English texts

1. The tropical plants in our living rooms, the origin and diversity of Gesneriaceae

The Conservatory and Botanical Gardens of Geneva, with the Botanical Garden of the University of Zurich, reveal the origins of the exotic plants in your home. We invite you to experience the tropical environment in our greenhouses where these plants are cultivated, and we hope to stimulate your curiosity about the source of their amazing diversity.

The exhibition introduces a family of plants which are symbols of tropical diversity. The family is named "Gesneriaceae" in honour of the famous Zurich naturalist Conrad Gessner. Since the discovery of the first plant during expeditions to the West Indies in the 17th century, and during more recent field surveys and research led by our institution, over 3000 species have been identified. Many display a striking variety of form and colour. Some have been selected for cultivation as ornamental plants.

To explain the often complex processes which have led to such a rich diversity, we have called upon the expertise of researchers in Geneva and Zurich and have drawn on the horticultural experience of the two institutions. While learning about cutting-edge science you can touch, smell and closely observe the plants. You will be astonished by the riches of the tropical plant world.

Plants in your living room: a window on tropical biodiversity

Gesneriaceae like orchids, Begonias, Philodendrons, Ficus, palms and bromeliads have taken over our homes. They are chosen for the variety of their shapes and colours and they give us an idea of the prodigious biodiversity of tropical regions. In the 19th century only those who owned glasshouses or elegant residences heated with coal, were able to cultivate rare plants brought from the tropics on long sea voyages. After improvements in transport and glasshouse cultivation, tropical plants became more accessible and, by the mid-20th century, the universal use of central heating meant that cultivation of plants in houses became popular in Europe and North America. Since then our houses have hosted a vast range of thriving exotic plants.

2. From the living-room to the Tropics, the diversity of a tropical family

What is Gesneriaceae?

Gesneriaceae is the name of a botanical family of over 3000 species. The plants are relatives of our sages (Lamiaceae) and Antirrhinum (Plantaginaceae). These families are, in turn, part of a larger group, the Lamiales which is composed of some 80,000 species, 1/5 of all flowering plants.

How to recognise a plant of the Gesneriaceae

They are herbaceous plants with opposed leaves, rarely shrubs or bushes. The corolla is formed of 5 fused petals forming a tube. Numerous small seeds are distributed on the walls of the fruit. There are 2 to 4 stamens, often joined.

Where is the Gesneriaceae family from?

Gesneriaceae are found in all tropical regions as well as in certain temperate regions in Europe and in the southern hemisphere (for example, Chile, South Africa, Australia and New Zealand).

In what kind of habitat do we find Gesneriaceae?

Gesneriaceae are particularly at home in mountainous areas. They grow on trees (epiphytes) or on rocks. Some species can survive long periods of drought by storing reserves in a tuber or in rhizomes. Others are found in perpetually wet places such as along riversides or the understory of cloud forests.

Evolution

All the Gesneriaceae derive from a common ancestor which appeared some 70 million years ago. During their long history they have colonised all the continents and have divided into several lines, each with its own structure and geographical distribution.

DNA analysis has made it possible to trace the relation between species more accurately, and to estimate their ages. These advances have led to proposals for a new classification of Gesneriaceae and a better understanding of the origins of their extraordinary diversity.

Tracing the history of plants on the basis of their genes

Stage 1: decoding the DNA of the plants

Modern laboratory methods allow us to read DNA sequences. DNA is a long molecule in the form of a helix made up of a string of 4 units (bases) labelled A, C, G and T. The chain or sequence of these letters makes up a language which expresses all the genetic information specific to a living individual.

Stage 2: reconstruction of the tree of life

Comparison of DNA sequences allows us to identify the relations between species and, under certain conditions, estimate their age. The principal is as follows: the closer they are related, the more characteristics they share at the level of their DNA sequence. The most likely hypothesis derived from these analyses can be shown in an evolutionary or phylogenetic tree.

Epiphytes: plants between earth and sky

A characteristic feature of tropical flamboyance, epiphytes grow on trees high above the ground. Several groups of plants have adopted this unusual way of life such as orchids, bromeliads, cactus, ferns and 560 species of Gesneriaceae.

