrove swamp with *Avicennia*; seaward edges of saltmarshes; stone quarry; lake edges in inland; 0–15 m alt. Madagascar; tropical Asia from India – Sri Lanka E-wards to Malaysia – Indonesia -Philippines; Australia.

FIMBRISTYLIS QUINQUANGULARIS

bas.: Scirpus quinquangularis Vahl
syn.: Iria quinquangularis (Vahl) Kuntze; Scirpus miliaceus L. 1759, nom. rej.; Fimbristylis miliacea (L.) Vahl 1805, nom. rej.

Tufted annual or possibly sometimes perennial herb with slender root-stock, 0.2–1.25 m tall; culms 0.5–1.5 mm 2; 4–5-angled; leaves up to as long as stems; blade flat, 1–3 mm wide, ligule absent; inflorescence open, panicle, 5–10 cm long, 2–6 cm wide; spikelets ovoid, 2–5 × 1–5 mm; nutlet white or pale yellowish brown, transversely ridged.

Bogs; swampy grassland; rice fields; small temporary pool in Combretum, Terminalia woodland; guetua; Combretum bushland; rocky crevices near permanent water; on black soil; 0–1650 m alt. in Madagascar, Comoros, Mauritius, Réunion; tropical & subtropical C – SE Asia, from Afghanistan, Iraq, E-wards through India, Pakistan to S China, Taiwan, Indonesia – Philippines; tropical Australia; – scattered occurrence – introduced Fiji, Hawaii; West Indies, C America; “recently, probably, introduced to America, Puerto Rico”.

Comprises 3 subsp.: – subsp. quinquangularis (synonyms in World Checklist of Selected Plant Families, Roy. Bot. Gard., Kew); pantropical, with short glumes (1–1,5 mm) and nutlet with epidermal cells in 4–6 vertical rows on each face; – subsp. macroglumis (Lye) Verdc. (bas.: F. miliacea subsp. macroglumis Lye), in Uganda – Kenya – Tanzania, with nutlet with chambered papillae; – subsp. palescens (Lye) Verdc. (bas.: F. miliacea subsp. palescens Lye) in NE Tanzania (T6), with nuts with epidermal cells in 2–3 vertical rows on each face.

There may still be confusion about the identity of herbarium material labelled F. miliacea, and “all determination labels pre-1980 are suspect. Examination of the actual material is essential” (Fl. Trop. E. Afr., l.c.). Nomenclatural confusion possible with F. littoralis.

Perhaps introduced in Africa and America with cultivation of rice.


Herb with horizontal rhizome to 2 cm long; culms angular-striate, to 30 cm tall; leaves numerous, the lowermost reduced to scales, the upper ones longer than culms, with white hairs at throat of sheath; inflorescence compound, subtended by 6 thread-like bracts to 6,5 cm long; spikelets numerous (to 40), pointed, to 6 × 1,5 mm; glumes mucronate, rusty brown with pale margins. Uncultivated place near the road Palma – Quionga (= 10°48’S × 40°31’E).

Type: Pires de Lima 52, collected 8 November 1916.

Said to differ from “F. capillaris K. Schum.” [= Bulbostylis densa (Wall. in Roxb.) Hand.-Mazz.] by the presence of a rhizome, longer leaves and involucral bracts, and more numerous spikelets. Taxonomic status uncertain. Not mapped.

(F. rhodesiana Rendle) Annual tufted herb to c. 10 cm tall, with the “habit of F. exilis Roem. & Schult.”; culms striate, 0,3 mm 2, with spreading hairs; leaves linear, half the length of the culms, 0,5 mm wide; inflorescence an umbel of 3–5 spikelets on 6–9 mm long peduncles; spikelets 5 mm long, ovate, compressed, > 20-flowered, chestnut brown; glumes ovate, 3 mm long, with pale midrib, readily falling; nutlet whitish, trigonous, c. 1 mm long, transversely rugulose. – Plant “with a habit of small slender forms of F. exilis Roem. & Schult.” (= Bulbostylis hispida) R. W. Haines subsp.

FIMBRISTYLIS RHODESIANA

hispidula] from which “it is distinguished by the relatively broader and shorter many-flowered spikelets, the readily falling glumes, shorter anthers and smaller nutlets.”

Collected by Swnyerton (Nº 920), April 1906, at “Upper Buzi River, Mozambique MS [= Buzi R. in Zimbabwe, “a well-known route providing access to the interior (Zimbabwe plateau) from the port of Sofala”]; Swynerton collected here in 1906; fide Pope, Flora Zambesiaca, collecting localities in Flora Zambesiaca area: 9, 1998; Buzi River bridge = 20°27’S × 32°50’E].

Taxonomic status uncertain. Not mapped.


syn.: F. muriculata Bent.; F. muricorata Boeckeler 1871, nom. illeg., non Vahl 1805 (= F. quinquangularis subsp. quinquangularis); F. pachystachys Chern.; F. pachystylis Chern.; Iria muricorata Kuntze – Fimbristylis muricata Walp. and F. muricatula Steud. are both orthographic errors for muriculata.

Tufted perennial herb 35–83 cm tall with swollen base covered with fibrous remains of red split leaf sheaths; culms 0,7–1 mm 2, rounded or slightly compressed above, scarbid with short spine-like teeth; leaf sheaths pale with thin wing; blades c. 10 cm long, 1–2,5 mm wide, ± flat, scarbid on margins, tip with spine-like hairs; inflorescence an open panicle; spikelets lanceolate-cylindric, 0,6–1,4 cm × c. 2 mm; glumes brown with green midrib projecting as a sharp point.

Dry grassland heavily grazed; damp grassland; humid savanna; rocky outcrops; woodland; meadows; sandy soil; often found as isolated specimens; 0–1200 m alt. – Forming a coarse matted turf.


bas.: Scirpus schoenoides Retz.


Tufted annual or perennial herb 10–50 cm tall with angular culms; leaf blades 5–15 cm long, 1–2 mm wide; inflorescence usually a solitary ovoid spikelet 0,4–0,8 (± 1,5 cm in fruit) × 0,3–0,5 mm, rarely with 1–2 additional stalked spikelets.

Open marshy areas of well grazed grassland with some rice cultivation; murram pit; weed in cultivated ground; bare sands temporarily very humid, often near salty soils; meadows; pool edges; ♀ 500–1200 m alt.


Subtropical-tropical Asia, widespread in India, Sri Lanka, Pakistan – Malaysia – S China, Taiwan – Indonesia; N Australia; introduced in Hawaii and S USA.

Erect herb 15–30 cm tall with slender culms and thick perennial tufts of old culms and leaf-bases; basal sheaths firmate, fuscous; blade to 0,5 mm wide, 1/2 the length of the culm; inflorescence a loose umbel, subcompound with 2–9 spikelets dull brown, rather dense, each 5 × 3 mm, obtuse, ellipsoid.

Depressions in rocky outcrops; shallow soils on seasonally swampy ground; seepage areas; temporary pools on skeletal soils; ? to e. 1400 m alt. Probably not in Sénégal.


Perennial herb forming thick tufts with swollen base covered with numerous basal leaves; rhizome woody, c. 5 mm ∅, usually erect; culms 0,6–1,2 m tall, 2–5 mm ∅, cylindric to compressed above, more angular below, base covered with tough sheaths often blackish after fires; leaf sheaths thick; blades linear, 15–40 cm long, 4–6 mm thick, wide, tough; inflorescence a compound loose umbel 6–20 × 3–8 cm of 200–400 spikelets arranged in 1 sessile fascicle subtended by 3–6 stalked fascicles, peduncles 8 cm long, 1 mm ∅; spikelets linear, 5–10 × 1,5 mm, light reddish brown but blackish when the glumes are falling.

Humid places in meadows, dambos, marshes, wet grassland; savannas, forest edges; plateau – “Batéké”; 0–500 m alt.

Near *F. complanata* but much larger, leaves wider, and with > 100 spikelets per inflorescence.


Seasonally swampy places; rice fields; grassland. “Scarcey differing from *F. alboviridis* except by the achene, though the habit is usually rather stouter than commonly recorded from the other; an extreme, very slender form with solitary spikelets is common in some areas” (Fl. W. Trop. Afr., ed. 2, 3/2: 321, 1972). – “A very slender form of *F. alboviridis* with solitary spikelets and nutlets faintly pluristriate with to 15 ribs, rarely with tubers, surface cells thick-walled, square or almost so”.

(Sub.) Included in *F. complanata* (Retz.) Link. See under that species above.


(F. subaphylla Boeckeler) – Included in *F. complanata* (Retz.) Link. See under that species above.

**F. triflora** (L.) K. Schum. – See above under *Abildgaardia triflora* (L.) Abeyw. 

SYNONYMS:

autumnalis (L.) Roem. & Schult. var. complanata (Retz.) Kük. = *Fimbristylis complanata* autumnalis var. microcarpa (F. Muell.) Kük. = *F. microcarpa*

*barbata* (Rottb.) Benth., incl. var. *subtristachya* Ridl. = *Bulbostylis barbata*

*barbata* var. *subtristachya* sensu Ridl. = *B. trabuculata* subsp. *trabuculata*

*barbata* sensu Ridl. 1884, non (Rottb.) Benth. = *B. trabuculata* subsp. *trabuculata*

*burchellii* var. *castanea* Vahl = *B. cioniana* cinnamomea *longigluma* (Boeckeler) K. Schum., incl. var. *barbata* sensu Ridl. 1884, non (Rottb.) Benth.

*barbata* var. *microcarya* sensu Ridl. = *B. barbata* (Rottb.) Benth., incl. var. *barbata* var. *microcarya* var. *complanata* (Boeckeler) C. B. Clarke

*benchmark* (Roth) T. Koyama = *Fimbristylis cymosa* contexta *consanguinea* complanata var. *microcarpa* (F. Muell.) C. B. Clarke

= *F. microcarpa*

*complanata* var. *subaphylla* (Boeckeler) Lye = *F. microcarpa*

*consanguinea* Kunth = *F. complanata* subsp. *complanata* contexta (Nees) Kunth = *Bulbostylis contexta*

*cytisma* R. Br. subsp. *spathacea* (Roth) T. Koyama = *Fimbristylis cymosa*

= *F. microcarpa*

*densa* (Wall.) T. Koyama & T. I. Chuang 1960 = *Bulbostylis densa*

*dichotoma* sensu auct., non (L.) Vahl = *Fimbristylis bisummellata*

*dichotoma* (L.) Vahl fa. *annua* (All.) Ohwi = *F. dichotoma* subsp. *dichotoma*

*dichotoma* f. *diphylla* (Retz.) Ohwi = *F. dichotoma* subsp. *dichotoma*

*dichotoma* subsp. *bisummellata* (Forssk.) Luceño = *F. bisummellata*

= *F. bisummellata*

*dichotoma* var. *laxa* (Vahl) Napper = *F. dichotoma* subsp. *dichotoma*

*dichotoma* var. *pluristratiata* (C. B. Clarke) Napper = *F. dichotoma* subsp. *podocarpa*

*dichotoma* var. *villosa* Vahl = *F. bisummellata*

*diphylla* (Retz.) Vahl = *F. dichotoma* subsp. *dichotoma* diphylly var. *laxa* (Vahl) E. G. Camus = *F. dichotoma* subsp. *dichotoma*

*diphylla* var. *pluristratiata* C. B. Clarke = *F. dichotoma* subsp. *podocarpa*


*diphylla* var. *tomentosa* (Vahl) Benth. = *F. dichotoma* subsp. *dichotoma*

*diphylla* var. *tuberculata* Peter = *F. madagascariensis*

*diphylla* var. *tuberculata* Chemn. = *F. alboviridis*

*dregeana* Kunth = *F. dichotoma* subsp. *dichotoma* ecklonii Nees = *F. squarrosa* var. *squarrosa*

*elongata* R. Br. 1810 = *F. dichotoma* subsp. *dichotoma* elongata Sieber ex C. Presl 1828 = *F. pilosa* elongata Pires de Lima 1923 = *F. complanata* exigua Boeckeler = *Bulbostylis hispidula* subsp. *hispidula*

*exilis* (Kunth) Roem. & Schult. = *Bulbostylis hispidula* subsp. *hispidula*

*exilis* var. *brachyphylly* Chemn. = *B. hispidula* subsp. *brachyphylly*

*exilis* var. *leprica* (C. B. Clarke) = *B. hensii*

*exilis* var. *rujescens* Chemn. = *B. viridecarinata*

*exilis* var. *senegalensis* Chemn. = *B. hispidula* subsp. *senegalensis*

*ferruginea* sensu auct., non (L.) Vahl = *F. turkestanica* (Regel) B. Fedtsch. (See under *F. ferruginea*)

*ferruginea* (L.) Vahl var. *sieberiana* (Kunth) Boeckeler = *F. ferruginea* subsp. *sieberiana*

*filamentosa* (Vahl) K. Schum. = *Bulbostylis filamentosa*

*filiformis* (Thwaites) Druce = *Actinochloa hensii* (Tausch in Roem. & Schult. 1924)

*flexuosa* Ridl. = *Bulbostylis abortiva*

*hensii* C. B. Clarke = *B. hensii*

*hibianderitii* (Boeckeler) Ridl. = *B. hispidula*

= *B. hispidula* subsp. *hispidula*

*hispidula* (Vahl) Kunth = *B. hispidula*

*hispidula* Boeckeler 1871 p.p. = *B. burchellii*

*hispidula* var. *brachyphylly* (Chemn.) Podl. = *B. hispidula* subsp. *brachyphylly*

*hispidula* var. *brachyphylly* (Chemn.) Napper = *B. hispidula* subsp. *brachyphylly*

*hispidula* var. *hensii* (C. B. Clarke) J. Raynal = *B. hensii* subsp. *senegalensis* (Chemn.) Napper = *B. hispidula* subsp. *senegalensis*

*huillensis* Ridl. = *B. burchellii*

*humilis* Peters = *B. schimperiana*

*hygrophila* Gordon-Gray = *Abildgaardia hygrophila*

*keniaeensis* Kük. = *Fimbristylis complanata* subsp. *keniaeensis*

*laniceps* K. Schum. = *Bulbostylis laniceps*

*lanifera* (Boeckeler) K. Schum. = *B. laniceps*

* laxa* Vahl = *Fimbristylis dichotoma* subsp. *dichotoma* laxiflora Vahl = *F. dichotoma* subsp. *dichotoma*

*lexifloras* (Chemn.) R. W. Steud. = *Actinochloa hensii*

*longiculmis* Steud. = *Fimbristylis bivalvis*

*macra* Ridl. = *Bulbostylis macra*

*madagascariensis* sensu Vollesen 1980, non Boeckeler = *Fimbristylis complanata* subsp. *madagascariensis*

*magnifica* C. B. Clarke = *F. squarrosa* marrana Miré & Quézel = *Bulbostylis densa* subsp. *afromontana*

*mauritiana* Tausch in Roem. & Schult. 1924 = *Fimbristylis ferruginea* subsp. *sieberiana*

*megastachys* Ridl. = *Bulbostylis megastachys*

*melanoccephala* Ridl. = *B. melanoccephala*

*micelena* (L.) Rchb. = *Cyperus micelena*

*miliacea* (L.) Vahl 1805, nom. rej. = *Fimbristylis quinquangularis* subsp. *quinquangularis*

*miliacea* sensu Vahl et auct. pl. = *F. littoralis*

= *F. littoralis*

*miliacea* subsp. *miliacea* = *F. quinquangularis*

*miliacea* subsp. *miliacea* = *F. quinquangularis*

*miliacea* subsp. *miliacea* = *F. quinquangularis*

*miliacea* subsp. *miliacea* = *F. squarrosa*
**CYPERACEAE**

**FIMBRISTYLIS**


*minima* Hochst. ex Boeckeler = *Bulbostylis oligostachys*

*minutissima* Maire = *B. densa* subsp. *afromontana*

*monostachya* (L.) Hassk. = *Abildgaardia ovata*

*mozambicensis* Gand. = ? (See above *Fimbrystylis* under that species)

*mucronata* Boeckeler 1871 = *Fimbrystylis scabraida*

*mucronata* Vahl 1805 = *F. quinquangularis* subsp. *quinquangularis*

*multispiculata* sflamm. for *Scleria multispiculata* sensu Adam 1958: 21 = *Scleria robinsoniana*

*muricata* Walp. = *Fimbrystylis scabraida* (orthographic error for *F. muriculata*)

*muricatula* Steud. = *F. scabraida* (idem)

*muriculata* Bentham. = *F. scabraida*

*obtusifolia* (Lam.) Kunth 1837 = *F. cymosa* subsp. *cymosa*

*obtusifolia* Nees ex C. Presl 1828 = *F. dichotoma* subsp. *dichotoma*

*oligostachya* Hochst. (ex A. Rich.) K. Schum. = *Bulbostylis oligostachys*

*oligostachys* Hochst. ex Boeckeler = *B. oligostachys*

*oritrephes* parva Ridl. = *B. oritrephes*

*ovata* (Burm. f.) J. Kern = *Abildgaardia ovata*

*pachystylis* pluristrata (C. B. Clarke) Berhaut = *Fimbrystylis scabraida* (Cherm.) Berhaut

*pachystylis* var. *tuberculata* = *F. dichotoma* subsp. *podocarpa*

*pluristrata* var. *tuberculata* Berhaut = *Fimbrystylis scabraida* subsp. *dichotoma*

*pluristrata* var. *tuberculata* (Cherm.) Berhaut

*pilosa* (Willd.) K. Schum. 1895, non Vahl 1805 = *B. pilosa*

*pilosa* pluristrata (C. B. Clarke) Berhaut = *Fimbrystylis scabraida* subsp. *podocarpa*

*podocarpa* Nees = *F. dichotoma* subsp. *podocarpa*

* podocarpa* var. *tuberculata* = *F. dichotoma* subsp. *podocarpa*

*pluristrata* var. *tuberculata* (Cherm.) Berhaut

*purpureostroma* (Boeckeler) C. B. Clarke ex Engl. = *Bulbostylis oligostachys*

*pusilla* Hochst. ex A. Rich. = *B. pusilla*

*quadrangularis* A. Dietr. ex Steud. var. *crassa* C. B. Clarke = *Fimbrystylis aphylla*

*quaternella* Ridl. = *Bulbostylis quaternella*

*quinquangularis* (Vahl) Kunth var. *testui* (Cherm.) Robyns & Tournay = *Fimbrystylis aphylla*

*robusta* Lye = *F. gabonica*

*rotundata* Kük. = *Bulbostylis rotundata*

*ruetzizensis* Germain in sched. = *B. viridecarinata*

*sambesica* = *B. macra*

*sansibaricensis* = *Fimbrystylis bivalvis*

*schimperiana* Boeckeler 1858 = *Bulbostylis schimperiana*


*sieberiana* Kunth = *Fimbrystylis ferruginea* subsp. *sieberiana*

*spadicea* (L.) Vahl var. *ferruginea* (L.) Alph. Wood = *F. ferruginea*

*spathacea* Roth = *F. cymosa* subsp. *cymosa* subsp. *sphaerocarpus* (Boeckeler) K. Schum. = *Bulbostylis sphaerocarpus*

*subaphylla* Boeckeler = *Fimbrystylis complanata* subsp. *complanata*

*subpilosa* Kük. = *F. pilosa*

*subumbellata* K. Schum. = *Bulbostylis ugdanensis*

*taylorii* K. Schum. = *B. taylorii*

**FIMBRISTYLIS**

*tenuissima* Steud. = *B. barbata* subsp. *barbata*

*testui* Kunth. = *Fimbrystylis aphyllea*

*thomningarana* Boeckeler = *B. microcarya* var. *micropia*

*thouarsii* (Kunth) Merr. ex auct. = *Actinoschoenus* subsp. *tisserantii*

*tomentosana* Vahl = *Fimbrystylis dichotoma* subsp. *podocarpa*

*transiens* K. Schum. = *Bulbostylis boeckeleriana*

*trichophora* Steud. ex C. B. Clarke = *B. hispidula* subsp. *hispidula*

*trifida* (Nees) Trin. = *B. densa* subsp. *afromontana*

*triflora* (L.) K. Schum. = *Abildgaardia triflora*

*tristachya* (Vahl) Thwaites = *A. triflora*

*vandervestii* De Wild. = *Fimbrystylis aphyllea*

*vermoeseni De Wild. = *Bulbostylis cioniana*

*viridecarinata* De Wild. = *B. viridecarinata*


(FINTELMANNA)

*Fintelmannia setifera* Ridl. = *Coleochloa setifera*

**FUIRENA / 23**

Cosmopolitan genus of some 30 species in warm-temperate to tropical areas with centres of diversity in Africa and America. All species grow in seasonally or permanently wet habitats, some species are weeds, especially in rice fields, while others are used for fodder (Muasya 1998: 187).

The plants have a grass-like appearance, leafy nodose stem, ligulate leaves, and a paniculate inflorescence with few to many spikelets. The lower inflorescence bracts are similar to the upper leaves.

“The perennial parts of *Fuirena* have been a subject of controversy for a long time” (Vrijdaghs & al., o.c.). Recent observations confirm a pentacyclic organisation and corroborate the interpretation of the inner scales and outer bristles as perianth parts (Vrijdaghs & al., o.c.: 587).

In our area the ecology is not recorded for one species (*F. bul-lera*), and 3 species (= c. 13 %) are known only from the type gathering.


syn.: *Scirpus abnormalis* (C. B. Clarke) T. Koyama

Annual herb; culm terete 0.11 × 0.3–0.9 cm; inflorescence a paniculate cluster of
spikelets each 3–7 × 2–3 mm terete, with fewer than 10 flowers; perianth segments absent.

River and stream edges; seasonally wet grassland; weed of rice fields and abandoned shambas: 900–1850 m alt.

Easily recognized by its glabrous glumes and non-hairy culm and leaves.


bas.: *F. glomerata* Lam. var. *angolensis* C. B. Clarke

*F. angolensis* is very closely related to *F. bidgoodiae* (ill. p. 686).


Tufted annual herb to 40 cm tall, with 2–7 culms per plant; culms 17–32 cm long, 1.6–1.8 mm Ø, terete, glabrous near to roots and hairy towards apex; leaves to 27 cm long; basal sheaths glabrous to densely hairy, 2–4 cm long; upper sheaths 3.5–5 cm long; blade 13.5–22 cm long, 4.8–6 mm wide, pilose on surface and margins; inflorescence a panicle with 3–5 digitate clusters of spikelets from the uppermost leaf-axils; peduncles to 5.2 cm long, pilose; spikelets ovate, 3.5–5 × 2.2–3 mm.

Open *Acacia* bushland on sandy-loamy soil near dried-out waterhole; 725 m alt.

Known from only one specimen, discovered in 2006.

Near *F. claviseta*; also falls within the *F. ciliaris* complex including *F. zambesiaca*, *F. angolensis*, *F. sagittata*; also similar to *F. somalensis*.


Perennial herb with a horizontally creeping rhizome 2–3 mm Ø with culms at c. 5 mm intervals, rarely crowded; culms 20–40 cm long, 1–2 mm Ø, triangular, minutely pubescent with mostly appressed hairs; leaves 4–6 and spaced all along the stem, the lowestmost with a short triangular limb only, other with well developed blades; largest blade 10–20 cm long, 3–5 mm wide, minutely hairy on margin; sheaths glabrous; inflorescence a terminal cluster of 3–10 crowded spikelets, each 6–10 × 4–5 mm, ovate-elliptic.

Open grassy area on clay and in clay flush; also on clay on limestone with evergreen bushland with *Buxus*, *Cadia*, 1350–1500 m alt.

Near *F. coerulescens* Steud. from Namibia, S. Africa, Zimbabwe.
Fimbrystylis scabrida
Fimbrystylis schoenoides
Fimbrystylis schweinfurthiana
Fimbrystylis splendida
Fimbrystylis squarrosa var. squarrosa
Fimbrystylis striolata
Fuirena abnormalis
Fuirena angolensis
Fuirena bidgoodiae
Fuirena boreocoerulescens
Fuirena bullifera
Fuirena ciliaris
FIURENA CILIARIS

Comprises 2 forms: – fa. ciliaris [syn.: Scirpus ciliatus Rothb.; 
Fiurena glomerata Lam.; F. ciliaris (L.) Roxb. var. ciliaris 
(L.) Gordon-Gray 1995; F. ciliata Leprieur ex Steud. 1855; F. 
canescens Pers. 1805], with perianth segments present; – fa. 
apetala (Wingf.) Lye [bas. F. ciliaris var. apetala Wingf.], 
with perianth segments present.

2010. – Icon.: Napper in J. E. Africa Nat. Hist. Soc. 25/1:110: 21, 
syn.: F. glomerata Lam. var. angolensis sensu Peter, non C. B. 
Clarke
Annual herb; culm terete, 30–75 cm tall, 2–5 mm Ø, but 6 mm 
in Ø across the sheath, glabrous; leaf sheath pubescent or glabrous, 
ligule hairy; blade 5–18 cm long, 0,4–0,8 cm wide, glabrous, but 
margins with long translucent hairs; inflorescence a digitate cluster 
of spikelets, each 0,5–1,6 cm × 2–4 mm, terete, many-flowered. 
Elaeis swamp; river and stream banks; drainage ditches; 0–50 m 
alt.

Very closely related to F. angolensis (swollen hypogynous scales).

F. coerulescens Steud., excl. var. glabrescens Schönl. (= F. eck- 
loni Nees); Clarke & Mannheimer, Cyper. Namibia: 94, 79 (map), 
Clarke, III. Cyperaceae: pl. 59/3–4, 1999; Gordon-Gray, Cyper. 
Natal: 98 Fig. 38/B, E, 1995 (nutlet); Forbes in S. Afr. J. Bot. 

syn.: Scirpus coerulescens (Steud.) Kuntze; Fiurena gracilis 
Kunth 1837, nom. illeg., non Spreng. 1818; F. mollicula 
Kunth; F. glauca Boeckeler ex C. B. Clarke; F. enodis 
C. B. Clarke 1898; F. subdigitata C. B. Clarke; F. reticulata 
Kük.; Scirpus enodis (C. B. Clarke) T. Koyama

Erect perennial herb, 25–98 cm high; rhizome 3–9 mm Ø; culms 
terete or narrowly triangular to trigonous, glabrous throughout or 
puberulous at apex; leaves cauleine, sometimes borne only on lower 
part of culm; sheath occasionally puberulous; ligule glabrous 
or puberulous in parts or sometimes puberulous all over; blade 
8–31 cm long, 2–5 mm wide, rarely glabrous, usually puberulous 
in midrib region above, ciliate on margins; inflorescence a terminal 
or pseudolateral cluster of up to 12 sessile to shortly 
stalked spikelets, each 0,6–1,9 cm × 2,5–4 mm, terete or narrowly 
ellipsoid, or narrowly ovoid.

Ecology not recorded.

Very variable morphologically, especially in flower structure (com- 
prising outer and inner hypogynous whorls; Gordon-Gray, o.c.). 

Namibia, S. Africa (“wide distribution in southern sub-Saharan 
Africa: its northernmost limits are not yet fully established”; Forbes, 
o.c.); Madagascar.

“Identification is difficult, especially if mature achenes are not 
present” (Gordon-Gray, l.c.).

F. ecklonii Nees, Linnaea 10: 143, 1835; Xanthos & Browning 
Clarke, Illustrations Cyperaceae: pl. 59 fig. 10, 1909 (detail); P. 
L. Forbes, A revision of Fiurena Rottb. (Cyperaceae) in southern 
nutlet.

syn.: F. coerulescens Steud. var. glabrescens Schönl.; See also 
Remark below.

FUIRENA ECKLONII

(Description taken from the sources cited above). Perennial 
herb 20–76 cm tall with a woody rhizome 2–3,5 mm Ø, usually 
excurrent with erect culms at 2–15 mm intervals, scale leaves 
hirsute(pubescent); culms triquetrous, 1,5–2 mm Ø near base, 
pilose or pilose distally and sparsely pilose-glabrescent proximally, 
or hairs present mainly or only in distal part of each internode 
and/or at angles; culms leafy throughout; leaves numerous, (6–15 
upper leaves with long blades, lower with blades reduced), sheaths 
usually covering scales so that internodes are not visible (easiest 
means of identification); leaf sheaths pilose, hairs sometimes 
present mainly or only at mouth and/or at angles and/or near 
nodes; ligule pilose, hairs present over entire surface or in parts 
only; mouth ciliate; blade sub-erect to spreading, (upper leaves 
8–20 cm long, 4–7 mm wide, lower with blades reduced, pilose, 
less densely so on upper surface or glabrescent except on midrib, 
midrib projecting on lower surface, apex of blade attenuate; 
inflorescence usually terminal with spikelets shortly pedicellate 
in corymbose cluster or sessile in head, or sometimes paniculate, 
5–14 cm long with 1(–2) lateral branches at 1(–2) nodes below 
terminal portion, each lateral branch with 1–few spikelets, peduncles 
pilose to glabrescent; indumentum of bracts like that of leaves; 
spikelets ovoid-ellipsoid, squarrose, 6–13 × 3–5 mm; glumes not 
ranked or occasionally 5-ranked, uniformly pubescent, all fertile 
or lowest 2 sterile, fertile glumes 4,6–6,2 mm long incl. awn 
(1,1–3 mm long, usually recurved), the 3 clawed scales (inner) 
equal or slightly shorter than mature nutlet; outer hypogynous 
bristles absent or 3, reduced or about as long as scale claw; inner 
hypogynous scales 3, with claw up to half as long as blade which 
is ovate, obovate or obtriangular, margins irregularly lobed, rarely 
with few elongate papillae on lobes, blade apex thickened, 
awn to blade subterminal, developed from inner adaxial face; 
uanal (stalk and beak included) 1,6–2,5 mm long, obovoid, trigonous 
in cross section, longitudinally ridged at angles, stipitate, with 
beak 0,5 mm long, slender, conical, papillate; pericarp epidermal 
cells polygonal, somewhat irregularly arranged, often becoming 
transversely elongate sub-hexagonal towards beak, anticallic walls 
straight. – This complete description of F. ecklonii is taken for 
the most part from P. L. Forbes 1980, a rare publication (fide 

Wetland; seepage areas; permanent water of shallow streamlets; 
vleis (S. Africa); collection from NW Province of Zambia with 
no precise locality or ecology; 90–950 m alt. (S. Africa, but at 
higher altitudes in Zambia).

S. Africa.

Remark: Forbes (1980: 243) cites F. mollicula Kunth 1837, var. β 
incl. syntypes Drège 4340, 2039, and also F. coerulescens Steud. 
p.p., and F. coerulescens Steud. var. glabrescens Schönl. as syn-
onyms; and so does Gordon-Gray, l.c. According to the World 
Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. 
Gard., Kew, F. mollicula Kunth is a synonym of F. coerulescens Steud. 
Often confused with F. coerulescens which has, however, the 
leaves in lower part of culm, and glumes with ciliate edge, and 
mature nutlet 1,3–1,6 mm long; awn to blade (scale) terminal, 
directly excurrent (cf. Gordon-Gray, l.c.).

F. leptostachya Oliv.; Muasya in Kew Bull. 53: 197, 1998; Clarke 
& Mannheimer, Cyper. Namibia: 94, 79 (map), 1999; Akoégnoiu 
& al., Fl. analyt. Bénin: 102, 2006; Fl. Trop. E. Afr., Cyper.: 
14–15, 2010; Thiombiano & al., Cat. pl. vascul. Burkina Faso: 
50, 2012 (map by Schmidt & al. in Phytotaxa 304: 106, 2017); 
Darbyshire & al., Pl. Sudan & S. Sudan: 111, 2015. – Icon.: Oliver, 
Trans. Linn. Soc. London 29: pl. 108, 1875; Lowe & Stanfield, 
Fl. Nigeria: sedges: 76, 1974; Haines & Lye, Sedges & rushes E. 
**FUIRENA LEPTOSTACHYA**


Annual herb; culm terete, 7–43 cm long, 1–2 mm Ø (but c. 3 mm Ø across the sheath), densely pubescent; leaf sheath and ligule hairy; blade 6–16 cm long, 0.3–0.7 cm wide, densely pubescent; inflorescence an irregular terminal cluster of spikelets, each 4–12 × 2–4 mm, terete, many-flowered; perianth segments absent or 6 in 2 whorls (outer 3 are smooth bristles).

Seasonally wet (areas in) grassland; wooded grassland and bushland; wet flushes on granite rocks; weed in rice fields; seasonal swamp in Brachystegia woodland; swamp and lake edges; swamp with Cyperus articulatus; seepage zones on shallow soils; wooded sandy marshes; in masses in rather damp sunny wooded places covered with a dull blood-red Seytonema (filamentous cyanobacteria); 70–2050 m alt.

Namibia, S. Africa, Botswana.


Very similar in facies to *F. ciliata*; the most reliable morphological difference is the number of stamens: 2 per floret in *F. leptostachya*, 3 in *F. nudiflora*. *F. leptostachya* also has narrower spikelets and shorter achenes.

Close to the Indian *F. trilobites* C. B. Clarke.


Annual herb; culm terete, 14–21 cm tall, 1 mm Ø (but c. 2 mm in Ø across the sheath), densely pubescent, or glabrous except just below inflorescence; leaves ciliate; sheath and ligule hairy; blade 5–8 cm long × 0.5–2 mm wide, densely pubescent; inflorescence a digitate cluster of spikelets; each 2–4 × 1–2 mm, terete, many-flowered.

Seasonally wet grassland; seepage areas in Brachystegia woodland; swamp and lake edges; swamp with Cyperus articulatus; seepage zones on shallow soils; wooded sandy marshes; in masses in rather damp sunny wooded places covered with a dull blood-red Seytonema (filamentous cyanobacteria); 70–1400 m alt.

Collected in C Malawi, Kota-kota district, Nchisi Mt (13°21’S × 34°01’E) in 1946.

Near *F. stricta* subsp. *chlorocarpa*, but inflorescence with longer spikes (3,5–5 cm long) and larger and paler glumes. – Probably a form of *F. stricta* subsp. *chlorocarpa*. Not mapped.


Perennial herb with strong rhizome 4–6 mm Ø; culms contiguous or up to 1.5 cm apart on rhizome, 0.5–1.4 mm tall, 3.5–5.5 mm Ø, 3-sided, glabrous; leaf sheaths usually sparsely to densely hirsute; ligule a tubular membranous collar, 1–1.3 mm long, glabrous or puberulous; blades to 20–29 cm long, 5–8 mm wide, (sub)erect, flat, margins often slightly revolute when dry, sometimes sparsely strigose below and on margins; inflorescence a terminal cluster of 1–8 sessile, sub sessile and pedunculate heads of spikelets, sometimes also with a lateral partial inflorescence of 1–3 heads; heads compact, to 1–1.5 cm Ø; inflorescence stems glabrous to pubescent; spikelets 5–8 mm long, ovoid, light-brown.

Shallow water; very wet swamps; usually in a sandy organically rich substrate; 50–1000 m alt.

S. Africa, Caprivi Strip. – In Zambia: Mutinondo Wilderness Reserve (Xanthos & Browning, l.c.). Also in Mozambique. Resembling *F. umbrellata* which has, however, 5-angled leaf sheaths and culms, and regularly 5-nerved leaves, never hairy.

**F. nyasensis** Nelmes) Mem. New York Bot. Gard. 9: 98–99, 1954. Densely tufted herb; culms 80–90 cm tall, c. 2 mm Ø at base, prominently but obtusely trigonous, purplish towards base, glabrous above; lower sheaths almost without blades, sparingly hairy, upper ones with long blades 3–5 mm wide; inflorescence of 2 digitate clusters of spikelets; spikelets 5–9 mm long, 3,5–4 mm Ø, many-flowered; glumes oblong-ovate, 2,5–2,75 × 1,75–2 mm, excl. micro; perianth segments 6.

Marshy ground in Brachystegia woodland; 1400 m alt.

**FUIRENA OCIREATA**


Perennial herb; culms arising at 7 mm intervals on horizontal rhizome 8 mm Ø; culm terete, 25–69 cm tall, 2–4 mm Ø (but 6 mm Ø across the sheath), densely pubescent or glabrous except just below inflorescence; leaf sheath hairy, ligule hairy at rim; blade 5–16 cm long, 0.5–1.2 cm wide, densely pubescent; inflorescence a subdigitate cluster of spikelets, each 7–11 × 2–4 mm, terete, many-flowered.

Seasonally wet grassland; edge of permanent swamp and stream; often growing in water to 30 cm depth; damp wooded meadows; 0–1200 m alt.

Madagascar. – Also in NE Mozambique, Palma (10°48’S × 40°29’E) according to Pires de Lima in Bol. Soc. Brot., Sér. 2, 2: 130–131, 1924 (as *F. cinerascens*).

*(F. oedipus* C. B. Clarke) = *F. umbellata* Rothb.


syn.: *F. pubescens* (Poir.) Kunth var. major Lye; *F. macrostachya* Boeckeler

Perennial herb; culms arising at c. 1.4 cm intervals from a horizontal rhizome 2–4 mm Ø; culm trigonous, 20–95 cm tall, 2–4 mm Ø (but c. 6 mm Ø across the sheath), minutely hairy, or glabrous except just below the inflorescence; leaf sheath glabrous or minutely hairy; ligule hairy; blade 0.5–2.6 cm long, 0.5–0.9 mm wide, minutely pubescent; inflorescence a subdigitate cluster of spikelets, each 0.7–2.4 cm × 3–7 mm, terete, many-flowered; glumes bluish-grey with macro 1.5–2.5 mm long.

Seasonally wet grassland; seasonal and permanent swamps and swamp edges; seepage areas; spongy woods; wooded marshy places with *I. obtectes*; 15–2250 m alt.

S. Africa, Botswana, Swaziland.

In Flora of Ethiopia & Eritrea 6: 395, 1997, *F. pachyrhiza* and *F. welwitschii* are treated as synonyms under *F. pubescens*.


bas.: *Carex pubescens* Poir.

**FUIRENA PUBESCENS**


Perennial tufted herb; culms arising at 1 cm intervals from a well-developed horizontal rhizome 4 mm Ø; culm trigonous, 0.23–1.16 m tall, 2–4 mm Ø (but c. 6 mm Ø across the sheath), entirely pubescent, or glabrous except just below inflorescence; leaf sheath glabrous or pubescent, ligule hairy; blade 7–25 cm long, 0.5–0.9 cm wide, glabrous, or only hairy beneath or entirely pubescent; inflorescence a subdigitate cluster of spikelets, each 4–11 × 3–5 mm, terete, many-flowered; perianth segments present or absent; nutlet white.

Seasonally wet grassland; edge of swamps and streams; dry forest; more open parts of *Miscanthus* swamp; *Papyrus* swamp and lake edges; flood zone; temporary swamp; scrambling among tall herbs of marshy meadows on river; rice fields; 850 (?) and less) – 2700 m alt.

Namibia, Botswana, S. Africa, Swaziland, Lesotho; Madagascar; Mascarernes; Portugal, S Europe; N Africa from Morocco to Tunisia, Egypt; Turkey, Lebanon, Yemen (Wood, Handbook Yemen flora: 323, 1997), Afghanistan E-wards to Iran, Pakistan, W Himalaya, NW India; not in India, Karnataka: misidentification of *P. rostrata* & Singh, Sedges Karnataka: 228, 2002. – Sometimes newly introduced: Corsica (Candelolle 54: 390–391, 1999). – One collection from Nigeria, Kano (Low & Stanfield, Fl. Nigeria: Sedges: 77, 1974). – In India, *F. pubescens* is largely replaced by the related *F. wallichiana* Kunth (Fl. Pakistan, l.c.).

Plants very variable in height, robustness and in extent of tufting, depending upon habitat conditions. Three varieties are (sometimes) recognised, but "difficult to distinguish" (Darbyshire & al., l.c.: – var. *abreviata* Lye, with macro to glumes 0.5–0.7 mm long, in Uganda; – var. *pubescens* (syn.: *Sparganium pubescens* Poir. 1789, nom. inval.; *Carex poireti* J. F. Gmel., *Scirpus ciliaris* Pers. 1805, nom. illeg., non L.; *S. libanoticus* Post., *Fuirena microlepis* Kunth; *F. annua* Royle); with macro to glumes 1.2–2 mm long; widespread; – var. *villosula* Kük., in Zambia. *F. pubescens* is recognised by: well-developed elongate rhizome; indumentum of uniform short patent hairs limited to small portions of the plant: culms, nodes, midribs and margins of leaf blades, inflorescence.


Annual herb; culm terete, 6–45 cm tall, 1–2 mm Ø (but c. 3 mm Ø across the sheath), densely pubescent; leaf sheath and ligule hairy; blade 4–11 cm long, 0.5–0.6 cm wide, densely pubescent; inflorescence an irregular terminal cluster of spikelets, each 0.4–1.2 cm × 2–3 mm, terete, many-flowered; glumes 1.7–2.3 cm long with short and long hairs; perianth segments 6, inner ones stalked.

Seasonally wet grassland; streamsides; waterholes; marshy areas in cultivations; 800–1900 m alt.

Similar to *F. leptostachya* but the nutlets are larger. It is perhaps a form of *F. leptostachya*. Also very similar to the Indian *F. tri-lobites*. A revision of this group of annual species is needed to determine the status of these taxa.

The species epithet, *sagittata*, refers to the form of the inner 3 perianth segments that are arrow-shaped (sagittate).

Tufted perennial herb; culms arising closely at intervals of less than 1 cm on a short or rarely long rhizome 1–2 mm Ø; culm trigonous, 25–90 cm tall, 1–2 mm Ø (but c. 3 mm Ø across the sheath), glabrous except just below inflorescence; leaf sheath glabrous, ligule hairy; blade 2–7 cm long, 0.2–0.4 cm wide, glabrous except scabrid margins and the triangular tip, sometimes with longer hairs on margins and midrib; inflorescence a subdigitate or paniculate cluster of spikelets, each 4–12 × 2–4 mm, 5-angled or terete, many-flowered; glumes 2.2–3.1 mm long incl. 0.4 mm long mucro.

Granitic sweating surface in meadow; swampy enclave in forest gallery with Drospera pilosa; seepage area in Hagenia abyssinica woodland; seasonally wet grassland; edge of permanent swamps; often in shallow standing water; rock outcrops in Brachystegia woodland; marshy places on edges of fields; clearings in forest; humid hollows in savanna; swamp with Sphagnum; rice fields; sometimes forming floating mats; 100–2000 m alt.

Namibia, S. Africa, Botswana, Swaziland; Madagascar, Comoros. Variable in ranking, or not, of glumes; comprises 2 subspp., but not always recognised: – subsp. chlorocarpa (Ridl.) Lyce [bas.: F. chlorocarpa Ridl.]; syn.: F. stricta var. chlorocarpa (Ridl.) Kük., with terete spikelets, and mature nutlets dark green; – subsp. stricta [syn.: Rhynchospora senegalensis Steud.; Pentasticha madagascariensis Turcz.; Fuirena friessii Kük.], with 5-angled spikelets, and mature nutlets brown.


cypraceae


Perennial herb; culms arising at 1.5 cm intervals on horizontal woody rhizome 5 mm Ø, basal parts of culms swollen and bulb-like; culms pentagonous, 0.24–1.16–(1.5) m tall, 3–9 mm Ø (but c. 11 mm Ø across the sheath), glabrous except just below inflorescence; leaf sheath minutely hairy or glabrous, ligule densely hairy; blade 6–30 cm long, 0.7–2.5 cm wide, glabrous or minutely
**FUIRENA UMBELLATA**

pubescent above, margins with translucent hairs; inflorescence a corymbose cluster of spikelets, each 4–11 × 2–4 mm, terete, many-flowered.

Seasonally wet grassland; swamp forest; stream and lake banks; fallows; gallery forest; mangroves; quaking bog by lake shore; ditches; pools; wet habitats with loose soils; inselbergs; also in brackish water and tidal mud-banks; permanent swamp; grass swamp in *Albizia zygia*, *Combretum* woodland; weed in rice fields (bulbils render the plant difficult to eradicate); 0–1900 m alt.

“Variable morphologically so that it (*F. umbellata*) has been known under many names. Its synonymy is complicated by confusion between *F. umbellata* and *F. ciliaris*. Plants [are] known to respond markedly to habitat conditions, particularly the availability of water. Plants growing in permanent water are robust perennials with woody rhizome bearing contiguous, or almost so, 5-angled culms. Leaf sheaths also 5-angled; leaf blade with 5 strongly marked veins. These two criteria provide a simple means of identification. However, where water is temporary, or less freely available, plants [are] often slender and small, and 5-angled culms and 5-veined leaf blades difficult to detect” (Gordon-Gray, Cyper. Natal: 104, 1995).

San Tomé (*Figueiredo & al. in Bothalia 41: 52, 2011*); Namibia, S. Africa, Botswana; Madagascar, Mauritius, Réunion; pantropical: widely distributed in tropical and subtropical countries except in too dry regions; India, Sri Lanka, E-wards through Thailand – China – Indonesia, Japan, Philippines; Australia; Pacific Islands; tropical C. & S. America.

Useful as a mud-binder to reduce coastal erosion; also a soil improver (ploughed in as green manure); tubers edible: “When improved, or less freely available, plants [are] often slender and small, and 5-angled culms and 5-veined leaf blades difficult to detect” (Gordon-Gray, Cyper. Natal: 104, 1995).

Smaller specimens often confused with *F. obcordata* [and *F. hirsuta* (P. J. Bergius) P. L. Forbes in S. Africa].

Easily recognised by its large size, 5-angular stem and leaf sheaths. It is the only species of *Fuirena* with scale-like, not clawed, perianth segments.


**SYNONYMS:**

*Fuirena appendiculata* Peter = *Fuirena umbellata* *brachylepis* Peter = *F. umbellata* *brasiliensis* Raddi 1823 = *F. umbellata* *brasilienis* Palla 1908 = *F. umbellata* *buchanani* Boeckeler = *F. welwitschii* *calolepis* K. Schum. = *F. ochreata* *canescens* Pers. 1805, non Vahl 1805 = *F. ciliaris* *fa. ciliaris* *capitata* Wild. ex Kunth = *F. umbellata* *chlorocarpa* Ridl. = *F. stricta* subsp. *chlorocarpa* *glomerata* (L.) Roxb. sens. Podlech 1967 p. min. p. = *F. leptonstachya* *fa. nudiflora* *ciliaris* (L.) Roxb. var. *angolensis* Schinz, nom. nud. = *F. angolensis* *ciliaris* var. *apetala* Wingf. = *F. ciliaris* *fa. apetala* *ciliaris* var. *ciliaris* in Gordon-Gray 1995 = *F. ciliaris* *fa. ciliaris* *ciliata* Lepricuir ex Steud. 1855 = *F. ciliaris* *cinerascens* Bojer ex C. B. Clarke = *F. ochreata* *cinerascens* Ridl. 1884 & auct., nom. nud. = *F. ochreata* *coerulescens* Steud. var. *glabrescens* Schönl. 1922, p.p. = *F. ecklonii, F. obcordata* *cristata* Turrill = *F. ochreata* *endois* C. B. Clarke = *F. coerulescens* *filifolia* Rchb. ex Kunth 1837, pro syn. = *Tetaria cuspidata* *friesii* Kük. = *Fuirena stricta* subsp. *stricta* *glabra* Eckl. ex Krauss 1845, non Kunth 1837 = *F. obcordata* *glabra* Kunth = *F. hirsuta* *glanca* Boeckeler ex C. B. Clarke = *F. coerulescens* *glomerata* Lam. = *F. ciliaris* *glomerata* Boeckeler 1879, non Lam. = *F. leptonstachya* *fa. nudiflora* *glomerata* var. *angolensis* C. B. Clarke = *F. angolensis* *glomerata* var. *angolensis* sensu Peter, non C. B. Clarke = *F. clavisecta* *gracilis* Kunth 1837, non Spreng. 1818 = *F. coerulescens* *leptostachya* Oliv. var. *leptostachya* in Gordon-Gray 1995: 100 = *F. leptonstachya* *fa. nudiflora* *leptostachya* var. *leptonstachya* C. B. Clarke = *F. leptonstachya* *fa. nudiflora* *macrostachya* Boeckeler = *F. pachyrrhiza* *mahouxii* Cherm. = *F. umbellata* *microcarpa* Lye – treated as a synonym of *F. leptonstachya* var. (= *fa. nudiflora*) by Gordon-Gray 1995: 100 *microlepis* Kunth p.p. = *F. pubescens* var. *pubescens*, *F. obcordata* *moisleri* Turrill = *F. leptonstachya* *fa. nudiflora*
**GUINEA**

<table>
<thead>
<tr>
<th>Genus</th>
<th>Species</th>
<th>Synonyms</th>
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**HYPOLEPTUM**

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**HELEOLITON**

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**HYPOLYTRUM**

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<td><em>heterophyllum</em></td>
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**HYPOLYTRUM / 18**


Genus of some 50 species in the tropics and subtropics, where they live in the underwood of dense forests.

The genus is mostly confused with Mapania, as both genera can have large basal strap-like leaves and a globose capitule inflorescence. In both genera the inflorescences have additional structures.

Interpretations and terms used for these have varied (Browning & Mesterházy o.c.). *Hypolytrum* is usually distinguished by having 2 floral bracts within the spicoid compared with 4–6 floral bracts in *Mapania* (Xanthos 2013: 45). The inflorescence in *Hypolytrum* is terminal, paniculate, the ultimate branches subtending small clusters of spikes. The spikes are ellipsoid or narrowly cylindric, composed of tightly imbricate, spirally arranged bracts, each subtending a much reduced pseudanthium (spicoid). The spicoid is composed of a naked terminal pistil and (2–3) floral bracts each subtending a single stamen, and a naked terminal pistil. The floral bracts are free, membranous, boat-shaped, strongly keeled.

The nutlet is (compressed)-ellipsoid, the apical portion spongy, triangular, the base shortly stipitate or triangular stipitate; surface with or without longitudinal ridges, lateral costae 0–2 (Fl. Trop. E. Afr., Cyperaceae: 6, 2010).

In 2011 (Lidia 7: 85, 2011) Lye included *Hypolytrum* in *Mapania*. He wrote: “The reason… is partly the lack of clear morphological separating characters between the two genera and partly the lack of genetic separation shown in molecular works”. Browning & Mesterházy point out that Lye’s decision was based on very limited phylogenetic data and that Lye seems to have omitted *Hypolytrum* from 2 records only.

There is also a *Hypolytrum* sensu stricto (Browning & Mesterházy o.c.). They do not support Lye’s decision separating characters between the two genera and partly the lack of genetic separation shown in molecular works.

Browning & Goetghebeur (Sedge genera of Africa and Madagascar, 2017), and this is also the case in our compilation below.

Usually the inflorescence is open in *Hypolytrum* and congested in *Mapania*. But there are 3 African monopodial *Hypolytrum* species with capitulate inflorescences (*Hypolytrum* “mapanioides” sensu J. Raynal in Adansonia, Sér. 3, 8: 423, 1968). There is also a *Hypolytrum* pseudomapanioides (See Kew Bull. 59: 613, 2004). Some species in our area are little known, and rarely collected.

**HYPOLYTRUM**


(Hypolytrum africanum) Nees ex Steud. 1855, non Mapania africana Boeckeler 1871) – See below under H. senegalense Rich.

(H. angolense) Nelmes 1955 – See below under H. heterophyllum Boeckeler


Stems trigonous, 0.65–1.5 m tall, 3–6 mm Ø, smooth below and sometimes above, angles usually somewhat scabrid towards apex; stem base enlarged, woody; leaves numerous, basal and sub-basal and 2–4 widely spaced on the stem above, lower ones shorter than or equaling, upper exceeding the stem, linear-lanceolate, c. 1–1.7 cm wide, usually weakly to strongly plicate, margins often ± revolute, stem leaves longly sheathing; inflorescence corymbose, 5–6 cm long, 6–7 cm wide, with numerous spikes, mostly ellipsoid, 5–9 mm long; spicoid bracts 3–4 mm long.

Meadows; savanna or high savanna; scrub at base of rocky blocks with Afroireillepsis jaegeri; mountain bush with Dissotis leonensis, Kotschya ochreata, thatlweg in forest gallery; growing in stands; mountain grassland; 750–1500 m alt.

H. chevalieri Nelmes – Icon.: Fl. Gabon 44, Cyper.: 163, 2012 (nutlet; as Mapania chevalieri),

syn.: Mapania chevalieri (Nelmes) Lye

Robust herb with short rhizome 4–7 mm Ø; central stem solitary, 0.7–1.2 m tall, 2–5 mm Ø, trigonous, green, scabrous at apex; leaves numerous, mostly basal but a few present along the stem, longer than the stem; sheath long, green; blade flat or slightly folded, margins and main veins strongly scabrid, the largest 50 cm long, 2.5 cm wide, gradually narrowed into a pointed apex; inflorescence a loose terminal panicle 8–12 cm long, 13–15 cm wide, brown, with 5–10 main branches each 0.5–5 cm long with 3–6 secondary branches with sessile and pedunculate spikes each linear-lanceolate to ellipsoid becoming more obovate at maturity, 9–18 × 2–4 mm, brown, blunt at apex.

Humid forests, often along streams and water courses; < 100 m alt.

Said to be very near (Mapania afro-orientalis =) Hypolytrum testii. Also resembling (Mapania polyostachya =) Hypolytrum polyostachyum.


Perennial herb forming thick tussocks, to 80 cm tall, with a short rhizome; basal leaves many, old sheaths and blades persistent; blade linear, 40–65 × 0.6–1 cm, rigid, margins scabrid and often inrolled; flowering culm central, solitary, with 2–3 leaves, 50–80 cm tall, 2–3 mm Ø, triquetrous, angles scabrid above, base thickened; inflorescence a lax to ± dense panicle, 3–15 cm high, 3–6 cm wide, lowest node sometimes well separated from upper part, lowest panicle branch 0.8–3 cm long; spikes fusiform to ± globose in fruit, 4–8 × 1.7–4.5 mm, reddish- to dark brown.

Shrub and herb savanna; miombo woodland; Brachystegia woodland on rocky slope; Marquesia woodland on granitic soil; Uapaca woodland; Pseudoberlinia paniculata woodland, on rocky soil., on ridge, on dry reddish soil 900–1300 m alt.


Perennial herb with short erect rhizome; stems lateral, arising from the axils of the lower leaves, 15–80 cm long, 1–3 mm Ø, compressed-terete, smooth or slightly scabrid in upper part, green or sometimes violaceous at base; leaves all basal, much longer than stems, numerous, coriaceous, linear, flat or slightly folded, 30–90 cm long, 1–2 cm wide, gradually narrowed to a sharp tip; sheath 6.5–8 cm long, c. 1 cm Ø; inflorescence stiffer erect, terminal, brown, paniculate, 2–6 cm long, 2.5–7 cm wide, of up to 4 primary branches 1–3.2 cm long, each subtending 2–7 subsessile spikes; spikes linear-lanceolate becoming cylindric, 0.8–1.3–2.5 cm × 1–4 mm.

Swampy forests; shaded river bank, above waterfall; mangrove edges; in permanently waterlogged situations; sandy banks; loamy soil; shaded rocky hillside; on river in fairly thick bush; sandstone cliff, very wet, beneath high forest, by small tributary stream; secondary forest near a stream; sometimes very common; 0–1200 m alt.

S. Tomé, Principe.


HYPOLYTRUM HETEROXYLLUM

Gaboko/Fernando Poo. shorter than leaves, trigonous, few-flowered; flowers incomplete. 

Perennial herb with creeping rhizome producing tufts with numerous basal leaves and a central stem; stem 0,3–1,2 m tall, 1–4 mm Ø, trigonous, smooth at base, very scabrous above, green to brownish; leaves 3–10, mostly basal, the lowest may be very short, showing a transition from the scale leaves on the rhizome, flowering stems bearing 1–3 leaves on its length; sheath green to reddish brown; blade 20–100 cm long, 1–3 cm wide, flat or slightly folded, 3-nerved, gradually narrowed to a sharp apex, margins scabrous to finely toothed; inflorescence a terminal loose panicle, hemispherical, 2–18 cm high, 2–15 cm wide, brown, with 1–15 primary branches 0,5–5 cm long, each with short secondary branches or spikes; spikes linear-lanceolate to obovoid or ± globose (at maturity), 3,5–8 × 1,5–5 mm, brown; nutlet small, 1,5–2 × 1,5 mm, (reddish) brown.

Humid forests; sometimes along streams; edge of water-hole in savanna; sandy places on river banks; marshy places; path on edge of forest periodically flooded; roadside; damp places in forest; mangrove forest; 0–710 m alt.

Bioko/Fernando Poo.

Note: In Palisot de Beauvois, Flore d’Owara 2: p. 13, pl. 67, 1810, the plate picturing Hypaelytrum nemorum seems to represent Hypolytrum heterophyllum, although the differences between this species and H. testui (mainly E. African) seem difficult to perceive.


syn.: Mapania lancifolia (C. B. Clarke) Lye

Perennial herb with rather slender rhizome; stem central, solitary, 0,6–1,45 m tall, 3–6 mm Ø, trigonous, smooth, green to brownish, base covered with cataphylls; leaves 5–10, widely spaced on stem, but often 2–3 arising close together in middle of stem; sheath green; blade oblong-lanceolate to oblong-elliptic, flat or slightly folded, the largest 25–40 cm long, 2–4,5 cm wide, margins scabrid, at least near the progressively narrowing pointed apex; inflorescence a terminal loose panicule 2,5–6 cm high, 4–12 cm wide, light or dark brown; spikes numerous, short cylindric, obvoid at maturity, 5–10 × 1,5–4 mm, reddish brown, apex blunt. Humid shady forests; river banks; also on top of inselberg between big rocks; 100–1000 m alt.

(H. leprieurii) Nees ex Steud., Synopsis plantarum glumacearum II, Cyperaceaee: 133, 1855. – Country mistake, See below.

“Species imperfecte cognitae, an heterogenea”, at end of species list.

Leaves narrow above base of plant nearly forming a petiole, 8–10 mm (4–5 lineae) wide, c. 45 cm (1 1/2 feet) long, apex narrow, acute, margins and midrib scabrous; scapes axillary, shorter than leaves, trigonous, few-flowered; flowers incomplete.

HYPOLYTRUM LEPRIEURII

“A plant belonging to another genus?”

“Species imperfecte cognitae, an heterogenea”, at end of species list.

Leaves narrow above base of plant nearly forming a petiole, 8–10 mm (4–5 lineae) wide, c. 45 cm (1 1/2 feet) long, apex narrow, acute, margins and midrib scabrous; scapes axillary, shorter than leaves, trigonous, few-flowered; flowers incomplete.

Hypolytrum leprieurii is listed in Index Kewensis 2: 1198, 1893, as referring to Mapania africana Boeckeler in Linnaea 37: 137, 1871–1873 (Index Kewensis 3, 1894). Under Mapania africana Boeckeler the only collection cited is G. Mann. n. 1873, “Africa occid. tropica”. As the plant was described on a specimen from French Guyana, we checked G. Cremers & M. Hoff, Inventaire taxonomique des plantes de la Guyane française III – Les Cyperaceae et les Poaceae (Paris 1993). There is no mention of the plant under Hypolytrum (p. 33) nor under Mapania (p. 36–37). It seems that the origin of Hypolytrum leprieurii was misinterpreted from the very beginning.

There is no herbarium specimen deposited at Geneva, Switzerland (G, G-DC). We gratefully acknowledge the research in herbarium and literature made by Mr. N. Fumeaux, Geneva.


Perennial herb with horizontal rhizome; stems several, trigonous, 56 cm tall, 1,5–2 mm Ø, thick below, smooth except for scabrid angles on the rachis; basal leaves reduced to brown-edged sheaths; cauline leaves several, spaced apart on the stem but more frequent towards the apex, elliptical, somewhat glaucous, mostly shorter but few upper longer than stem, 1–1,5 cm wide, longly to shorty sheathing; inflorescence paniculatate, few-spiked, 6 cm high, 4,5 cm wide; spikes 20–30, lanceolate to cylindric, 5–8 mm long; nutlet ± spherical, biconvex, shining dark reddish-brown, with 2–4 longitudinal strongly raised lines on each face, densely transversely very finely lineolate between them (“remarkable for the surface markings… wholly unlike those of any other species”, Nelmes in Kew Bull. 10: 74, 1955).

Rainforest on top of a hill.

Known only from the type collected in 1947.


Stoutly rhizomatous perennial herb; stems 30–50 cm tall, 1–2 mm Ø, distinctly trigonous, often fusceous or purplish, smooth below or only at base, rough to very rough above, clothed in the basal area with semi-sheathing brown or ferrugineous scales or bladeless sheaths; leaves rather numerous about equalling to much longer than stem (to c. 1 m), 1,3–5 cm wide, basal part
short, conduplicate, often slenderly septate-nodulose in places; sheaths open, margins brown; inflorescence a terminal corystiform panicle, pale whitish, 3–6 cm long, 7–12 cm wide; spikes numerous, ellipsoid, fusiform or cylindric-ellipsoid, 4–9 mm long; spicoid bracts c. 3 mm long, mottled; nutlet biconvex, base strongly wrinkled, c. 2 × 1.5 mm.

Sometimes rather common in high forest; very humid forest in large tufts; wet places in high forest; primary forest along river; secondary forest; 56–533 m alt.

“Variable species and rich in different forms” (Mesterházy in Lidia 7/5: 111, 2012).

Flowering stem often dull purple; flowering spikes with mottled appearance.


**mapania pseudomapanioides** (D. A. Simpson & Lye) Lye Tusssocky perennial herb; rhizome branching, erect, short, 2–4 mm Ø; culm single, erect, central, 60–70 cm long, 2–3 mm Ø, trigonous, ± smooth, green; leaves mostly basal, many, and one cauline; blade to 1 m long, 1.3–1.6 cm wide, apex gradually narrowed, base gradually narrowed into sheath, coriaceous, green, flat, margins prominently serrate, midrib most prominent and raised above, the 2 major lateral nerves most prominent beneath; inflorescence an irregular subcylindrical brownish-white head, 2.5–3.5 × 3–3.5 cm, comprising numerous crowded, fairly distinct spikes; spikes ovoid to lanceolate, 1.1–4 cm × 3.5 mm, pale brown.

Forest undergrowth; 1470–1500 m alt.

Similar to **H. subcompositum**, but with 1 central culm per plant, not several arising from lower leaf axes; involucral bracts to 50 cm long (not to 8 cm).

**H. pseudomapanioides** is similar to many African **Mapania** species. However, the presence of 2 floral bracts and 2 stigma branches identifies it as **Hypolytrum** (fide Simpson and Lye, Kew Bull. 59: 613, 2004). **Mapania** has 4–6 floral bracts and 3 stigma branches.

**(H. purpurascens** Cherm.) See above under **H. heterophyllum**.

**H. pynaertii** (De Wild.) Nelmes, incl. var. **plicatum** (Cherm.) Nelmes; Raynal in Adansonia, Sér. 2, 8: 427, 1968; – Icon.: Ann. Mus. Congo Belge, Bot., Sér. 5, 3: pl. 28/12–17, 1910; Raynal, o.c.: 426; Fl. Gabon 44, Cyper.: 173 (nutlet), 175, 2012 (under **Mapania**).

**bas.: Mapania pynaertii** De Wild.

**syn.:** **Hypolytrum gabonicum** Cherm., incl. var. **plicatum** Cherm.

Perennial herb with thick woody erect or oblique rhizome 0.5–2 cm Ø; stems 1–5, erect to ± curved, lateral, often arising from beneath the lowermost leaves, 10–75 cm long, trigon-nous-rounded, green, sometimes becoming brownish with age, smooth, clothed in basal part with 3–5 almost bladeless tubular sheaths; leaves numerous, all basal; sheaths open, scarcely distinct, with membranous margins; blades linear, flat or folded, to 0.3–1.2 m long, 0.5–3 cm wide, green, gradually narrowing to a pointed apex, lateral nerves prominent, margins clearly scabrous; inflorescence terminal, composed of numerous (10–60) spikes aggregated into a dense hemispherical head 1–2 cm high, 1–3 cm wide; spikes ovoid to cylindric, 0.6–1 cm × 3–4 mm, (light) brown, usually made up of 20–30 dense spikoids, the whole looking globose in fruit.

Swamp forest; sometimes along streams; edges of pools; forest strip in savanna; 300–700 m alt.


**syn.:** **H. rhizomatanthum** Cherm. var. **elatum** Cherm.; **H. elatum** (Cherm.) Nelmes; **Mapania scaberrima** (Boeckeler) C. B. Clarke

Perennial herb with woody erect or oblique rhizome 1–2 cm Ø; stems 1–10, lateral, arising from the axes of old basal leaves, 10–75 cm tall, 1–5 mm Ø, trigonous-rounded to compressed, green, very scabrous at least below inflorescence, often with longitudinal scabrous ridges, bases covered with 5 ± tubular greenish sheaths; leaves numerous, basal; sheaths little distinct, open, green to orange or brown; blades linear, flat or folded, to 0.5–1.2 m long, 2–4 cm wide, gradually narrowed to a sharp apex, pseudo-petiole absent; inflorescence terminal, composed of 1 to several shortly or very shortly peduncled subglobose ebracteate heads 1.5–2.5 cm Ø, of numerous (up to 100) sessile radiant spikes, “the whole when composed of several heads forming a large dense or slightly interrupted globose to pyramidal ebracteate head 2–4 cm long, 3–5 cm broad”; “spikes distinguishable but not very clearly from another, about 15–25 in each secondary head, ellipsoid… or cylindric-lanceoloid, about 8–10 mm long and 4–5 mm thick in fruit”; inflorescence brown to pale brown.

Swamp forest; steep sloping river bank; sometimes along rivers; 0–600 m alt.


Perennial herb with woody rhizome; leaves tristichous, linear, 0.55–1.3 m long, 2–5 cm wide, ± conduplicate, base narrowed into a pseudo-petiole 25–36 cm long; stems single from leaf axis, 35–80 cm long; “inflorescence capitate, a bracteate contracted panicle of many sessile and pedicelled spikes”, subglobose, 1.5–3 cm Ø.

Primary forest, along stream; low ground or swamp with, i. a., **Mapania** and **Gilbertiodendron robynsianum**, **G. splendidum** (and 85 other species); c. 126 m alt.

Resembling **H. secans** but plant more vigorous and stems longer (35–80 cm, not 5–40), leaves larger (0.55–1.3 m × 2–5 cm, not
**HYPOLYTRUM SCHNELLIANUM**

0.5–0.9 × 1–2.5 cm), and young stems and inflorescences rosy to dark brown. Perhaps doubtfully distinct from *H. secans* present in Cameroon, Gabon, Congo-Brazzaville; but occurring in Liberia – SW Ivory Coast, a region rich in endemic species.


*bas.: Mapania secans* K. Schum.

*syn.: Hypeflytrum rhizomatanthum* Cherm., excl. var. elatum Cherm. (= *H. scaberrimum*).

Perennial herb with woody rhizome c. 1 cm Ø; stems 1–10, lateral, arising from lower old leaf axils, 5–40 cm long, 0.5–1.5 mm Ø, trigonous to cylindrical, green, smooth to slightly scabrous below inflorescence, base covered with 5–15 brown or violet sheaths; leaves basal, numerous, strap-like; sheath little distinct, 15 cm long, margins sometimes reddish brown; blade to 50–90 cm long, 1–2.5 cm wide, green, smooth, 3-nerved, gradually narrowing to a pointed apex, margin toothed; inflorescence terminal, globose, 1–2 cm Ø, pale brown, with 10–50 sessile spikes, rarely an irregular head with short lateral branchlets then to 3 cm wide; spikes ovoid, 5–8 × 2–3 mm, (pale) brown, generally composed of 10–20 dense spikoids.

Evergreen forest; swamp forest; sometimes along streams, edges of pools; saxicolous on vertical sandstone rocks in gallery forest; epiphyte on old trunk above bank of torrent; 0–1100 m alt. (Mt. Iboudji, Gabon).

Close to *H. schnellianum*.


Perennial herb with erect woody rhizome c. 1 cm Ø; stems 1–4, lateral, arising from axils of old basal leaves, 0.35–1.2 m tall, 0.8–2 mm Ø, green to purple, trigonous, smooth below, rough towards apex, with large ferruginous bracteate semi-sheathing bladeless sheaths at base; leaves basal, to 15–20, from about as long as to much longer than stems, 1–2 cm wide; ± conuplicate in basal part, very slenderly sepatate-nodulous, often greyish green beneath, sheaths with spadicaceous membranous margins; inflorescence a terminal corymbiform panicle 0.5–4.5(–8) cm high, 0.8–4.5(–15) cm wide; spikes numerous, ellipsoid or obovoid in flower, ± subglobose in fruit, 4–6 mm long, 20–25-flowered, light to dark brown, often white at apex.

Riverine forest; open forest with *Gilbertiodendron*; (in rich soil) of virgin forest; swamps; by streams in forest; river in running water; waterfalls; c. 350–1350 m alt.

Sometimes viviparous.

**HYPOLYTRUM SENELENSE**

Two collections known from Gabon (Minkébé, Woleu-Ntem).


*syn.: Mapania camerunensis* Lye

Perennial herb; rhizome 7–9 mm Ø, covered by old leaf sheaths; stems 1 to several, erect, lateral, 40–50 cm long, 1.8 mm Ø, trigonous, developed from the rhizome below leaves; basal 6–8 cm of stem covered by 5–10 leaf sheaths, higher part of stem with 1–2 nodes, each carrying a 6–10 cm long sheath; leaves basal; sheath green with easily disintegrating reddish brown margin; blade linear, flat, mid-green, 0.6–1.2 m long, 1.3–2 cm wide, apex gradually narrowed, acuminate, base gradually narrowed into sheath, margin sharply toothed at least in upper 1/3, midrib prominent; inflorescence a congested terminal subhemispherical pale-whitish corymb with up to 20 spikes and a few major branches still visible, 1.5–3 × 2.5–3.5 cm; spikes remaining fairly distinct, 8–12 × 4–5 mm, ovate, whitish with a cinnamon tinge.

Forest; 1500 m alt.

Near *H. poecilepis* but that species has a corymbiform panicle 3–6 × 7–12 cm; and much smaller spikes, 4–9 mm long.


Perennial herb with short rhizome; stem single, central, 0.5–2 m tall, 2–7 mm Ø, trigonous, smooth to scabrid in upper part; leaves numerous, mostly basal but also 1–3 cauleine, linear, 0.5–1.5 m long, 1.4–3 cm wide, gradually narrowed, flat or slightly folded, margins entire to serrulate; sheath 6.5–11 cm long, 1.4–2 cm wide, margins membranous, pale to mid-brown; inflorescence a terminal panicule, close to rather dense, 3–15 cm high and wide, composed of 7–13 primary branches 0.6–5 cm long, each subtending 7–10 secondary branches 0.5–1.3 mm long, in turn subtending 1–5 spikes; spikes ellipsoid to obovoid, becoming globose in fruit, 3–6 × 1.5–2 mm, brown, apex blunt.

Evergreen rain-forest; forest margins; wooded river banks; moist forest in open places; swamp in forest; raised mud-bank; sloped edge in Piptadenia-Cephalosphaera-Allanblackia rain-forest; sometimes frequent, and in tufts; 0–1300 m alt.

Very close to *H. heterophyllum* (cf. above under that species), but nutlet constricted, and perhaps by the absence of stolons. Also near *H. chevalieri* that has, however, larger spikes (9–18 mm long), and wrinkled nutlet without constriction.

Nelmes in Kew Bull. 10: 73, 1955, does not cite specimens from W Africa, only from Gabon S- and E-wards.

According to Fl. Trop. E. Afr., Cyper.: 8, 2010, “some specimens [at K] were determined as *H. leucandra* Nelmes, although this name was never published; and there appears to be no difference between these specimens and others assigned to *M. testui*”. 202
Hypolytrum africanum Nees ex Steud. 1855

= Hypolytrum senegalese

africanum sensu C. B. Clarke in Fl. Trop. Afr. 8: 488, 1902
= H. heteromorphum

africanum sensu Boivert 1977 = H. ? heteromorphum

= H. heterophyllum. H. poecilolepis

angolense Nelmes = H. heterophyllum

argentum Kunth 1816 = Lipocarpha chinensis

aschersoni Boeckeler = Mapania soyauxii

attiense A. Chev. 1920, nom. nud., and A. Chev. ex Hutch.

& Dalziel = Hypolytrum senegalese

buchholziau Boeckeler = H. heterophyllum

congense C. B. Clarke ex De Wild. & T. Durand

= H. heterophyllum

costatum Nelmes 1955, non Hochst. ex Steud. nec

Thwaites 1864 = H. pahiense

elatum (Cherv.) Nelmes = H. scaberrimum

gabonicum Cherms., incl. var. plicatum Cherms.

= H. pynaertii

grande (Uitten) T. Koyama = Principina grandis

heterophyllum sensu Nelmes & Baldwin 1952, p.p.,
non Boeckeler = Hypolytrum acuminatum

kunteanum Boeckeler = Cladium mariscus subsp.

jamaicense

laevigatum (Roxb.) Spreng. = Lipocarpha chinensis

leprieurii Nees ex Steud. = ?; plant from French Guiana

(S. America)

leucaenun Nelmes, nom. = Hypolytrum testui

longiscapum C. B. Clarke = H. senegalense

macranthus Boeckeler = Mapania macrantha

nemorum var. minus Cherms. = Hypolytrum heterophyllum

nemorum sensu C. B. Clarke 1902, p.p. = H. testui

nemorum sensu Henriq. 1887 = H. nemorum

(Asiatic species)

purpurascens Cherms. = H. heterophyllum

rhizomatatum Cherms. = H. secans

rhizomatatum var. elatum Cherms. = H. scaberrimum

Hypolytrum

H. unispicatum Sosef & D. A. Simpson, Blumea 50: 523, 2005;


Perennial herb; rhizome horizontal, at least 8 cm long, 1–2 cm Ø
including old sheath bases; cataphylls all at base of and clasping
the stem, ovate-lanceolate, 3–5 × 1–3 mm, acute, reddish
brown; leaves basal, linear, 0.63–1.25 m long, 0.8–1.5 cm wide,
apex acute, base merging into sheath gradually, green, slightly
plicate, without pseudopetiole, margin scabrid; sheath oblong,
6–12 × 1,2–1.8 cm; stems many, lateral, erect to recurved, arising
from the rhizome, 3–20 cm long, c. 0.5 mm Ø, trigonous, pale
greenish brown, smooth; infronspcial terminal, of a single spike,
elipsoid to obovoid, becoming ± globose in fruit, 3–5 × 1.5–4 mm,
acute to rounded, reddish brown.

“Primary evergreen rain-forest, on a shaded, almost vertical rock
face along which water seeps down”; growing with Begonia
montis-elephantis; 200 m alt.

Seems closely related to H. secans from which it differs by

the numerous setaceous to filiform stems with a single spike.

Superficial resemblance to Mapania africana var. (subsp.) fili-
pes because of the numerous stems with a single spike, which
is, however, larger and with 4 floral bracts (not 2) per spoidk.

Known from only 2 records (in 2001 and 2002).

SYNONYMS:

Hypolytrum africanum Nees ex Steud. 1855

= Hypolytrum senegalense

africanum sensu C. B. Clarke in Fl. Trop. Afr. 8: 488, 1902
= H. heteromorphum

africanum sensu Boulvert 1977 = H. ? heteromorphum

= H. heterophyllum. H. poecilolepis

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jamaicense

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(S. America)

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nemorum var. minus Cherms. = Hypolytrum heterophyllum

nemorum sensu C. B. Clarke 1902, p.p. = H. testui

nemorum sensu Henriq. 1887 = H. nemorum

(Asiatic species)

purpurascens Cherms. = H. heterophyllum

rhizomatatum Cherms. = H. secans

rhizomatatum var. elatum Cherms. = H. scaberrimum

genus of c. 76 species, annual or perennial herbs occurring mostly
in cool tropical and temperate regions of the southern hemisphere,
particularly in Africa and Australia (Muasya & al., 2001: 342). In
southern Africa, the genus has its highest species diversity in the
winter rainfall area. It is recognized by having terete spikelets,
particularly in Africa and Australia (Muasya & al., 2001: 342). In
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southern Africa, the genus has its highest species diversity in the
winter rainfall area. It is recognized by having terete spikelets,
particularlly Scirpus L. Subsequently, the majority of workers followed Boeckeler, and by the early 20th century the genus was wholly discarded. An example of such a treatment is Clarke (1908; in Kew Bull. Misc. Inf., Add. Ser. 8: 1–196) who recognized *Isolepis* at the sectional level within *Scirpus*” (Muasya & al., 2001: 342).

Two species in our area are known only from the type gathering.


**bas.: Scirpus cernus** Vahl

**syn.:** *Elegiont cernus* (Vahl) A. Dietr.; Schoenoplectus cernus* (Vahl) Hayek

Tufted annual or short-lived perennial herb; rhizome 1–22 × 0.3–1.5 mm, ascending, whitish; culms 1–30 cm tall, 0.2–1 mm Ø, without nodes; leaf sheaths 4–30 mm long, 0.3–1.8 mm Ø, brown or green; blades 0.1–22.2 cm long, 0.1–0.7 mm wide; inflorescence pseudolateral, not proliferating; spikelets 1–4, spherical, 1.4–9 × 1.2–2.4 mm, with 4–27 glumes; style bifid or trifid.

**Wet areas.**

N. Africa, S. Africa, Lesotho, SW-most Namibia [Clarke & Mannheimer, Cyper. Namibia: 94, 80 (map), 1999; Archer & Craven, Cyper Namibia: 22, 2004]; temperate areas of the world: Eurasia (absent from SE Asia), Australia, New Zealand, temperate S. America, S. Africa, Botswana, Lesotho, Swaziland; Madagascar. Recognized by the reduced leaf blade, proliferating inflorescence (Gordon-Gray & al. in S. Afric. J. Bot. 75: 166, 2009), and longitudinally striate nutlets.


**bas.: Scirpus fluitans** L.
**Isolepis fluitans**

*Heliegoton fluitans* (L.) Link ex Rehb.; *Eleogoton fluitans* (L.) Link; *Cyperus fluitans* (L.) Missbach & E. H. L. Krause; *Schoenopectus fluitans* (L.) Palla; *Scirpidiella fluitans* (L.) Rauschert; *Scirpus fluitans* var. terrestre Kük. 1925, nom. nud.

Mat-forming annual or short-lived perennial herb; rhizome horizontal, green and above ground, 0.4–3 cm long, 0.3–1.2 mm Ø; culms floating or trailing, 1–80 cm long, 0.2–1.1 mm peduncle ± 19 cm tall, 0.2–0.9 mm Ø; leaf sheath green or brown, 0.3–2.5 cm × 0.3–1.7 mm; blade 0.2–0.8 cm long, 0.2–1.1 mm wide; inflorescence terminal; bract shorter than inflorescence; spikelet 1, 2.4–9.4 × 0.7–2.7 mm, with 4–28 glumes.

Rain-forest with *Podocarpus latifolius*, *Olea capensis* subsp. hochstetteri, *Syzygium guineense* subsp. *afromontanum*, *Dombeya torrira*; floating in shallow water or terrestrial in seepage and bogs, also semiaquatic; swampy grassland; wet sloping, grassy ground; edges of pools; seasonally waterlogged habitats; humid hollows; along roads; swamps; 1200 (and less) – 3850 m a.l.

Throughout the Old World; Europe, Azores; N Africa; S. Africa, Lesotho, Swaziland (not in Namibia, fide Archer & Craven, Cyper. Namibia: 22, 2004); Comoros, Madagascar, Réunion; S Asia from India, Sri Lanka, E-wards to Australia, Tasmania, New Zealand. Not in China. Absent from the Americas.


Comprises 2 vars. in Africa: *var. fluitans* [syn.: *Scirpus stolonifer* Roth; *Scirpus fluitans* L. var. terrestre Kük. 1925, nom. nud.; *Isolepis fluitans* var. *terrestris* Hook. f.; *I. fluitans* var. *major* Lye; *I. fascicularis* (Nees) Kunth; *Elegogoton fascicularis* Nees; *Scirpus fluitans* var. *fascicularis* (Nees) Boeckeler; etc.]; the morphological variation between populations is great, and much of this is phenotypic and often depends on whether plants are growing in aquatic or terrestrial habitats; – *var. nervosa* (Hochst. ex A. Rich.) Lye [bas.: *I. nervosa* Hochst. ex A. Rich.; syn.: *I. fuscescens* Steud.; *Scirpus ramosus* Boeckeler], distinguished by the tufted habit, and culms consisting of an elongated peduncle; in Ethiopia. – A third variety, viz. var. *lenticularis* (R. Br.) Muasya, was recently “revisited” by Yu Ito & al. (Pl. Syst. Evol. 302: 231–238, 2016) who “resurrected” the name *Isolepis lenticularis* R. Br., a plant from Australia and New Zealand.


bas.: *Scirpus graminoides* R. W. Haines & Lye syn.: *Scirpidiella graminoides* (R. W. Haines & Lye) Rauschert Mat-forming annual or short-lived perennial herb; rhizome 0.3–1.2 cm × 0.3–0.8 mm, horizontal, green, and above ground; culms 0.5–3.2 cm tall, 0.2–0.6 mm Ø; peduncle 0.2–0.5 cm long, 0.2–0.4 mm Ø; leaf sheath green, 0.3–1.4 cm × 0.4–1 mm, *covering peduncle* and part of spikelet; blade 1.2–3.5 cm long, 0.3–1.2 mm wide; inflorescence terminal; spikelet 1, 3–7.1 × 0.9–2 mm, with 5–18 glumes.