Aerial habitats

Epiphytes grow on different parts of the tree from the base of the trunk to the canopy. Species tend to be adapted to very precise levels of humidity and light which are mainly determined by the height at which the plant grows. A broad range of ecological conditions encourages a wide diversity of epiphytes, and of plants in general, in tropical forests.

Mountain tropical forests: epiphyte paradise

Epiphytes such as the Gesneriaceae are particularly abundant in tropical forests lying between 800m and 2500m where precipitation is abundant and humidity high and constant. In Ecuador, for example, 25% of all occurring species are epiphytes.

Gesneriaceae epiphytes

The Gesneriaceae family is one of the 10 plant families richest in epiphytes. Here are some examples:

Aeschynanthus
Nº of species 185
Distribution Tropical regions of Asia (China, East Indies, from Malaysia to New Guinea)

Codonanthe
Nº of species 8
Distribution Atlantic Forest of Brazil

Columnea
Nº of species 270
Distribution Tropical regions of the Americas, from Mexico to Bolivia and south-eastern Brazil

Nematanthus
Nº of species 30
Distribution Atlantic forest of Brazil

The evolution of Gesneriaceae epiphytes

Epiphytic plants within the Gesneriaceae evolved independently in the tropical Americas and in Asia. In America, the first Gesneriaceae epiphytes appeared around 30 million years ago in the Columneinae lineage, a group of Gesneriaceae which now includes more than 500 species.

Pollinators of Gesneriaceae

All Gesneriaceae rely on animals for the transfer of pollen from one flower to another. "Pollination" as this process is called, is essential for plant reproduction. Various creatures such as hummingbirds, bees and even bats pollinate Gesneriaceae flowers. The evolution of the interaction between plants and their pollinators is responsible for the extraordinary diversity of this plant family.

Hummingbirds – New World pollinator

Hummingbirds feed on the nectar of the flowers they visit. With their thin beaks and ability to hover, they are efficient pollinators and play an essential role in the reproduction of some 7000 plants including 70% of New World Gesneriaceae. Hummingbirds appeared in South America 20 million years ago. There are now 338 species, the majority of which are found in the Andes and in the Atlantic Forest of Brazil.

Tropical bees

A wide diversity of bees and bumblebees visit Gesneriaceae flowers. They are searching for nectar which they suck in with their mouth parts transformed into a tongue. Euglossine bees are especially striking because of their metallic sheen. While the females feed on the nectar, the males visit the flowers mainly to harvest fragrant resins which they store on their posterior legs and later use to attract females. This method of pollination is known for some orchids but also for certain Gesneriaceae such as *Gloxinia perennis*.

Vibratile and sonication (buzz) pollination

Thanks to their flight muscles some bumblebees and several bees are able to make flowers vibrate thereby releasing their pollen. Plants which have adopted this kind of pollination usually have stamens which discharge the pollen through small openings at their tips. This arrangement, a little like a saltshaker, means that precise quantities of pollen are available at each visit of the insect. About 8% of flowers are pollinated in this way including tomatoes and potatoes and several Gesneriaceae such as *Saintpaulia (Streptocarpus)* and *Ramonda*.

Bats which feed on nectar

Some bats of the tropical Americas feed mainly on nectar. As night falls these particularly efficient pollinators visit flowers selected by echolocation or by their odour. While hovering, the bat puts its head inside the flower and retrieves the nectar with its long papillose tongue. During this operation, which takes only a fraction of a second, pollen is deposited on the animal which then transfers it to another flower thus achieving pollination!

Relations which evolve

Evolutionary trees shows that pollination by bees was the first system adopted by the Gesneriaceae. Flowers pollinated by humming birds appeared about 20 million years ago at the same time as the appearance of these specialized birds in South America. This pollination system further evolved with regard to all the Gesneriaceae groups. Pollination by bats, adopted by about 10 species, is a more recent development appearing 5 to 10 million years ago. The evolution of these interactions between plants and their pollinators, often highly specific, is responsible for the extraordinary diversity of Gesneriaceae species.

The plant-pollinator relationship at the heart of floral diversity

The vivid colours and spectacular shapes of flowers did not evolve to satisfy our aesthetic preferences. They are often the result of close interactions with animal pollinators established over several million years of evolution. Animal pollinators visit the flowers to feed on nectar or pollen. But that's not all. The energy needs and behaviour of a bee, a hummingbird or a bat are very different. The flowers have adapted to these differences by modifying the quantity of nectar, their colours and shapes in order to attract the pollinators which can best ensure the transport of pollen from one flower to another within the same species.

Nectar, a source of energy for pollinators

Most flowers attract pollinators by offering a source of energy in the form of a sugary liquid called nectar. Amongst the Gesneriaceae, specialised glands produce nectar which flows across tiny openings (stomata) and accumulates in locules at the base of the corolla. The quantity and concentration of the nectar varies according to type of pollinator and as a function of their energy needs. Flowers pollinated by bats produce up to 100 times more nectar than those pollinated by insects. In insect pollinated flowers, nectar is produced in small volume, but with a higher sugar concentration.

Why do hummingbirds prefer red flowers?

Some bats of the tropical Americas feed mainly on nectar. As night falls these particularly efficient pollinators visit flowers selected by echolocation or by their odour. While hovering, the bat puts its head inside the flower and retrieves the nectar with its long papillose tongue. During this operation, which takes only a fraction of a second, pollen is deposited on the animal which then transfers it to another flower thus achieving pollination!

The morphology of flowers and pollination

The size and form of flowers play a key role in the specialisation they evolve to attract a specific type of pollinator. For example, narrow, tubular flowers pollinated by hummingbirds are difficult for bees to exploit because they must go inside the flower to retrieve the nectar. The length of stamens and their position in the flower also determine where the pollen is deposited on the animal.

Exploration and collecting

The search for plants and their collection in the field is an indispensable step in acquiring biodiversity knowledge especially in tropical regions. Where do species originate? How do we recognise them? What is their position on the phylogenetic tree? These questions can only be answered through examining information collected in the field.

From harvest to botanical collections

Samples which have been collected are dried and labelled before being included in the collections of a herbarium. Fragments of leaves are also conserved in order to extract DNA to be sequenced in the laboratory. Seeds or cuttings are also often kept in order to cultivate the plants. Characteristics of the samples are used for identification, description and classification of species.

Provide the tools for species conservation

Our research and field missions help to inventory, classify and conserve biodiversity. The information we collect is distributed through catalogues, floras and red lists. In Brazil our research has recognised some 210 species of Gesneriaceae, 33 of which are threatened.

The extraordinary diversity of Gesneriaceae in Ecuador

One of the smallest countries in South America is host to the greatest biodiversity per square metre in the world! There are over 210 species of Gesneriaceae, even more than the giant Brazil. This is because of the multitude of climatic and ecological niches between the Pacific coast, the Andes and the Amazon basin.

The discovery of new species

Botanists recognise that a species is "new to science" when they are convinced that it is different from all the species previously described in the scientific literature. This means that all publications and all collections relating to the plant group in question must be listed and analysed.

The description of Gesneriaceae species: a 300-year old activity

The number of species which have been described has been continuously increasing since 1753 when Linnaeus' *Species Plantarum* was published, the accepted beginning of the botanical nomenclature system. Exploration in tropical regions is still not complete and new species are being discovered every year.

The first tropical Gesneriaceae to be described

Over 300 years ago, the French botanist Charles Plumier (1646-1704) was sent by King Louis XIV to explore the West Indies. During two voyages in 1693 and 1695 he found and described many plants new to science including one he called *Gesnera* in honour of the Swiss scholar and naturalist Conrad Gessner. That plant, later classified by Linnaeus as *Gesneria humilis,* is considered to be the first tropical Gesneriaceae described and is used as a reference (type) for the genus *Gesneria* on which the entire family is defined. It is found on wet rock in Cuba and Haiti, but it is also well-adapted to our greenhouse.

New Brazilian species

Over the last 30 years research focussing on Gesneriaceae found in Brazil has resulted in the description of 35 species new to science and the identification of many other previously unknown plants. Pictures of a few of them are shown here. They illustrate the great diversity of Gesneriaceae in that country.