Bogs; 3200–3500 m a.l.


Mat-forming annual or short-lived perennial herb; rhizome 0.4–3.2 cm × 0.4–1.7 mm, horizontal, green, and above ground; culms 5–37 cm tall, 0.3–1.6 mm Ø, base woody; peduncle 5–36 mm tall, 0.3–1.1 mm Ø; leaf sheath 0.6–2.4 cm × 0.4–1.9 mm, green or brown; blade 1–61 cm long, 0.3–0.8 mm wide; inflorescence terminal; spikelet 1, 4.7–9.3 × 1.5–3 mm, with 19–59 glumes.

Seepages; seasonally flooded grassland; 1500–2300 m a.l. S. Africa, Swaziland.

Near *I. fluitans* but: culm base woody; 19–59 glumes per spikelet (not 4–28).


Tufted annual or short-lived perennial herb; rhizome whitish, ascending, 0.5–1.3 cm × 0.7–1 mm; culms 3–4.8 cm tall, 0.4–0.6 mm Ø; leaf sheath brown, 1.3–2.3 cm × 0.8–1.7 mm; blade 4.5–10.7 cm long, 0.6–1.1 mm wide; inflorescence pseudolateral; spikelets 1–3, each 6–8.5 × 2.1–2.6 mm, with 18–27 glumes.

Bog: 3650–3850 m a.l.

Superficially similar to the annual species of *Schoenopectus* due to its erect culm-like involucral bract.


syn.: *Scirpidiella kilimanjaria* (R. W. Haines & Lye) Rauschert Tufted annual or short-lived perennial herb; rhizome whitish, horizontal, to 1.5 × 1–1.5 mm; culms 1–3 cm tall, 0.3–0.4 mm Ø; leaf sheath brown, 4–10 × 0.4–0.8 mm; blade 3–7 cm long, 0.6–1.5 mm wide; inflorescence pseudolateral; spikelet 1, 4.5–5 × 2.5–2.5 mm.

Bog: 4350 m a.l.

Known only from the type collected in 1979.

Closely related to *I. keniaensis* and *I. ruwenzoriensis*, all with striate nutlets, and well-developed leaves. Haines & Lye (1983) suggested a hybrid origin with *I. setacea* and *I. fluitans* as parents.


bas.: *Scirpus natans* Thunb.

syn.: *Isolepis palustris* Schrad.; *I. rivularis* Schrad.; *I. pallida* Nees; *Scirpus rivularis* (Schrad.) Boeckeler

Tufted annual or short- perennial herb; rhizome whitish, weakly developed, ascending, 1–3 × 1–2 mm; culms 4.5–10 cm tall, 0.3–2.2 mm Ø; leaf sheath brown, 0.8–1.4 cm × 0.6–1 mm; blade 0.5–1.8 cm long, 0.2–1.5 mm wide; inflorescence pseudolateral, occasionally proliferating; spikelets ovate, 1–3, each 2.1–4.7 × 1.3–2 mm, with 8–45 glumes.

Swampy grassland; in pools among rocks; streams; often growing partly submerged in water, but the leaves are self-supporting; terrestrial plants develop into compact tusfs (Cook, i.c.); springs; often rooting on aquatic plants; 100–2300 m a.l. S. Africa.


Tufted annual herb forming *dwarf tussocks*; culms 0.8–1 cm tall, 0.3–0.4 mm Ø; leaf sheath 3 × 0.6 mm, green; blade 0.5–1.4 cm

syn.: Scirpidiella ruwenzoriensis (R. W. Haines & Lye) Rauchert

Tufted annual or short-lived perennial herb; rhizome 0.5–1.5 cm × 0.5–0.7 mm, ascending, white; culms 2.5–5 cm tall, 0.3–0.5 mm Ø; leaf sheath 1–1.6 cm × 0.4–0.7 mm, brown; blade 2.7–4.2 cm long, 0.5–0.6 mm wide; inflorescence pseudolateral; spikelets 1–2, each 3.5–4.2 × 1.2–1.6 mm, with 6–9 glumes.

Bog; 3850 m alt.

Only known from the type collected in 1951.

Closely related to I. setacea.


syn.: Scirpidiella sepalulcris (R. W. Haines & Lye) Rauchert

Tufted annual or short-lived perennial herb; rhizome whitish, ascending, 0.1 Tufted annual or short-lived perennial herb; rhizome whitish, ascending, 0.1 Tufted annual or short-lived perennial herb; rhizome ascending, 0.1


syn.: Scirpus sepalulcris L.

Very variable plant. Gordon-Gray, l.c., writes: “They may be slender, glabrous, sparingly tufted, with hair-like culms, supported by water or lodged on damp substrate [appearing similar to slender plants of I. cernuas…]; or they may be shorter and more branched and creeping with a slender rhizome that roots at intervals (not easily observed amongst slender branches). At highest altitudes often diminutive (±10 mm), with only tips of leaves and short culms bearing solitary spikelets exposed above wet mud. Occasionally such diminutive specimens float in shallow pools in rock depressions. Superficially there is resemblance to I. angustifolia, but trabeulations on that achene surface finer and that achene slightly longer in relation to its width and more markedly beaked. I. setacea differs from I. cernua and I. sepalulcris in the sculpturing of the achene (trabeulate in the first; minutely papillate in the other two). Dissection of individual plants is essential if identification is to be accurate”.

Moorland, soil newly laid bare; seepage; wet grassland; wet soil in swamps; along paths; streams and rivers; 2300–4100 m alt.

Manc. dubius subsp. dubius... var. bellula (Retz.) Roem. & Schult. = Ascolepis ascolepis (Kunth) A. Rich. = Eleocharis bellula Zoll. = Schoenoplectiella lateriflora artuculata (L.) Nees = S. articulata

Isolepis abyssinica Hochst. ex C. B. Clarke

– Bulbosystis hispida ambigua Zoll. = Schoenoplectiella lateriflora artuculata (L.) Nees = S. articulata

collina Kunth = Bulbosystis contexta commutata Nees = Ficinia gracilis
CYPERACEAE

**Fimbristylis**

- *Fimbristylis complanata* (Retz.) Roem. & Schult. = *Bulbostylis hispidula* subsp. *hispidula*
- *Fimbristylis consocialis* Steud. = *Bulbostylis hispidula* subsp. *hispidula*
- *Fimbristylis coronaria* (Vahl) Roem. & Schult. = *Cyperus leucopephalus*
- *Fimbristylis corymbosa* Roth ex Roem. & Schult. = *Schoenoplectus corymbosus*
- *Fimbristylis dichotoma* (Wall.) Roem. & Schult. = *Fimbristylis dichotoma*
- *Fimbristylis dipsacea* (Rottb.) Roem. & Schult. = *Bulbostylis dipsacea*
- *Fimbristylis echinocephala* (L.) Schltdl. = *Ferruginea ferruginea*
- *Fimbristylis elachista* (Ficinoides) Nees 1834 = *Fibrosa fibrosa*
- *Fimbristylis fluitans* C. B. Clarke = *Isolepis fluitans*
- *Fimbristylis fistulosa* (Rottb.) Roem. & Schult. = *Foeniculare foeniculare*
- *Fimbristylis filamentosa* (Vahl) Roem. & Schult. = *Scirpoides hispidula*
- *Fimbristylis filiformis* (Rottb.) Roem. & Schult. = *Isolepis filiformis*
- *Fimbristylis flexuosa* (Vahl) Roem. & Schult. = *Scirpoides holoschoenus*
- *Fimbristylis globosa* Steud. = *Lycérum lycérum*
- *Fimbristylis hemisphaerica* (Roth) A. Dietr. = *Lipocarpa hemisphaerica*
- *Fimbristylis holoschoenus* (L.) Roem. & Schult. = *Scirpoides holoschoenus*
- *Fimbristylis humilis* Kunth = *Bulbostylis hispidula*
- *Fimbristylis inclinata* Delile ex Barbey = *Schoenoplectus corymbosus*
- *Fimbristylis juncoides* Miq. = *Schoenoplectiella lateriflora*
- *Fimbristylis kernii* (Raymond) Lye = *Lipocarpa kernii*
- *Fimbristylis kyllingoides* A. Rich. = *Kyllingia microcephala*
- *Fimbristylis lineata* Nees 1835, non (Michx.) Roem. & Schult. 1817 = *Ficinia gracilis*
- *Fimbristylis macrocephala* (Steud.) Lye = *Kyllingia macrocephala*
- *Fimbristylis martii* Roem. & Schult. = *Cladium maricu*
- *Fimbristylis meruensis* R. W. Haines & Lye = *Isolepis cernua*
- *Fimbristylis nigrescens* (Nees) Steud. = *Elocharis nigrescens*

**Isolepis**

- *Isolepis obtusifolia* (Lam.) Roem. & Schult. = *Fimbristylis cymosa*
- *Isolepis oryzetorum* Steud. = *Schoenoplectiella lateriflora*
- *Isolepis palida* Nees = *Isolepis natans*
- *Isolepis palustris* Schrad. = *I. natans*
- *Isolepis perrottetii* Steud. = *Bulbostylis hispidula*
- *Isolepis pilosa* (Willd.) Steud. = *B. pilosa*
- *Isolepis polypylla* A. Rich. = *Kyllinga polypylla*
- *Isolepis prolongata* Nees = *Schoenoplectiella articulata*
- *Isolepis proxima* Steud. = *Schoenoplectiella proxima*
- *Isolepis puberula* Kunth = *Bulbostylis thouarsii*
- *Isolepis pubescens* (Poir.) Roem. & Schult. = *Fuerana pubescens*
- *Isolepis publiculmis* (Boeckeler) A. Dietr. = *Bulbostylis hispidula*
- *Isolepis rehmannii* (Ridl.) Lye = *Lipocarpa rehmannii*
- *Isolepis r. var. abyssinica*  = *Isolepis costata*
- *Isolepis setifolia* A. Rich. = *Elocharis setifolia*
- *Isolepis sieberi* Schrad. = *Bulbostylis thouarsii*
- *Isolepis simillima* Steud. = *Schoenoplectiella supina*
- *Isolepis sororia* sensu Podlech 1967, non Kunth = *Isolepis setacea*
- *Isolepis squarrosa* auct., non (L.) Kunth = *Isolepis setacea*
- *Isolepis subtristachya* (Muhl.) Schrad. = *L. micrantha*
- *Isolepis subulata* Kunth = *Isolepis sepalicaulis* or *I. tenuissima* ?
- *Isolepis supina* (L.) R. Br. = *Isolepis setacea*
- *Isolepis subsp.‘tenissima’* D. Don 1825 = *Bulbostylis densa*
- *Isolepis thouarsii* (Roem. & Schult.) Nees 1834, non I. thouarsii
- *Isolepis thouarsii*
- *Isolepis thunbergii* Schrad. = *Scirpoides holoschoenus*
- *Isolepis trifida* Nees = *Bulbostylis densa*
- *Isolepis afromontana* (Kük.) Lye = *Ficinia tricolor*
- *Isolepis uninodis* Del. = *Schoenoplectiella erecta*
- *Isolepis verruculosa* (Steud.) Nees = *Isolepis cernua*
- *Isolepis var. setiformis*
- *Isolepis verruculosa* (Steud.) Steud. = *Scirpus verruculosa*
- *Isolepis wallachiana* Schult. = *Bulbostylis barbata*
- *Isolepis wildenowii* Steud. 1855 = *B. barbata*

**Juncellus**

The genus was created to include *Cyperus* species with dor-siventrally flattened pistils”...[however such] “are found in a vast array of species and originated within many different *Cyperaceae* genera... making the character unreliable to define generic delimitations...” (Reynolds & al. in Taxon 60: 887, 2011).

The authors of Flora of China 23: 164, 2010, do not treat *Juncellus* as a genus apart, although it is stated (p. 165) that “one of us (Dai) believes that *Kyllinga* and *Pycreus* are treated as separate genera from *Cyperus*, as they are in this treatment, then *Juncellus* and *Mariscus* should also be separated from *Cyperus* on account of their distinct morphological characters”.

*Cladium maricu*...
Browning & Goethebeur in their “Sedge genera of Africa and Madagascar” (2017), maintain *Juncellus* as a separate genus. We have not followed this treatment. – See Synonyms below.

**SYNONYMS:**

*Juncellus aloepecuroides* (Rottb.) C. B. Clarke  
= *Cyperus aloepecuroides*  
*altus* Turill = *Pycreus altus*  
*ater* C. B. Clarke = *P. melas*  
*calanthus* Peter = *Cyperus laevigatus* subsp. *distachyos*  
distachyos (All.) Turill = *Cyp. laevigatus* subsp. *distachyos*  
laevigatus (L) C. B. Clarke = *Cyp. laevigatus* subsp. *lehmanni*  
= *Cyp. laevigatus* subsp. *distachyos*  
laevigatus var. *junciformis* C. B. Clarke = *Cyp. laevigatus* subsp. *laevigatus*  
lateralis (Forssk.) M. R. Almeida = *Cyp. laevigatus* subsp. *lehmanni*  
michelianus (L.) Blatt. & McCann = *Cyp. michelianus*  
*minutus* C. B. Clarke = *Cyp. minutus*  
pumilus Peter = *Pycreus pumilus*  
pustulatus (Vahl) C. B. Clarke = *Cyperus pustulatus*  
*pygmaeus* (Rottb.) C. B. Clarke = *Cyp. pygmaeus*  

(KOBRESIA)

The genus *Schoenoxiphium* Nees, with a few species also named under *Kobresia*, were transferred to *Carex* by the Global Carex Group (Bot. J. Linn. Soc. 179: 1–42, vide p. 26–28, 2015).

**SYNONYMS:**

*Kobresia dregeanana* (Kunth) T. Koyama  
= *Schoenoxiphium rufum*  
kunthiana (Kük.) T. Koyama = *S. sparteum*  
*lehmannii* (Nees) T. Koyama = *S. lehmanni*  
rufum (Nees) T. Koyama = *S. rufum*  
*sparteu* (Wahlenb.) T. Koyama = *S. sparteum*  

**KYLLINGA / c. 61**

*Kyllinga* Rottb. 1773, nom. conserv. (occasionally spelled *Kyllingia*)  
syn.: *Cyperus* L. subgen. *Kyllinga* (Rottb.) J. V. Suringar 1898  
(for synonyms see also Kükenhali in Engler, Pflanzenreich IV. 20/101: 566–614, 1936). Names of subdivisions of *Kyllinga* were published by Reynanders & al. in *Taxon* 60: 885–889, 2011. The genus in named after the Danish botanist Peder Lauridsen Kylling (c. 1640–1696) whose best known work is *Vridlandium Danicicum* published in 1688; an alphabetic list of c. 1100 plant species occurring in the crown lands of the Danish king.  

A genus of c. 74 species; a small number of which have a nearly cosmopolitan distribution (also in southern Asia and the Americas), while the majority (75 %) have a more restricted area: over 75 % of the species occur in tropical eastern and southern Africa (Muasya & al. in J. E. Afr. Nat. Hist. 99: 70, 2010).  

“Diagnostic characters for … Kyllinga include capitulate inflorescences; spikelets with distichous glume arrangement which are shed intact; bident style and lenticular nutlets; and laterally flattened nutlets … Kyllinga is either recognised as a distinct genus … or ranked as a subgenus of *Cyperus*” (Muasya & al., o.c.: 65). The

*Kyllinga* is now often treated under *Cyperus* (e.g. World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew, 2018), some authors maintain *Kyllinga* as a separate genus. This is the case in our treatment below; and we follow Govaerts & Simpson, World Checklist of Cyperaceae: 537–549, 2007; Goethebeur in Kubitzki, Families and genera of vascular plants IV: 172, 1998; Flora of China 23: 246–249, 2010 (with Illustrations: 321, 333–334, 2012); Flora of Tropical East Africa, Cyperaceae: 310–346, 2010 (by Beentje), and Browning & Goethebeur, Sedge genera of Africa and Madagascar: 55, 2017. We also propose a few new combinations in *Kyllinga*.  

This in spite of the fact that “Although the genus *Kyllinga* Rottb. was incorporated in *Cyperus* more than 100 years ago … it was not until 100 years later … that it was proven beyond doubt that this is actually correct” (Lye & Cheek in Nord. J. Bot. 24: 276, 2006).  

As to Flora of Tropical East Africa, l.c., the author of *Kyllinga* notes: “Many of the Kew types have been on loan for several years. Despite polite requests for access I was unable to study these types. This is combined with a shortage of time … have made this treatment less good than I would have wished, as well as incomplete in parts – including a number of indeterminates”.  

The present check-list comprises c. 61 species, many of which are poorly known: for 5 species the nutlet is immature; the ecology is not recorded for 2 species; and 15 species are known only from the type (c. 24 %).  

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syn.: *Cyperus afro-occidentalis* (Lye) Hughy  
Robust perennial herb growing in small clumps; *rhizome erect or ascending*, c. 2 mm Ø, stolon-like; culms 15–40 cm long, 0,6–1 mm Ø, trigonous; leaves from the lower 3–6 cm only; the upper 3–5 sheaths producing blades; blades coriaceous, flat, scabrous on margins and main nerves, to 10–15 cm long, 2,5–4 mm wide; inflorescence a terminal hemispherical to globose head 6–8 mm Ø, consisting of a single spike with at least 50–80 crowded spikelets, these 1-flowered, obliquely lanceolate, 3–4 × 1,2–1,4 mm, glumes (2) ovate, white, 3–3,5 mm long.  
Border of gallery forest, along road; c. 300 m alt.  
Most similar to *K. lehmannii* (J. R. Forster & G. Forster) Dandy with, however, horizontal or creeping rhizome and much smaller spikelets (2–2,5 × 0,6–1 mm) and glumes (2–3,5 mm long).  
Known only from the type collected in 1967.

KYLINGA AFROPUMILA


syn.: Cypers affropumilus (Lye) Lye

Perennial herb to 26 cm tall; base swollen, coated with fibrous remains of old leaf sheaths; culms solitary, 10–25 cm tall, 0.5–1 cm Ø, trigonous, glabrous; leaf sheath straw-coloured to brownish; blade linear to 10 cm long, 1.2–5 mm wide, margins scabrid; inflorescence capitate, 5–8 × 3–4 mm, of a single large central spike, usually with 2 smaller lateral spikes; spikelets many per head, ellipsoid, 1.5–1.8 × 0.6–0.7 mm, 1-flowered.

Short grassland at track-side; c. 2440 m alt.

Known only from the type collected in 1970.


syn.: Cypers alatus (Nees) F. Mueller subsp. albus (Nees) Lye (See also below under the subspecies.)

Perennial (densely tufted) herb, base surrounded by strong fibres from old leaf bases; rhizome short, aromatic; culms 10–20 cm long; 1–2 mm wide, margins scabrid; inflorescence solitary, 0.5–1 mm Ø, trigonous, glabrous; leaves to 12 cm long; sheaths (reddish) brown, the upper greenish; blades linear, flat, 8–12 cm long, c. 4 mm wide, midrib and margins scabrid; inflorescence a solitary globose head, 10–12 mm Ø, white with reddish tinge, turning straw-coloured or purplish, of a single spike; spikelets to 100 per spike, narrowly ovoid, c. 5 × 2 mm, 1–2-flowered.

Seasonally damp ground at foot of rocky outcrop; c. 2000 m alt.

Known only from the type (Robinson 4863) collected in 1962. Also in Zambia (? Phiri, A checklist of Zambian vascular plants: 111, 2005) (confusion with K. albogracilis (?)). Related to K. alba.


bas.: Cypers albiceps Ridl.

syn.: Cypers merxmuelleri (Podlech) Lye; Kyllinga merxmuelleri Podlech

Perennial herb, to 42 cm tall, with bulbous culm base emitting long slender stolons; culms solitary, 20–40 cm long, trigonous, smooth; leaves few with blade linear, 0.5–1 mm wide, shorter than culm; inflorescence capitate: a single rounded to ovoid head, 0.4–1 cm Ø; spikelets lanceolate-ellipsoid, c. 3.5 mm long, 2–4-flowered, straw-coloured to greenish.

Shallow pools; damp meadows; dambo (Namibia); ? – c. 1300–2100 m alt.


Our map (p. 213) is tentative.
KYLLINGA BREVIFOLIA


syn.: Cyperus albogracilis (Lye) Lye

Perennial herb to 42 cm tall, with short rhizomes and 2 mm thick scale-covered stolons; culms solitary, arising from the end of rhizomes and stolons, 5–40 cm long, 0.5–0.8 mm Ø, trigonous, glabrous; leaves to 20 cm long; sheath greenish grey to pale reddish-brown, 6 cm long; blade linear, flat or folded, 2–20 cm long, 1–2 mm wide, margin and primary vein scabrid; inflorescence capitate, spherical, 0.5–1 cm Ø, with a single spike; spikelets lanceolate, 2.5–4.3 × 1–1.8 mm, flattened, 2-flowered.

Dry sandy ground at base of termite mounds; open sunny woodland; grassland; 1300–1800 m alt.

Fairly widespread in Zambia. Has been confused with K. albiceps.


syn.: Cyperus aureovillosus (Lye) Lye

Tussocky perennial herb with short creeping rhizome 2–3 mm Ø; culms 15–30 cm long, 0.8–1 mm Ø, trigonous, glabrous or with scattered hairs below, densely hairy below the inflorescence; leaves from the lower 4–7 cm only; blade 2–5 cm long, 3–5 mm wide, tomentose on both surfaces; sheath greenish, densely tomentose on the side of its blade, pale reddish-brown, almost glabrous on the side of its throat, old basal sheaths slightly splitting up into fibres; inflorescence a globose golden or amber-golden head 0.7–1 cm Ø; spikelets 4.5 × 1–1.5 mm, lanceolate, 2–3-flowered; glumes with hairy midrib; nut known only immature.

Open grassland; 2300 m alt.

Only known from the type collected in 1959 (Robinson 3054).


syn.: Cyperus beninensis (Samain, Reynders & Goeth.) Hughy

Perennial herb with a swollen stem base 2–3 mm Ø, covered by persistent red-brown scales; culms few together, loosely connect- ed, 10–20 × 0.2–0.04 mm, angular with rounded ribs, glabrous; leaves basal; blades 1.5–6 cm long, linear, enrolled when dry, scabrid on edges near tip; inflorescence capitulate, of a single white, ovoid to globose spike, 2–5 mm, with many spirally placed spikelets, each 1–1.3 mm long with 2 glumes and 1 flower.

Wooded savanna.

Near K. microbulbosa (E. Africa) but: spikelet 1–1.3 mm long (not 2–3 mm); glume length 1–1.3 mm (not 2–2.5); 1 flower per spikelet (not 1–3).

“Identification of the specimen [Sinsin 3038] with the Flora of West Tropical Africa key(s) [out as] K. echinata S. S. Hooper” (Hooper 1972: 305).

K. brevifolia Rottb., excl. var. robusta (Boeckeler) H. Pfeiff. (= K. paulina). – For Flora of Tropical East Africa, Cyperaceae: 313–316 (2010), Beentje proposed a subdivision of K. brevifolia for the area into 2 varieties, viz. var. brevifolia in a wide sense, and var. lurida (Kük) Beentje. He was “unable to separate material [studied] on whether the involucral bracts are ‘shaped like a cross’ (with one erect and two spreading, as intricata) or ‘more flaccid’ (as in brevifolia); The colour differences between these two also seem more gradual than abrupt: ‘paler’ greenish or straw-coloured and golden yellow … subsp. brevifolia and intricata were distinguished on, respectively, greenish to straw-coloured and golden yellow inflorescences”.

For our treatment below we have followed Beentje, who also pointed out that a “final decision … needs to be made on a worldwide basis”. On the other hand, Gordon-Gray (Cyperaceae in Natal: 113–115, 1995) concluded that: “it is possible that Natal examples referred to K. intricata are no more than edaphic variants of the widespread K. erecta”. And continued: “Robinson (1959) considered K. erecta var. intricata differed only in rhizome colour from [K. brevifolia (sub K. colorata (L.) Druce)] and this relationship has been substantiated by Haines & Lye (1983) who record Cyperus brevifolius subsp. intricatus for East Africa”.


syn.: Cyperus brevifolius (Rottb.) Endl. ex Hassk.

Perennial herb with thin creeping rhizome to 15 cm long, 1–2 mm Ø, covered by brown scales; culms solitary, spaced along the rhizome, 5–55 cm long, 0.5–1.2 mm Ø, trigonous, glabrous, base not swollen; leaf sheath reddish to purplish, 1–7 cm long; blade linear, grooved along midrib, 3–23 cm long, 1–3 mm wide, margins and midrib scabrous; inflorescence a small globose or ovoid head, 4×10–4–8 mm, yellowish to dark brown or blackish; spikelets (5–10) in a single spike, many and dense, narrowly ovoid, 2.2–4.2 × 0.6–1.3 mm; glumes yellow-green with green keel (var. brevifolia) or dark brown to brown black (var. lurida).

Seasonally swampy grassland; secondary grassland; forest margins; forest clearing; swamp margins; stream- and lake-sides; open woodland; fallows; damp places; as weed in a wide range of (mostly) disturbed damp habitats, agricultural fields, roadsides, palm plantations, paddy fields, frequent in lawns, and may form almost pure stands, but does not seem to escape into undisturbed natural vegetation (Gordon-Gray, o.c.): – 0–2900 m alt.

Namibia, Botswana, S. Africa; Madagascar, Mauritius, Réunion and other Indian Ocean islands; S. Asia, Afghanistan, India, Sri Lanka, Pakistan, China, SE Asia, New Guinea, Philippines, Australia; often introduced, e.g. Caucasus, Azores (Verloove in Webbia 69: 214, 2014, under Cyperus), Gran Canaria (Verloove in Webbia 67: 97, 2012), Tenerife (Siverio & al. in Bot. Macaron. 28: 170, 2013), Portugal, S Spain; N., C. & S. America, West Indies. Tropical and subtropical regions of the Old and New Worlds. In the past decades it was able to spread to warm-temperate areas as well (Verloove, Webbia 67: 97, 2012). A weed introduced...
KYLLINGA BREVIFOLIA

into the U.S.A. more than a century ago, and continues to spread northward and westward as weed of turf, pastures and roadways. It flowers 10–12 weeks after germination and produces mature seeds 3 weeks after flowering. Seeds are disseminated by wind and water and germinate without aging. A combination of frequent irrigation and mowing without removal of clippings, especially around golf course greens, enhances vegetative growth. K. brevifolia produces culms that produce fruit below most turfgrass mowing heights (Nacci & Ford, Sedges: uses… 48–48, 2008).

Two varieties are recognised in tropical Africa: – var. brevifolia [syn.: Cyperus brevifolius subsp. brevifolius (Rottb.) Hassk.; Cyp. erectus (Schumach.) Mattf. & Kük. var. intricatus (Cherm.) Kük. and var. auratus (Nees) Kük; Kyllinga intricata Cherm.; Cyperus brevifolius subsp. intricatus (Cherm.) Lye 1983; Kyllinga brevifolia Rottb. subsp. intricatus (Cherm.) Lye 1982 !, and (Cherm.) J.-P. Lebrun & Stork 1995; K. erecta Schumach. var. intricata (Cherm.) Kük.; K. aurata Nees; K. erecta var. aurata (Nees) Kük.; Cyperus auratus (Nees) Hyugh; Cyp. sectae sensu Andrews, Flow. pl. Sudan 3: 357, 1956, non (Schumach.) Mattf. & Kük.; Kyllinga colorata (L.) Druce var. aurata (Cherm.) Lye]; – var. lurida (Kük.) Beentje [bas.: C. Schumach. var. lurida Kük.; syn.: Cyperus erectus (Schumach.) Mattf. & Kük. var. luridus (Kük.) Kük.; Kyllinga aurata Nees var. lurida (Kük.) Napper; K. colorata (L.) Druce (See Note below) var. lurida (Kük.) Lye; Cyp. brevifolius subsp. luridus (Kük.) Lye; Cyp. nigriceps Huygh] in Kenya – Tanzania. – Two other varieties are reported from temperate and E tropical Asia, respectively, viz., var. Cyp. esculentus (L.) Druce var. luridus (Kük.) Lye; Cyp. sectae sensu Andrews, Flow. pl. Sudan 3: 357, 1956, non (Schumach.) Mattf. & Kük.; Kyllinga colorata (L.) Druce var. aurata (Cherm.) Lye]; – var. lurida (Kük.) Beentje [bas.: C. Schumach. var. lurida Kük.; syn.: Cyperus erectus (Schumach.) Mattf. & Kük. var. luridus (Kük.) Kük.; Kyllinga aurata Nees var. lurida (Kük.) Napper; K. colorata (L.) Druce (See Note below) var. lurida (Kük.) Lye; Cyp. brevifolius subsp. luridus (Kük.) Lye; Cyp. nigriceps Huygh] in Kenya – Tanzania. – Two other varieties are reported from temperate and E tropical Asia, respectively, viz., var. leiolepis (Franch. & Sav.) Karthik., often considered as a synonym of K. gracilicrinita Miq., and var. stellulata (J. V. Suringar) Hooper ex Ohwi (bas.: C. Schumach. var. stellulatus J. V. Suringar).


The World Checklist of Selected Plant Families, Cyperaceae (Roy. Bot. Gard., Kew) consulted in 2017, recognises the following species as separate entities under Cyperus; they are included by us as synonyms listed above: Cyp. auratus (Nees) Hyugh [based on Kyllinga erecta var. aurata (Nees) Kük.], and Cyp. nigriceps Huygh [based on Kyllinga erecta var. lurida Kük. = K. brevifolia var. lurida (Kük.) Beentje]. Note ref. to Kyllinga colorata (L.) Druce: it is a species of Rynchospora, R. colorata (L.) H. Pfeiff., a plant occurring in an area from SE U.S.A. (N America) to N S. America.

K. brunnealata

Cyp. brunneoalatus (Cherm.) Hyugh

Perennial herb with tufted culms 12–30 cm tall, trignorous, not thickened at base; basal leaf sheaths brownish purple; leaves ± 2/3 of culm length, flat, 2.5–3 mm wide, long-attenuate; inflorescence a head of 1 globeose or globeose-cylindrical dense straw-coloured spike 7–10 mm long; spikelets numerous, ovate-oblong, flat, 3.5 mm long, each giving rise to 2 nutlets, glumes wingless. Ecology not recorded; 800–1050 m alt.

S. Africa (Natal).

K. buchananii was established by Clarke on a specimen from Natal, segregating it from K. alba on the wingless glume. To Gordon-Gray (l.c.) “it seems probable Clarke’s species represents an extreme state of K. alba, as Clarke himself suggested”. The Natal specimen (Mudd) was probably collected on the Lebombo Mts where K. alba occurs.

KYLLINGA BRUNNEALATA

Diffs from K. alba (syn.: Cyp. cristatus) by its long creeping rhizome, longer culms and smaller inflorescence, and reddish keeled glumes.

K. brunneoalata


syn.: Cyperus brunneoalatus (Lye) Lye

Perennial herb to 27 cm tall with swollen culm-bases surrounded by blackish leaf-sheath fibres; culms crowded, 12–25 cm long, 0.5–0.8 mm Ø, trigonous, glabrous; leaves only from basal part of culm; sheath reddish-brown, the upper more straw-coloured; blade linear, 5–15 cm long, 1–2 mm wide, margin and midrib scabrid; inflorescence a terminal, ovoid to globose brownish white spike 0.7–1 cm long, 0.6–1 cm wide, with 1 large central spike and usually 1–3 smaller ones at base; spikelets ovoid, 2.5–3 × 1 mm, usually 3-flowered.

Shallow soil over limestone rocks; c. 420 m alt.

Only known from the type collected in 1978.


Densely tussocky perennial herb with short woody rhizome; culm bases densely covered by numerous old sheaths splitting up into dense “socks” of brownish fibres; culms 5–15 cm long, 0.5–0.8 mm Ø, angular to terete, glabrous; leaves 5–8 from within the fibrous “socks”, and usually 1 from lower part of culm with a light reddish-brown, membranous sheath; blades to 10 cm long, 1–2 mm wide, flat, densely short-hairy on margin and midrib; inflorescence a terminal hemispheric head 0.5–1 cm Ø, consisting of numerous crowded sessile spikes; spikelets 3–4 × 1–2 mm, ovate, brownish, 1–3-flowered.

Shallow soil over limestone rocks; in sand or loam in bushland; 150–2500 m alt.


syn.: Cyperus sublaevicarinatus Mattf. & Kük.

Perennial herb with tufted culms 12–30 cm tall, trigonous, not thickened at base; basal leaf sheaths brownish purple; leaves ± 2/3 of culm length, flat, 2.5–3 mm wide, long-attenuate; inflorescence a head of 1 globeose or globeose-cylindrical dense straw-coloured spike 7–10 mm long; spikelets numerous, ovate-oblong, flat, 3.5 mm long, each giving rise to 2 nutlets, glumes wingless.
**KYLLINGA**

**K. bulbosa** P. Beauv., *non* Cyperus bulbosus Vahl – Our compilation follows the circumscription proposed in Flora of Tropical East Africa, Cyperaceae: 336–337, 2010, and by Darbyshire & al., Plants of the Sudan and S. Sudan: 112, 2015. – Lye & Thery in Flore du Gabon 44, Cyperaceae: 94, 2012, do not agree with al., Cat. pl. vascul. Burkina Faso: 51, 2012; Masharabu & al. in Adansonia, in Flore du Gabon 44, Cyperaceae: 94, 2012, do not agree with al., Plants of the Sudan and S. Sudan: 112, 2015. – Lye & Thery of lawns and open grassland, often becoming dominant; rice fields; narrow ovoid, 2,5 × 1,5 mm wide; spikelets 1-flowered; glumes trigonous, ridged, 1,5 mm wide, densely clothed with dark purplish striate sheaths; culms many, closely arranged, 60–80 cm tall, 2 mm Ø, trigonous-flattened, grooved, smooth, base thickened and covered by sheaths; sheaths long, cuspidate, purplish, the lower ones bladeless, the upper 1–2 with short blade; blades to 15 mm long, 2–3 mm wide, flat, cuspidate; inflorescence of 1 dense spike, cylindrical, 10–14 mm long, 7 mm wide; spikelets numerous, spreading, elliptic-ovate, each 3 mm long, 1-flowered. Humid grassland; 1500 m alt. Close to *K. melanosperma*. Known only from the type (A. Cardoso s. n.; 1929–1930).


**K. carinalaevis** (Lye & Mesterházy) Hyugh

Perennial herb; rhizome horizontal or obliquely creeping, woody, thick, densely clothed with dark purplish striate sheaths; culms many, closely arranged, 60–80 cm tall, 2 mm Ø, trigonous-flattened, grooved, smooth, base thickened and covered by sheaths; sheaths long, cuspidate, purplish, the lower ones bladeless, the upper 1–2 with short blade; blades to 15 mm long, 2–3 mm wide, flat, cuspidate; inflorescence of 1 dense spike, cylindrical, 10–14 mm long, 7 mm wide; spikelets numerous, spreading, elliptic-ovate, each 3 mm long, 1-flowered. Humid grassland; 1500 m alt. Close to *K. melanosperma*. Known only from the type (A. Cardoso s. n.; 1929–1930).


**K. bulbosa** P. Beauv., *non* Cyperus bulbosus Vahl – Our compilation follows the circumscription proposed in Flora of Tropical East Africa, Cyperaceae: 336–337, 2010, and by Darbyshire & al., Plants of the Sudan and S. Sudan: 112, 2015. – Lye & Thery in Flore du Gabon 44, Cyperaceae: 94, 2012, do not agree with al., Cat. pl. vascul. Burkina Faso: 51, 2012; Masharabu & al. in Adansonia, in Flore du Gabon 44, Cyperaceae: 94, 2012, do not agree with al., Plants of the Sudan and S. Sudan: 112, 2015. – Lye & Thery of lawns and open grassland, often becoming dominant; rice fields; narrow ovoid, 2,5 × 1,5 mm wide; spikelets 1-flowered; glumes trigonous, ridged, 1,5 mm wide, densely clothed with dark purplish striate sheaths; culms many, closely arranged, 60–80 cm tall, 2 mm Ø, trigonous-flattened, grooved, smooth, base thickened and covered by sheaths; sheaths long, cuspidate, purplish, the lower ones bladeless, the upper 1–2 with short blade; blades to 15 mm long, 2–3 mm wide, flat, cuspidate; inflorescence of 1 dense spike, cylindrical, 10–14 mm long, 7 mm wide; spikelets numerous, spreading, elliptic-ovate, each 3 mm long, 1-flowered. Humid grassland; 1500 m alt. Close to *K. melanosperma*. Known only from the type (A. Cardoso s. n.; 1929–1930).
Kyllinga Cartilaginea

Perennial herb 15–60 cm tall, with scale-covered stolons or rhizome 3–5 mm Ø; roots smelling aromatic; culms spaced or dense, 15–73 cm long, 1,2–3 mm Ø, trigonous, glabrous; leaves to 55 cm long; lower sheaths purple to red, 1–12 cm long; blade 20–55 cm long, 1,5–5 mm wide, scabrid on margins and midrib; inflorescence a sessile white globose or ovoid head 0,8–1,8 × 0,9–1,4 cm; spikelets many, densely packed, narrowly ovoid, 4–5,8 × 1,1–1,3 mm, 2-flowered; glumes with keel with few to many teeth.

Forest, coconut groves; beach crest; dunes; Brachystegia woodland; occasionally more inland in riverine situations; on sandy soil; 0–200 m alt.

Madagascar.


syn.: Cyperus cataphyllatus (Huygh & Schouppe) Huygh

Perennial herb with ascending rhizome sympodially branched, 0,7–0,14 mm Ø, with conspicuous cataphylls 1,2–2 cm long, greyish to pale brown with purple nerves; culms 0,6–63 cm long, 0,5–1 mm Ø, usually distal on rhizome, glabrous, trigonous, ridged; leaves 3–4 per culm; sheaths pale green on rear side, translucent front side, often with reddish dots, densely striate towards base; lower leaves reduced to pale brown sheaths with purple venation; upper 1–2 leaves with blade 2–9 cm long, 1,1–2,5 mm wide, margin scabrid and also midrib towards apex; inflorescence capitulate, with 1 subglobose greenish white spike 3,5–7,5 mm Ø; spikelets 10–30, 2,5–3,7 × 1–1,7 mm, broadly lanceolate, acute, each with 2–3 glumes and 1 flower; keel of glumes spinulose.

Swamps; banks of small rivulets, mostly in shade on margins of swamps; banks of small rivulets, mostly in shade on margins of swamps; banks of small rivulets, mostly in shade on margins of swamps.

Similar to K. brevifolia.


syn.: Cyperus chlorotropis (Steud.) Mattf. & Kük.

Tufted perennial herb with culm-bases usually covered by fibrous remains of old sheaths, base bulbous, stolons absent; culms 2–21 cm tall, 0,4–0,8 mm Ø, 3-angled, glabrous; leaves 1–20 cm long, blade 5–10 cm, 0,1–0,4 mm wide, margins scabrid; inflorescence a dark purple head of 1 terminal cylindrical spike and 1–4 lateral spikes; spikelets 1,5–3 mm long, 1,3–flowered; glumes dark purple-black, keel green, excurrent.

Grassland; shallow soil over rocks; fallow fields; 1800–1900 m alt.


Very close to (Cyperus teneristolon =) Kylinga pulchella, but lacking stolons.

“A small, easily overlooked plant of bare patches in grassland where water accumulates in the rainy season” (Wood, l.c.).

Kyllinga


syn.: Cyperus aureotrismenus Mattf. & Kük.

Perennial herb 10–80 cm tall, with creeping rhizome (frequently hidden by masses of roots and fibres from old leaf-bases), stolons very rare and brownish when present; culms densely tufted, base often swollen and bulb-like, 5–30 cm long, 0,5–1,5 mm Ø, trigonous, glabrous; leaf sheath pale brown, translucent, 1,3–6 cm long, a few of the lower sheaths without blades; blade linear, flat, canaliculate or incurved, 5–35 cm long, 1,6–3 mm wide, scabrid on main and primary veins, especially above; inflorescence capitale of 1 irregular bright yellow, drying orange, head, 0,5–1 cm long, 0,5–1,3 cm wide, with 1–4 spikes, usually 1 central rounded + 2 well-developed lateral ones; spikelets narrowly ovoid, 3–4 × 0,5–1 mm, 2–3-flowered.

Lake or streamside grassland on hardpan; on thin soil overlying rock; seasonally swampy grassland; 600–1900 m alt.


syn.: Cyperus chrysanthoides (Mtot.) Huygh

Perennial herb; rhizome short, thick, woody, suberect, covered by fibrous sheath remains; stolons absent; culms 20–30 cm tall, 1,5–2 mm Ø, ± trigonous with cilia on all major ridges; leaves 4–5 per culm, 10–11 cm long, flat, 2,5–5 mm wide; sheaths only on lower 4–5 cm of culm; blades dark green, margins and midrib densely fibrillose; inflorescence a solitary dense globose spike, bright yellow to orange, 8–10 mm long, 9–12 mm wide; involucral bracts 2–3, reflexed, only spreading asunder at a wide angle, ciliate; spikelet 1-flowered, oblong-lanceolate, bright orange, 2,5–3 × 1,2–1,5 mm; keel of glumes densely ciliate.

Wooded grassland on black cotton soil; 1800–1900 m alt.

Resembling K. chrysantha (with compound 2–3-lobed spike; spikelets 2–3-flowered; involucral bracts changing different ways). Known only from the type collected in 1977 (but likely to be collected in E. Africa, incl. E. African Rift Valley grasslands).


bas.: Cyperus comosipes Mattf. & Kük.

syn.: Kyllinga chrysanthka K. Schum. var. comosipes (Mattf. & Kük.) J.-P. Lebrun & Stork

Perennial tufted herb to 52 cm tall, with short rhizome and culm-bases covered by fibrous remains of old torn sheaths; culms tufted, 8–52 cm tall, 0,5–2 mm Ø, sharply triangular, each side ridged, densely scabrid at least on ridges above; leaves to 25 cm long; sheaths red-brown; blade 5–20 cm long, 1–5 mm wide, margins strongly scabrid; inflorescence capitale (greyish) white, globose, somewhat irregular, 0,7–1,5 cm Ø, with a solitary spike
or more commonly with 1–3 lateral spikes surrounding the central spike; spikelets oblong, 3.5–6 × 1.5 mm, 2–4-flowered.

Open places in bushland; seasonally damp places in bushland and grassland; on thin soil among boulders; 700–2600 m alt.

Comprises 2 subspp. – subsp. comosipes (syn.: K. comosipes var. comosipes and var. angustata (Peter & Kük.) Napper; K. aurea Thomson 1863, nom. nud.: K. leucopocephala Boeckeler 1875, nom. illeg., non Baldwin 1825 (= K. odorata subsp. odorata), nec Cyperus leucocephalus Hassk. 1848 (= Kyllinga nemoralis) non Retz. 1788; Kyllinga eximia C. B. Clarke var. kelleri C. B. Clarke; Cyperus eximius (C. B. Clarke) Mattf. & Kük. var. kelleri (C. B. Clarke) Kük.; Cyp. cartilagineus (K. Schum.) Mattf. & Kük. var. angustatus Peter & Kük.), in trop. E. Africa; – subsp. decolorans (Kük.) Lye 1982 [bas.: K. chrysantha Schum. var. decolorans Kük.]; syn.: K. comosipes var. decolorans Lye 1983; K. decolorans Mot.; Cyperus aureostramineus Mattf. & Kük. var. decolorans (Kük.) Kük.; Cyperus decolorans (Kük.) Lye] with larger lateral pure white spikes (spike 7–10 mm), occurring in SW Tanzania.


Our map (p. 217) is provisional.


Tussocky perennial herb with very short rhizome; culms many, 5–40 cm tall, 0.4–1.5 mm 2, 3-angled, glabrous, base swollen; leaves 5–30 cm long, 2–4 mm wide, flat or incurved, milrib and margins scabrid especially above; sheaths brown to purple; inflorescence single; globoso to shortly ovate, white or grey-brown, 0.5–1.2 × 0.5–1.0 cm, with numerous crowded spikelets, each 2.5–3.5 mm long, ovate-lanceolate with oblique base, 1-flowered. Grassland and bushland; damp forest-meadows; 800–2200 m alt.


syn.: Cyperus bulipes Mattf. & Kük., incl. var. pallescens Kük.

Perennial herb with short creeping rhizome; culms densely crowded along rhizome, 10–50 cm tall, 0.8–1.5 mm 2, trigonous, glabrous or with a few hairs just below the head, base slightly bulbous; leaf sheath pinkish to purple-brown, 1.5–8 cm long; blades several per culm, very short on basal sheaths, larger higher up, green, often with minute reddish dots, linear, slightly channelled, 10–36 cm long, 1.5–2.6 mm wide, margins and midrib scabrid; inflorescence a single white globose head 0.4–1 cm 2 of 1 spike; spikelets many, narrowly ovoid, 1.8–3.8 × 0.5–0.7 mm; 2-flowered. Seasonally wet grassland; old cultivations; clearings in woodland; lawns; damp roadside banks; dying away as the ground dries; riverine forest; Acacia woodland; 0–1500 m alt.

Presence in S. Sudan, Equatoria, uncertain, perhaps a misidentification (Darbyshire & al., l.c.).

Confused with K. bulbosa that has, however, distant culms on stolons.


syn.: Cyperus leptorhachis Mattf. & Kük.

Annual densely tufted herb; culms 5–30 cm tall, trigonous, channelled, glabrous; leaves ± as long as culms; basal leaves reduced to brownish red sheaths ending in a small triangular lobe; blade flat, 5–12 cm long 1.5–2 mm wide; inflorescence Mariscus-like, a digitate fan-shaped fascicle of 1–6 roughly equal oblong spikes 8–12 × 2 mm, each with few remote obovate compressed spikelets c. 2 mm long, (1–)2–flowered, and when these fall off from the base the inflorescence appears branched.

Seasonally very humid sands; especially on rocky outcrops; dry rocky places; termite mounds in savanna (Kirchmair et al., Flora & Veget. Sudano-Sambesi: 15, 2012).


syn.: Cyperus ghanecchinatus Huygh.; Cyp. afroechinatus Lye Tufted herb with capillary stems to 40 cm tall; leaf sheaths readily splitting into black fibres; blade capillary, 0.3–0.75 mm wide; inflorescence rounded, 0.8–1 cm wide, with long-tipped white (even when dry) spikelets; glumes strongly unequal. Damp sandy ground. Near K. alba.

(K. elatior Kunth – See below under K. polyphylla Willd. ex Kunth var. elatior (Kunth) Kük.)

KYLLINGA ERECTA

in a single row along the rhizome, their bases swollen, 12–70 cm tall, 0.8–2 mm Ø, trigonous, glabrous; leaf sheaths purplish red, the basal ones without blades, 0.5–9 cm long; blades linear, flat or channelled, 2–20 cm long, 2–4 mm wide, margins and midrib scabrid; inflorescence a solitary ovoid or subglobose greenish-yellow head (= spike), 0.5–1.2 cm high, 5–8 mm Ø; spikelets many, narrowly ovoid, 2.5–3.5 × 0.8–1.1 mm, 1–2-flowered.

Wet depression; (seasonal) swamps; lake, pool and dam fringes; humid grassy zones; wet sand close to the sea; fallow land; disturbed littoral thick vegetation; disturbed savanna; waste places; in ruderal communities on loose soils; weed of cultivations, invading lawns and developing a dense mat to the exclusion of desired grass species (Burkhill, l.c.). 0–2500 m alt.

A variable species. Lye separated subsp. albescens on “fewer and shorter leaf blades and involucral bracts as well as whitish glumes and spikelets.” As regards the leaf size there is plenty of variation, none of it discontinuous (Fl. Trop. E. Afr., Cyp.; 323, 2010).

“Appears to undergo hybridization and subsequent introgression with associated species… giving rise to aberrants that are close enough morphologically to be associated with typical K. erecta… There is close relationship between K. erecta, K. brevifolia… and K. intricata” (Gordon-Gray, o.c.: 115).

Bioko/Fernando Poo, S. Tomé (Figueiredo & Smith in Bothalia 41: 52, 2011); S. Africa, Lesotho, Swaziland; Comoros, Mauritius, Madagascar.

Rhizome aromatic with a bitter taste.

Our map (p. 221) is provisional.


Perennial herb to 42 cm tall; rhizome short, horizontal and covered by fibrous remains of old basal leaf sheaths; culms tussocky 30–40 cm long, 1.5–2 mm Ø, trigonous, glabrous, base slightly swollen; leaves to 20 cm long; sheath pale red-brown, 4–9 cm long; blade 10–20 cm long, 3–8 mm wide, scabrid at least on margin and primary vein; inflorescence a single white globose head 1.3–2 cm Ø; spikelets many per cluster, ovate, 5–8 × 2 mm, 3–5-flowered; glumes large, thick, 5–7 mm long.

Grassland; thinly wooded grassland; abandoned cultivations; marshland only seasonally wet; sandy soil in bushland, on rocks, in grassland; 0–1000 m alt.

Near K. comosipes but in K. eximia: – culms 1.5–2 mm Ø (not 0.7–1.5 mm); – leaf blade 3–8 mm wide (not 1–4 mm); – flower head single, globose (not of 2–3 rounded spikes); – spikelets 5–8 × 2 mm (not 3–4 × 1–3 mm), fide Fl. Trop. E. Afr., Cyp.; 340, 2010. But the types of both are in need of study.

(K. flava) C. B. Clarke – See below under K. nervosa Steud. subsp. flava (C. B. Clarke) Lye

(K. inaurata) Nees ex Boeckeler

syn.: Cyperus inauratus (Nees ex Boeckeler) Mattf. & Kük.; Kyllinga tetragona Nees 1932, nomen; K. tetragona Nees ex C. B. Clarke 1897, non Cyperus tetragonus Hemsl. 1885 (American sp.), nec Cyp. tetragonus Elliott 1816 (American sp.).
Kyllinga inaurata

Possibly annual herb to 20 cm tall, rhizome or stolons not visible; culms solitary or 2–3 close together, 12–20 cm tall, 1.2 mm Ø, trigonous, glabrous, with base slightly widened and clothed with a few fibrous remnants of old leaf sheaths; leaves to 20 cm long; sheath to 3.5 cm long; blade linear, 6–20 cm long, 2.2–5 mm wide, margins and midvein scabrous; inflorescence capitate, white, of an ovoid main spike and usually 2 smaller basal spikes; spikelets narrowly ovoid, 3.5–4 mm long, 2-flowered; nutlet unknown.
Edge of pond; 1180 m alt
Known only from the type collected in Tanzania (T4), Tabora Distr., Nguluru area, Malongwe bridge (5°28'S × 33°38'E), 10 January 1926 (Peter 34597).

K. kilianii

Perennial herb with stolons c. 1 mm Ø; culms 19–22 cm tall, 0.6–0.9 mm Ø, trigonous, glabrous, base slightly bulbous; leaf sheath pale brown, 2.5–4.3 cm long, becoming somewhat fibrous; blade flat, 12–18 cm long, 2–3 mm wide, margins scabrid; inflorescence capitate, greenish brown, with a terminal spike 1.4–2 cm long, 6–7 mm Ø, and 1–3 smaller lateral spikes; spikelets many, dense, pale olive green, lanceolate-ovoid, 3.5–4 × 1–1.3 mm, acute. See page areas; margins of permanent swamps; c. 2000 m alt. Near K. pulchella.

K. mbitheana

syn.: Cyperus mbitheanus (Muasya) Huygh
Tufted perennial herb, base hardened; culms 5.5–19 cm tall, 0.8–1.5 mm Ø, scapose, trigonous, glabrous; leaf sheath 1.2–3.9 cm long, 1.2–2.2 mm wide, remains of old sheaths fibrous; blade to 22 cm long, 0.9–2 mm wide, canaliculate, glabrous or margins scabrid; inflorescence a white globose spike comprising over 40 spikelets, 1.2–1.5 × 1.2–1.5 cm!; spikelets 3–6 × 1.5–2.5 mm, flattened, comprising to 10 fertile flowers.
Savanna woodland; 500–1500 m alt. Near K. bruneoalba, K. microbulbosa; their distribution areas are not overlapping.

K. melanosperma

Perennial herb with long creeping branched rhizome 2–5 mm Ø; culms solitary from each node, but set close to each other, 0.12–1 m tall, 1.3–3 mm Ø, trigonous, rarely 6-angular, glabrous; leaves basal, few per culm, or one from uppermost sheath, or hardly any blade developed; sheath reddish or purple, 1.5–17 cm long; blade flat, 2–17 cm long, 3–4 mm wide, margins and midrib scabrid; inflorescence a single green to golden yellow globose to ovoid head, 0.7–1.2 cm wide, 0.6–1 cm long with many spikelets; these sessile, narrowly ovoid, 3–4 × 0.7–1.5 mm, 2-flowered.
Grassland at edge of thicket; seasonally swampy grassland; streamside grassland; roadside ditches; ± 0–1900 m alt.
S. Africa, Botswana, Swaziland; Madagascar; India, Sri Lanka, E-wards to China, Malesia, New Guinea, Philippines, NE Australia. – The specimens cited by Kükenthal (Engler, Pflanzenreich IV. 20/101: 584, 1936) from Nigeria and Bioko/Fernando Poo, are not overlapping.

(K. jubensis Chiov.) – See above under K. erecta Schumach.

K. kilianii

syn.: Cyperus kilianii (Muasya & D. A. Simpson) Lye
Perennial herb with stolons c. 1 mm Ø; culms 19–22 cm tall, 0.6–0.9 mm Ø, trigonous, glabrous, base slightly bulbous; leaf sheath pale brown, 2.5–4.3 cm long, becoming somewhat fibrous; blade flat, 12–18 cm long, 2–3 mm wide, margins scabrid; inflorescence capitate, greenish brown, with a terminal spike 1.4–2 cm long, 6–7 mm Ø, and 1–3 smaller lateral spikes; spikelets many, dense, pale olive green, lanceolate-ovoid, 3.5–4 × 1–1.3 mm, acute. See page areas; margins of permanent swamps; c. 2000 m alt. Near K. pulchella.

K. melanosperma

Perennial herb with long creeping branched rhizome 2–5 mm Ø; culms solitary from each node, but set close to each other, 0.12–1 m tall, 1.3–3 mm Ø, trigonous, rarely 6-angular, glabrous; leaves basal, few per culm, or one from uppermost sheath, or hardly any blade developed; sheath reddish or purple, 1.5–17 cm long; blade flat, 2–17 cm long, 3–4 mm wide, margins and midrib scabrid; inflorescence a single green to golden yellow globose to ovoid head, 0.7–1.2 cm wide, 0.6–1 cm long with many spikelets; these sessile, narrowly ovoid, 3–4 × 0.7–1.5 mm, 2-flowered.
Grassland at edge of thicket; seasonally swampy grassland; streamside grassland; roadside ditches; ± 0–1900 m alt.
Two varieties are distinguished in our area: – var. hexalata Lye [syn.: Cyperus melanospermus var. hexalatus (Lye) Lye], with strongly 6-angular culms, in SE Uganda; – var. melanosperma (syn.: Kyllinga vaginata Zoll.; K. fuscescens Boeckeler; K. melanosperma Nees var. plurifoliatus Kük., var. gudaluriensis Wad. Khan & R. D. Taur, and var. trispica D. D. Taur & R. I. Shaikh.); Cyperus melanospermus (Nees) J. V. Suringar var. plurifoliatus (Kük.) Kük., var. inermiensis (Cherm.) Kük., and var. perrieri

219
Kyllinga melanosperma

(Chern.) Kük.; Kyllinga imerinensis Chern., incl. var. perrieri (Chern.) Chern.; K. perrieri Chern.,] with leaves mostly well developed. – Subsp. bifolia (Miq.) Karthik. (bas.: K. bifolia Miq.) is recognised for plants from SE Asia, India to New Guinea. The species is “best recognised by its general facies, namely: congested rhizomes that form uniseriate rows or crowded branched masses, or both; tall triangular closely packed culms … with solitary golden green spikes subtended by 3–4 rather short, stiff bracts, at first erect, but later reflexed…” (Gordon-Gray o.c.: 117). Seems close to Cyperus aromaticus [= K. polyphylla] from Asia, further studies needed to determine if they are conspecific. – Koyama 1985, for Ceylon, mentions that identification is facilitated by the strong odour given off when the rhizome is damaged (Gordon-Gray, l.c.).

Note in Fl. Trop. E. Africa, Cyper.: 325, 2010, by Beentje, who was “unable to find any real differences between K. erecta and K. melanospesma”. Haines & Lye (o.c.) “key the taxon out on glume keel teeth in melanospesma, but that is a very inconstant character; most specimens do not show these… the second character is the number of involucral bracts, but there is continuous variation in these… It is possible the two species are synonymous…”.


syn.: Cyperus microbracteatus (Lye) Lye

Perennial herb to 31 cm tall with short rhizome; culms with small swollen bases covered by fibrous remains of old leaf sheaths; culms 15–30 cm long, 0,3–0,7 mm Ø, bluntly triangular, glabrous below, minutely hairy above; leaves 2–3 per culm, to 8 cm long; sheath green to reddish-brown, villous; blade linear, – 1–8 cm long, 1–2 mm wide, densely hairy beneath and along margin; inflorescence a white (tinged with pale green or purplish) globose head (spike) 4–6 mm Ø; spikelets lanceolate, 2,5–3 × 0,6–0,8 mm, 2–3–flowered.

Miombo woodland on red loam; c. 1080 m alt. Only known from type collected in 1956.


syn.: Cyperus microbulous (Lye) Lye

Perennial herb to 22 cm tall; culm base swollen, brown, c. 2 mm thick, sometimes with the previous year’s base persisting beside the new culm bases, thus forming colonies; culms loosely to densely tufted, 7–20 cm long, 0,3–0,9 mm Ø, trigonoous, glabrous; leaf blade flat, to 12 cm long, 0,5–2 mm wide, margin and primary vein scabrid; inflorescence 1 globose white head, sometimes irregular in outline, 3–8 mm Ø; spikelets 2–3 mm long, 1–3–flowered.

Shallow damp soil on edge of rock basin; 1150 m alt. Only known from the type collected in 1966.


Kyllinga microcristata


Perennial herb with short rhizome; culms many, densely set, 30–50 cm long, 0,5–1 mm Ø, trigonous to somewhat flattened, glabrous; leaves 3–4 per culm, only 2–3 with blades; lower sheaths purplish, upper greenish, glabrous; largest blades 5–12 cm long, 1,5–2,5 mm wide, flat, scabrid at least on margin and midrib near their tips; inflorescence a congested greyish to pale brown head 1×1 cm, consisting of 2–3 crowded spikes; central spike 6–8 × 4 mm, cylindric with numerous crowded spikelets; lateral spikes much shorter; spikelets bisexual, 1,8–2 × 0,6–0,7 mm, 1–flowered; only young achene seen.

Roadside in agricultural area; 500 m alt. Only known from the type collected in 1995.

Near K. pumila Michx.


syn.: Cyperus microstylus (C. B. Clarke) Mattf. & Kük.

Perennial tufted herb (not annual!) with culms 4,5–20 cm long, 0,3–0,5 mm Ø, trigonous, glabrous, base thickened, often covered in dark brown sheath fibres; leaf sheath pale brown, 0,5–1,5 cm long; blade 2–10 cm long, 1–1,8 mm wide, margins and midrib scabrid; inflorescence capitiate, usually consisting of 3 globose or ovoid spikes, the central one 3–4 × 2,5–3 mm; spikelets ovoid, 1–1,3 × 0,6 mm, 1–flowered.

Seasonally wet shallow soil over rock; bushland; silty or sandy soil; sandy plain with scattered Acacia tortilis, Balanites; 200–1670 m alt.

Socotra.


syn.: Cyperus mindoresensis (Steud.) Huwyg; Kyllinga mindoresensis Steud. 1854; K. monoccephala Rottb. 1773 (excl. syn. Cyperus kyllingia Endl. 1842), non Cyperus monoccephalus Roxb. 1832; Kyllinga monoccephala Stokes 1812, nom. illeg.; K. monoccephala var. hirtulis Boeckeler, var.
**KYLINGA NEMORALIS**


Perennial herb to 30 cm tall with long slender branching rhizome 1–2 mm Ø, covered by brownish scales, pellate and fragrant but easily broken on removal from soil (Gordon-Gray, o.c.: 117); culms rather spaced along rhizome, or sometimes dense, 8–25 cm long, 0.8–1.5 mm Ø, trigonous, glabrous; leaf sheaths pale to mid-brown, 1–6 cm long; blades dark green, flat, 10–21 cm long, 2–5 mm wide, margins and midrib scabrid; inflorescence 1 globose or ovoid sessile head (rarely with 1–2 smaller spikes) 3–8 mm Ø; spikelets many, narrowly ovoid, 2–2.5 × 0.6–1.1 mm, 1–2-flowered; keel of glumes narrow, winged, spinulose.

Forest with open canopy; forest clearings; shaded places in secondary forests; also weed of secondary forest and disturbed habitats; humid places; along forest paths; 0–1200 m alt.

Tropical and subtropical Old World. Principes (Bothalia 41: 52, 2011); S. Africa (Natal: moist partly shaded disturbed coastal situations); Madagascar, Indian Ocean islands; Pakistan, India, Sri Lanka – SE Asia, China to Japan, S to Malaysia, Philippines, NE Australia; naturalized in Hawaii, West Indies, C. & S. America (Braz.: Costa & al. in Rodriguésia 63: 797, 2012).

Without rhizome may be confused with *K. brevifolia*.


Perennial tufted herb with short rhizome and swollen culm base (aromatic, smelling of eucalyptus or ginger), often surrounded by fibres from disintegrated leaf bases; culms tufted, 7–50 cm long, 0.8–1.5 mm Ø, trigonous, glabrous; leaf sheath pale brown, more reddish near base, 1–6 cm long, the lowermost sometimes bladeless; blade linear, flat or grooved, 7–35 cm long, 1–2.5 mm wide, scabrid near tip; inflorescence capitule of 1 conical to cylindrical spike, yellow green turning dark brown to black, 0.5–1.2 cm × 5–8 mm (rarely with a small subsidiary spike); spikelets many, 2.2–3.5 × 0.9–1 mm, 2–3-flowered.

Shallow soil over rock; rocky outcrops; seepage zones; seasonally swampy grassland, especially on black cotton soil; wooded savanna; degraded sandy bushland; c. 50–2700 (~2950) m alt.


**KYLINGA NERVOSA**


syn.: *Cyperus ngothe* (Mtot.) Huygh

Thickly tufted perennial herb, basal part woody, covered by old leaf sheaths and old grey to dark grey sheath fibres; sheaths limited to the lower 2–2.8 cm, light grey to light green; blades 10–12 cm long, 2.5–2.8 mm wide, margins and midrib with long spinules; culms 13–22 cm tall, 1.5–2 mm Ø, greenish, quadrangular; inflorescence of 1 bright yellow to light yellow sub-hemispheric spike 4–7 × 6–10 mm; spikelets oblong, 4–4.5 × 0.6–1.2 mm, 1–2-flowered.

Swamp; river plain; volcanic hill; thick bushy ground near stream. Near *K. chrysantha*, *K. chrysanthoides*.


Perennial herb with short rhizome and fibrous wiry roots; culms 12–30 cm tall, compressed-trigono, base bulbous covered by old fibrous blackish leaf sheaths; leaves as long as or longer than culm, 3–3.5 mm wide; inflorescence a dense globose-ovate spike, 6 mm Ø; spikelets many, ovate-oblong, 3.5–4 mm long, each perfecting 2 nutlets; keel of glumes smooth, acuminate, wingless. Described from Malawi, without ecology: Buchanan nº 1428, s. l. According to Fl. Trop. E. Afr., idem., the Tanzanian material (Peter 32733, 45633, 15367) from Usagara and W Usambara, looks different, with subsidiary spikes at inflorescence base. This material keys to *K. oblonga* or *K. crassipes*. – Taxonomic status uncertain; not mapped by us.


Perennial herb with short woody rhizome, covered by black scales; culms densely set in a row along the rhizome, 30 cm tall, 1.7–3 mm Ø, presumably glabrous; leaves to 30 cm long, 1.7–3 mm wide, flaccid; inflorescence of 1–3 spikes, the central one oblong, dense, 1–1.2 cm × 4–5 mm; spikelets ovoid, compressed, 2.5–3 mm long, 1–2-flowered; glumes with green hispid-ciliate non-winged keel.

Ecology unknown.

Known from SE Kenya and NE Tanzania (but this material not seen for Fl. Trop. E. Afr.).
“There has been confusion about the taxa nervosa and oblonga. I [Beentje] believe oblonga and nervosa are distinct enough to be treated as species in their own right…” (Fl. Trop. E. Afr., l.c.). In K. nervosa the head is greenish black, with 4–5 involucral bracts and 1 spike, glumes hairless. In K. oblonga the head is green-white, with 4–5 involucral bracts and 3 spikes, glumes hispid-ciliate.


Gordon-Gray (o.c.: 117) summerized the former systematic treatment as follows. “K. odorata is based on American material and *K. cylindrica* on a gathering from India. Gettlife [Studies in Cyperaceae in southern Africa: 10. The genus *Kyllinga* Rottb. in J. S. Afric. Bot. 49: 261–304, 1983] states that African plants have been assigned to both species. Kükenthal (o.c.: 591–595, 1936) regarded these species as variants, recognizing each at vari-etal level within *Cyperus sesquiflorus*. He relegated *K. odorata*, with a wider inflorescence and longer spikelets, to the typical variety, placing *K. cylindrica* within the variety of that name. R. W. Haines & Lye (1983) have subsequently adopted subspecific ranking for the infraspecific categories (implying allopatric distributions?). These authors state that the typical subspp. is larger in all parts than is subspp. *cylindrica* with a spinescent keel to its glumes. Gettlife does not believe it advantageous to discriminate at infraspecific level …”.


Beentje in Flora of Tropical East Africa, Cyperaceae: 340–342, 2010, recognizes 3 varieties within *Kyllinga odorata*, with the comment that two of them (var. odorata and var. major) should possibly be united. These varieties are: – var. *odorata* [syn.: *Cyperus sesquiflorus* Torr.; *Cyperus cylindrica* (Torr.) Mattf. & Kük. subsp. *sesquiflorus*], with glume keel spiny; – var. *major* (C. B. Clarke) Chiov. [bas.: *Kyllinga cylindrica* Nees var. major C. B. Clarke; syn.: *Kyllinga appendiculata* K. Schum.; *Kyllinga odorata* Vahl subsp. *appendiculata* (K. Schum.) Lye; *Cyperus sesquiflorus* (Torr.) Mattf. & Kük. var. major (C. B. Clarke) Lye, and subsp. *appendiculata* (K. Schum.) Lye, and var. *fallax* (Kük.). *Kyllinga odorata* Vahl var. *fallax* Kük., with glume keel glabrous (according to Beentje, seen in only 2 specimens examined!); these two varieties have leaf blade > 3 mm wide, and spikelets 3–4.5 mm long, whereas the 3rd variety, viz. var. *cylindrica* (Nees) Kük. has leaves < 3 mm wide and smaller spikelets, i.e. 2–3 mm long [bas.: *Kyllinga cylindrica* Nees; syn.: *Cyperus sesquiflorus* (Torr.) Mattf. & Kük. var. *cylindrica* (Nees) Kük. incl. *fa. globosus* Kük., and subsp. *cylindrica* (Nees) T. Koyama; *Kyllinga odorata* Vahl subsp. *cylindrica* (Nees) T. Koyama.]

For further synonyms under *Cyperus sesquiflorus*, see World checklist cited above. Gordon-Gray (i.e.) already did not find it “advantageous to discriminate at infraspecific level for southern African plants”; we follow this sound concept also for the rest of Africa, in as much as Verloo (Webbia 69: 217, 2014) mentions “an upcoming monographic study of (sub-)genus *Kyllinga* (Hyugh, in prep.)” which “also applies a broad species concept without recognition of any infraspecific taxa”.  

**Kyllinga oblonga**

In habit resembling K. odorata Vahl. Perennial herb with very short woody rhizome; culms solitary, 14–20 cm tall, flattened-trigonous, smooth, leafy above, somewhat thickened at base; leaves much shorter than culms; sheaths rusty brown; blades 2 mm wide, long-acuminate, midrib and margins spinulose-scabrid; inflorescence of 1 spike, globose, dense, 7 mm Ø; spikelets many, lanceolate-ovate, flattened, 4.5 mm long, 2-flowered. Dry stony grassy places; 1830 m alt. Near K. odorata.

syn.: Cyperus ridleyi Mattf. & Kük.

Perennial herb with an erect rhizome; culms densely clustered, 10–40 cm long, 0.8–1.2 mm Ø, triquetrous, glabrous, (when producing viviparous spikelets often decumbent); leaf sheath purplish to reddish-brown, 1–12 cm long; blade 8–15 cm long, 1–2 mm wide, margin and primary vein scabrid; inflorescence a solitary spike c. 5 mm Ø, of 6–15 golden spikelets; these narrowly ovoid, 4.7–1.15 mm, usually 2-flowered; often with leafy young plants arising from the spikelets.

Swampy stream-sides; near streams in marshy places; 1050–1900 m alt. S. Africa.

Closely related to Kyllinga brevifolia but distinct in viviparous spikelets with young plants sprouting. Also near K. erecta: “its [K. pauciflora] limited distribution on the outskirts of stands of that species suggests a definite possibility of pseudovivipary in conjunction with hybridisation” (Gordon-Gray & al., l.c.).

“...brevifolia and K. erecta, themselves hardly separable: it differs from both in the longer, elongate-lanceolate glumes; the smaller number of spikelets may be accidental” (Clarke, Fl. Trop. Afr. 8: 273, 1901).

bas.: Cyperus peteri Kük.

Perennial herb with short thick rhizome; culms several closely together, 20–60 cm long, 1.3–2 mm Ø, trigonous, glabrous, leaf sheaths grey to brown, 1–6 cm long, many at base, only slightly splitting up into fibres; blades flat or folded, 5–25 cm long, 2.4–4 mm wide, margin scabrid; inflorescence an ovoid! spike 1–1.5 × 0.6–1 cm; spikelets ovoid, 3–5.5 × 1.5–2 mm, 2–3-flowered.

Swamps; lake margins; 1100–1250 m alt. Not collected in Tanzania since >70 years.


syn.: Cyperus ciliatopilosus Mattf. & Kük., incl. var. longifolius (Kük.) Kük. and var. rhizomatosis Kük.

Perennial herb with short rhizome; culms densely tufted, bases covered in dark brown fibres, 15–50 cm long, 1.3–2 mm Ø, sharply 3-angled, scabridulous; leaf sheath pale brown, darker at base, 1.5–8 cm long; blade linear, recurved or channelled, 2–33 cm long, 5–7 mm wide, primary vein and margin scabrid; inflorescence of 1 hemispheric white or cream (occasionally greenish yellow) head of 1–3 spikes 0.8–1.5 cm Ø; spikelets narrowly ovoid, 4–4.8 × 1.2–1.5 mm, 2-flowered.

Grassland dry or wet; wooded grassland; woodland; stony soil; damp depression; 900–2100 m alt.

K. polypylla Willd. ex Kunth 1837, non Cyperus polypyllus Vahl 1805 (= Cyp. bulbosus), nec Kyllingiella polypylla (A. Rich.) Lye; incl. K. elatior Kunth

Comments:

K. polypylla Willd. ex Kunth is a polymorphic species treated by authors of floras and flora lists in different ways. Clarke (Fl. Trop. Afr. 8: 275–277, 1901) cites K. elatior Kunth from SE tropical Africa, but remarks that “there is very little to distinguish this species from K. polypylla, Kunth, and K. melanoperma, Nees, but the cylindric middle-spike. I have moved all the Angola examples (K. aromatica, Ridley), which I formerly called K. elatior, into K. polypylla.” Then, under K. polypylla Willd. ex Kunth, Clarke gives as synonyms: K. macrantha Boeckeler, K. aromatica Ridl.; K. planiceps C. B. Clarke, as well as K. elatior sensu Rendle from Angola (See above), with the remark that “this species hardly differs from K. melanoperma but by the more numerous bracts”. Clarke distinguishes K. teres C. B. Clarke from WC Zaire, remarking that “this might be treated as a variety of K. polypylla Kunth, which it is closely allied to in all respects. But K. polypylla has the stem sharply triquetrous at the top, without any approach to the terete stem of K. teres”. This series of species is followed by K. senegalensis C. B. Clarke with a flower head of 5 spikes with small spikelets, each producing 1 nut, and occurring on the “Upper Senegal” (Lécard 215), i.e. in actual Mali. Then follows K. melanoperma Nees already mentioned.

Kükenthal (in Engler, Pflanzenreichen IV, 20/101: 581–583, 1936) treats this group of species under Cyperus section Eu-Kyllinga subsection Pingues. He maintains Cyperus senegalensis (C. B. Clarke) Mattf. & Kük. based on Kyllinga senegalensis C. B. Clarke, with synonym K. sphaerocephala var. brunnescens C. B. Clarke, although with the comment that it is very close to (“parum distans”) Cyp. aromaticus (Ridl.) Mattf. & Kük., the new combination for Kyllinga polypylla Willd. ex Kunth (bas.: Kyl. aromaticca Ridl.), with K. jubensis Chiovenda 1932 as synonym.

Within this taxon he distinguishes: – var. elatus (Steud.) Kük. (Kyllinga elata Steud.), with very short internodes to the rhizome and inflorescence of 5 congested spikes, and occurring in E. Africa – Comoros – Seychelles; – var. eliator (Kunth) Kük. (Kyllinga eliator Kunth; K. polypylla var. eliator Kük.) occurring in Africa from Cameroon – Zaïre E-wards and then S-wards to S. Africa, with inflorescence of 1–3 spikes 10 mm long; – var. teres (C. B. Clarke) Kük. (Kyllinga teres C. B. Clarke), with inflorescence of 1 spike 5–6.5 mm long, occurring in Zaïre, and also with a form aphyllus (Cherm.) Kük. (Kyl. teres var. aphylla Cherm.) with leaves reduced to sheaths and short inflorescence bracts, it is recorded from Central African Rep. (Tissarant 155); – var. repens Kük. with long creeping rhizome, occurring in Tanzania, E Usambaras (Peter 18031); – var. brachyrhizomatous Kük. with very short rhizome, short culms (4–15 cm) and glume keel spinulose collected in Tanzania, Uluguru Ms. On the other hand Kükenthal recognizes Cyperus pinguis (C. B. Clarke) Mattf. &
Kyllinga microcristata
Kyllinga microstyla
Kyllinga nemoralis
Kyllinga nervosa
Kyllinga ngothe
Kyllinga oblonga
Kyllinga odorata
Kyllinga pachystyla
Kyllinga pauciflora
Kyllinga peteri
Kyllinga platyphylla
Kyllinga polyphylla
Kyllinga polypylla

K. pinguis (C. B. Clarke) as a distinct species, with a long creeping rhizome with short culms 5–12 cm (in C. aromaticus 30–40 cm) and inflorescence of 1 spike, and occurring in E-C Africa (Uganda – Kenya, Nairobi – Tanzania, Usambara Mts.).

A new attempt to classify this group of taxa is made by S. S. Hooper in Flora of West Tropical Africa, ed. 2, 3/2: 303–307, 1972 (under Kyllinga). She maintains Kyl. elatior Kunth (Cyp. aromaticus var. elatior) with creeping rhizome and cylindrical inflorescence subtended by very long bracts, recorded from Mt Cameroon and Fernando Poo. But she transfers Kyll. polypylla Willd. ex Kunth [= Cyp. aromaticus (Ridl.) Mattf. & Kük.] under Kyl. erecta Schumach. as K. erecta var. polypylla (Kunth) S. S. Hooper, with K. senegalensis C. B. Clarke as a possible synonym. Inflowrescence head of several spikes with more than 3 bracts, and distinctly ciliate keels to the glumes; occurrence from W Africa/ Ghana E-wards throughout tropical and S. Africa, also present in Madagascar and the Mascarenes.

Subsequent authors of florals and floras lists (e.g. Haines & Lye, 1983) maintain Cyperus aromaticus, Cyp. pinguis and/or Cyp. melanospermus (Nees) V. Suringar subsp. elatus (Steud.) Lye [syn.: Cyp. aromaticus var. elatus (Steud.) Kük.].

In the World Checklist of Cyperaceae, Govaerts & Simpson (2007: 540–544) distinguish Kyllinga elatior Kunth [with K. pinguis C. B. Clarke, Cyperus aromaticus var. elatior (Kunth) Kük., as synonym], and Kyll. polypylla Willd. ex Kunth [Cyp. aromaticus (Ridl.) Mattf. & Kük.; Kyllinga erecta var. polypylla (Willd. ex Kunth) S. S. Hooper, etc., as synonyms].

It is worth noting that Gordon-Gray in “Cyperaceae in Natal” (1995: 111–120) distinguishes 2 species, viz. Kyllinga elatior Kunth, and K. polypylla Willd. ex Kunth. This author describes K. elatior (syn.: K. pinguis C. B. Clarke) as a plant of “soft texture” with “triquetrous culms each carrying a central cylindrical to elliptic spike, sometimes accompanied by 1 or 2 shorter lateral spikes, surrounded by 4–6 long (up to 290 mm), bracts that spread at right angles … leaf blades … usually short and few per culm, lemon-scented when bruised…”. This plant occurs in Natal, whereas K. polypylla (K. aromatica Ridl.) seems to be introduced to Durban, the only place in Natal where it occurs.

For Flora of Tropical East Africa, Cyperaceae (2010: 318–319) Beentje chooses to follow Kükenthal (1936). He treats Kyl. polypylla Kunth in a wider sense, comprising 2 vars., viz. var. polypylla, and var. elatior (Kunth) Kük. (with K. pinguis C. B. Clarke as synonym). K. elata Steud. [Cyperus aromaticus (Ridl.) Mattf. & Kük. var. elatus (Steud.) Kük.] is cited under “Species of uncertain occurrence” (p. 346); the type is from Comoro Isl. “The specimens identified as this taxon at Kew seemed to me to be K. polypylla”.


K. ornata occurs in SE Asia to Japan, and probably in Indonesia, New Guinea, and Australia (see Cicerci, 1961). It is a summer annual, growing to 30 cm in height and with leaves up to 4 mm or 6 mm wide. The inflorescence is a dense globular head, 1 cm or 1.5 cm in diameter, with numerous small flowers arranged in a ring around the axis. The nutlets are brown, 0.5 mm to 1 mm long, and contain a single seed. The leaves are linear to lanceolate, up to 15 cm long and 0.5 cm to 1 cm wide. The plant is often found in wet areas such as rainforests, swamps, and along streams.
K. pseudobulbosa

Perennial herb to 17 cm tall with short thick woody rhizome; culms solitary 10–16.5 cm long, 1.5–2 mm Φ, subtriangular, glabrous, with bulbous base covered by fibrous remains of leaf sheaths; leaves 6–8 per culm; sheath light green, to 5 cm long; blade linear, flat, 8–11 cm long, 3–4 mm wide, apex obtuse; inflorescence whitish to sulphur yellow, with 1–3 spikes asymmetric, 1–1.4 × 0.9–1.4 cm, the laterals smaller than the central one; spikelets many, densely set, lanceolate, 3–4 × 1–1.2 mm, 1-flowered.

Grassland on sandy soil; garden lawn; 1050 m alt.

K. pulchella


Cyperus brachilema (Steud.) Mattf. & Küb.; Kyllinga brachilema Steud.; K. arosanguinesae Steud.; K. transitoria (Kük.) T. Koyama; K. anomalus Peter & Küb. 1935 in sched., nom. inval., non Cyperus anomalus Steud. 1854 (= Cyп. javanicus Houtt.); Cyperus teneristolon Mattf. & Küb., and incl. var. robustior (Kük.) Kük.; Cyperus teneristolon Kük.

Short-lived perennial with long rhizome or long slender stolons < 1 mm Φ (easily broken off during collecting); culms tufted, 10–50 cm long, 0.6–1.4 mm Φ, 3-angled to almost terete, glabrous; leaf sheath pale red-brown, 2–4.5 cm long; blade 7–30 cm long, 1.6–3 mm wide, scabrid near the very apex; inflorescence dark red of 1 cylindrical central spike and 1–3 smaller lateral ones (rarely a single one), to 1 cm × 6–6 mm and sometimes 1–2 stalked for 1.5 cm; spikelets many, oblong-ovoid, 2–3 × 1–1.3 mm, 2–3-flowered.

Seasonally swampy grassland; seepage zone on rock; black clay soils; perennial or annual herb, sweet-scented, with slender rootsystem; culms rather densely tufted, 8–45 cm long, 0.7–1.2 mm Φ, trigonous, glabrous; leaf sheaths reddish or purple, more upper ones green, 1–9 cm long, the lower ones covering culm bases and bladeless; blades flat or channelled near midrib, 7–25 cm long, 2–3.2 mm wide, midrib and margins scabrid; inflorescence an irregular greenish head of 1 central ovoid spike 5 × 8 × 4–6 mm, and 1–2(3) smaller lateral spikes, with spikelets on narrow receptacle; spikelets narrowly ovoid, 2–2.5 × 0.6–0.9 mm, 1-flowered; glumes with a conspicuous green ciliolate keel.

Short-grass damper more lofty mountain pastures with Cleome, etc.; stream-sides; ditches; hilly hollows; sandy river-beds or sandbanks; grassland; seasonally wet ground; rice fields; damp rocky habitats; inclusions (Pomerański & Brown in Candollea 50: 358, 1995; Tindano & al. in Bois Fœtits Trop. 325/3: 27, 2015); savannas; also ruderal; arable lands; 0–2000 m alt.

African, East Africa, Madagascar, N. America, E & S USA south to N Argentina, S. America, West Indies (Acevedo-Rodríguez & Strong, Cat. seed plants West Indies: 279, 2012; K. tenuifolia is considered as a synonym). – A weed of lawns and turf … it is evidently the only Kyllinga species native to the continental U.S.A.” (Nacci & Ford, Sedges: … uses: 49, 2008). Similar to K. microcristata. K. stenophylla (See below) is doubtfully different from K. pumila.
**KYLLINGA**


**syn.:** *Cyperus sp. nov.* by Lye in Cable & Cheek, Pl. Mt Cameroon: 156, 1998.

Perennial herb 30–50 cm tall with short horizontal rhizome; culms crowded, 5–30 cm long, 0,3–0,4 mm ∅, trigonous, glabrous; leaves from the lower 8 cm only, 3–4 per culm, only 2–3 perfecting blades; lower sheaths pale reddish-brown, upper greenish, all glabrous; largest blades to 10 cm long, 0,5–1,3 mm wide, flat, green, usually scabrid at least on margin and midrib near tip; inflorescence of 1 terminal globosus whitish congested head c. 3 mm ∅; spikelets ovate, 1,5–1,7 × 0,7–0,9 mm, 1-flowered; glumes turning reddish brown when fruiting.

On rocks and stones in or beside forest streams and rivers, submerged during wet season; 500–1350 m alt. (for further information See: Cheek & al., Plants Kupe…: 49–51, 2004, with drawing Fig. 5 of a rhyophyte community p. 51). Similar to *K. brevifolia*.


**K. senegalensis** (C. B. Clarke 1902); Berhaut, Fl. Ill. Sénégal 9: 257, 1988 (under *K. erecta*).

**syn.:** *Cyperus senegalensis* (C. B. Clarke) Mattf. & Kük. 1936, non C. B. Clarke 1894, nom. nud. (= *Cyperus conglom-eratus* subsp. *conglomeratus*).

Probably a synonym of *Kyllinga polypylla* Willd. ex Kunth – See above under that species (p. 224).

Described from a specimen collected on the Upper Senegal (the Haut Sénégal, actually situated in Mali; Lécard 215).


**bas.:** *Cyperus cartilagineus* (K. Schum.) Mattf. & Kük. var. *serratangula* Peter & Kük. in Engler, Pflanzenreich IV. 20/101: 609, 1936. Type: Peter 45780, Tanzania, Dodoma Distr., “Tschaya gegen Tschaya-See” (Tschaya towards Lake Chaya), 5°37’5 × 34°03’5'E (Lake Chaya), 1240 m alt.; 4 January 1926 (type holo B; iso: B).

**syn.:** *Cyp. serratangulus* (Peter & Kük.) Huygh, Phytotaxa 166: 40, 2014.

Near *Kyllinga cartilaginea* K. Schum. Culm 50 cm long, scabrid in upper part; spikes 1 cm ∅; glumes membranous with purple glands ?, strongly minutely setose-ciliate on the narrowly winged keel; nutlet oblong, 2/3 of length of glume.

Ecology not recorded; 1240 m alt.

Under *Kyllinga cartilaginea* (Fl. Trop. E. Afr., Cyper.: 331, 2010) Beentje commented on this variety: “I have been unable to find the type at B, and therefore am unable to decide on the proper status of this taxon”.

Not mapped by us.


**syn.:** *Cyp. sphenoeuccus* (Lye) Lye Perennial herb to 40 cm tall, with short horizontal rhizome; culms crowded, bases bulbous, 18–40 cm long, 0,4–1 mm ∅, *terete except near apex* where bluntly triangular, glabrous, basal parts covered by fibrous old leaf sheaths (pale to dark brown, 1–6 cm long); blade flat or folded, linear, 5–15 cm long, 1–2 mm wide, margin and midrib scabrid; inflorescence of 1 whitish globose spike 0,6–1,2 cm ∅; spikelets many, narrowly obovoid, 4–4,8 × 1–1,2 mm, 1–2-flowered, glumes unwinged.

*Brachystegia* woodland in sandy or black cotton soil; seasonally waterlogged grassland; 990 m alt.

Also recorded from Upland Kenya by Lye 1972, and Haines & Lye 1983, but no locality cited.

Related to *K. crassipes* but spike spherical and larger, and spikelets and glumes larger in *K. sphenoeuccus*.

**K. sphaeroccephala** Boeckeler 1875, non *Cyperus sphaeroccephalus* Vahl 1805 – (syn.: *Cyperus purpureoglandulosus* Mattf. & Kük.) See above under *K. bulbosum* P. Beauv. (syn.: *Cyperus richardii* Steud. 1854), with comment at end of text p. 214.

Kyllinga sphaerocephala

1936. See under Kyllinga polyphylla. Wild ex Kunth 1837 var. polyphylla above (p. 226).


Annual or short-lived perennial herb with slender root-system; culms 2–3 cm long, 0.5–0.8 mm Ø, trigonous or terete near base, glabrous; leaf sheath pinkish to red 1–6 cm long; blade linear, flat or slightly channelled, 4–25 cm long, 1–2.5 mm wide, midrib and margins scabrid; inflorescence of 1 sessile irregular spike, 3–8–3–8 mm; spikelets many, broadly ovoid 2.5–4 × 1.3–1.8 mm, 1-flowered; “glumes with papery broadly dentate wings shaped like a cockscomb”, apex acuminate. Forming low prostate mats. Weed of cultivation; streambanks; lakeshores; open grassland; falls; along ways; forest floor. Culms swollen at base, fragrant, sold in markets.

Kyllinga stenophylla

Known only from? Rwanda, W Cameroon, Gabon. “Not seen since 117 years” (Flore du Cameroun, l.c., 2013) in spite of intense prospection made in 1992–1994. Presence in Rwanda needs confirmation, and specimens Auquier 3436, Bouxin 1171, Christiaensen 1670, Van der Veken 10951 need revision, perhaps also those from W Cameroon, viz. Peuss 1380, Mildbraed 5340, 10656. Kyllinga stenophylla K. Schum. ex C. B. Clarke is cited by Fischer & Killmann, Ill. field guide pl. Nyungwe Natl. Park, Rwanda. The illustration (photograph p. 341) does not seem to correspond with the description as the plant is leafy with rather wide leaf blades. The text also indicates a distribution in “East Africa south to Zambia”.

K. stenophylla is perhaps a very slender form of K. pumila.

Our map (p. 231) is tentative.
Cyperus triceps (Rottb.) Endl. and var. 230 1931 [= K. tisserantii (J. Presl & C. Presl) Mattf. & Kük.]

Is there confusion with Lam. [= Kyl. vaginata Indicated from Senegal and Nigeria in World Checklist of Selected lets lanceolate, 2,8 1,5


to Kylinga inselbergensis has previously been assigned

in question should be known as West Tropical Africa, ed. 2, 2/3: 305, 1972… “and the species

Comment: As noted by Beentje in Fl. Trop. E. Afr. (l.c.)
kukkenthal (1/1993; Taxon 44: 626, 1995) similar to K. tisserantoides


Perennial herb; rhizome segmentally constricted, to 5 cm; culms densely set, 16–43 cm long, 1–1,5 cm ∅, ± trigonom., glabrous, strongly ridged, base bulbous with fine whitish fibres; leaves usually 7 (5–8) per culm, all with blades, 10–20 cm long, 0,9–2 mm wide, margins and midrib densely scabrid, limited to the lower 3–5 cm; inflorescence a compound dull white to brownish head 14–16 mm wide, of 2–3 spikes; central spike ciliata, 10–13 × 3–5 mm; spikelets ovoid, brownish without red purple dots, 2–2,5 × 1,5–1,8 mm. Probably forest margins in high rainfall areas. Superficially resembling K. tisserantii from which it is distinguished by its rhizome, ridged culms, compound inflorescence.


bas.: Cyperus ugoensis Peter & Kük.

syn.: Kylilngia ferruginea Petter in sched. pro syn. in Engler, Pflanzenreich IV. 20/101: 572, 1936, non Cyperus ferrugineus Poir. 1806.

Perennial herb normally with a creeping rhizome or stolon; culms tufted, 2–18 cm long, 0,4–0,6 mm ∅, trigonom., glabrous, bases bulbous; leaf sheath brownish, 0,8–1,5 cm long; blade linear, flat or folded, 4–12 cm long, 0,8–1 mm wide, scabridulous on margins near apex; inflorescence capitate of a single ± globose spike, 4,5–7 mm ∅; spikelets ovoid, 2–2,6 × 0,9–1,1 mm. Boggy soil; wet sandy hollows on lake shores; on thin soil over rock; 750–1550 m alt. Similar to K. brevifolia.


syn.: Cyperus monoflorus Lye in Lidia 7: 97, 2011, nom. nov.; C. njombensis Huygh 2014, Phytotaxa 166: 40, 2014, nom. nov. superfl. Perennial herb with short creeping rhizome; culms solitary, quite closely spaced, 40–60 cm long, acutely trigonom., glabrous,

KYLLINGA TENUIFOLIA

1,5–2,5 × 0,7–0,8 mm, 1-flowered, slightly gaping at maturity; keel of glumes ciliate in var. ciliata.

Streamsides; riverine forest; seasonally swampy sites; damp places in savanna; Acacia scrub or grassland, usually along drainage lines or in seasonally wet sites; sandy soils; cultivations; fallows; along ways; thalweg in sandstone rock; marshy places on rocks; damp littoral flats; 0–2700 m alt.

S. Tomé; NW Namibia; Pakistan, Nepal, India, Sri Lanka, Indo-

China, China.

Comprises 2 vars.: – var. tenuifolia [syn. K. triceps Rottb., nom. illeg., cf. comment below; K. triceps var. obtusiflora Boeckeler; Cyperus triceps (Rottb.) Endl. nom. et var. obtusiflorus (Boeckeler) Kük., and var. angustifolius Kük.]; – var. ciliata (Boeckeler) Beentje [bas.: K. triceps var. ciliata Boeckeler; syn.: Cyperus triceps var. ciliatus (Boeckeler) Kük.; Kylilnga welwitschii Ridl.; Cyperus welwitschii (Ridl.) Lye; Cyp. controversus (Steud.) Mattf. & Kük. var. subexalatus (C. B. Clarke) Kük.; Kylilnga controversa Steud. var. subexalata C. B. Clarke].

Comment: As noted by Beentje in Fl. Trop. E. Afr. (l.c.)
kukkenthal’s proposal (1193; Taxon 44: 626, 1995) to conserve Kylilnga triceps Rottb. 1773 has not been approved (Taxon 4: 864, 1998). “In the protologue Rottboell cited Scirpus glomeratus L. in synonymy, and K. triceps is superfluous and illegitimate.” S. S. Hooper took up the name K. tenuifolia Steud. in Flora of West Tropical Africa, ed. 2, 2/3: 305, 1972… “and the species in question should be known as K. tenuifolia”.


Material of Kylilnga inselbergensis has previously been assigned to K. tenuifolia (Parmentier & Müller in Phytocenoologia 36: 579, 2006).


syn.: Cyperus tibialis (Poit. ex Ledeb.) Govaerts, World Checklist Seed Pl. 3/1: 21, 1999; Mariscus aphyllus Vahl; Kylilnga aphylla (Vahl) Kunth 1837; K. pereviana Lam. var. foliata Kük.; Cyperus peruvianus (Lam.) F. N. Williams var. foliatus (Kük.) Kük.; Cyperus aphyllus (Kunth) F. Muell. 1874, nom. illeg.

Perennial herb with horizontal rhizome; culms 15–60 cm tall, 1,5–2 mm ∅, trigonom., with 3–7 leaf sheaths at base without blades; inflorescence a solitary globose spike 7–13 mm ∅; spikelets lanceolate, 2,8–3,8 × 0,8–1,4 mm, compressed, 1-flowered.


Is there confusion with Kyl. baginata Lam. [= Cyperus obtusatus (J. Presl & C. Presl) Mattf. & Kük.]?

K. tisserantii Chemr. 1931, non Cyperus tisserantii Chemr. 1931 [= Cyperus niveus Retz. var. tisserantii (Chemr.) Lye],
Kyllinga pseudobulbosa  
Kyllinga pulchella  
Kyllinga pumila  
Kyllinga rheophytica  
Kyllinga rhizomafragilis  
Kyllinga robinsoniana  
Kyllinga songensis  
Kyllinga squamulata  
(Kyllinga stenophylla)  
Kyllinga tanzaniae  
Kyllinga tenuifolia  
Kyllinga tisserantii
slightly bulbous at base; leaves 3–4 per culm; blade linear, 21–38 cm long, 3.5–4 mm wide, margins scabrid; inflorescence of 1 light brown head 1–1.1 × 0.8–1.1 cm; spikelets ovoid, light brown, 3–3.5 × 0.8–1.1 mm, 1-flowered. Thickets within miombo woodland.

Near K. peteri but: spike light brown (not blackish brown); spikelet size (3–3.5 not 3–5.5 mm long), and 1-flowered (not 2-flowered); nutlets pale brown (not black).

Only known from the type collected in 1982.


**SYNONYMS:**

*Kyllinga alata* Nees = *Kyllinga alba* (subsp.) var. *alata*
colorata var. aurata (Cherm.) Lye = Kyllinga brevifolia var. brevifolia
colorata var. lurida (Kük.) Lye = K. brevifolia var. lurida
comosipes (Mattf. & Kük.) Napper var. angustata (Peter & Kük.) Napper = K. comosipes subsp. comosipes
comosipes subsp. decolorans (Kük.) Lye = K. comosipes subsp. decolorans
colorata var. decolorans Lye 1983 = K. comosipes subsp. decolorans
comosipes var. comosipes Lye 1983 = K. comosipes

Decora Steud. = Ascolepis brasiliensis
dentata Hochst. ex A. Rich. 1850 = Kyllinga squamulata
dipsacoids Schumach. = Ascolepis dipsacoids
doroscrena Nees = Kyllinga controversa
eglandulosa Govind. & Ramani = K. melanosperma
elata Steud. = K. polypylla var. polypylla
elatio Kunth = K. polypylla var. elatio
elatio sensu C. B. Clarke 1899, non Kunth = K. polypylla

erecta Schumach. var. africana (Kük.) S. S. Hooper = K. erecta
erecta subsp. albescens Lye = K. erecta
erecta var. aurata (Nees) Kük. = K. brevifolia var. brevifolia
erecta var. intercedens Kük. = K. erecta
erecta var. intricata (Cherm.) Kük. = K. brevifolia var. brevifolia
erecta var. lurida Kük. = K. brevifolia var. lurida
erecta var. pleiocarpa Kük. = K. erecta
erecta var. polypylla (Willd. ex Kunth) S. S. Hooper = K. polypylla var. polypylla
erecta var. schlechteri Kük. = K. erecta
ericauloides Steud. = Ascolepis ericauloides
eximia C. B. Clarke var. kelleri C. B. Clarke = Kyllinga comosipes subsp. comosipes
ferruginea Peter ex Kük. = K. ugoensis
filicula C. B. Clarke = K. odorata
flava C. B. Clarke = K. nervosa subsp. flava
flava subsp. jubensis (Mtot.) = K. nervosa subsp. jubensis
flexuosa Boeckeler = K. pumila
fissicrensis Boeckeler = K. melanosperma var. melanosperma
geminiflora Steud. = K. bulbosa
globosa P. Beauv. spahlm. (recte K. bulbosa) = K. vaginata
hortensis Salzm. ex Steud. = K. pumila
hyalina (Vahl) T. Koyama = Queenslandiella hyalina
imperinensis Cherm. = Kyllinga melanosperma var. melanosperma

K. melanosperma var. melanosperma
intermedia R. Br. – See at end of K. brevifolia
intricata Cherm. = K. brevifolia var. brevifolia
involuta Bojer ex Baker = K. polypylla var. polypylla
jubensis Chiov. = K. erecta
leucantha Boeckeler = K. bulbosa
leucocephala Boeckeler 1875 = K. comosipes subsp. comosipes
leucocephala Baldwin 1825 = K. odorata subsp. odorata
leucocephala var. pluriceps Kük. = K. odorata
macrantha Boeckeler = K. polypylla var. polypylla
macrocephala A. Rich. 1850 = K. bulbosa
macrocephala A. Rich. var. angustior C. B. Clarke = K. bulbosa
macrocephala var. oligantha Cherm. 1935 = K. bulbosa
macrocephala var. oligantha Cherm. ex Staner 1933, nom. nud. = K. bulbosa
madagascariensis Gand. = K. odorata
mariae Steud. = Mariscus dubius var. dubius
melanosperma Nees subsp. elata (Steud.) Lye = Kyllinga polypylla var. polypylla
melanosperma var. elata (Steud.) J.-P. Lebrun & Stork = K. polypylla var. polypylla
melanosperma var. gualariensis Wad. & R. D. Taur = K. melanosperma var. melanosperma
melanosperma Nees var. plurifoliata Kük.
melanosperma var. melanosperma
melanosperma var. trisipica R. D. Taur & R. I. Shaik = K. melanosperma var. melanosperma
merxmuelleri Podlech = K. albiceps
metzii Hochst. ex Steud. = K. squamulata
microcephala Steud. = Kyllinga microcephala
mindorensis Steud. 1854 = Kyllinga nemoralis
monocella Boeckeler 1875 = K. bulbosa
monocella Rottb. 1773 = K. nemoralis
monocella Muhl. 1817 = K. odorata
monocella Stokes 1812 = K. nemoralis
monocella Sieber ex Steud. 1840 = K. pumila
monocella var. humilis Boeckeler = K. nemoralis
monocella var. latifolia Boeckeler = K. nemoralis
monocella var. subtriceps Kunth = K. nemoralis
monocella var. tenuis Boeckeler = K. nemoralis
multinervia Steud. = Mariscus dubius var. dubius
nana Nees = Kyllinga bulbosa
nervosa Steud. var. flava (C. B. Clarke) Lye = K. nervosa subsp. flava
nervosa subsp. flava (C. B. Clarke) Lye = K. nervosa subsp. flava
nervosa subsp. jubensis (Mtot.) J.-P. Lebrun & Stork = K. nervosa subsp. jubensis
nervosa subsp. oblonga (C. B. Clarke) J.-P. Lebrun & Stork = K. oblonga
nervosa var. ruwenzoriensis (C. B. Clarke) Lye = K. polypylla var. elatio
nigritana C. B. Clarke = K. alba subsp. alba
obtusata J. Presl & C. Presl = K. vaginata
odorata Vahl 1805, non Kunth 1816, var. genuina Osten = K. odorata
odorata Kunth subsp. appendiculata (K. Schum.) Lye = K. odorata var. major
odorata subsp. cylindrica (Nees) T. Koyama = K. odorata var. cylindrica
odorata subsp. fallax Kük. = K. odorata var. major
odorata subsp. genuina Osten = K. odorata
KYLLINGA

Kyllinga odorata var. major (C. B. Clarke) Chiov. = K. odorata var. major
parvula C. B. Clarke ex Rendle = K. bulbosa
perrieri Cherm. = K. melanosperma var. melanosperma
peruviana Lam. 1792 = K. vaginata
peruiana var. foliata Kük. = K. tibialis
pierreana E. G. Camus = Cyperus leucocephalus Retz.

(Iindia)
pinguis C. B. Clarke = Kyllinga odorata var. eliator
planiceps C. B. Clarke 1894, nom. nud. = K. polyphylla var. polyphylla
planiculmis C. B. Clarke ex Cherm. = K. nemoralis
planiculmis var. macronuclea Cherm. = K. nemoralis
platyphylla K. Schum. var. longifolia = K. platyphylla
plutifoliata (Kük.) Chem. = K. melanosperma
var. melanosperma
polyphylla Willd. ex Kunth var. elata (Steud.) Lyce = K. polyphylla var. polyphylla
pulchra K. Kunth f. robustior Kük. and var. robustior (Kük.) Podleck = K. pulchella
pumila Steud. 1842 = K. bulbosa
pumila Sieber ex C. Presl 1828 = K. odorata
subsp. odorata
pumila Michx. 1803 var. eliator Kunth = K. pumila
pumila var. humilis Kunth ex Boeckeler = K. pumila
pumila var. stenophylla (K. Schum.) Chem. = K. stenophylla
pumilis Steud. 1842 = K. pumila
kwanzensis C. B. Clarke = K. polyphylla var. eliator
schimperi C. B. Clarke = K. tenuifolia
sphaerocephala Kunth 1837 = K. tenuifolia
serrata var. obtusiflora
serrata var. tenuifolia
serrata var. tenuifolia unsccessful subsp. fortis Rendle 1899 p.p.
= K. controversa

triceps var. obtusiflora Boeckeler = K. tenuifolia
triceps var. tenuifolia
umbellata Rottb. = Mariscus sumatrensis
umbellata var. sumatrensis (Retz.) Willd.
= M. sumatrensis

KYLLINGIELLA / 4

Kyllingiella microcephala (Steud.) R. W. Haines & Lyce, non Cyperus microcephalus R. Br.; Clarke & Mannheimer, Cyperaceae.


Kyllingiella microcephala (Steud.) R. W. Haines & Lyce, non Cyperus microcephalus R. Br.; Clarke & Mannheimer, Cyperaceae.
Genus of 4 species in tropical Africa and India, growing in temporarily damp habitats. Kyllinga ugangensis the ecology is not recorded; it seems to be known only from the type collection (1963).


KYLLINGIELLA MICROCEPHALA

Perennial tufted leafy herb; culms 5–47 cm tall, 0,3–1,1 mm Ø, 3-angled, glabrous, base swollen, conical or bulbous, covered in persistent coarse brown old leaf-base fibres; leaves 1–4 per culm, bright or dark green, ± half the culm length, flat or with margins involved, 3–22 cm long, 1–2 mm wide, margin and midrib with short spine-like hairs; sheaths grey or brown, 1,4–3,5 cm long, without ligule; inflorescence a dense terminal white head 3–10 mm Ø, consisting of many tightly packed rounded pseudo-spikelets 2–4 mm long; pseudo-spikelets consisting of many 1-flowered spikelets.

Woodland, bushland, on moist sand or mud; by swamps; in thin soil over rocks with seepage; grassy clearings; locally common; near sea-level to 2450 m alt.

Bioko/Fernando Poo; Namibia, Botswana, S. Africa; India.

Confused with Cyperus pulchellus.


bas.: Isolopis polyphylla A. Rich.


Perennial herb; culms 3–18 cm long, 0,3–0,5 mm Ø, arising closely at intervals of < 5 mm on a short horizontal rhizome to 2 mm Ø; base swollen, covered by fibrous remains of old leaf sheaths; leaves 3-many per culm, pale green, 4–17 cm long, 1,1–1,6 mm wide, flat, margin and midrib with minute spine-like hairs; sheath pale brown, to 2,8 cm long; inflorescence a terminal pale green head, globose to slightly wider than long, 3–10 mm Ø, of many spikelets 2–4 mm long.

Edges of depressions; shallow soil over rocks in woodland; bare patches in Commiphora bushland; in thin soil on granite outcrops; seasonally wet grassland; 750–2000 m alt.

According to Darbyshire & al. (l. c.) the record from Sudan (Quézel 1969) is probably a misidentification of Kyllingielia microcephala.


syn.: Cyperus simpsonii (Muasya) Larridon

Tufted perennial herb with short horizontal rhizome to 3 mm Ø; culms 30–62 cm long, 0,7–1,5 mm Ø, glabrous, base covered by fibrous remains of old leaf sheaths; leaves several per culm, 5–15 cm long, 1,5–2,3 mm wide, flat or involved, margin and midrib with minute spine-like hairs; sheath pale brown, 4,4–7,5 cm long, glabrous; inflorescence a dense terminal dirty white head 3–7 × 5–9 mm, of many tightly packed spikelets; these cylindrical, to 3 mm long, many-flowered.

Seasonally wet grassland; wet patches in miombo woodland, 1000–1400 m alt.

Close to K. microcephala.


syn.: Cyperus acholiensis Larridon

Perennial herb; culm(s) arising from a short erect rhizome 1 mm Ø; culm 8–16 cm long, 0,2–0,5 mm Ø, 3-angular, glabrous, base slightly swollen and covered in old leaf sheaths; these glabrous 0,8–1,2 cm long; blades 3–7, 4–15 cm long, 0,1–0,15 cm wide, glabrous except for slightly scabrid midrib and margins; inflorescence a dense terminal head 2–3 × 3–4 mm of 3–6 tightly packed whitish spikelets; these ovoid, to 3 mm long, several-flowered.

Ecology not recorded but probably dry grassland; 1200 m alt.

? Known only from the type collected in 1963.

Closely related to K. microcephala.

(KANGEVINIA; Rapateaceae)

Langevinia monosperma Jacq.-Fél. = Mapania amplivaginata (LEPIDOSPERMA)

Lepidosperma iridifolium Willd. ex Link = Machaerina flexuosa subsp. polyanthemum

(LIMNOCHLOA)

Limnochloa acutangula (Roxb.) Nees = Eleocharis acutangula fistulosa (Schult.) Nees = E. acutangula subsp. acutangula media (Roxb.) Nees = E. acutangula subsp. acutangula mutata (L.) Nees = E. mutata plantaginea (Retz.) Nees = E. dulcis

LIPOCARPHA / 21


“The genus Rikliella [J. Raynal] was united with Lipocarpha, but erroneously so, and is now considered a separate section within Cyperus s. l.” (Browning & Goetghebeur, Sedge genera of Africa & Madagascar: 58, 2017). However, we do not follow this concept below.

Genus of some 35 species in tropical, subtropical and warm temperate areas of the World, but concentrated in E Africa. They often grow in rather dry to seasonally wet grassland or woodland, some becoming weedy (Goetghebeur in K. Kubitzki, Families & genera vascul. pl. IV: 172, 1998).

Plants with eligate leaves and terminal head-like inflorescence with 1 to many spikes, spikelets deciduous as a unit. “Each spike consists of a conical axis bearing spirally arranged glume-like bracts. In the axil of each of these bracts is a one-flowered spikelet and usually two small scales.” Bristles absent (Browning & Goetghebeur, o.c.: 58).

Reutemann & al. (o.c.: 15) describe these plants as follows: they have “highly reduced reproductive structures and hypogynous scales that are controversially appreciated. Because of
LIPOCARPHA

this, flowers and spikelets and, thus, inflorescences have been interpreted in different ways … Some authors interpret spikelets in … Lipocarpha as many-flowered … However, many other authors consider spikelets in Lipocarpha … to be a result of a reductional process from a many-flowered cyperoid spikelet to a single-flowered spikelet … The latest molecular phylogenies of Cyperaceae show … [Lipocarpha] nested in the Cyperus clade, forming, in turn, a clade together with the rest of the Cyperaceae genera having single-flowered spikelets and hypogynous scales “…” . Studies using light and scanning electron microscopy “show that the ‘hypogynous’ scales simply represent vestigial structures derived from the reduction of typical cyperoid spikelets, rather than a perianth part … The inflorescence is a spike of reduced spikelets”.

Bauters & al. (Phytotaxa 166: 16–17, 2014) proposed a new infrageneric classification under Cyperus based on the 7 clades found in their phylogenetic hypotheses. This is not followed here by us. We accept the classification proposed Browning & Goetghebuer, Sedge genera in Africa and Madagascar: 58, 2017. Species identification is rarely evident, more frequently quite difficult (Goetghebuer & Van den Borre, Agric. Univ. Wageningen Papers 89/1, 1989).

Some species are very small, and certainly overlooked. Three species in our area are known only from the type collection (= c. 14–15 %).


syn.: L. purpureolutea Ridley; Hypeleyptum albiceps (Ridley). K. Schum., non Cyperus albiceps Ridley; Cyperus echinolepis T. Koyama; C. purpureoluteus (Ridley) Bauters

Rhizomatous or tufted perennial herb; rhizome short, covered by red-brown cataphylls; culms 10–60–75 cm tall, 1–3 mm 2; leaves 10–28 cm long, 1,5 mm wide, ± inrolled; inflorescence terminal, a dense head of 1–6-confluent ovoid spikes; terminal spike 3–15 × 3–7 mm; lateral spikes 2–6 × 1,5–4 mm; spikelet prophyll and glume 1,3–2,2 mm long.

Thicket-grown pastures flooded in summer; swampy meadows with Ascolepis; spongy slopes with Ascolepis and Glumaceae; open forests; savannas; long-time humid soils; damp places in grassland and woodland; boggy or seasonally wet grassland; ? -950–1900 m alt.

Confusion possible with Kyllingiella microcephala but in Lipocarpha albiceps the bracts (= “glumes”) are dark brown-red at base.


syn.: L. atra var. atra sensu Haines & Lye, l. c.; Cyperus lipoater Goetgh.

Rhizomatous or tufted perennial herb; culms 10–65 cm tall, 1–1,5 mm 2; leaves from near base only, 3–20–30 cm long, c. 1,5 mm wide, often inrolled; inflorescence a terminal head of 3–12 ovoid to conical spikes 3–13 × 2–4 mm; spikelet prophyll and glume 1–1,2 mm long.

Wet places by river banks; in sandy ground; boggy grassland; seepage in woodland; 250–1100 m alt.

L. atra var. atra sensu, e.g., Fl. W. Trop. Afr., ed. 2, etc. in W tropical Africa = L. abietina.


Tufted perennial herb; culms 20–75 cm tall, 1–1,5 mm 2; leaves to 30 cm long, 2 mm wide, often inrolled; inflorescence terminal, with 3–5 spikes 4–10 × 3–5 mm, ovoidal to conical; spikelet prophyll and glume 1,3–1,7 mm long.

Wet patches in savanna.

LIPOCARPHA


dyn.: S. senegalensis Lam.; Hypeaepyllum senegalense (Lam.) K. Schum.; Lipocarpha senegalensis (Lam.) T. Durand & H. Durand; Kyllinga albensis Steud.; Cyperus albensis (Steud.) Larridon & Govaerts; Hypolytrum argenteum Kunth 1816; Lipocarpha argentea (Kunth) R. Br., nom. superfl.; Cyperus submaculatus T. Koyama; Cyperus lipocarpha T. Koyama; Rikiellia chinensis (Osbeck) M. R. Almeida; Hypeaepyllum albidum Willd. ex Kunth, nom. invalid.; idem, Hypolytrum laevigatum (Roxb.) Spreng.; Hypolytrum senegalense (Lam.) Rich.; Lipocarpha laevigata (Roxb.) Nees; L. debilis Ridl.; L. bawangensis Tunga; Laevigata laevigata Roxb. – Lipocarpha habilominda Nees, sometimes considered as a synonym seems to be incorrect; it represents a different species (cf. Larridon & al. in Kew Bull. 71/2: 30, 2016).

Tufted perennial herb; rhizome lacking; culms 15–80 cm tall, 0.5–2 mm 2; leaves 10–40 cm long, c. 4 mm wide; glaucous or pale green, margins and midrib scabrid (minute teeth); old leaves persistent at base; inflorescence a terminal irregular head with 1–2 subequal ovoid white spikes 3–15 × 1.5–5 mm; spikelet prophyll and glume 1.2–2 mm long, often with redish stripes. Swampy enclave in mountain meadow with Lycopodium cernuum, Fuirena, mosses; granitic oozing pan; marsh on rocky pan, enclaves in forest gallery with Drosera pilosa; permeable poor soil; temporarily humid sands; rice-fields; pond sides; seepage areas; swamps may be locally common or co-dominant; swampy grassland; beside lakes; disturbed and wet mudflats; inselbergs (Porembski & Brown in Candollea 50: 358, 1995); 200–2100 m alt. Bioko/Fernando Poo; Botswana, S. Africa, Swaziland (not in Namibia); Madagascar, Mauritius; tropical and subtropical regions of the Old World, from India, Sri Lanka, E-wards to Malaysia, Indonesia, Japan, Philippines, N Australia.


dyn.: Cyperus lipocarpha Goeth.

Rhizomatous perennial herb; rhizome 1–3 mm 2, covered by small red-brown cataphylls; culms 15–55 cm tall, 1.5–5 mm 2; leaves to 10–28 cm long, 1.5–3 mm wide, inrolled to subterete; inflorescence a terminal spherical head of several confluent spikes, 15–20 mm 2; spikelet prophyll and glume 1.7–1 mm long. Probably miombo woodland; open forest with Brachystegia; sandy hollows, very briefly and weakly flooded; 1550–2250 m alt. (East Africa).


dyn.: Cyperus strictus (Goeth.) Bauters Perennial herb; culms 20–60 cm tall, 0.7–1 mm 2, somewhat trigonous; leaf blades to 20 cm long, 0.1–0.3 mm wide, glabrous; sheaths dark purple or green with dark purple dots or lines; inflorescence a congested head of 2–5 crowded red brown spikes 5–10 mm 2; spikes 3–6 × 2.5–3 mm, ovate, obtuse; spikelet prophyll and glume c. 1.5–2 mm long. Swampy ground; c. 1500 m alt.


bas.: L. prieuriana Steud. var. crassicuspid J. Raynal

dyn.: Cyperus crassicuspid (J. Raynal) Bauters Tufted annual herb; culms 5–15 cm long, 0.4–0.5 mm 2; leaves to 8 cm long, 2 mm wide; inflorescence a terminal head with 1–3 spikes 3–8 × 2.5–4 mm, ovoidal; spikelet prophyll and glume 1.3–1.5 mm long. Sands very near salty ground. L. prieuriana and L. sphacelata have the same general aspect and sometimes grow together.


dyn.: Cyperus echinus (J. Raynal) Bauters Tufted annual herb; culms 5–20 cm tall, 0.4–0.6 mm 2; leaves to 7 cm long, 0.5 mm wide, inrolled; inflorescence terminal, with 3–5 spikes 3–7 × 2–3.5 mm, ovoidal; spikelet prophyll and glume 0.7–0.8 mm long, dark violet. Shady, temporally dried up marshes; 1500 m alt. Only known from the type collected in 1956 (Robinson 1550).


bas.: Hypeaepyllum filiforme Vahl 1805

**LIPOCARPA HEMISPHAERICA**

the Guinean zone in Senegal (Müller & Deil in Phytocoenologia 35: 361, 2005).

Namibia, Botswana, S. Africa; India, Thailand (rare).


Tufted annual herb; culms 2–40 cm tall, 0.5–1.5 mm Ø; leaves to 16 cm long, 2 mm wide; inflorescence terminal with 1–8 ovoid spikes 2–8 × 1.5–5 mm; prophyll and glume absent.

Swamp or regenerating woodland; wet, muddy and swampy areas; sandy soils temporarily choked; pool sides; dripping wet cliff; rocky outcrops; spongy savanna; ? 700 – ? 1600 m alt. – Easily overlooked due to its small size.

India.

Recent studies place this species in *Rikliella: R. kernii* (Raymond) J. Raynal.

Goethegeber & Van den Borre (o. c.: 43–44) remark on a specimen from S Nigeria, Oyo Distr. (Hall 832): “several plants have their spike rachis crest-like disform… probably best considered as a kind of fascination.”


**L. nana** 123, 1995 (as *Scirpus isolepis*).

Goethegeber & Van den Borre (o. c.: 43–44) remark on a specimen from S Nigeria, Oyo Distr. (Hall 832): “several plants have their spike rachis crest-like disform… probably best considered as a kind of fascination.”


Loosely tufted annual herb; culms ± terete, 5–40 cm long, 0.5–1.5 mm Ø; leaves 2–12 cm long, 1–3 mm wide; inflorescence terminal with 1–4 ovoid spikes 2–7 × 2–5 mm; prophyll and glume 1–1.3 mm long.

Muddy swamps; 975 m alt.

Difficult to distinguish from well-developed specimens of *L. nana*; *L. leucaspis* may be a polyploid out of *L. nana*.


bas.: *Scirpus micranthus* Vahl
LIPOCARPA MICROANTHAA


Tufted annual herb; culms 2–20 cm tall, 0,3–0,5 mm Ø; leaves to 10 cm long, 0,5 mm wide; inflorescence pseudolateral, with 1–3 spikes 1×5–1×2 mm, ovoidal to spherical; spikelet prophyll reduced, often deeply bifid, or virtually absent; glume absent.

Bare, humid sands; sandy-clayey places on margins of ponds. Namibia, S. Africa; Madagascar; wide distribution in the Americas; from Canada S-wards to Uruguay, West Indies.

May be confused with *L. hemisphaerica* (with only a solitary spike developed). In *L. microantha* the prophyll may be lacking.


syn.: *Cyperus lipomonostachyus* Goetgh. Tufted annual herb with dark red roots; culms 3–18 cm long, 0,2–0,3 mm Ø; leaves to 5 cm long × 0,5 mm wide, ± terete; sheaths dark red; inflorescence pseudolateral with 1 spike 1,5–5,5×1–3 mm, ovoidal to conical; spikelet prophyll and glume 0,3–0,5 mm long.

Stream plain; seepage areas or damp to boggy ground; usually on sand in the bushland/woodland zone; 70–1400 m alt.

Confused with *L. nana*.


bas.: *Fuirena nana* A. Rich.

syn.: *Lipocarpa pulcherrima* Ridl., incl. fa. luxurians Merxm.; *L. atropurpurea* Boeckeler; *L. tenera* Boeckeler; *L. minima* Chemn.; *L. nana* (A. Rich.) J. Raynal 1967, comb. superfl.; *Hypaelyptum pulcherrimum* (Ridl.) K. Schum.; *Cyperus unistamen* T. Koyama; *C. persquarrosus* T. Koyama Tufted annual herb; roots red; culms 2–40 cm tall, 0,3–0,8 mm Ø; leaves 2–8 cm long, 1,2 mm wide; inflorescence terminal (very rarely pseudo-lateral), with 1–9 spikes 2–8×1,5–4 mm, ovoidal to conical; spikelet prophyll and glume present, 0,3–0,8 mm long.

Rocky outcrops with wet flushes and thin soil with *Selaginella njalymjmanis*, *Aeollanthus sp.*, *Aloe sp.* and many annuals; seepage areas on rock; seasonally wet grassland; moist depressions in woodland and bushland; moist depressions on road sides and overgrazed ground; sometimes in standing water; plentiful in sandy-clayey fields after a crop of *Sorghum*; growing with many other Scirpoideae and species of *Eriocaulon* forming dense cushions; swampy meadows growing with *Ascolepis*; sunny marshes; 250–2400 m alt.

Namibia, S. Africa, Lesotho, Swaziland; Madagascar. Rare or perhaps overlooked. Near *L. leucaspis*.


syn.: *Cyperus perspicus* (S. S. Hooper) Batters Tufted annual herb; culms 5–15 cm long, 0,3–0,4 mm Ø; leaves to 10 cm long, 0,5 mm wide; inflorescence terminal or slightly pseudo-lateral, with 1 erect spike 4–6×3–4 mm, ovoidal to ellipsoid; spikelet prophyll and glume 2,5 mm long; stamen 1 (not 3!).

Moist, humus-filled cracks of exposed laterite with *Brachyachne pilosa*.

Only known from the type collected in 1938. Related to *L. nana*.


syn.: *L. schweinfurthiana* Boeckeler; *Cyperus prieurianus* (Steud.) T. Koyama Tufted annual rarely perennial herb with an erect stolon c. 1 mm Ø; culms 5–60 cm tall, 0,5–1 mm Ø; leaves to 25 cm long, 2 mm wide; inflorescence terminal, a congested head of 1–5 reddish-brown spikes 3–10×2–4 mm, ovoidal; spikelet prophyll and glume 1–1,2 mm long, red brown spotted.

Temporarily wet sands, often near salty hollows in coastal dunes; rice-fields; damp places in savanna; hollows in sandy-clayey places; near sea-level to 1250 m alt.

“It is possible that Andrews’ record from Equatoria is incorrect, although this species is likely to occur in South Sudan” (Darbyshire & al., l.c.).


LIPOCARPHA REHMANII

Tufted annual herb with thin red roots; culms 2–28 cm tall, 0,5–1,5 mm wide; leaves to 10–17 cm long, c. 1–1,5 mm wide; sheaths dark red to ± black at base; inflorescence terminal, a dense head of 3–12 ovoid spikes 3–10 × 3–5 mm, ± confluent, with long excurrent mucres; spikelet prophyll and glume absent. Seasonally moist grassland; seepage areas; damp clayey-sandy fields after corn harvest; in damp moss mats in shallow soil over rock outcrops (S. Afr.); 70–1750 m alt.

Namibia, S. Africa, Botswana, Lesotho; Madagascar.

The true Scirpus hystrix Thnub. [= Isolepis hystrix (Thnub.) Nees] is a plant from S. Africa (cf. Adansoniona, Sér. 2, 8: 98, 1968). Recent studies place this species in Rikiella: R. rehmannii (Ridl.) J. Raynal.

L. robinsonii J. Raynal, non Cyperus robinsonii Podlech; Lock in Kew Bull. 70/4: § 46: 2, 2015. – Icon.: Adansonia, Sér. 2, 7: 83, 1967; Haines & Lye, Sedges & rushes E. Afr.: 297, 1983; Goetghheb & Van den Borre, o. c.: 63, 81, 1989. syn.: Cyperus lirorobinsonii Goetgh. Rhizomatous perennial herb; culms isolated on a long-creeping, reddish, somewhat fleshy rhizome, covered by distant cataphylls c. 3 cm long; culms 50–90 cm tall, 1,5–3 mm 2; leaves to 50 cm long, 3 mm wide, rather thick and pungent; inflorescence terminal, with 3–9 subequal spikes 3–7 × 2–4 mm, ovoidal; spikelet prophyll and glume 2,5–3 mm long. Swamp constantly lightly flooded. Habitats recalling a Swamp constantly lightly flooded.

L. thermalis J. Raynal ex Goetgh. – Icon.: Goetghhebge & Van den Borre, o. c.: 67, 1989. syn.: Cyperus lipothermalis Goetgh. Tufted annual herb; culms 8–15 cm long, 0,3–0,5 mm 2; leaves to 5 cm long, 0,5 mm wide; inflorescence pseudolateral, with 1 spike, 1–4 × 1–2 mm, ovoidal to spherical; spikelet prophyll and glume 0,9–1 mm long. Hot springs on sandy ground, near the spring. Only known from the type collected in 1949.

Resembling L. hemisphaerica, but L. thermalis has bracts of spikelets larger (c. 1 × 1 mm, not 0,5–1 × 0,4–0,7 mm), spikelet prophyll and glume longer (0,9–1 mm, not 0,5–0,7 mm), and 3 stamens (not 1) and style with 3 branches (not 2).

SYNONYMS:


LIPOCARPHA


MACHAERINA / 1

syn.: Baumea Gaudich.

Genus of 51 species in the Old and New Worlds tropics and subtropics, from E. Africa (1 species), Madagascar; Mascarene Isl., SE Asia, Malesia, SE Australia, New Zealand, New Caledonia, Pacific Isl., tropical S. America and West Indies (Viljoen & al. in Amer. J. Bot. 100: 2496, 2013).


syn.: Scirpus iridifolius Poir.; Lepidosperma iridifolium Willd. ex Link; Mariscus iridifolius (Willd. ex Link) Kuntze Perennial, stout herb to 1,5 m tall, with rhizomes; culms tussocky, 0,9–1,2 m long, 5–6 mm 2; leaves with long blades 0,6–1,2 cm wide, apex acuminate; inflorescence a panicule 25–50 cm long of 5–8 fascicles, each with 2–4 primary branches to 7 cm long; spikes at the end of primary and secondary branches, 6–10 mm 2, consisting of 2–4 crowded (sub-)sessile spikelets 5–6 mm long with glumes mostly distichously arranged, 6–12-flowered.

Growing in solitary tufts by stream; 300–450 m alt. Comoros Isl., Madagascar.


(MALACOCHAETE)

Malacochea pterolepis Nees = Schoenoplectus subulatus
MAPANIA / 21


Plants are perennial with rhizomes or stolons and thick roots. Spikelets have few to numerous densely spirally arranged persistent glumes.


Mapana africana Boeckeler, excl. subsp. occidentalis J. Raynal (= M. mangenotiana); Onana & Cheek, Red Data Book flow. pl. Cameroon: 367–368, 2011; Onana, Fl. Cameroon 40: 223, 2013. – Icon.: Simpson (1992): 126, 178 (subsp. africana); Fl. Gabon 44, Cyper.: 155 (as var. africana), 159 (var. filipes). 2012. Robust rhizome 1 cm, scale-leaves ovate to lanceolate, to 4.5 × 0.3 cm; culms several, lateral, erect or arcuate-deflexed, c. 11–42 cm long, 0.4–2 mm Ø, terete to obscurely trigonous, glabrous, green; leaves basal, to 1 m or more long; blade linear, 21–73 × 2.3–4 cm, apex abruptly narrowed, acuminate, base abruptly narrowed into pseudopetiole 5–19 cm long; inflorescence terminal, 0.9–1.5 cm wide, mid-brown, with 1–12 spikes; these ovate to narrowly oblong, 0.4–2 × 0.3–0.5 cm, obtuse, distinct. Humid forest, sometimes with Calopogon heitzii, Sacoglottis gabonensis, Lophira alata; secondary forest; also along rivers and brooks; 150–500 m alt.

Comprises 2 subsp.: – subsp. africana (syn.: M. africana I. Raynal; M. dolichostachya K. Schum.) with ± erect wider culms (0.2–2 mm Ø) and inflorescence with 3 or more spikes; – subsp. filipes (J. Raynal) D. A. Simpson (bas.: M. africana var. filipes J. Raynal) with thinner arcuate-deflexed culms (0.4–0.7 mm Ø) and inflorescence with 1–2 spikes. – Because an intermediate plant was found in Gabon, Lye & Thery (l. c.) treated the infraspecific taxa at variety level (as did already J. Raynal).

M. pallecens is slightly similar.

(M. afro-orientalis Lye) – See above under Hypolytrum testui Chem.


Rhizomatous to stoloniferous herb; rhizome 0.3–0.7 cm Ø; culm solitary, erect, central, 10–30 cm long, 1–4 mm Ø, trigonous, glabrous, green; leaves basal, to 70 cm or more long; blade lanceolate, 15–40 × 2.4–8.5 cm, apex abruptly narrowed, acute or MAPANIA AMPULVAGINATA

shortly acuminate, base narrowed into pseudo-petiole 4.2–24 cm long 2.5–9.3 cm wide; inflorescence terminal, globose, 1.5–2.5 cm wide, composed of numerous indistinct spikes. Deep shade and wet places in forest; sometimes by water; secondary forests; sometimes along rivers and watercourses; 40–1000 m alt.

Bioko/Fernando Poo.


M. comoensis A. Chev. ex Hutch. & Dalziel 1936, descr. angl. (sine lat.).

Perennial herb; rhizome to 2 cm Ø; culms several, erect, lateral, 11–24 cm long, 1.3–1.8 mm Ø, terete to obscurely trigonous, glabrous, green to dull red; leaves basal, to 75 cm long; blade ± oblong, 19–59 × 4–8 cm, apex abruptly narrowed, obtuse to rounded, cuspidate, base abruptly narrowed into pseudopetiole, dark green, light green below; pseudopetiole 7.5–14 × 0.4–1 cm; sheaths inflated; inflorescence globose, terminal, 1.8–3.3 cm wide, light brown, with to 20 spikes ovate to elliptic, 8–17 × 5 mm, acute, distinct when young, becoming less so when mature.


(M. camerunensis Lye) – See above under Hypolytrum subcompositum Lye & D. A. Simpson

(M. chevalieri (Nelmes) Lye) – See above under Hypolytrum chevalieri Nelmes


Perennial herb; rhizome 0.5–1.5 cm Ø; culms 1–2, erect, central, 0.18–1.15 m tall, 2–6 mm Ø, trigonous to subtriquetrous, glabrous, greenish to reddish brown; leaves basal, to 1.3 m or more long; blade linear, 66–93 cm long, 2.5–5.5 cm wide, apex gradually narrowed, acuminate, and base gradually narrowed into sheath, coriaceous, mid-green, often tinged with purple when young; pseudo-petiole absent; inflorescence terminal, globose, 3–7 cm wide, mid-to dark reddish brown, composed of numerous, closely compact spikes; these linear, to 1.5 cm long, usually indistinct; spicoid bracts bright red in living material.

Marshy ground; edges of swamps in (high) forest; sandy thalweg of rivulet in forest with Mischaloechopas; termite mound in forest; sporadically distributed along mountain streams; 450–600 m alt.

Bioko/Fernando Poo.


MAPANIA DEISTELII

Fl. W. Trop. Afr., ed. 1, 1936, cited several specimens, “three of which are now assigned to M. coriandrum, M. ivorensis and M. rynchocarpus.”

The type (B) was destroyed in World War II … “it is difficult to visualise the plant from the brief description given by Schumann”.


syn.: M. subcomposita (C. B. Clarke) C. B. Clarke, nom. illeg. Perennial herb with rhizome 4 cm thick, subtriquetrous, glabrous, green; leaves basal, to 75 cm long; blade linear, 40–60 × 2,6–2,9 cm, apex narrowed, acute, base gradually narrowed into sheath, green; pseudopetiole absent; sheath 8–17 × 2–2,2 cm, apex very gradually narrowed, reddish brown; inflorescence terminal, globose 2–3,5 cm wide, mid-reddish brown, consisting of numerous (25) spikes (indistinct).

Forest undergrowth; 1100–2000 m alt.


“Care should be taken to separate this taxon from the similar M. soyauxii … at lower altitudes in Cameroon” (Onana & Cheek, l. c.).

(M. heteromorpha (Nelmes) Lye) – See above under *Hypolytrum heteromorphum* Nelmes

(M. heterophylla (Boeckeler) Lye) – See above under *Hypolytrum heterophyllum* Boeckeler


Perennial herb with rhizome 4–8 cm thick; culm solitary, erect, central, 35–45 cm tall, 2–3 mm thick, subtriquetrous, glabrous, green; leaves basal, to 75 cm long; blade linear, 40–60 × 2,6–2,9 cm, apex narrowed, acute, base gradually narrowed into sheath, green; pseudopetiole absent; sheath 8–17 × 2–2,2 cm, apex very gradually narrowed, reddish brown; inflorescence terminal, globose 2–3,5 cm wide, mid-reddish brown, consisting of numerous (25) spikes (indistinct).

Forest; primary forest along river; 124 m alt. Formerly confused with *M. jongkindii*.


MAPANIA JONGKINDII

Perennial herb with rhizome 12–15 mm thick; culms few, erect, lateral, 22–28 cm long, 2–5 mm thick, terete, glabrous, green to dark brown; leaves basal; blade linear, 62–74 × 3–4 cm, apex gradually narrowed, acuminate, base gradually narrowed into pseudopetiole, coriaceous, dark green; sheath linear, 4–6 × 2,3–3 cm, apex gradually narrowed into pseudopetiole, dark brown to reddish; inflorescence subglobose, terminal, 2,5–3,5 cm wide, with 40–50 or more spikes; these elliptic, to 15 × 3 mm, acute, distinct.

Dense primary rain-forest with *Lophira alata*, *Milicia regia*, *Morus mesozygia*, *Tarrietia utilis*, *Terminalia ivorensis*; 538–579 m alt. Endemic to Nimba Mts (Liberia). General appearance resembling that of *M. linderi*, but *M. jongkindii* has wider leaves (3–4 cm vs. 2–3 cm) and wider leaf sheath (23–30 mm vs. 10–24 mm) and number of spikes greater.

(M. lancefolia (C. B. Clarke) Lye) – See above under *Hypolytrum lancifolium* C. B. Clarke


Perennial herb with rhizome 1 cm thick; culm solitary, erect, central, to 1,08 m tall, 4–5 mm thick, triquetrous, glabrous, green; leaves basal, to 1,5 m or more long; blade linear, 0,9–1,29 m × 4,7–5,7 cm, apex abruptly narrowed, acute to subobtuse, base gradually narrowed into sheath, coriaceous, green; pseudopetiole absent; sheath linear-lanceolate, 20–23 × 3,2–4,2 cm, apex gradually narrowed, greenish to reddish brown; inflorescence terminal, globose, 4,2–5,5 cm wide, dark brown, composed of numerous spikes, these elliptic, linear-elliptic or elliptic-lanceolate, 1,2–1,8 cm × 4,5 mm, (sub)obtuse, distinct.

Primary forest along river; 124 m alt.

Formerly named as *M. ivorensis* (confusion). Probably more closely related to *M. macrantha, M. ryanaliana*.


Perennial herb with rhizome 1 cm thick; culm solitary, erect, central, 1,08 m tall, 4–5 mm thick, triquetrous, glabrous, green; leaves basal, to 1,5 m or more long; blade linear, 0,9–1,29 m × 4,7–5,7 cm, apex abruptly narrowed, acute to subobtuse, base gradually narrowed into sheath, coriaceous, green; pseudopetiole absent; sheath linear-lanceolate, 20–23 × 3,2–4,2 cm, apex gradually narrowed, greenish to reddish brown; inflorescence terminal, globose, 4,2–5,5 cm wide, dark brown, composed of numerous spikes, these elliptic, linear-elliptic or elliptic-lanceolate, 1,2–1,8 cm × 4,5 mm, (sub)obtuse, distinct.

Primary forest along river; 124 m alt.

Formerly confused with *M. coriandrum, M. ivorensis* and *M. rynchocarpus*.


**MAPANIA**

**broadly obtuse, base abruptly narrowed into pseudopetiole, green; pseudopetiole 5–17 cm long, 2.5–6 cm wide; sheath lanceolate, 3.5–9.5 × 1.6–3 cm, apex (abruptly) narrowed, dark reddish purple; inflorescence pseudolateral, globose, 2.5–4 cm wide, light- to mid-brown, with up to 30 spikes; these linear-elliptic, 0.8–2.8 cm × 2–4 cm, acute, distinct.**

Primary and secondary forests, sometimes along rivers and water-courses; 40–700 m alt.

Size and form of leaves variable.

Bioko/Fernando Poo.

Comprises 2 subspp.:—subsp. *mannii*, with spikes 1–2.8 cm long, and keel of lower 2 floral bracts narrowly winged, dentilicate-hispid, with a wide geographical distribution;—subsp. *bieleri* (De Wild.) J. Raynal ex D. A. Simpson (bas. : *M. bieleri* De Wild.), with smaller spikes (0.8–1.2 cm long), and keel of lower 2 floral bracts wingless, hispid, in Congo-Gabon-Zaire. – The 2 subspecies are doubtfully distinct.

Ornamental (Simpson & Inglis in Kew Bull. 56: 328, 2001).

Near *M. amplivaginata*.

**M. macrantha** (Boeckeler) H. Pfeiff. syn. *M. mangenotiana*

**MAPANIA MANNII**


**broadly obtuse, base abruptly narrowed into pseudopetiole, green; pseudopetiole 5–17 cm long, 2.5–6 cm wide; sheath lanceolate, 3.5–9.5 × 1.6–3 cm, apex (abruptly) narrowed, dark reddish purple; inflorescence pseudolateral, globose, 2.5–4 cm wide, light- to mid-brown, with up to 30 spikes; these linear-elliptic, 0.8–2.8 cm × 2–4 cm, acute, distinct.**

Primary and secondary forests, sometimes along rivers and water-courses; 40–700 m alt.

Size and form of leaves variable.

Bioko/Fernando Poo.

Comprises 2 subspp.:—subsp. *mannii*, with spikes 1–2.8 cm long, and keel of lower 2 floral bracts narrowly winged, dentilicate-hispid, with a wide geographical distribution;—subsp. *bieleri* (De Wild.) J. Raynal ex D. A. Simpson (bas. : *M. bieleri* De Wild.), with smaller spikes (0.8–1.2 cm long), and keel of lower 2 floral bracts wingless, hispid, in Congo-Gabon-Zaire. – The 2 subspecies are doubtfully distinct.

Ornamental (Simpson & Inglis in Kew Bull. 56: 328, 2001).

Near *M. amplivaginata*.


**broadly obtuse, base abruptly narrowed into pseudopetiole, green; pseudopetiole 5–17 cm long, 2.5–6 cm wide; sheath lanceolate, 3.5–9.5 × 1.6–3 cm, apex (abruptly) narrowed, dark reddish purple; inflorescence pseudolateral, globose, 2.5–4 cm wide, light- to mid-brown, with up to 30 spikes; these linear-elliptic, 0.8–2.8 cm × 2–4 cm, acute, distinct.**

Primary and secondary forests, sometimes along rivers and water-courses; 40–700 m alt.

Size and form of leaves variable.

Bioko/Fernando Poo.

Comprises 2 subspp.:—subsp. *mannii*, with spikes 1–2.8 cm long, and keel of lower 2 floral bracts narrowly winged, dentilicate-hispid, with a wide geographical distribution;—subsp. *bieleri* (De Wild.) J. Raynal ex D. A. Simpson (bas. : *M. bieleri* De Wild.), with smaller spikes (0.8–1.2 cm long), and keel of lower 2 floral bracts wingless, hispid, in Congo-Gabon-Zaire. – The 2 subspecies are doubtfully distinct.

Ornamental (Simpson & Inglis in Kew Bull. 56: 328, 2001).

Near *M. amplivaginata*.

**M. macrantha** (Boeckeler) H. Pfeiff. syn. *M. mangenotiana*
Mapania ivorensis

Mapania jongkindii

Mapania liberiensis

Mapania linderi

Mapania macrantha

Mapania mangenotiana

Mapania mannii

Mapania minor

Mapania pallescens

Mapania pubisquama

Mapania purpuriceps

Mapania raynaliana
M. pynaertii De Wild.) – See above under Hypolytrum pynaertii (De Wild.) Nelmes


MAPANIA PALLESCENS

Only 2 localities known (Gabon); plants collected in 2003 and 2005.

(M. poecilolepis (Nelmes) Lye) – See above under Hypolytrum poecilolepis Nelmes

(M. polysstachya (Cherm.) Lye) – See above under Hypolytrum polysstachyum Cherm.

(M. pseudomapanioides (D. A. Simpson & Lye) Lye) – See above under Hypolytrum pseudomapanioides D. A. Simpson & Lye


Perennial herb with rhizome 2–4 mm Ø; culm solitary, erect, central, 20–45 cm tall, 1,7–4,5 mm Ø, triquetrous, glabrous, green; leaves basal, to 1,5 m long; blade linear, 0,21–1,03 m × 1,4–4,4 cm, apex gradually narrowed, acute or shortly acuminate, base gradually narrowed into pseudopetiole, green; pseudopetiole 7–22 × 0,4–1 cm; sheath linear-lanceolate, 10–23 × 1,4–2,6 cm, apex very gradually narrowed, reddish brown; inflorescence terminal, globose, pseudolateral, 2,8–3 cm wide, mid- to dark reddish brown, with to 50 spikes; these linear to elliptic, 1,2–2,2 × 0,3–0,6 cm, acute to obtuse, distinct.

Primary or secondary forests; often along rivers and brooks; 50–500 m alt.

Variable, especially in size of leaves.

(M. purpurascens (Cherm.) Lye – See above under Hypolytrum heterophyllum Boeckeler


bas.: M. subcomposita C. B. Clarke var. purpuriceps C. B. Clarke

Perennial herb with rhizome 3–4 mm Ø; culm solitary, erect, central, 33–40 cm long, 2,9–4,5 mm Ø, trigonous to subtriquetrous, glabrous, or angles sometimes scabrid, dark purplish or green; leaves basal, to 1,5 or more long; blade widely linear, 0,8–1,3 m × 4–6 cm, apex narrowed, acute, base gradually narrowed into sheath, mid- to dark green; pseudopetiole absent; sheath lanceolate, 12–17 × 2,6–3,4 cm, apex very gradually narrowed, often indistinct from blade, dark green to dark reddish brown; inflorescence terminal, globose, 3–5 cm wide, purplish, with numerous spikes; these broadly elliptic to obovate, 1–2 × 1,7 cm, obtuse, distinct.

Primary or secondary forest; often along rivers and brooks; 0–500 m alt.

Resembling M. macrantha.

(M. pynaertii De Wild.) – See above under Hypolytrum pynaertii (De Wild.) Nelmes

MAPANIA RAYNALIANA

Perennial herb with rhizome 4–6 mm Ø; culm solitary, erect, central, 53–76 cm long, 4–6 mm Ø, subtriquetrous, glabrous, green; leaves basal, to 1,15 m long; blade ± linear, 0,79–1,03 m × 3,8–5,4 cm, apex gradually narrowed, acute, base gradually narrowed into sheath, green; pseudopetiole absent; sheath linear-lanceolate, 14 × 3 cm, apex gradually narrowed into sheath, greenish to reddish brown; inflorescence terminal, globose 3,5–5,5 cm wide, mid- to dark brown, with numerous spikes; these ovate to elliptic, 1,5 × 1,4–0,6 cm, subobtuse, distinct.

Primary or secondary forests; often along rivers and brooks; 300–600 m alt.

Formerly included in M. macrantha.


Perennial rhizomatous herb; culm solitary, erect, central, 43 cm tall, 3,5 mm Ø, trigonous, glabrous, green; leaves basal; blade linear, 60–93 × 2,9–3,2 cm, apex narrowed, acute or shortly acuminate, base gradually narrowed into sheath, green; pseudopetiole absent; sheath linear, 13–14 × 2–2,2 cm, apex gradually narrowed, light to mid-brown; inflorescence terminal, globose, 4–6 cm Ø, whitish, composed of numerous indistinct spikes; nutlet tuberculate with persistent style-base.

Primary forest with Cephaelis biaurita on hillsides; forest with Heritiera utilis; c. 160–1000 m alt.

Also in Ghana, Congo ?


Similar to M. ivorensis but inflorescence whitish, larger.

(M. scaberrina (Boeckeler) C. B. Clarke) – See above under Hypolytrum scaberrimum Boeckeler

(M. secanus (K. Schum.) J. Raynal


bas.: Hypolytrum soauxii Boeckeler

syn.: H. aschersonianum Boeckeler; Mapania aschersoniana (Boeckeler) H. Pfeiff.; M. dwanensis Cherm.

Perennial herb with rhizome 3–5 mm Ø; culm solitary, erect, central, 20–45cm tall, 1,5–4 mm Ø, compressed-trigono- nous to trigonous, glabrous, green; leaves basal; blade linear, 50–120 × 1,5–3 cm, apex gradually narrowed, acuminate, base gradually narrowed into sheath, mid-green; pseudopetiole absent; sheath ± lanceolate, 8–14 × 1,2–1,6 cm, apex very gradually narrowed, light- to mid-brown; inflorescence terminal, globose, 1,8–5 cm wide, dark reddish brown, composed of numerous
spikes; these elliptic to ovate-elliptic, 7–10×3–5 mm, acute to obtuse, ± distinct.

Primary- or secondary forests; often along rivers and brooks; 1–700 m alt.

**Hypolytrum unispicatum**

**Mapania africana**

**Syonyms:**

= Mapania manganotiana
  *africana* Boeckeler var. *filipes* J. Raynal = *M. africana* subsp. *filipes*

africana subsp. *occidentalis* J. Raynal = *M. manganotiana*

*afro-orientalis* Lye = *Hypolytrum testui*

*afro-orientalis* Lye p.p., quoad specim. ex Côte d’Ivoire = *H. heterophyllum*

*angolensis* (Nelmes) Lye = *H. heterophyllum aschersoniana* (Boeckeler) H. Pfeiff. = Mapania soyauxii

*bieleri* De Wild. = Mapania manganotiana

*cacumina* (Chevalier) H. Pfeiff. = *H. manganotiana*

*cameronensis* Lye = *H. subcompositum*

*chevalieri* (Nelmes) Lye = *H. chevalieri*

*comoensis* A. Chev. ex Hutch. & Dalziel 1936, desc. angl. = Mapania baldwinii

= Mapania costata

Lye = *Hypolytrum pahiense* deistelli K. Schum. = *?* (See above under that name)

*dolichostachya* K. Schum. = *Mapania africana* subsp. *africana*

dolichostachya sensu Lorougnon, non K. Schum. = *M. manganotiana*

dwansen Lye = *M. soyauxii*

gabonica Lye = *M. sylvatica* subsp. *gabonica*

grandis (Uittien) T. Koyama = *Principina grandis*

*heterormophora* (Nelmes) Lye = *Hypolytrum heteromorphum*

*heterophylla* (Boeckeler) Lye = *H. heterophyllum ivorensis* auct., non (J. Raynal) J. Raynal = *Mapania jungkindii*, *M. liberiensis*


*macrantha* (Boeckeler) H. Pfeiff. var. *clarkeana* J. Raynal, nom. nud. provis. = *M. raynaliana*

*macrantha* subsp. *ivorensis* J. Raynal = *M. ivorensis*

*macrantha* var. *minor* Nelmes = *M. minor*

*mildbraedii* Graebn., nom. nud. = *M. amplivaginata monosperma* (Jaq.-Fél.) Maguire & T. Koyama = *M. amplivaginata*


*subcomposita* var. *purpuriceps* C. B. Clarke = *M. purpuriceps superba* C. B. Clarke = *M. macrantha superba* C. B. Clarke p.p. quoad specim. Mann 1639 = *M. raynaliana superba* sensu Lorougnon 1963, non C. B. Clarke = *M. ivorensis*

**MARISCOPSIS**

*Mariscopsis hyalinus* (Vahl) Ballard = *Queenslandiella hyalina*

*Mariscus purpuriceps* superba C. B. Clarke = *M. macrantha superba* C. B. Clarke p.p. quoad specim. Mann 1639 = *M. raynaliana superba* sensu Lorougnon 1963, non C. B. Clarke = *M. ivorensis*

**MARISCUS** / 65 + 9 + 4 ?

*Mariscus* Vahl 1805, nom. conserv.

One of us … believes that if *Kyllinga* and *Pycreus* are treated as separate genera from *Cyperus*, as they are in this treatment [also in our compilation], then *Juncellus* and *Mariscus* should also be separated from *Cyperus* on account of their distinct morphological characters” (Flora of China 23, Texts: 165, 2010).

*Mariscus* was included in *Cyperus* by Goetghhebeur (in K. Kubitzki, *The Families and Genera of Vascular Plants IV*: 170, 1998). He wrote: “*Mariscus* is kept separate by several authors, is rarely maintained at subgeneric level when included in *Cyperus*, and is often divided into sections of widely scattered affinities. The polyphyletic nature of *Mariscus* has convincingly been demonstrated by Lye (1992) and is recognized even by authors (Raynal 1973: 166) who maintained it as a separate genus”.

A historical review of the treatment of *Mariscus* is given by Reyners & al. in Taxon 60: 889–890, 2011, with the names of subdivisions cited. In older floras, such as Flora of West Tropical Africa (ed. 2, 3/2, 1972) *Mariscus* is maintained as separate, but the recent Flora of Tropical East Africa, *Cyperaceae* (2010), includes *Mariscus* in *Cyperus*, although other segregate genera are maintained. On writing up our present compilation we checked other (more) recent treatments. It seems that authors of “local” floras or checklists keep includes but the recent Flora of Tropical East Africa, *Cyperaceae* (2010), *Mariscus* species are much like *Cyperus* species are treated as separate genera from *Cyperus*.

The Families and Genera of Vascular Plants IV: 170, 1998). He has convincingly been demonstrated by Lye (1992) and is recognized even by authors (Raynal 1973: 166) who maintained it as a separate genus”.

We can also cite Gordon-Gray, who in *Cyperaceae in Natal: Strelitzia* 2: 124–125, 1995, made a pragmatic decision: “From anatomy, physiology, karyology and phytochemistry, information is steadily accumulating that *Mariscus* species are more naturally positioned within *Cyperus* and *Pycnostachys* than collectively in a taxon *Mariscus* at either generic or subgeneric rank … Nevertheless, in the present work *Mariscus* is maintained as Natal species are well known under that genus and *Cyperus* is already cumbumbers with the greatest number of species in Natal for *Cyperaceae as a whole*.

Lowe & Stanfield (Flora of Nigeria: *Sedges*: 93, 1974) described *Mariscus* as follows. A large and difficult genus (e.g. *Lisowski*, *Flore de la République de Guinée, 2009; Malaisse, Guide floristique du Parc National de Cantanhez, Guinée-Bissau, 2010; Chatelain & al., *Cartes de distribution des plantes de la Côte d’Ivoire, 2011; Thionbiamo & al., Catalogue des plantes vasculaires du Burkina Faso, 2012; etc.). Even Browning & Goetghhebeur in *Sedge … genera of Africa & Madagascar* (2017), present *Mariscus* as a separate entity (p. 61).

M. albomarginatus C. B. Clarke in Fl. Cap. 7: 187, 1897 (description); Fl. Trop. Afr. 8: 387–388, 1902; non *Cyperus albomarginatus* (Mart. & Schrad. ex Nees) Steud. 1854 (bas.: *Pycreus albomarginatus* Mart. & Schrad. ex Nees); nec *Cyperus albomarginatus* (C. B. Clarke) K. Schum. 1895, nom. illeg. (a synonym of *Mariscus albomarginatus* C. B. Clarke, See below).


In this species complex Gordon-Gray (in *Cyperaceae* in Natal: 126, 131, 133–134, 1995) “tentatively maintained 3 species, viz. *Mariscus albomarginatus* C. B. Clarke, *M. indecorus* (Kunth) Podlech, and *M. rehmannianus* C. B. Clarke, because “intensive field work … and breeding experiments are needed for confirmation” (p. 126). Moreover, *M. indecorus* “differs from *M. albomarginatus* … in the arrangement of spikelets on the spikes of the anhelate inflorescence … and in the longer spikelets and glumes of *M. indecorus* (but there is overlap in the parameters). The criteria are not reliably divisive” … Also, “varieties within *M. indecorus* are not upheld …” (p. 131). *M. rehmannianus* “in its most distinctive form with glume apices conspicuously recurved, … is easily identified. However such plants are not common in Natal … It is intimately a part of the plexus formed by *M. albomarginatus* … and *M. indecorus* … There are continuous size gradients for *M. albomarginatus*, *M. indecorus* (including var. *namaquensis*) and *M. rehmannianus* for spikelet and glume dimensions. All have in common, similar reddish pigmentation of the glumes (slightly purplish in *M. indecorus*), a narrow, often curved achene and well-developed sclerenchymatous stradms in the leaves. Known distribution patterns are not discordant with the concept of a continuous plexus” (p. 133–134).

In this complex situation we have chosen to follow the treatment under *Cyperus vestitus* Krauss in Flora of Tropical East Africa, but adding to this *Mariscus indecorus* (Kunth) Podlech [= *Cyperus indecorus* Kunth var. *inflatus* (C. B. Clarke) Kük., and var. *namaquensis* Kük.; but excluding *Cyp. indecorus* var. *indecors* which we treat under *Mariscus sumatrensis* (Retz.) J. Raynal = *Cyperus cyriodes* (L.) Kuntze].

On the other hand, we keep *Mariscus rehmannianus* C. B. Clarke [= *Cyperus decurvatus* (C. B. Clarke) C. Archer & Goethg.] as a separate entity, because it seems to be “the most distinctive form with glume apices conspicuously recurved”, and “easily identified” (fide Gordon-Gray, o.c.: 133–134).
Cyperaceae

Mapania rhynchoscarpa  Mapania soyauxii  Mapania sylvatica subsp. gabonica

Mapania testui  Mariscus absconditicononatus  Mariscus albomarginatus

Mariscus albopilosus  Mariscus albosanguineus  Mariscus amaurosus

Mariscus amomodorus  Mariscus baobab  Mariscus baouensis

251
MARISCUS ALBOMARGINATUS


Perennial succulent herb 30–70 cm tall, with or without long stolons; culms thickened at base or with an ovoid pseudobulb to 4 cm; culms glossy, 9–60 cm long, 0,3–2,1 mm Ø, trigonous; leaves to 30 cm long; sheath pale to red-brown with wide translucent margin, 3–6 cm long, covering the pseudobulb, sometimes splitting into fibres; blade linear, 5–50 cm × 1,4–6 mm, flat, margin and primary vein scabrid, apex acuminate; inflorescence a simple anhela; primary branches 0–6, 0–7 cm long; spikoids 1–2,5 × 1–2 cm; spikelets in loose clusters, sessile and at end of primary branches, 7–16 per cluster, ± linear, 5–13,5 × 1–2,8 mm. – Spikelets basically cream-coloured: closely packed on inflorescence branches, usually slightly ascending (M. albomarginatus s. str.); loosely packed on inflorescence branches, usually spreading (M. indecorus). – Cf. also under M. rehmannianus.

Grassland; woodland; rocky bushland; often on rocky outcrops; greens; 0–2100 m alt.

Namibia, S. Africa, Swaziland.

According to Fl. Trop. E. Afr., Cyper.: 172, 2010, “Cyperus neoschimperi Kük.” [= “Mariscus schimperi Steud.” = Cyp. cruentus Roth.] is close to Cyp. obsoletenervosus Peter & Kük. but stolons are lacking. In this same flora (p. 221) Cyp. vestitus (= Mariscus albomarginatus) is described as a plant with or without stolons. On the other hand, Cyp. neoschimperi is characterised by a short creeping rhizome with several tufted culms. Among the synonyms cited under “Cyperus neoschimperi” there is Cyp. pseudovestitus sensu Haines & Lye, Sedges & rushes E. Afr.: 212, fig. 427, 1983, non (C. B. Clarke) Kük. However, this same reference also appears among the synonyms of Cyp. vestitus, i.e. Mariscus albomarginatus (p. 221). This seems contradictory.

Among the synonyms cited (Fl. Trop. E. Afr., Cyper.: 172, 2010) under Cyp. neoschimperi (= Cyp. cruentus) there is also Cyp. vexillatus Peter ex Kük., a taxon said to be intermediate between Cyp. vestitus (= Mariscus albomarginatus) and Cyp. pseudovestitus (C. B. Clarke) Kük. (= Mariscus pseudovestitus) by Kükenthal in Engler, Pflanzenreich IV. 20/101: 547, 1936.

The circumscription of the taxa cited above needs clarification.

MARISCUS


syn.: Cyperus albopilosus (C. B. Clarke) Kük.

Perennial herb with horizontal somewhat moniliform rhizome; culms few, 15–47 cm long, 0,7–1,3 cm Ø, trigonous, minutely but densely hairy; leaves to 21,5 cm long; sheath pale green, 2,5–10,5 cm long; blade linear, flat, rather stiff, 1–11 cm × 3–4 mm, upper surface densely hairy, apex acute; inflorescence whitish or pale yellow, capitulate, globose, with 1 spike 7–9 mm long, 8–10 mm wide; spikelets many per inflorescence, lanceolate, 3,2–5,5 × 1,1–1,3 mm.

Grassland; woodland grazed; open woodland; 800–2000 m alt. M. albopilosus has a strong resemblance to some Kyllinga species. Its geographical distribution is disjunct.


bas.: Cyperus albosanguineus Kük.

Perennial herb; culms tufted, 5–50 cm tall, 0,7–2,5 cm Ø, trigonous; base swollen, covered with fibrous remains of old leaf sheaths; sheaths pale or reddish-brown, 3–8 cm long; blade linear, 4,2–23 cm × 1–2,4 mm, glabrous to slightly scabrid on margin, apex acute to acuminate; inflorescence capitate, ovoid to round-shaped, 0,8–1,3 cm long, 1–1,3 cm wide; spikelets in dense spikes, ovoid, 3–5 × 1–3,2 mm; lower glumes dark purple, the middle and upper creamy white.

Loudetia arundinacea grassland, forming very tough tussocks on otherwise bare rocky outcrops; seasonally wet grasslands, moorland, in rock crevices; on lava; 1550–4000 m alt.


bas.: Cyperus amauropus Steud. 1854.

syn.: Cyp. cruentus Roth. subsp. amauropus (Steud.) Lye; Cyp. leptolepis Hochst. ex Steud., 1854, in syn., and fa. conglobata Kük., and var. delicissus Kük., and var. friesii (Kük.) Kük., and var. ibennis (K. Schum.) Kük.; Cyp. ibennis K. Schum. 1895; Cyp. friesii Kük.; Cyp. leptolepis Peter ex Kük.; Cyp. concinniformis Kük.; Mariscus concinnus C. B. Clarke; M. leptolepis (Hochst. ex Steud.) C. B. Clarke.

Perennial succulent herb with a slightly swollen pseudobulb to 1 cm Ø, with a short rhizome and sometimes with 1–5 cm long stolons; culms tufted, 15–60 cm long, 1–3 mm Ø, trigonous, glabrous; leaves many at base, to 40 cm long; sheath uncoloured or pale brown, sometimes partly purplish, 3–8 cm long; blade linear, 16–34 cm × 1,3–5 mm, margin scabrid, apex acuminate; inflorescence a simple anhela, sometimes very loosely capitulate;
primary branches 0–4, 0–3.7 cm long; spikelets in loose clusters, sessile and at end of primary branches, 3–10 per cluster, spreading or reflexed, linear-lanceolate, 5.8–24 × 1.6–3.7 mm.

Grassland; wooded grassland; rocky hills; on shallow soil covering rocks; savannas; greens; sclerophyllous forests; dry bushland; often in bare soil; 450–2700 m alt.


bas.: *Cyperus amomorus* K. Schum.


Perennial tufted herb; culms few to many and crowded, 8–60 cm tall, 0.5–3.5 mm ⌀, with base bulbous or tuberous, covered by rather thick brown or blackish old fibres from leaf sheaths; culm trigonous to triquetrous, glabrous; sheaths ± whitish above, dark-colored below; leaf sheath pale to dark brown, 0.8–0.7 cm, 30 × 0.1–0.7 cm, attenuate, primary vein and margin scabrid; inflorescence capitate, hemispherical to nearly globular, 5–7 cm long; blade 6–30 cm long, 1.2–4 mm wide; spikelets many per head, lanceolate, 4–8 × 0.7–2 mm, 2–4-flowered. *Protea* grassland; open *Acacia* bushland; open woodland; scattered trees grassland; heavy / black soils; occasionally on thin soil over rock; locally common; savannas; 0–2400 m alt.


India to Burma [cited as *Ascochilus gambelli* by Prasad & Singh, Sedges Karnataka (India) 42: 2002].

(M. aster) C. B. Clarke ex Cherm.


Cited in Fl. Trop. E. Afr., Cyper.: 252, 2010, as a “species with inadequate data”.

See below at end of *Mariscus* as a “species in need of further study” (p. 275).
M. capensis (Steud.) Schrad.; Gordon-Gray, Cyper. Natal: 126, 382, 1901 (fide Fl. Trop. Afr., Cyper.: 1. c.). Our map (p. 257) represents both taxa. See also under Cyperus remotus above (p. 135) and Mariscus remotus below (p. 268).


Perennial herb with slender stolons 20 cm long, 1–3 mm ∅, covered with scales; culms solitary or a few together, 5–70 cm tall, 0,15–0,35 cm ∅, 3-angled, glabrous; leaves 10 or more per culm; blades 10–30 cm long, 0,3–0,8 cm wide, flat, densely scabrid at least on margin and midrib near tip; inflorescence a lax or somewhat congested anthela, 2–7 × 2–8 cm; spikes sessile or on up to 3 cm long peduncles with 10–20 spreading linear spikelets, each 5–12 × 1–2 mm, only slightly flattened, 4–12-flowered, falling off entire when mature.

Grassy places in forest; also near cultivations; weed in perennial and rotation crops; 1700–2200 m alt.


bas.: Kyllinga capensis Steud.

syn.: Mariscus marlothii C. B. Clarke (non Boeckeler) var. globospica C. B. Clarke; M. uitenhagensis Steud.; Cyperus capensis (Steud.) Endl. with var. pseudomarlothii Kük., and fa. globospica (C. B. Clarke) Kük., but excl. var. polyanthemus Kük. (= Mariscus chersinus).

Tufted perennial herb, leafy; culm bases swollen into pseudobulbs covered in persistent dark brown sheaths; blades 8–12 cm tall, trigonous, smooth; leaves ± as long as culms, 1 mm wide; inflorescence simple, 3–4–radiate, rays sessile or to 2 cm long; bracts 3–5; spikes ovate, dense, green to orange tinted, 5–7 mm long, 5 mm wide; spikelets ovate, 3 mm long, 1-flowered, straw-coloured to pallid when dry, completely hiding the short axes.

In S. Africa growing in shallow soil often over rock, rocky hills; in Mozambique ecology not given.

S. Africa, Swaziland, Lesotho.


syn.: Cyperus chaetophyllus (Chiov.) Kük.

Densely tussocky perennial herb with a short woody rhizome producing many swollen culm-bases, some fertile but many with leaves only; culm 5–50 cm long, 0,5–0,7 mm ∅, obtusely triangular to compressed, glabrous; leaf sheaths light to medium reddish-brown or blackish with age, glabrous, sometimes splitting into fibres, the inner succulent; blades filiform, to 30 cm long, 0,2–0,6 mm wide, glabrous or minutely scabrid on margin; inflorescence of 1 spike with 3–5 spreading spikelets, these lanceolate,
head, 0,7–1,2 cm long, 0,7–1,1 cm wide; spikelets many per head, linear-lanceolate, 5,2–9 × 1,1–1,3 mm; glumes yellow.

Boggy grassland; temporary swamps; on thin soil overlooking rock; 950–1800 m alt.

Four aberrant specimens from around Lake Victoria are cited at end of *Mariscus* (M. sp. nov. ? Hoenselaar ined.) p. 276.

[Cyperus congestus* C. B. Clarke 1896 – See at end of Mariscus* p. 275.]

*M. congestus* (Vahl) C. B. Clarke, incl. var. glanduliferus C. B. Clarke, but excl. var. brevis (Boeckeler) C. B. Clarke (= *Cyperus crassipes* Vahl); Clarke & Mannheimer, Cyper. Namibia: 92, 73 (map), 1999; Ngwenya in Sabonet News 8/1: 18, 2003 (S Mozambique); Archer & Craven, Cyper. Namibia: 24, 2004; Nacz & Ford, Sedges: uses…: 72, 82, 2008 (under *Cyperus*).


bas.: *Cyperus congestus* Vahl 1805, non Poir. 1806.


Perennial tufted herb appearing annual in the first year of growth and flowering, with a persistent rhizome, *never stoloniferous*; culms 30–80 cm tall, base swollen, bulbous, clothed in purplish leaf sheaths; leaves basal, shorter or as long as culm, 4–10 mm wide, long-acuminate, scabrous on margin and midrib; inflorescence branched with 2–7 rays of unequal length, to 12 cm long, and ending in large reddish-brown spikes 2–3,5 cm ∅; spikelets dense, linear-lanceolate, 0,8–2 cm long, c. 2 mm wide, compressed, 8–16-flowered, tardily disarticulating from the spike axis.

In S. Africa growing on damp streambanks and estuaries; moist drainage ditches; weed of disturbed areas, cultivations, gardens; often misidentified as (*Cyperus distans* = *Mariscus longibracteatus*, *Cyperus natalensis* (the leafy form), *Cyp. crassipes* (for details, see Gordon-Gray & al. 2006: 137).

S. Africa, Namibia, Lesotho; introduced in S Europe (C Portugal, Spain, Italy), Caucasus, E Asia, Japan, Australia, Hawaii, Tristan da Cunha. – Seems absent from tropical Africa (eventual presence in W Africa, Sierra Leone, cited in Fl. W. Trop. Afr., ed. 2, 3/2: 296, 1972, as *Mariscus sp. A*).


Tufted perennial herb; base of culm bulbous, bulb pyriform-oblong, 3–4,5 × 1–1,5 cm; outer leaf sheaths disintegrating into greyish-brown fibres; basal leaves shorter than culm, 3–4 mm wide; margins scabrid-ciliate; culms 11–23 cm long; inflorescence a simple anhela, white, globose, 1–1,5 cm ∅; spikelets linear-lanceolate, 2–3-flowered.

Forest and clearings towards the plain; c. 1700 m alt.

Said to be related to *Mariscus chionocephalus*, but spikelets few-flowered; and close to *M. plateilema* but basal fibres (of *Cyperus cufo dentii* leaf-sheaths) greyish-brown and spikes entirely confluent, and spikelets perhaps with 2–3 nutlets.

Taxonomic status uncertain; not mapped.


bas.: *Cyperus cufo dentii* Chiov. in Malpighia 35: 65 (!), 1939 (volume present at K Library, and text seen by us; cited as *Cyperus cufo dentii*). – *Cyperus cufo dentii* Chiov. cited in Index Kewensis, Supplement X (1936–1940): p. 68 (Oxoni 1947) with reference to Atti R(eale) Accad. Ital(ia), Mem. Cl. Sc(enti)f. Fis. etc. 11: 60, 1940. A copy of Chiovenda’s article, *Plantae novae aus minotae ex Aethiopia*, ibid.: 17–67, is present at G (Library), dated on cover page 1940–XVIII, but at the end of the article Roma, 1941–XIX. The article arrived at the Academy on 22 August, 1939, and was presented on 18 November 1939. – Type: Gortani (& Jaboli ?), n. 1, 18, on the flat top of Gara Cundudo / Cundudu, basaltic soil, 2800 m alt., XII. 1937, fl. fr. (FT holo-).

Densely tussocky perennial herb; culm bases crowded, swollen, covered by conspicuous pale sheaths; culms 3–15 cm long, 0,3–0,5 mm ∅, 3-angular, smooth; leaves from the basal 2–3 cm only, usually 5–8 per culm; blades linear, 3–5 cm × 0,5–1 mm, with a very conspicuous white marginal border; inflorescence a terminal globose head 1,5–2,5 cm wide, of 4–10 sessile spikelets; these linear, 5–18 × 2–4 mm, occasionally somehow curved, 10–20-flowered.

Limestone escarpment; sand dunes; stony ground; gravelly plains; open woodland or scrubland; 0–2800 m alt.

Very similar to *Cyperus wissmannii* O. Schwartz from Yemen or *Cyp. rubicundus*.


bas.: *Cyperus deciduus* Boeckeler syn.: *Cyp. wittei* Chiov.

Perennial herb with a woody, horizontal rhizome to 10 cm long; culms 21–52 cm tall, 0,6–1 mm ∅, trigonous, smooth; leaf sheaths grey to reddish-brown, 2–5,5 cm long; blades 8–18 cm long, 1,6–2,1 mm wide, scabrid on margins and veins, apex acute; inflorescence a simple anhela with primary branches 2–4, 1–3,5 cm long; spikelets in digitate clusters, sessile and on primary branches, 2–8 per cluster, linear, 6,3–13,7 × 1,2–1,6 mm.

Boggy or wet grassland; usually on shallow soil; 960–1500 m alt. Namibia, S. Africa, Botswana, Swaziland.

Perennial herb with a slightly swollen culm base with 1–10 cm long slender stolons; culms few, 25–80 cm tall, 0.7–2.5 mm Ø, trigonous, glabrous; leaf sheath 2.5–9 cm long; blade linear, 22–39 cm × 2–3.8 mm; scabrid on margin and primary vein, apex acuminate; inflorescence a solitary whitish globose head, 1–2 cm long, 1.1–2.2 cm wide; spikelets many per inflorescence, ± lanceolate, 6.5–14 × 2–4 mm, falling off entire when mature. Stony ground in *Acaea* formation; grassland; humid meadow; rock outcrops; rocky outcrops; (sclerophyllous) scrub savanna; 0–1800 m ait.

Presence in Zimbabwe uncertain.


**M. diurensis** C. Archer & Goetg. According to Gordon-Gray (o.c.: 131, 1995) “M. dubius, *M. capensis* … and *M. dregeanus* represent an interrelated plexus (*M. dregeanus* incorporating products of hybridisation and back-crossing derived from the other two species as putative original parents). The three taxa should be investigated karyologically and reproductively before further attempts are made to treat them systematically … it seems most suitable and convenient to include *M. dregeanus* within the limits of *M. dubius*.”

**M. diurensis** is cited in Fl. Trop. E. Afr., Cyper.: 256, 2010 under “Species of doubtful occurrence”. C. B. Clarke in Fl. Trop. Afr. 8: 380–381, 1902, says that this species occurs in Ghana (Gold Coast: Accra) and Nigeria (Old Calabar), in the island of S. Tomé, W-most Zaire (Matadi), in Angola (Loanda), as well as in E. Africa (Zanzibar, Usambara, Dar es Salaam) as well as in the Flora Zambesiaca area and S. Africa, Mascarene Isls., India, Borneo. For the Flora of Trop. E. Africa treatment no specimens were seen.


**M. dubius** Rottb.

syn.: *Marsicus dregeanus* Kunth; and See below under the subspecies.

Perennial herb; culms with a bulbous base, tufted, many, crowded, sometimes semi-succulent, 8–40–75 cm tall, 0.5–2 mm Ø, bluntly to sharply triangular, glabrous; leaves many; sheath pale brown, the lower somewhat thicker, brown and occasionally splitting into fibres, to 4 cm long; blade bright green or glaucous, linear, 5–33 cm × 1–8 mm, scabrid on at least margin and primary vein, apex attenuate; inflorescence capitate, green or greenish-white or white tinged green, hemispherical to ovoid, 5–15–20 mm Ø, of 3–6 congested sessile spikes; spikelets ovoid, 2 × 1–2 mm.

Loudetia arundinacea grassland with scattered trees, on rocky outcrop with wet flushes and thin soil with Selaginella njann-jamensis, Aeollanthus spp., Aloe sp. and many annuals; recent lava (eruption of Rumoka, 1912); open sclerophyllous forests; sandy soil; soil pockets of rocky outcrops in woodland or bushland or grassland; forest margins and clearings; bushland and grassland near the sea; foreshore; riverine forest; widespread as a weed; specimens from W Cameroon with the leaf sheaths forming a large bulbous base c. 3 cm across and having very small spikelets may represent a form resulting from burning (fide F.W.T.A., ed. 2, 3 (2): 295, 1972); riverine or lake shores; on wooded rocks growing with Ophioglossum vitatum; in shallow seasonally wet soil on rock-outcrops, inselbergs (Porembksi & Brown in Candollea 50: 359, 1995); weed in open rice fields, sandy sites, rotation crops, roadsides, sea coasts; 0–2600 m alt.

S. Tomé, Principe, Annobón (Figueiredo & al. in Bothalia 41: 52, 2011); Namibia, S. Africa, Botswana, Swaziland; Madagascar, Indian Ocean islands; SW Asia (Yemen: perhaps an error for *Mariscus schimperti* var. viridis, fide Wood, Handbook Yemen flora: 328, 1997); India, Sri Lanka E-wards to Maleisia, China, Philippines, Pacific islands; naturalized in SE Australia.


256
Mariscus boreochrysocephalus
Mariscus (Cyperus) remotus

Mariscus boreohemisphaericus

Mariscus capensis

Mariscus chersinus

Mariscus chionocephalus

Mariscus chrysocephalus

Mariscus congestus

Mariscus cundudoensis

Mariscus deciduus

Mariscus diurensis

Mariscus dubius

Mariscus durus
**MARISCUS DUBIUS**

For comments on relationships *Mariscus dregeanus* – *M. dubius* – *M. capensis*. See above under *M. dregeanus*.

“*Mariscus dubius* may be confused with some species of *Kyllinga* which have a swollen base (e.g. *K. tenuifolia*), but a close examination of the spikelets of *M. dubius* shows that the glumes … do not completely enclose each other; also *Mariscus* has trigonous achenes, whereas those of *Kyllinga* are convex” (Lowe & Stanfield, o.c.: 97, 1974).


**Cyperus durus** Kunth


Perennial herb with slender stolons, wiry, subterranean, 2

Perennial herb with slender stolons, wiry, subterranean, 2


**bas.:** *Cyperus maranguensis* K. Schum. var. *ferrugineoviridis* C. B. Clarke


Perennial herb with stolons to 15 cm long, 0,5–3 mm Ø, clothed in light brown lanceolate papery scales; culms 40–75 cm tall, rounded and obesely trigonous at top, base woody, notably thickened, covered by old leaf bases; leaves sometimes longer than culms, olive-green, c. 8 mm wide, glabrous, erect, rigid; inflorescence a contracted umbel 2,5–3 mm wide, glabrous, 3–7 cm long, 2

Grassland; cleared forest; also weed in cultivated land; savannas; rocky outcrops; termite mounds; grassy clearing in sclerophyllous forest; 0–2450 m alt.

Presence in S. Africa doubtful.


**MARISCUS FIRMIPES**

Spikelets 2–3-flowered. Kükenthal (l. c.) gives further specimens, from Tanzania (300–1250 m alt.).

Name now cited as a synonymy of *Mariscus amomodorus* (K. Schum.) Cufod. [= *Cyperus mollipes* (C. B. Clarke) K. Schum.].


Perennial herb sometimes small and slender with solitary culms from a thin rhizome, but often densely tufted, 15–50 cm tall, culms 1–4 mm Ø, glabrous, trigonous, swollen at base; leaves in lower part of culm; sheath purple; blade 10–40 cm long, 1–3 mm wide; inflorescence a simple anthela, 2–8 cm wide, with 1–5 (sub-) sessile and 5–10 pedunculate spikes, peduncles 2,4–4,5 cm long; spikes cylindrical, 0,8–3 × 0,6–2 cm, each with 20–30 spikelets, these linear, pointed, 4–13 × 0,6–1,5 mm, 4–10-flowered, erect and perpendicular to spike axis.

Open damp ground; fallows; often under shadow; weed in lawns, cultivations; sometimes very common; troublesome weed in nurseries; survives herbicide spraying; 0–1750 m alt. Bioko/Fernando Poo; tropical C. & S. America from Mexico to Brazil (Fl. Mesoamerican 6: 433–434, 1994, as *Cyperus tenuis*), West Indies (Acevedo-Rodríguez & Strong, Cat. seed pl. W. Indies: 271, 2012; idem).


Perennial herb with poorly developed short rhizome; culms with woody bases, 10–20 cm long, 1,5–5 mm Ø, glabrous, obscurely triangular above, almost terete below; leaves c. 10 per culm, all basal or in the basal 3 cm of culm; sheaths pale to straw-coloured with a thick 7–15-nerved central part and scarious pale margin; blades 2–10 cm long, 1,5–5 mm wide, ± semiterete, smooth or minutely scabrid on margin, often curved towards apex; inflorescence a dense terminal irregular cluster of spikelets 1–2 cm Ø, consisting of 8–15 crowded sessile spikelets, each
MARISCUS GYPSOPHILUS

0.8–1 cm × 2–3 mm, linear-lanceolate, only slightly compressed, 10–15-flowered.
Limestone or gypsum hill; 700–900 m alt.
Only known from the type collected in 1979.

bas.: Cyperus hamulosus M. Bieb.
syn.: Scirpus hamulosus (M. Bieb.) Steven; S. lugardii C. B. Clarke; S. pitardii Trab. ex Pit.; Dichostylis hamulosa (M. Bieb.) Nees; Isolaepis hamulosa (M. Bieb.) Kunth; Cyperus aristatus Rottb. var. hamulosus (M. Bieb.) Boeckeler and subsp. hamulosus (M. Bieb.) Asch. & Graebn., and subsp. hamulosus var. pitardii (Trab. ex Pit.) Maire; Cyperus pygmaeus Cav. 1801, nom. illeg., non Rottb. 1773, nec Retz. 1786, nec Nutt. 1835.

MARISCUS HEMISPHERICUS

Uncertain in S Somalia (S1, S3); specimens young and poor; identification tentative.

syn.: Cyperus hirtellus (Chiov.) Kük.; Mariscus rhodescicus Podlech

Perennial herb with stolons to 12 cm long, 1–2 mm Ø, covered by pale brown or greyish scales; culms slightly swollen at base, few, 14–60 cm long, 1.6–4 mm Ø, trigonous, hairy at least above; leaf sheaths grey or brown, 3–10 cm long; blade linear, 16–41 cm × 3–7 mm, hairy, apex acuminate; inflorescence a simple anthela with primary branches 2–8, 0.5–10 cm long; spikelets in spikes 1.2–2.2 cm long that are sessile and at end of primary branches; spikelets many per cluster, spreading, ± lanceolate, 7–13 × 0.7–1.5 mm, rhachis straight.
Open bushland and woodland; sandy loamy soils; 900–2900 m alt.

bas.: Cyperus impubes Steud. [excl. var. rohlfisit (Boeckeler) Kük. = Mariscus rohlfisit].
syn.: Cyp. quadriflorus Boeckeler; Cyp. impubes var. brevispicul-sus Kük.; Mariscus procerus A. Rich. 1850, non Schrad. ex Nees 1842 nec (J. R. Forst. & G. Forst.) Kuntze 1891; M. richardii Steud.; M. cypreus Hochst. ex Boeckeler; M. moniliferus Chiov.

Perennial herb with culms clustered or slightly spaced from a thick horizontal rhizome; culms trigonous, 40–80 cm long, 1.5–3 mm Ø, glabrous; leaf sheaths 2–10 cm long, pale reddish-brown; blade 10–50 cm long, 3–7 mm wide, margins and midrib scabrid, apex acute to acuminate; inflorescence simple, with 1 sessile and 5–9 stalked spikes, stalks to 5 cm long; spikes cylindric, 1.2–5.5 × 0.7–1.7 cm, with many densely set spikelets; these spreading, linear-lanceolate, 5–9 × 1–1.3 mm; glumes reddish.
Stream sides; forest clearings and margins; secondary vegetation derived from forest; rocky sites; 1350–2250 m alt.
Soqotra – Cited from “Somalia”, probably “Gara Mulata” in Ethiopia (9°05’N × 41°45’E).

CYPERACEAE

MARISCUS HEMISPHERICUS

Perennial herb with short rhizome; culms 30–45 cm tall, trigonous, thickened at base in an ovate-oblong pseudobulb; leaves ± as long as culms; sheaths red-brown; blades 2–3 mm wide; inflorescence...
MARISCUS INDECORUS

a simple anthera with usually spreading branches; spikes ovoid, 1–1.5 × 1–1.2 cm; spikelets loosely packed, linear, 6–7 × 1 mm.

A plant from S. Africa, but also cited from Malawi (Buchanan 1432) and Mozambique in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew (consulted 2017).

– Cf. below under M. sumatrensis.

Under M. albomarginatus C. B. Clarke (p. 250) we discuss the relationships within the species complex also comprising M. indecorus (Kunth) Podlech and M. rehmannianus C. B. Clarke.

Gordon-Gray (l. c.) tentatively maintained the 3 taxa as distinct entities, stating that M. indecorus differs from M. albomarginatus “in the arrangement of spikelets on the spikes of the anthelate inflorescence… and in the longer spikelets and glumes … (but there is overlap …)”. All these entities have in common a similar reddish pigmentation of the glumes. Gordon-Gray did not uphold varieties within M. indecorus.

Under M. albomarginatus we treat M. indecorus var. inflatus (C. B. Clarke) Podlech and var. nanaqcaucusus (Kük.) Podlech as synonyms [= Cyperus indecorus Kunth var. inflatus (C. B. Clarke) Kük. and var. nanaqcaucusus Kük.], plants from S. Africa. However, we exclude Cyperus indecorus var. indecorus, which we cite as a synonym under Mariscus sumatrensis (Retz.) J. Raynal [= Cyperus cyprioides (L.) Kunze].

Cyperus indecorus var. decurvatus (C. B. Clarke) Kük. – See below under Mariscus rehmannianus.

Not mapped by us.


syn.: M. karisimbienisis Chem. ex Staner 1933, nom. nud.; M. mariitmus C. B. Clarke 1896, non Cyperus maritimus Poir. 1806; Cyperus karisimbienisis (Chem.) Kük., incl. var. longinus (Kük.) Kük.; Cyp. coloratus Vahl var. longinus Kük.

Perennial tussocky herb; culms slightly swollen at base covered by thin grey to brown leaf sheaths, the oldest sometimes splitting into soft fibres; culms few, 13–46 cm long, 0.8–1.5 mm Ø, tringonous, glabrous; leaves many; sheath grey to brown, 6–11.5 cm long; blade flat, linear, 10–16 cm × 1.25 mm, scabrid at least on margin and primary vein, apex acuminate; inflorescence capititate; spikelets in a solitary hemispherical or irregular head, many per head, lanceolate, 4.4–7.3 × 0.8–1.5 mm, 3–6-flowered.

Woodland; clearings; swamps; wet grassland and lawns, often near streams; 1800–3300 m alt.


bas.: Cyperus kerstenii Boeckeler

syn.: Cypr. kerstenii var. irregularis Kük.; Cyp. vaginitissimus K. Schum.

Perennial tussocky herb; culms few, with a swollen base, covered by old brown leaf sheaths splitting into fibres; culms 34–78 cm long, 1.8–2.2 mm Ø, tringonous, glabrous; leaf sheath greyish-brown above, dark brown below, 6.5–12 cm long; blade linear, flat, 35–51 × 0.3–1.2 cm, margin and primary vein strongly scabrid, apex acuminate; inflorescence capititate, 1.5–2 cm long, 1–2 cm wide; spikelets lanceolate, 6.2–8 × 1.5–2.1 mm, 2–4-flowered.

Grassland; moorland; bogs; next to streams; 2400–3800 m alt.


bas.: Cyperus kyllingiformis Lye (“kyllingiformis”), Nord. J. Bot. 3: 218, 1983; type: Kenya, Kitale, in wooded grassland (Combretum savanna), 1400 m alt., 12 May 1953, A. Bogdan 3726 (K holotype; EA iso-).

Perennial herb to 42 cm tall, with a strongly bulbous culm base covered by fibrous remains of old leaf sheaths, 1.5–2.7 cm Ø; culms few, 15–40 cm long, 0.6–2 mm Ø, terete, trigonous above; leaves from the lower 3–10 cm only, to 25.5 cm long; upper sheath greyish, 3–5.5 cm long, very thin; blade linear, 5–20 cm long, 2–3 mm wide, apex acuminate; inflorescence Kyllinga-like, capititate, 6–11 mm long, 5–12 mm Ø, consisting of 1 ovate spike or, usually few-many crowded smaller spikes; spikelets ovoid, very variable in size, falling off entire, 3–5 mm long, 2–5-flowered.

Wooded grassland; 1400 m alt. Very rare.

Known only from the type collected in 1953. – Thought to be extinct, “as this habitat is under severe pressure” (Fl. Trop. E. Afr., Cypr.: l.c.). The replacement name refers to the collecting site of the type, i.e. Kitale (Kenya).

“Perhaps most similar to M. anomodorus”.


Perennial herb with short creeping rhizome; culms rather crowded, 30–50 cm long, 1.2–2.1 mm Ø, basal part bulbous (6–8 mm Ø), trigonous, glabrous; leaf sheath grey to pale reddish-brown, only at very base torn into fibres, 4–7.5 cm long; blade flat, linear, 15–31 cm × 2.3–5.5 mm, scabrid at least along margin, apex acuminate; inflorescence a simple anthela with primary branches 1–5, 1.5–8 cm long; spikelets in loose clusters, sessile and at end of primary branches, 4–15 per cluster, often (or sometimes?) reflexed, linear, 4.7–9.2 × 2.4–3.3 mm, spreading when nutlets mature, lax-flowered.

Brachystegia woodland on sand; 800–900 m alt.

Namibia, Botswana; Zaire?

Recognised by its lax-flowered spikelets and by the spikes which have rather few reflexed spikelets.


bas.: Cyperus ligularis L.

syn.: Cyperus rufus Kunth; Cyp. spicatocapitatus Steud. (“Steud.”) in Jardin, nom. in Nouvelles Annales Marine
M. longibracteatus Cherm.

“Extremely variable ... The species also offers difficulty because of irregularities in the breaking up of spikelets. This has meant "Extremely variable ... The species also offers difficulty because of irregularities in the breaking up of spikelets. This has meant..." (S. S. Hooper)
MARISCUS LONGIBRACTEATUS

to axis, brown to pale brown, sometimes tinged with green, linear-oblong, 0.6–2 cm × 0.5–2 mm; rachilla thin, flexuose, with wide transparent wing on two sides.

Forest with Podocarpus latifolius, Olea capensis subsp. hochstetteri, Syzygium guineense subsp. afrocomatum at small brook; stream-sides; periodically to seasonally swampy or moist sites in shade; cultivations; dry forest; woodland margins; roadside banks; stream banks in forest; edges of ditches and pools; forest margins; woodland/grassland transition; 0–3300 m alt.

Very variable species – See above.

“Widely distributed in the warmer regions of the whole world” – tropical-subtropical. – Bioko/Fernando Poo, Annobón, Príncipe; S. Africa, Botswana, Swaziland; Comoros, Mauritius, Madagascar, Réunion, Seychelles; S Asia from India, Sri Lanka, E-wards to China, New Guinea, Philippines, Australia; SE U.S.A., C. & S. America, West Indies (Acevedo-Rodriguez & Strong, Cat. seed pl. West Indies; 263, 2012, as Cyperus distans); introduced in Europe, Spain (Verloove & al. in Fl. Medit. 24: 200, 2014) – “… a widespread and locally dangerous or major weed … In the southeastern U.S.A. (despite a recent introduction … field populations, and appropriate state and federal agencies should undertake eradication measures to ensure early control of this potentially invasive pest” (Verloove: l.c.).

Cyperus congensis C. B. Clarke [syn.: Cyp. distans L. f. var. mucronatus Berth., nom. invalid.; Cyp. eleusinoides Kunth var. dinklageanus Kük.] is said to be very near [Cyp. distans =] Mariscus longibRACTeatus. See at end of Mariscus p. 275 below.

The variants described have gradual differences: shorter or longer branches to 1 cm long; spikelets in loose clusters, sessile and at end of primary branches, 3–15 per cluster, flattened, 7.2–9 × 1–1.5 mm, 10–14-flowered.

Grassland; roadsides; near sea-level to 1200 m alt.

India.


bas.: Cyperus microbolbos C. B. Clarke

Annual glabrous herb with numerous capillary stolons (easily confused with roots) covered by yellowish-brown scales and terminating in a minute ovoid bulb to 6–8 mm Ø, enclosed in a hard shining dark brown-black coat which splits up into regular valves; culms 5–15 cm long, c. 1 mm Ø arising from bulbs; leaves 4–5, basal, lower 2 with blades 8–15 × 0.8–0.1 cm; sheaths papery, almost entirely buried in the sand; inflorescence compact, of 1 sessile spike 1–1.2 × 0.5–1 cm with 3–8–13 spreading red-brown oblong spikelets; these compressed, 0.3–2.5 cm × 1–2(–4) mm, 5–8–40-flowered.

Coastal sand, forming a flush; probably near sea-level to 1200 m alt.

Egypt (Gebel Elba).


Perennial or perhaps sometimes annual herb; culms 2–8 cm long, 0.5–0.8 mm Ø, obtusely triangular or with 1 flat and 1 concave side, glabrous with shallow longitudinal ridges; leaves at base; sheaths light brown to purplish with wide translucent margins, glabrous, densely crowded and forming a 1–15 cm long, 3–5 mm thick narrowly ovoid cylinder or pseudobulb; blades probably 1–2 cm long, 0.2–0.5 mm wide; inflorescence a solitary terminal
group of 2–6 sessile erect or spreading spikelets; these linear, 0,6–2 cm × 2–2.5 mm, 10–50-flowered.

Small solution holes in limestone pavement with very little soil in *Acacia, Commpophora, Adenia ballyi* association; 50–150 m alt. Only known from the type collected in 1973.

**M. myrmeleias** (Ridl.) C. B. Clarke; Rendel, Cat. Welwitsch’s Afr. pl. 2/1: 120–121, 1899; Figueiredo & Smith, Pl. Angola: 179, 2008 (under *Cyperus*).

bas.: **Cyperus myrmeleias** Ride. (Densely) caespitose herb with rhizome; culms ± 30 cm tall, 3-angled, striate; leaves numerous, broadly linear, c. 15 cm long, main nerve scabrous, tip acuminate, base purplish; inflorescence 3-angled, striate; leaves numerous, broadly linear, c. 15 cm long, 1 cm wide, with 40 spikelets, sometimes sub-compound at base, when ripe dusky green; spikelets in fruit cylindric, c. 2 cm long, 1 cm wide, with 40 spikelets, sometimes 179, 2008 (under *Cyperus*).


syn.: **Cyperus nyasensis** (Podlech) Lye (“nyassensis”). Perennial tussocky herb with very short rhizome (or without rhizome ?); culms many, tufted, 14–34 cm long, 1–1.3 mm ⌀, trigonous to ± terete, hairy sometimes only in upper part, base succulent; leaf sheath greyish to pale brown, 3.5–8 cm long, hairy, covering culm base; blade linear, 8–20 × 0.1–0.3 cm, villous beneath, apex acuminate; inflorescence capitate with 3–6 sessile cylindric dense spikes (6–12 × 6 mm) per head, each with 20–44 spikelets; these linear-lanceolate, c. 3 × 0.5 mm.

Rock crevices; on shallow soil over rock; 1650–2000 m alt.


bas.: **Cyperus ossicaulis** Lye, Kew Bull. 51: 205, 1996. Type: Somalia (C1), 20 km W of Xarartheere, 43°27′N × 47°41′E; Beckett 202, 10 June 1979 (K, holo-).

Perennial herb without apparent rhizome but with aggregated woody culm bases; culms 25–7 cm long, 0.6–1.5 mm ⌀, terete or slightly angular with many longitudinal ridges, glabrous, yellowish below, green above; leaves from lower 7 cm only; old basal sheaths whitish, numerous, crowded and forming a bone-like cylinder; blades fibrosil, 10–20 × 0.3–0.5 mm; inflorescence a simple head, consisting of 5–8-flowered. Rock crevices; on shallow soil over rock; 1650–2000 m alt.


bas.: **Cyperus owanii** Boeckeler 1878, non *Mariscus owanii* C. B. Clarke 1897/1898.

MARISCUS OMANII


Closely related to *M. solidus* (Kunth) Vorster, and according to Vorster segregated from that species by its vertical rhizome (horizontal in *M. solidus*). “Not only is this criterion often impossible to apply, since rhizomes are difficult to dig out and consequently seldom represented in herbaria, but when available, are not always entirely convincing. (Is the variation perhaps dependent upon soil textures and other edaphic conditions, as well as seasonal variations ?). The differences separating *M. owanii* from *M. grantii* (C. B. Clarke) are also not adequately divisive. It is acknowledged that *M. owanii* and *M. grantii* occupy habitats different from grassland glades favoured by *M. solidus*. They are plants of shaded situations ... It is also accepted that they have a facies slightly different from that representative of *M. solidus* (clear green leaves, as well as other small differences). Despite these differences, identification is not always possible, except arbitrarily” (Gordon-Gray, o.c.: 134).

We follow Gordon-Gray’s concept in including *M. owanii* in *M. solidus*.

According to Kükenthal (l.c.) *M. owanii* is collected from S-most Mozambique, Lourenço Marques (T. Borle n. 11454).

S. Africa. – Not mapped by us separately, i.e. with *M. solidus*.


Tusssocky perennial herb; culms few or many, 15–45 cm long, 1–2 mm ⌀, triangular, glabrous, bases swollen and covered with sheaths that break up into numerous tough brown or blackish fibres; blades 10–30 cm long, 1.5–3 mm wide, flat, scabrid at least on margins; young sheaths pale brown and sometimes transparent; inflorescence a white (somewhat brownish as dry) head hemispherical or irregular in outline, 1–1.8 cm ⌀, consisting of 30–50 crowded sessile spikelets; these 5–8 × 2–3 mm, ovate-elliptic, 5–8-flowered.

Seasonally wet grassland; wooded grassland.

S Somalia (S2, S3). – Not mapped by us.

Identity uncertain: mature nutlet unknown. “It is probably either the same as *C. [Cyperus] submacropus* Kük. (in which case *C. paoli* is the correct name) or *C. firmipes* (C. B. Clarke) Kük. (which then will be the correct name)” (Fl. Somalia, l.c.). – Perhaps a synonym of *Mariscus amomodorus*.


Perennial herb; culms densely tufted, 11–35 cm long, c. 1 mm ⌀, trigonous, glabrous, base surrounded by many fibres; leaf sheaths brownish, 3.5–6 cm long, turning fibrous; blades linear, 6–16 cm × 0.5–2 mm, margins scabrid, apex acute to acuminate; inflorescence a simple anthera, with primary branches 1–2,
MARISCUS PERRIERI

1–2,7 cm long, or sometimes capitellate; spikes ovoid, sessile or at end of primary branches; spikelets 3–12 per spike, ovoid, 4,3–7 × 2–3 mm.
Margin of Brachystegia woodland with boggy grassland; shallow soil over rock; 300–1050 m alt.
Madagascar.


syn.: **Cyperus philippisiae** (C. B. Clarke) Kük. Perennial herb without rhizome; culms fleshy at base, 20–266 CYPERACEAE


MARISCUS PLURICEPHALUS

bas.: **Cyperus pluricephalus** Lye, Nord. J. Bot. 16: 133, 1996.
Type: Somalia, Jaldakali district, ± 12 km NE of Ceel Baraf, 3°19′N × 45°05′E, 14 December 1987, P. Kuchar 17635 (UPS holo.).
Perennial herb with horizontal woody rhizome c. 5 mm ⌀; culms crowded, 60–90 cm long, 1–2 mm ⌀, terete, but sometimes obtusely triangular above, with very weak longitudinal ridges, glabrous; leaves from lower 20 cm only; sheaths straw-coloured to, particularly in the lowermost coriaceous ones, bright red-


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dish-brown, glabrous; blades to 30 cm long, 2–4 mm wide, stiff and coriaceous, margin and midrib minutely scabrid; inflorescence an anthera 4–6 cm wide of 1 sessile spherical group of spikelets and 2–4 stalked globose groups of spikelets; each capitulum 0,9–1,6 cm ⌀, consisting of 20–50 spikelets; pedicels 2–4 cm long, somewhat flattened, glabrous; rachis of capitulum with prominent round cushion-like outgrowths from where the spikelets begin; spikelets ± cylindrical, 5–8 × 1–1,5 mm, 3–4-flowered, with acute apex.
Gently rolling orange sand-hills with Commithora, Indigofera raspoli; 170 m alt.
Only known from the type collected in 1987.

See above under **Cyperus conglomoratus** (p. 100), and also Notes under **Cyperus jeminicus** (p. 113) and **Cyperus plurinervosus** (p. 131).
We have seen a photograph of the type specimen at P. It corresponds to **Cyperus jeminicus** Roth., that we consider a form of **Cyperus conglomoratus** Roth.


bas.: **Cyperus pratensis** Boeckeler [exc. var. laxus C. B. Clarke, Fl. Trop. Afr. 8: 352, 1902 ex descr. (= Mariscus laxiflorus Turrill = Cyperus turrillii Kük.); cf. Kükenthal, o.c.: 467–468].
Perennial herb with abbreviated moniflorum rhizome; culm base corn-like; culm 15–40 cm long, 0,05–0,2 cm ⌀, 3-angled, glabrous; leaf blade 5–30 cm long, 0,2–0,5 cm wide, flat, scabrid at least on midrib and margin near the tip; inflorescence of several sessile irregular spikes with or without 1–3 additional stalked spikes on up to 3 cm long peduncles; spikes oblong, 1,1–1,8 × 0,8 cm, with numerous crowded 4–6-flowered spikelets.
Probably in seasonally wet habitats; 1500–2600 m alt.


syn.: **M. hilsenbergii** C. B. Clarke, nom. **Cyperus pseudobrunneus** (C. B. Clarke ex Chern.) Kük., incl. var. **continentalis** Kük., var. **hilsenbergii** Kük., and var. **pseudobojeri** Kük.
Perennial herb with short woody rhizome; culms 80 cm tall, strongly sharp-angled, leafy below, base thickened, smooth; leaves nearly as long as culm, 8–10 mm wide, flat, tip long-acuminate, margins denticulate-scabrid; sheaths hard at base, dark brown; inflorescence a compound anthera with 9 rays, rays rigid, obliquely spreading, to 8 cm long, branched at apex; spikes 3–6 with many dense sessile, closely set spikelets, the laterals divergent or reflexed, globose-ovate; spikelets flattened, oblong-lanceolate, 8–10 × c. 2 mm, 8–10-flowered. (Var. **continentalis** in E. Africa with subcapitulate anthera with scarcely developed rays,
MARISCUS PSEUDOBRUNNEUS

secondary anthelas (“anthelulae”) to 3 cm Ø, spikes to 2 cm long, to 12-flowered.
Edge of primary forest; 2500 m alt.
Madagascar (var. hilsenberigi), Comoros (var. pseudobojeri); var. continentialis from Tanzania, Kilimanjaro (Peter 42075; Schlieben s. n.).


syn.: Cyperus pseudopilosus (C. B. Clarke) Govaerts; Cyp. socialis C. B. Clarke; Mariscus socialis (C. B. Clarke) S. S. Hooper; M. trinervis C. B. Clarke, nom. inval.

Perennial herb with thick creeping rhizomes resembling stolons, cultivated and covered with scales; culms few, 0.9–1.5 m long, 5–8 mm Ø, triquetrous, glabrous; leaf sheaths reddish-brown, 6–42 cm long; blade 0; inflorescence a large compound anthera with primary branches 5–8, 3.2–5.5 cm long; spikelets spaced out in an elongated spike, sessile at end of primary branches, 5–40 per cluster, ± linear, 3.3–5.7 × 1.3–1.6 mm.

Shallow pool at shady forest margin; swamp (30–40 cm deep water); swamp forest; lake with Cyperus papyrus and ferns; 0–c. 1200 m alt.

(M. pseudovestitus C. B. Clarke), excl. var. perrieri (Cherm.) Podlech (= M. perrieri).

syn.: Cyperus pseudovestitus (C. B. Clarke) Kük., incl. var. polycarpus Kük.

This plant is endemic in S. Africa and ? Madagascar. – It is not mapped by us in the present work.
Under Cyperus vestitus, treated by us above as a synonym of Mariscus albo-marginatus (p. 250), Flora of Tropical East Africa, Cyperaceae (p. 221, 2010), defined the situation as follows.

“There has been confusion about the taxa C. obsoletenervosus, C. vestitus, and C. vestitus in our area. The types of pseudovestitus … in E.P.4, 20 (101): 547 (1936) [= Engler, Pflanzenreich] … have inflorescences much more capitate than nearly all the East African [EA] material … also the glumes in EA material are longer … with a green keel and an acute (not obtuse) apex … the type of C. vestitus is much more like the bulk of our material … with the only exception being in the glume apex … and the width of the pseudobulb … it seems most practical … to use the name vestitus for our material … Haines & Lye called pseudovestitus very similar to C. obsoletenervosus but differing in presence/absence of stolons. Stolons are not visible in most specimens from either South or East Africa”.

In our treatment of Mariscus albo-marginatus above (p. 250) Cy. obsoletenervosus Peter & Kük. is also cited as a synonym of that species. This is also the case with the illustrations of Cy. vestitus and Cy. pseudovestitus by Haines & Lye in Sedges & rushes E. Africa: 212, 1983. In Flora of Ethiopia & Eritrea 1: 265–266, 2009 (incl. fig. 29 of Cy. pseudovestitus p. 266, reproduced from Haines & Lye’s publication) the identity of Cy. pseudovestitus in Ethiopia (Sidamo) is discussed. A collection from Sidamo (Frisi & al. 2883) formerly identified as Cy. obsoletenervosus Peter & Kük. belongs, in fact, to Cy. pseudovestitus; this should also be the case with material from N of Tanzania. The determination is based on presence or absence of long and slender stolons: if present plants belong to Cy. obsoletenervosus, and if absent the plants represent Cy. pseudovestitus.

Another feature is discussed by Gordon-Gray (Cyperaceae in Natal: 132–133, 1995), who notes that “there [Mariscus pseudovestitus] is close relationship with M. vestitus [= Cyp. vestitus]. Distinction is most reliably ensured by examination of the glume apices (the midvein not excurrent in M. pseudovestitus, but developed into a short mucro in M. vestitus).”


syn.: Cyperus psilostachys (C. B. Clarke) Kük., nom. illeg., and fa. glabrescens Kük., var. pluribracteatus Kük., and var. subrufs Kük. – Cyp. pluribracteatus (Kük.) Govaerts

Perennial herb; culms densely crowed in groups of 2–20, rarely solitary at end of a stolon, 35–74 cm long, 1–3 mm Ø, trigonous, hairy at least above with swollen fleshy bases 0.8–1.3 cm Ø; leaf sheaths pale brown to greyish, fleshy, 3–10.5 cm long; blades flat, linear, 14–32 × 2.5–5.5 mm, hairy, apex acuminate; inflorescence a simple anthera with primary branches 3–8, 1.2–9.3 cm long; spikes with 20 to many spikelets, sessile and at end of primary branches, 1.3–2.5 cm long, 1.2–1.6 cm wide; spikelets linear-lanceolate, 6–2 × 0.7–1.1 mm; glumes densely hairy.
Dryish grassland; woodland; rocky outcrops; savannas; greens; 0–2100 m alt.


bas.: Cyperus pubens Kük.

Perennial herb; culms few, with a swollen base emitting thick scale-covered stolons, 0.3–0.5 cm Ø; culms 31–52 cm long, 1.4–2 mm Ø, trigonous, with short white densely set hairs below the inflorescence; leaf sheaths straw-coloured above, purplish-brown below, 3–11 cm long, densely set with white hairs; blades flat, linear, 24–33 cm × 4.4–7.3 mm, densely set with white hairs, apex acute; inflorescence a simple anthera, primary branches 4–6, 3–8 cm long; spikelets in loose spikes, rachis of spike densely set with white hairs, sessile and at end of primary branches; spikelets 7–25 per spike, ± linear, 0.7–1.2 cm × c. 1 mm. Brachystegia woodland; sandy soil; 900–1150 m alt.


bas.: Cyperus recurvispicatus Lyne, Nord. J. Bot. 16: 376, 1996; type: Somalia, Mudug region, 6°58’N × 48°52’E, J. B. Gereau; in Candollea 36: 448, 1981 (as Mariscus albo-marginatus). Tussocky perennial herb with a short woody rhizome; culms crowded, 10–15 cm long, 1–2.5 mm Ø, somewhat compressed to terete or obscurely angular, glabrous; leaves from the lower 1–3 cm only; sheaths medium reddish-brown with very prominent wide white membranous margins; blades to c. 20 cm long.
MARISCUS RECURVISPICATUS

1.5–2 mm wide, flat but very thick, minutely scabrid along margin, often curled or coiled at apex; inflorescence a lax anthena to 8 × 6 cm consisting of 1 sessile or subsessile group of spikelets and 1–4 stalked digitate groups of spikelets, each group consisting of 3–10 spreading and reflexed spikelets; these linear, 0.8–1.5 cm × 1–1.5 mm, apex acute, 12–16-flowered.

Very open Acacia, Commiphora bushland; 140 m alt.

Only known from the type collected in 1979.


Under Mariscus alboldagritus above (p. 250) we referred to Gordon-Gray’s discussion about the taxonomic status of M. indecorus and M. rehmianus within this species complex. Although “the criteria are not reliably divisive” M. rehmianus represents the most distinctive entity, and it is said to be “easily identified”. “Shoot bases are developed into pseudobulbs with swelling of leaf sheaths”. The inflorescence is characteristic due to the long spikelets (2–5-flowered) and long recurved glume apices. (“Dry open areas where there is little competition”). By rocks; 300 m alt.

Namibia, S. Africa, Botswana, Swaziland.

(M. rothsii C. B. Clarke)

This plant is treated by us above under Cyperus rothsii (C. B. Clarke) Kük. (p. 135), with a short description.


Mapped with Mariscus boreochrysocephalus (p. 257).


bas.: Cyperus rohlfii Boeckeler

syn.: Cyp. impubes Steud. var. rohlfii (Boeckeler) Kük.; Cyp. oblongoincrassatus Kük. var. clarior Kük.

Perennial herb with a short rhizome or stoloniferous; culms solitary or several together from thick stolons, 24–72 cm long, 1.7–2.5 mm ⌀, trigonous, with longitudinal ridges, glabrous, base swollen to sub-succulent; leaf sheaths whitish-grey to pale brown, pinkish at base, papery, thin, 9–19 cm long; blades linear, flat, 30–60 cm × 3–5.5 mm, scabrid along margin, apex acuminate; inflorescence a simple anthena, primary branches 4–10, 0.5–8 cm long; spikes 2.8–8.8 cm long, 4–6 mm ⌀, sessile and at end of primary branches; spikelets many per spike, linear, 2.3–3.5 × 0.7–1.1 mm.

Rocky outcrops; thin soil over rock or lava; grassland or scattered tree grassland; bushland; 0–2700 m alt.

MARISCUS ROHLSFII

The Paoli collection (259) from “Italian Somaliland” is probably situated in NE Ethiopia (Bender Suguma plain; 8°17′N × 44°16′E). Near M. taylorii but differs in: the very narrow spikes, short spikelets, and small glumes (2.2–3.3 mm long, not 3–3.5 mm).

The type is very immature, it “must be considered a doubtful species. It is perhaps conspecific with Cyperus impubes” (Fl. Eth. & Eritrea 6: 458; 1997).


syn.: Cyperus cruentus Rothb.; Cyp. globosus Forssk.; Cyp. variegatus Boeckeler 1870, nom. illeg., nec Griseb. 1864 nec Kunth 1817; Cyp. neoschimperi Kük., incl. var. viridis (Hochst. ex Schweinf.) Kük. and var. subvirens Peter & Kük.; Cyp. vexillatus Peter & Kük.; Mariscus viridis Hochst. ex Schweinf.; there is no doubt about syn. Cyperus pseudovestivittus sensu Haines & Lye, Sedges & rushes E. Afr.: 212, 1983, with fig. 427, non (C. B. Clarke) Kük., cited in Fl. Trop. E. Afr., Cyper.: 172, 2010, as well as a synonym of Cyp. vestitus Krauss p. 221 (= Mariscus alboldagritus C. B. Clarke; cf. the present work p. 250). As pointed out by Darbyshire & al., l.c., “the taxonomy is rather confused”.

Tusssocky perennial herb with few to many clustered oblong culm bases (cylindrical pseudobulb) on an obscure rhizome; culms 10–40(–60) cm long, 1–3 mm ⌀, 3-angled, glabrous; culm base appearing swollen because of the many withered loose leaf sheaths at lower part of plant; leaf sheaths reddish-brown with wide translucent margin, darker at base, to 12 cm long; blades flat, 5–66 cm long, 1–4 mm wide, margin and midrib scabrid; inflorescence a dense simple anthena, 3-angled to hemispherical, 1–2 cm ⌀, with 3–4 spikes sessile or briefly stalked; spikes ovoid, 1–2.5 × 1–2 cm, each consisting of 10–25 crowded spikelets; these ovate, slightly compressed, 4–10 × 1–2.5 mm, 2–6-flowered.

Rocky hill slopes, hill tops; rock crevices; rocky outcrops; on flat rocks; dry grassland, bushland; 500–2400 m alt.


As noted above the taxonomy is confused. – Compare under Mariscus alboldagritus C. B. Clarke (p. 250).


syn.: Cyperus schweinfurthii (Chiow.) Kük., non C. schweinfurthiiana Boeckeler

Stoloniferous perennial herb; stolons to 15 cm long, 0.1–0.2 cm ⌀, covered by brown to grey scales; culms with a slightly swollen base, 30–50 cm long, 0.15–0.4 cm ⌀, 3-angled, glabrous; leaf sheaths grey-white to brown, somewhat fuzzy below; blades flat, 10–40 cm long, 3–7 mm wide, scabrid on margin; inflorescence of 1 sessile and 4–8 stalked spikes on 0.5–8 cm long peduncles; spikes 1–3.5 × 0.8–1 cm, with many spreading spikelets; these linear, 3–6 × 0.7–1 mm, 1-flowered.

Bushland or grassland; 800–1200 m alt.


bas.: Cyperus scleropodus Chiow.
**Cyperaceae**

**Mariscus scleropodus**

Densely tussock perennial herb; culms 5–25 cm long with prominently swollen bases covered by numerous thick dark brown to black leaf sheaths; blades 5–30 cm long, 0.5–1 mm wide, twisted and convolute when dry, margin and midrib minutely scabrid; inflorescence a solitary dirty white head 1–2 cm Ø; spikelets lanceolate, 4–6 × 1.5–2 mm, flattened, 3–5–flowered; nutlet unknown. Dry mountain region; c. 500 m alt.

The 2 collections known are both immature, and thus the taxonomic status uncertain.


**bas.: Cyperus solidus** Kunth

**syn.:** *Cyp. solidus var. elatior* Kunth; *Cyp. dactyliformis* Boeckeler; *Cyp. congestus* Vahl var. α Nees; *Cyp. elatior* (Kunth) Boeckeler; *Mariscus elatior* (Kunth) C. B. Clarke; *M. dactyliformis* (Boeckeler) C. B. Clarke; *M. grantii* C. B. Clarke – For synonyms under *Mariscus owanii* (Boeckeler) C. B. Clarke; See above under that species (p. 264). – *Mariscus drakensbergensis* Vorster; *M. drakensbergensis* (Vorster) Govarts – *Mariscus grantii* C. B. Clarke 1898, non *Cyperus grantii* Boeckeler 1875; *Cyperus vorsteri* K. L. Wilson 1994.

Perennial herb with a massive branched horizontal rhizome clothed in scale leaves that become black and fibrous before wearing away; culms to 1.5 m tall; leaves numerous, up to 1.5 cm wide, rigid, faintly bluish green, margin and abaxial midrib scabrid; inflorescence a robust compound (occasionally simple) anhelta with 8–12 rays to 20 cm long; spikes dense, mostly short peduncled bearing closely packed brown spikelets, these 1.2 cm long. Usually along water courses; seldom in water; 1400–1700 m alt.

S. Africa, Swaziland.

According to Gordon-Gray (i.e.) *Mariscus grantii* C. B. Clarke and *M. owanii* (Boeckeler) C. B. Clarke are closely related if not conspecific with *M. solidus*. To keep them separate, “...the criteria applied are neither entirely convincing, nor easily used.” The rhizome is said to be vertical in *M. owanii* and *M. grantii*, not horizontal. “...This criterion is impossible to apply ...”. “The differences separating *M. owanii* from *M. grantii* are also not adequately divisive; identification is not always possible, except arbitrarily.” See also discussion under *M. owanii* above (p. 264).

Our map (p. 269) includes the three entities.

**Mariscus drakensbergensis** Vorster [syn.: *Cyperus drakensbergensis* (Vorster) Govarts] was established “to accommodate plants known from only two sites in the Nata Drakensberg” (c. 1800 m alt.). “These differ from *M. solidus* only in their smaller size, vertical rhizome, purple ... leaf sheaths and absence of peripheral air canals in main culm”.


Persuasory tussock perennial herb; culms with swollen bases forming a ± regular row (rhizome indistinct), only the 1–2 youngest carrying a culm; culms 5–15 cm tall, 0.7–1 mm Ø, obtusely angular to somewhat compressed, usually scabrid at least on some ridges; leaves many, mostly basal and 2.5 cm up the culms only; leaf sheath reddish-brown to almost black with pale membranous margins and c. 7 prominent nerves that gradually split up into fibres; blades 3–10 cm long, 1–1.5 mm wide, flat, very thick, with prominent teeth along margins, often curved at apex; inflorescence a dense terminal irregular cluster of spikelets to 1 cm Ø, consisting of 4–15 crowded sessile spikelets; these ovate-lanceolate, 4–6 × 2 mm; apex acute, hardly compressed, 5–9-flowered.

Sandy plain, between consolidated and mobile dunes; below 50 m alt.

Only known from the type collected in 1959.

**Mariscus somaliensis** C. B. Clarke 1895, non *Cyperus somaliensis* C. B. Clarke 1895; Thulin, Fl. Somalia 4: 133, 1995; Simpson & Inglis in Kew Bull. 56: 304, 2001 (as *Cyperus pseudosomaliensis*).

**syn.: Cyperus pseudosomaliensis** Kük.

Tussocky perennial herb with succulent cylindrical to narrow bottle-shaped culm bases covered by membranous pale or light brown sheaths without keeled midrib; culms 3–25 cm long, 0.3–1.5 mm Ø; triangular, glabrous or minutely scabrid; leaves crowded near plant base; blades 2–10 cm long, 0.5–1.5 mm wide, flat but filiform when dry, midrib densely scabrid and the pale narrow marginal border scabrid-dentate; inflorescence of 4–15 crowded sessile spikelets forming a head 1–4 cm Ø; spikelets 0.5–2 cm × 2–3 mm, flat, 10–25-flowered.

Open woodland or scrubland.

Only known from the type.

Very near *M. cundudoensis*.


**bas.: Cyperus soyauxii** Boeckeler

Perennial, tussocky herb; root system minute; culms tufted, 10–30 cm tall, 2–5 Ø at base, c. 1 mm Ø below inflorescence, trigonous, glabrous; leaf sheath whitish or pale purplish, very thin, 3.5–9 cm long; blade flat, 3–30 cm long, 1.5–3.5 mm wide, scabrid on at least margin near the acuminate apex; inflorescence a simple anhelta 2–5 cm Ø with primary branches 1–5, 0.5–1.5 cm long; spikelets in crowded spikes, c. 1.2 × 0.7 cm, sessile and at end of primary branches, 10–30 per spike, ovoid, 4–6 × 1.5–2.2 mm, hardly compressed.

Medium dense Commiphora bushland with Balanites and occasional larger Acacia; ground flora: perennial Chloris roxburghii, Aristida, Daucylactenum; disturbed ground; swamps; tree plantations; thickly wooded places; also ruderal; cultivations; fallows; near sea-level –1400 m alt.
MARISCUS SOYAUXII

Comprises 2 subspp: – subsp. soyauxii; – subsp. pallecens (Lye) J.-P. Lebrun & Stork, comb. nov. in Candollea 74: 149, 2019; bas.: Cyperus soyauxii Boeckeler subsp. pallecens Lye in Nord. J. Bot. 3: 227, 1983; type: Kenya, Garissa Dist., 01°13’S × 39°42’E, alt. 300 m, 14 December 1977, B. Stannard & M. G. Gilbert 1061 (EA holo-, K iso-); in dry grassland among shrubs and smaller trees, 300–850–1400 m alt., in Kenya also in Turkana Distr., and adjacent S. Ethiopia; differs from the typical subspecies by its larger and more open inflorescence and the very pale spikelets (glumes greyish).


Annual herb to 40 cm tall, with a minute rootsystem; culms solitary or crowded and tufted, 1–33 cm long, 0.4–3 mm Ø, trigonous, almost glabrous; leaf sheath green to purple, 0.6–4.7 cm long; blade linear, flat, 2–13,5 cm × 1–4 mm, slightly scabrid to glabrous, apex acuminate; inflorescence a simple anthela with primary branches 1–7, 0.5–7 cm long; spikelets in dense golden or reddish spikes, sessile and at end of primary branches; spikelets 6–41 per spike, crowded, linear, 2–7 × 1,5–3 mm, flattened, squarrose with long recurved glume apices 5–15-flowered. Grassland; seasonally wet grassland; often on silt near rock pools, streams and roadsides; open ground; open grassy places; boggy hollows overlying rocks; inselbergs (Porembsky & Brown in Candollea 50: 359, 1995); degraded savanna; temporarily inundated sites (Mbayongne & al., Etudes Florist. Vég. Burkina Faso 9: 35–38, 2005); bare soils well drained, arable land, cultivated fields (for a long time, cf. Wittig & Becker in Phytocoenologia 41: 130, 2011); weed in gardens; near sea-level – 2100 m alt.

MARISCUS SQUARROSIUS

Pantropical, cosmopolitan, but rare in America. – Cape Verde Isl. (Duarte in Garcia de Orta, Séér. Bot. 15: 56–57, 2002); Namibia, S. Africa, Botswana, Swaziland; Madagascar; SW Asia (Oman, Saudi Arabia, Yemen), S Asia from Pakistan, Afghanistan, India, Sri Lanka, E-wards to Indo-China, Australia; N. America from S Canada S-wards to C. America – S. America (to Argentina, Chile); West Indies (Acevedo-Rodriguez & Strong, Cat. seed pl. W. Indies 281, 2012); naturalised in S Europe (Italy, Po river basin; Croatia; Ardenghi & al. in Phytotaxa 212: 135, 2015; Verloove in Webbia 72: 129, 2017).

Plant with a strong Aloe tinture odour.

“Although new taxa have been described and other major nomenclatural changes have occurred, the entire complex has not been studied since Küttenthal (1935–1936). A systematic review worldwide … is needed” (Nacci & Ford, o.c.: 43).

(M. stolonifer C. B. Clarke, non Cyperus stolonifer Retz.). Küttenthal in Engler, Pflanzenreich IV. 20/101: 557, 1936 (as Cyperus chevalieri). syn.: Cyperus chevalieri Kük.

Herb with a short rhizome and 1–4 elongated stolons; culms 13–14 cm tall, trigonous, smooth, grooved, base thickened and covered with black fibrous sheaths; leaves ± as long as culms, 3 mm wide, sheaths scavorous-membranous; inflorescence a contracted-capitate hemispherical antha, 10–14 cm Ø; spike clusters; spikelets numerous, ovate-lanceolate, acute, ± compressed, 5–4×5 mm. Swampy clayey soil.

Known from the type (A. Chevalier 9448) collected in 1903: Chad, Baguirmi, Niger, at Bahr Erughi, and Fotius 1551. Taxonomic status uncertain; near M. scleropodus (Chiov.) Cufod. (= Cyp. splendens Chiouv.). – Not mapped.


Perennial tussocky herb; culm bases covered by fibrous remains of old leaf sheaths; culms few, 10–15 cm tall, 0,5–1 mm Ø, trigonous to somewhat compressed; leaf sheath 2–4 cm long; blade linear, 5–15 cm × 0,3–1 mm, apex acuminate; inflorescence capitate, 4–6 mm long, × 6–8 mm wide; spikelets 9–12 per head, ovoid, 3–6,2 × 1,2–2,1 mm. Grassland; 430–1200 m alt.

Only known from two syntypes (Peter 31807, 32426), collected in 1925.


bas.: Kyllinga sumatrensis Retz. 1786.


Perennial rhizomatous herb; culm base hard, swollen, cortormose, + spherical (not a soft pseudobulb), to c. 10 mm ², enveloped in persistent papery, dark red to purple leaf sheaths often splitting up into fibres; upper leaf sheaths green to pale brown; culms few, tufted, 6–90 cm long, 0.5–5 mm ², bluntly trigonous, glabrous; leaf blades linear, 10–39 cm long, 0.2–1.2 cm wide, attenuate, scabrid on margin and midrib near apex; inflorescence a simple anthera with 4–18 primary branches 0.2–1.2 cm long, sometimes with 1–6 sessile spikes at base and some stalked spikes; these cylindrical, 0.7–3 × 0.5–1.3 cm, with 25–180 spreading spikelets; spikelets green, sometimes yellowish-green when young, flushed brown to golden when older, 2.5–7 mm long, 1–4–flowered.

Forest, forest clearings; riverine forest; Hagenia abyssinica woodland; in broken shade of riparian transition woodland; regularly grazed grassland; especially in swampy situations on streamssides; road and path sides; waste places; fallow fields; fields, rice fields; gardens; well drained sands; more rarely in savannas and meadows; mountain savanna with Kotschya lutea; neglected Cedrela plantation with regenerating mixed woodland of Combretum collinum, Stereospermum kunthianum, Acacia hockii, Albizia grandibracteata on ground with rocky outcrops; pioneer on spoil earth in permeable soil; locally common; forming clusters or small tufted, 6 sessile spikes at base and some stalked spikes; these cylindrical, 0.7–3 × 0.5–1.3 cm, with 25–180 spreading spikelets; spikelets green, sometimes yellowish-green when young, flushed brown to golden when older, 2.5–7 mm long. Very variable in: size of spikes, length of inflorescence rays, crowding of spikelets. Various forms are influenced by habitat, amount of moisture available and time of the season (Fl. Trop. E. Afr., Cyper.: 226, 2010). Also, “young plants are relatively short with a clear yellowish-green anathale inflorescence of several spikes, each carrying fairly closely packed narrow spikelets. With maturity, the … culms increase in height, the spikes elongate with some separation and swelling of the spikelets. There is also a change in guime colour to deeper brownish yellow green” (Gordon-Gray, Cyper. Natal: 136, 1995).

Cape Verde Isl.; Bioko/Fernando Poo, Annobón; Namibia, S. Africa, Botswana, Swaziland; Madagascar, Comoros, Mauritius; tropical & subtropical Asia, from Pakistan, NW Himalayas, India, Sri Lanka E-wards to China, Japan and N Australia; Hawaii; introduced into Fiji Isl., West Indies (Acevedo-Rodríguez & Strong, Cat. seed pl. W. Indies: 41, 2008).

Also used as an ornamental. The plant (as Cyperus subumbellatus Kük.) “is sold as an indoor plant under the name ‘Cyperus sumula’” in the United Kingdom (Nazzi & Ford, Sedges: uses…: 41, 2008).
MARISCUS SUMATRENSIS

“As is usual with common and widespread pioneer taxa, a whole host of subspecies and varieties has been recognized in the past” (Fl. Trop. E. Afr., Cyper.: 226, 2010).

In Flora of Tropical East Africa, Cyperaceae, Index p. 453, 2010, the name Cyperus cylindrostachyus Boeckeler is cited but without reference to a page number.


bas.: Cyperus tanyphyl/us Ridl.

Perennial tufted herb with very short scarcely creeping rhizome; culms 30–60 cm tall, triquetrous, grooved, base sub-bulbous; leaves linear, flaccid, shorter than culm; sheath entire, papery, brown; inflorescence a simple anthela with 5–11 rays, these to 4 cm long; spikes ovate-cylindrical, 1,5 × 1 cm, each with c. 25 spikelets; spikelets lanceolate, acuminate, 6–8 × 1,5 mm, 4-flowered, tetragonal in fruit, dusky ferrugineous; nutlet obovate, trigonous, c. half as long as glume.

Primary woods; lofty wooded places; rather poor thicket-grown places.

Compared with M. sieberian/us (= Mariscus sumatren/us) by Clarke 1902: 1.e.


\[ \text{bas.: Cyperus oblongoincrassatus Kük. 1936, incl. var. groteanus Kük., and var. udigen/us Kük., but excl. var. clar-

\[ \text{ior Kük. (= Mariscus rohlfsii (Boeckeler) C. B. Clarke); Cyp. clark-}

\[ \text{eus K. Schum. 1895 (“intended as a nomen novum for Mariscus taylorii, which was still a nom. nudum at the time – so this is a nomen invalid.”, Fl. Trop. E. Afr.: l.c.).}

Perennial herb with short rhizome and sometimes with underground stolons; culms crowded, 30–50 cm long, 0,3–1 mm \( \Phi \), trigonous, glabrous, base slightly to considerably swollen; leaf sheaths reddish-brown, rather fleshy; blades linear, flat, 30–50 cm × 3–6 mm, scabrid on margins; inflorescence a simple anthela with primary branches 5–12, 0,5–4–12 cm long; spikes 1,5–2–3 × 0,8–1,5 cm, spreading; spikelets sessile and at end of primary branches, linear-lanceolate, 3–5 × 1,5 mm, 2–6–flowered.

Rocky sites; dry Acacia, Commiphora bushland; edge of rivulet in rain-forest; humid places; 350–1800 m alt.


bas.: Cyperus tomaiophyl/us K. Schum.

MARISCUS TOMAIOPHYLLUS


Perennial herb with a branching scale-covered woody rhizome to 2 cm \( \Omega \); culms few, base covered with brown scales and old leaf bases split by the new culms arising in their axil; culms 0,45–1,4 m tall, 3,7–7,8 mm \( \Omega \), trigonous, glabrous; leaf sheath dark brown to almost black at base, brown higher up, 5–14 cm long; blade linear, 35–90 × 0,6–1,5 cm, scabrid on margin and primary vein, apex acuminate; inflorescence a simple anthela with primary branches 7–15, 1,5–9 cm long; spikelets in long, crowded clusters, sessile and at end of primary branches, many per cluster, linear-oblong, 0,5–1,3 cm × 1,2–2,5 mm.

Swamps, bogs; wet places in forests; forest edges; clearings in bamboo forest; damp grassy slopes; also ruderal; 1300–2900 m alt.

Bioko/Fernando Poo.


Perennial herb with slender dark brown rhizomes, 15–30 × 1–1,5 mm; stem with swollen base 5–9 mm \( \Omega \) covered in fibrous remains of old leaf sheaths; culms 9–32 cm long, 0,5–1 mm \( \Omega \), trigonous; leaves 5–9, basal; sheaths to 4 cm long; blades filiform, 2–14 × 0,1–0,2 cm, ciliated on edges and midrib; inflorescence a single terminal capitulate ovate spike, slightly pseudolateral, 4–7 × 0,5–1 mm, with deciduous spikelets 2–3,6 × c. 1 mm.

Miombo woodlands; 1250 m alt.

Near Mariscus (Cyperus) C. stramineoferrugineus. Discovered in 1952.

(M. vestitus (Hochst. ex C. Krauss) C. B. Clarke) – See under M. albomargin/us C. B. Clarke above.

***

The presence of the following taxa in Tropical Africa needs confirmation.


syn.: Cyperus javanicus Houtt. 1782, non Kük. 1931 (= ?); Mariscus javanicus (Houtt.) Merr. & F. P. Metcalf 1945, nom. illeg., non (Moritzi) Kuntze 1891; M. stuppe/us (G. Forst.) Merr.; Cyperus pennis/us Lam. 1791.

Cited by C. B. Clarke in Fl. Trop. Afr. 8: 397, 1902, from Kenya (7), Taita hills (Hildebrandt 2437). This species is otherwise known from Indian Ocean Islands (Madagascar, Seychelles, etc.) and tropical and subtropical SE Asia to Australia, Hawaii. – The Hildebrandt specimen was not seen by the authors of Fl. Trop. E. Afr. (l.c.).


syn.: Cyperus compact/us Retz. 1788, non Lam. 1791; Mariscus compact/us (Retz.) Bold.
MARISCUS MICROCEPHALUS

Cited by C. B. Clarke in Fl. Trop. Afr. 8: 402, 1902, from Tanzania, Kilimanjaro (K. Schumann), but no specimen seen by Clarke from there, who suggests, however, that specimens may have been imported with rice. Occurrence in tropical E Africa not confirmed (l.c., 2010). This species is known from Madagascar, tropical and subtropical Asia to N Australia.

* * *

The following species placed under Cyperus are perhaps true Mariscus: they are in need of further study.


bas.: Mariscus aster C. B. Clarke ex Chem. (Madagascar, Perrier 2666).

– Var. bilurus Peter & Kütt.; Fl. Trop. E. Afr., Cyper.: 252, 2010. Perennial herb to 90 cm tall, rhizomatous; culms tufted, 68–89 cm long, 1,1–1,6 mm 2, trigonous; leaves much longer than culms; sheath reddish-brown; blade linear, 1–1,5 mm wide; inflorescence a simple anhela with 2 primary branches, ± sessile; spikelets small, subglobose, 4–6 mm 2. – The description is based on 2 collections, viz. Peter 39156, 4305. The specimens “without many floral characters, so lots of data missing”.

On rocks, hanging from rocks; 1200–1600 m alt.

Map on p. 273.


syn.: C. distans L. f. var. mucronatus Berth., nom. invalid.; C. sp. forxi nov. A. Raynal, FL & vég. envir. Kayar, D.E.S. ronoé: 69, 1961, & Ann. Fac. Sci. Dakar 9: 157, 1963; C. elusinoides Kunth var. dinklagaeus Kütt. Perennial robust herb, culm base bulbous covered by fibrous remains of old leaf sheaths; culms 40–70 cm long, 1,5–3,5 mm 2; leaves from basal 10–20 cm only; sheath light- or dark-reddish brown near base; blade 20–30 cm long, 3–7 mm wide; inflorescence an anhela 3–20 cm wide of 1–3 sessile spikes and usually 2–10 stalked spikes or groups of spikes, peduncles 1–15 cm long; bracts leafy, often numerous, 10–30 cm long; spikelets linear, 5–25 mm long, 1,5–2 mm wide, reddish-brown with 5–40 widely spaced flowers. Seasonally wet places, e.g. grassy savanna; coastal sand dunes; river banks; fallows; 0–1650 m alt.

Very near C. distans L. f. but glumes well imbricate and often with a short murco (not clearly separate and normally obsolete-rounded at tip). The ecology of C. congensis is also different: sunny marshland in savanna (not in shady gallery forest) or between coastal dunes.

“Superficially most similar to the Ethiopian species C. pratensis Boeckeler”.

C. distans L. f. is a synonym of Mariscus longibracteatus. Cyperus congensis is perhaps better placed in the genus Mariscus (See note under Mariscus longibracteatus below).

**CYPERUS CONGENSIS**

Presence in Tanzania doubtful: “I have seen no East African specimens. Haines & Lye (1983: 200) say this is only known from Kigoma and Iringa Districts but cite no specimens” (Fl. Trop. E. Afr., l.c.).

Map on p. 273.


Perennial herb with a swollen, bulb-like base covered by 1–2 thick red-dish-brown scales (old leaf sheaths) with prominent nerves and fibres; each bulb producing 1 fertile culm and later in the season 1(-several ?) leafy shoot(s); fertile culm 15–30 cm tall, 0,6–1,2 mm 2, trigonous, with 1–2 leaves near base; leaf blade 2–4 cm long; c. 2 mm wide; leafy shoot only 5–10 cm long, with 5–10 leaves whose blades are c. 5 cm long, but probably much larger later in the season (collected 30 December 1961); inflorescence a solitary yellowish-white globose or hemispherical head 9–10 mm 2; bracts 3, leafy, reflexed, to 1–3 cm long; spikelets ± linear, 4–4,5 mm long.

Dry grassland, very rare; c. 2000 m alt. Known only from the type collected in 1961 (Robinson 4822); Tanzania, Upita Dist. (T4). “Superficially most similar to Cyperus (Kyllinga) microbracteatus”.

In Fl. Trop. E. Afr., l.c., this plant is placed under the heading “Species which I [H. Beentje] have not seen”, because the type material was not refound at K.

**Cyperus fulgens** C. B. Clarke

syn.: Mariscus fulgens (C. B. Clarke) Vorster ined.

See under Cyperus fulgens p. 109 above.


Perennial herb with short woody rhizome; culms densely tufted; 10–12 cm tall, compressed triquetrous clothed at base with blackish purple leaf sheaths splitting into fibres and thickening into an oblong ± bulbous structure; leaves ± as long as culms, flat, flaccid, 1–2 mm wide; anthela simple, 2–3 radiate, branches to 2 cm long; spikes ± loose, each with 1–5 spikelets; these linear, c. 10 mm long, up to 14-flowered; nutlets not developed.

Stony mountain slope.

? Known only from the type collected 28th November 1911 (Fries 1385). – Map on p. 279.


**Cyperus longi-involucratus** Lye

Treated above under Cyperus (p. 120), with the note that this plant is “perhaps most similar to Cyperus amauropos” (= Mariscus amauropos). – Certainly a true Mariscus without a valid name in that genus. Mariscus longi-involucratus (Lye) xxx would be an available name.

Cyperus obbiadensis

Perennial tussocky herb with thick (c. 1 cm Ø) and 3–4 cm long swollen stem bases covered in a dense coat of old brownish leaf sheaths; culms to c. 20 cm tall, 0.5–1 mm Ø, trigonous at least above, becoming rounded with age, glabrous; leaves from lower 5 cm only; upper sheaths often pale, the lower brownish; blades filiform, to c. 10 cm × 0.5 mm, margins prominently scabrid; inflorescence a terminal cluster 1.5–2.5 cm Ø, of c. 10 crowded spikelets; these linear, 1–2 × 0.2 cm, flattened, 12–20-flowered, apex acute; glumes 3–4 mm long, reddish-brown, midrib green, excursive to a prominent margo.

Dry grassland; probably < 200 m alt.
Taxon of uncertain status; known only from the type which is immature.

Map p. 279.


Whole plant shortly hairy, with short rhizome; culms several, 25–35 cm tall, trigonous, densely hairy, base oblong-thickened by coloured leaf sheaths; leaves longer than culms, 3–4 mm wide; inflorescence capitate, with 5–7 sessile spikes 1.6–0.5 cm, densely set with spikelets; these obliquely spreading, oblong, 3 × 1 mm; glumes cinnamon-yellowish.

Ecology not recorded.
Tanzania: between the coast (Zanzibar) and Uyui (= Tabora district). Known only from the type (Taylor s. n.). Map p. 279.
Possibly close to Mariscus schimperi Hochst. ex A. Rich. (= Cyperus neoschimperi Kük.).


Perennial herb with short woody rhizome; culms 80 cm long, robust, sharp-angled, thickened at base, with many leaves in lower part; leaves ± as long as culms, 8–10 mm wide, apex long-acute, margins dentate-scabrid; sheaths dark brown; inflorescence a compound anthela with 9 rays to 8 cm long; spikes 3–6 nearly sessile and at end of rays; globose-ovate, to 1,5 cm × 1 cm, of c. 10 crowded spikelets; these oblong-lanceolate, acute, 8–10 × 2 mm, 8–10-flowered.

Kükenthal (l.c.) distinguished 3 vars.: – var. continentalis Kük. in E Africa, Tanzania, Kilimanjaro, at edge of primary forest, at 2500 m alt. (Peter 42075, Schlieben s. n.); – var. hilsenbergii (C. B. Clarke) Kük. (bas.: Mariscus hilsenbergii C. B. Clarke) in Madagascar; – var. pseudobogieri Kük., described from La Galega island (Bojer coll.) in the Western Indian Ocean (at a distance ENE of N tip of Madagascar).

Mariscus pseudobrunneus does not figure in Fl. Trop. E. Afr., Cyperaceae. – Map on p. 279.


Perennial herb with long thick rhizome 3 mm Ø covered with reddish-brown scales; culms 10–50 cm long, 0.1–0.2 cm Ø, triangular to rounded; leaf blades c. 30 cm long, 0.3–0.5 cm wide; inflorescence a spherical head c. 1 cm Ø with many dense linear spikelets 5–6 × 1 mm, 2-flowered, spikelet bracts not ciliate on midrib.

In Angola, Lunda (Pogge 412), and Zambia, Barotse at Sefula (R. de Prosch 21). Also in Zaire ? The Welwitsch (Nº 6838) and Gossweiler (2307) specimens belong to Cyp. angolensis.

Perhaps a true Mariscus: M. rhynchosporoides is a possible name. Compared with Mariscus (Cyperus) abscinditoconatus, M. (Cyperus) stramineoferruginosus and M. (Cyperus) unispicatus by Bauters & al., l.c.

Cyperus trigonellus Suess.
syn.: Mariscus trigonellus Suess.
This plant is perhaps a true Mariscus, but treated by us under Cyperus trigonellus p. 145.


bas.: Mariscus varicus C. B. Clarke ex Chern. var. simplicicusculus Chern. 1937.

Cyp. varicus is a plant from Madagascar, but Kükenthal cites 3 collections from Tanzania, viz. v. Brehmer 789 (Uluguru Mts, 2500 m alt, in humid grass cushions), and Schlieben 3019, 3754 (Bondua, rainforest, 1300–2060 m alt.). Not in Fl. Trop. E. Afr., Cyperaceae, 2010.


(Cyperus wissmannii O. Schwartz), Wood, Handbook Yemen flora: 327, 1997.)
syn.: Mariscus wissmannii (O. Schwartz) J.-P. Lebrun & Stork, ined.


In Thulin, Fl. Somalia 4: 134, 1995, Cyp. wissmannii is said to be very similar to C. cundudensis / cundudosensis Chiov. 1939 from which it differs by its larger spikelet glumes that are not pale but green and blackish or purplish-brown towards apex. They are perhaps conspecific. See above under Mariscus cundudensis (Chiov.) J.-P. Lebrun & Stork.


It differs from M. chryscephalus by its small size and its inflorescence head of only 1–3 spikelets. The four specimens cited are collected from around Lake Victoria (Uganda-Tanzania), “geographically very localized, well away from the distribution area of C. chryscephalus sensu stricto”.

SYNONYMS:

Mariscus albomarginatus C. B. Clarke 1902
= Mariscus indecorus
albomarginatus C. B. Clarke var. binucifera C. B. Clarke

= M. albomarginatus

alpestris (K. Schum.) C. B. Clarke = M. tomaiophyllus

alternifolius Vahl = M. sumatrensis

amomodorus (K. Schum.) Cufo = var. paolii (Chiov.)

Cufod. = M. paolii

angularis Turrill = M. chersinus

aphyllus Vahl = Kylunga tibialis

aristatus (Roth.) Cherm. 1938 = Mariscus squarrosus

assimilis (Steud.) Podlech = Courtoisina assimilis

aster C. B. Clarke ex Cherm. = Cyperus aster

(See at end of Mariscus)

atrosanguineus Hochst. ex A. Rich. = Mariscus platelema

azimensis C. B. Clarke = M. flabelliformis

baoniensis Hutch. 1936, English descr. only

= M. baoulensis (Kük.) Hutch. ex J.-P. Lebrun & Stork

bequaertii Cherm. = M. ferrugineoviridis

binucifer (C. B. Clarke) C. B. Clarke

= M. albomarginatus

boeckelii C. B. Clarke = M. amomodorus

bojeri C. B. Clarke = M. longibracteatus

bolusii C. B. Clarke 1894 = M. ovani

bulbocaulis A. Rich. = M. platelema

bulbosus Steud. = M. platelema

bullatus (Kük.) Podlech = M. chersinus

circumculus C. B. Clarke = M. amomodorus

coloratus (Vahl) Nees = M. dubius subsp. dubius

coloratus var. macrocephalus C. B. Clarke = M. dubius

subsp. macrocephalus

compactus (Retz.) Boid. = M. microcephalus

(See at end of Mariscus)

concinnus C. B. Clarke = M. amaurous

concinnus Schrad. ex Nees, incl. var. evolution

(C. B. Clarke) Panigrahi, var. khasianus (C. B. Clarke)

Panigrahi, var. subcompositus (C. B. Clarke) Panigrahi

= M. sumatrensis

cooperi C. B. Clarke = M. congestus

cyperus Hochst. ex Boeckeler = M. impubes

cylindristachys Steud. = M. sumatrensis

cyperoides (L.) Urban 1900 = M. sumatrensis

cyperoides (Roxb.) A. Dietr., incl. subsp. africanus (Kük.)

Podlech = Courtoisina cyperoides

dactylistimor (Boeckeler) C. B. Clarke = Mariscus solidus

diurensis (Boeckeler) C. B. Clarke var. longistolon

(Peter ex Kük.) Podlech = Pycreus longistolon

drakensbergensis Vorster – cf. Mariscus solidus

elettior (Kunth) C. B. Clarke = M. solidus

feraex (L. Rich.) C. B. Clarke = Torulinium odoratum

firmipes C. B. Clarke = Mariscus amomodorus

foliosus C. B. Clarke 1902 = M. luteus

fulgens (C. B. Clarke) Vorster med. = Cyperus fulgens

(See at end of Mariscus)

globifer C. B. Clarke = Mariscus amomodorus

goniobolbus Cherm. var. angustifolius Cherm. and

per verreri (Cherm.) Cherm. = M. perrieri

grantii C. B. Clarke 1898 – Cf. M. solidus

gregorii C. B. Clarke = M. hemisphaericus

guentii C. B. Clarke = M. solidus

hilsenbergi C. B. Clarke, nom. = M. pseudobrunneus

hocstetteri Walp. = M. platelema

imbricatus (L.) Cufo = M. squarrosus

indecorus (Kunth) Podlech = M. sumatrensis

indecorus var. decurvatus (C. B. Clarke) Podlech

= M. rehmannianus

indecorus var. dinteri (Kük.) Podlech = M. rehmannianus

indecorus var. inflatus (C. B. Clarke) Podlech

= M. albomarginatus

indecorus var. namaquensis (Kük.) Podlech

= M. albomarginatus

inflatus C. B. Clarke = M. albomarginatus

intricatus (L.) Cufo = M. squarrosus

tridifolius (Willd. ex Link) Kunze = Machaerina flexuosa

subsp. polyanthemum

jamaicensis (Crand.) Britton = Cladium mariscus

subsp. jamaicensis

javanicus (Hott.) Merr. & F. P. Metcalf

= Mariscus albescens (See at end of Mariscus)

karisimbiensis Cherm. ex Stunzer 1933, nom. nud.

= M. karisimbiensis Cherm. 1935

keniensis (Kük.) S. S. Hooper = M. longibracteatus

kraussii Hochst., incl. var. capitatus Cherm. = M. dubius

leptophyllus (Steud.) C. B. Clarke = M. amauropus

leptostachyus (Nees) Kunze = Cladium mariscus

subsp. jamaicense

ligularis (L.) Urb. var. spicatocapitatus [“Jardin”] Nelmes

= Mariscus ligularis

longibracteatus Cherm. var. keniensis (Kük.) Maquet and

var. substans Kük. = M. longibracteatus

luridus T. Durand & De Wild. = M. flabelliformis

lutziformis (Boeckeler) C. B. Clarke = (M. indecorus =) ?

M. sumatrensis

macer Kunth = M. sumatrensis

macropus Kunth = M. sumatrensis

magnis C. B. Clarke = M. tomiaiophyllus

malalwicus J. Raynal = Ainaula malawica

manongarivensis Cherm. = Mariscus luteus

maritimus C. B. Clarke = M. karisimbiensis

marlothii C. B. Clarke var. globisipica C. B. Clarke

= M. capensis

martii (Roem. & Schult.) Fernald = Cladium mariscus

mollipes C. B. Clarke = Mariscus amomodorus

moniliferus Chioiv. = M. impubes

mucronatus (L.) Gaertn. = Cyperus capitatus

mucronatus C. Presl = M. impubes

nogalenis Chioiv. = Cyp. grandibulbosus

nosbiensis Steud. = Mariscus sumatrensis

oblonginex C. B. Clarke = M. amomodorus

obsoletenervosus (Peter & Kük.) Greenway

= M. albomarginatus

paradoxa (Cherm.) Cherm. = Alinula paradoxa

pedunculatus (R. Br.) = Remirea maritima

philippensis Steud. = Mariscus sumatrensis

piulosus C. B. Clarke = Cyperus piulosus

(See at end of Mariscus)

plurinervosus Bodard (= Cyperus plurinervosus Bodard)

= Cyp. conglomeratus

polyphyllus Steud. = Mariscus sumatrensis

procerus A. Rich. 1850 = M. impubes

pseudobrunneus C. B. Clarke ex Cherm.

– See at end of Mariscus

pseudoflavus C. B. Clarke = M. sumatrensis

quarry Cherm. = M. sumatrensis

radiatus Hochst. = M. sumatrensis

remotus C. B. Clarke = M. boreochrysocephas

rhodesicus Podlech = M. birtellus

rufus Kunth, incl. var. subcapitatus C. B. Clarke

= M. ligularis

setaceus (L.) Moench 1794 = Isolepis setacea
setaceus Raddi 1823 = Pycreus lanceolatus
sieberianus Nees ex C. B. Clarke, incl.
var. evolutior C. B. Clarke, var. khasianus
C. B. Clarke, var. nosissbeens (Steed.)
Cherm., and var. subcompositus C. B. Clarke
= Mariscus sumatrensis
socialis (C. B. Clarke) S. H. Hooper = M. pseudopilosus
squarrosus C. B. Clarke = M. maderaspatensis
steudeliana (Boeckeler) Cufod. = M. sumatrensis
stuppeus (G. Forst.) Merr. = M. albuscens
(See at end of Mariscus)
sublimis C. B. Clarke = M. sumatrensis
sumatrensis var. evolutior (C. B. Clarke) C. Y. Wu &
Karthik, and var. khasianus (C. B. Clarke) Karthik.
= M. sumatrensis
tenuis (Sw.) Nelmes = M. flabbelliformis
thomensis C. B. Clarke = M. sumatrensis
thwaitesi Livera = Cyperus procerus
trigonellus Suess. = Cyp. trigonellus
trinervis C. B. Clarke = Mariscus pseudopilosus
uitenhagensis Steud. = M. capensis
umbellatus J. Presl & C. Presl = M. sumatrensis
umbellatus (Rottb.) Vähl., incl. var. evolutior (C. B. Clarke)
E. G. Camus, var. microstachyus (Kük.) Tang
& F. T. Wang, var. sieberianus E. G. Camus,
and var. subcompositus (C. B. Clarke) Tang &
= M. sumatrensis
umbilicus C. B. Clarke ex W. Watson (= M. owani)
= M. solidus
usitatus (Burch.) Vorster ined. = Cyperus usitatus
varicus C. B. Clarke ex Cherm. var. simpliciusculus
Cherm. = Cyp. varicus var. simpliciusculus
– See at end of Mariscus p. 276
vestitus (Hochst. ex C. Krauss) C. B. Clarke
= Mariscus albo-marginatus
vestitus var. decurvatus C. B. Clarke = M. rehnmannianus
viridis Hochst. ex Schweinf. = M. schimperi
wissmianii (O. Schwartz) J.-P. Lebrun & Stork, ined.
= Cyperus wissmianii – See at end of Mariscus
p. 276

(MELANCRANIS)
Melancranis clandestina (Steed.) Kuntze
= Ficinia clandestina
commutata (Nees) Kuntze = F. gracilis
contorta (Nees) Kuntze = F. stolonifera
filiformis (Lam.) Kuntze = F. filiformis
tenuifolia (Kunth) Kuntze = F. filiformis
undosa B. L. Burtt = F. ? gracilis

MICRODRACOIDES / 1
syn.: Schoenodonendron Engl.
Microdracoides, like Coleochloa and Afrotrilepis, has a peculiar,
scab-like structure of fructification called utricle. The utricle is the
outermost fructification wall, it is “free from the enclosed fruit,
which consists of a trigonal body composed of the thin pericarp”
(Koyama in Makino N. S. 6: 15–16, 2007).

Microdracoides squamosa Hua; J. Raynal in Adansonia N. S. 3:
262, 1963 (with map); Lisowski, Fl. Rép. Guinée 1: 406, 2009;

Velayos & al., Fl. Guinea Ecuat. 11: 141, 2014. – Icon.: Terre
1972; Lowe & Stanfield, Fl. Nigeria: Sedges: p. 4 fig. 3 E, E1,
1974; Goetgebuer in Kubitzki, Families & genera of vascular
plants IV: 183, 1998; Korte & Porembski in Senckenberg, Natur,
Forschung, Museum 141: 16–17, 2011; Porembski in U. Lütge
& al., eds., Plant description tolerance, Ecol. Studies 215: 145,
154, 2011; Browning & Goetgebuer, Sedge genera Africa &
syn.: Scirpodendron buecheri Engl. errore pro Schoenodonendron
non Scirpodendron Zipp. ex Kurz 1869 (Asiatic genus).
Perennial dioecious shrub with Vellozia-like habitus, form-
ing branched “trunks” (caudex) 0,3–1,8 m high, 7 cm Ø,
covered by leaf sheaths and adventitious roots; leaves stiff, 4–6 cm
long, 1–3 mm wide, tapering easily to a sharp point, densely
crowded, disposed in a close spiral forming a terminal tassel,
resembling pine-needles, their bases clothing the stem and pro-
ducing the “trunk”, blade deciduous; inflorescence paniculate,
much-branched, 15–25 cm long, 1,5–3 cm wide; branches at
intervals along most of its length, 2–3 together, subtended by
a sheath with reduced blade; each branch terminating in a head
1–2,5 cm long, 0,5–1,2 cm Ø, composed of few to many spikelet
like spikes; these narrow, 5–8 × 0,5 mm; male flower 3-staminate;
female flower with 1 pistil.
Wet granitic or gneiss outcrops at forest edge; inselbergs;
c. 780–900 m alt. – Well predisposed to survive recurrent burn-
ing: the very densely set stems can protect the plant against fire.
Bioko/Fernando Poo; uncertain in Equatorial Guinea.

(MONANDRUS Vorster ined.)
Monandrus squarrosus (L.) Vorster ined. = Mariscus
squarrosus

NELMESIA / 1
Monotypic genus from N Zaire.

Nelmesia melastachya Van der Veken; Goetgebuer in
Kubitzki, ed., Families & genera vascular plants IV: 168,
(details); Hooker’s Icon. Plant. 36: pl. 3571, 1956; Browning &
Goetgebuer, Sedge genera Africa & Madag.: 64, 2017.
Apparently annual herb, tufted, glabrous; culms erect, simple,
4–angled, scapose, striate-sulcate, 6–9 cm long, 2–3 cm wide;
leaf sheaths and adventitious roots; leaves stiff, 4–6 cm
long, 1–3 mm wide, tapering easily to a sharp point, densely
crowded, disposed in a close spiral forming a terminal tassel,
resembling pine-needles, their bases clothing the stem and pro-
ducing the “trunk”, blade deciduous; inflorescence paniculate,
much-branched, 15–25 cm long, 1,5–3 cm wide; branches at
intervals along most of its length, 2–3 together, subtended by
a sheath with reduced blade; each branch terminating in a head
1–2,5 cm long, 0,5–1,2 cm Ø, composed of few to many spikelet
like spikes; these narrow, 5–8 × 0,5 mm; male flower 3-staminate;
female flower with 1 pistil.
Wet granitic or gneiss outcrops at forest edge; inselbergs;
c. 780–900 m alt. – Well predisposed to survive recurrent burn-
ing: the very densely set stems can protect the plant against fire.
Bioko/Fernando Poo; uncertain in Equatorial Guinea.

(MONANDRUS Vorster ined.)
Monandrus squarrosus (L.) Vorster ined. = Mariscus
squarrosus

(See at end of Schoenodonendron)

278
**NEUM / 8**

Tropical African genus of 8 species (not in West Indies).

“Phylogenetic analyses over the last 11 or so years [2018] … have suggested that *Nemum* is derived from within *Bulbostylis* … *Nemum* has been separated from within *Bulbostylis* based on deciduous style bases (mostly persistent in *Bulbostylis*) and persistent styles (mostly deciduous in *Bulbostylis*). However, these characters are far from constant … Given the paraphyletic relationship of *Bulbostylis* to *Nemum*, the morphological overlap between the two genera, and our interest that genera be monophyletic, we suggest that *Bulbostylis* and *Nemum* should be considered congeneric. However given nomenclatural priority, the combination of these genera would result in the transfer of the 215 species of *Bulbostylis* to *Nemum* …” but “there is also nomenclatural history to consider. *Bulbostylis* Kunth (1837) is already a conserved name” (Roalson & al. in Taxon 67: 642, 2018). – We have opted for the traditional use of *Nemum* as a genus in its own right (cf. also Raynal 1973: 146–151; Goetgebeur in Kubitzki, ed., Families & genera vascular plants: 167–198, 1998; Browning & Goetgebeur, Sedge genera Africa & Madag.: 65, 2017).

One species, viz. *N. raynalii*, is known only from the type; the fruit is unknown.


bas.: *Scirpus angolensis* C. B. Clarke 1894, nom. illeg.


Tufted annual or densely tufted perennial herb; culms 14–65 cm tall, 0,4–2 mm Ø; leaves basal, filiform, to 25 cm × 0,3–1 mm, ± involute, glabrate; sheath orifice with a bundle of long hairs; inflorescence anthesis with 1–11 spikelets; these cylindrical-ovoid to spherical, 6 × 5 mm, with many dark reddish-brown to black, spirally arranged obovate glumes (1,5–3,5 × 1–2 mm).

Seasonally wet areas and seepage places (marshes, riverbanks, depressions, grasslands) in savannas, open forests; iron-rich soils; sandy-peaty soils; laterite or skeletal soil on top of granite rocks; 580–1750 m alt.

The most variable species within the genus. Often confused with *N. spadiceum*, and “some specimens from central Africa show more or less intermediate characters of both species. These specimens are likely of hybrid origin” (Larridon & al. in Belg. J. Bot. 141: 173, 2009). Further research is needed.


syn.: *Bulbostylis atracuminata* (Larridon, Reynders & Goeth.) Larridon & Roalson

Tufted annual herb; culms to 50 cm tall, c. 0,5 mm Ø; leaves to 40 cm long, c. 0,5 mm wide, basal, distichous, ± V-shaped to involute, glabrate; sheath orifice glabrous; inflorescence anthesis with 1–5 ovoid spikelets; these with many nearly black spirally arranged glumes (1–3,5 × 0,5–2,5 mm).

Temporarily wet areas (marshes, riverbanks); on shallow soil (laterite, sandstone, granite); humid savannas to edge of open forests; 1400–1800 m alt.

The closest relative in *Nemum* is *N. megastachyum*.

Might be confused with small annual specimens of *N. angolense*.


Tufted or shortly rhizomatous herb to 1 m tall; rhizome covered with large overlapping brown scales; culms c. 1 mm Ø; leaf sheaths flattened, orange-red; leaves needle-like with long hairs at sheath orifice; inflorescence anthesis with a small number of dark red ovoid, shortly pedicellate spikelets 1 × 0,7 cm; glumes papery, dark reddish-brown.

± Humid or marshy savannas and grassy places; relic woodland; 450–1500 m alt.


**N. capitatum** S. S. Hooper ex Larridon & Goeth. – Icon.: Larridon & al. in Belg. J. Bot. 141: 166, 168 (map), 2009.


Tufted or densely tufted perennial herb to 1 m tall; rhizome covered with large overlapping brown scales; culms to 60 cm tall, 1 mm Ø; leaves basal, 5–6 per culm, to 30 cm long, 0,5 mm wide, distichous, glabrate; sheath orifice with long pale hairs, sheath often reddish; inflorescence capitatum (the only species with this character in the genus) with 2–12 spikelets; these ovoid, with many reddish brown-black spirally arranged elliptic glumes (3,5–5 × 1–2 mm).

Sheltered wet grasslands; 1370–1950 m alt.
Very close to *N. bulbostyloides*.


- Densely tufted, robust, strongly rooted herb to 80 cm tall; culms 10 cm wide, sheaths wider; inflorescence anthelate, with c. 1 mm syn.
- Perennial herb; rhizome 1 cm wide, to 2 mm long, c. 0.25–0.5 mm wide, basal, spirally arranged, ± involute, liricate; leaf orifice with a bundle of long pale hairs; with a single spikelet on each culm, spikelet cymatric, with many (pale) reddish-brown, spirally arranged glumes (1.5–3.5 × 0.5–2 mm). Ephemeral wetlands (marshes, flooded areas, wet grasslands); sandy, rocky or laterite soil; inselbergs (Porembski & Brown in Candollea 50: 359, 1995); 350–1850 m alt.
- Comprises 2 subsp.: – subsp. *spadiceum*, with shorter and narrower leaves (20 cm × 0.25 mm, not 30 cm × 0.5 mm), distributed in W. Africa; – subsp. *spadolense* Larridon & Roalson; – subsp. *parviflorum* Lye


- Tufted annual herb; culms 10–20–30 cm long, 0.2–0.6–0.9 mm; leaves to 20–30 cm long, c. 0.25–0.5 mm wide, basal, spirally arranged, ± involute, liricate; leaf orifice with a bundle of long pale hairs; with a single spikelet on each culm, spikelet cymatric, with many (pale) reddish-brown, spirally arranged glumes (1.5–3.5 × 0.5–2 mm). Ephemeral wetlands (marshes, flooded areas, wet grasslands); sandy, rocky or laterite soil; inselbergs (Porembski & Brown in Candollea 50: 359, 1995); 350–1850 m alt.
- Comprises 2 subsp.: – subsp. *spadiceum*, with shorter and narrower leaves (20 cm × 0.25 mm, not 30 cm × 0.5 mm), distributed in W. Africa; – subsp. *spadolense* Larridon & Goetgh. [syn.: *Bulbostylis spadicea* subsp. *spadolensis* (Larridon & Goetgh.) Larridon & Roalson] with somewhat larger leaves, endemic to Central African Republic, Zaire.


**SYNONYMS:**

*Nemum bulbostyloides* (S. S. Hooper) J. Raynal, orth. mut.

- **N. capitatum**

- **Eriocaulon spadiceum** Lam.

- **Scirpus spadiceus** (Lam.) Boeckeler 1870, nom. illeg., non L. 1753, nec Phil. 1857; *S. briziformis* Hutch.; *S. angolense* C. B. Clarke var. *briziformis* (Hutch.) S. S. Hooper; *Schoenus spadiceus* (Lam.) Vahl 1805; *Bulbostylis spadicea* (Lam.) Larridon & Roalson, Phytotaxa 395: 204, 2019; *Nemum parviflorum* Lye

**OPETIOLA**

Opetiola myosuroides Gaertn. = *Cyperus cyperezus*

**OPHYROSCLERIS**

Ophryscleria racemosa (Poir.) Nees = *Scleria racemosa*

**OREOGRASITIS**

Oreograsitis emini K. Schum. = *Carpha emini*
**CYPERACEAE**

**OXCYRUM / 1**


Monotypic genus from W Tropical to Southern Africa, and tropical and subtropical America; characterized by many, spirally arranged glumes, dorsiventrally flattened dimerous gynoe西亚, and Cyperus-type embryo (Goetghhebeur in Kubitzki, ed., Families & genera vascul. pl. IV: 169, 1998).


bas.: Scirpus cubensis Poepp. & Kunth

syn.: Angiosporum cubense (Poepp. & Kunth) Boeckeler; Creediodorpus cubensis (Poepp. & Kunth) Klotzsch ex Boeckeler; Kyllinga scirpina Rehbg. ex C. B. Clarke; *Cyperus blepharoleptos* Steud.; *Isolepis echinocephala* Oliv.; *Angiosporum paraguayense* Maury; *Courtotisia olivacea* Boeckeler; *Pseudomariscus olivaceus* (Boeckeler) Rausher; *Oxycaryum schizii* (Boeckeler) Palla; *O. paraguayense* (Maury) Palla; *O. guianensis* Palla; further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Perennial aquatic floating herb with horizontal stolons 5–20 cm long, e. 3 mm Φ, covered in ovate blackish scales 2–3 cm long and rooting at nodes; roots often very long, hanging in water; stolons producing new plants at their tips; culms 40–70 cm tall, 3–5 mm Φ, sharply triangular, glabrous, covered in lower part by inflated leaf sheaths to 12 cm long, ligule a rim of hairs; leaves basal (or nearly so), often purplish near base, linear, 40–90 cm long, 0,4–1 cm wide, midrib and margins with spine-like teeth; inflorescence an open umbel of 3–8 heads on stalks 0,1–4,5 cm long; heads globose, 0,5–1,5 cm Φ, each head with many tightly packed spikelets; involucral bracts leaf-like, from 30–60 cm long, 0,4–1 cm wide, each bract subtending 1 head; spikelets brown, terete, many-flowered, 3,5–6 × 2,5–5,5 mm; glumes stiff, acuminate, margins and apex thick; nutlets trigonous, conspicuously coryled, buoyant, adapted to dispersal by moving waters.

Permanent water such as lakes, pools, swamps; lake and river edges; in up to 30 cm deep water; sometimes floating, forming extensive rafts or forming part of small drifting rafts of floating vegetation; common temporarily in suitable habitats; 0–1350 m alt.

Namibia, Botswana, S. Africa; Madagascar; tropical and subtropical America, from S USA, Mexico, Central America, S. America to Brazil, Paraguay, West Indies (Flora Mesoamericana 382, 2012).

**OXCYRUM CUBENSE**


SYNONYMS: See under the species above.

**PACHYMIRTA**

*Pachymitra candida* (Nees) ex Boeckeler = *Rynchospora candida*

**PAPYRUS**


**PENTASTICHA**

*Pentasticha madagascariensis* Turcz. = *Fuirena stricta* subsp. stricta

**PLATYLEPIS**

*Platyplepis brasiliensis* Kunth = *Ascolepis brasiliensis* capensis Kunth = *A. capensis* dioica Steud. = *A. capensis guianensis* Nees = *A. brasiliensis* leucocephala Nees = *A. brasiliensis* xanthocephala Nees = *A. brasiliensis*

**PRINcipina / 1**

*Principina* Uittien 1935.


syn.: *Hypolytrum grande* (Uittien) T. Koyama; *Mapania grandis* (Uittien) T. Koyama

Perennial robust herb; rhizome c. 1 cm Φ; culm erect, central, to 1,8 m tall; basal leaves numerous, linear, to 1,1m long, 3-nerved, nerves minutely scabrous beneath; cauleine leaf 1, to 50 cm long; inflorescence corymboso-paniculate, whorled, narrowly oboflong, 12,5 cm, internodes trigonous, the first 8,5 cm, the second 2 cm, the third 1 cm; number of branches of the whorl from below 1–8–7–5, branches to 1,5 cm long, with 1–3 spikes; these c. 5 × 3,5 mm, many-flowered; floral bracts united into a bladder-like structure.

Open rockface (of igneous volcanic rock, trachyte mount), a shaded cliff, with soil only in the cracks, in dense rain-forest; 428–670 m alt.
PRINCIPINA GRANDIS

Collected on Principe in 1932 by Exell, then rediscovered on S. Tomé by Mesterházy in 2007. – “Both islands are situated north of the equator in the Gulf of Guinea, approximately 140 km apart”. This endemic plant seems to be rare but in places difficult to reach and far from settlements.

Anthers and nutlet not seen by Mesterházy & Browning.

(PSEUDOLIPOCARPHA)

Pseudolipocarpha Vorster, gen. ined.

Pseudolipocarpha paradoxa (Cherm.) Vorster 1978, unpubl. comb. = Alinula paradoxa

(PSEDOMARISCUS)

Pseudomariscus cyperoides (Roxb.) Rauschert

= Courtosisina cyperoides

olivaceus (Boeckeler) Rauschert = Oxyccaryum cubenese

(PSILOCARYA)

Psilocarya candida Nees = Rhynchospora candida

eximia (Nees) D. B. Ward = R. eximia

schiedeana (Kunth) Liebm. = R. eximia

teneriffrae Steud. = R. contracta

(PTEROXYPERUS)

Pterocyperus esculentus (L.) Opiz = Cyperus esculentus

(PTEROLEPIS)

Pterolepis litoralis (Schrad.) M. R. Almeida, incl. subsp. subulatus (Vahl) M. R. Almeida

= Schoenoplectus subulatus

scirpoides Schrad. 1823 = Sch. subulatus

(PTEROSCLERIA)

Pteroscleria longifolia Griseb. = Diplacrum capitatum

PYREUS / 63

syn.: Cyperus L. subgen. Pyreus (P. Beauv.) A. Gray

Cosmopolitan genus of c. 120 species with a mainly African and Madagascar distribution, and with a high resemblance with the Cyperus G. species (Reyners & al. 2007; Pereira-Silva & al. in Syst. Bot. 43: 741, 2018). Pyreus differs from the latter in its laterally compressed pistils with only two style branches (a character shared with Kyllinga and Queenslandiella which have, however, deciduous spikelets). The inflorescence is open anthelate to capitate, with partial inflorescences ± open spike-like, with few to many sessile spikelets in the axil of glume-like bracts. Spikelets with distichous deciduous glumes, each subtending a floret (bisexual). The achenes are arranged in a single row down the two opposite sides, like small discus set on edge. The rachilla is 4-sided (in Cyperus flattened). The achenes and their bracts are shed gradually from the bottom up, exposing the scarred rachilla (Reyners & al. in Taxon 60: 890–893, 2011; Goetheheur in Kubitzki, ed., Families & genera vascul. plants: IV: 172, 1998; Browning & Goetheheur, Sedge genera Africa & Madag.: 69, 2017).

PYREUS

Pyreus species occur in almost all kinds of habitats but are often present in ephemeral flush communities on rock outcrops (Porembski & Watve in Phytocoenologia 35: 389–401, 2005).

“… identification of species may prove difficult. Knowledge of plants in the wild is advantageous as growth form, nature of underground organs and spikelet colour are aids in accurate naming" (Gordon-Gray, Cyper. Nat. 137: 1995).

Several species in our area are poorly known: no ecology recorded for 5 species, and 12 species (= ±19 %) known only from the type gathering, and one from 2 gatherings only.


Pyreus acaulis

Nelmes, Kew Bull. 10: 91, 1955, non Cyperus acaulis Steudel 1842.

syn.: Cyperus aculeascens

Reyners

Annual herb without stem or nearly so and hidden beneath the inflorescence, which consists of crowded spikelets situated among leaves just above a mass of fibrous roots; leaves and leafy bracts arising from among and below the spikelets and from exceeding to very much exceeding them in length, subfliform; spikelets sessile or subsessile, compressed, ovate, 3–6 × 2–3.5 mm, 6–14-flowered. Pond, pure peat soil.

Only known from the type collected in 1952.

The stemless condition is rare in Cyperaceae.


bas.: Cyperus acuticarinatus Kük.

syn.: Cyp. macranthus Boeckeler var. macranthus (Kunth) Kük.

fa. acuticarinatus (Kük.) Kük.; Cyp. crustaceus Raymond; Pyreus angulatus sensu Fl. W. Trop. Afr., ed. 1, non Nees Herb growing in tufts from a stout blackish rhizome; leaves basal, numerous, < 3 mm wide, shorter than the flowering stems (30 – c. 60 cm tall); inflorescence a cluster of spikes, each with a few spikelets usually arranged singly along a rachis which may be shorter than the individual spikelets; clusters 2–4 cm 2; spikelets with a saw-toothed outline, 1–1.5 cm long, 2–3 mm 2, brown, channelled.

Swampy grassland in savanna region; humid rain-fields.

P. aethiops (Welw. ex Ridl.) C. B. Clarke; Burrows & Willis, Pl. Nyika Plateau, Malawi: 301, 2005; Lisowski, Fl. Rép. Guinée 1:
**PYREXUS AETHIOPIS**


bas.: **Cyperus aethiops** Welw. ex Ridl.
syn.: **Cyp. aethiops var. tessmannii** Kük. and var. aberdarensis (Kük.) Kük.; **Cyp. aberdarensis** Kük.

Perennial herb to 90 cm tall; culms slightly swollen at base, 21–82 cm long, 0,8–2,2 mm Ø, trigonous, smooth, base surrounded by wide blackish leaf sheaths (4–9,5 cm long); blade linear, folded, stiff, sometimes channelled, 18–37 cm × 1,2–3,8 mm, acute, apex ± scabrid; inflorescence simple to compound with primary branches 2–4, 1–3 cm long; spikelets loosely to densely arranged in digitate clusters, sometimes on an elongated axis, the clusters sessile and at end of primary branches; spikelets 8–20 to many per cluster, linear, 0,7–1,5 cm × 1,5–1,9 mm.

Brook; swampy grassland; humid savanna on sand; 900–3050 m alt.

Botswana.

Near **P. muereusis**. According to Reynders in Phytotaxa 166: 41, 2014, perhaps conspecific with **P. cooperi**.


bas.: **Pycreus divulsus** (Ridl.) C. B. Clarke subsp. africanus S. S. Hooper

syn.: **Cyperus africanus** (S. S. Hooper) Reynders 2014.

Annual tufted herb; culms 5–30 cm long, 0,5–2 mm Ø, obtusely 3-angled, glabrous; leaf blades 3–15 cm long, 0,5–2 mm wide, flat, margin and midrib scabrid at least near tip; inflorescence a spike of 2–5 sessile spikelets, *each subtended* by a *leafy involucral bract* (the largest 4–15 cm long); spikelets broad, fat, 0,6–1,5 cm × 3–4 mm, somewhat compressed, distant or rather crowded; glumes 2,5–4 mm long, yellow-brown to brown, margin narrow, pallid, and with 3–5 green dorsal nerves.

Marsh; open (seasonally wet) grassland; 1350–1680 m alt.


Near *P. divulsus* (syn. *Cyperus divulsus* Ridl.) from Madagascar but: achene with smooth surface, and flowers with 3 stamens; “but in other respects the continental African material agrees well with the Madagascar type” (Kew Bull. 26: 580, 1972). – Could be confused with *A bilagaarda ovata*.

**P. afrozonatus** Lyce 1981.

syn.: **Cyperus zonatus** Kük., non Pycreus zonatus Chemn. 1921, nec *Cyperus zonatissimus* Kük. 1936.

Annual herb; culms several, tufted, setaceous, 2–4 cm tall, flattened-three-angled, deeply grooved, with few leaves at base; leaves shorter than culms, very narrow, folded, sheaths brown; inflorescence a simple anhela with 1–3 rays to 1 cm long, each with 3–7 spikelets at apex; spikelets rather densely spicate, linear, 4–10 × c. 1 mm, 12–20–flowered; glumes ± densely imbricate, ovate-subobtuse, c. 1 mm long, dirty white, with 3 green dorsal nerves; nutlet oblong-elliptic, brown, c. 0,5 mm long, transversely banded.

**PYREXUS AFROZONATUS**

Ecology not recorded; ? humid places.

Known from only 2 gatherings (Schlechter 12577, Chevalier 27783).

**P. altus** (Turrill) Lyce

bas.: **Juncellus altus** Turrill

syn.: **Cyperus praecutilus** Kük. 1936, non Pycreus altus Nees 1834 (= Cyp. exaltatus Retz.).

Perennial herb with shortened rhizome; culms to 90 cm tall, ± terete below, slightly 3-angled above, glabrous; leaves setaceous, 40–50 cm long, 1 mm wide, glabrous, smooth; sheaths membranous, glabrous; inflorescence a simple anhela with 3–5 rays to 8 cm long or sometimes with sessile spikes; spikes with 4–9 spikelets, clustered, oblong-lanceolate, 0,5–1,2 cm × 3 mm, many-flowered; glumes oblong-ovate, ± obtuse, 3 × 1,7 mm, chestnut coloured, glabrous; nutlet glabrous, 1,5 × 1 mm.

Ecology not recorded, growing on River Tiengo (S Angola).

Very similar to *Pycreus mundii* Nees but: habit more erect; leaves fewer, narrower; spikelet structure (the wide side of nutlet facing the spikelet axis, a *Juncellus* character); nutlet larger.


bas.: **Cyperus atronervatus** Kük.

Perennial herb with sometimes a short rhizome; culms tufted with thick, somewhat bulbous bases surrounded by fibrous remains of old sheaths; culms 30–80 cm long, 1–2,3 mm Ø, trigonous, smooth; leaves many, crowded near culm-base; sheath pale green to brown, 2–6 cm long; blade linear, plicate, 12–40 cm × 2–4 mm, acuminate, apex scabrid; inflorescence simple to compound with primary branches 3–9, 1–10 cm long; spikelets in loose clusters on elongated axis at end of primary or secondary branches; spikelets to 30 per cluster, linear, 0,8–2,5 cm × 0,8–1,5 mm; glumes golden yellow, elliptic, c. 2 × 1 mm.

Seasonally wet grasslands and pans; river sides; ditches; 0–1050 m alt.

S. Africa.

Close to *P. intactus* (Vahl) J. Raynal (S. Africa, Madagascar, etc.). Similar to *Pycreus laxiflorus* var. laxiflorus, in which remains of old leaf sheaths surrounding culm base are missing (fide Gordon-Gray, o.c.).


bas.: **Cyperus atronervatus** Boeckeler

syn.: **Cyp. atronervatus var. minor** Boeckeler, and subsp. angustifolius Lyce

Perennial or rarely annual (subsp. angustifolius) herb with filiform or robust stolons rooting at nodes, often with the stems floating at water surface, roots anchored in mud; culms 5–50 cm long, 0,5–3 mm Ø, 3-angled; leaf blades to 30 cm long, 0,5 cm wide, flat; inflorescence a dense cluster of spikelets 1–2,5 cm Ø, rarely consisting of 1–4 spikelets; these ± linear, 0,5–1,6 cm × 2–5 mm, flattened, grey-black; glumes 2–6 mm long, green or pallid with many prominent black lines.

Wet swamps; lake margins; often semi-floating; flooded water meadows; 1800–2850 m alt.

284
PYCREUS ATRONERVATUS

Two subspecies are described by Lye under Cyperus atronervatus: – subsp. atronervatus; – subsp. angustifolius Lye, from S of Addis Ababa (Entoto area) in flooded water meadows, 2500 m alt.

P. atro rubidus Nelm es


Annual herb, ± caespitose, glabrous, 4–5 cm tall; culms erect, ± 3-gonous; leaves 6–8 cm per culm, all basal, filiform, 5–8 cm × 0,5–1 mm; sheath reddish; inflorescence a simple anhela, a sessile cluster appearing lateral, at 4 cm below apex of inflorescence axis, and a suberect bract 2 cm long; spikelets 1–10 per cluster, flattened, ovate, 5–10 × c. 2 mm, apex acute, 10–18–flowered; glumes c. 2 mm long, dense, ovate, dark red, margins yellow.

Shallow moist peaty soil overlying laterite; shallow hollows on rocks; peat-bog on ferrugineous conglomerate; damp places; dried-up hollow; sometimes in stands; 450–1900 m alt.

“The “seeds” (achenes) of these [i.e. P. atro rubidus] sedges must be highly resistant to heat for they successfully withstand about six months dessiccatio in full exposure to sunshine” (Nelm es in Kew Bull. 6: 319, 1952).

Confused with P. rubidumontanus.

P. capillifolius (A. Rich.) C. B. Clarke, incl. var. major Chern.; Lisowski, Fl. Rép. Guinée 1: 407, 2009; Chatelain & al., Cartes distr. pl. Côte d’Ivoire, 226, 2011; Thiombiano & al., Cat. pl. Sénégal 9: 285, 1988; Troupin, Fl. Rwanda 4: 475, 1988; Fl. filiform narrowly linear to onous, smooth; leaves to 20 cm long; sheath 2–4,5 cm long, brown; blade narrowly linear to filiform, 5–17 cm × 0,6–1,2 mm, glabrous, apex acuminate (glabrous to minutely scabrid); inflorescence appearing lateral, capitate, 1–3 cm, with 8–30 sessile spikelets per head, linear-oblong, 0,6–2 cm × 1,3–2 mm; glumes golden yellowish-brown.

Deep soils of hollows; humid places on quartzite; Loudetia arundinacea grassland with scattered trees, on rocky outcrop with wet flushes and thin soil with Selaginella niamnjenensis, Aeolanthus spp., Aloe sp. and many annuals; shallow wet soils on rock; damp grassland; swampy areas; often on rock outcrops; stream edges; rice nurseries, ricefields; roadsides; bare sands; slightly salt-tolerant; near sea-level to 2040 m alt.

Madagascar; Belize, Brazil.

“A very distinct species” (Fl. Trop. E. Afr., Cyper.: 284, 2010).

PYCREUS


syn.: Cyperus cataractarum (C. B. Clarke) K. Schum. ex Engl.

Perennial, tufted herb with stout bluish rhizome; culms 5–40 cm long, 0,2–2 mm × trigonous, glabrous; leaves numerous at base with lower sheaths pale brown-red, the higher green; blades 5–20 cm long, 0,5–2 mm wide, margin scabrid; inflorescence whitish, a cluster of spikes, each spike with a few spikelets usually arranged singly along a rhachis which may be shorter than the individual spikelets, in this case the inflorescence appears unbranched; the clusters are 2–4 × 5 cm; spikelets ovate, 1–1,5 cm × 2–3 mm, brown.

Swampy grassland; rocky places in riverbed; riverbanks; submerged during high water periods; 0–550 m alt.


bas.: Cyperus chrysanthus Boeckeler

syn.: Cyp. chrysanthus var. occidentalis Kük.

Tufted herb with stolons; culms 30–60 cm tall, compressed-trig- onous; leaves all near the base of culms, ± as long as culms, 3–4 mm wide, with long sheaths; inflorescence a simple anhela 7,5–c. 11 cm wide, with 5–7 rays; bracts 3–4, the lowest 7,5–20 cm long, leaf-like; spikelets 6–16 together, laxly spicate, ebracteate, linear, 12–16 × 2,5 mm, with parallel sides, golden yellow to cherry-red or chestnut, 16–22-flowered; glumes ovate, dense, mucronate.

Edge of river.

Namibia, S. Africa, Botswana, Lesotho, Swaziland.


Perennial tufted herb with short thick rhizome; culms several, densely packed, flexible, 16–50 cm tall, bases enclosed in long persistent dark brown to black sheaths, with few leaves in lower part, the sheaths not breaking up into fibres; leaves longer than culms; inflorescence a simple contracted anhela, 1–2–3,75 cm; bracts 2–3, the lower longer than anhela; rays short, or hardly visible with dense head-like clusters of dense blackish linear spikelets 6–12 × c. 2 mm; glumes dense, lanceolate-ovate, blackish red with yellowish keels which form pale narrow streaks; nutlet elongated elliptic, brown marked with dots.

Edge of brooklet; swampy places; 1700–2000 m alt.

The specimen Gossweiler 2084 is given without locality in Angola by Kükenthal (l.c.), but this number corresponds with Gossweiler’s time at Fort Princeza Amélia (from May 1905 onwards for c. 2 years).

S. Africa, Lesotho, Swaziland.

According to Reymers (l.c.) Pycreus cooperi could possibly be considered as conspecific with P. aethiops.
**Cyperaceae**

**PYCREUS**

**P. cuanzensis** (Ridl.) C. B. Clarke; Rendle, Cat. Welwitsch's Afric. pl. 2/1: 108, 1899.

bas.: *Cyperus cuanzensis* Ridl.

Perennial herb with short rhizome; culms 45 cm tall, trigonous, inflorescence a simple anthera with 1–2 rays, these ± sessile to 2 cm long; spikelets ± condensed into a head 3,3 cm high, linear-oblong, 8–15 × 2–4 mm, flattened, many-flowered; glumes lanceolate, whitish, with greenish keel.

Marshy meadows by river; 1050 m alt.

? Known only from the type (Welwitsch 6899) collected in 1857.


syn.: *Cyperus demangei* (J. Raynal) Lye

Annual herb to 30 cm tall with submerged leaves and emergent inflorescence (neither leaves nor culms able to support themselves out of water); culms filiform, tufted, 2–20 cm long, 0,3–0,6 mm Ø, rounded to trigonous; leaf sheaths 1–2,5 cm long, pale brown, sometimes reddish-brown; blades filiform, 7–10,5 cm long, 0,5–1 mm wide, acuminate; inflorescence a simple lax anthera with primary branches 3–4, 1–4 cm long; spikelets in clusters, sessile and at end of primary branches, 1–4 per cluster, linear, 4–10 × 1,5–2 mm.

Seasonal pools; flooded plains and pans; to (1000–)1400 m alt.

Ecology similar to that of *P. wallii*, which is, however, completely submerged except for its spikelets.

**P. dewildeorum** J. Raynal; Onana, Fl. Cameroun 40: 222, 2013 (under *Cyperus*).

syn.: *Cyperus dewildeorum* (J. Raynal) Lye

Described as close to *Pycreus lanceolatus* and *P. mortonii*, but differs from these by the longer surface cells of the nutlet; differs from *P. lanceolatus*, perennial, by its annual habit, open anthera, and 3 stamens; differs from *P. mortonii*, an annual, by its flattened beaked nutlets, longer glumes, and wider spikelets.

Marshy grassy site; c. 400 m alt.

Known only from the type collected in 1964 (N-most Cameroon). – Also present in Chad?


Perennial herb with short rhizome; culms 45 cm tall, trigonous, smooth, at base covered with old, oblong-bulbous, dark brown leaf sheaths becoming fibrous with age; blades much shorter than culms, very narrow, channelled, rigid; bracts 3, suberect-patent, channelled, the lower longer than anthera; this almost spiciform, with 5–6 spikelets; lower spikelets solitary, somewhat scattered; spikelets oblong, 10–16 × 3 mm, flattened, suberect, 14–18-flowered; glumes oblong-elliptic, 4 mm long, subacute, blackish brown, shining.

Seasonally inundated plain.

The two specimens from S. Sudan (Friis & Vollesen 1204) “require confirmation”.


bas.: *Cyperus elegantulus* Steud.


Perennial herb with slender stolons, sometimes appearing annual without developed stolons; culms tufted, 20–70 cm long, 1,1–3 mm Ø, trigonous, smooth; leaf sheaths (pale) brown, 2,5–10,5 cm long; blades 2–4 per culm, linear, flatish-plicate, 10–35 cm × 2–4,7 mm, acute to acuminate, apex scabrid; inflorescence capitate or simple, when simple primary branches 1–5, 1–5,5 cm long; spikelets in dense clusters, sessile and at end of primary branches; spikelets 7–35 per cluster, to many in a head, ovoid, 3,5–14,5 × 1,6–2 mm; glumes black.

Swamps; river edges; wet forest margins; wet grasslands; (abandoned) plantations; track sides; rain-forest with *Albizia*, *Macaranga*, *Croton*, *Ocotea*; seepage area in *Hagenia abyssinica* woodland; grassland plateau; riverine forest; swampy depressions in grassland; 800–3600 m alt.

Bioko/Fernando Poo; S. Africa; Saudi Arabia, Yemen (Wood, Handbook Yemen flora: 327, 1997).

The true *Pycreus niger* (Ruiz & Pavon) Cufod. is a plant from tropical and subtropical America.


bas.: *Cyperus dwarkensis* K. C. Sahni & H. B. Naithani

Tufted annual herb; culms 1–8(–20) cm long, to c. 0,5 mm Ø, angular to ± terete, glabrous; leaves 3–4 per culm; sheaths reddish-brown, long, conspicuous; blades usually on the 2 upper sheaths, 2–5 cm long, to 0,5 mm wide, glabrous, strongly inrolled; inflorescence a dense head of 2–15 crowded spikelets and 1–2 erect, spreading leaf-like bracts to c. 8 cm long; spikelets linear-lanceolate, 5–12 × 2,5–3 mm, strongly compressed, variegated grey and reddish-brown, 15–25–flowered. – “The neat, silvery, many-flowered, somewhat juleaceous spikelets give this small species a distinctive look” (Kew Bull. 40: 468, 1985).

Edge of stagnant pool; 200–300 m alt.


Specimen from Oman formerly identified as *Pycreus rotundus* (Ghazanfar, l.c.).
**PYCREUS**


syn.: _Cyperus felcis_ (J. Raynal) Lye

Semi-aquatic herb with slender straggling branched stems (on the soil) putting forth shoots and roots at nodes; leaf blades filiform; inflorescence pseudolateral with 1–2 sessile spikelets, lanceolate, 5–12 × 3 mm; glumes ovate, 2 mm long; stamens 3; nutlet inflated, c. 2 × 2 mm.

Brook flowing out from a swamp with Sacciolepis chevalieri. Known only from the type collected in 1956.

Near _P. demangelii_, P. _wailayi_.


syn.: _Cyperus fibrillosus_ Kük., excl. _f. katangensis_ (Cherm.) Kük., and var. _vanderystii_ (Cherm.) Kük. (all = _Pycreus scaetaea_).

Perennial, densely tufted herb; base of culms surrounded by many thick black fibres from old leaf sheaths to 16 cm high; culms 6–11 cm long, 0.6–0.7 mm ∅, rounded to somewhat trigonous, smooth; leaf sheath brownish-black or somewhat green, 3 cm long; blade folded or canaliculate, glabrous, linear, 7.5 cm × 1.1 mm, acute; inflorescence loosely capitulate; spikelets in a loose digitate cluster, spikelets 4–7 per head, ovoid, 6.3–8.5 × 2.5–2.5 mm; _rachilla flexuous, hardly visible between the glumes_; “lower glumes mostly have 1–2 additional nerves on their wings” (Phytotaxa, l.c.).

Rocky secondary hillside miombo; dry forest on burnt soil; 1600 m alt.

Species limitation uncertain. “The current circumscription of _P. fibrillosus_ is incorrect and in fact corresponds to _P. scaetaea_. However, the immature UPS type does correspond to _P. scaetaea_ var. _katangensis_. . . . An ETS1 molecular study shows _P. fibrillosus_ is most related to _P. gracilimus_, a poorly known afro-alpine species with blackish glumes, while _P. scaetaea_ is more related to _P. smithiandus_ and _P. cataractarum_, all characterized by white spikelets with a straight rachilla” (Reyners & al. in Scripta Bot. Belg. 46: 444, 2010).

_P. flavescens_ (L.) Beauv. ex Rchb., excl. subsp. _laevinus_ Lye (= _P. overlaetii_, see also comment under that species); Rendle, Cat. Welwitsch’s Afr. pl. 2/1: 106, 1899; Renier, Fl. Kwango 1: 72, 1948; Clarke & Mannheimer, Cyper. Namibia: 93, 76 (map), 1999; Kukkonen in Fl. Pakistan 206, Cyper.: 152 (= _Pycreus fallaciosus_ Cufod. (Malpighia 35: 64, 1965)).

syn.: _Distimus flavescens_ (L.) Rikli; _Chlorocyperus flavescens_ (L.) Raf. – See further under the subspecies below. Also World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Annual slender herb; culms tufted, 5–52 cm tall, 0.3–1.7 mm ∅, trigonous to ± rounded, smooth; leaves basal, shorter to longer than culm; sheath pinkish brown, pale brown to pale reddish-brown, sometimes tinged with purple, 1–6 cm long; blade flat to plicate, linear, 2–22 cm long, 0.5–3 mm wide, soft, acuminate, margins and midrib scabrous; inflorescence capitate or simple, umbel-like, with primary branches 0–5, unequal, 0–7 cm long; spikelets in digitate clusters, sessile and at end of primary branches, 3–14 per cluster and 15–40 in a head; spikelets linear-oblong, 0.6–2 cm × 1.8–3 mm, coloration variable, from pale yellowish-brown to deep red, the darker colours better represented at higher altitudes (Gordon-Gray, o.c.: 142); nutlet with faintly transversely undulate surface (with white silvery wavy lines; Boulos, o.c.).

Swamps, marshes; wet places by streams, riverbanks, lake shores; seepage over rocks; in shallow soil over rock outcrops; bare soil; wet grassland; small temporary waterhole in wooded grassland; riverine forest; seasonally humid meadows; sands; cultivations and cultivation edges; 0–2500 m alt. – Weed. “In any disturbed area where water is available” (Gordon-Gray, o.c.: 142).

Highly variable plant: in size, spikelet coloration. Pantropical, subtropical, and in temperate regions, incl. Europe (from Portugal to Denmark) and the Baltic (Pellizari & Verlouvo in Webbia 72: 129, 134, 2017; Italy). – Namibia, S. Africa, Botswana, Lesotho, Swaziland; Madagascar; Madeira, Morocco, Algeria, Tunisia, Egypt; Yemen (Wood, Handbook Yemen flora: 327, 1997), Lebanon, Syria, Iraq, Turkey, C Asia, from N Iran – Pakistan – Kashmir (records from India, Karnataka and Vietnam are erroneous = determination wrong); USA (from Florida N to S Canada & W to Texas, Missouri), West Indies (Acevedo-Rodriguez & Strong, Cat. seed pl. W. Indies: 282, 2012), S. America. Introduced in E Australia.

PYCREUS FLAVESCENS


*Pycreus flavescens* subsp. *laevinux* Lye is a synonym of *P. overlaitii* Cherm. ex S. S. Hooper & J. Raynal [syn.: *Cyperus overlaitii* (Cherm. ex S. S. Hooper & J. Raynal) Lye], described from Zaire. However, Haines & Lye (Sedges & rushes E. Afr.) cite *Cyperus overlaitii* from Tanzania, Ruaha Natl. Park, the specimen Bjernstad 2600. According to Fl. Trop. E. Afr., Cyper.: 294, 2010, this gathering is probably misidentified and probably belongs to *Pycreus flavescens* subsp. *flavescens*.

Referring to *Pycreus flavescens* L. (= *Pycreus* var. *castaneus* (Wild.) Pursh, non (Lye) Lye, it is a plant from S. Africa and subtropical Asia to Australia. *Cyperus flavescens* L. var. *rubromarginatus* Schrenk, and fa. *rubromarginatus* (Schrenk) Regel is a synonym of (*Cyperus sanguinolentus* Vahl =) *Pycreus sanguinolentus* (Vahl) Nees.


**syn.:** *Cyperus fluminalis* (Cherm.) Kük.

Annual densely tufted herb without stolons; culms filiform, c. 20 cm tall, 0.5 mm ∅, deeply furrowed, smooth; leaves numerous, filiform, shorter than culm, 0.7 mm wide; inflorescence a simple anthera forming a distichous dense spike of 4–5 solitary spikelets; these ovate, reddish-brown, shining, 5–10 × 3–4 mm; bracts to 4 cm long; glumes ovate, obtuse, 3–5 mm long, chestnut-reddish-blackish, 3–5 mm long with green keel. Swampy plain in wet situation. Said to be related to *P. nigricans*, *P. macranthus* Chiovenda (Ann. Bot. Roma 13: 58, 1914). Seems to be related to *P. fibrillosus*. “A poorly known afro-alpine species” (Reynders & al., l.c.).

Type (Bovone 75, collected in 1910) not seen by Kükenthal (Engler, Pflanzenreich IV 20/101: 393, 1936).

**P. heterochrous** Nelmes

See under *P. poikilostachys* Nelmes below.


Annual herb; culms tufted, 4.2–20 cm long, 0.5–1.3 mm ∅, trigonous, smooth; leaf sheath membranous, reddish-brown to sometimes purplish-brown, 1–2.2 cm long; blade linear, flat, glabrous, 5–19 cm × 1.3–2 mm, acuminate; inflorescence simple with primary branches 4–8, 0.5–4 cm long; spikelets loosely arranged in digitate clusters, sometimes on an elongated axis, situated at end of primary branches, often at least one cluster sessile; spikelets 7–32 per cluster, linear, 0.4–1.2 cm × 0.7–1.7 mm. Swamps; riverbeds; seasonal pools; humid cultivation; along salty creeks; sandy soils; 0–800 m alt.

Resembling *P. pumilus* var. *patens, P. polystachyos*.

PYREUS INTACTUS


bas.: **Pyreus intactus** Vahl

syn.: **Cyp. ferrugineus** Poir. 1806, nom. illeg., non Forssk. 1775; **Cyp. micans** Kunth; **Cyp. elongatus** Steud. 1854, nom. illeg., syn. emend. (type: Leprieur s.n. Senegal); **Cyp. polystachys** Rothb. var. ferrugineus Boeckeler, var. **Cyp. micans** (Kunth) C. B. Clarke, and var. **baronnii** C. B. Clarke; **Pyreus ferrugineus** (Poir.) C. B. Clarke; **P. micans** (Kunth) Karthik.; **Pyreus ferrugineus** Poir. var. **baronnii** (C. B. Clarke) Kük.; **Cyp. minor** Steud.; **Cyp. folius** Willd. ex Kunth

Perennial (sometimes annual) leafy, tufted herb with thin rhizomes; culms erect, 15–60 cm tall, 1–3 mm  \( \varnothing \), trigonous, glabrous; leaves in lower part of culm; sheath reddish; blade 10–40 cm long, 1–5 mm wide; inflorescence a branched anthela with unequal rays, with 2–5 spikelets at end of each ray; spikelets lanceolate (not linear at base), 4–15 × c. 1–2 mm; glumes lasty placed, often greenish-red, 1,5–2,8 mm long; style branches 2. – “The general facies is of species of *Pyreus* rather than *Pycreus*” (Gordon-Gray, l.c.).

Rice-fields, humid depressions in littoral dunes; “weed.”

According to Fl. ill. Sénégal (l.c.) the plant occurs in S Senegal, Cap Vert, Niayes region, Basse Casamance. – However, according to Gordon-Gray (l.c.) the plant is known throughout Africa, and in both Old and New World, but absent from Europe. Seems to be confused with *P. polystachyos* (Rothb.) P. Beauv.

*P. juncelliformis* (Peter & Kük.), ined. – Insufficiently known species, probably a true *Pycreus* without a valid name in that genus. – See under *Pyreus juncelliformis* Peter & Kük. p. 114 above.


A plant from S Africa, Swaziland (not in Namibia, fide Archer & Craven, Cyper. Namibia: 24, 2004); Madagascar; S India, Bangladesh. – However, according to Gordon-Gray (l.c.) the plant is known throughout Africa, and in both Old and New World, but absent from Europe. Sometimes confused with single-headed forms of *P. flavescens*, but heads larger, spikelets broader, and nutlets without transverse frills.


bas.: **Pyreus laxespicatus** Kük. [excl. var. *testui* (Cherm.) Kük.]

syn.: **Cyp. laxespicatus** var. *brunneotinctus* Kük., and var. *percrassus* Kük.

Stoloniferous perennial herb; culms densely tufted, 57 cm long, 2,5 mm  \( \varnothing \), trigonous to rounded, smooth; leaf sheath brown to brownish-black, 6 cm long; blade linear, caniculate, ± tough and succulent, 24–25 cm × 4–5 mm, acute ± scabrid; inflorescence compound with primary branches 6–8, 4–9,5 cm long; spikelets on elongated axis on secondary branches; spikelets 9–16 per cluster, linear-ellipsoid, 6,8–10 × c. 1,5 mm.

Boggy grassland at edge of small peaty stream; loamy places in humid meadow near stream; 450–1450 m alt.


bas.: **Pyreus longistolon** Peter & Kük.


Perennial herb with long stolons; culms 30–37 cm long, 1,2–3,3 mm  \( \varnothing \), trigonous, smooth; leaf sheaths pale yellow brown, 2–10 cm long, often spongy; blade linear, plicate, 16–34 cm × 2,6–7 mm, acute, apex almost glabrous to scabrid; inflorescence simple with primary branches 1–8, 1–15,5 cm long; spikelets in clusters on elongated axis, sessile and at end of primary branches; spikelets 5–23 per cluster, lanceolate, 1,3–3,5 cm × 2,4–5 mm.

Wet depression in grassland; lake shores; bushland; sometimes on or at base of rocky outcrops; 700–1850 m alt.

Sometimes confused with *P. nitidus* that is, however, a more robust plant with a massive base bearing scales and (old) leaf bases and with glumes having an obtuse to acute apex; in *P. longistolon* the glumes are mucronate and their sides fold inwards during maturation of the nutlet.

**PYREUS LANCEOLATUS**

illeg., non Boeckeler 1870; *Cyp. jacquemontii* Boeckeler; further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Perennial herb (sometimes appearing to be annual); culms tufted, 14–60 cm long, 0,9–2,5 mm  \( \varnothing \), trigonous, smooth, base covered with reddish-brown to purplish bladeless sheaths; leaf sheaths reddish-brown to brown, 2–8 cm long; blade linear, flatish or plicate, 7–30 cm × 1–2,5 mm, acuminate; inflorescence capitate with spikelets in a dense, digitate, globose cluster; spikelets 8–30 to many per head, ± ovoid, 0,8–2,8 cm × 2,6–3,8 mm; glumes golden-yellow to golden-brown.

Swamps; wet grassland; river and swamp edges; rice-fields; humid places in meadows; also sand pits, granite rocks; 0–2100 m alt.

Madagascar, Mauritius; tropical and subtropical America, West Indies (Acevedo-Rodríguez & Strong, Cat. seed pl. W. Indies: 282, 2012).

Sometimes confused with single-headed forms of *P. flavescens*, but heads larger, spikelets broader, and nutlets without transverse frills.

**Cyperus**}

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291

bas.: Cyperus macranthus Boeckeler

syn.: Cyp. macranthus var. angustifolius (Ridl.) Kük., but excl. var. mucronatus (Kunth) Kük., and fa. acuticarinatus (Kük.) Kük.; Cyp. lanceus Thunb. var. macrostachya Kunth and var. angustifolius Ridl.; Pycreus segmentatus C. B. Clarke

Perennial stoloniferous herb growing in small tussocks; culms 5–39–60 cm long, 0,5–1 mm Ø, slender, trigonous to ± round- ed, smooth; leaf sheath brown, 2–6 cm long, often splitting into thin fibres; blade linear, folded, glabrous, 6–21 cm × 1–2 mm, acute, apex scabrid; inflorescence capitata (sometimes loosely so); spikelets 4–15 per head, ± ellipsoid, 1–1,8 cm × 2–4,5 mm; glumes dark reddish-brown; nutlet muricate.

Swamps; seasonally damp grassland; depressions on poor soil; rice-fields; marshy places; 840–2150 m alt.

Botswana, S. Africa.

Sometimes confused with P. nigricans and P. muricatus; a number of specimens (Fl. E. Trop. Afr., l.c.) are intermediate between P. macranthus and P. muricatus regarding inflorescence structure. Further study on these specimens is needed.


bas.: Cyperus macrostachyos Lam.

syn.: Cyp. macrostachyos subsp. tremulus (Poir.) Lye; Cyp. tremulus Poir.; Pycreus tremulus (Poir.) C. B. Clarke; P. albomarginatus Mart. & Schrad. ex Nees; Cyperus albomarginatus (Mart. & Schrad. ex Nees) Steud.; Cyp. hochstetteri Nees ex Krauss; Cyp. retusus A. Rich. 1850; Cyp. retusus Nees ex Steud. 1854; Cyp. hochstetteri var. temius ex Krauss; Cyp. macranthus Boeckeler; and var. russa C. B Clarke; Cyp. albomarginatus var. temius (Boeckeler) Kük.; further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Annual herb; culms solitary or tufted, 15–82 cm tall, 1,6–6,2 mm Ø, trigonous, sometimes ± trigonous, smooth, lower part covered by broad membranous reddish-brown leaf bases; leaf sheath rather loose, pale brown to dark brown, 2–13 cm long, base often reddish-purple; blade linear, 15–50 cm × 2,6–9 mm, acuminate, apex scabrid; inflorescence simple, or sometimes ± compound; spikelets in clusters on elongated axis at end of primary branches, at least one cluster sessile; primary branches 2–8, 1–15,5 cm long; spikelets linear, 10–30 to many per cluster,

P. macrostachyos

0,8–2,5 cm × 1,7–2,5 mm (sometimes 3,5 cm long in fruit); glumes with a distinct white hyaline margin.

Seasonal lakes and ponds; river edges, rice fields; other damp places; bare, humid to flooded sandy to clayey soils; hollows in dunes; sometimes in to 25 cm deep water; in or near rock pools; alluvial flooded plain; riverine forest; wooded grassland; 0–2000 m alt.

Namibia, S. Africa, Botswana, Swaziland; Madagascar, Réunion, Mauritius; India – Burma; Australia; (sub)tropical America: C. & S. America.


Annual tufted herb; culms slender, 5–15 cm tall, trigonous, striate; leaves ± as long as culms, flat, 2 mm wide, margins scabrid; inflorescence a simple anthera with 3–4 rays (very short to 2,5 cm long); spikes lax, each with 3–5 spikelets; these spreading, oblong-lanceolate, 1–2 cm × 0,4 mm, flattened, 18–38–flowered; glumes imbricate, ovate, 2,5 mm long with green keel; stamens and stigmas 2; nutlet ovate, 1 mm long, surface transversely undulate.

Humid meadow near river.

Described as related to (“P. latespica C. B. Clarke”) = P. diaphanus (Schrad. ex Roem. & Schult.) S. S. Hooper & T. Koyama, a plant from tropical and subtropical Asia (illustration, partial, in Fl. China, Ill. 23: 329, 2012). Known only from the type collected in 1937 (Exell & Mendoça 480).


syn.: Cyperus melanacme (Nelmes) Raymond

Annual herb; culms 16 cm long, 0,4 mm Ø, trigonous, smooth; leaf sheath 1,5–2,5 cm long, reddish-brown; blade linear, fold- ed, 8,5–12,5 cm × 0,8 mm, glabrous; inflorescence capitata, with 2 bracts, lowestmost leaf-like, erect, 3–6,5 cm long, second bract inconspicuous, glume-like; spikelets 1–6 per head, ovoid, 5–7 × 3–4 mm; glumes striking yellow, c. 3 × 3 mm, apex black; nutlet very little compressed, surface coarsely papillose.

Shallow pools; damp places; water edges; humid and rather shady part of open forest; very sandy ground among rocks; 1350–1560 m alt.

Distribution disjunct.

Differ from P. pauper which has an inflorescence of 1–2 spikelets, the 2 bracts always exceeding the spikelet in length, spikelets < 4 mm wide, glumes straw-brown with dark tip, achene compressed with very long concave surface cells in groups bordered by raised short horizontal ridges (= surface muriculate-excavate), fide Kew Bull. 40: 784, 1985.


bas.: Cyperus melas Ridl.

syn.: Juncellus ater C. B. Clarke; Pycreus ater (C. B. Clarke) Chern.
**PYCREUS MELAS**

Annual herb; culms tufted, 6–32 cm long, 0.3–0.5 mm φ, trigonous to rounded, smooth; leaf sheath reddish-brown to brown, 1.4–2.5 cm long; blade ± filiform, folded, 1.4–7.5 cm × 0.6–1.2 mm, acute, glabrous; inflorescence loosely capitate with primary branches 0–2, 0–1 cm long; spikelets sessile or in digitate clusters at end of very short primary branches, 3–7 per primary branch, to 30 in a head, linear-oblong, c. 7–11 × 1–1.5 mm (to 1.6 cm long in fruit), brown to almost black.

Sandy, boggy grasslands; places flooded in rainy season; edges of pools; weed in rice fields; wet flushes on rocky hillsides; with *Sandy, boggy grasslands; places flooded in rainy season; edges*. Similar to *P. capillifolius* (with spikelets 1.3–2 mm wide and lighter coloured).

**syn.:** *Cyperus micromelas* (Lye) Lye

Annual herb with 1–2 culms 2–5 cm long, 0.1–0.2 mm φ, trigonous, glabrous; leaves 0.5–2 cm long, very slender; inflorescence a cluster of 2–12 sessile spikelets (very rarely with an additional stalked cluster of 2–4 spikelets); spikelets linear, 2–9 × 0.5 mm (to 1 mm with glumes spreading), reddish-brown, 10–25-flowered.

Bare soil over rocks.  
Most similar to *P. melas* but differs from that by its smaller spikelets (2–9 × 0.5–1 mm, not 5–15 × 1–7 mm), smaller glumes (0.7–0.9 mm long, not 1–1.2 mm), and triangular nutlet (not obovate, ± flattened).

Known only from the type collected in 1961.


Tufted annual herb; culms few to numerous, 5–20 cm long, c. 1 mm φ, trigonous, glabrous, with 2–3 leaves in lower half; sheaths grey to purple; blade 5–15 cm long, 1–3 mm wide, scabrid at least on margin; inflorescence lax, 2–5 cm wide, with 1 central sessile spikelet-cluster and 2–8 stalked spikelet-clusters; largest penduncle 2–5 cm long; spikelets linear, 0.2–1 cm × 1–2 mm, reddish-brown with 10–25 closely overlapping glumes.  
Damp spots where water trickles over rock (inselberg) after rain; 200–350 m alt.

Only known from the type collected in 1983.

Somewhat intermediate between *P. pelophilus* and *P. hildebrandtii* but nutlet obovate to squarish, flattened, 0.6–0.5 mm (not 1 × 0.8 mm for *P. pelophilus*, 0.9–0.4 mm for *P. hildebrandtii*), and glumes reddish-brown (Table in *Wildenowia*, o.c.: 234).


**PYCREUS MORTONII**

**syn.:** *Cyperus mortoni* (S. S. Hooper) Lye; “*Pycreus lanceolatus* (Poir.) C. B. Clarke subsp. *ugandensis* Lye” (See Note above).

Annual (or sometimes perennial) herb with slender rhizome; culms erect, solitary or tufted, 20–70 cm tall, 0.5–1.5 mm φ, triquetrous, glabrous; leaves 1–2 per culm; sheath brown-red, the basal bladeless; blade to 40 cm long, 1–2 mm wide; inflorescence a simple umbel with c. 6 rays, the longest c. 5 cm; spikes 1–2 cm long, with spikelets forming a group 1.5–3 cm across; spikelets golden, tinged brown, 1–1.8 cm long, 3–4 mm broad.

Damp savanna; ferruginous soils; grassy and very humid ricefield. Not in Uganda (*P. unioloides*)? Cameroon.

Similar to *P. unioloides* but: annual, altogether smaller, without spinulose-scatrid leaf and bract-tips.


**syn.:** *Cyperus mundii* (Nees) Kunth; *Chlorocyperus mundii* (Nees) Rikli (See also under the varieties below).

Semi-aquatic perennial herb with stolons to 2 m long, 1–3 mm φ, with elongate internodes and short brown-black scales, and rooting copiously at each node and ending in an inflorescence; culm usually solitary, trigonous, smooth, sometimes ± grooved, the non-bearing leaf part 3–30 cm long, 0.7–5 mm φ; leaf sheath yellow-brown, sometimes greenish, often with a red-purple coloured triangle at the side opposite the leaf, 1–7 cm long; blade linear, ± plicate, 2–16.5 cm × 1.5–7.2 mm, acute, apex often ± minutely scabrid; inflorescence capitulate or simple, when simple primary branches 0–12, 0–6.5 cm long; spikelets crowded in digitate, ovoid clusters, sometimes on slightly elongated axis, sessile and at end of primary branches; spikelets 2–13 per cluster, ovoid-lanceolate to broadly ovoid, flattened or sometimes almost conical, 1–12 × 1–4 mm.

**Wet habitats:** *Papyrus* swamps, lake edges, wet or damp grasslands, riverine and swamp forest; in or near open water, frequently floating, sometimes forming a continuous thick turf on water surface “giving way but not breaking under the weight of crocodiles and monitor lizards”; plants closely interwoven with other species of *Cyperus* (Rendle, l.c.); growing with *Mamboga stipulosa*; sand; 0–2300 m alt. – Dispersal of fragments broken from rafts (sudd), or floating fragments, by water currents or winds.

Very variable in: habit, shape of inflorescence, size, shape of spikelets (thus many varieties described).
PYRECEUS MUNDII

S & E Spain; Tenerife, Canary Isl. (Siervoir Núñez & al. in Bot. Macaron. 28: 170, 2013); Cape Verde Isl.; Morocco, Egypt; Namibia (?), S. Africa, Botswana, Lesotho, Swaziland, Madagascar, Réunion; introduced in Cuba, Brazil, West Indies (Acedevado-Rodríguez & Strong, Cat. see pl. W. Indies: 282, 2012).

“I do believe that varieties can be recognized in this species to a certain level; this distinction will not work on all specimens” (Fl. Trop. E. Afr., l.c.). 3 var. are distinguished: var. densisepalous (Kük.) Hoeselslaar [bas.: Pycreus mundii var. densisepalous Kük.], with yellowish glumes, and spikelets c. 5 × 2–2,5 mm, in W & SW Tanzania; – var. mundii (syn.: Pycreus densifolius Kunth 1837; Cyp. densifolius Steud. 1854, nom. illeg.; Cyp. tarsus Salzm. ex Kunth 1837, or ex Boiss. 1841; Cyp. mundii var. glaucus Boeckeler, and var. gracilis (Cherm.) Robyns & Tournay (o.c.): 245, 1955; Pycreus mundii var. gracilis Cherm.; Cyp. densifolius (Kük.) Hoenselaar [bas.: Cyp. densifolius Kük., some Cyp. tarsus Salzm. ex Kunth ( = Cyp. densifolius var. graminifolius (Cherm.) Kük.), with yellowish glumes, and spikelets c. 5 × 2–2,5 mm, glumes dark-black; the most common and widespread variety; – var. uniceps (C. B. Clarke) Napper (syn.: Pycreus sanguinolentus (Vahl) Nees var. uniceps C. B. Clarke; Pycreus mundii f. distichophyllus (Stud.) Kük., and var. distichophyllus (Stud.) Kük., and var. uniceps (C. B. Clarke) Kük.; Cyp. distichophyllus Steud. 1842; Chlorocyperus distichophyllus Steud. 1842), a small plant with black glumes, similar to P. sanguinolentus; widespread in E-S Africa.

Confusion with P. nitidus possible, especially in herbaria. But easy to recognize as it has leaves up the flowering culm, and glumes with furrows on each side of the keel; Also very similar to P. altus (cf. under that species above).


bas.: Pycreus muricatus Kük.

Perennial, often tussocky herb with stolons 1–5 cm long, 1–2 mm Ø covered by dark brown scales; culms 25–82 cm long, c. 1–2 mm Ø, trigonous to rounded, smooth; leaf sheath reddish-brown, 3–7 cm long; blade linear, plicate to sometimes crescentic, often folded, 15–42 cm × 2–3 mm, acutum to acute, apex ± scabrid; inflorescence simple, open, with primary branches 1–5, 1,5–5 cm long, with a red-dark purple tubular prophyll at base; spikelets in loose digitate clusters, sessile and at end of primary branches; spikelets 3–10 per cluster, ± ellipsoid, 8,5–18,5 mm (to 22 mm in fruit) × c. 3,5 mm; glumes brown; nutlet strongly muricate-zonate.

Boggy grassland; lake shores; stream-sides; 450–1850 m alt. S. Africa.

(P. niger (Ruiz & Pav.) Cufod.)

bas.: Pycreus niger Ruiz & Pav. syn.: Cyp. cimicinus J. Presl & C. Presl; Pycreus cimicinus (J. Presl & C. Presl) H. Pfeiffer; Chlorocyperus cimicinus (J. Presl & C. Presl) Rikli

A plant from tropical and subtropical America, confused with

PYRECEUS ELEGANTULUS (Stud.) C. B. Clarke (See under that species above p. 288).


PYRECEUS NIGRICANS


bas.: Pycreus nigricans Steud.

syn.: Cyp. nigricans var. firmior Kük. and var. simulans (Cherm.) Kük.; Pycreus nigrescens C. B. Clarke; P. nyasensis C. B. Clarke; P. simulans Cherm.; P. vavatensis Cherm., incl. var. simulans (Cherm.) Cherm.

Perennial herb forming very large dense tussocks to 30 cm Ø with many crowded leaves; root system of closely packed tough woody rhizomes and thick roots bearing persistent hard dark polished leaf bases; culms tufted, 35–90 cm long, 1,1–1,8 mm Ø, trigonous to slightly triquetrous, smooth, the angles sometimes set with small spine-like teeth, leaf sheath brownish-red (old ones black), 6–8 cm long; blades linear, folded, stiff, 22–74 cm × 2–3,5 mm, acute, apex scabrid; inflorescence very dark, capitate, compact, with a tar-like smell; spikelets crowded in sessile, ovoid-globe clusters, sometimes viviparous; spikelets 5–25 per cluster, ovoid, 8–17 × 2,5–5 mm; nutlet ± trigonous.

Marshy ground, swamps, bogs, by rivers; montane grassland; meadow in bamboo forest; 1800–3600 m alt.

Madagascar.

Rarely collected as rhizome and roots are tangled tight together and difficult to break up.


bas.: Pycreus nitidus Lam.

syn.: Cyp. lanceus Thunb. 1794, non F. Muell. 1874; Cyp. lanceus f. densior (Cherm.) Kük., var. divaricatus Kük., var. grantii C. B. Clarke, var. humilis Kunth, var. melanopus (Boeckeler) Kük., var. palastiniensis Kunth., var. ramosus Kük., but excl. var. angustifolius Ridl. (= Pycreus macranthus), var. macrostachya Kunth (idem), and var. mucronatus Kunth (= P. permutatus); Cyp. melanopus Boeckeler; Pycreus lanceus (Thunb.) Turrill, incl. var. humilis Kunth, var. melanopus (Boeckeler) Troupin; further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Perennial herb with long stolons (to > 40 cm × 3–8 mm Ø) sometimes branching, rooting at nodes, not developing sterile leafy stems; base of plant massive, with scales and (old) leaf bases; culms usually solitary, 15–70 cm long, 1,3–3 mm Ø, trigonous to triquetrous, smooth; leaves several at base of culm; sheath pale yellowish-brown, brown to almost black, 2,5–14 cm long; blade linear, flatish plicate, 18–70 cm × 2,5–8,6 mm, acute to acuminate, apex glabrous to minutely scabrid; inflorescence simple with spikelets in ovoid, digitate clusters, sessile or at end of primary branches; these 4–9, 0–10 cm long; spikelets 5–30 per cluster, ovoid (−oblung), 8–16 × 3–4,3 mm, flattened, shining brown.

Swamps; burned areas; forming large stands in or near permanent water; grassland with oozing water; edges of woods in damp
places; estuaries where salinity is not high; near sea-level to 2450 m alt.
Namibia. S. Africa, Botswana, Swaziland; Madagascar; Syria, Israel. – Not in India (erroneous citation; see Prasad & Simpson in Rhedea 21: 157–159, 2011).
Before commercial salt was available, plants were burnt and the ashes lixiviated to obtain a cooking salt. Culms used for mats (Simpson & Inglis, l.c.).


**Cyperus nuereissis** Boeckeler


Perennial herb with or without stolons; culms tufted, 23–54 cm long, 1,6–2,4 mm ², trigonous, smooth, basal part covered with loose leaf sheaths (brown, 3–9 cm long); blade linear, plicate, 17–31 cm × 3,4–4,7 mm, acute to acuminate, apex scabrid; inflorescence simple to compound, with primary branches 2–8, 0,5–7 cm long; spikelets loosely to densely arranged in digitate clusters, sometimes on an elongated axis, the clusters sessile and at end of primary branches; spikelets many per cluster, linear-lanceolate, 5,7–11,5 × 1,1–1,5 mm.

Granitic, oozing pan; swamp on rocks with *Drosera pilosa*... in gallery; swamps; ditches; moist grassland; marsh on floating humus; peat-bog on conglomerate; forest gallery, on grassy thick tussocks; humid rice-fields; 450–1800 m alt.

Quite similar to *P. aethiops* but this species has brown-black glumes (not red-brown), 3 stamens (not 2), glumes 1–1,3 mm wide (not 0,8–1 mm).


syn.: **Cyperus overlauetii** (Chern., ex S. S. Hooper & Raynal) Lye; ? *Pycreus flavescens* (L.) P. Beauv. ex Rchb. subsp. *laevinux* Lye (See below).

Species near *P. alleizettii* Chern., an annual plant from Madagascar, but with shorter, narrower spikelets (in *P. alleizettii* 0,8–1,6 cm × 3,5–4 mm) and shorter glumes (in *P. alleizettii* 2,5–3 mm long).

Ecology not recorded.

Known only from the type collected in 1932.

The identity of *Pycreus flavescens* var. *laevinux* from Tanzania is uncertain. Citation from Ruaha Natl. Park (based on specim. Bjørnstad 2600) seems to be a misidentification of a specimen belonging to *P. flavescens* subsp. *flavescens* (Fl. Trop. E. Afr., Cyper.: 294, 2010; cf. above under *P. flavescens* pp. 289–290).


syn.: **Cyperus pagotii** (J. Raynal) Lye

Species distinct from *Pycreus mortonii* S. S. Hooper by its larger spikelets and glumes, and by the aspect of the surface cells of the nutlet which are narrowly elongate and not papillose; it is distinct from *P. alleizettii* Chern. and *P. overlauetii* Chern. ex S. S. Hooper & J. Raynal by its acute spikelets and its inflated nutlet. In addition *P. pagotii* is distinct from the above-mentioned species by its much longer anthers.

“Hydromorphic” area.

Known only from the type collected in 1964.


bas.: **Cyperus pauper** Hochst. ex A. Rich. 1850, nom. illeg., nom Nees 1834 (= *Pycreus unioloides*); *Chlorocyperus pauper* (Hochst. ex A. Rich.) Rikli

Annual herb to c. 25 cm tall; culms trigonous, smooth; leaves few, ± as long as culms, filiform, sheaths purplish-brown; inflorescence of 1–2 (less commonly –5) spikelets; the 2 bracts always exceeding the spikelet in length; spikelets usually ≤ 4 mm wide; glumes straw-brown with a green or golden tinge and dark tip; nutlet compressed, with very long concave surface cells in groups bordered by raised short horizontal ridges, producing a muricate-excrete-surface (Hooper 1985: l.c.). See *P. melanacme* (p. 292) for comparison.

Swamps; roadside ditches; seasonally moist depressions; bare wet soil; along streams; shallow soils over rocks; swampy grassland; up to c. 2400 m alt.


bas.: **Cyperus pelophilus** Ridl.

syn.: *Cyp. pelophilus* fa. *nanus* Kük.; *Cyp. guanipensis* Schnee; *Pycreus chorisanthus* C. B. Clarke; *P. decaryi* Chern.; *P. sulcinus* sensu Fl. Trop. Afr. 8: 298, 1902, non (C. B. Clarke) C. B. Clarke s. str.

Annual herb; culm 4,5–28 cm long, 0,5–1 mm ², trigonous, smooth; leaf sheath (pale) brown, sometimes purplish at base, 1–4,5 cm long; blade linear, flattish-plicate, 3–22 cm × 1,2–3 mm, acuminate, scabrid; inflorescence simple, sometimes partially compound with primary branches 3–8, 1–7 cm long; spikelets in loose digitate clusters, sessile and at end of primary branches (when inflorescence partially compound also clusters on secondary branches); spikelets 4–15 per cluster, ± linear, 0,7–2 cm × 1,5–3 mm.

Pool edges; swamps; wet depressions in cultivated area; recently disturbed silt on riverbanks; moist sandy places near water; sandy-cleyey marshes; by dried-up pools and ponds; 0–1650 m alt.
PYCERUS PELOHILUS

Scattered distribution: Namibia, S. Africa, Botswana, Swaziland; Madagascar; introduced in the Caribbean, S. America. – Not in Somalia (Lye in Wildenowia 26: 236, 1996, replaced by Pycreus micropelophilus) nor in Congo-Brazzaville but in Chad. Easily overlooked or missed, because plants (small) are soon overtaken by more robust vegetation. Easily recognized by the strong zig-zag spikelet rachilla with ± spreading mucronate glumes and flattened nutlets.


bas.: Cyperus permutatus Boeckeler

syn.: Cyp. lanceus Thumb. var. mucronatus Kunth; Cyp. macranthus Boeckeler var. mucronatus (Kunth) Kük.

Perennial herb with massive base of one or more slightly swollen culm-bases; culms tufted 23.5–70 cm long, ± 1.7 mm Ø, trigonous to somewhat rounded, smooth; base surrounded by stiff sheaths and tough usually blackened fibres through which the roots penetrate; leaf sheath light brown to brown-black, 1–6.5 cm long; blade linear, flat or folded, stiff, 9–40 cm × 1.6–3 mm, acute to acuminate, apex glabrous to minutely scabrid; inflorescence capitate or simple, when simple simple branches 0.4–0.5 cm long; spikelets in digitate clusters or on an elongated axis, sessile and at end of primary branches; spikelets 5–15 per cluster, when in a head 20 to many, ± lanceolate, 9.17.5 × 2–3 mm.

Swamps; seasonally wet grassland; 950–1900 m alt.

S. Africa.

P. poikilotachyus Nelmes

syn.: Cyperus poikilotachyus (Nelmes) Reynders

Annual herb; culms erect, obscurely or obtusely trigonous, slender, smooth, 10–20 cm tall, with few leaves at base; leaves much shorter than culm or ± of equal length, filiform, ± erect; sheaths tawny; inflorescence a simple anthera, contracted, with 1–10 spikelets; these oblong-lanceolate, acute, 7–15 × 2–3 mm, 10–18-flowered; glumes dark brown (var. poikilotachyus) or pale reddish-brown (var. heterochrous); nutlet oblong-orbicular or oblong-ovobate, c. 1.5 × 1 mm.

Shallow moist soil overlying “laterite”.

Two varieties are distinguished under Cyperus, based on colour of glumes; “as both are sympatric with an absence of individuals showing intermediate glume colours, Nelmes (1938) considered both colour variants as different species… an unreliable character for species delimitation in Cyperus” (Reynders in Phytotaxa 166: 41, 2014): – Cyperus poikilotachyus var. heterochrous (Nelmes) Reynders (bas.: Pycreus heterochrous Nelmes); – var. poikilotachyus.

These two entities were collected in Zambia, Mwinilunga District, in 1938 (Milne-Redhead 4309 and 4311, P. poikilostachys). – These two entities were collected in Zambia, Mwinilunga District, in 1938 (Milne-Redhead 4309 and 4311, P. poikilostachys). – var. poikilotachyus.

Perhaps close to P. rubidomontanus.


bas.: Cyperus polyctachyus Rothb. 1773, non Jungh. 1831 (= Pycreus flavescens subsp. flavescens).

syn.: Chlorocyperus polyctachyus (Rottb.) Ricki; See also under the varieties below.

Annual or short-lived perennial herb, sometimes producing small stolons; culms tufted, 10–80 cm long, ± 3 mm Ø, trigonous to sometimes slightly triquetrous, smooth; leaf sheath pale yellowish-brown, sometimes with reddish or purplish base, 3–12 cm long; blade linear, flatish-plicate, 5–50 cm × 1.5–1 mm, acute to acuminate, apex sometimes ± scabrid; inflorescence a congested head-like anthera of numerous crowded spikelet-clusters, or more lax with few–many stalked brush-like groups of spikelet-clusters, or inflorescence with laxly arranged spikelets (erect-patent spikelets having a characteristically neat “plaited” appearance); spikelets 5–30 per cluster, ± linear, 6–19 × 0.8–1.8 mm.

Wet grassland; lakeshores; swamps; marshy meadows with species of Ascolepis; in a few places with Typhla; mangrove; short grassland with standing water; dunes; sand temporarily humid; sandy shores of lagoons; edges of pools and ponds; weed of hydric soil in ditches, waste places, grasslands, disturbed agricultural areas as fields, rice fields, 0–2400 m alt.

A variable species especially in size and form of inflorescence. Canary Isl.; S Italy (e.g. Ischia isl.; Sibilo & al. in Pl. Biosystems 149: 933–942, 2015); Morocco, Algeria, Tunisia, Egypt; Cape Verde Isl.; Bioko/Fernando Poo, Principe, Namibia, S. Africa, Botswana, Swaziland; Madagascar, Mauritius, Comoros, Réunion, Seychelles, Andaman & Nicobar Isl. (Prasad in Nelumbo 59: 157, 2017); Palestine, Yemen (Wood, Handbook Yemen flora: 327, 1997); Iraq, Pakistan, India, Sri Lanka, E-wards to China, Japan, Philippines, Indonesia; Australia; S USA, Mexico, C. & S. America, West Indies (Acevedo-Rodriguez & Strong, Cat. seed pl. W. Indies: 282, 2012). – Cosmopolitan (weed) in tropical & subtropical regions, extending into warm-temperate climates.

Infraspecific categories are numerous. Kükenthal (in Engler, Pflanzenreich IV. 20/101, 367–373, 1936, under Cyperus) enumerated (in bold) 11 varieties and 5 forms, his index (p. 656) comprises 17 varieties and 9 forms. Two subspecies are currently recognised, viz. subsp. polyctachyus and var. microdontus (syn. var. laxiflorus). They “do not show any difference… in floral characters… However, the plants look entirely different as the varieties below.”

Two subspecies are currently recognised, viz. subsp. polyctachyus and var. microdontus (syn. var. laxiflorus). They “do not show any difference… in floral characters… However, the plants look entirely different as the varieties below.”

Perhaps close to P. rubidomontanus.
Pycnophorus pseudodiaphanus

Kük., var. thouarsii (Kunth) Kük., var. fascicularis (Poir.) Kunz., var. chlorostachys (Boeckeler) Kük.; Cyp. fascicularis Poir.; Cyp. olidus Vahl; Cyp. polystachys Boeckeler; Cyp. olivaceus Vahl; Cyp. thouarsii Kunth; Cyp. sonderi J. A. Schmidt; Cyp. liebmanni Steud.; Cyp. boivinii Boeckeler; Pycnophorus odoratus Urb. 1900, (L.) Urb. according to Boulou, o.c. 400; etc. See World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew; – var. microdontos (Torr.) Govaerts, World Checklist Cyperaceae: 610, 2007 [bas.: Cyp. microdontos Torr. 1836; syn.: Cyp. polystachys var. laxiflorus Benth. 1878, and subsp. laxiflorus (Benth.) Lye 1983; Cyp. polystachys var. leptostachys Boeckeler; Cyp. polystachys var. laxiflorus (Benth.) C. B. Clarke; Cyp. holosericeus Link; Cyp. polystachys subsp. holosericeus (Link) T. Koyama; Cyp. polystachys var. holosericeus (Link) C. B. Clarke; Pycnophorus pseudodiaphanus subsp. holosericeus (L.) T. Koyama; Pycnophorus ferrugineus sensu Cufed., Enum. 1970, non (Boeckeler) C. B. Clarke (=P. intactus); etc., cf. above].

Relationship is with Pycnophorus intactus. P. polystachyos has linear, rather dull brown spikelets, P. intactus lanceolate, greenish-red spikelets. According to Gordon-Gray (1995: 147) P. polystachyos var. microdontus is poorly recorded for S. Africa, Natal, but “most herbarium specimens are probably placed with P. intactus which intergrades”.

P. polystachyos is the most common Pycnophorus species in weed communities in disturbed and wet places (Mesterházy 2012: 116). There is some resemblance to Pycnophorus tonkinensis var. baikiei (cf. p. 145).


Annual tufted herb; culms 7–15 cm long, 0.5–1 mm 2, triquetrous, glabrous; leaves many in lower part of culm; blade flat, 2–10 cm long, 1–2 mm wide; inflorescence a terminal fascicle of 2–5 spikelets, or an anthela of 1 sessile fascicle with 3–6 spikelets and 1–2 fascicles of spikelets on rays to 3 cm long, rays unequal in length; spikelets linear-lanceolate, 5–12 × 2–5 mm, 15–30-flowered; nutlet cylindric, c. 1 × 0.5 mm, greyish-white, often iridescent.

Damp places; bare sands temporarily humid; ricefields; hollows in coastal dunes; the species is weakly halophilous; oozing sandstone; temporary marshland on sandstone; near sea-level to 200 m alt. The record from NW Gabon is based on a photograph of a new lost specimen from Ogoué-Ivindo: identification uncertain. The 2 vars. described, viz. Pycnophorus pseudodiaphanus var. pseudodiaphanus (from Ghana), and var. occidentalis S. S. Hooper (from Senegal, Casamance) are based on size of spikelets and nutlets, these wider and larger in var. occidentalis (spikelets 3.5–5 mm wide, not 2–3 mm; nutlets 0.9–1.25 × 0.9–1 mm, not 0.7–1 × 0.6–0.9 mm).

P. pubescens

Turrill 1914, non Cyperus pubescens J. Presl & C. Presl, nec Steud. 1854.

syn.: Cyperus gossweileri Kük.

Perennial herb with short rhizome; culms erect, to 85 cm tall, triangular, grooved, pubescent, covered at base by fibrous sheaths; leaves linear, to 30 cm long, 3 mm wide, pubescent on both sides; inflorescence a simple anthela, lax, with 4–5 rays to 10.5 cm long, of 2–8 spikes, hemispherical to ovate in outline, to 3.5 cm 2, with few and lax spikelets; these lanceolate, acute, 1–2 cm × 3.5–5 mm, flattened, many-flowered.

Sides of brooks.

A Pycnophorus with “remarkable characters … Similar hairy leaves and stems are very uncommon in those Cyperaceae which have distichous glumes. The nuts are remarkably persistent on the rachis, and the style too is subsistent, though it finally breaks off, leaving its base … as a short apiculus. The two style arms fuse when the flowering period is over, and so in ripening nuts there appears to be an entire style” (Turrill in Bull. Misc. Inform. Kew 1914: 339).


bas.: Cyperus pumilus L. 1756, non Rothb. 1773 (= Pycnophorus sanguinolentus subsp. sanguinolentus).

syn.: Cyp. pumilus var. patens (Vahl) Kük. and other vars.; Cyp. patens Vahl; Pycnophorus patens (Vahl) Cherm.; Dichostylis patens (Vahl) Rikli; Pycnophorus pumilus Vahl 1805; Cyp. truncatulus Steud.; Cyp. nitens Retz., incl. var. muticus Boeckeler; Pycnophorus nitens (Retz.) Palla; Juncellus pumilus Peter; further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Annual herb 1–40 cm tall; culms tufted, 1–18 cm long, 0.3–1 mm 2, triquetrous, smooth; leaf sheath brown, 0.5–2 cm long, sometimes almost absent; blade linear, flat, 2.4–15 cm × 1.2 mm, acuminate, glabrous to minutely scabrid; inflorescence capitulate or simple with primary branches 0–4, 1.1–4.5 cm long; spikelets loosely arranged in digitate clusters, sometimes on an elongated axis, the clusters at end of primary branches, often 1 or more clusters sessile; spikelets 6–12 per cluster, oblong, flattened, 5–14 × 20–1.3–2 mm. Along drainage channels; seasonal wet hollows in grassland; stream sides; riverbeds; swamps; often on shallow soils over rocks; cultivated and disturbed habitats on sandy soils; hollows in coastal dunes; wooded savannas; rice fields; dry bottoms of ponds and on their edges; wooded marshes in sunny places; rather damp sandy fields with a clayey subsoil with dwarf Eriocaulaceae; 0–2100 m alt.


Tropical and subtropical Old World, extending into the Himalayas. – Spain (Verloove & al. in Fl. Mediterr. 24: 201, 2014); Namibia, S.


**PYREUS PUMILUS**

Africa, Botswana, Swaziland; Madagascar, Comoros, Aldabra; S Asia from Pakistan, NW India, Sri Lanka E-wards to S China, Taiwan, Malesia, Indonesia, Philippines, New Guinea; N Australia. Introduced in S USA (spreading lately), West Indies (Acevedo-Rodriguez & Strong, Cat. seed pl. W. Indies: 282, 2012).

Could be confused with *Cyperus cuspidatus*, *C. tenispica*, *Pyreus hildebrandtii*, *P. polystachyos*.


syn.: *P. atrorubidus* sensu auct. ex Afric. occid. non Nelmes 1952 (cf. under *P. atrorubidus* above).

Perennial densely tussocky herb, with thin rhizomes and stolons c. 0.5–1 mm Ø; culms many per tussock, 8–25 cm tall; leaf blade filiform, 8.5–16 cm × 0.3–1 mm; inflorescence pseudolateral with a single sessile cluster of 3–16 spikelets, rarely only one spikelet; bract 1 (or with an additional much smaller bract), erect, to 13 cm long; spikelets lanceolate, 3–16 × 2–2.5 mm; glumes not closely imbricate, dark reddish-brown to ± black, with dark green midrib; nutlet compressed, red-brown, c. 1 mm long, with papillae in longitudinal rows.

Grassland in temporarily humid depressions; between rocks, between bare stones and tall herbs; edges of streams; in crevices of soft rock in a regularly flooded stream bed; forming mats; 1000–2700 m alt.

Has been confused with *P. atrorubidus* (annual); also similar to *P. reductus* Chern. from Madagascar; probably most related to *P. poikilostachys* Nelmes (annual 1!).


Annual tufted herb; culms erect, obtusely trigonous, grooved-striate (when dried); 3–15 cm tall, smooth, glabrous; leaves basal, much shorter than culms; sheath tubular, red, striate, entire; blade filiform, 1–6.5 cm × 1 mm, erect or suberect; inflorescence a simple anhela, contracted, with 2–6 spikelets; these sessile, digitate, obliquely spreading or curved, flattened, oblong-lanceolate, 8–25 × c. 4 mm, 6–28-flowered, margins serrate; stamens 2; style red, deeply bifid; nutlet obovate, 1.3–1.5 mm long, densely and minutely dotted.

Ecology not recorded.

Known only from the type (Bredo 2750) collected in 1939.

Described as resembling (*Cyperus teneriffae* Poir.) = *Cyp. rubicundus* Vahl in the aspect of the spikelets, but very different from that species in “the form of the inflorescence, its 9–11-nerved glumes, its 3 stamens and 3 stigmas, and its trigonous nutlet”.

However, the illustration of *Cyp. rubicundus* figuring in Haines & Lye, Sedges & rushes E. Afr. 258, 1983, does not show a great difference as regards the form of the anhela and the spikelets. The only marked difference is the number of stamens and stigmas, and the form of the nutlet. – Cf. under *Cyperus rubicundus* Vahl 1805 p. 137 above.

The relationship between *Pyreus sanguineosquamatus* and *Cyperus fontinalis* (Chern.) Kük. (bas.: *Pyreus fontinalis* Chern.), a plant from C Madagascar (Illustration by Kükhenthal in Engler, Pflanzenreich IV. 20/101: 341, 1936), was discussed by Larridon & al. in Phytotaxa 166: 43, 2014; and in the end, *Cyp. fontinalis* was put in synonymy under *P. sanguineosquamatus*: “when comparing the type material of both taxa, this distinction in growth forms is, in our opinion, no more than a matter of interpretation as no striking differences could be observed between the plant bases of the Congolean and Malagasy material. In addition, glumes and nutlets … are very similar. The type locality of *Cyperus fontinalis* in Antsirabe [Madagascar] seems to have been destroyed due to exploitation of the hot water from the springs … and the species may even be locally extinct … The salt marshes in southern Congo are similarly being exploited. The salt marshes of this region are of volcanic origin and provide a habitat to a large number of endemic plant species …”. See also our discussion under *Cyperus fontinalis* (p. 109), and also under *Cyp. rubicundus* (p. 137). – However, we prefer treating Van der Veken’s plant apart.


bas.: *Cyperus sanguineus* Vahl 1805, nom. cons.


Annual or short-lived perennial herb; culms tufted, 21–65 cm long, 0.8–2.5 mm Ø, trigonous to sometimes triquetrous, smooth, lower part with several nodes; leaves basal; sheath yellowish-brown to green to sometimes reddish, 3–10.7 cm long; blade linear, flatish or plicate, 8–17 cm × 1–4 mm, acuminate to acute, sometimes ± scabrid; inflorescence ± capitulate or simple; primary branches 0–5, 1–3 cm long; spikelets crowded in digitate, ovoid clusters, sessile or at end of primary branches; spikelets 3–20 per cluster, ± oblong, 0.8–1.8 cm × 2–2.8 mm.

Along streams; in riverbeds, ditches, waterholes; (seasonally) wet grassland; thin soil over rocks; weed in rice-fields, and other damp crop fields; 950–2200 m alt.

Saudi Arabia, Yemen (Wood, Handbook Yemen flora: 327, 1997); Turkey; widely distributed in warmer parts of C & E Asia, E Hemisphere, such as Russian middle Asia, Caucasus, Afghanistan, India, Sri Lanka, SE Asia, China, Japan, Philippines, Indonesia; Australia; Pacific islands. Naturalised in other regions of the World, e.g. SE USA: locally common in periodically disturbed sites. Its introduction is associated with the cultivation of rice, and its dispersal and range expansion there are associated with road construction and maintenance activities (Nacci & Ford, o.c.: 44).

Subsp. *nairobiensis* Lye has slender culms, narrow spikelets and leaves, and wrinkled nutlet, characters not consistent.

CYPARACEAE

PYCREUS SCAETTAE


Perennial, densely tufted herb; culms 10.5–20–35 cm long, 0.3–0.7 mm Ø, trigonous, smooth, base swollen; leaf sheaths 3.5–6 cm long, old sheaths turning into tough brownish-black fibres, surrounding base of culms and leaves; blades filiform, 7–10 cm long, 0.7–0.8 mm wide, acute, glabrous to minutely scabrid at apex; inflorescence loosely capitiate with spikelets in a loose white digitate cluster; spikelets 5–7 per cluster, ± ovoid, 0.8–1.15 cm × 2.2–2.8 mm; glumes pale-brownish-yellow. Hard packed path in Brachystegia woodland; grassland liable to burning; meadow; swampy savanna; river sides; 100–2100 m alt.

The differences between the 2 varieties (var. scaetatae and var. vanderystii) upheld by Reydners (Phytotaxa 166: 43, 2014) refer to the average size of the glumes, although “there is a slight overlap”. Var. vanderystii has overall larger dimensions of plant and glumes, and the glumes are yellowish.

A species different from P. fibrillosus (Kük.) Chem. that has a flexuous rachilla hardly visible between the glumes; P. scaetatae “has larger spikelets with strongly imbricate glumes and a straight rachilla that is visible between the glumes”.

Superficially resembling Cyperus niveus var. tisserantii.
? Also in Ghana.


bas.: Cyperus smithianus Ridl. (Zaire, mouth of Congo river, Ch. Smith n°4 47, 67).

Culms triquetrovis c. 23 cm long, base bulbous; leaves numerous, stiff, linear, c. 18 cm long, acuminate; sheath membranous, striate; involucral bracts 4, spreading, 10 cm long; inflorescence a loose head of crowded linear spikelets, these white, 1 cm long; glumes c. 2 mm long, rather broad, 3-ribbed; style 3-fid; nutlet small, ± trigonous (not quite ripe).

Amphipilus plant.

Said to be near Cyperus proteinolepis [sin. auct.; Cyp. proteinolepis Steud. 1854 (= Cyp. jenimicus) = Cyp. conglomeratus; Cyp. proteinolepis Boeckeler 1879 = Cyp. rotundus]; probably meant C. conglomeratus (inflorescence a congested head).

In Flora of Tropical East Africa, Cyp.: 298, 2010, compared with Pycreus fluminalis (Ridl.) Troupin: “the two species are very similar, but P. smithianus has somewhat thicker and coarser leaves and glumes, and is only found in the Congo region.” All examined specimens studied were wrongly named and belong to P. fluminalis. In Fl. du Gabon 44, Cyper.: 112, 2012, Cyp. smithianus is also mentioned as resembling Cyperus fluminalis. However, the distinguishing characters are questionable. In Flora of Tropical Africa 8: 301, 1902, Clarke cites the following specimens: Smith, Hens C 116, Dewèvre 706, Laja 184, all from the mouth of the (Lower) Congo River E-wards to Kinshasa-Stanley Pool; but adding Stuhlmann specimens (1593, 3960) from Tanzania, Karagwe, Bukoba (T1 = 1°30’S × 31°E). In other

PYCREUS SMITHIANUS


The taxonomic identity of P. smithianus seems doubtful. Cf. under P. fluminalis above. Not mapped by us.


syn.: Cyperus spissiflorus (C. B. Clarke) K. Schum.

Perennial herb with woody rhizome; culms 20–30 cm tall, covered with black leaf sheaths at base; leaves 2/3 the length of culm, c. 3 mm wide; inflorescence a simple anthela with 4–5 rays 0–2.5 cm long, or congested into a head; spike 3–9 spikelets; these oblong-lanceolate, acute, brownish-yellow, 6–8 × c. 2 mm, flattened, 16–20-flowered; glumes closely packed, elliptic, mucronate; stamens 3; style 2-fid; nutlet small, obovate, biconvex. Description from a unique young specimen.

Ecology not recorded.


Known only from the type (A. Whyte s.n.), Mt Mulanje. Cyperus spissiflorus “C. B. Clarke” sensu Baum 1903 = Cyperus hensiti.


syn.: Cyperus subtrigonus (C. B. Clarke) Kük.

Perennial herb with culms at end of erect or creeping stolons 1 mm Ø; culms solitary or tufted, 10–30 cm long, c. 1 mm Ø, trigonous-terete, glabrous, smooth; leaves only in lower 3–8 cm of culm; upper sheaths green, lower straw-coloured to reddish-brown; blades flat, 4–10 cm long, 1–3 mm wide; inflorescence a solitary spike, 1.5–3 cm wide, of 3–30 spikelets; these sessile, contracted, ± linear, 10–18 × 1.7–2 mm, light yellowish-brown, somewhat flattened, 10–30–flowered; glumes ovate, 1.6–2 mm long, reddish-brown; nutlet obovate, with a protuberance on each side so it is almost trigonous, 0.5–0.5 mm, blackish-brown.

Seasonally humid meadows; forest clearings on hydromorphic soil; 400–700 m alt.

Very close to P. flavescens, P. lanceolatus.

“This species is altogether a Pycreus; but it is the only one which affords any clue to the route by which Pycreus has passed into Pycreus. The nut has sometimes a large asymmetric depression, being then similar to the nut of Carex, called ‘nux prava’ by Boot” (Fl. Trop. Afr. 8: 293, 1901).


syn.: Cyperus sumbawangensis (Hoenselaar) Lye

Perennial densely tufted herb; culms 10–34 cm long, 0.4–1 mm Ø, rounded to somewhat trigonous, smooth, bases surrounded by many thick black fibres from old leaf sheaths; sheath brownish-black, sometimes somewhat green, 2–7 cm long; blade linear,
PYCREUS SUMBAWANGENSIS

folded or canalicate, 6–11 cm × 0.5–1.5 mm, acute to acuminate, tips often burned and black, glabrous; inflorescence loosely capitiate with spikelets in a loose digitate cluster; spikelets ovoid, 3–11 per head, 0.6–1.3 cm × 2.5–5 mm; glumes red-brown to black. Grassland, seasonally flooded; 1500–2500 m alt.

? S. Africa.

Near P. fibrillosus, and has some resemblance with P. permutatus.


syn.: Cyperus laxicansus Kük. var. testui (Chernis.) Kük.

Perennial herb with short woody rhizome; culms 40–60–90 cm long, 1–2 mm Ø, smooth, trigonous, glabrous, base bulbous; leaves few, shorter than culms or equal, 1.5–3 mm wide, rigid, folded, apex slightly scabrous; inflorescence a simple or compound panicle with 2–8 rays strongly unequal, to 1–8 cm long; spike of 6–15 spikelets; these spreading, strongly compressed, 0.8–1.5 cm × 2 mm, 12–24-flowered.

Wet savanna; swamp, and swamp recently burned.


Annual herb, completely or partially submerged in water; culms 5–25 cm long, 0.4–0.8 mm Ø, trigonous, smooth; leaves basal; sheath straw-coloured yellow, 2.5–4 cm long; blade flat, c. 8–18 cm long, 0.5–1.5 mm wide, acuminate, glabrous; inflorescence a simple anhela of 1 sessile spikelet and 4–5 stalked spikelets, rays 5–8.5 cm long; spikelets lanceolate, 0.8–1.2 cm × 1.7–2 mm. – Neither leaves nor culm able to support themselves out of the water.

Submerged in stream; pools in steppe, marsh; 1490–2150 m alt.


Annual herb; culms tufted ?, 23–38 cm long, c. 1 mm Ø, trigonous, smooth; leaf sheath pale brown, 2.2–3.5 cm long, sometimes ± purplish at base; blade linear, 10–17 cm x 1.2–1.6 cm, acuminate, apex scabrid; inflorescence simple with primary branches 1–2, 2–5 cm long; spikelets in loosely digitate clusters at end of primary branches, at least one cluster sessile; spikelets 3–5 per cluster, ovoid, 1.2–1.5 cm × 4 mm (after fruiting to 3.4 cm long). Swamp; rice fields; muddy pool in open; 950–1350 m alt.


syn.: Cyperus zonatissimus (Chernis. 1928), Kük. 1936; Pycreus zonatissimus Chernis. 1928, nom. illeg.

Annual herb; culms tufted, 10–30 cm long, 0.6–1 mm Ø, trigonous to rounded, smooth; leaf sheath brown, 1.7–4.5 cm long, often with a purplish base; blade linear, folded, 4.7–16.5 cm × 0.8–1 mm, acute, glabrous; inflorescence loosely capitiate; spikelets ± sessile, 2–11 per head, ovoid, 1–1.5 cm × 2.8–3.8 mm.

Seasonally moist depression; wet grassland; ditches at roadsides; 1000–2300 m alt.

C Madagascar.

SYNONYMS:

Pycreus albomarginatus Mart. & Schrad. ex Nees = Pycreus macrostachyos sp. aff. alleezettai Chernis. sensu Lebrun & al. 1972

P. unioloides

angulatus (Nees) Nees ex C. B. Clarke, incl. fa. bromoides (Link) Lindm. = P. unioloides

angulatus sensu Fl. W. Trop. Afr., ed. 1, non Nees

P. acuticarinatus

ater (C. B. Clarke) Chernis. = P. melas

atorubidius auct. Afric. occid., non Nelmes

P. rutidomontanus

baoulensis A. Chev. 1920, nom. = Mariscus baoulensis
**Cyperus**

*bahi* Cern. = *Cyperus flavescens* subsp. *microglumis* var. *castaneus*

*caespitosus* (Poir.) C. B. Clarke = *P. polystachyos*

*chloranthus* C. B. Clarke = *P. pelophilus*

*cimicinus* (J. Presl & C. Presl) H. Pfeiffer = *P. niger*

*congestus* (Vahl) Hayek = *Mariscus congestus*

*debilissimus* C. B. Clarke = *Cyperus flavescens*

subsp. *tanaensis*

*decaryi* Cern. = *P. pelophilus*

*decumbens* T. Koyama = *P. mundii* var. *mundii*

*densifolius* (Kunth) C. B. Clarke = *P. nigricans*

*divulsus* (Ridl.) C. B. Clarke subsp. *africanus* S. S. Hooper = *P. africana*

*dijalonis* A. Chev. = *Cyperus pustulatus*

*elliottiensis* Nees, incl. var. *humilis* Nees = *Cyperus lanceolatus*

*esculentus* (L.) Hayek = *Cyperus esculentus*

*fallaciosus* Cern. = *Cyperus flavescens* subsp. *flavescens*

*ferrugineus* (Poir.) C. B. Clarke = *P. intactus*

*ferrugineus* sensu Cufod. 1970 = *P. polystachyos* var. *micrododontus*

*flavescens* (L.) P. Beauv. ex Rchb. var. *byssinicus* (Hochst. ex A. Rich.) Cufod. = *P. flavescens* subsp. *flavescens*

*flavescens* var. *castaneus* Lye = *P. flavescens* subsp. *microglumis* var. *castaneus*

*flavescens* subsp. *fallaciosus* (Cern.) Lye = *P. flavescens* subsp. *flavescens*

*flavescens* subsp. *lanceolatus* Lye = *P. overlaetii*

*flavescens* subsp. *laevinox* sensu Lye p.p. (= ex Tanzania) = *P. flavescens* subsp. *flavescens*

*globosus* (All.) Rchb. var. *nilagricus* sensu C. B. Clarke 1902 = *P. nuerensis*

*globulosus* var. *nuerensis* (Boeckeler) Troupin = *P. nuerensis*

*heterochrous* Nelmes = *P. poikilostachys* (var.)

*hyalinus* (Vahl) Domin = *Queenslandiella hyalina* subgen. *Queenslandiella* sensu C. B. Clarke, non C. B. Clarke s. str.

*intermedius* (Riikli) C. B. Clarke = *Pycreus flavescens*

subsp. *intermedius*

*intermedius* (Steud. 1842, nom. illeg.) C. B. Clarke = *P. flavescens* subsp. *intermedius*

*katangensis* Cern. 1833, nom. nud. = *P. scaettae*

*lanceolatus* C. B. Clarke and sensu Rendle 1899 = *P. flavescens* subsp. *intermedius*

*“lanceolatus”* (Poir.) C. B. Clarke subsp. *ugandensis* Lye ( = *P. mortonii* S. S. Hooper) = *P. unioloides*

*lanceus* (Thunb.) Turrill, incl. var. *humilis* Kunth and var. *melanopus* (Boeckeler) Troupin = *P. niterius*

*micans* (Kunth) Karthik. = *P. intactus*

*minus* C. B. Clarke = *P. hildebrandtii*

*monocephalus* C. B. Clarke, incl. var. *longifolius*! (not *longiflorus*) Cern. = *P. fluminalis*

*mortonii* sensu Haines & Lye 1983: figs. 565–566 = *P. unioloides*

*mundii* Nees var. *gracilis* Cern. = *P. mundii* var. *mundii*

*niger* (Ruiz & Pav.) Cufod. subsp. *elegantulus* (Steud.) Lye = *P. elegantulus*

*nigrescens* C. B. Clarke = *P. nigricans*

*nigricans* (Steud.) C. B. Clarke var. *firmior* (Kük.) Cern. = *P. nigricans*

*nitens* (Retz.) Nees = *R. pumilus*

*nyasensis* C. B. Clarke = *P. nigricans*

*odoratus* Urb. 1900 = *P. polystachyos* var. *polystachyos*

*patenos* (Vahl) Cern. = *P. pumilus*

**QUEENSLANDIELLA**

Queenslandiella Domin

syn.: *Mariscopsis* Cern.; *Cyperus* subgen. *Queenslandiella* (Domin) Govindara; *Cyperus* sect. *Queenslandiella* (Domin) Kern

Monotypic genus extending from coastal E Africa over Madagascar – tropical Asia to NE Australia. Relationship with *Kyllinga* as well as *Pycreus*.


bas.: *Cyperus hyalinus* Vahl


Tufted annual herb; culms 5–30 cm long; leaves basal, flat, 5–15 cm long, 2–6 mm wide, glabrous but margins and midrib scabrid; sheath grey to reddish-brown; inflorescence a simple
Queenslandelia Hyalina

habit some Portuguese species of Statice (Rendle, Cat. Welwitsch's Afric. pl. 2/1: 132, 1899); 0–300 m alt.

Bioko/Fernando Poo, Annobón; Madagascar, Seychelles; India, Sri Lanka, E-wards to China, Japan, Indonesia, New Guinea, N Australia; Pacific islands; SE N. America, C. & S. America, West Indies (Acevedo-Rodríguez & Strong, Cat. seed pl. W. Indies: 282, 2012). – Pantropical. – Anciently collected in Senegal (Cambere near Dakar); extinct?

The achene remains enclaspd in a buoyant corky rachilla and is thereby dispersed by moving water (Naczi & Ford, Sedges: uses...: 25, 2008).


Some species are entomophilous.

“Generalization of the morphology of Rhynchospora ... is difficult due to the variability of this large genus” (McMillan, P., Rhynchospora (Cyperaceae) of South Carolina and the Eastern United States: 1, 2007). McMillan shows (in pictures) the general features of the gross morphology, inflorescence outline, spikelet characterisics, and achene morphology (p. 2–7).


Perennial herb with short rhizome; culms many, crowded, rounded with longitudinal ridges, 24–90 cm long, 0,5–10 mm Ø, glabrous, bases covered with scales and old leaf bases split by the new shoots and some disintegrating into fibres; leaf sheath brown, 2,5–7,5 cm long; blade linear, stiff, erect, flat or triangular, 22–34 cm × 0,6–1,8 mm, glabrous, margins and apex sometimes scabrid, apex acuminate; inflorescence a slender panicle 13–28 cm long, with main branches protruding from the upper leaf sheaths and ending in a few usually stalked and solitary spikelets; leaves subtending the primary branches with sheeths 1,5–3,2 cm long, blade 1,5–5 cm × 0,6–1 mm; spikelets ovoid, 0,5–1,2 cm × 1,8–5 mm.
**RHYNCHOSPORÁNGELONSIS**

Swampy and boggy grassland; open swamp; spongy bogs with ± perennial seepage; 450–1160 m alt.

Madagascar.

Near R. rugosa but in *R. angolensis* culms rounded, glabrous; spikelets larger, 0.5–1.2 cm × 1.8–5 mm (not 4–5 × 1–2 mm); perianth bristles longer, 3–3.5 mm long (not 0.6–1.5 mm).


**syn.: R. barteri** C. B. Clarke (1894, nom. nud.) 1902; R. pringlei C. B. Clarke 1908, nom. illeg., non Greenm. 1903.

Annual herb; culms trigonous, 6–11 cm long, c. 0.5 mm Ø, glabrous; leaf sheaths green to brown, 0.7–2.5 cm long; blades linear, 4.2–10.2 cm × 0.3–1.2 mm, glabrous, apex acuminate; inflorescence a slender panicle; leaves subtending the primary branches 2–3.3 cm × 0.3–0.7 mm; spikelets 2–4 per cluster, spaced out over the panicle, ± lanceolate, 3.8–4.3 × 1–1.4 mm; glumes larger towards apex of spikelet, awned.

Seasonally wet soil; often on laterite outcrops; rice-fields; damp sands or muddy places where there is little competition from strong-growing grasses; path sides; swampy meadows; not common and probably overlooked because hidden; ±900–1200 m alt.


**bas.: Psilocarya candida Nees**

**syn.: Pachynymitra candida** (Nees) Nees ex Boeckeler; * Dichromena candida* (Nees) Ridl.; *Rynchospora aesculenta* C. B. Clarke 1894, nom. illeg.

Perennial herb with creeping stolons; culms spaced, single (or 2–3 together), rounded, often trigonous at base of inflorescence, 20–82 cm long, 0.5–1.5 mm Ø, basally swollen and covered with stiff scales and old leaf sheaths, glabrous or sometimes with long transparent hairs, leaf sheath pale green to brown, 1.5–8 cm long; blade linear, flat or V-shaped, stiff, 7–35 mm × 2–5 mm, glabrous or margins and midrib scabrid, both surfaces with long transparent hairs; inflorescence simple to compound, corymbose with 2–6 primary branches 0.5–2.7 cm long; spikelets *solitary*, *white*, at end of primary or secondary branches, ovoid, 0.5–1.2 cm × 3–5.5 mm, with to 50 glumes.

Grassland liable to flooding; sand; sometimes locally common; seasonally wet to permanently flooded grasslands; seasonally flooded sedge meadow; lake shore; swamps; boggy places; rather damp wooded meadows with *Scabiosa columbaria* and various *Lamiaceae*: 0–1830 m alt.


**RHYNCHOSPORÁ AURAEVULVA**


Perennial leafy herb with thick creeping rhizome, and base covered with closely imbricate tough leaf bases, split by scaly buds emerging forming new culms; culms trigonous, grooved, 0.45–1.5–2.5 m long, 0.4–1.2 cm Ø, glabrous; leaves many, densely crowded; sheath pale yellowish-green to brown, 5.5–15 cm long; blade tough, linear, 45–96 × 1–1.8 cm, apex acuminate, margins, midrib and apex scabrid; inflorescence of one terminal and several lateral corymbs; leaves subtending the primary branches 20–56 cm long, 0.8–1.6 cm wide; primary branches several, 2.5–11 cm long, ending in a corymb; spikelets in clusters at secondary branches, lanceolate, 0.7–1 cm × 0.7–2.5 mm.

Marshy depression in woodland; swamp in *Albizia zygia*, *Combretum woodland*: lake shores; riverbanks; shallow pools; swampy areas; inundated rice fields, not cultivated; sometimes in or near (deep) water in high forest; forest gallery; 0–2000 m alt.

Botswana; Madagascar; tropical S. America; Namibia uncertain (Archer & Craven, Cyper. Namibia: 24–25, 2004); Madagascar, Mauritius,
**RHYNCOSPORA GRACILLIMA**

Annual or perennial herb; culms crowded on short rhizome, old dead culms frequently persistent, to 45 cm tall; culms rounded to trigonous, 14–21 cm long, 0.2–1 mm Ø, with slight ridges, glabrous, basally with very few scales; leaf sheath greenish-brown, 2–5 cm long; blade linear, 13–26 cm × 0.3–1.2 mm, apex acuminate, minutely scabrid; inflorescence a panicle spread along culm; leaves subtending the primary branches with sheath 1.5–2 cm long, blade 7–12 cm × 0.3–0.8 mm; primary branches 2.5–8 cm long; spikelets in clusters at end of primary branches, pedicellate, 1–5 per cluster, ovoid, 0.5–1 cm × 0.8–2.2 mm.

Seasonally wet grasslands; bogs; swamp edges; depressions; wet sandy surface; boggy meadows; rocky outcrops; survives recurrent burning; 0–1800 m alt. – “Can stand competition with dense growth of other vegetation, and often occurs in bush grassland where it grows very lanky and is hard to see” (Robinson in Kirkia 1: 40–41, 1961).


**RHYNCOSPORA CORYMBOSA**

Réunion, Indian Ocean islands; India, Sri Lanka, Pakistan, E-wards to China, Indonesia, New Guinea, Philippines, Australia; C. & S. America, West Indies (Acevedo-Rodríguez & Strong, Cat. seed pl. W. Indies: 284, 2012). – Widely distributed in the tropics and subtropics worldwide, “a common member of the tropical sedge marshes”.

Gordon-Gray (o.c.) treats *R. spectabilis* Hochst. ex C. Krauss as a synonym of *R. corymbosa*.

The smut fungus *Testicularia africana* is known from W. Africa, Guinea and Sierra Leone, and also common in Cameroon (Priate in Scripta Bot. Belg. 46: 354, 2010; Denchev & Denchev in Mycotaxon 130: 607–611, 2015, with figs.), and now found in Tanzania and Mozambique.

Confused with *Cladium mariscus*. Small specimens may be similar to *Rhynchospora triflora*.


**bas.:** *Spermonodinus eximius* Nees


Annual herb; culms rounded to trigonous, 18–34 cm long, 0.7–1.2 cm Ø, with prominent ridges, glabrous; leaf sheath 1.5–7 cm long, brownish-green; blade linear, flat, 9–21 cm × 1.5–5 mm, apex acuminate, glabrous to scabrid; inflorescence a panicle with leaves subtending the primary branches like basal leaves; spikelets pedicellate, solitary or in clusters of 2–3 per branch, ovoid, 0.6–1 cm × 2.4–3.5 mm, with many glumes, many-flowered.

Open marshy area of well-grazed grassland; clacey bare humid sands; rice-fields derelict and inundated; humid hollows in savannas; brooks; wet places, from mangrove swamps to wet flushes on rocks; 0–750 m alt.


**bas.:** *Schoenus holoschoenoides* L. Rich. 1792.


Perennial herb with base rounded, covered by fibres formed from older leaf-bases, set at end of a short curving scaly stolon, and emitting new thick stolons; culms solitary or tufted, trigonous to triguetrous, 0.3–1.4 m long, 0.5–3.7 mm Ø, glabrous; leaf sheaths pale green to brownish, 2–12 cm long; blade linear, stiff and ascending, curved at apex, 26–63 cm × 2.5–7.4 mm, apex acuminate, glabrous or sometimes scabrid on margins, midrib and apex; inflorescence capitata or simple with primary branches 0–5, 1–15.5 cm long; spikelets in dense globose clusters at end of primary branches, at least one cluster sessile; spikelets lanceolate, 3–7 × 1.2–2 mm with ± 5 glumes per spikelet.

Permanent swamps and ponds; rice fields uncultivated; sandy soils; generally near surface water which may be brackish; seasonally humid or inundated meadows; temporary pools; in lagoon 20 cm deep; only on sand; 0–1800 m alt.
RHYNCHOSPORA RUBRA

Botswana, S. Africa; Madagascar (subsp. africana); subsp. senegalensis in Sénégal. – Tropical and sub-tropical Old World; subsp. rubra in Asia, from India, Sri Lanka E-wards to Vietnam, S. China, C Japan, Malesia, Australasia, N Australia, Pacific islands.


Ros.: Schoenus rugosus Vahl 1798; Rhynchospora brownii Roem. & Schult.


Perennial tufted herb with short rhizome; culms trigonous, shal- lowly ridged, 30–100 cm long, 0.5–1.8 mm Ø, base covered with scales and old leaf bases; leaf sheath pale green to brown 1.5–10 cm long: blade linear, erect, stiff, triangular in section, 12–50 cm × 1–2 mm, flat or folded, apex acuminate; inflorescence a slender panicule 6–21 cm long, with main branches protruding from the upper leaf sheaths and ending in small corymb-like clusters; leaves subtending the primary branches with sheath 0.7–3.2 cm long; blade 3–12.5 cm long, 1–2 mm wide; spikelets 2–9 per cluster, each 4–5 × 1–2 mm, ovoid.

Grasslands; bogs, swamps; stream banks; with Eriocarpaceae. 0–2500 m alt.


A highly polymorphic species: 4 subspecies are usually recognised: – subsp. americana (Guagl.) Govaerts, from SE Mexico to S. America; – subsp. brownii (Roem. & Schult.) T. Koyama; – subsp.

RHYNCHOSPORA HOLOSCHOENOIDES


Resembling R. rubra subsp. africana, but R. holoschoenoides has always at least some spikes on primary branches, whereas R. rubra has always a capitate infructescence without any branched spikes. Confused with Actinoschoenus thouarsii, a plant of1193


Annual or sometimes short-lived perennial herb; culms trigonous, 2–50(–70) cm long, 0.3–1 mm Ø, sometimes erect, sometimes spreading, always in conspicous, glabrous; leaf sheath brownish-green, 1.8–4 cm long; blade linear, 7–38 cm × 0.6–1.8 mm, apex acuminate, glabrous to scabrid; inflorescence a slender panicle, with 3–4 clusters of spikelets; these 1–10 per cluster, sessile, ovoid, 3.5–5 × 0.7–1.5 mm, 1–2-flowered; nutlet strongly transversely rugose with decurrent style-base.

Swamp areas; roadside ditches; alongside streams; damp places; rice fields; sandy-pebbly river bed; thalweg on ferrugineous car- apace; muddy places in querry; on reef in river; edge of swamp; wet sandy soil; “a pioneer, spreading through moist areas that have become open due to previous disturbance”; 0–1770 m alt. S. Africa, Botswana, Swaziland; Madagascar.


bas.: Schoenus ruber Lour.

Annual or sometimes perennial herb; culms solitary or tufted, 5–100 cm long, 0.5–2.5 mm Ø, erect, triquetrous, glabrous; leaves (nearby) basal, shorter than culms, 1–5 mm wide, apex acuminate, glabrous, sometimes scabrid on margins and apex; involucral bracts 2–8, the lowermost 2.5–7.5 cm wide, densely ciliate at base; inflorescence capitate, a solitary head with a dense cluster of spikes; spikelets many per spike, 2–10 × 0.7–1 mm, compressed, 2–4-flowered.

Brackish or freshwater swamps; seasonally swampy grasslands; rice fields; temporarily very wet sands; brackish dune slacks; bare sands; 0–100 m alt. – Dominant species on wet sands: lowlands (Liberia).
**RHYNCHOSPORA RUGOSA**

lavarum (Gaudich.) T. Koyama in the Hawaiian islands; – subsp. rugosa in tropical America from Mexico to S. America.

Near *R. angolensis* from which it differs by its trigonous culms, smaller spikelets (4–5 × 1–2 mm, not 5–12 × 1.8–5 mm), shorter perianth bristles (0.6–1.5 mm long, not 3–3.5 mm) that are unequal in length (not equal).


syn.: *R. corymbosa* (L.) Britton var. grandispiculosa Kük. (i.c.)

Probably a variant of the polymorphic *R. corymbosa* but recognised by Kükenthal (i.c.), who gives the following description: perennial herb with a short rhizome; culms slender, 90 cm long, triangular with scabrid angles and leafy up to mid-length; leaves shorter than culm, 10 mm wide, without nodules; inflorescence paniculate of 2–4 distant corymb; terminal corymb subsessile, much-branched (i.e. cymes contracted, head-like); spikelets lanceolate, 8–10 mm long, 4–5-flowered; nutlets obovate, 4 mm long. Described from S. Africa, Natal (near Durban), in swamp; 90 m alt.

The inflorescence differs from more elongated forms growing further north. “Reduction is gradual and does not warrant infraspecific [non specific] recognition” (Gordon-Gray, Cyper: Natal: 150, 1995).

The geographical distribution in Africa (and S. America) needs further study. The synonym *R. corymbosa var. grandispiculosa* Kük. (Bot. Jahrb. Syst. 74: 417, 1949) is cited from Liberia, Cameroun, Congo-Brazzaville/Zaire (Stanley Pool), Sudan, Tanzania; as well as from S. America.

Not mapped by us.

**R. tenerima** Nees & Spreng. subsp. *microcarpa* J. Raynal;


Annual, tufted herb; culms filiform, 5–20 cm tall, triquetrous, glabrous; leaf sheath greenish; blade filiform, 3–10 long; inflorescence of 2–4 subsessile fascicles with 1–5 spikelets, the higher terminal, the others axillary, ranged on the stem; spikelets 2–3 mm long, straw yellow or light brown, 1-flowered.


Somewhat similar to *R. corymbosa*.

**TAXON OF UNCERTAIN STATUS:**

*Rhynchospora trigyna* Hochst., Flora (Regensburg) 24:1: Intelligenzblatt 1841/1/Nro. 2: 21, 1841 (Nr. 233), nomen.

Name mentioned in a list of plants collected by Wilhelm Schimper in Abyssinia and available for sale on behalf of the “württembergischen Reiseverein” (Esslingen).

The identity of this plant is uncertain, perhaps not even a *Rhynchospora*. Three taxa occur in “Abyssinia”, viz. *R. gracilima* subsp. *subquadrata* (stamens 2, style with 2 long branches), *R. corymbosa* (stamens 3, style unbranched or slightly divided at tip), and *R. rugosa* subsp. *browni* (stamens 2–3, style with 2 long branches).

**SYNONYMS:**

*Rhynchospora adscendentens* C. B. Clarke

= *Rhynchospora candida*

africana Chemn. = *R. angolensis*

arechavaletae Boeckeler, incl. var. *ostenii* (Kük.) Kük.,


= *R. perrieri deightoni* Hutch. 1936, quoad. specim. Chevalier 22316

= *R. gracilima erinacea* (Ridl.) C. B. Clarke = *Sphaerocephurus erinaceus* glauca Vahl subsp. *chinensis* (Boeckeler)

C. B. Clarke var. *africana* (Chemn.) Kük.

The genus Schoenoplectiella was described by Lye (Liñeda 6: 20–29, 2003) “in order to accommodate 26 species formerly placed in Schoenoplectus, most of them comparatively small, amphicarpous annuals from Africa and Madagascar. This new genus corresponded with Schoenoplectus section Supini (Chern.) J. Raynal (1976) and three oddly placed additional species from section Actaeogeton (Rehb.) J. Raynal (1976). Subsequent molecular studies confirmed the generic status of Schoenoplectiella but the genus was expanded to include the entire section Actaeogeton...”

syn.: Scirpus articulatus var. major Boeckeler; Schoenoplectus articulatus (L.) Palm; Sch. festulosus (Forssk.) Sojak; Isolepis articulata (L.) Nees; I. prolata Nees; I. festulosa (Forssk.) Delile; Scirpus fistulosus Forssk.; Scirpus rhomboideus L. ex Boeckeler ex C. B. Clarke 1894, nom. nud.; further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Annual or short-lived perennial herb; culms 3–10, tufted, 5–80 cm long (excluding inflorescence bract) 1–8 mm ∅, terete, hollow or filled with pith, chambered, smooth and with slender ridges; leaves absent; sheaths pink (basal ones) to grey, usually much wider than culm, ending in a broad braid; blade absent; inflorescence a dense head of up to 25 spikelets, lateral (overtopped by bract); spikelets red-brown and green, 0.6–1.8 mm long, 0.4–1 cm wide; flowers may also be present at base of the plant, in the axils of the sheaths.

Pool edges; waterholes; sides of watercourses and the sea; on mud or in up to 30 cm deep standing water (within grassland, wooded grassland, Acacia bushland); clayey hollows periodically flooded; rice fields, irrigation channel; shallow silty depressions; seasonally flooded pools in Combretum, Terminalia woodland; often with Eleocharis decoriglumis in southern Chad; 0–1200 m alt.

Very variable species in size of vegetative parts. The size and position of the inflorescence usually depend on water depth. In dried up marshy areas short plants with thin stems are found with the inflorescence very near the base. Plants growing in shallow waters are much larger with broad stems and the inflorescence is found just above the water level (Prasad & Singh, l.c.)

Namibia, S. Africa, Botswana, Swaziland; ? Egypt; Madagascar, Mauritius; S. Asia from India, Sri Lanka E-wards through Indo-China, SE China, to Indonesia, New Guinea, Philippines, N. Australia. – Tropical & subtropical Old World.

Close to S. senegalensis but differs from the latter by its larger, smooth nutlets, and concave, more acuminate glumes. “Seems to grade into slender examples [of S. senegalensis] in which glumes are golden to bronze-brown, with achene surfaces transversely ridged, but margin smooth… These ‘intermediates’, if this is what they are, have sometimes been named Scirpus praelongatus Poir., but the status of this species is unclear … Haines & Lye (1983) regard it as a synonym of Schoenoplectus senegalensis. Kern (1974) is of the opinion that Scirpus articulatus, S. praelongatus, and S. senegalensis do not deserve individual specific ranking” (Gordon-Gray 1995: 154).


bas.: Scirpus erectus Poir.

syn.: Sc. supinus L. subvar. erectus (Poir.) Rouy; Schoenoplectus erectus (Poir.) Pall. ex J. Raynal.

Annual or short-lived perennial, densely tufted herb; culms weak, 5–40 cm long (excluding inflorescence bract), 0.4–0.8 mm ∅, almost terete, base covered by old bits of sheath; leaves reduced to sheaths, or less often present and up to 3 cm long, sheaths ending in a 0.6–1 cm long obtuse bide; basal cleistogamous (female, 3-styled) flowers often produced in leaf sheaths developing basal nutlets c. 2.2 × 1.4 mm, sometimes with 2 bristles; inflorescence pseudolateral, overtopped by lower bract, upper absent or present, short; inflorescence head-like or spreading, with 1–20 subsessile or stalked spikelets; these reddish-brown to cream, ovoid, 3–5 × 2–3.5 mm, acute; glumes 2.5–4 mm long, mucronate; perianth bristles absent; stamina 3; style 2-branched; nutlets broadly obovoid, biconvex, surface strongly transversely wrinkled (subsp. raynalii) or hardly wrinkled (subsp. erecta).

River banks; margins and edges of wetlands; seasonal swamps; swampy ground along edges of water bodies; 0–900–1100 m alt. Comprises 2 subspp.: – subsp. erecta [syn.: Scirpus lateralis Retz. 1786, nom. illeg., non Forssk. 1775 (= Schoenoplectiella supina); Scirpus ternatus Wall. 1831, nom. nud.; Sc. ternat- us Ham. ex Hook. f. 1893, nom. inval.; Sc. supinus Boeckeler var. uninodus (Delile) Asch. & Schweinf., and subsp. uninodus (Delile) Trab.; Sc. uninodus (Delile) Coss. & Durieu; Sc. eris- mantae Schuyler; Sc. wilkensi Schuyler; Sc. sinuatus Schuyler; Schoenoplectus erectus (Poir.) Pall. ex J. Raynal subsp. sinuatus (Schuyler) Lye; S. lateriflora (J. F. Gmelin) Lye subsp. laevinus (Lye) Beentje, and var. laevinus (Lye) Hayas.; Isolepis uninodus Delile; with distribution outside our area: Portugal, SW Spain, N. Africa (Algeria, Libya, Egypt); Madagascar, Mauritius; India, Vietnam; Australia (possibly introduced); – subsp. raynalii (Schuyler) Beentje [bas.: Scirpus raynalii Schuyler; syn.: Sc. erectus Poir. subsp. raynalii (Schuyler) B. F. Hansen & Wunderlin; Schoenoplectus erectus (Poir.) Pall. ex J. Raynal subsp. raynalii (Schuyler) Lye]; with distribution outside our area: Namibia, S. Africa, Botswana; SE USA S-wards to Mexico, S. America (Argentina, Paraguay). – In our area, subsp. erecta occurs in W. Africa, in E. Africa (Tanzania, Zambia); subsp. raynalii in E. Africa from Uganda-Tanzania to Zambia, Zimbabwe.

S. lateriflora is very close to S. erecta. In a comparative table, Xanthos & Browning (2015) give the key characters: S. lateriflora has 3 stigma branches (not 2), and rugose trigonous nutlets (not biconvex), and longer basal nutlet. The latter authors also comment on the geographical distribution of S. erecta: in Zambia plants were collected in an area where rice is an important cash crop (and possibly introduced with rice seeds). The plant has perhaps also been introduced into other African countries.
Schoenoplectiella


**bas.: Schoenoplectus hooperae** J. Raynal

Annual (or perennial) tufted herb; culms 3–20 together, 4–15 cm long (excluding inflorescence bract that is 15–40 cm long), 1–2 mm §, round or 3-angular; leaf sheaths green, much wider than culm, ending in a triangular lobe; blade absent; often with a solitary basal flower, with nutlet 2.6 × 2.3 mm; inflorescence of apparently lateral globose clusters of 3–15 densely packed sessile spikelets; these (greenish) brown, ovate, 4–8 × 2–3 mm; stamens 3; style 3-branched; nutlet ± obovate, 1 × 0.6 mm, ± smooth. Seasonally wet habitats in bushland zone; 500–1450 m alt. Known also from 1 locality in Zambia.


**bas.: Schoenus juncaceus** Willd. 1794, non Scirpus juncaceus G. Forst.

**syn.: Scirpus aureiglumis** S. S. Hooper, nom. nov.; Schoenoplectus juncaceus (Willd.) J. Raynal

Tufted annual herb; culms 3–20 together, bright green, 4–60 cm tall (excluding 6–20 cm long inflorescence bract), 0.6–1.5 cm §, round, slightly ridged, filled with pith; leaf sheaths pale green, ending in a linear lobe to 5 mm long; blade absent; sometimes with cleistogamous flower with style to 10 mm long and dark brown nutlet, ovate, 2–3 × 1.5–2 mm, transversely wrinkled; inflorescence a dense apparently lateral cluster of 1–10 sessile spikelets; these green and pale brown or orange-green, lanceolate, 4–10 × 0.5–1.5 mm, golden at maturity; stamens 3; style 3-branched. Moist sandy soil; seasonal pools and swamps; along drainage lines; sometimes in standing water; ricefields; 0–600 m alt.


**bas.: Schoenoplectus juncaceus** (Roxb.) Pall

Annual or short-lived perennial herb 15–60 cm tall; culms densely tufted, obtusely several-angular or ± terete, 1–2 mm §; leaf sheaths 0.5–8 cm long, apex mucronate; blade absent; inflorescence a pseudolateral head with 2–6 sessile spikelets; involucral bract 1, 2–10 cm long; spikelets ovoid, 5–12 × 4–5 mm, densely many-flowered; stamens 3; stigmas 2; nutlet unequally biconvex, obovate, c. 2 × 1.5 mm, shining blackish-brown, faintly transversely wrinkled, apex mucronate. Rice field; 466 m alt. Liberia: Nimba, Gepa.

SCHENOPELICTIELLA MICROGLUMIS


bas.: Schoenoplectus microglumis Lye


Annual or sometimes perennial herb; culms 10–many, tufted, 4–15 cm long (excluding inflorescence bract 6–15 cm long), c. 0,7 mm Ø, round or angular, ridged; leaf sheath pale brown, ending in a linear lobe 1–5 mm long or blade-like; cleistogamous flower often produced in basal sheath; inflorescence apparently lateral, a dense cluster of 3–15 (sub)spikelets; these reddish-brown and pale brown variegated, ovoid, 3–5 × 1,5–2 mm, with pointed parts of minute glumes; stamens 3; style 3-branched.

Seasonally swampy grassland, on mud at pool and swamp edges; shallow seepage soil over rock; may be very locally common; grassy strip between fields of Guizotia, Eleusine; 950–1800 m alt.


bas.: Scirpus oxylus S. S. Hooper


Densely tufted rush-like herb; culms 10–45 cm tall, 1–2 mm Ø, woody at base, glabrous, soft, terete, ridged, often swollen at base by pistils within the basal sheaths; sheaths 1–6 cm long, membranous, apiculate, bladeless; inflorescence of 1–3 spikelets, pseudolateral, sessile, erect, greenish or straw-coloured, often somewhat somewhat curved, 0,7–1,7 cm × 2 mm (lengthening with age to 2,7 cm), with acute tip; stigmas 2.

Temporary pools; wet flushes on gneiss outcrops and inselbergs with Doppatrium; pool on gneiss; swampy places; 650–800 m alt. Resemblance with Cyperus podocarpus, C. lateriticus growing in the same sites (ide J. Raynal).

“Since the species has inconspicuous inflorescences, it is easily overlooked by collectors; therefore it may be more common than the herbarium collections suggest” (Browning & Burgt, o.c.).


bas.: Schoenoplectus patentiliglumis Hayas.


Annual tufted herb, glabrous, amphicarpous; culms in small clumps, 6–36 cm long, (excl. involucral bract 20–40 cm long), 1–4 mm Ø, smooth, finely striate, nodless or often 1-noded 1–6 cm above base; leaf sheaths 1–3, basal or often uppermost cauliine; lower sheaths short, closed or scale-like, apex obtuse; uppermost sheath closed, tubular, 5–12 cm long, apex obtuse; ligules absent; inflorescence pseudo-lateral, capitate, with 1–12 spikelets; these sessile, ± ovoid, 7–15 × 4–5 mm (to 10 mm wide when fruiting), many-flowered; glumes spreading, stramineous, ovate, 4–5 × 2–4 mm, loosely imbricate, persistent; stamens 3; styles 3.

In shallow water of seasonal pool; in and around edge of pan near head of stream; wet mud at edge of laterite pool; small pool; 320–453 m alt.

Namibia, S. Africa, Botswana, Swaziland.

Near S. articulata, but culms of S. patentiliglumis narrower (not 2,5–8 mm Ø); inflorescence with less numerous spikelets (not 4-ca. 100); glumes not broadly ovate-triangular and appressed when fruiting, and not reddish-brown-tinged; anthers shorter (0,7–1 mm long, not 1–2 mm).

SCHENOPELICTIELLA MUCRONATA

tropical regions of the Old World. Possibly introduced into Africa as a weed of ricefields.

Recent field work (c. 2010) in the Guinea-Congolian region yielded collections of the smut fungus Dermatodes schoenoplecti in Cameroon; previously known only from Thailand and Australia (Piatek in Scripta Bot. Belg. 46: 354, 2010).


SYNONYMS

SCHENOPELICTIELLA MUCRONATA


Perennial herb with short rhizome, or annual, forming small tufts, with a small root system; culms 3–10 together, 30–80 cm long (excl. inflorescence bract 1,5–3 cm long), 2–8 mm Ø, sharply triangular; leaf sheaths 2, pale brown, the lower to 2,5 cm, the upper 4–15 cm long, ending in a triangular apex or a minute macro; blade absent; inflorescence an apparently lateral cluster of 4–25 sessile spikelets; these ovoid, pale brown, to 5 mm long at anthesis, increasing to 30 × 6 mm in fruit; stamens 3; stigmas 3.

Swamps or open water; stream bed and sides; dominant in deeper water of marshes; “a greater problem in paddy fields”; 450–1800 m alt.

Bioko/Fernando Poo; perhaps also in Senegal; Egypt; Azores; C & S Europe (Pignotti in Webbia 58: 343–345, 2003, in Italy “rare and inconsistent”, with map p. 346; Austria, S Germany, Hohla in Stapfia 105: 116, 2016); Madagascar, Réunion; Yemen (Wood, Handbook Yemen flora: 332, 1997); W, C & S Asia to China [Schoenoplectus mucranatus subsp. robustus (Miquel) T. Koyama], Japan (rare; var. antirrhopalis Iwokka, K. Kohno & Daigobo, J. Japan. Bot. 79: 1–3, 2004, with figs.); Indonesia, Philippines, New Guinea [subsp. clemensi (Kük.) Sojak]; Australia, Melanesia; USA (introduced rice weed). – Widespread in temperate and
SCHOELOPLECTIELLA PATENTIGLUMIS

Namibia, S. Africa, Botswana, Swaziland.


bas.: Scirpus praelongatus Poir.


An annual herb forming tufts; culms 1–2 cm long (excepting eect iflorescence bract 6–26 cm long), 2–5 mm Ø, greyish-green; leaf sheaths 2–3, upper as long as stem, ending in a micro; blade absent; iflorescence congested, spherical, of 7–30 sessile spikelets; these ± ovoid, 5–12 × 3–4 mm; glumes c. 4 mm long, shortly mucronate; stamens 3; stigmas 3; nutlet surface finely transversely rugulose.

At pools and ditches, wet ground.

An Asiatic species distributed from Pakistan E-wards to Vietnam, Philippines, Australia (Kukkonen in Fl. Pakistan 206, Cyper.: 27–28, 2001, under Schoenoplectus). Recorded from Egypt (Boulos, l.c.) as a weed of rice fields.

Much resembling S. articulata (with smooth nutlet surface !). Also similar to and confused with S. senegalensis (with nutlet surface transversely wrinkled). Records of S. praelonga from Chad, Namibia (Clarke & Mannheimer, Cyper. Namibia: 25, 2004). S. Africa are (possibly) S. senegalensis (See that species below).


bas.: Isolepis proxima Steud.


Annual herb forming small tufts; culms 1–2 cm long (excepting the filiform inflorescence bract 1–5 cm long, i.e. longer than culm), 0.3–0.5 mm Ø, round, glabrous; leaf sheath wide, ending in a 5 mm long lobe, and often with a swelling hiding cleistogamous flowers with long style and dark brown nutlet c. 1 mm ∅ minutely wrinkled; inflorescence an apparently lateral single greenish-brown spikelet; this ovoid, 2–5 × 1.5–2 mm, somewhat flattened, usually 5–8-flowered; glumes very small (1.5–2 mm long); stamens 2–3; styles (2–3); nutlet 1 mm long, trigonous, surface transversely rugulose.

Rice field; humid mud; seasonally inundated grassland; flooded sands (Abou Simbel, Egypt); up to 2200 m alt. (Chad, Tibesti).

Namibia, Botswana; Egypt; Yemen (Wood, Handbook Yemen flora: 332, 1997).

Very rarely collected, e.g.: 1835 (Egypt); 1956, 1958 (Chad); 1980 (Botswana). Probably overlooked. “It is unknown if this disjunct pattern is genuine or merely the result of being poorly understood” (Verloove & al., l.c.).

Boulos, Fl. Egyt 4, 2005, does not mention Schoenoplectus proximus, only the true S. supinus (L.) Palla.

SCHOELOPLECTIELLA PROXIMA


bas.: Isolepis roylei Nees

syn.: Scirpus roylei (Nees) R. Parker 1929, and (Nees) Beetje 1942; Sci. quinquefarius Buch-Ham. ex Boeckeler; Sci. lupulinus (Nees) Roshev. nom. illeg., non Spreng. 1807; Sci. rehnianus Boeckeler ex C. B. Clarke 1894, nom. inval.; Schoenoplectus roylei (Nees) Overz. & Czukav.; Sci. quinquefarius (Buch.-Ham. ex Boeckeler) Palla; S. lupulinus (Nees) V. I. Krezz.; Scirpus melanospermus C. A. Mey. var. major Regel

Annual herb; culms tufted, dark green, glossy, 4–many, 2–20 cm long (excepting erect inflorescence bract 6–26 cm long), 0.5–1.5 mm Ø, ridged, transverse septa hardly visible; leaf sheath pale brown or pale reddish-brown, usually without any lobe; blade absent; sheath often with cleistogamous flowers with long style and nutlets transversely wrinkled; inflorescence an apparently lateral cluster of 2–10 sessile spikelets; these pale reddish-brown to pale yellow-brown, ovoid, 4–6 × 2–3 mm; glumes spreading when fruiting; stamens 2–3; stigmas 3; nutlet transversely wrinkled.

Seasonally wet grassland; pool, lake, dam edges; usually on mud or sand; sometimes in shallow water; yellow clay soil with Salvadora persica; bare humid sands; hollows in coastal dunes; somewhat saline, seasonally wet swamp; rice fields; irrigation ditches; 0–1600 m alt.

Namibia, Botswana; SW Russia; W, C & S Asia, from Iraq, Iran, Afghanistan, E-wards to India, Assam, Pakistan.

Confused with S. senegalensis – and sometimes collected mixed with the latter.

SCHENOLOPECTIHELLA SENEGALENSIS

bas.: *Issolepis senegalensis* Hochst. ex Steud. 1855, non *Scirpus senegalensis* Lam. 1791.

Annual or short-lived perennial herb; culms tufted, many, bright green, 1–30 cm long (excluding inflorescence bract 5–30 cm), 0.3–1.6 mm Ø, round or angular, hollow with transverse septa, ± smooth; leaf sheaths pale brown, rarely reddish near base, ending in an acute triangular lobe; blades absent; sometimes with cleistogamous flower with style to 2 cm long and nutlet 2–2.5 mm long; inflorescence a dense apparently lateral cluster of 1–25 sessile spikelets; these ovoid, yellow-green turning golden-brown, 3–9 × 2–4 mm; glumes appressed when fruiting; stamens 3; stigmas 3; nutlet strongly transversely wrinkled on flat sides.

Temporary pools or ditches, often within dry bushland zone; stream or lake-side swamps; weed in old rice paddies; in shallow pools on rocky outcrops; may be in up to 20 cm deep water; stagnant waters; swampy savannas; bare, ± clayey soil; in ephemeral vegetation at shorelines of Sahelian seasonal lakes (Müller in Syst. Geogr. Pl. 75: 244, 2005); near sea-level to 1900 m alt.

Variable in robustness (not in height) and in development, or not, of transverse septa in culms and inflorescence bracts (Gordon-Gray, l.c.).

Namibia, S. Africa, Botswana, Swaziland; India. Used as molluscicide (Sudan).

Easily recognised by its dense clusters of golden-brown or bronze coloured spikelets, and the very concave triangular glumes.

Limits between *S. senegalensis* and *S. articulata* are not clearly defined (Gordon-Gray, l.c.).

W. Khan & al. (o.c.: 444) who treat this species under Scirpus, distinguish two entities, viz. *Schoenoplectus senegalensis* and *Scirpus jacobii*, respectively. The latter, a plant from India, is a small plant, up to 20 cm tall, with smaller spikelets (2–2.5 mm wide, not 3–4 mm), and smaller nutlets (c. 1 mm long, not 1.2–1.8 mm).


bas.: *Scirpus supinus* L.

Annual tufted herb; culms 5–40 cm long, 0.8–3 mm Ø, terete or distal parts obscurely trigonous, grooved, green or greyish-green, smooth; leaf sheaths 2–3, to 6.5 cm long, the lowest ephemeral, bearing an occasional flower in its axil; blade reduced to a macro or in uppermost sheath to 5–10 cm long; inflorescence apparently lateral, 0.7–2 cm Ø, capitulate, with 1–15 sessile spikelets; these ovoid, 0.5–1.2 cm × 2 mm; glumes dark red-tipped; nutlet with sharp furrows.

Edges of lakes and swamps.

N Africa: Algeria, Tunisia, Egypt; Europe, S Russia, Caucasus, S Siberia, Kazakhstan, Iran, Pakistan to S Asia; Brazil to NE Argentina.

*S. supina* is cited from Africa (Senegal, Mali, Togo, Nigeria, Chad; Madagascar) in World Checklist of Selected Plant Families, Kew. The specimens known from these countries are in need of revision, also because certain synonyms given by Raynal (l.c.) are now placed under other species, i.a. *S. erecta*, or *S. lateriflora*. It can be noted that in Flora of China 23, texts: 188, 2010, *Schoenoplectus lateriflorus* is treated as a subspecies of *S. supina*, the other subspecies, viz. *densicorrugatus* (Tang & F. T. Wang) S. Yun Liang & S. R. Zhang in Novon 20: 171, 2010 occurs in China.

Gordon-Gray (Cyper. Natal: 157, 1995) gives the following remarks: *Schoenoplectus supinus* is now regarded as Eurasian in distribution; it is distinguishable by culms that lack nodes above plant base, the inflorescence capitate, each cluster with a solitary bract, and achenes 1.3–1.5 mm long, no ampliarpy; *S. lateriflorus* is very close to *S. supinus*, but this species has 1–2 nodes above plant base, smaller achenes (1–1.3 mm long) with less well-marked transverse ridges, and with capacity for amphyarpy. *S. erectus* has been confused with *S. lateriflorus* (See under Schoenopodiella lateriflora above).

Not mapped by us.

SYNONYMS:


SCHOENOPLACETUS / 5 + 1 ?

*Schoenoplectus* (Rchb.) Palla, nom. conserv.

Lye (Lidia 6: 23, 2006) gave the following key characters to distinguish *Schoenoplectus* from *Schoenoplectiella*: *Schoenoplectus* taxa are usually perennial (not annual); base female flower absent; plants growing in permanently aquatic habitats usually in temperate regions (not in seasonally wet habitats in tropical and subtropical regions).

Hayasaka (2012: 173, 178) gave the following distinguishing characters: *Schoenoplectus* species have elongate rhizomes, creeping and ascending (*Schoenoplectiella* with very short rhizome, hidden among culm-bases, or elongate and creeping); glumes are entire or minutely notched at apex (vs. glumes entire); culms solitary or few-fascicled, nodeless above base (vs. tufted or solitary, nodeless or 1–3-noded above base); plants perennial (vs. annual or perennial); nutlets smooth (vs. nutlets smooth or transversely rugulose to sharply ridged). The two genera can be distinguished from each other by the outline shape of the nutlet epidermal cells: in *Schoenoplectiella* ± linear; in *Schoenoplectus* isodiametric to narrowly oblong (figs. in Hayasaka, o.c.: p. 172).

“Schoenoplectus...is one of the genera that was segregated from the very heterogenous and un-natural genus *Scirpus* Linnaeus... Embryological studies by Van der Veken (1965) demonstrated that both genera are in fact not closely related and since then their generic status was no longer questioned. Molecular studies,
however, showed *Schoenoplectus* to be polyphyletic... Based on these results the new genus *Schoenoplectiella* Lye (2003: 20–22) was established. The remainder of *Schoenoplectus* is a well circumscribed, natural group and counts ca. 25 species... The classification of infrageneric taxa, however, remains unresolved” (Verloo & al. in Phytotaxa 344: 1, 2018).

The history of *Schoenoplectus* was published by Lye in Bot. Not. 124: 288–290, 1971. There is also the question about the separation of *Schoenoplectus* from *Issolepis*. Lye (1971) stated that “although superficially similar in morphological characters, these genera are not closely related”.


**Schoenoplectus Corymbosus** Perennial herb with short rhizome; culms many, tufted, dark or / and glossy green, 0.5–3 m tall, 0.2–1 cm Ø, round or sometimes slightly triangular near apex, ridged, filled with pith; base surrounded by dark scales and leaf sheaths; sheaths often splitting, ending in a short lobe; blade absent; inflorescence an anthela with clusters of ± sessile spikelets on very unequal flat stalks 1–12 cm long, rarely a few spikelets solitary and stalked; spikelets dark or pale brown, ovoid, 3–8 × 1–2.5 mm, acute, occasionally producing viviparous shoots; glumes 2–4 mm long, mucronate; nucell smooth.

Lakes (where it may be locally dominant); swamps; pools; stream-sides; usually in standing water to 1–3 m deep; less often in seasonally flooded grassland or forest margins; generally wet habitats; *sparganium*; swampy savannas; c. 300–3600 m alt. – Often forming dense open clumps conspicuous at a distance.

S Spain, N Africa: Morocco (Jiménez-Mejias & al. 2007), Algeria, Egypt; Bioko/Fernando Poo; Namibia, S Africa, Botswana, Swaziland; Madagascar; Saudi Arabia (Chaudhary, Fl. Kingd. Saudi Arabia ill. 3: 61, 2001), Yemen (Wood, Handbook Yemen flora: 331, 1997, as *Schoenoplectus inculatus*); Pakistan, W India.

Two varieties have been described, viz. var. *corymbosus* with mature spikelets rounded, outline smooth, overtopping bract rounded, stem-like; var. *brachyceras* (Hochst. ex A. Rich.) Lye, with mature spikelet bluntly, outline irregular, overtopping bract not rounded and stem-like; a lowland form (cf. Browning in S. Afric. J. Bot. 57: 335–343, 1991).

These varieties seem to overlap and are not recognized here as separate entities.

Culms used for making baskets and mats. “Ancient Egyptians used culms for making funeral wreaths, bound culms were ornamented with flowers, berries, etc. sometimes peeled culms were used for making artificial flowers” (Simpson & Inglis, Kew Bull. 56: 334, 2001).

Plant easily recognized by its large size, dark spikelets, smooth nutlets.


Perennial rhizomatous herb; culms to 1.5 m tall, ca 1 cm Ø in middle part, 2.1–4.2 mm Ø just below inflorescence, irregularly *heptagonal*; leaf sheaths bladeless or sometimes ending in a small macro; inflorescence a simple anthela with 19–47 spikelets most of which sessile, 4–17 spikelets clustered in fascicles at ray tips; rays ± canaliculate, smooth; spikelets ± ovate, 8–20–7 × 2–2.7 mm, 14–24-flowered; nutlets obovate, 1.5–1.9 × c. 1 mm, smooth.

Helophyte with base of stems under up to 1 m deep water; volcano crater lake shore; 1130–2000 m alt.

Bioko/Fernando Poo.

**SCHOENOPLECTUS**


bas.: *Scirpus lacustris* L.


Perennial herb; rhizome horizontal with long internodes, and culms placed at 0.5–5 cm intervals; culms 0.5–3 m tall, 0.3–2 cm Ø, rounded, smooth, deep green, pith-filled, with 4–5 shortened basal internodes and one upper elongated internode; leaves 5–6, basal; sheaths to 30 cm long, opening at maturity along a ventral suture; lower sheaths ending in short lobes, upper with well-developed but rather short linear blades; inflorescence a lax anthela up to 10 cm Ø, with 5–50–100 spikelets, or groups of spikelets on stalks of unequal length, rarely a dense pseudo-lateral head; bracts ± as long as or shorter than inflorescence; spikelets ± ovoid, 5–10–15 × 2–5 mm, red-brown; glumes smooth, mucronate; perianth bristles 5–6; nutlets obovoid, bluntly trigonous, c. 2–3 × 1,5–2 mm, smooth; spikelets not pseudo-viviparous. Freshwater swamps; lakeshores; weed in aquatic biotopes; 1900–2200 m alt.

In Ethiopia only known from one locality: 2003; Delay & al. in Bull. Soc. Bot. Nord France 70: 68–69, 2017; comparison with *Scirpus maritimus* (L.) Lye – See under *S. corymbosus*.

**S. littoralis** (Schrad.) Palla (“littoralis”).

See under *S. subulatus* (Vahl) Lye below.

**S. maritimus** (L.) Lye – See under Bolboschoenus maritimus (L.) Palla above.


bas.: *Scirpus muricinus* C. B. Clarke

**SCHOENOPLECTUS MURICINUS**


Perennial tufted herb; rhizome short, woody, 2–7 mm Ø, with culms 5–many together and bases covered by persistent erect scales and leaf sheaths; culms 0.13–1.1 m long, c. 1–6 mm Ø, terete, glabrous, many-ridged, filled with pith; leaf sheaths 2–3, obliquely truncate at tip, with or without a reduced blade to 2 cm long; inflorrescence a pseudo-lateral head or contracted anhela of clusters of spikelets on 1–8 rays unequal in length, 1–5 cm long, overlapped by a bract 2–15 cm long (appearing as a continuation of the culm); spikelets sessile, ± ovoid, 4–10 × 2–3 mm, many-flowered, yellow to chestnut brown or rust coloured, sometimes with dark markings; perianth bristles absent or 4–6 well defined bristles; stamens 3; stigmas 3; nutlet ovate, 1–1,8 × 0,8–1,4 mm, trigonous, shining, ± black, surface transversely rugose.

Marsh; peat-bog; temporary pool; grassy places near river; papyrus swamp; seasonal swamp grassland; drainage lines in grassland and bushland; pool edges; stream banks; on mud, sand or in standing water; 550–2750 m alt.

Namibia, S. Africa, Botswana, Swaziland, Lesotho; probably introduced into Nigeria.

Used to make mats, and also grown for this purpose. Resembling *S. corymbosus* but nutlet transversely ridged.


bas.: *Scirpus rhodesicus* Podlech

Perennial semi-terrestrial *and* submerged herb, tufted, entirely glabrous; culms 30–60 cm long, leafy except topmost part, 30–60 cm long, round, finely striped; lower leaves reduced to sheaths; these 2–3 cm long; upper leaves with long sheaths, blades linear, 6–10 cm × 1 mm; spikelet single, elliptic, 4–8 × 2–3 mm, on a 2–5 cm long peduncle, occasionally with 1–2 additional spikelets to form a cluster; bracts 2, leaf-like, the lower overlapping the culm, 1–1,5 cm long; nutlet trigonous, obscurely transversely ridged, shining. – The terrestrial “form” with compact rhizome. Grows terrestrially in soft, wet mud of lake margins, until submerged by deepening water level; also rooted (occasionally floating due to uprooting by flood waters) submerged aquatic in water 0.9–1.5 m deep (for more details on terrestrial and aquatic forms, see Kew Bull. 67: 61, 2012); c. 870–1750 m alt.

Superficially similar to *Webberia confervoides*.

Morphology, growth form and habitat bear relationship to *Isolepis* (Browning, o.c. 62).

**S. scirpoides** (Schrad.) Browning (“scirpoides”) See under *S. subulatus* (Vahl) Lye below.
**SCHOENOPLECTUS**


They treat *S. subulatus* in a wide sense, i.e. including *S. litoralis* (Schrad. 1806) Palla and *S. scirpoides* (Schrad. 1821) Browning. So did also, e.g., Darbyshire & al., Pl. Sudan & S. Sudan: 116, 2013, and César & Chatelain, Fl. ill. Tchad: 135, 2019. – See discussion and bibliographic references below.

Browning & al. (S. Afric. J. Bot. 60: 169–174, 1994) gave a synopsis of the characters used in the treatment of *Schoenoplectus litoralis* – *S. subulatus* – *S. scirpoides*. The group “is problematic in its morphological variability, some of which may be geographical in response to habitat conditions, including the fluctuating levels and salinity of the waters from which plants are perennial, rooted emergents… In *Sch. litoralis* s. l. florets are accompanied by plumose scale-like perianth segments. This character, which in Europe permitted immediate distinction from putative relatives with setulose bristles, probably over-emphasized differences to the neglect of similarities.” The diagnostic characters used in distinguishing the taxa involved [incl. *S. scirpoides* (Schrad.) Browning] are: culm shape in transverse section considered as the most important single criterion; inflorescence branching and arrangement of spikelets on rays; spikelet shape; shape, texture and pubescence of glumes; achene size (Browning & al., o.c.: 170). As to the culm shape in transverse section these authors found that plants of more favourable habitats develop culms that are robust, terete and spongy. In less favourable situations the culms are shorter, less robust, less spongy, and terete to vaguely angular under the inflorescence. No plants with “acutely triangular” or triquetrous culms were found. Dried (herbarium) material has been modified during preparation, for instance shrinking. The conclusion given by Browning & al. (o.c.: 171): *Schoenoplectus scirpoides* is a coastal entity in southern Africa (map in S. Afric. J. Bot. 60: 171, 1994) distinguished from *S. subulatus* s. l., which is not known from coastal estuarine habitats.

Gordon-Gray (Cyperaceae in Natal, Strelitzia 2: 158, 1995) treated the three taxa involved under *Schoenoplectus litoralis*. She noted that “two elements are recognised within this species. In the Mediterranean region, SW Asia and China, plants have triquetrous culms; in Africa, India, Malesia, Micronesia, Australia, culms are terete, but trigonous just below inflorescence… There is, however, no consensus on the classification ranking to be adopted. Some workers recognise the African-Australian entity as a discrete species (*Schoenoplectus subulatus*)…; others give it a subspecific status (*S. litoralis* subsp. *subulatus*)…; yet others are unprepared to form opinion…” – “For Africa there has also been a tendency to differentiate between the Angolan and Namibian plants (western entity). The eastern entity (*S. scirpoides* Kunth, or *S. litoralis* var. *pterolepis* C. B. Clarke) is said to have a more copiously branched inflorescence, and longer, oblong spikelets”.

Referring to *Schoenoplectus scirpoides* we agree with the remark made by Darbyshire & al. (Plants of the Sudan & South Sudan: 116, 2015): in Flora of Tropical East Africa, Cyperaceae: 2010, “the NE African material is treated as *S. scirpoides*, stating that all specimens have at least some ciliae near the apex of the glumes whilst in *S. subulatus* the glumes are glabrous. This seems a rather weak distinction and, in any case, the glumes of the single Sudanese specimen are glabrous.”

**Schoenoplectus**


*Perennial herb; rhizome creeping, 0.4–2 cm D, also developing stolons; culms loosely tufted or solitary, 0.4–2,7 m tall, 5–15 mm D, terete, finely papillose, waxy blue-green; leaves basal, 5–6, reduced to sheaths or rarely upper sheath with blade to 10 cm long; inflorescence rarely simple, usually compound and spreading with 3 or more unequal rays terminating in umbels or panicles of 1–50 spikelets; lowermost bract 2,7 m tall, tip pointed; spikelets ovoid-oblong, 6–15 × 2–5 mm, densely many-flowered, reddish-brown; glumes boat-shaped, 3–4 × 2 mm, margins with dark red bars; perianth bristles 4–6, margins with spinelike teeth; stigmas 2; nutlet biconvex, c. 2 mm long, smooth.

Streams; ditches; pools; swamps; often in water, also brackish. Temperate and warm Eurasia E to Japan, in S to Turkey, Israel, Syria, Iran, Afghanistan, Pakistan; Australia; N., C. & S. America. – N. Africa (Morocco, Algeria, Tunisia); S. Africa, Namibia (sometimes considered to be introduced there). Also used as an ornamental. Natural hybrids with *S. triqueter* and *S. lacustris* reported by Yano & al. (l.c.). On a worldwide basis merges into *S. lacustris* (fide Cook, l.c.).

In tropical Africa reported from Sierra Leone (fide Pignotti, l.c.). The identity of the single specimen (Andrews Nº 276, 1937) in tropical Africa reported from Sierra Leone (*Yano & al.* (l.c.). On a worldwide basis merges into *S. lacustris* subsp. *validus*).

Also used as an ornamental.

Natural hybrids with *S. triqueter* and *S. lacustris* reported by Yano & al. (l.c.). On a worldwide basis merges into *S. lacustris* (fide Cook, l.c.). In tropical Africa reported from Sierra Leone (fide Pignotti, l.c.). The identity of the single specimen (Andrews Nº 276, 1937) requires confirmation (Darbyshire & al., Pl. Sudan & S. Sudan: 116, 2015).

Not mapped.

**SYNONYMS:**

*Schoenoplectus articulatus* (L.) Palla

- *Schoenoplectiella articulata*


- *Schoenoplectus corymbosus*

  - *cereus* (Vahl) Hayek = *Isolepis cernua*

  - *confusus* (N. E. Br.) Lye, incl. subsp. *natalitius* (Browning, and var. *rogersii* (N. E. Br.) Lye

- *Schoenoplectus muricinus*

  - *corymbosus* aut. non (Roth ex Roem. & Schult.) J. Raynal

- *Schoenoplectus heptangularis*

- *Schoenoplectiella corymbosus*

- *Schoenoplectus tabernaemontani*

- *Schoenoplectus articulateus* (Schuyler) Lye and subsp. *sinuatus* (Schuyler) Lye

- *Schoenoplectiella erecta*

- *Schoenoplectus oxyjulos*

- *Schoenoplectiella maricinus*

- *Schoenoplectus subulatus*

- *Schoenoplectus corymbosus*

- *Schoenoplectus tabernaemontani*

- *Schoenoplectiella senegalensis*

- *Schoenoplectus tabernaemontani*
SCHOENOXIPHIUM / 4

Schoenoxyphium Nees in Linnaea 7: 531, 1832.
syn.: Carex section Schoenoxyphium Baillon, Hist. Pl. (Baillon) 345, 1894; called a monophyletic clade within Carex by the “Global Carex Group” (Bot. J. Linn. Soc. 179: 1–42, 2015).


SCHOENOXIPHIUM LEHMANNII

with dark fibrous remains of old leaf-bases; leaves 15–40 cm long, 2–5 mm wide, flat, margin and some veins scabrid; sheaths pale green to reddish, 1–2 cm long; inflorescences lax, slender, borne at most nodes with 1–2 branches, 0.6–2 cm long, axes very scabrid; some male flowers at each branch tip with 2–5 female flowers below; utricles brown, c. 5 mm long with very distinct longitudinal ridges; nutlet yellowish, 3 mm long.

Open areas of forest; grassland; mist forest; stream sides; termite mounds; 1050–2800 m alt.


syn.: Sch. dregeanum Kunth 1837, non Carex dregiana Kunth; Sch. ludwigii Hochst. 1845; Archaeocarex rufus (Nees) Fedde & J. Schult.; A. dregana (Kunth) Pissi jacket; Carex rufa (Nees) Baill. 1894, nom. illeg., non Lam. 1779, nec Schrank 1789; C. buchananii C. B. Clarke 1894, nom. nud.; Kobresia rufa (Nees) T. Koyama; K. dregana (Kunth) T. Koyama; Carex ludwigii (Hochst.) Luceho & Martin-Bravo; Schoenoxyphium burkei C. B. Clarke (sensu Govaerts & Simpson, World Checklist Cyperaceae: 672, 2007).

Perennial robust herb; culms 60–110 cm tall, c. 2 mm Ø; leaves 20–36 cm long, 3–6 mm wide, scabrid; inflorescence fairly dark brown, 4–6 narrow panicles, one from each of the upper leaf sheaths, c. 5 cm long, 2.5 cm wide, peduncles 3–12 cm long; spikelets linear, 10 × 2–3 mm, glumes often spreading; main inflorescence branches with 20–40 female flowers; male part of spikelet 6 mm long; utricle 2.5–4 mm long; nutlet c. 2.5 × 1.5 mm. Moist thickets on bank of small river; by streams in marsh; 2100–2600 m alt.

S. africana, Lesotho.


bas.: Carex schimperiana Boeckeler 1876.

syn.: C. densinervosa Chiov. 1911; Schoenoxyphium bracteosum Kükkonen 1986; Sch. schimperiana (Wahlenb.) C. B. Clarke var. schimperiana (Boeckeler) Kük.

Perennial tufted herb 20–90 cm tall with short ascending stolons; culms rounded, 1–1.5 mm Ø, bases covered by fibrous leaf sheath remains; leaves up to half length of the culm, 20–30 cm long, 3–4 mm wide, flat; inflorescence narrow with branches formed along the culm, the lower ones remote; bracts filiform, as long as or longer than inflorescence branches; spikelets oblong, c. 9 × 6 mm, the uppermost with 3–5 utricles and a small scarious yellow male termination; utricle 3–4 mm long, obovate; nutlet 2.5–1.3 mm. Damp slopes; stream banks; crevices of rock flushes; forest edges; grassland; in grass tussocks on hillside; growing usually in association with grasses; c. 1500–2700 m alt.
Schoenoxiphium schimperianum


Closely allied to Sch. spartum which is, however, smaller in stature and in size of most of the floral organs.


Bas.: Carex spartea Wahlenb. 1803.

Syn.: Carex spartea Thunb. 1811, nom. illeg.; C. indica Schkuhr 1801, nom. illeg., non L., etc.; C. sprengelii Boeckeler 1876, nom. illeg., Uncinia spartea (Wahlenb.) Spreng. 1826; U. spartea Nees 1835, nom. illeg.; U. sprengelii Nees 1835, nom. superfl.; Archaeocarex spartea (Wahlenb.) Pissauk.; Kobresia spartea (Wahlenb.) T. Koyama; Carex dregeana Kunth, incl. var. major C. B. Clarke; C. esenbeckiana Boeckeler 1876, nom. superfl.; C. bolusii C. B. Clarke; Schoenoxiphium caricoides C. B. Clarke, incl. var. major (C. B. Clarke) C. B. Clarke; Sch. kunthiana Kük.; Archaeocarex kunthiana (Kük.) Pissauk.; Kobresia kunthiana (Kük.) T. Koyama

Perennial tussocky herb; rhizome short, much-branched, covered by fibrous remains of old scales; culms 15–50 cm tall, 1–3 mm Ø; triangular; leaves yellow-green, blades 10–30 cm long, 2–5 mm wide, flat, margins and veins densely scabrous, sheaths 2–4 cm long, wide; inflorescence branches usually borne singly at each node of culm; partial units pyramidal with conspicuous bracts; branches 0.5–6 cm long, flattened, densely scabrous, the upper hidden by leaf-sheaths; each spike (c. 1 cm long) with a few male flowers at top and 4–10 female below; utricle elliptic, c. 2.8 × 1.4 mm; nutlet reddish-brown, densely papillose.

Secondary grassland; forest edges; damp shaded cliffs; 1800–2100 m alt.

S. Africa, Lesotho, Swaziland; Madagascar.

Synonyms:

Schoenoxiphium bracteosum Kükken

= Schoenoxiphium schimperianum 

Burke C. B. Clarke sensu Govaerts & Simpson 2007 = Sch. rufum

Caricoides C. B. Clarke, incl. var. major (C. B. Clarke) C. B. Clarke = Sch. spartum

Dregeanum Kunth 1837 = Sch. rufum

Kunthiana Kük. = Sch. spartum

Ludvigii Hochst. 1845 = Sch. rufum

Spartea (Wahlenb.) C. B. Clarke var. lehmannii Kük. = Sch. lehmannii

Spartea var. schimperianum (Boeckeler) Kük. = Sch. schimperianum

Schoenus / I

Described by Linnaeus (1753) with 9 species, most of which have since been transferred to other genera. But Schoenus has been recognised and also expanded by later authors. It has been subject to few phylogenetic studies and has been under-sampled according to Musli & al. in Austral. Syst. Bot. 29: 265, 2016. Since then further studies including Tetraria and Epischoenus by Elliott & Muasya (2017 and 2019) have expanded the genus Schoenus, this genus thus comprising c. 138 species, “mostly distributed in the southern hemisphere locations of Africa, Australia, New Zealand, South-east Asia and South America, with a few species in Europe, the Americas and Caribbean Islands” (cf. also Elliott & Muasya, 2019).

It can be added that a study by Larridon & al. (2018) proposed to conserve the name Tetraria, and resulted in a redelimitation of Tetraria.

Our compilation follows the traditional concept with one species present in tropical Africa. Schoenus is a cosmopolitan genus with c. 80 species according to Boulos, Fl. Egypt 4: 402, 2005. The key present in Flora of China, Texts 23: 166, 2010, gives the following main characters: nutlets trigoous; glumes distichous, middle glumes with flowers, lowest empty (cf. also Gaetghebeur in K. Kubitzki, ed., The families and genera of vascular plants IV: 175–176, 1998).


Densely tussocky perennial herb with few-many culms and numerous leafy shoots; rhizome short producing tillers; culms node-less, 15–70 cm tall, 0.5–2 mm Ø, almost terete with many rounded ridges, glabrous; leaves basal, c. 1/2 of culm length; sheaths chestnut-brown to reddish-brown, often glossy; blades mostly 10–40 cm long, 0.4–1 mm wide, flat, somewhat canaliculate, hard, wiry; inflorescence a head 0.5–2 × 1–1.5 cm, with 5–20 crowded spikelets sheathed by 2 bracts, the lower with a long
CYPERACEAE

SCHOENUS NIGRICANS

attenuate blade-like portion, the upper similar but much shorter; spikelets dark blackish, fusiform, compressed, 5–15 × 1–2 mm; glumes distichous, keeled, lowest 2 sterile, following 2–3 fertile, uppermost sterile; rachilla zig-zag; nutlet ± globose, c. 1.5 × 1 mm, glossy, white. Seasonally wet places, wet peaty places; often grassland; tufts; c. 1000–2000 m alt.

Sub-cosmopolitan. N. Africa – S Egypt; S. Africa (introduced}; W Europe; Sinai, Palestine, Yemen (Wood, Handbook Yemen flora: 332, 1997}; W Europe; Sinai, Palestine, Yemen (Wood, Handbook Yemen flora: 332, 1997); Boulos, Fl. Egypt 4: 358, 2005; Vrijdaghs & al. in Webbia 58: 316, 2003 (in Italy); Desfayes (2004): 174–177 to indicate unnamed genera resembling Schoenus and Scirpus, which he stated (on p. 7) that he intended to name later, are token words and not generic names. These unnamed genera were later legitimately named *Kyllinga* Rothb. and *Fuiirea* Rothb.

Genus of 3 species, from the Canary Isl. to W Himalaya; N. Africa, Mauritania, Chad; Namibia, S. Africa, Botswana, Swaziland. *S. holoschoenus* (with 3 subspecies) in our area; *S. burkei* (C. B. Clarke) Goetgh., Muasya & D. A. Simpson, and *S. varia* Browning in southern Africa only.


**SCIRPOIDAE**

Scirpidiella fluitans (L.) Rauschert = *Isolepis fluitans* gramminoides (R. W. Haines & Lye) Rauschert

= I. gramminoides

= I. kilimanjareica

= I. ruwenzoriensis

= I. ruwenzoriensis

**SCIRPIDIUM**

Scirpidium nigrescens Nees = *Elocharis nigrescens*
SCIRPOIDES HOLOSCHOENUS

bas.: Scirpus holoschoenus L. 1753,
syn.: Isolepis holoschoenus (L.) Roemer & Schult.; Cyperus holoschoenus (L.) Missbach & E. H. L. Krause 1900 nom. illeg., non R. Br. 1810; Holoschoenus vulgaris Link

Perennial, tussocky herb, with short, woody rhizome producing stolons; culms to >1 m long, 0.8–3.5 mm Ø, smooth, terete or trigonous, scabrous above, greyish-green; leaf sheath 3–15 cm long, from rather soft to rigid, greyish-brown or reddish-brown, scarious side conspicuously veined; blade canaliculate, greyish-green, margins scabrous, apex flat, obtuse, scabrous; inflorescence of 1–100 or more globose heads of congested spikelets; primary branches to >10 cm; secondary branches to 3 cm; heads 0.3–1.5 cm Ø, of 6–40 tightly congested spikelets, these ± globose, 1.5–4 × 1–2 mm, with 10–30 glumes (keeled, mucronate). Damp sandy areas; wadi banks; springs; ? up to 2200 m alt. (Chad, Tibesti).

Europe to W Himalaya, N Africa (subsp. holoschoenus); Canary Isl., Sardinia, N Africa, Chad, Iran (subsp. globifera); S. Africa (subsp. thunbergii).

A much variable species. 3 subsp. are recognized: – subsp. globifera (L. f.) Soják [bas.: Scirpus globifer L. f.; syn.: Holoschoenus globifer (L. f.) Rechb. 1830; H. globiferus (L.) A. Dietr.; Scirpus holoschoenus var. globiferus (L. f.) Parl., and subsp. globiferus (L. f.) Husn., and var. hayekii Maire, Bull. Soc. Hist. Nat. Afr. N. 22: 70, 1931; Scirpoides globifera Steud.; Isolepis globifera (L. f.) Husn., and var. hayekii Maire, Bull. Soc. Hist. Nat. Afr. N. 22: 70, 1931; Scirpoides globifera Steud.; Isolepis globifera Steud.], with many globose head and spikelets ovoid, 2–4 × 2–3 mm; in the Canary Isl. on banks of rivers and ditches, 200–500 m alt. (fig. in T. Muer & al., Die Farn- und Blütenpflanzen der Kanarischen Inseln: 1141, 2016); – subsp. holoschoenus [syn.: Scirpus romanus L.; S. holoschoenus var. romanus (L.) Sm., and subsp. romanus (L.) Matéo & Figuerola; Scirpoides romanus (L.) Soják; Scirpus australis L.; S. holoschoenus subsp. australis (L.) Arcang.; Holoschoenus romanus var. australis (L.) Bech., and subsp. australis (L.) Greuter; Scirpoides holoschoenus subsp. australis (L.) Soják; etc.], often split into 2 entities cited as subsp. species (holoschoenus and australis, respectively; according to Desfayes [l.c.]), holoschoenus is recognized by its short, rigid and spiny bract, and its robust culms, whereas subsp. australis has only 1–10 flower heads, stems thinner and shorter, and a long flexible bracts >15–64 cm long (figs. p. 176, 178; and a map showing the geographical areas p. 174), subsp. holoschoenus occurring in W Europe incl. France, subsp. australis E of that area, incl. Germany, Italy and E-wards; – subsp. thunbergii (Schrad.) Soják [bas.: Isolepis thunbergii Schrad. 1821; syn.: Scirpus holoschoenus Thunb. 1811, nom. illeg., non L. 1753; Holoschoenus thunbergii (Schrad.) A. Dietr.; Scirpus holoschoenus var. thunbergii (Schrad.) C. B Clarke; etc.] in S. Africa; pseudovivipary observed by Gordon-Gray & al. in S. Afric. J. Bot. 75: 166, 2009. – For further synonyms, see World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

“A very distinctive sedge, easy to cultivate and tolerant of relatively dry soils, sometimes grown as ‘Variegatus’, with alternate rings of green and yellow tissue on leaf and stem” (European Garden Flora, ed. 2, 1: 414, 2011). – Fibres also used as tying material.

SYNONYMS:

Scirpoides globifera Steud.
= Scirpoides holoschoenus subsp. globifera holoschoenus (L.) Soják subsp. australis (L.) Soják
= S. holoschoenus subsp. holoschoenus romanus (L.) Soják = S. holoschoenus subsp. holoschoenus

(SCIRPUS)

Scirpus Tourn. ex L. 1753, nom. cons.

Muasya & al. (S. Afric. J. Bot. 78: 104–115, 2012) described a new genus, Dracocirpoides Muasya, in order to accommodate two “aberrant” but common South African species known since at least a century, viz. Scirpus falsus C. B. Clarke and S. fucinoides Kunth. Scirpus was described by Linnaeus to “encompass cyperaceae species with terete spikelets, spirally arranged glumes, and bisexual flowers with or without perianth parts” (Muasya & al., o.c.: 104). However, Linnaeus’s genus was heterogenous, and “the 24 species he recognized have subsequently been placed in 12 genera … Currently, Scirpus sensu stricto includes perennials with few to many-noded culms, (0–3–6 perianth parts [“called bristles”], and the presence of a ‘Fimbribristyle-type of embryo”). These authors continue: “Scirpus sensu stricto is predominantly holarctic with some occurrence in other temperate areas outside Africa.”

Verloove (Willdenowoia 44: 51–55, 2014) wrote: “As currently circumscribed, Scirpus is a genus of c. 35 subcosmopolitan species … most diverse in North America, where 18 species occur … Only two species are originally native in Europe …: S. radicans Schkuh and S. sylvaticus L.”. Pignotti (Webbia 58: 301–308, 2003) presented these two species for Italy with line drawings and maps of distribution.

In a study of Scirpus L. s. l., Jung & Choi (J. Plant Biol. 54: 409–424, 2011) summarized this genus as follows: it comprises approximately 160 species in the world and is an herbaceous aquatic or wetland plant. In Scirpus s. str. these authors enumerate 5 species in Korea, among others S. wichuriae Boeckeler (“wichural”), its variety asiaticus (Beetle) T. Koyama ex W. T. Lee is cited from Benin (Africa) in the World Checklist of Selected Plant Families, Cyperaceae (Roy. Bot. Gard. Kew, version 2012). However, this plant is not mentioned by Akoègninou & al. (Flore analytique du Bénin, 2006).


SYNONYMS:

Scirpus abnormalis (C. B. Clarke) T. Koyama
= Fuirena abnormalis
acutangulus Roxb. = Eleocharis acutangula aggregatus Steud. ex C. B. Clarke 1894
= Ficinia filiformis
angolensis C. B. Clarke = Nenum angolense angolensis var. briziformis (Hutch.) S. S. Hooper
= N. spadiceum
angolensis var. megastachyum Cherm.
= N. megastachyum
annuus All. = Fimbristris dichotoma subsp. dichotoma antarcticas sensu Vahl 1805, non L. = Bulbastylis barbata antipodas V. J. Cook = Isolepis sepsularalis arenarius (Nees) Boeckeler = Bulbastylis humilis arenarius var. setiformis Benth. = Isolepis cernua var. setiformis articulatus L., incl. var. major Boeckeler
= Schoenoplectiella articulata

327
articulatus var. stramineus Engl., and var. tenus Roth = S. senegalensis
atropurpureus Retz. = Eleocharis atropurpurea
atrosanguineus Boeckeler = Bulbostylis atrosanguinea
auriglumis S. S. Hooper = Schoenoplectiella juncea
australis L. = Scirpoideae holoschoenus
subsp. holoschoenus
barbatus Rottb. = Bulbostylis barbata
bisumbellatus Forsk. = Fimbristylis bisumbellata
bivalis Lam. = F. bivalvis
boeckeleriana Schweinf. = Bulbostylis boeckeleriana
brachyceras Hochst. ex A. Rich.
= Schoenoplectus corymbosus
brachyceras auct., non Hochst. ex A. Rich.
= S. teptangularis
breviculmis (Kunth) Boeckeler = Bulbostylis humilis
briziformis (Roem. & Schult.) Spreng.
chaetarius Levyns = Chlorostachys subtilis
cernuus var. (Kunth) C. B. Clarke = Vahl = ciliaris
coleotrichus Zeyh. ex Kunth 1837 = Isoplepis ciliaris
or I. tenuissima
chaetarius (Roem. & Schult.) Spreng.
= Eleocharis retroflexa subsp. chaetaria
chinensis Osbeck = Lipocarpa chinensis
chlorostachys Levyns = Isoplepis secaliris
or I. tenuissima
ciliaris L. = Fuirena ciliaris f. ciliaris
ciliaris Pers. 1805 = F. pubescens var. pubescens
ciliaris Roth. = F. ciliaris f. ciliaris
cinnamomeus Boeckeler = Bulbostylis schoenoides
coeordenescens (Steu.) Kunzke = Fuirena coerulescens
coleotrichus (Hochst. ex A. Rich.) Boeckeler
= Bulbostylis coleotricha
collinus Boeckeler = B. contexta
collinus var. boeckeleriana (Schweinf.) Schweinf.
= B. boeckeleriana
compactus Hoffm. = Bulboschoenus maritimus
subsp. maritimus
complanatus Retz. = Fimbristylis complanata
confervoides Poir. = Webstertia confervoides
confusus N. E. Br. = Schoenoplectus mucinix
coronarius Vahl = Cyperus leucocephalus
corymbosus (Roth. ex Roem. & Schult.) B. Heyne
= Schoenoplectus corymbosus
corymbosus Forsk. 1775 = Bulboschoenus maritimus
subsp. maritimus
corymbosus L. = Rhynchospora corymbosa
corymbosus var. juneciformis A. Peter
= Schoenoplectus mucinix
costatus (Hochst. ex A. Rich.) Boeckeler, incl. var. macer
(Boeckeler) Chemn. = Isoplepis costata
cuspidadus Roem. & Schult. 1817 = Tetragonia cuspida
nymus (R. Br.) Poir. 1816 = Fimbristylis cymosa
cymosa Lam. 1791 = F. cymosa
cynosus L. = Mariscus sumatrensis
densus Wall. = Bulbostylis densa
dichotomus L. = Fimbristylis dichotoma
diphyllyus Retz. = F. dichotoma subsp. dichotoma
SCIRPUS
dipsacus Rothb. = F. dipsaca
delus Boeckeler 1870, non (R. Br.) Poir. 1817
= Ficinia filiformis
endis (C. B. Clarke) T. Koyama = Fuirena coerulescens
equitanus Kük. = Nemum equitanus
erectogracilis Hayata = Schoenoplectiella lateriflora
erectus Poir. = S-a erecta
erectus subsp. raynalli (Schuyler) B. F. Hansen &
Wunderlin = S-a erecta subsp. raynalli
erectus sensu Berhaut 1967 = Schoenoplectiella lateriflora
erectus sensu Chemn. 1931 = S-a oxyjulio
erismaniae Schuyler = S-a erecta subsp. erecta
erraticus Rota ex De Not. = Eleocharis atropurpurea
exilis (Kunth) Poir. = Bulbostylis hispidula
ferrugineus L. = Fimbristylis ferruginea
filamentosus Vahl = Bulbostylis filamentosa
fimbriatus Poir. 1805 = Fimbristylis dichotoma
subsp. dichotoma
fimbriatus Willd. ex Kunth 1837 = F. pilosa
fimbristyloides K. Schum. ex C. B. Clarke
= Bulbostylis schimperiana
fistulosus Poir. 1805 = Eleocharis acutangula
subsp. acutangula
fistulosus Forsk. = Schoenoplectiella articulata
fistulosus (Schult.) Kunzke = Eleocharis acutangula
subsp. acutangula
fluants L., incl. var. fascicularis (Nees) Boeckeler,
var. spadiceus C. B. Clarke, var. terrestre Kük. 1925
nom. nud., and var. terrestris Benth. = Isoplepis fluants
var. fluants
fuirena T. Koyama = Fuirena umbellata
geniculatus L., incl. var. minor Vahl
= Eleocharis geniculata
glomeratus Lam. 1791 = Bulboschoenus glaucus
globifer L. f. = Scirpoideae holoschoenus subsp. globifera
glomeratus Scop. 1771 = Schoenoplectiella mucronata
glomeratus Retz. 1786 = Fimbristylis cymosa subsp.
cymosa
glomeratus Roxb. 1820 = F. dichotoma subsp. dichotoma
gracillimus Boeckeler = Bulbostylis pusilla subsp. pusilla
glomeratus Kohls 1869 = Isoplepis setacea
gracilis Zeyh. ex Kunth 1837 = Ficinia gracilis
graminoides R. W. Haines & Lye = Isoplepis graminoides
grandispecus (Steud.) Berhaut
= Bulboschoenus grandispecus
granulato-hirtellus Boeckeler ex Schinz
= Bulbostylis hispidula subsp. hispidula
griquensium C. B. Clarke = Isoplepis secaliris
halleri Vitan = Schoenoplectiella supina
hamulosus (M. Bieb.) Steven = Mariscus hamulosus
hemisphaerica Roth = Lipocarpa hemisphaerica
hildebrandtii Boeckeler = Bulbostylis hispidula
hispidula Vahl = B. hispidula
hochstetteri Boeckeler = B. pusilla
holoschoenus L. 1753 = Scirpoideae holoschoenus
holoschoenus Thuill. 1811 = S. holoschoenus
subsp. thunbergii
holoschoenus subsp. australis (L.) Arcang.
= S. holoschoenus subsp. holoschoenus
holoschoenus var. globiferus (L. f.) Parl.
= S. holoschoenus subsp. globifera
holoschoenus subsp. globiferus (L. f.) Husn.
= S. holoschoenus subsp. globifera
holoschoenus var. hayekii Maire = S. holoschoenus
subsp. globifera
holoschoenus var. romanus (L.) Sm. = S. holoschoenus subsp. holoschoenus
holoschoenus var. thunbergii (Schrad.) C. B. Clarke
= S. holoschoenus subsp. thunbergii
hystroides B. Nord. = Lipocarpha rehmannii
hystrix auct. (Rendle, De Meneses, Podlech, etc.), non Thunb. = L. rehmannii inclinatus (Delile ex Barbey) Asch. & Schweinf. ex Boiss.
= Schoenoplectus corymbosus inclinatus auct. = S-s us heptangularis
iridifolius Poir. = Machaerina flexuosa subsp. poyanthemum
isolepis (Nees) Boeckeler = Lipocarpha hemisferica jacobi C. E. C. Fisch. = Schoenoplectiella senegalensis juncoides Roxb. = S-a juncoides
kalli Forssk. = Cyperus capitatus
kamerunensis K. Schum. ex C. B. Clarke
= Bulbosylis erratica
kernii Raymond = Lipocarpha kernii
kirkii (C. B. Clarke) K. Schum. = Bulbosylis contexta
kyllingioides (A. Rich.) Boeckeler = Kyllingiella microcephala
lacustris L. = Schoenoplectus lacustris
lacustris var. tabernaemontani (C. C. Gmel.) Döll
= Sch. tabernaemontani
lacustris subsp. tabernaemontani (C. C. Gmel.) Syme
= Sch. tabernaemontani
laeteflorens C. B. Clarke = Bolboschoenus nobilis
laniferus Boeckeler = Bolbosylis lanifera
lateralis Retz. 1786 = Schoenoplectiella lateriflora
laxus (Vahl) Poir. = Fimbrystris dichotoma subsp. dichotoma
leucocoles K. Schum. = Ficinia filiformis
libanotis sensu Ahti & al. 1973 = Scleria libanotis
lithospermu L. = Selaria lithosperma
litoralis Schrad., incl. var. foliosaus Jahand., Maire & Weiller, subsp. pterolepis (Nees) C. B. Clarke, var. subulatus (Vahl) Chiov., subsp. subulatus (Vahl) Wad. Khan, and subsp. thermalis (Trab.) Murb.
= Schoenoplectus subulatus
litoralis sensu Ahti & al. 1973 = Sch. subulatus
lugaridi C. B. Clarke = Mariscus hamulosus
lupulinus (Nees) Roshev. = Schoenoplectiella roylei
macer Boeckeler = Isoplepis costata
macrolepis Boeckeler ex C. B. Clarke
= Bulbosylis contexta
macrostachyos Lam. 1791 = Bolboschoenus maritimus
megaschizantis Boeckeler
= Schoenoplectus corymbosus
maritimus L. = Bolboschoenus maritimus
maritimus subsp. compactus (Hoffm.) Hejny, and fa. compactus (Hoffm.) Bolzon = B. maritimus subsp. maritimus
maritimus var. glaucus (Lam.) Nees = B. glaucus
maritimus var. laeteflorens (C. B. Clarke) Kük. = B. nobilis
maritimus var. macrostachys (Willd.) Dumort. 1827
= B. glaucus
maritimus var. macrostachys Vis. 1842 = B. glaucus
maritimus fa. macrostachys (Vis.) Nilsson 1901
= B. glaucus
maritimus fa. macrostachys (Willd.) Junge 1908
= B. glaucus
maritimus var. nobilis (Ridl.) C. B. Clarke = B. nobilis
maritimus var. tuberosus (Desf.) DC. 1806 = B. glaucus
maritimus var. tuberosus (Desf.) Roem. & Schult. 1817
= B. glaucus
maritimus sensu C. B. Clarke 1902 p. min. p. = B. nobilis
maritii Dufour ex Roem. & Schult. = Cladium marisculus subsp. mariscus
margaritae Steud. = Schoenoplectiella mucronata
medius Roxb. = Eleocharis acutangula subsp. acutangula
melanospermus C. A. Mey. = Schoenoplectiella supina
melanospermus var. major Regel = S-a roylei
melianthus L., incl. fa. conglomeratus Beck
= Cyperus melianthus subsp. melianthus
michelianus Vahl = Lipocarpha micrantha
microcephalus (Steud.) Dandy = Kyllingiella microcephala
milacea L. 1759, nom. rej. = Fimbrystris quinquangularis
minimus Willd. ex Kunth, nom. nud. in syn.
= Lipocarpha hemisferica
minimus Roxb. = Fimbrystris dypsea var. dypsea
murcatus L. = Schoenoplectiella mucronata
murcatus Pollich 1776 = Bolboschoenus maritimus subsp. maritimus
multicosstatur Baker = Isolepis costata
muricinus C. B. Clarke = Schoenoplectus muricinus
muriculatus Kük. = Sch. muricinus
mutatus L. = Eleocharis mutata
nans Thunb. = Isolepis nans
nigrescens (Nees) Salzm. ex Steud.
= Eleocharis nigrescens
nindensis Ficalho & Hiern = Bulbosylis sphaerocarpa
nobilis Ridl. = Bolboschoenus nobilis
nudifructus Kük. = Fuirena leptostachya fa. nudiflora
obstusifolius Lam. = Fimbrystris cymosa subsp. cymosa
occultus C. B. Clarke = Cyperus michelianus subsp. pygmaeus
oligostachys (Hochst. ex A. Rich.) Boeckeler
= Bulbosylis oligostachys
oxyioulos S. S. Hooper = Schoenoplectiella oxyioulos
parvinus (C. B. Clarke) K. Schum. = Bulbosylis parvinus
pectinasctus Roxb. = Schoenoplectus subulatus
pilosus (Vahl) Poir. 1817 = Fimbrystris pilosa
pitardii Trab. ex Pit. = Mariscus hamulosus
plantagineus Retz. = Eleocharis dulcis
plantaginoides Rottb. = E. dulcis
polytrichoides Retz. = Fimbrystris polytrichoides
praecolutus Poir. – See under Schoenoplectiella praelongata
praecolutus sensu auctt., non Poir. (e.g. G. Carvalho & H. Gillet, Cufod. 1970, Andrews 1956, etc.)
= S-a senegalensis
pretorianus Boeckeler ex C. B. Clarke = Bulbosylis schoenoides
pretorianus (Nees) Kunth = Schoenoplectus subulatus
puberulus Poir. 1805, non Michx. 1803
= B. glaucus
pubescens (Poir.) Lam. = Fuirena pubescens
pungens Willd. ex Kunth 1837 = Schoenoplectus lacustris subsp. lacustris
purpureaeter Boeckeler = Bulbosylis oligostachys
quinqueangulairis Vahl = Fimbrystris quinquangularis
quisquevarius Buch.-Ham. ex Boeckeler
= Schoenoplectiella roylei
ramosus Boeckeler = Isolepis fluitans var. nervosa
raynali Schuyler = Schoenoplectiella erecta
subsp. raynali
rehmannianus Boeckeler ex C. B. Clarke = S-a roylei
329
rehnmannianus Boeckeler ex C. B. Clarke 1894, nom. nud.  
= S. articulata
rehnmanni Ridl. = Lipocarpha rehnmannii
retroflexus Poir. = Eleocharis retroflexa
rhodoxicus Podlech = Schoenopectus rhodoxicus
rivularis (Schrad.) Boeckeler = Isolepis natans
rogersii N. E. Br. = Schoenopectus muricinus
romanus L. = Scirpoides holoschoenus
subsp. holoschoenus
roylei (Nees) R. Parker 1929 and (Nees) Beetle 1942
= Schoenopectiella roylei
ruppioides Thwaites ex C. Wright 1871, nom. nud.
= Webstera confervoides
schimperianus (Hochst. ex A. Rich.) Boeckeler
= Bulboystis schimperianus
schoenoides Retz. = Fimbristolys schoenoides
schweinfurthianus Boeckeler = Bulboystis abortiva
sceleropus (C. B. Clarke) K. Schum. = B. sceleropus
senegalensis Lam. = Lipocarpha chinensis
setaceus L., incl. var. digynus Boeckeler, var. gracillimus
(Nyman) A. Terracc., var. major Lej., and var. minimus
Gaudin = Isolepis setacea
setaceus var. monandra Willd. ex Korth, nom. nud. in syn.
= Lipocarpha hemispheirica
siebieri (Kunth) Kuntze = Eleocharis variegata
simulatus Schuyler = Schoenopectiella erecta
subsp. erecta
= Schoenopectus muricinus
spadiceus (Lam.) Boeckeler = Nennum spadiceum
spadiceus var. ciliatus Ridl. = N. angolense
sphaerocarpus Boeckeler = Bulboystis sphaerocarpa
squarrosus (Vahl) Poir. 1817, non L. 1771
= Fimbristolys squarrosa
squarrosus auctt., non L. = Lipocarpha kernii
squarrosus sensu C. B. Clarke = L. rehnmannii
steudneri Boeckeler 1870 = Kyllingiella polyphylla
stolonifer Roth = Isolepis fluitans var. fluitans
submersus C. Wright = Webstera confervoides
subsquarrosus Muhl. = Lipocarpha micrantha
subulatus Vahl, incl. var. capensis Boeckeler
= Schoenopectus subulatus
supinus L. = Schoenopectiella supina
supinus subvar. erectus (Poir.) Rouy = S-a erecta
supinus var. lateriflorus (J. F. Gmel.) T. Koyama
= S-a lateriflora
supinus var. melanospermus (C. A. Mey.) Schmalh.
= S-a supina
supinus var. minimus Boiss. = S-a supina
supinus var. uninosus (Delile) Asch. & Schweinf.
= S-a erecta subsp. erecta
supinus subsp. uninosus (Delile) Trab. = S-a erecta
subsp. erecta
supinus Boeckeler = S-a erecta
supinus sensu Cufod. 1970 = S-a lateriflora
supinus sensu C. B. Clarke 1902 p.p. = S-a microglumis
supinus sensu C. B. Clarke 1902 p.p. = S-a lateriflora
supinus sensu Quézel 1958, Gillet = S-a proxima
tabernaemontani C. C. Gmel. 1805
= Schoenopectus tabernaemontani
tenerrimus Peter 1936 = Schoenopectiella microglumis
ternatus Wall. 1831 = S-a erecta subsp. erecta
ternatus Ham. ex Hook. f. 1893 = S-a erecta subsp. erecta
theralis Trab. 1895 = Schoenopectus subulatus
thouarsii Roem. & Schult. = Bulboystis thouarsii
transvaalensis Boeckeler ex C. B. Clarke = B. schoenoides

scirpus
trispiculatus Boeckeler ex C. B. Clarke = B. contexta
trollii (Kük.) Lyce = Ficinia trollii
 tuberosus Desf. = Bolboschoenus glaucescens
umbellatus (Rottb.) Kuntze = Fuirena umbellata
uninosus (Delile) Cos. & Durieu = Schoenopectiella
erecta subsp. erecta
ustulatus Podlech = Nennum angolense
validus Vahl 1805 = Schoenopectus tabernaemontani
variegatus Poir. = Eleocharis variegata
verrucosulus Steud. = Isolepis cernua var. setiflorus
“verruculosus” (Nees) Steud. in Fl. W. Trop. Afr., ed. 2,
3/2: 1972 = I. cernua var. setiflorus
wallerianus (Schult.) Spreng. = Bulboystis barbata
wardianus J. R. Drumm. = Schoenopectus subulatus
wilkesii Schuyler = Schoenopectiella erecta
subsp. erecta
zezleri Boeckeler = Bulboystis contexta

Scleria
P. J. Bergius 1765
syn.: Catagyna P. Beauv. ex T. Lestib.

Commonly known as nut rushes or razor grasses. Genus of some 250 species (Bauters & al. in Taxon 65: 444–466, 2016; Christenhusz, Fay & Chase, Plants of the World: 202, 2017) with half of them native to the Americas, extending from the United States to Argentina (Mayedo & Thomas in Phytotaxa 268: 263–270, 2016; Espinoza & al. in Phytotaxa 284: 81, 2016). Scleria is one of the major genera, or the fifth largest genus (Araújo & Brummitt in Kew Bull. 66: 517, 2011) in Cyperaceae. An exhaustive list of names of genera and subdivisions of genera included in Scleria was published by Camelbeke & al. in Taxon 50: 479–486, 2001. A subgeneric classification was presented by Bauters & al. in Taxon 65: 444–466, 2016, proposing 4 subgenera. However, the infrageneric classification is very controversial and complicated (Espinoza & al., l.c.).

The genus Scleria is pantropical, locally extending to warm temperate regions (Tremetsberger & al. in Edinb. J. Bot. 76: 206–208, 2019; map by Piérart in Lejeunia Mém. 13: 18, 1953).

“The basically paniculate inflorescence of Scleria … is extremely polymorphic due to differences in the degree of development of its different parts. Therefore, the external morphology of the inflorescence … is an important diagnostic character … The main problems in the interpretation of the inflorescence structure result from studies that did not consider the entire inflorescence” (Ahumada & Vegetti 2009: 115). “Many identification keys are based on the small flowers and fruits (achene). The achene and the associated hypogynium are diagnostic structures used to classify species in different sections … The hypogynium is a hardened disc at the base of the achene, similar to a cup-shaped pedicel. The achene is variable in form, texture, color and indumentum … The origin and function of the hypogynium and achene and their characteristics are still unknown. Another common mistake in the keys to Scleria is to confuse the cupule with the hypogynium in some species” (Espinoza & al. in Phytotaxa 284: 81, 2016).

Some general remarks on Scleria in our area. Sometimes a remarkable number of species grow together (up to 10; See, e.g., under S. angustifolia). A few species are very robust reaching some 4 to 5 m in height (S. porphyrocarpa, S. verrucosa). S. boivinii is a scrambling herb to 10–15 m long.

Some of the 89 species recorded for our area are insufficiently known: for 1 species the ecology is not recorded; 6 species (nearly 7%) are known only from the type (locality).
SCLERIA


Scleria achtenii De Wild., incl. var. subintegriloba (De Wild.) Piéart; Remier, Fl. Kwango 1: 67, 1948; Piéart (1953): 46; Kew Bull. 18: 534, 1966; Lisowski, Fl. Rép. Guinée 1: 412, 2009; Fl. Trop. E. Afr., Cyper.: 405–406, 2010; Chatelain & al., Cartes distrib. pl. Côte d’Ivoire: 227, 2011; Mesterházy in Lidia 7/5: 408 (Kük.) E. A. Rob.; Fl. Trop. E. Afr., Cyper.: 405, 2013; – Icon.: De Wildeman, Plantae Bequaertianae 4: 219, 1927 (nutlet); Bauters & al. (2019): 11 (nutlet). Annual herb; culms 10–50 cm long, 0,3–0,8 mm ∅, obtusely triangular, glabrous or sparsely hairy, for the most part covered by sheaths; leaves 2–4 per culm, but only 1–3 with perfecting blades; sheaths densely covered by retrorse white hairs 0,2–0,4 mm long, lower sheaths purplish to reddish-brown, upper more greenish; blades 2–9 cm long, 0,8–1,8 mm wide, flat, green or sometimes a little purplish, with c. 0,5 mm long spreading transparent hairs at least on margin and major nerves; inflorescence 3–9 × 1–2 cm, appearing spike-like with sessile glomerules above, but, in fact, a narrow panicule with 1–several reflexed branches with 1–3 glomerules below, axis and branches triangular, glabrous or slightly hairy or scabrous, base of branches swollen, purplish with numerous and purplish spreading stiff hairs; glomerules 4–5 × 3–6 mm, with 2–10 spreading spikelets (bisexual, 3–4 × 1–1,5 mm), variagated, pallid and light reddish-brown, with 1 female flower below and 1–few male above.

Grassland; grassland patches in forest; 1300 – c. 1550 m alt. Near S. sheilae.

S. angusta Nees ex Kunth; Robinson in Kew Bull. 18: 548, 1966. – Icon.: Gordon-Gray, Cyper. Natal: 178, 180, 1995; Cook, Aquat. & wetland pl. south. Afr.: 120, 2004; Bauters & al. (2016): 456 (nutlet). Annual herb; culms 10–50 cm long, 0,3–0,8 mm ∅, obtusely triangular, glabrous or sparsely hairy, for the most part covered by sheaths; leaves 2–4 per culm, but only 1–3 with perfecting blades; sheaths densely covered by retrorse white hairs 0,2–0,4 mm long, lower sheaths purplish to reddish-brown, upper more greenish; blades 2–9 cm long, 0,8–1,8 mm wide, flat, green or sometimes a little purplish, with c. 0,5 mm long spreading transparent hairs at least on margin and major nerves; inflorescence 3–9 × 1–2 cm, appearing spike-like with sessile glomerules above, but, in fact, a narrow panicule with 1–several reflexed branches with 1–3 glomerules below, axis and branches triangular, glabrous or slightly hairy or scabrous, base of branches swollen, purplish with numerous and purplish spreading stiff hairs; glomerules 4–5 × 3–6 mm, with 2–10 spreading spikelets (bisexual, 3–4 × 1–1,5 mm), variagated, pallid and light reddish-brown, with 1 female flower below and 1–few male above.

Grassland; grassland patches in forest; 1300 – c. 1550 m alt. Near S. sheilae.

Scleria adpresso-hirta (Kük.) E. A. Rob.; Fl. Trop. E. Afr., Cyper.: 408–409, 2010; Lock in Kew Bull. 70: § 46: 2, 2015 (Robinson). Annual herb; culms 10–50 cm long, 2–8 cm wide, the laterals 1–2 at each of 1–3 nodes; peduncles exserted 0,5–10 cm from the sheaths, shortly hairy; male spikelets straw-coloured to chestnut, 4–5,5 mm long, hispidulous, sessile or on pedicels 1–3 mm long; female glumes straw-coloured marked chestnut or entirely chestnut. Perennially damp ground, and swamp in grassland; grassland patches in forest; – c. 1450 m alt.-1550 m alt.

Some affinity with S. canaliculatotriquetra but: – rootstock unlike that of any other African species of Scleria, general hairiness, stems do not exceed 1 m tall (are usually a good deal shorter), achenes smooth, not truly ovate but broadly ovate-globose, globose or depressed-globose.

“However, it is doubtful that S. adpresso-hirta should be given rank of species; infraspecific rank under the very similar … S. laogenisi Boeck. would seem more reasonable, the very disjunct distribution of S. adpresso-hirta might argue for a well marked variety under S. laogenisi” (Fl. Eth. & Eritrea 1: 267, 2009).

S. aforefflexa Lye; Cheek & al., Pl. Kupe…: 192, 2004; Onana & Cheek, Red Data Book flow. pl. Cameroon: 369, 2011; Onana, Fl. Cameroun 40: 224, 2013. – Icon.: Nord. J. Bot. 23: 511, 2004 (nutlet); Harvey & al., Pl. Bali Ngemba…: 56 (fig. 8), 136, 2004; Bauters & al. (2019): 11 (nutlet). Annual herb; culms 10–50 cm long, 0,3–0,8 mm ∅, obtusely triangular, glabrous or sparsely hairy, for the most part covered by sheaths; leaves 2–4 per culm, but only 1–3 with perfecting blades; sheaths densely covered by retrorse white hairs 0,2–0,4 mm long, lower sheaths purplish to reddish-brown, upper more greenish; blades 2–9 cm long, 0,8–1,8 mm wide, flat, green or sometimes a little purplish, with c. 0,5 mm long spreading transparent hairs at least on margin and major nerves; inflorescence 3–9 × 1–2 cm, appearing spike-like with sessile glomerules above, but, in fact, a narrow panicule with 1–several reflexed branches with 1–3 glomerules below, axis and branches triangular, glabrous or slightly hairy or scabrous, base of branches swollen, purplish with numerous and purplish spreading stift hairs; glomerules 4–5 × 3–6 mm, with 2–10 spreading spikelets (bisexual, 3–4 × 1–1,5 mm), variagated, pallid and light reddish-brown, with 1 female flower below and 1–few male above.

Grassland; grassland patches in forest; 1300 – c. 1550 m alt. Near S. sheilae.

S. angusta Nees ex Kunth; Robinson in Kew Bull. 18: 548, 1966. – Icon.: Gordon-Gray, Cyper. Natal: 178, 180, 1995; Cook, Aquat. & wetland pl. south. Afr.: 120, 2004; Bauters & al. (2016): 456 (nutlet). Annual herb; culms 10–50 cm long, 0,3–0,8 mm ∅, obtusely triangular, glabrous or sparsely hairy, for the most part covered by sheaths; leaves 2–4 per culm, but only 1–3 with perfecting blades; sheaths densely covered by retrorse white hairs 0,2–0,4 mm long, lower sheaths purplish to reddish-brown, upper more greenish; blades 2–9 cm long, 0,8–1,8 mm wide, flat, green or sometimes a little purplish, with c. 0,5 mm long spreading transparent hairs at least on margin and major nerves; inflorescence 3–9 × 1–2 cm, appearing spike-like with sessile glomerules above, but, in fact, a narrow panicule with 1–several reflexed branches with 1–3 glomerules below, axis and branches triangular, glabrous or slightly hairy or scabrous, base of branches swollen, purplish with numerous and purplish spreading stift hairs; glomerules 4–5 × 3–6 mm, with 2–10 spreading spikelets (bisexual, 3–4 × 1–1,5 mm), variagated, pallid and light reddish-brown, with 1 female flower below and 1–few male above.

Grassland; grassland patches in forest; 1300 – c. 1550 m alt. Near S. sheilae.

Perennial herb; rhizome rigid, horizontal, 2–2.5 mm Ø; culms arising in a ± straight series, clearly separated, to 80 cm tall, < 1 mm Ø, glabrous; leaves setaceous, c. 1 mm wide, glabrous; inflorescence 3–9 cm long, branched, glomerate-spicate; branches 2.5–3 cm long, simple or more rarely compound; glomerules of 1–3 spikelets; these androgynous, 3–4 mm long; nutlet ± globose, ± smooth to strongly papillose or tuberculate, ± reddish.

Bogs which remain wet for most or all of the year, with Scleria rehmannii, S. bequaertii, S. procumbens, S. laxiflora, S. erythrorhiza, S. greigiiifolia, S. pooides, S. unguculata, or S. welwitschii (not S. nyasensis).


Perennial herb, first erect, later spreading; rhizome creeping, covered by reddish scales, 4–6 mm Ø; culms to 40 cm long, rigid, glabrous or pilose, striate; leaves as long as or longer than culms, 1–3.5 mm wide, keeled, sparsely pilose; sheaths glabrous or pilose; inflorescence interrupted; lateral panicles often single, peduncles short, rarely to 4 cm long; male spikelets 4.5–6 mm long, sessile or on short pedicel; female glumes ovate, 5–6 mm long; nutlet ovoid, c. 3.5 × 1.8–2.4 mm, dark grey or brown. – “At maturity the stems bend stiffly outwards, so that ... the apex of the inflorescence may be found pointing downwards” (Robinson, o.c.: 544).

Black, friable, sandy soil probably damp for 7–8 months of the year but not fully saturated for long even in the rains, with very sparse grass cover.

Very near *S. achtexii*, but: plant much smaller, and habitus more rigid and spreading; panicles with few spikelets; male spikelet < 6 mm long.


Perennial slender herb to 80 cm tall; rhizome short; culms few, clustered, 40–60 cm long, 1–2 mm Ø, usually trigonous, glabrous to minutely hairy, smooth, base swollen; leaves high up on the culm; sheaths densely short-hairy, lower ones purplish, bladeless, upper ones green with blades; blades flat, to 30 cm long, 2–4 mm wide, margins and midrib scabrid; inflorescence with 2–3 pendulous panicles from each of the 3–4 upper leaf sheaths; peduncles slender, c. 10–30 cm long, c. 0.5 mm thick, triangular, glabrous; panicles ± lanceolate, 2–4 cm long, 1–2 cm wide, with 4–8 maturing spikelet groups only; male spikelets c. 6 mm long, female 7–8 mm long; nutlet elliptic, c. 3 mm long, white-hairy.

Small bush savanna in forest area; 435 m alt.

Near *S. nyasensis*, and *S. adpressohirta*.

The specific epithet is derived from the bright orange ring of the hypogynium.

Known only from the type collected in 2008.


Annual herb, erect, densely tufted, glabrous or slightly hairy, 0.2–1 m tall; leaves few, 1.5–7 mm wide, occupying or sheathing most of the lower part of culm, hairy on both surfaces or sometimes entirely glabrous; sheaths acutely angled; inflorescence of 1 terminal and 1–3 lateral panicles, usually single at nodes on slender pendulous peduncles well exerted from the sheaths; male spikelets 3–4 mm long on 1–4 mm long pedicels; female spikelets 4–6 mm long; nutlet white to blackish, oblong, c. 2–3 × 1.6–2.3 mm with lacunae arranged in straight rows.

Swamps; seasonally wet grassland; seepage in miombo valley woodland; seasonally boggy places; very humid laterite; humid gneiss; 60–1200 m alt.

Var. B of Robinson in Kew Bull. 18: 528, 1966, is only a larger form of the typical form.

Madagascar. – The true *S. bambriensis* does probably not exist in Senegal where it is replaced by *S. parvula*.

A revision of the group *S. bambriensis*, *S. parvula* and *S. reticulatis* Michx. is needed worldwide.


**S. clarkei** De Wild. 1927, nom. illeg., non Lindm. 1901.

Perennial tufted herb with short rhizome; culms 0.7–1.5 m long, 3–5 mm Ø, trigonous, edges hairy, leafy up to the top; leaf sheaths pubescent; blades to 40 cm long, 5–7 mm wide, pubescent beneath, nearly glabrous above, margins and main nerve scabrous; inflorescence of 3–5 lateral panicles, each from a node or a sheath, the largest panicle c. 3–10 × 3 cm, peduncles rigid, trigonous, hairy, scabrous; male spikelets mostly terminal, c. 5–6 × 1 mm; female spikelet 4–5 mm long, of 3 acuminate, blackish glumes usually longer than nutlet.

Wooded grounds.

Very close to *S. naumanniana*, *S. induta*, *S. iostephana*.


Perennial herb; rhizome hard, 2–5 mm Ø, occasionally branched, forming a thickly knotted mass; culms weakly erect or semi-prostrate, to 1 m long, < 1 mm Ø, branching at many nodes to form a ± bushy growth; leaves numerous, blade 8–15 cm long, 1–3.5 mm wide, densely hairy but sometimes glabrous; inflorescence terminal and lateral; lateral panicles single at nodes in axils of leafy bracts, peduncles erect; panicle generally spicate but sometimes branched in lower part; spikelets 7–10 mm long, all in effect unisexual though in the female ones there is always an aborted male flower reduced to empty glumes; glumes hairy; nutlet with surface densely and minutely trabeculate, trabeculae arranged horizontally, which gives an effect of the surface reminiscent of a maize-cob.

Grassy formations in swampy places; wooded, humid savanna; permanently wet bogs; often growing with *S. procumbens* and sometimes *S. laxiflora*, and may with one or both of these species, or by itself, form dense masses of semi-prostrate vegetation which dominate large areas of saturated bogland; swampy meadows over coarse blackish sand; 330–1650 m alt.


(*S. bicolor* Nelmes) See under *S. remotae* Ridl. below.

Scrambling herb 3–10–15 m long, climbing in dense festoons up trees and bushes, often forming impenetrable tangles; culms branched, sharply triangular, glabrous or sparingly hairy, angles with dense minute recurved hooks; leaves many, 20–30 cm long, 1–6 mm wide, with dense spike-like teeth on margins and midrib; inflorescence of solitary panicles, terminal or with 1–2 lateral, in addition loosely triangular in outline, 3–7 cm long, 1–5 cm wide, with peduncle to 4 cm long, scabrid and sparsely to densely hairy; male spikelets 4–6 mm long with pale to dark reddish glumes; female ones 6–8 mm long, glumes green or straw-coloured with dark reddish-brown, usually hairy margins; nutlets violet, smooth or ± wrinkled, sparsely to densely hairy. 


Annual nearly glabrous herb; culms erect to 70 cm tall, c. 1 mm @ base, trigonous, striate; leaves 1–2,5 mm wide; inflorescence 1–4,5 cm long, simply glomerate-spicate, contracted, glomerules confluent and not clearly separated, but sometimes branched with branches to 2 cm long; glomerules erect or spreading, 5–7 mm wide, with 5–9 spikelets; these 3,5–4 mm long; nutlet ± globose, 1,5–1,7 × 1,2–1,4 mm, reticulate-tessellate, greyish. 

Seasonally damp bogggy places on alkaline soils.


Annual nearly glabrous herb; culms erect to 70 cm tall, c. 1 mm @ base, trigonous, striate; leaves 1–2,5 mm wide; inflorescence 1–4,5 cm long, simply glomerate-spicate, contracted, glomerules confluent and not clearly separated, but sometimes branched with branches to 2 cm long; glomerules erect or spreading, 5–7 mm wide, with 5–9 spikelets; these 3,5–4 mm long; nutlet ± globose, 1,5–1,7 × 1,2–1,4 mm, reticulate-tessellate, greyish. 

Seasonally damp bogggy places on alkaline soils.


syn.: *S. hirtella* Sw. var. *aterrima* Ridl.; *S. aterrima* (Ridl.) Napper 

Perennial herb 0,2–1,2 m tall; culms swollen at base and producing up to 4 slender ± fleshy stolons 1–3 mm @; leaves mostly produced at or near culm base, 1–2,5 cm long, 2–5 mm wide, glabrous to densely hairy; inflorescence simply spikeate, 6–18 cm long, with many reflexed glomerules or 2–7 dark bisexual spikelets, 4–6 mm long; glumes blackish, densely hairy; nutlet c. 1,5 mm long, ± globose, smooth, greyish. 

Seasonally wet grassland; bogs; granitic ledge; quite common on gneiss rocks (Guinea); fairly moist sand; damp sandy soil; very marshy places; *Loudetia* mat on flat rock; primitive forest; flat grassy area, margin of swamp forest; locally dominant in *Themeda triandra* grassland; swamp, permanently inundated, locally dominant; forest belt, in large quantity, in chalky fields; locally common with *Bulbostylis schimperiana*, *Eragrostis blepharoglumis* on the more eroded crests of hill slopes in *Loudetia kagerensis* grassland on reddish-brown sandy loam overlying
ironstone; not tolerant of strong competition from other perennial vegetation; 0–2500 m alt.

S. Africa.

Note: Piérart (1953: 23) treated *S. catophylla* C. B. Clarke and *S. hirtella* var. *aterrima* Ridl. as synonyms under (*S. hirtella* Sw.) *S. distans* Poir. Also Napper (Kew Bull. 25: 445, 1971) confused these species.

Can be confused with the closely allied *S. distans*, which has, however, a well developed rhizome, leaves along the culms, and glumes “nearly pale”. These two species may be sympatric (Gordon-Gray, o.c.: 181).

**S. cheekii** Bauters, Kew Bull. 73/2: § 27: 2, 2018 (figs. p. 4–5); Bauters & al. (2019): 17.

Annual herb forming small tufts; culms 13–22 cm tall, 0.4–0.6 mm Ø, trigonous, hairy with short whitish hairs; leaves tristichous, basal ones without blade or blade < 1 cm long; sheaths (cauline leaves) 1.5–2.5 cm long, reddish-purple, hairy; blades rigid, 7–10.5 cm long, 1.5–1.9 mm wide, white-hairy; inflorescence terminal, 3–5.5 cm long, glomerate-spicate, slightly branched in lower part with branches < 1 cm long; glomerules 4–9 on main axis, erect, with 2–6 spikelets; axil of the propyll developed into a spikelet or small branch; spikelets androgynous, 3–4 mm long; glumes chestnut-brown; nutlet ± trigonous, obovoid, 1.4–1.9 × 1.1–1.2 mm, surface transversely wrinkled with translucent yellow-orange tissue.

Grassland on basalt pavement in thin, peaty, seasonally water-logged soil in cracks between blocks; grassland with forest patches; rocky grassland; basalt inselbergs; volcanic rocks; 1900–2500 m alt.

Similar to *S. hispidior* (from Ethiopia), *S. interrupta* Rich. (only in C. & S. America). “All known specimens of *S. cheekii* were earlier wrongly identified” as of those species.


Perennial stout herb; culms to 90 cm tall, 5–7 mm Ø, triquetrous with sharp to narrowly winged angles, strongly retrorsely scabrid above; basal leaves absent; cauline leaves with blades 20–35 cm long, 1–2 cm wide, ± flat, margins retrorsely scabrid; sheaths green, ample; inflorescence 60–75 cm long, with a terminal panicule 15–20 cm long and 3–4 lateral shorter panicles, shortly pedunculate; male spikelets in the axil of the prophyll, axillary, in pseudo-fascicles, the 2 upper female, sub-sessile, the 2 lower male, conspicuously pedicellate; female spikelets c. 1 cm long with distichous glumes, male ones 5–6 mm long; nutlet globose, 4 mm Ø, glabrous, shining.

Sometimes in pure stands in large swamps of the “Niayes” (Senegal).

Similar to *S. lacustris* but nut globose (not ovoid-subtrigonal), 5–6 mm long (not 3–3.5 mm).

Herbarium material first determined as *S. racemosa* Poir.

Only known from two collections, one from Dakar to Rufisque; the other from low Casamance, without locality. Never collected since; perhaps extinct due to extension of cultivations.


Annual herb; culms 12–60 cm long; leaves 2–3 mm wide, hairy; lateral panicles single at the nodes, on pendulous peduncles exserted to about 2.5 cm from the sheaths; male spikelets 2.5–3.5 mm long, pale chestnut-coloured, on pedicels 3–6 mm long which become patent or reflexed at maturity; nutlet ovoid, 2.5–2.7 × 1.5–1.7 mm, glabrous, lacunos-tessellated, grey.

Shallow soils over sandstone or laterite which are wet for at least 8 months in the year; 1350–1400 m alt.

Close to *S. bombariensis*.


Annual slender herb; culms 5–60 cm tall, c. 1.2–2.5 mm Ø, glabrous or minutely scabrid or short-hairy above; leaf blades 3–40 cm long, 2–6 mm wide, flat, margins and major nerves scabrid or short-hairy, apex hooded; lower sheaths pale or brown, upper green, glabrous or minutely scabrid; inflorescence of 1 terminal and several lateral panicles, 2–3 at each node on slender, often pendulous peduncles very unequal in length; male spikelets 4–6 mm long, chestnut-coloured; female 8–10 mm long; nutlet ovoid, 2–3 mm long, white to dark grey or black, minutely pitted or ribbed.

Newly cultivated swamps; weed in maize; damp grassland; seasonally moist depressions; marshy wooded meadows with *Isoetes aquinoticials*; bogs, permanently wet or nearly so; 125–2400 m alt.

“Inconspicuous plant and probably more common than present records suggest”.


syn.: *S. spondylagona* Nelmes Annual slender herb; culms tufted, 12–35 cm long, 0.2–0.8 mm Ø, glabrous; leaves 5–15 cm long, 0.3–1 mm wide, flatliss to sub-duplicate, glabrous, yellow-green, lower ones with sheaths purplish red and nearly blade-less; inflorescence 1–13 cm long, simply spicate, with 3–16 glomerules 1–7 mm wide, each of 1–8 spikelets; these 2.5–5 mm long, pale to reddish-brown; nutlet c. 1 mm long, dark red with raised parts translucent, often with 3 longitudinal ridges of translucent tissue.

Dominant in places on moist peaty shallow soil overlying laterite; river banks, below falls; among tall grass in deep red soil; very dry ground and among dry rocks; black loam seasonally damp; sandstone outcrops; 750–1440 m alt.
Cyperaceae

Scleria depressa

Perennial herb with rhizome 4–6 mm Ø; culms erect, 0.6–3 m tall, 3–8 mm Ø, triquetrous, angles scabrous; leaf blades 20–50 cm long, 1–3 cm wide, margins and main nerves scabrous (leaves very sharp-edged, thus the name ‘bush knife’ of the Niger delta); sheaths green, triquetrous, angles broadly winged, scabrous-sharp cutting; inflorescence a terminal panicle and 3–6 lateral panicles in the axils of leaf-like bracts, solitary on short, stiff, erect peduncles, shortly hairy, panicles 2.5–14 cm long, 1–4 cm wide; male spikelets c. 5 mm long, c. 2 mm wide; female 4–9 mm long; nutlet compressed, smooth, bluish-grey, shining, 4–6 mm Ø, with a circular groove rounding the top close to the style base, nutlet borne in a cup 5–6 mm Ø, with a ciliate edge. Young shoots mucilaginous. Swamps in savanna and forest areas; forest gallery; lake sides; in or beside streams; humid palm grove; rice-fields; often on fresh water seepings; – 1400 m alt.

In gross morphology similar to S. racemosa.


syn.: S. holcoides Kunth; S. meyeriana Kunth; S. caespitosa Ridl.; S. setulosa Boeckeler

Perennial herb, usually tufted or sometimes with rhizome 1–2 mm Ø bearing closely placed culms 0.2–1 m tall, 1–5 mm Ø; leaves 1–3 mm wide, glabrous or slightly hairy; inflorescence 3–10 cm long, simply spicate or sparsely to strongly branched, branches 3–5 cm long; glomerules closely set of 2–9 blackish spikelets each 4.5–6 mm long; nutlet ovoid, 1.4–2 × 1.1–1.3 mm, smooth or slightly tuberculate towards apex. – Sometimes forming a dense mat, all parts seeming to lie in one direction.

Seasonally or perennially wet grassland; valley bogs; stream banks; deeply herb-grown woods; 150–800–1900 m alt.

Variable plant (See Gordon-Gray, o.c.: 183): in branching of inflorescence, presence or absence of hairs, colour of glumes, surface structure of nutlet.

S. Africa, Botswana, Lesotho, Swaziland.

S. elongatissima Piéart, nom. nov. in Lejeunia, Mém. 13: 68, 1953. – Icon.: Piéart, ibid.: pl. 2/13 (nutlet; as S. elongata).


Perennial herb with rhizome up to 1.8 cm Ø, bearing closely placed culms 0.2–1 m tall, 1–5 mm Ø; leaves 1.5–3 cm wide, glabrous or slightly hairy; inflorescence 3–10 cm long, simply spicate or sparsely to strongly branched, branches 3–5 cm long; glomerules closely set of 2–9 blackish spikelets each 4.5–6 mm long; nutlet ovoid, 1.4–2 × 1.1–1.3 mm, smooth or slightly tuberculate towards apex. – Sometimes forming a dense mat, all parts seeming to lie in one direction.

Seasonally or perennially wet grassland; valley bogs; stream banks; deeply herb-grown woods; 150–800–1900 m alt.

Variable plant (See Gordon-Gray, o.c.: 183): in branching of inflorescence, presence or absence of hairs, colour of glumes, surface structure of nutlet.

S. Africa, Botswana, Lesotho, Swaziland.


syn.: S. kindtiana Graebn.

Rhizomatous perennial herb 0.3–1 m tall, with erect culms produced at short intervals; rhizome usually reddish with reddish roots, woody, straight, 3–6 mm Ø; leaves 2–6 mm wide, glabrous,
SCLERIA ERYTHROHRIIZA

hairy or hispid; inflorescence simply spicate with many glomerules of 3–16 dark spikelets each 5–6 mm long, and occasionally a single glomerule on a short stalk in the axil of a leaf-like bract well below the main spike; glumes reddish, white-hairy; nutlet ovoid, 2–1 mm, apiculate, smooth; hypogyne conspicuously white. Boggy grassland near termite mounds; permanently wet bogs, where it is characteristic of damp fringes; sporadic in wooded meadows; 900–1800 m alt.


syn.: S. multilacunosa T. Koyama, present in S India, Sri Lanka).

Loosely or densely tufted annual herb 0.2–2 m tall; culms 1–4 mm Ø, trigonous, glabrous or scabrid on angles; leaf sheath mouth extended into a tongue with dark brown margin; blades 6–40 cm long, 2–8 mm wide, glabrous, margin and veins (beneath) scabrid; inflorescence of a terminal and 1–3 lateral panicles, always single at nodes of upper leaves with mostly stiffly erect peduncles which may become ± pendulous after maturity, to 2 cm long; panicles 1–6 cm long, 1–2 cm wide, much shorter than bracts; bracteoles within the panicles rigid and erect 1–4 cm long, giving a characteristic prickly look to the fresh inflorescence but easily broken off when dry; male spikelets dark blackish-red, 4–5 mm long; nutlet ovoid, c. 4 × 2 mm, snow-white or grey, irregularly pitted, glabrous.

Looudetia arundinacea grassland with scattered trees, on rocky outcrop with wet flushes, thin soil with Selaginella njannjemensis, Aeonanthus spp., Aloe sp. and many annuals; damp spot, with Sacciolepis africana; flooded black cotton soil; rainforest; swamp edges; seasonally damp areas in wooded grassland; sometimes in standing water; river beds; seepage areas; small pools on rocky outcrops; wet flushes or depressions in grassland; river banks; thicket-grown marshes; damp meadows; 0–2050 m alt.


Perennial erect tufted herb; culm bases thickened and aggregated into a sub-woody mass; culms to 75 cm tall, 2 mm Ø, pilose below, subglabrous above; leaves 2–3 mm wide, pilose; inflorescence terminal to 29 cm long, simply branched, rarely with 1–2 lateral small simple panicles at nodes; spikelets androgyneous and male, c. 1 cm long, glabrous, in compact glomerules of 3–6 spikelets; glumes glabrous; nutlet oblong, c. 2 × 1 mm, trigonous, dark brown to black, densely covered with brown villous indumentum.

Perennially wet sloping bogs, where it may be locally dominant, with S. rehmannii, S. angustifolia, S. pauciperula, S. procumbens, S. bequaertii, S. greigiifolia, S. laxiflora. Sensitive to fires (plant without rhizome) and apparently rare; 1300–1350 m alt.

Perennial herb 0.3–1.2 m tall with a shortly creeping rhizome 3–4 mm 2 with very short internodes obscured by the swollen culm bases; culms 2.5–3.5 mm 2, sometimes slightly scabrid above on the angles; leaves shorter or longer than culms, 0.5–1 cm wide, margins and veins scabrid; sheaths glabrous to sparsely hairy, the basal ones ± bladeless; inflorescence of terminal and lateral panicles, the lateral 2–3 single at nodes, 2–7 cm long, 1–2 cm wide, on peduncles scarcely or very shortly exserted from the leaf sheaths; male spikelets 4–5 mm long; female glumes pale, usually with reddish streaks or completely blackish-red above, 3.5–5 mm long; nutlets white, ± globose, c. 2.5–3 mm, hypogynium 3-lobed. Damp shady wooded places; swampy river sides; forest gallery; wet areas in forest; 600–800 m alt.

Bioko/Fernando Poo; Madagascar, Réunion; C. & S. America from S Mexico, West Indies (Acevedo-Rodriguez & Strong, Cat. seed pl. West Indies: 296, 2012).


*Entirely glabrous* annual herb; culms 0.25–1.2 m tall; leaves 1–5–6 mm wide, flat to plicate-revolute or ± folded, lower sheaths bladeless or scarcely bladeless; inflorescence paniculate, 4–26 cm long, often twice branched from the lower part, branches slender and often compound with 6–17 glomerules, each of 1–6 sessile clustered spikelets (these 3.5–5 mm long); glomerules often again branched, similar to those on main axis, 1–6 mm broad; upper glomerules closely placed, the lower to 4 cm apart; nutlet grey or black, trabeculate-tuberulate.

Seasonally or permanently boggy grassland; grassy savanna, inundated during rains, arid in dry season; drying dambo; soil white clayey (Zaire); 700–1950 m alt.

Variable plant, variation due to a fairly wide range of habitats; in drier habitats: inflorescence small, almost simple (close to *S. gracillima*). The relationship of *S. glabra* to *S. pergracilis* in drier habitats: inflorescence small, almost simple (close to *S. pergracilis*). Variable plant, variation due to a fairly wide range of habitats; in drier habitats: inflorescence small, almost simple (close to *S. pergracilis*).


Annual, sparingly hairy herb, 0.4–1 m tall; leaves to 17–40 cm long, 3–9 mm wide, flat or plicate, margins and ribs scabrid; inflorescence of 1 terminal panicle and 2–3 lateral panicles occurring singly at nodes on long flexuous hairy peduncles; male spikelets dark reddish-black, 3–6 mm long on pedicels of the same length or a little shorter; female spikelets 7–8 mm long with glumes straw-coloured with or without reddish streaks; nutlet globose, c. 3 × 3 mm, deeply lacunose-tessellate with ferruginous short hairs.

Dry swamp edges; savannas with temporarily foul soil; seasonal or permanently swampy areas in grassland; ? – 1000 – 1400 m alt. Note: In Fl. Eth. & Eritrea 1: 267, 2009, there is the correction of the collection number Schweinfurth 2560, which is a misinterpretation of the written number. The correct number is Schweinfurth 2500.

**S. globonux** sensu Nelmes in Kew Bull. 11: 105, 1956, is partly *S. tesselata* var. *phaeocarpa*.

Distinguished from *S. parvula* by the larger male spikelets and larger nutlet. Differs from *S. foliosa* by the nutlet surface.

(S. *glomerulata* (Oliv.) – See under *S. distans* var. *glomerulata* (Oliv.) Lye above.

**S. goossensii** De Wild. – Icon.: De Wilde in Rev. Zool. Bot. Africaines 14 (Suppl. Bot.): fig. 4, 1926; Piéart (1953): 35–36 (text), pl. 1/25 (nutlet); Fl. Gabon 44, Cyper.: 205, 2012 (nutlet). Perennial tufted herb with short rhizome; culms 1.3–2 m long, c. 5 mm 2, trigonous, glabrous or slightly hairy; leaves numerous, the lower bladeless; blade 20–40 cm long, 5–8 mm wide, flat or inrolled, densely hairy at least beneath; inflorescence of 1 terminal and 4–8 lateral panicles, 4–15 cm long, 2–4 cm wide; peduncles stout, erect, 0–8 cm long; male spikelets c. 6 mm long, brown, greenish or violet-brown; androgynous spikelets 4–6 mm long; female spikelets rare; nutlet globose, c. 2.5 × 2 mm, whitish, warty. Inundated places; swampy areas in forest; often along rivers; floodforested areas; in dry ground plants becoming liana-like; c. 300–500 m alt.


Annual, entirely glabrous, very slender inconspicuous herb 25–76 cm tall; culms 25–76 cm tall, 0.5 mm 2; leaves 1–2 mm wide; iniflorescence with lateral panicles 1–2 at each node, few-flowered; peduncles filiform, pendulous; male spikelets straw-coloured, 3–4 mm long, pedicels to 4 mm long; female glumes tinged with red; nutlet ellipsoid, c. 3 × 2 mm, smooth, glabrous, whitish-grey. Boggy grassland; seasonally damp places; sands temporarily foul; ? – 900 m alt.

The synonym, *S. retroserata* was described from N Brazil.

**S. greigifolia** (Ridl.) C. B. Clarke; Rendle, Cat. Welwitsch’s Afric. pl. 2/1: 132, 1899 (as *Acriulus greigifolius*); Renier, Fl.
SCLERIA GREIGIFOLIA


**bas.:** Acriulus greigifolius Ridl.

**syn.:** A. madagascariensis Ridl. 1883, non Scleria madagascariensis Boeckeler 1884; A. titan C. B. Clarke; Scleria acriulus C. B. Clarke, incl. fa. leopoldiana C. B. Clarke ex De Wild. (specim. Gillet 2818); S. friesi Kük.

Densely tufted perennial herb forming clumps 0.9–1.5 m tall, with long creeping rhizome 0.6–1 cm Ø, loosely covered with brownish lanceolate scales; culms triangular, 2–6 mm Ø, glabrous but scabrid on angles, base swollen, surrounded by persistent brownish lanceolate scales; culms 1–2 m tall with red roots; culms 0.5–1 mm Ø; leaves many, stiff, close but scabrid on angles, base swollen, surrounded by persistent brownish lanceolate scales; culms triangular, 2–6 mm Ø, with long creeping rhizome 0.5–1 m; roots black or less often pale brown; 5–10 sessile glomerules, pedicels to 1.5 cm long; or more rarely a few spreading or reflexed lateral branches 2–4 cm long, each with 2–4–7 sessile glomerules; spikelets 3–6 mm long; glumes with dense spreading black or less often pale hairs; nutlet ± globose, c. 1.5–2 mm, surface rugose-trubeculate to muricate on a paler ground.

Damp grassland; shallow (swampy) pools on rocks; grassy meadows on black cracking soil; weed in cultivation; grassland bordering forest; 30–215 m alt.

Madagascar.

(S. hirtella Sw. 1788)

**syn.:** Carex hirtella (Sw.) J. F. Gmel.; Hypoporum hirtellum (Sw.) Nees; Scleria distans auct. mult., non Poir.; etc.

**Annual** tufted herb, 20–40 cm tall; inflorescence terminal, glomerate-spicate, to 10 cm long; glomerules 5–10, sessile, erect; spikelets 3–4 mm long, few-flowered.

This American species was often confused with Scleria distans Poir. The history of this misinterpretation is given by Bauters & al. (2019): 25–26. We cite: “The first traceable misinterpretation … was made by Boeckeler [Linnaea 38: 439, 1874] who described Scleria hirtella Sw. as a perennial species with an elongated rhizome.” Britton, in his revision of the N. American species (1885: 235), made the same mistake. “They both confused Scleria distans and S. hirtella. Britton (1885) also placed Scleria distans Poir. and Scleria mutans Willd. ex Kunth as synonyms under Scleria hirtella Sw. and wrongly based his assumption about this species on Boeckeler’s … account. The wrong interpretation was further spread by Clarke … who also described this species as a rhizomatous perennial with reflexed glomerules”. Robinson (Kirkia: 176–179, 1964) solved the question adequately. Further notes were given by Raynal (Adansonia 16: 214–216, 1976).


**bas.:** S. hispidula Hochst. ex A. Rich. var. hispidior C. B. Clarke Annual herb 2–21 cm tall with red roots; culms 0.5–1 mm Ø; leaf sheaths green or brown; blades 4–15 cm long, 1–3.5 mm, densely hairy; inflorescence spike or a narrow panicle 1–7 cm long, 1–6 cm wide with 2–9 sessile or shortly pedunculate glomerules, peduncles to 1.5 cm long. This species was further spread by Clarke … who also described this species as in Diplacrum africanum but nutlet longitudinally striate


Loosely tufted annual herb 30–60 cm tall with red roots; culms 1–3 cm Ø; leaf sheaths glabrous; blades to 30 cm long, 4–8 mm wide, slightly scabrid on margins and midrib towards apex; inflorescence of 1 terminal and 2–4 lateral panicles, single or in pairs at each node; peduncles stout, erect, and when in pairs very unequal; male spikelets light brown, 4–6 mm long, pedicels 1–5 mm long; female glumes pale with reddish streaks or patches, 5–6 mm long; nutlet whitish, ± smooth to slightly wrinkled or pitted, glabrous.

Grassland on black cracking soil; weed in cultivation; grassland bordering forest; 30–215 m alt. Madagascar.
so; awn of bracteole with reddish bristles; nutlet greyish-white, ± glabrose, c. 1.2 × 1.2 mm, finely reticulate.

Seasonally damp grassland; calcareous soils; sometimes closely associated with *S. calcicola*; apparently common around Lusaka (Zambia); black cotton soil; open woodland; 1050–2600 m alt.


syn.: *S. ovuligera* Rech. ex Nees 1834, not validly publ., non *Nees ex Boeckeler* 1874 (= *S. naumanniana*); *S. angolensis* Turrill; *S. davigueaudii* Piérart


**SCLERIA HISPIDULA**


Perennial herb 0.6–2.1 m tall; culms bases swollen to 5–8 mm forming an irregularly shaped knot, rarely culms in a straight line; culms 2–5 mm Ø, ± glabrous below, hairy and usually with sharp scabrid angles; leaves 30–60 cm long, 5–8 mm wide, scabrid on margins and ribs, sparsely to densely hairy beneath; sheaths hairy, scabrid on angles; inflorescence of a terminal and 2–3 lateral panicles placed singly at nodes, 3–7 cm long, 1.5–4 cm wide, on stiffly erect peduncles shortly exserted from the sheaths, to 3 cm long; male spikelets 4–5 mm long, glumes straw-coloured with dark reddish-brown sides, hairy particularly on margins; female spikelets 5–7 mm long, glumes dark reddish-brown with midrib and area near it straw-coloured or greenish, hairy on margin and midrib; nutlet whitish below, violet to blackish-blue above, ovoid, 3–4 × 2.5–3 mm, smooth.

Rain-forest; gallery forest; secondary rain-forest; dense or open woodland; grassland; boggy areas; river and lake banks, waterfalls; shady places along streams; edge of relict patches of evergreen forest (*“mushitu”*); open forest with *Guertnera paniculata*; shady side of waterhole; grassy hill-slope; damp places on forest edge; woodland, sandy loam; 400–1200 m alt. – Sometimes struggling among shrubs.

The specific epithet refers to the bluish upper part of the nutlet. "Piérart [1953] included this species in *S. naumanniana*; to me the two are clearly distinct from each other”. The two are sometimes confused. “Specimens of *S. barteri* which lack achenes and entire stems are hard to distinguish from *S. iostephana*” (Robinson 1966: l.c.).

(S. kindtiana) Graebn. – See under *S. erythrorrhiza* Ridl. above.


syn.: *S. aquatica* Chern.

Annual (probably), entirely glabrous herb with many adventitious roots at lower nodes where submerged in water; culms partly hollow, 0.6–1.8 m long, 0.4–1.2 cm Ø; leaf blades to 60 cm long, 1.2–2 cm wide, shiny, strongly scabrid on margins and major veins; inflorescence to 1 m long, of 1 terminal and 1–2 lateral panicles, the latter rising singly in the axils of leafy bracts; spikelets 4–6 mm long, mostly androgynous or male, but sometimes some female ones; female glumes apiculate or aristate, dark reddish-brown; nutlet ovoid, c. 3 × 2 mm, smooth.

Deep (>1 m) or shallow water at edges of swamps and lakes, with *Tristemma incompletum*, *Indigofera capitata*, *Sauvagesia erecta*, *Mimoso pigra*, *Clappertonia ficifolia* (Piérart fide Gilbert); 0–1140 m alt.

Botswana; Madagascar; tropical America from S USA (Florida), C. America, West Indies (Acevedo-Rodríguez & Strong, Cat. seed pl. West Indies: 296, 2012), S. America to Paraguay. – In Florida, introduced (Naczi & Ford, l.c.) “it can be locally abundant and dominant in water up to 1 m deep, forming dense stands and

**SCLERIA IOSTEPHANA**


This plant is “only known from Central and South America and is generally larger in habit [than *S. tricholepis*] and also lacks the translucent tissue covering the nutlet and the stipe”, “no true *S. interrupta* from the African continent has been observed” (Bauters & al., l.c.).

The African material usually named *S. interrupta* or *S. hirtella* (auct. non Sw.), is another species, i.e. *S. tricholepis* Nelmes that he described in *Kew Bull.* 10/3: 447, 1955. See under *S. tricholepis* below.

SCLERIA LACUSTRIS

displacing native vegetation … S. lacustris seems to require recession of standing water in order to become established”.

“The hypothetical origin of S. lacustris is in Africa” (Tremetsberger & al. in Edin. J. Bot. 76: 207, 2019).


syn.: S. mortiziana Boeckeler; S. canaliculotriguetra Boeckeler, incl. var. clarkeana Piéart, but excl. var. adpressohirta Kük. (= S. adpressohirta); S. djurensis Boeckeler, S. cervina Ridl.; S. mayottensis C. B. Clarke; S. vandervystii De Wild.

Perennial rhizomatous herb 0.5–1.8 m tall, but a true rhizome lacking; roots becoming tuberous at 3–10 cm distance from culm bases; culm bases swollen, to 5 mm ∅, forming a ± shapeless knotty mass, sometimes extended into a ± straight root; culms 2–3 mm ∅, scarbid; lower leaf sheaths purplish, bladeless; blades 20–50 cm long, 5–12 mm wide, usually sharply scarbid on margins and ribs, otherwise glabrous or hairy at base and on winged sheaths; inflorescence of 1 terminal and 3–6 lateral panicles 3–12 cm long, rarely all single but mostly 2–3 to each node on erect or pendulous, glabrous or scarbid peduncles to 6 cm long; male spikelets 5–6 mm long, glumes straw-coloured, sessile or nearly so; female spikelets 6–7 mm long, glumes straw-coloured or green, often strongly speckled with deep reddish-brown, midrib green; nutlet ± ovoid, 2.7–4.2 × 2–2.5 mm, smooth or faintly striate-lacunose, hairy towards base.

Shrubby savanna; Terminalia, Combretum, Uapaca woodland; forest edge grassland; Hyparrhenia savanna; humвид grounds; esobe with Imperata; palm-grove; marshy and spongy places; damp grassland usually seasonally waterlogged; sometimes under light shade; savanna, in soil periodically very wet and very dry; 0–1900 m alt. – Mullenders described the association Scleria vandervystii, Hyparrhenia rufa (Bull. Agric. Congo Belge 401/1: 511, 1949).

Variable species. S. canaliculatotriguetra var. adpressohirta Kük. is perhaps a “well marked variety under S. lagoensis” (See under that species above).

Annobón; Swaziland; Madagascar, Comoros; tropical S. America.


Glabrous perennial herb to 1 m tall; culm bases 3–4 mm ∅, packed together to form a caespitose or ± straight row; culms weakly erect or semi-prostrate, 1 mm ∅, branched at several nodes; leaves 0.5–2 mm wide, glabrous, sparsely hairy or with spreading dense hairs on midrib and margin; inflorescence to 50 cm long with 1 terminal and several lateral panicles, usually singly at nodes on slender peduncles exerted to 8 cm from leaf sheaths; panicles spicate or very shortly branched near the base; spikelets 6–9 mm long, all unisexual (females always contain an aborted male flower); glumes straw-coloured, reddish-brown or pale vinaceous; nutlet dark coloured with raised parts of surface lighter, c. 2 × 1 mm, minutely transversely rugulose, papillate.

Perennially wet bogs, where the plant may form dense masses of semiprostrate vegetation dominating large areas; often growing with S. bequaertii, S. procumbens, these plants also with weakly erect habit and branched stems; 900–2150 m alt.

According to Fl. Trop. E. Afr., Cyper.: 407, 2010, there is doubt about the collection Milne-Redhead & Taylor 8944 from S Tanzania, Songea Dist. It has distinct close bulbous stem bases, but the nutlet is smooth and shining. It had previously been determined as S. bequaertii var. levis. Its taxonomic status is uncertain; more material is needed.


Annual tufted herb; culms erect, 12–26 cm long, 0.3–0.5 mm ∅, glabrous or very sparsely hairy (tiny white hairs); leaf blades to 10 cm long, equal to or longer than inflorescence, long white hairy on main nerves above, not hairy beneath, sometimes margins hairy; lower sheaths reddish-brown, upper ones pale green; inflorescence terminal, glomerate-spicate, 4–7.5 cm long, unbranched; glomerules 4–7, c. 1 per cm, each with 2–5 spikelets; these 2.5–4 mm long, androgyrous; flowers all unisexual; nutlet ± globose, c. 1 × 1 mm, surface trabeculate, young nutlets strongly reticulate.

Savanna; woodland on very shallow soils and bare rock; seeping slope of rocks and short grasses and sedges; edge of low swampy forest; near sea-level–900 m alt.

Confused with the American S. interrupta.


bas.: Scirpus lithuspermus L.

syn.: Schoenus lithospermus (L.) L.; Carex lithosperma (L.) L.; Hypoporum lithospernum (L.) Nees; Scleria lithosperma (L.) Sw. subsp. lithosperma T. Koyama; S. lithosperma var. filiformis (Sw.) Britton; S. filiformis Sw. (See note on this name in Bauters & al. 2019: 29); S. puzzolanea K. Schum.; further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Often rather hairy perennial herb 30–90 cm tall, with short rhizome; culms 1–2.5 mm ∅, minutely scabrid, bases sometimes slightly swollen and forming a ± caespitose mass; lower leaf sheaths brown, upper green; blades to 10–35 cm long, 1–5 mm
SCLERIA LITHOSPERMA

wide, scabrid on margin at least near tip, otherwise glabrous or hairy; inflorescence of 1 terminal and 2–3 lateral panicles the latter arising singly from leafy bracts with cluster of 1–3 spikelets, each 4–5 mm long, green or brownish, all androgynous; glumes straw-coloured to pale green or light brown, female often with green midrib, 3–5 mm long, scabrid at least on midrib and margins; nutlet ± ovoid, c. 2.5–1.5 mm, smooth.

Shady and open places in evergreen forest; forest and plantation occurs in tropical Asia and N Australia (Queensland). *S. bambariensis* Near *S. sphaerocarpa* are a striking feature of the plant in the field.

SCLERIA LUCENTINIGRANICS


syn.: *S. melanoccephala* Drège; *S. macrantha* Boeckeler 1879, nom. illeg., non Boeckeler 1858; *S. centralis* Cherm.; *S. longigluma* Kük.; *S. tisserantii* Cherm.

Tussock-forming evergreen perennial herb, 0.6–2.4 m tall from a rhizome 4–6 mm ∅; culms to 1 cm ∅, glabrous, but angles minutely to strongly scabrid; lower leaf sheaths reddish with or without very short densely hairy blades; inflorescence of 1 terminal and 5–9 lateral often drooping lanceolate panicles 2–10 cm long, 1–3 cm wide, borne singly or 2–3 at nodes on pendulous peduncles exserted to 30 cm from sheaths; male spikelets 0.8–1.3 cm long, ± sessile; glumes straw-coloured with usually dark reddish-brown margins and green scabrid midrib; females similar with glumes 1–1.2 cm long, midrib hispidulous or hairy; nutlet white, shining, like alabaster, ovoid, c. 4–5 × 3 mm, smooth, glabrous.

On laterite near water holes; wet alluvium; in relict *Syzygium* evergreen riverine forest, in shade; bog in very thick grass and bushes; swamp or marshy grassland; river and lake edges; permanently wet swamps; ricefields; *Raphia* formations; fallow sides; sometimes in large floating formations; cataracts of streams; 100–1800 m alt.

Variable species.

S. Africa, Botswana, Swaziland; Madagascar; N S. America S-wards to Argentina.


syn.: *S. grata* Nelmes; *Aegopogon gracile* Peter, nom. nud.

Annual hairy herb 6–60 cm tall; culms erect, 0.5–1.5 mm ∅, reddish at base; lower leaf sheaths brown, upper green; blades to 30 cm long, 1–3 mm wide, densely hairy; inflorescence spike, rarely slightly branched in lower part, 3–20 cm long, with
SCLERIA MELANOTRICA

4–15 sessile or very shortly stalked spreading or usually reflexed glomerules of 1–12 dark spikelets, these 5–19 mm long; glumes pale green or reddish, 4–7 mm long, with dense brown or black hairs and prominently anned; nutlet ± ovoid, c. 1 × 0,8 mm, tumberculate or trabeculate.

Rocky outcrop with wet flushes and thin soil with Selaginella njamnijamensis, Aeollanthus spp., Aloe sp. and many annuals; seasonally or permanently damp grassland; granitic rocks in wooded savanna; in lateritic gravels at edge of exposed rock; shallow soils; often in seeage zones; dry grassland; stream sides in savanna; saturated soils of river-bank; open wet sand; iron ore quarry; 7–2000 m alt. – The “new phytosociological order, the Sclerio melanotrichae – Habenarietalia procerae” was described by Parmentier & Müller in Phytocoenologia 36: 573, 2006. This community has a height of 1 m (o.c.: 581), it is characteristic of grasslands and herbaceous fringes on inselbergs in Atlantic central Africa (Ivory Coast to Ghana). – This S. melanotricha is probably identical to S. mongomensis Bauters (See that species below).


syn.: S. glabroreticulata De Wild.

Annual loosely to densely tufted rather stiff herb 0,3–2 m tall; culms 2–3 mm Ø; lower leaf sheaths purplish, blade-less; blades to 20 cm long, 3,7 mm wide, glabrous; inflorescence of 1 terminal panicle and 2–3 laterals borne singly at nodes, 2–5 cm long, 1–2 cm wide, peduncles erect and not much exserted from sheaths; male spikelets usually pale chestnut, 3–6 mm long, with dark reddish pedicels 4–14 cm long; glumes straw-coloured, glabrous, midrib green; nutlet white to grey or pale brown with dark reddish pedicels 4

Annual centudden herb, rooting on the creeping stem; culms 20–90 cm long, 0,5–1,2 mm Ø, densely white-hairy; leaf blades to 20 cm long, 1,5–3,5 mm wide, densely hairy; sheaths purplish, long white-hairy; inflorescence terminal, simple, glomerate-spicate, to 12 cm long; glomerules 4–7, each with 2–5 spikelets; glomerule bract to 6 mm long, with awn 3 mm long and white-hairy; spikelets androgyrous, 3–5,5 mm long; glumes densely hairy; often with blackish hairs; flowers unisexual; nutlet ± globose, c. 1,5 × 1,4 mm, greyish, tumberculate-trabeculate.

SCLERIA MONGOMOENSIS

Granite inselberg, rock pool edge with ephemeral flush vegetation; 660 m alt.

Easily confused with S. melanotricha (plants collected under that name).


Annual (probably) herb, without rhizome, solitary or tufted; culms erect, 30–60 cm tall, glabrous, trigonous; leaf sheaths glabrous or slightly pilose; blades 1–2 mm wide, glabrous, basal blade reduced; inflorescence simple, glomerate-spicate, 3–5,5 cm long, with 3–7 glomerules; these erect or spreading, to 1 cm long, each with 2–10 spikelets each 4–7 mm long; glumes glabrous, male 3–4 mm long; nutlet obovoid, 1,1–1,8 × 1,4 mm, surface tumberculate.

Grassland; on shallow soil over doleritic rocks; 1725– c. 1900 m alt.


S. ovuligera Nees, nom., ex Boeckeler (descr.) 1874, nom. illeg., non Recb. ex Nees 1834, not validly publ.; S. flagellum Bentham. 1849, nom. illeg., non (J. F. Gmel.) Sw. 1797 nec Griseb. 1864; S. buettneri Boeckeler Perennial herb with very short rhizome c. 3 mm Ø; culms with base somewhat thickened, 0,6 – near 2 m long, 2–4 mm Ø, glabrous, smooth below and sometimes throughout, but often pubescent above on the sides, hispidulous or scabridulous on the acute angles; leaves spaced throughout the culm, shorter to somewhat longer than culms, 0,5–1 cm wide, glabrous or sometimes ± villous beneath, basal ones reduced to almost bladeless sheaths; sheaths often purplish or vinaceous, very sparsely to densely villous; panicles 3–5, single at nodes, 3–8 × 1–7 cm, loose to rather dense, branches slightly to patently spreading, terminal sessile, laterals on peduncles scarcely exserted from sheaths; male spikelets 3–4 mm long; female glumes 2,5–3 mm long, acuminate, glabrous, pale, sometimes streaked light reddish with a reddish-black upper margin, or palish only at base and centre, otherwise reddish-black; nutlet ovoid, 2–3 × 2–2,5 mm, white, smooth.

Edge of marsh, moist bush paths; stony ground; deep water swamp; thicket; coconut plantation; along paths in Dialium forest; secondary forest near stream; dam rocks; river valley; sand dunes; near mangrove swamp; often under shade; ferruginous hollow; rice-field in fallow; forest clearing; 0–950 m alt.


**SYNONYM:** *S. schmitzii* Piérart

Perennial herb; rhizome horizontally creeping, 3–7 cm long, covering red scabrid on margin and veins; sheaths hairy; inflorescences short, largely terminal; panicles 4–6 cm long, glomerate-spicate; male spikelets 2–2.5 mm long, male flowers 3–4 × 2.5 mm, smooth, glabrous, blue at tip, strongly beaked. Rainforest; rock faces and outcrops in *Berberis holstii*, *Hypericum* association; sometimes occasional; grassy roadsides in evergreen forest; c. 1000–1850 m alt.


Annual, delicate, brittle, decumbent herb, single-stemmed or in tufts; culms 10–30 cm tall, 0.5–1 mm Ø, triangular, glabrous; leaves tristichous, 5–35 cm long, 1–3 mm wide, glabrous; sheaths glabrous, reddish-brown; inflorescence terminal, 3–10 cm long, glomerate-spicate, always branching, branches to 10 cm long; glemorales to 20, erect, each with 2–6 spikelets; these 2–4 mm long, androgynous; flowers unisexual; nutlet ± globose, c. 1 × 0.8 mm, with many gland-like tubercles c. 0.95 mm Ø, with a small rim of tuberculate cells at base (the specific epithet refers to the many glands all over the nutlet surface; unique feature in the genus).

Small wet shady ledges and seepage areas on large rocky sandstone outcrops; c. 1550 m alt. Near *S. pergracilis* but this species is always taller (20–95 cm), and not brittle and delicate. Superficially resembling *S. pulchella*, a small herb to c. 12 cm tall and small spikelets (<2.5 mm), from Angola.


Annual herb with simple culms or occasionally branched near base, 26–75 cm tall, 0.5–1 mm Ø, glabrous, triquetrous; leaf blades erect, 10–35 cm long, 2–5 mm wide, flat or slightly folded, sparsely hairy on nerves; sheaths glabrous or sparsely villous, purplish; inflorescence a terminal panicle and 1–2 (5) lateral, these 2–4 cm long, 1–3 at each node on flexuous peduncles 1–4 cm long; male spikelets 2.5–3 mm long, light green to brown-red on peduncles 1–3 mm long; females light green to dark brown, 4–6 mm long; nutlet ovoid, c. 2 × 1.7 mm, distinctly tessellate-lacunose. Ricefields; seasonally flooded grassland; swampy stream banks; 100–2100 m alt.

Tropical and subtropical Old World; from India, Sri Lanka, Nepal, Thailand, Vietnam, Korea, E-wards to SE China, New Guinea, Japan, Philippines. – Not in tropical America. Readily confused with *S. bambaraensis*, but the nutlets and especially the hypogynia of the two species are sufficiently distinctive (cf. Fl. Trop. E. Afr., l.c.).

**S. patula** E. A. Rob., Kirkia 2: 186–188, 1961; Lock in Kew Bull. 70/4: § 46: 2, 2015. – Icon.: Robinson in Kew Bull. 18: 529, 1966. Annual herb; culms 3–25 cm tall, spreading; true leaves very few, blades often short, 1–2 mm wide, glabrous; bracts well developed, often exceeding the culm; inflorescence: lateral panicles single at nodes, on erect peduncles little exserted from sheaths; male spikelets c. 2 mm long, stramineous or pale reddish, on
SCLERIA PATULA
pedicels 1.5–3 mm long; female glumes glabrous; nutlets not
more than 2 mm long, including the hypogynium, c. 1.3 mm
wide, lanucose-tessellate, hairy or glabrous.
Seasonally damp places; 135–1400 m alt.
Similar to S. parvula, S. bamberiensis.

Lock in Kew Bull. 70: 4; § 46: 2, 2015. – Icon.: Robinson in Kew
Bull. 18: 509, 1966; Haines & Lye, Sedges & rushes E. Afr.: 335,
syn.: S. paupercula Napper, J. E. Africa Nat. Hist. Soc. 24: 31,
1964, English descr. only.
Perennial, nearly glabrous herb 20–50 cm tall; rhizome long,
creeping (woody when dry), 2–3 mm Ø; culms erect close
to or to 1 cm apart, 0.5–1 mm Ø; leaf sheaths slightly hairy; blades
< 1 mm wide, margins incurved; inflorescence spicate or shortly
branched, 1.5–6 cm long, with glomerules of 2–6 spikelets; these
3–4 mm long; glumes dark brown, sometimes slightly hairy; nutlet
irregularly ovoid-globose, c. 1.3 × 0.8 mm, smooth.
Boggy grassland, plant dominant between tussocks of grass-
es and sedges; perennially wet bogs (plant locally dominant);
1350–1500 m alt.

(with fig. and text p. 15); Phytotaxa 394: 31 (nutlet), 33 (text),
2019.
Annual, slightly decumbent or scrambling, loosely tufted
herb; culms 35–50 cm long, 0.4–5 mm Ø; leaves tristichous, to
17 cm long, 1.5–3.5 mm wide, glabrous; sheaths glabrous,
reddish-purplish; inflorescence terminal, glomerulate-spicate,
to 10 cm long, unbranched; glomerules stalked, sometimes
forming branches 2.5 mm long; glomerules 3–7, each with 3–4
pedicellate (to 2.5 mm long), reflexed spikelets; these (sub-)
androgynous, 4–5 mm long; glumes glabrous; nutlet globose;
1.2–1.5 × 1–1.3 mm, trabeculate.
Rocky plateau with dry to humid prairies (grassland), in inselberg
area; 461–686 m alt.

S. peragraclesis (Nees) Kunth, incl. var. major Cherm. and var.
brachystachys Nelmes (See below); Nelmes in Kew Bull. 10:
445–446, 1955; Robinson in Kew Bull. 18: 494–495, 1966;
Simpson & Inglis in Kew Bull. 56: 342, 2001; Prasad & Singh,
Sedges Karnataka (India): 322–323, 2002; Chatelain & al.,
Cartes distrib. pl. Côte d’Ivoire: 228, 2011; Thiomibano & al.,
Pl. vascul. Burkina Faso: 58, 2012 (map by Schmidt & al. in
Phytotaxa 304: 184, 2017); Dybryshire & al., Pl. Sudan & S.
Sudan: 116, 2015. – Icon.: Clarke, Ill. Cyper.: pl. 121/1–5, 1909;
Pézart (1953): pl. 4/1–2, (nutlet), 201 (text); Haines & Lye, Sedges
R. Afr.: 342, 1983; Berhaut, Fl. ill. Sénégal 9: 340, 1988; Gordon-Gray,
Clarke & Mannheimer, Cyper. Namibia: 64, 1999; Fl. Trop. E.
Afr., Cyper.: 396, 2010; Bauters & al. in Phytotaxa 227: 47–48
(text), 51 (nutlet), 2015; Fascicles Flora of India 27: 66, 2016;
Bauters & al. (2019): 31 (nutlet), 33–34 (text, 2 vars.); César
bas.: Hypoporum peragraclesis Nees
syn.: Scleria salebrosa Spreng. ex Boeckeler, 1894, nom. nud.
in syn.; S. salebrosa Boeckeler ex C. B. Clarke; S. ustulata
Ridl.
Tufted annual herb 15–95 cm tall, entirely glabrous save leaf
sheaths sometimes sparsely hairy; culms slender; leaves 1–2 mm
wide; inflorescence simply spicate or very shortly branched near

SCLERIA PERGRACILIS
base, 2–18 cm long, with many (6–18) erect or spreading glomer-
ules of 1–5 spikelets (sometimes crowded), each 4–5 mm long,
dark red; glumes pale brown to dark reddish black, paler at base
and midrib, pale green in female, 3–5 mm long, acuminate; nutlet
± globose, 1.2 × 1–1.7 mm, tuberculate and with 3 smooth bands.
Common in a dense community, with Pycreus sulcicus, Bulbostylis
hispidula, Ascolepis protea, on slope only just dry after 5 weeks’
drought; seasonally or permanently damp grassland; seepage zones
in woodland; acid and neutral soils; with Drosera indica in damp
woods where Andropogon grows or river banks; in hollows on
rocks; e. 0–2000 m alt.
S. Africa; SE Asia, from Bangladesh, Nepal, India, Sri Lanka,
Thailand, E-wards to S China, New Guinea, Philippines, N
Australia (Queensland).
Bauters & al. (2019) distinguish 2 vars. – var. peragraclesis, a large
plant 20–95 cm long, with long inflorescences 5–13 cm of 5–30
glomerules which are clearly separated; – var. brachystachys
Nelmes, a shorter plant 15–35 cm long, with short inflorescences
2–6 cm long of 6–18 contracted glomerules (not clearly separated
from each other); it replaces the typical variety in E Africa and
Zambesian area. – However, many intermediates occur in many
parts of C. & W. Africa.

S. poiformis (“poaeformis”) Retz., non S. pooides Ridl.; C. E.
110–111, 1956; Robinson in Kew Bull. 18: 547, 1966; Simpson
& Inglis in Kew Bull. 56: 342, 2001; Prasad & Singh, Sedges
Karnataka (India): 323–324, 2002; Nacci & Ford, Sedges: Uses:
6, 2008; Fl. Trop. E. Afr., Cyper.: 412, 2010; Tremetsberger & al.
185, 1995 (nutlet); Cook, Aquat. & wetland pl. south. Africa: 121,
2004; Fl. China 23, Ill.: 357, 2012; Fascicles Flora of India 27: 77,
pl. 9/L (nutlet), 2015; Bauters & al. in Taxon 65: 456, 2016 (nutlet).
syn.: S. oryzoides J. Presl & C. Presl; S. corticea G. Bertol.
1854, nom. illeg., non Liebm. 1851; S. bertoloni M.
Martens; Carex poiformis (Retz.) J. F. Gmel. – S. pse-
dosorhagm K. Schum. ex Engl. is perhaps a synonym
(See under that name at end of Scleria).
Perennial robust, evergreen, conspicuous, handsome aquatic herb
1.2–2.1 m tall; rhizome creeping, 0.5–1 cm Ø; culms 3-angled,
smooth or scabrid on angles at top, 0.3–2 cm Ø, rooting from
submerged nodes; leaves mostly basal, 1–3 on stem, tough, 1–4 cm
wide, glabrous but margins (saw-edged) and veins scabrid, tip
cucullate; lower sheaths spongy, purplish red; inflorescence of
1 terminal ellipsoid panicle 10–20 cm long, 5–12 cm wide, with
compound branches bearing very many spikelets, at base with
a small bract, very rarely with a lateral panicle from the axil of a
leafy bract, ultimate branches obliquely erect, spiciform; spikelets
solitary, sessile, evenly distributed along the spiciform branches,
usually unisexual; male spikelets numerous, lanceolate, 3–5 mm
long; female spikelets few, mostly at base of the branches, obvoid,
3–5 mm long; nutlet ± globose, 2.5–3 × 2–3 mm, smooth, glab-
rous, shining white.
Shallow freshwater lakes, in water 30–40 cm deep; may be locally
dominant; in almost pure stands in open habitats in coastal areas;
freshwater swamps; swampy savanna forest; ricefields; ditches;
tolerating brackish water; 25–50 m alt.
S. Africa; Madagascar; tropical Asia: India, Sri Lanka, Thailand,
Vietnam, E-wards to Malesia, S. China, New Guinea, Philippines;
Australia (Queensland). Perhaps spread from Africa to Asia –
Australia (Tremetsberger & al., l.c.).
**SCLERIA POIFORMIS**

The specific epithet refers to the general appearance of a grass-like *Sorghum* or *Poa*.


Perennial stoloniferous herb producing 2–4 stolons each year, stolons c. 1 mm 2, covered with dark-striate scales; culms to 65 cm long, c. 1 mm 2, at base, glabrous or sparsely hairy, trigono-ous; leaves often longer than culms, 0.5–1.5 mm wide, glabrous beneath, sparsely hairy above; inflorescence glomerate-spicate, 4–6.5 cm long, always branched, nodding at maturity; branches to 2.5 cm long, bearing 1–2 glomerules, each with 1–6 spikelets; these androgynous and male, 4–5 mm long; glumes glabrous, brown, females broadly ovate, awned, males ovate-lanceolate; nutlet ± ovoid, c. 1.2–1.5 × 1 mm, lightly and indistinctly papillose or striate.

More or less permanently wet bogs; with *S. flexuosa*, or with *S. glabra* and *S. pergracilis*.

Very close to *S. woodii* but differs from it in its root system (plant producing 2–4 slender rhizomes simultaneously not producing a single rhizome each year); also, *S. polyrrhiza* has regularly narrower leaf blades and a more delicate inflorescence. Also very close to *S. hilsenbergii* Ridl. from Madagascar.


Perennial glabrous tufted grass-like (like a *Sporobolus* or *Eragrostis*) herb 30–80–100 cm tall, rarely with short rhizome c. 1 mm 2; leaves on culm; blades c. 1–2 mm wide; inflorescence a spreading compound panicle 3–20 cm long, branched, branches slender, compound; spikelets axillary and pedicellate, to 170 on one stem, dark red, each 3–5 mm long; glumes ± distinctly arranged, males 2–3 mm long, females 1.5–2 mm, hispidulous; nutlet ± ovoid, c. 1.4–4.0 mm, densely tuberculcated.

Perennially damp grassland and swamps; wet ground; spring in savanna; with *Isotes aquaticus*; sandy-spongy places; marshy meadow; humid stone slab; locally dominant; 450–1750 m alt. Madagascar.

“Smells like lemon when rubbed” (Rendle, Cat. Welwitsch’s Afric. pl. 2/1: 134, 1899).

**SCLERIA PORPHYROCARPA**

0.5–1.4 cm wide, shortly and sparsely hairy, margins strongly scarbid; inflorescence a compound panicle to 90 cm long, panicles sometimes corymbose, often broadly pyramidal, lower branchlets patent or reflexed, 1.5–4 cm long, 2–6.5 cm wide, the laterals 2–3 per node; pedunules flattened, 1–1.7 mm wide, scabrid or hairy, ± erect, exerted 2–16 cm from sheaths; spikelets androgynous or male, males 6–7 mm long; glumes of the androgynous ovate, 4–5 mm long, acuminate, keel green, lateral veins purple or brownish-purple; nutlet ovoid, 4.8–6 × 2.7–3.7 mm, glabrous, **brilliant** shining purple, tip acuminate.

Relict patches of evergreen forest, in permanently wet soil, with *Garcinia huillensis*, *Ilex mitis*, *Lasianthus kilimanjarccharsicus*, *Mitragyna stipulosa*, etc.; “In this association *Scleria porphyrocarpa* often forms a dense tangle of erect or trailing rough-edged stems which make progress almost impossible and generally bloody.”

A handsome and remarkable species with its large shining purple nutlets and its very long stems.

Similar to *S. barteri* and its close relative *S. iostephana* that are often found on fringes of such ‘mushitu’ formations “the interior of which may be occupied by *S. porphyrocarpa*” (Robinson, l.c.).


Similar to “*S. bequaertii* and *S. laxiflora* in its weakly erect habit and branched stems. It is also similar to those species in its aromatic stems and leaves, which emphasize the affinity of all three species to the others of the old sect. *Hypoporum*. Furthermore, in *S. procumbens* the androgynous spikelets produce fully formed male flowers, with stamens up to 3 mm long … The hypogynium … is also remarkable. When fresh it is soft, white and spongy … However [it] is often longer than the achene itself, and almost as broad, and being strongly contrasted in colour with the dark grey mature achene it is a striking sight. The degree of hairiness of the stems and leaves … is very variable … This has led to its being mixed in collections with equally variable *S. bequaertii*” (Robinson, l.c.).

Leaves narrower than those of *S. bequaertii*: 1–3 mm wide; sheaths with deflexed hairs; spikelets androgynous, short (5–7 mm long), smooth or more lightly papillose or lacunose…; hypogynium smooth, 1,1–1.4 mm long, longer than nutlet (Bauters 2019: l.c.).

Permanently wet bogs, often with *S. bequaertii*, *S. laxiflora*; may form dense masses of semi-prostrate vegetation which dominate large areas.


Annual loosely tufted herb; culms to 55 cm long, c. 1 mm 2, long white-hairy; leaves tristichous, blade to 25 cm long 1.5–4 mm wide, long white-hairy, mainly on margins; sheaths to 5 cm long, pale green, reddish-brown near base, hairy; inflorescence terminal, glomerate-spicate, to 17 cm long, unbranched; glomerules 4–9, distant, separated 1–3 cm, each with 2–4 spikelets; these 5–6 mm long, strictly androgynous; glumes hairy, especially on midrib, c. 2.5–3.5 mm long, mucronate; nutlet ovoid, c. 2 × 1.4 mm, trabeckulate to reticulate.

Open short woodland with *Terminalia, Syzygium guineense* subsp. *macrocarpum*, etc., on rocky outcrop surrounded by dense *Oxytenanthera* herbs; 1500 m alt.

Known only from the type collected in 1996.

Annual herb; culms to 12,5 cm long, setaceous, hispid; leaves longer than culms, hispidulous, setaceous; inflorescence scifice-plumose, compact with ± confluent, erect or spreading glomerules; spikelets < 2,5 mm long; nutlet globose, 0,7–1 × 0,7–0,9 mm, tuberculate.

Lofty pastures; wet grassland S. pulchella growing with short grasses; 1850–1900 m alt.

A very rare species. Probably endemic in Angola. “Most species collected under the name S. pulchella are specimens of S. suaveolens” (Bauters & al., 2019: l.c.).


 syn.: Ophryoscleria racemosa (Poir.) Nees; Scleria ciliatata Boeckeler; S. palmifolia Ridl. 1884, nom. illeg., non Schltdl. 1845; S. macrocarpa Nees 1842, non Wall. 1831 nec Salzm. ex Boeckeler 1874; S. macrosperma Nees ex Kunth

Perennial herb 1–4 m tall; rhizome creeping, horizontal, ± straight, 4–6 mm Ø, scaly; leaf sheaths and blade margins razor-sharp; culms 4–7 mm Ø, glabrous, triquetrous, angles very sharp, formed by the winged decurrent keels of the leaves; blades c. 60 cm long, 1–3,5 cm wide; inflorescence of 1 terminal panicle and 3–5 lateral panicles, single or double at nodes, elliptic to lanceolate in outline on erect minutely hairy peduncles; male spikelets 5–6 mm long, sessile or nearly so; glumes straw-coloured with reddish-brown dots and dashes, minutely hairy; female spikelets 7–9 mm long, glumes straw-coloured or pale brown with dark reddish marks, minutely hairy on margin and obscure midrib, the whole spikelet falling with fruit; nutlet ovoid, whitish, 4–5 × 4 mm, smooth, glabrous, very hard.

By rivers and in swampy ground in forest; lake shores and swamps; muddy valley bottoms; rocky outcrop with wet flushes and thin soil with Selaginella njannijannensis, Aeonialthus spp., Aloe sp. and many annuals, along small break between rocks; Brachystegia woodland; seepage areas; always in permanently damp ground and usually in partial shade; 0–1750 m alt.

Madagascar, Comoros.


S. racemosa “was recorded from Socotra in Cufod., Enum.: 1488 (1971) on the basis of a statement by Schumann in Engler, Pflanzenw. Ost-Afr. (1895). As the record has not been substantiated it is omitted” from Somalia (Thulin, Fl. Somalia 4: 98, 1995).


 syn.: S. rehmannii var. ornata sensu Berhaut 1967, non Chem.

Perennial herb 0,3–1,5 m tall; rhizome long, straight, woody, 3–4 mm Ø; bearing erect culms 0,5–1,5 cm apart; leaf blades 1–3 mm wide, ± hairy; inflorescence a stiffly erect panicle 4–17 cm long with branches to 7 cm long but sometimes simply spicate with 4–12 sessile glomerules each of 2–6 dark red spikelets each 3,5–5 mm long; nutlet ± ovoid, c. 1,5 × 1 mm, apiculate, generally smooth but sometimes ± papillose or strongly tuberculate in transverse lines.

Seasonally or perennially wet grassland; sandy ground at edge of Brachystegia, Uapaca woodland; forest edge grassland; tolerant of a wide range of conditions (from seasonally wet places which dry out completely to permanently wet bogs; of course the species is variable); seepage area on stony ground; grey clayey sand; sometimes dominant; 450–2100 m alt.

NE Namibia, S. Africa.


 syn.: S. bicolor Nelms

Annual slender tufted herb glabrous or villous; culms 20–45 cm tall, 0,5–1 mm Ø; leaf sheaths glabrous or villous mostly in longitudinal lines; leaf blades c. 1–2 mm wide, the lower ones reduced; inflorescence terminal, glomerate-spicate, unbranched, 5–15 cm long, with 5–15 glomerules; these erect or spreading, clearly separated, each with 1–5 spikelets, each 4–6 mm long; glumes c. 3 mm long, glabrous; nutlet ± globose, c. 2 × 1,6 mm, lacunose or trabeculate, with smooth areas on 3 sides, ± beaked. Dwarf woody meadows; spongy rocky places; growing among mosses with another scirpoid plant.

Known only from Welwitsch’s collections in Angola.


Perennial herb; rhizome formed from a knotty mass of hard fleshy (when fresh) stem-bases each c. 3 mm Ø; culms weakly erect, c. 0,6–1 m tall; leaf blades c. 1–2 mm wide, glabrous or sparse-ly hairy; inflorescence a simple condensed to very lax panicle 9–20 cm long, branches to 6 cm long, glomerules 1–2 cm apart but more crowded towards apex, each with 2–4 spikelets, each 4–5 mm long; axes often with long hairs; glumes reddish-brown to blackish, glabrous or minutely hairy; nutlet ovoid, c. 1,5 × 1 mm, lightly to strongly trabeculate-reticulate, grey with darker stripes.

Perennially wet places in thick grassy vegetation along stream sides; on a rather bare patch of damp burnt ground; 1700–2400 m alt.

With S. hispidior (1100–2600 m) and S. hispidula (1050–2600m) it is one of the few submontane Scleria species in Africa.


Annual slender herb; culms 15–60 cm tall, glabrous, leafy in lower part; leaf sheaths purplish, sparingly pubescent; blades 5–10 cm long, linear, 1 mm wide, glabrous; inflorescence terminal, paniculate, loose, to 20 cm long, copiously branched with branches of the third order; glomerules erect, each with 1–3 spikelets, these 3–4 mm long, acuminate; nutlet ± globose, c. 1 × 1 mm, with transversely elongated tubercles often yellowish-translucent in appearance. Very similar to *S. pooides*, a perennial herb with slender rhizome and spikelets 3.5–5 mm long, obtuse.

Fallows; constantly humid places with thin soil and open vegetation; on very shallow soil overhanging sandstone outcrop in seepage area; seepage areas in rocky places (gneiss, sandstone, laterite); 800–1500 m alt.

Comprises 2 subsp.: – subsp. *robinsoniana*, only known from Rep. of Guinea, Sierra Leone; – subsp. *anacanthocarpa*, with longer spikelets (4–5 mm), bigger nutlet (1.2–1.4 mm) with protruding tubercles; known only from the Central African Republic.

*S. pooides* has a different ecology: grassy swampy savannas with closed and rather high vegetation.


syn.: *S. bulbifera* Hochst. ex A. Rich. var. *hiruta* Peter & Kük., and var. *ferruginea* Peter, *S. thomasi* Piérart

Perennial herb with bulbous rhizome, bulbs firmly attached to each other and not connected by stolons; culms 45–70 cm tall, c. 1 mm Ø; leaves 10–25 cm long, 4–7 mm wide, glabrous; sheath 3–6 cm long; inflorescence a terminal spike 4–9 cm long with 4–9–13 spaced glomerules each with 1–4 spikelets, pedicules 6–11 cm long; male spikelets 5 × 2 mm, blackish; androgynous spikelets similar to the male ones; nutlet ± globose, 1–2 mm long, trigonous, glabrous.

Open woodland and grassland; on all types of soils in the “Flora Zambesiaca” area; copper steppe with low copper content.


Annual erect glabrous herb with purple slender clustered roots; culms erect, 20–30–70 cm tall, trigonous, 0.5–1 mm Ø at base, each bearing 2–6 leaves, sheaths c. 2.5 cm long, glabrous with densely pilose truncate mouth; cauliine leaves narrowly strap-like, 10 × 0.2 cm; inflorescence a terminal open panicle 10–15 cm long, glomerate-spicate, with 4–5 spreading branches 2–4 cm long; glomerules erect each with 1–3–6 spikelets; these androgynous, 5–6 mm long; glabrous; glumes glabrous, 3 mm long, mucronate; nutlet subglobose, 1.4 × 1.2 mm, greyish, trabeculate-tuberculate, the raised parts of the surface yellowish-translucent.

Inselbergs; bare rock in the carpet around *Microdrocaroides* in the semi-deciduous forest belt, in seepage areas; c. 800 m alt.

Only known from 2 collections at the type locality (Mt Minloa, near Yaoundé, Cameroon): J. & A. Raynal, collected in 1963, respectively. Threatened by extraction of granite for construction aggregate; endangered by rapid population growth and urban expansion (Nord. J. Bot. 23: 434, 2005).

For comparison between the 5 related species: *S. glabra*, *S. guineensis*, *S. pooides*, *S. robinsoniana* and *S. sheilae*, See Table in Adansonia, N. S. 7: 245, 1967.


syn.: *S. bulbifera* Hochst. ex A. Rich. var. *hiruta* Peter & Kük., and var. *ferruginea* Peter, *S. thomasi* Piérart

Hairy, loosely to densely tufted perennial herb; rhizome very short, c. 2 mm Ø; culm base thickened; culms 30–75 cm long, 1.5–2 mm Ø, glabrous below, sparingly to densely villous or hispidulous above on main rhachis, trigonous or compressed, angles acute; leaves few at and near base, where they are reduced to bladeless and vinaceous sheaths, with 1–several higher on the culm, below the bracts, longer to shorter than the culms,
Scleria polyyrrhiza
Scleria pooides
Scleria porphyrocarpa
Scleria procumbens
Scleria pseudohispidior
Scleria pulchella
Scleria racemosa
Scleria rehmannii
Scleria remota
Scleria richardsiae
Scleria robinsoniana
Scleria schimperiana
Scleria spiciformis

3–6,5 mm wide, flat, plicate-recutate, glabrous to densely villous; inflorescence of 2–3 panicles, single at nodes, 1–4 cm long, 1–2 cm wide, terminal the largest and sessile, lateral ones from approximate to distantly spaced; male spikelets recurved, obliquely spreading, 7–9 mm long; female ones 6–8 mm long of 3 glumes, hispidulous at least above, villous or ciliate on margins and midrib, reddish or vinaceous above, pale below; nutlet (oblong-jovoid, 2–4 mm long, glabrous, distinctly and closely longitudinally costate, but warty at tip.

Open rock and inselberg in seepage areas; dry places on slopes; sandy marsh; humid savanna; grassy swampy formations on sand; iron ore cliffs; old mine site; common on dry open surfaces (Mesterházy, l.c.); temporary pool; 7–1600 m alt.


syn.: S. pulchella sensu auct. mult., non Ridl. (cf. references above).

Annual tufted herb; culms 8–117, 2015 cm tall, c. 0,5 mm Ø, glabrous; leaves c. 1 mm wide, glabrous, lower ones reduced to ± bladeless sheaths; sheaths sparingly villous to glabrous; inflorescence with a main axis 3–4 cm long, shortly branched and contracted so that glomerules become confluent (not clearly separated); glomerules erect or spreading, with 2–3 spikelets; these c. 3 mm long; nutlet subglobose, c. 1 × 0,8 mm, lacunose-trabeculate to tubered-trabeculate, with 3 narrow smooth strips becoming blackish.

Damp peat; temporary lake on lateritic slab, in dense masses; seasonally damp places, bare humid sands; on granite slabs, rock outcrops; fenced paddocks, occasional, in Hyparrhenia rufa grassland; grey-black clay with some sand; marshy wooded meadows; savanna with short grass; hallow in coastal dunes; ricefields; rarely with S. foliosa, S. bambariensis (Zambia); grassland with Brachystegia and Acacia on clay or gravel soil; swamps, 0–2100 m alt.

Madagascar; India, Thailand; N Australia. – Not in China (confusion with S. bifora).

Comprises 2 vars. – var. sphaerocarpa E. A. Rob. [syn.: S. sphaerocarpa (E. A. Rob.) Napper], with nutlet grey, globose, 2,7–3 × 2,3–2,5 mm, glabrous or slightly hairy, deeply lacunose-tesselate, in tropical Africa; – var. tessellata [syn.: Carex indica J. Koenig ex Willd. 1805, nom. illeg., non L. 1771, etc.; Scleria glandiformis Boeckeler], with nutlet cylindrical, 3,2–3,8 × 1,5–2,2 mm, shiny, glabrous, slightly striate-lacunose; in tropical Africa, Madagascar, SE Asia, Australia.

A species which shows remarkably little variation over its wide range (Kirka 2: 178–179, 1961).

S. tricholepis Nelmes, Kew Bull. 10: 447, 1955. See Batters & al. (2019): 42, 38 fig. 6 H (nutlet). – This plant has been confused with the American species S. interrupta L. C. Rich. 1792 (See under that species above). The African material was first recognized as a distinct entity by Nelmes (l.c.), but later treated under S. interrupta or “S. hirtella Sw.”; such as the synonym summarised by J. Raynal in Adansonia, Sér. 2: 216, 1976. A few such examples are: Robinson in Kirkia 4: 176, 1964 (as S. biflora, 2,7,–ciliate, mainly on midrib; nutlet oblong, 1,2–1,6 mm, smooth).

Annual densely tufted herb 0,15–1 m tall, roots reddish; culms 1–2 mm Ø, smooth; leaves subbasal and somewhat higher, the basal ones reduced to ± bladeless, often vinaceous sheaths, shorter than culms, 2–7 mm wide, flat or flat-flattish, usually glabrous; sheaths often pubescent; inflorescence of 2–4 lateral panicles, single at nodes, 2–6 cm long, 1–2 cm wide, (very) longly spaced from one another, ± dense, terminal panicle sessile, lateral ones on peduncles ± exserted from the bract-sheaths; bracts much longer than their panicles; male spikelets pale green or chestnut, 4–5 mm long, sessile or with pedicels 1–2 mm long; female spikelets c. 6 mm long, their glumes pale green or ± scarious, midrib green; nutlet (olive-) grey, cylindrical to globose, 2,2–3,8 × 1,2–2,5 mm, deeply lacunose-tesselate or striate-tesselate, glabrous or hairy.

Seasonally damp grassland; damp meadows on river banks; among rocks; Seasonally damp grassland; damp meadows on river banks; among rocks; fenced paddocks, occasional, in Hyparrhenia rufa grassland; grey-black clay with some sand; marshy wooded meadows; savanna with short grass; hallow in coastal dunes; ricefields; rarely with S. foliosa, S. bambariensis (Zambia); grassland with Brachystegia and Acacia on clay or gravel soil; swamps, 0–2100 m alt.

Annual tufted herb; culms 22–40 cm long, 0.5–1 mm Ø, triangular, glabrous; leaves tristichous; sheaths hairy, (reddish) brown; blades 10–30 cm long, 1–2 mm wide; inflorescence terminal, 10–20 cm long, glomerulate-spicate, never branching; glomerules 6–14 per culm, each with 3–7 spikelets; these androgynous or male, 2.5–4 mm long; nutlet ovoid, 1.5–2 × 1–1.2 mm, lacunose (pitted), base trigonous with a small yellow-brown rim, but when dried white-greyish to pink-reddish and almost black, with 3 protruding dentate ridges of yellow-transparent tissue (the specific epithet refers to this character).  

Seasonally wet open grassland on sandy-loamy soils; 1000–1100 m alt.  

Near S. delicatula but this species has oblong-ellipsoid to broadly ovoid nutlets with a maricate-trabeculate surface, and the raised, translucent tissue is not dentate and does not protrude as much, and in general less conspicuous.  

Also near S. pergracilis but this plant lacks the translucent tissue on the nutlets (trabeculate to tuberculate).  


Annual tufted herb; culms erect, to 1.35 m long, 1–2 mm Ø, glabrous, 3-angled, striate, with bases thickened and rhizome reduced to connections between these thickenings (3–5 mm Ø) to form a sub-woody mass; leaves 2–4 mm wide, glabrous or sparsely hairy; inflorescence to 7 cm long, interrupted, with 1–5 panicles at each node, 1.5–3 cm long on pendulous peduncles to 26 cm long; male spikelets 4–5 mm long on short pedicels sometimes up to 1 cm long; female glumes 3.5–5 mm long, acuminate, glabrous, straw-colored or brown, keel green; nutlet grey or pale brown with darker longitudinal lines, ± ovoid, 2–2.8 × 1.7–2 mm, striate-lacunose with pits in longitudinal lines, with white or yellowish hairs.  

Swamp grassland; perennially wet bogs; swamp; ?-1000–1700 m alt.  

Botswana.  

Robinson (l.c.) described a “forma b”, which “may represent a separate taxon, but I am not confident that they are specifically distinct from S. unguiculata. From typical examples of that species they differ in having slightly narrower leaves (1–3 mm wide), a somewhat stricter inflorescence, achenes which are ovoid-ellipsoid or cylindric-ellipsoid and covered with fulvous hairs, and a small hypogynium with 3 shortly triangular lobes” (all from Zambia).  


syn.: S. spinulosa Boeckeler

S. verrucosa

Scleria verrucosa

Scleria verrucosa  Perennial herb with thick creeping rhizome; culms 0.9–4.8 m long, 0.3–1 cm Ø, glabrous or scabrid; leaf sheaths with green wings densely set with retrorse scabrid teeth making the edges razor sharp, dangerous to touch; blades to 60 cm long, 1–3 cm wide, plicate, glabrous or hairy, scabrid on margins and ribs; inflorescence rather dense of one terminal and 3–5 lateral elliptic to broadly lanceolate panicles; peduncles solitary, erect, scabrid or minutely hairy; male spikelets 4.5 mm long, glumes reddish-brown, usually minutely hairy on or near midrib; female spikelets 4–8 mm long, glumes reddish-brown or straw-coloured with many reddish-brown marks, glabrous, margins ciliate; nutlet broadly ovoid, 3 × 2.5–3 mm, sparsely or densely verrucose, the warts with reddish bristles, hypogynium cupular, 2 mm long.  

Swamp forest of Raphia, Mitragyna, Macaranga; rhizomes usually rooting in shallow water, less often in soil; marshes near the sea; riverside; secondary forest; farm-land; open grassland on level swamp with Alchornea cordifolia, Pennisetum purpureum; damp spots in gallery; brook- and river sides; often with Polygonum, Mimosa; flooded forests; rainforest; clay soil; 0–1200 m alt.  


Perennial tufted herb; culms to 1 m tall, 1–3 mm Ø, 3-angled, glabrous, somewhat thickened at base, densely covered with withered sheaths; leaf blades 2–7 mm wide, almost glabrous or densely hairy; inflorescence usually with simple spikes 5–15 cm long formed of 4–8 sessile glomerules, rarely with branches 2 cm long formed from basal glomerules; these dense, multispiculate, to 1.4 cm long; spikelets androgynous and male; glumes chestnut-brown or blackish-brown, with green keels, aristate, with black or pale hairs; female glumes 5–6 mm long including awn; nutlet obovoid, 2 × 1.3–1.6 mm, distinctly reticulate-trabeculate, without beak.  

Seasonally wet or inundated flood plains, grassland or swamps; ? 1800 m alt.  

Namibia, Botswana.  


Perennial herb with branched rhizome; culms 1–2.5 m tall, 3–7 mm Ø, glabrous or scabrous, bearing at intervals broad leaves; sheaths with sharp wings densely set with retrorse teeth; blades 30–60 cm long, 1–3 cm wide, margins and veins scabrous; inflorescence occupying the upper 15–30 cm of the plant, of 1 terminal and 3–5 lateral panicles these usually solitary in the axils of broad leaf-life bracts; panicles 3–7 cm long, 1–2 cm wide, repeatedly branched; male spikelets elliptic, 4–6 × 1–2 mm, glumes pale or reddish-brown, finely hairy beneath and on margins; female spikelets 7–9 mm long, glumes straw-coloured or light brown with reddish-brown streaks or spots, finely hairy on margins and near midrib; nutlet ± globose, c. 3 mm Ø, smooth, ivory white to grey, crowned with the persistent style, hypogynium cup-shaped with ciliate edge.  

Swamps, swamp forest; near brooks; permanently humid and slightly shaded places; in deeper parts of riverbanks; sometimes semi-aquatic; 0–1250 m alt.
SCLERIA WOODII

Bioko/Fernando Poo. Also in Zaïre: Dundusana (2°53′N × 22°23′E) according to Piérart, l.c.

Near S. sororia Kunth from S Mexico to Ecuador and Brazil, and S. eggersiana Boeckeler from W Indies, Mexico, C. & S. America.


syn.: S. juncoformis Welw. ex Ridl. 1884, nom. illeg., non Kunth 1837 nec (Nees) Thwaites 1864.

Perennial herb 0.3–1 m long with ± straight woody rhizome 3–4 mm 2; culms weakly erect, spaced at 0.5–1.5 cm intervals; leaves 1.5–3 mm wide, glabrous or hairy; inflorescence sparingly branched, to 25 cm long with branches to 10 cm long, lax, ± drooping at maturity with glomerules of 2–6 spikelets, each 4.5–7 mm long; glumes dark chestnut or reddish, 3–4 mm long, long acuminate, glabrous or hairy; nutlet grey, ± ovoid, 1.5–1.8 × 1–1.2 mm, smooth.

Perennial bogs; seasonally wet grassland; swamp; deep grassy clearing in sclerophyllous forest; grassy savanna; open woodland; bogs but not where the soil is totally waterlogged for long: c. 800 (?) and less) – 2600 m alt.

“Robinson has considered this species very variable and best not considered two species or even two varieties. The inflorescence characters are difficult. Napper (1964) stated inflorescence with several simple branches from the lower clusters of spikelets for var. woodii and inflorescence smaller and more compact for var. ornata…” (Fl. Trop. E. Afr., Cyper.: 392, 2010). And to cite Napper (1971: 443) who considered S. striatinus a distinct species: “Considerable difficulty has existed over the interpretation of S. striatinus and S. woodii in southern tropical Africa and Robinson (1966), working in the field in Zambia, came to the conclusion that there was only one polymorphic entity involved. A detailed survey of all the available material of these two species led to an appreciation of 2 distinct species, each of which evidences a very characteristic facies and bears a distinct achene over the greater part of its range. From Ghana to East Tropical Africa and the southern Congo there is nothing in any way unexpected in S. striatinus, but in Rhodesia and Zambia this species develops a tendency to lose its characteristic appearance and uniform achene patterning. A similar effect occurs with the South African species S. woodii which achieves the northern limit of its range in Rhodesia and Zambia where it also loses part of its distinctive appearance. The anomalies observed in these two species are such as to bring them very close together and it is not unlikely that hybridization occurs. Experimental evidence on this point would be most valuable.”

S. Africa, Botswana, Swaziland.


Perennial herb, erect, nearly glabrous; rhizome c. 3 mm 2; woody; culms to 70 cm long, c. 1 mm 2, triquetrous, striate; leaf sheaths hairy; blades 2–3 mm wide, hairy above, glabrous beneath; inflorescence terminal, elongate, to 60 cm long, with compact panicles 2–3 mm long, the lateral panicles 1–2 per node, pendulous, on peduncles 3–20 cm long from the nodes; male spikelets 4–5 mm long on peduncles 1–8 mm long; female glumes glabrous, c. 5 mm long incl. 1 mm long awn, with green keel; nutlet ± globose, 3–3.4 × 2.8–3 mm, pale grey or brown, ± tesselate-striate, sparsely pilose.

Sandy well-drained grassland with scattered trees.
Scleria xerophila

Known only from the type collected in 1960.

Near S. lagoensis


Annual erect herb; culms to 25–30 cm tall, trigonous, striate, hairy; leaves c. 1 mm wide, hairy; inflorescence terminal, glomerate-spike, 3.5–10 cm long, sometimes contracted in the upper part, glomerules then becoming confluent, and not clearly separated; glomerules sessile, erect or spreading, each with 2–3 spikelets; these androgynous, erect, 3–4 mm long; glumes usually glabrous, but with a few hairs on lower part of the green keel; nutlet trigonous, broadly obovoid, 0.8–1 × 0.8–1.1 mm, lightly reticulate. Shallow, shingly soil on flat granite outcrops, seasonally damp; locally dominant in patches and very abundant; associated with S. melanotricha.

Near S. delicatula but the resemblance in only superficial. Only known from the type collected in 1965.

UNPLACED NAMES:


SYNONYMS:

Scleria acriulus C. B. Clarke, incl. fa. leopoldiana C. B. Clarke ex De Wild. = Scleria geigiifolia africana Bent. 1883 = Diplacrum africanum amphigaeae Raymond, incl. var. angustifolia (Kük.)


Scleria

CYPRESSACEAE

**SCLERIA**

deliy Hutch. & Dalziel, nom. inval. = *S. woodii*
lithosperma (L.) Sw. var. filiformis (Sw.) Britton
  = *S. lithosperma* var. *lithosperma*
lithosperma subsp. *linearis* (Benth.) T. Koyama
  = *S. lithosperma* var. *linearis*
lithosperma var. roxburghii C. B. Clarke = *S. lithosperma*
  var. *linearis*
longifolia Boeckeler 1882 = *S. gaertneri*
longifolia (Gris. & Rob.) Röber 1954 = Diplacrum capitatum
longigluma Kük. = *Scleria melanomphala*
macrantha Boeckeler 1882 = *S. gaertneri*
macropserma Nees ex Kunth = *S. melanomphala*
macrocarpa Rchb. ex Nees 1842, non Wall. 1831 nec Salzm. ex
margaritifera Boeckeler = *S. melanomphala*
melanocephala Nees ex Kunth = *S. racemosa*
melanocephala (Griseb.) Roberty 1954 = *S. melanomphala*
melanotricha = *S. gaertneri*
melaleuca (C. B. Clarke) J. Raynal = *S. melanomphala*
margaritifera Wildl. 1805, non Gaertnner 1788
  = *S. gaertneri*
mayottensis C. B. Clarke = *S. lagoensis*
mechowiana Boeckeler = *S. bulbifera*
melealeuca Rchb. ex Schltdl. & Cham. = *S. gaertneri*
melanocarpa Gräber, nomen = *S. pooides*
melanotricha Drège = *S. pooides*
melanotricha var. grata (Nelmes) Lye = *S. melanomphala*
melanotricha sensu auct., non Rich. ex A. Rich. = *S. gaertneri*
  = *S. mongomoenis*
meyeriana Kunth = *S. dregeana*
mildbraedii (C. B. Clarke) J. Raynal = *S. pooides*
mollis Kunth = *S. distans* var. *distans*
moritziana Boeckeler = *S. lagoensis*
multispiculata Boeckeler = *S. pooides*
“multispiculosa” Boeckeler = *S. pooides*
multans Willd. ex Kunth = *S. distans* var. *distans*
nyasensis auct., non C. B. Clarke = *S. aechtieni* (See comment under *S. nyasensis*)
orzyzoides J. Presl & C. Presl = *S. pooidis*
ottone Boeckeler = *S. gaertneri*
ovaligera Rchb. ex Nees 1834 = *S. induta*
ovaligera Nees ex Boeckeler 1874 = *S. naumanniana*
perrieri Chem. = *S. foliosa*
pinetorum Britton = *S. interrupta* (Amer. sp.)
pratensis Lindl. ex Nees, incl. var. *melanocarpa* Nees
  = *S. gaertneri*
prophyllata Nelmes = *S. pooides*
pseudosorghum K. Schum. ex Engl. = ?* S. pooidis*
piterota C. Presl ex C. B. Clarke 1900, incl.
  var. submelaleuca Kük. = *S. gaertneri*
pulchella sensu auct. mult., non Ridl. = *S. suaveolens*
puzzolana K. Schum. = *S. lithosperma* var. *lithosperma*
racemosa Poir. var. *depressa* C. B. Clarke, and subsp.
depressa (C. B. Clarke) J. Raynal = *S. depressa*
reflexa Benth. 1849, non Kunth 1816 = *S. boivinii*
rehmannii C. B. Clarke var. *ornata* Chem. = *S. woodii*
rehmannii var. *ornata* sensu Berhaut 1967, non Chem.
  = *S. rehmannii*
remota Rchb. = *S. flexuosa*
remota var. *hisida* Rchb. = *S. remota*
retroseratta Kük. = *S. gracilima*
salebrosa Spreng. ex Boeckeler = *S. pergracilis*
salebrosa Boeckeler ex C. B. Clarke = *S. pergracilis*
schmitzii Piëart = *S. nyasensis*
schweinfurthiana Boeckeler = *S. bulbifera*
schweinfurthiana var. *melanocarpa* Chem., ?, and
  var. *major* Chem. = *S. hispidula*
secans sensu Piëart 1953 = *S. boivinii*
setulosa Boeckeler = *S. dregeana*
sphaeroacarpa (E. A. Rob.) Napper = *S. sylvestris*
  var. *sphaeroacarpa*
spinulosa Boeckeler = *S. verrucosa*
spondylogona Nelmes = *S. delicatula*
striatinus (“striatinus”) De Wild., incl. var. *lacunosa*
Piëart = *S. woodii*
subintegriloba De Wild. = *S. aechtieni*
substratoalveolata De Wild. = *S. aechtieni*
tenuiflora Willd. ex Kunth = *S. tricholepis*
thomasi Piëart = *S. schliebenii*
tisserantii Chem. = *S. melanomphala*
uliginosa Hochst. ex Boeckeler 1874 = *S. parvula*
ustulata Ridl. = *S. pergracilis*
vanderystii De Wild. = *S. lagoensis*
verdiekii De Wild. = *S. bulbifera*

(SOROSTACHYS)

Sorostachys kyllingioides Steud. = *Cyperus pulchellus*
leucocephalus (Retz.) Lye = *C. leucocephalus*
pulchellus (R. Br.) Lye = *C. pulchellus*

(SPARGANIUM / Sparganiaceae)

Sparganium pubescens Poir. 1789 = *Fuirena pubescens*
vara. *pubescens*

(SPERMODON)

Spermodon eximius Nees = *Rhynchospora eximia*

**SPHAERO CYPERUS/ 1**


Differs from *Rhynchospora* by the distichously arranged glumes,
3-branched style, and nutlet without persistent stembase; and from
*Cyperus* by only having one fertile flower per spikelet, smaller
glomerules at base of spikelets which increase in size towards the
apex (Fl. Trop. E. Afr., Cyper.: 263, 2010).

**Sphaero cyperus erinaceus** (Ridl.) Lye; Robson in Kirkia 1: 41,
Soc. 167: 26, 2011; idem, ibid. 172: 114, 122, 2013; Uberti &
al. in Bot. Rev. 82: 244, 2016 (spikelet structure). – Icon.: Lye
Afr.: 293, 1983; Browning & Gordon-Gray in Nord. J. Bot. 13:
508–509, 1993; Fl. Trop. E. Afr., Cyper.: 262, 2010; Browning

bas.: *Schoenus erinaceus* Ridl.
syn.: *Rhynchospora erinaceus* (Ridl.) C. B. Clarke; *Actinoschoenus
erinaceus* (Ridl.) Raymond; *Cyperus erinaceus* (Ridl.) Kük.

Perennial herb with a creeping scale-covered rhizome; with per-
sistent bulb-like swellings at base of culms; culms 0.6–1.2 m
long, 1.6–2 mm Ø, obtusely angled near base, trigonous above,
glabrous, fustular, closely striate; leaves few, rigid, shorter
than culms; sheaths brownish straw-coloured, 13–24 cm long,
ultimately breaking into fibres; blades linear, flat, 33–51 cm long, 3.3–5 mm wide, stiff, acuminated, minutely papillose; inflorescence capitate, white-ochraceous, globose, 2–2.5 cm 2, densely compact, of many spikelets; these linear-lanceolate, acuminate, c. 8–12 mm long, each with several distichous persistent glumes of increasing length, largest penultimate glume subtending a flower; largest glume 6–9 mm long, < 2 mm wide, acute; spikelets deciduous as a unit; flower bisexual, only one fertile per spikelet; nutlet narrowly obovate, c. 4 × 1 mm, beaked, finely punctulate.

Brachystegia- and Brachystegia-Uapaca woodland; open woodland; stony or red loam soil; woods among deep herbage near stream; locally common in Zambia; 1200–2200 m alt.

? Also in Zaire.

(STEMOPHYLLUS)

Stenophyllus capillaris fa. major H. Pfeiff.
= Bulbosystis burchelli
capillaris var. striatinux H. Pfeiff. = B. pusilla
collinus (Kunth) Chiov. = B. contexta
craspedotus (Chiov.) Chiov. = B. craspedota
filiformis (C. B. Clarke) H. Pfeiff. = B. hispida
subsp. filiformis
puberulus (Kunth) Killip = B. thouarsii

TETRARIA/ 4

Tetaria P. Beauv. 1816, nom. cons. prop. (Larridon & al. in Taxon 66: 1226–1227, 2017): “The need for this proposal arises because recent molecular phylogenetic analyses … reveal that Tetaria as currently circumscribed is polyphyletic, comprising multiple independent evolutionary lineages. Two multispecies lineages have been recognised in South Africa, identifiable by key morphological differences: (1) ca. 30 Tetaria species in the Tricostularia clade of Cyperaceae tribe Schoeneae have noded culms and a reticulate tunic surrounding the culm base, and (2) ca. 17 Tetaria species in the Schoenus clade of tribe Schoeneae have a culm without nodes and do not have reticulate sheaths at the culm base … Several other independent Tetaria lineages have also been identified, including Tetaria borneensis J. Kern in the Caustis clade of tribe Schoeneae, Tetaria capillaris (F. Muell.) J. M. Black in the Lepidosperma clade, and Tetaria octandra (Nees) Kük. in the Tricostularia clade … Since the lineage containing the original and current type of Tetaria (T. thuarii P. Beauv.) (i.e., the clade without culm nodes and without reticulate sheaths) is embedded within the genus Schoenus L. (Sp. Pl. 42, 1753), Elliott & Muasya (in S. Afric. J. Bot. 112: 354–360, 2017) recently transferred both the 17 non-reticulate Tetaria species (including T. thuarii) and 7 species of the closely related genus Epischenoenus C. B. Clarke into Schoenus. This transfer results in Tetaria being a synonym of Schoenus, with the more than 30 species of the other lineages of Tetaria s.l. being left in need of a new name. However, for nomenclatural consistency and since Tetaria, in particular the group known as reticulate-sheathed Tetaria, represent an important and well-known plant group of the Cape Floristic Region … we here propose to conserve the name Tetaria with Tetaria thermalis as type … If we do not conserve Tetaria with a type belonging to the reticulate-sheathed Tetaria clade, we lose the use of the well-known name Tetaria and we will have to generate more than 20 new combinations for the species of this lineage under the name Schoenopsis P. Beauv. ex T. Lestib.”

See also our introduction to Schoenus above (p. 324).
TETRARIA CUSPIDATA

“A difficult taxon … requiring detailed study throughout its distributional area and during several seasons. Its morphological variability is perhaps based in ecotypic plasticity and a partial separation of the sexes” (Gordon-Gray, l.c.).


Erect tufted herb 30–40 cm tall; culms rounded, slightly striate, 0,6 mm φ; basal leaves numerous with purplish sheaths, the old ones split into pale fibres; blade setaceous, 20–25 cm long, 0,6–0,7 mm wide, margins scabrid; cauleine leaves 1–2; inflorescence narrow, elongated, composed of panicles spread out along the main axis; lateral panicles 1–2 per node in axils of bracts; spikelets ovoid-lanceolate, 3,5–4 mm long, brown; glumes 8–10 per spikelet, distichous, increasing in size towards apex; nutlet ovoid-obovoid, inflated, pale yellow, c. 1,7 × 1 mm.

Grassland; dry rocky habitats, between rock slabs; c. 2100–2200 m alt.

S. Africa.

Resembling T. usambarensis but leaf blade shorter (20–25 cm, not 27–33 cm), spikelets shorter (3,5–4 mm, not 0,5–10 mm), nutlet smaller (c. 1,7 mm long, not 3–4 mm), and pale yellow (not brown/red brown). May be mistaken for a Rhynchospora rugosa by its narrow open inflorescence.


bas.: Costularia natalensis C. B. Clarke

Perennial glabrous herb forming clumps and growing usually as isolated plants, up to 1,8 m high when flowering, with horizontal stolons clothed by rigid lanceolate scales 2,5 cm long; culms 0,9 m tall and more, rounded, tough, striate; leaves 28–45 cm long, 0,6–0,8 mm wide, very rough, margins scabrid; inflorescence a copiously branched panicle, 50 cm long, 3,7 cm wide, nearly continuous with well-developed erect branches densely provided with small spikelets; these crowded, dark chestnut-red, hard, compressed, c. 6 × 2 mm.

Grassland; 1800–2000 m alt.

S. Africa, Swaziland.

Possible confusion with Cladium mariscus, but ecology different.


Perennial herb to 60 cm tall; base rounded, enclosed in black fibres (remains of old leaf bases); culms tufted, rounded-trigonous, 10–50 cm long, 0,5–1,5 mm φ, glabrous, longitudinally ridged; leaf sheaths blackened, 3,5–5 cm long; basal leaves shorter than culm; cauleine leaves linear, involute, flexuous above, 27–33 cm long, 1,2–2 mm wide, some exceeding the culm, rigid, apex often blackened, acuminate, scabrid; inflorescence a simple panicle, 5–15 cm long, with clusters of 1–5 spikelets; these ovoid, 5–10 × 1,5–3,5 mm; glumes 8–11 per spikelet, brown, lower 7–9 empty, ovate-elliptic, c. 5 × 3 mm, awned, the upper 2 subtending bisexual flowers; nutlet ovoid-obovoid, 3–4 × 1,5–1,8 mm, with 3 strong pale-coloured ribs.

Dry sandy places, often in ericaceous zone; 1100–1750 m alt., to 2400–2790 m in Zaire.

SYNONYMS:

Tetaria circinalis C. B. Clarke 1894, nom. nud., non (Schrad.) C. B. Clarke 1894 = Tetaria usambarensis circinalis (Schrad.) C. B Clarke var. usambarensis (K. Schum.) Kük. = T. usambarensis

(THRYOCEPHALON)

Thyrocephalon nemorale J. R. Forst. & G. Forst.; 1775 = Kyllinga nemoralis

TORULINIUM / 1


bas.: Cyperus odoratus L.


Perennial (sometimes short-lived) herb to 3 m tall; culms 0,5–2,5 m long, 0,6–1,2 cm φ, triquetroar, base inflated; leaf sheaths red-violaceous; blades 0,1–1 m long, 0,4–2 cm wide, v or w in section, margins scabrous; inflorescence large, much-branched, with primary bracts large, leaf-like, a compound or decompound anthela with several stout primary rays mostly to 20 cm long, ± stiff, each with several raylets 0–2 cm long; each ray ending in a spike usually 2–3 cm long with c. 20 spikelets arranged evenly along the rachis and at right angles to it; spikelets subcylindrical, 1–3 cm long, 1,5–2 mm wide, 6–25-flowered, flow- ers bisexual; spikelets sometimes deciduous as a unit, but usually
**TORULINUM ODORATUM**

Breaking up into 1-flowered units as the rachilla is fragile; such rachilla segments may be dispersed by water (Naczi & Ford, l.c.).

Damp sandy shore; wet places with *Pistia stratiotes*; damp fields among *Sorghum* plantations; swamps on coastal dunes; lagoon edges; near surface water; grassy swamps; fallows; near sea-level to 200 (~2000) m alt.

Pantropical, subtropical; Bioko/Fernando Poo, ? San Tomé – Principe; Madagascar; S Asia from Burma E-wards to Korea, Japan, Malaysia, New Guinea, Philippines, E Australia; N., C. & S. America, West Indies (Acevedo-Rodríguez & Strong, Cat. seed pl. W. Indies: 268, 2012). Frequently cited as a weed, or a “pest of rice”.

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**UNCINIA**

*spartea* (Wahlenb.) Spreng. 1826  
= *Schoenoxiphium spartum*

*spartea* Nees 1835 = *Sch. spartum*

*sprengeli* Nees 1835 = *Sch. spartum*

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**VOLKIELLA**


*Volkiella* “can be seen as an extremely specialized lineage adapted to psammophytic habitats... [it] shows highly derived pseudo-spikelets with a Bauplan comparable with that of *Lipocarpa*, possessing a spikelet bract a spikelet prophyll, a proximal glume subtending the single flower and a spikelet bract larger than the glume. Peculiarly... the spikelets are distichously arranged on the spike axis... [it] shows an abundance of autapomorphic, derived characters which isolate it from all other *Cyperus* spp., it is nested in *Lipocarpa* and should thus be sunk into *Cyperus* together with *Lipocarpa*” (Larridon & al., o.c.: 122).

BAUTERS, K. & al. (2014). A new classification for *Lipocarpa* and *Volkiella* as infrageneric taxa of *Cyperus s. l.* (*Cyperaee, Cyperoideae, Cyperaceae*): insights from species tree reconstruction supplemented with morphological and floral developmental data. *Phytotaxa* 166: 1–32.

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**1. VOLKIELLA /**


**syn.:**  
*Cyperus distichus* (Merxm. & Czech) Bauters

Annual tufted herb; culms bristly, 0–3 cm tall, with basal nodes; leaves basal with closed sheath; blade with crescentiform profile, without keeled midrib; inflorescence capitulate, with 2–4 spikes each 5–6 × 3,5 mm, laterally compressed; subtending bracts erect, very long; spikelet bracts in 2 opposite rows in same plane, 2,5–4 mm long, ending in an awn 1–7 mm long; spikelets highly reduced, with a prophyll and a tiny hyaline glume subtending a flower, 1 glume per spikelet; flowers bisexual; nutlet cordate-obovate, 1 mm long, finely punctate.

Grassland on temporarily wet sandy soil, ephemeralophyte, nearly completely buried in sand.  
NE Namibia.
WEBSTERIA / 1

Websteria S. H. Wright, “derived from within Eleocharis”, and “this clade, representing the Eleocharideae, is sister to the Abildgaardiae … New nomenclature is suggested to place the species of … Websteria in Eleocharis” (Hinchliff & al., o.c.: 709).


bas.: Scirpus confervoides Poir. 

syn.: Baeothryon confervoides (Poir.) A. Dietr.; Schoenus confervoides (Poir.) Willd. ex Kunth; Dulichium confervoides (Poir.) Alston; Scirpus submersus C. Wright; Rhynchospora ruppioides Benth.; Scirpus ruppioides Thwaites ex C. Wright 1871, nom. nud.; Websteria submersa (C. Wright) Britton, incl. var. luetzelburgii Suess., and var. negrensis Suess.; Eleocharis confervoides (Poir.) Steud. 1855 (also attributed to Kunth 1837, T. Koyama 1895, and G. C. Tucker 1987); further synonyms in World Checklist of Selected Plant Families, Cyperaceae, Roy. Bot. Gard., Kew.

Perennial, slender but strong and wiry-stemmed, submerged or floating herb 0.3–1 m long, with an extensive, fine, pseudoderticate branching pattern, upper parts of stems with nodes each with branches arranged subumbellately, subtended by greyish, pink or dark purple reduced leaves; each of the branches may have new whorls of branches, the branching repeated until nodes of the 4th order but the final are subtending sterile culms or less often a stalked spikelet; branchlets filiform; spikelets borne singly, very narrow, pointed, c. 1 cm × 1.5–2 mm, consisting of 2 glumes enclosing 3 stamens and 1 achene; diaspores (nutlets) yellow-brown, 3-angled, c. 1 mm long, papillate, with persistent and barbed perianth segments, dispersed by animals.

Edge of swamp; shore of shallow pool; submerged or as floating mats in warm, slow-flowing fresh water of ponds and lakes, in 0.9–1.5 m of water; c. 0–2080 m alt.

Botswana; Madagascar; S India, Sri Lanka, Malay Peninsula; tropical & subtropical America from S-SW USA, C. & S. America, West Indies (Acevedo-Rodríguez & Strong, Cat. seed pl. W. Indies: 273, 2012 under Eleocharis).

Similar to Eleocharis naumanniana, especially when sterile.

WEBSTERIA

SYNONYMS:

Websteria submersa (C. Wright) Britton, incl. var. luetzelburgii Suess, and var. negrensis Suess. = Websteria confervoides

(ZULUSTYLIS)

Zulustylis hygrophila (Gordon-Gray) Muasya 2020 = Abildgaardia hygrophila
Rhynchospora rubra subsp. senegalensis J. Raynal, see p. 309
Aline Raynal-Roques
## VII. INDEX TO GENERA

This Index only gives reference to current names of genera used in the text (not on the maps which are in turn placed as closely as possible to the matching descriptions). Synonyms are sometimes cited (printed in *italics*).

However, many synonyms, but perhaps not all genera figure in the Cumulative Index “Enumération des plantes à fleurs d’Afrique tropicale” present at the end of the fourth volume (1997: pp. 678–712). Readers are invited to consult that index.

<table>
<thead>
<tr>
<th>ABILGAARDIA</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACORELLUS</td>
<td>26</td>
</tr>
<tr>
<td>ACRIPUS</td>
<td>26</td>
</tr>
<tr>
<td>ACTINOSCHOENUS</td>
<td>27</td>
</tr>
<tr>
<td>AEGOPOGON</td>
<td>27</td>
</tr>
<tr>
<td>AFROTIRELEPS</td>
<td>27</td>
</tr>
<tr>
<td>ALINIELLA J. Raynal</td>
<td>28</td>
</tr>
<tr>
<td>ALINULA</td>
<td>28</td>
</tr>
<tr>
<td>ANDROPOGON; Poaceae</td>
<td>28</td>
</tr>
<tr>
<td>ANOSPORUM</td>
<td>28</td>
</tr>
<tr>
<td>APARTEA; Rapateaceae</td>
<td>30</td>
</tr>
<tr>
<td>ARCHAEOCAREX</td>
<td>30</td>
</tr>
<tr>
<td>ARTHROSTYLIS</td>
<td>30</td>
</tr>
<tr>
<td>ASCOLEPS</td>
<td>30</td>
</tr>
<tr>
<td>ASCOPHOLIS</td>
<td>35</td>
</tr>
<tr>
<td>ASTEROCHAETE</td>
<td>35</td>
</tr>
<tr>
<td>ATOMOSTYLIS</td>
<td>35</td>
</tr>
<tr>
<td>BAEOTHRYON</td>
<td>35</td>
</tr>
<tr>
<td>BAUMAE</td>
<td>35</td>
</tr>
<tr>
<td>BISBOECKELERA</td>
<td>35</td>
</tr>
<tr>
<td>BOLBOSCHOENUS</td>
<td>35</td>
</tr>
<tr>
<td>BULBOSTYLIS</td>
<td>38</td>
</tr>
<tr>
<td>CAREX</td>
<td>65</td>
</tr>
<tr>
<td>CARPHA</td>
<td>81</td>
</tr>
<tr>
<td>CATAGYNA</td>
<td>81</td>
</tr>
<tr>
<td>CHAETOSPORA</td>
<td>81</td>
</tr>
<tr>
<td>CHAMAEXIPHIMUM</td>
<td>81</td>
</tr>
<tr>
<td>CHLOROCHARIS</td>
<td>81</td>
</tr>
<tr>
<td>CHLOROXYPERUS</td>
<td>81</td>
</tr>
<tr>
<td>CLADIUS</td>
<td>82</td>
</tr>
<tr>
<td>COLEOECHOLOA</td>
<td>84</td>
</tr>
<tr>
<td>COSTULARIA</td>
<td>85</td>
</tr>
<tr>
<td>COURTOISIA</td>
<td>86</td>
</tr>
<tr>
<td>COURTOISINA</td>
<td>86</td>
</tr>
<tr>
<td>CEPIDOCARPUS</td>
<td>86</td>
</tr>
<tr>
<td>CYLINDROLEPIPS</td>
<td>86</td>
</tr>
<tr>
<td>CYPERUS</td>
<td>87, 275</td>
</tr>
<tr>
<td>DICHOSTYLIS</td>
<td>160</td>
</tr>
<tr>
<td>DICHRONEMA</td>
<td>160</td>
</tr>
<tr>
<td>DICLIDIDIUM</td>
<td>161</td>
</tr>
<tr>
<td>DIPLACRUM</td>
<td>161</td>
</tr>
<tr>
<td>DISTIMUS</td>
<td>161</td>
</tr>
<tr>
<td>DULICHICUM</td>
<td>161</td>
</tr>
<tr>
<td>DUVAL-JOUVEA</td>
<td>161</td>
</tr>
<tr>
<td>ECHINOLYTRUM</td>
<td>161</td>
</tr>
<tr>
<td>ELEOCHARIS</td>
<td>161</td>
</tr>
<tr>
<td>ELEOGITON</td>
<td>171</td>
</tr>
<tr>
<td>ELYNANTHUS</td>
<td>171</td>
</tr>
<tr>
<td>ERIOCALON; Eriocaulaceae</td>
<td>171</td>
</tr>
<tr>
<td>ERIOPSIS</td>
<td>171</td>
</tr>
<tr>
<td>EUCYPERUS</td>
<td>171</td>
</tr>
<tr>
<td>FICINIA</td>
<td>171</td>
</tr>
<tr>
<td>FIMBRIXFLYS</td>
<td>174</td>
</tr>
<tr>
<td>FINTELMANNIA</td>
<td>187</td>
</tr>
<tr>
<td>FUIRENA</td>
<td>187</td>
</tr>
<tr>
<td>GAILIEMA</td>
<td>196</td>
</tr>
<tr>
<td>HALOSCHOENUS</td>
<td>196</td>
</tr>
<tr>
<td>HELEOGITON</td>
<td>196</td>
</tr>
<tr>
<td>HEMICARPHA</td>
<td>196</td>
</tr>
<tr>
<td>HEMICHLAENA</td>
<td>196</td>
</tr>
<tr>
<td>HOLOSCHOENUS</td>
<td>196</td>
</tr>
<tr>
<td>HYPAELYPTUM</td>
<td>196</td>
</tr>
<tr>
<td>HYPAELYTRUM</td>
<td>196</td>
</tr>
<tr>
<td>HYPOLYTRUM</td>
<td>196</td>
</tr>
<tr>
<td>HYPOPORUM</td>
<td>203</td>
</tr>
<tr>
<td>INDOECOURTOISIA</td>
<td>203</td>
</tr>
<tr>
<td>IRA</td>
<td>203</td>
</tr>
<tr>
<td>ISOLEPS</td>
<td>203</td>
</tr>
<tr>
<td>JUNCELLUS</td>
<td>208</td>
</tr>
<tr>
<td>KOBRESIA</td>
<td>209</td>
</tr>
<tr>
<td>KYLLINGA</td>
<td>209</td>
</tr>
<tr>
<td>KYLLINGIELLA</td>
<td>234</td>
</tr>
<tr>
<td>LANGEVINIA; Rapateaceae</td>
<td>235</td>
</tr>
<tr>
<td>LEPIDOSPERMA</td>
<td>235</td>
</tr>
<tr>
<td>LIMNOCHLOA</td>
<td>235</td>
</tr>
<tr>
<td>LIPOCARPHA</td>
<td>235</td>
</tr>
<tr>
<td>MACHAERINA</td>
<td>242</td>
</tr>
<tr>
<td>MALACOCHAETE</td>
<td>242</td>
</tr>
<tr>
<td>MAPANIA</td>
<td>243</td>
</tr>
<tr>
<td>MARISCOPSIS</td>
<td>249</td>
</tr>
<tr>
<td>MARISCULUS</td>
<td>249</td>
</tr>
<tr>
<td>MARISCUS</td>
<td>249</td>
</tr>
<tr>
<td>MELANCRAKNIS</td>
<td>278</td>
</tr>
<tr>
<td>MICRODRACOIDES</td>
<td>278</td>
</tr>
<tr>
<td>MONANDRUS Vorster ined.</td>
<td>278</td>
</tr>
<tr>
<td>NELMESIA</td>
<td>278</td>
</tr>
<tr>
<td>NEMUM</td>
<td>280</td>
</tr>
<tr>
<td>OPEITOLA</td>
<td>281</td>
</tr>
<tr>
<td>OPHRYOFOCLERIA</td>
<td>281</td>
</tr>
<tr>
<td>OREORAGRIS</td>
<td>281</td>
</tr>
<tr>
<td>Family</td>
<td>Page</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
</tr>
<tr>
<td>CYPERACEAE</td>
<td>282</td>
</tr>
<tr>
<td>OXYCARYUM</td>
<td>282</td>
</tr>
<tr>
<td>PACHYMITRA</td>
<td>282</td>
</tr>
<tr>
<td>PAPYRUS</td>
<td>282</td>
</tr>
<tr>
<td>PENTASTICHA</td>
<td>282</td>
</tr>
<tr>
<td>PLATYLEPIS</td>
<td>282</td>
</tr>
<tr>
<td>PRINCIPINA</td>
<td>282</td>
</tr>
<tr>
<td>PSEUDOLIPOCARPHA</td>
<td>283</td>
</tr>
<tr>
<td>PSEUDOMARISCUS</td>
<td>283</td>
</tr>
<tr>
<td>PSILOCARYA</td>
<td>283</td>
</tr>
<tr>
<td>PTEROCYPERUS</td>
<td>283</td>
</tr>
<tr>
<td>PTEROLEPIS</td>
<td>283</td>
</tr>
<tr>
<td>PTEROSCLERIA</td>
<td>283</td>
</tr>
<tr>
<td>PYCREUS</td>
<td>283</td>
</tr>
<tr>
<td>QUEENSLANDIELLA</td>
<td>304</td>
</tr>
<tr>
<td>RAYNALIA</td>
<td>306</td>
</tr>
<tr>
<td>REIGERA</td>
<td>306</td>
</tr>
<tr>
<td>REMIREA</td>
<td>306</td>
</tr>
<tr>
<td>RHYNCHOSPORA</td>
<td>306</td>
</tr>
<tr>
<td>RIKLIELLA</td>
<td>312</td>
</tr>
<tr>
<td>SCHOENODENDRON</td>
<td>312</td>
</tr>
<tr>
<td>SCHOENOPLECTIELLA</td>
<td>312</td>
</tr>
<tr>
<td>SCHOENOPLECTUS</td>
<td>318</td>
</tr>
<tr>
<td>SCHOENOXIPHIUM</td>
<td>323</td>
</tr>
<tr>
<td>SCHOENUS</td>
<td>324</td>
</tr>
<tr>
<td>SCIRPIDIELLA</td>
<td>326</td>
</tr>
<tr>
<td>SCIRPIDIUM</td>
<td>326</td>
</tr>
<tr>
<td>SCIRPOCYPERUS</td>
<td>326</td>
</tr>
<tr>
<td>SCIRPODENDRON</td>
<td>326</td>
</tr>
<tr>
<td>SCIRPOIDES</td>
<td>326</td>
</tr>
<tr>
<td>SCIRPUS</td>
<td>327</td>
</tr>
<tr>
<td>SCLEIA</td>
<td>330</td>
</tr>
<tr>
<td>SOROSTACHYS</td>
<td>359</td>
</tr>
<tr>
<td>SPARGANUM; Sparganiaceae</td>
<td>359</td>
</tr>
<tr>
<td>SPERMODON</td>
<td>359</td>
</tr>
<tr>
<td>SPHACEROCYPERUS</td>
<td>359</td>
</tr>
<tr>
<td>STENOPHYLLUS</td>
<td>360</td>
</tr>
<tr>
<td>TETRARIA</td>
<td>360</td>
</tr>
<tr>
<td>THRYOCEPHALON</td>
<td>361</td>
</tr>
<tr>
<td>TORULINUM</td>
<td>361</td>
</tr>
<tr>
<td>TRICHELOSTYLIS</td>
<td>362</td>
</tr>
<tr>
<td>TRICHOPHYLLUM</td>
<td>362</td>
</tr>
<tr>
<td>TRILEPIS</td>
<td>362</td>
</tr>
<tr>
<td>TUNGA</td>
<td>362</td>
</tr>
<tr>
<td>UNCINIA</td>
<td>362</td>
</tr>
<tr>
<td>VIGNEA</td>
<td>362</td>
</tr>
<tr>
<td>VOLKIELLA</td>
<td>362</td>
</tr>
<tr>
<td>WEBSTERIA</td>
<td>364</td>
</tr>
<tr>
<td>ZULUSTYLIS</td>
<td>364</td>
</tr>
</tbody>
</table>