A species found again 190 years after its discovery

In 1825 Nees van Esenbeck published an engraving of a new species, *Sinningia helleri*, found in the region of Rio de Janeiro, Brazil. It was distributed and cultivated in several botanical gardens in Europe as herbarium samples and illustrations in several garden catalogues of the period show. Since 1909, this species had not been mentioned either in Europe or in its native country, until in the spring of 2015, it was rediscovered following information posted on Facebook within a group which identifies plants in Brazil. It is an important finding because this very rarely seen species is the reference (type) for the *Sinningia* genus.

3. From the Tropics to the living-room, wild plants as a source for horticultural forms

Gesneriaceae: a much sought-after family for houseplants

In addition to the popular African violets or *Saintpaulia*, other cultivars of Gesneriaceae from the genera *Achimenes, Aeschynanthus, Columnea, Episcia, Kohleria, Streptocarpus* are frequently commercialised. Amateur interest groups such as the Swedish Gesneriad Society in Europe and the Gesneriad Society in the United States, also contribute to their popularity.

Propagation of Gesneriaceae

This is one of the advantages of the family. The vast majority of the species can be easily propagated from leaf or stem cuttings as well as by division of the rhizomes or tubers. The seeds are also easily obtained after artificial pollination. They are numerous and small (rarely more than 1mm long) and germinate in several days or weeks. Most of the species flower in 6 to 12 months from seed.

African violet or *Saintpaulia*: a supermarket celebrity threatened with extinction

The *Saintpaulia* genus is better known as the African violet because of the colour of its flowers. They are no relation to the violets found in our woods. The original species *Saintpaulia ionantha* was first described in 1893 from plants introduced into cultivation in Germany using seeds harvested in the mountains of the Usambara region in what is now Tanzania. The genus includes half a dozen species originating in Tanzania or Kenya in East Africa. All of them have a very restricted geographic distribution and are on the IUCN (International Union for the Conservation of Nature) Red List of Threatened Species, in the Near Threatened and Critically Endangered categories

Domestication of *Saintpaulia*

After the first species had been introduced followed by selection and hybridisation between several varieties, *Saintpaulia* became the leader in the houseplant market. It is found in florists, garden centres and supermarkets. There are at least 2000 varieties produced in vast quantities by a handful of companies whose turnover is several tens of millions of Swiss francs annually. The paradox is that a plant found everywhere is threatened with extinction in its place of origin.

The florist Gloxinia: a Brazilian imported from Rio

A plant harvested in 1815, probably in the region of Rio de Janeiro then capital of Brazil, was brought to England. It flowered in a private horticultural establishment near London owned by Mr Joachim Conrad Loddiges. He named this plant *Gloxinia speciosa* in the first volume of a series entitled "Botanical Cabinet" which illustrated exotic plants cultivated in glasshouses. From the mid-19th century *Gloxinia speciosa* became a stylish embellishment for the salons and glasshouses of the period. Many new varieties, distinguished by shades of colour ranging from lavender, to dark red, to white were selected and described. They emerged as much from spontaneous mutations as from crosses with new wild plants from Brazil. Botanists call florist Gloxinia from garden centres *Sinningia speciosa*. The wild species is now rare, found only in a few fragments of the Brazilian Atlantic Forest.

Gloxinia with upright flowers: the appearance of *Gloxinia fifyana*

From 1845, a cultivar named *Gloxinia fifyana* with upright corolla was produced in England from a secret cross. From the 1850s to the 1900s, it was a huge success and became an indispensable feature of Victorian interiors. These varieties of Gloxinia are still commercialised although they are a no longer as fashionable.

4. The Gesneriaceae occur in Europe too

The Gesneriaceae family is made up of about 3300 species mainly found in the tropics. However, five species and three genera are found in isolated communities in southern Europe, the Pyrenees and the Balkans.

A family resemblance

The European Gesneriaceae of the *Ramonda* genus look very similar to a well-known tropical house plant of African origin, the *Saintpaulia ionantha*, a distant African "cousin" from the Usambara mountains in Tanzania. Another European Gesneriaceae, *Haberlea rhodopensis*, resembles species of the genus *Streptocarpus*, another houseplant also of African origin.

The five European Gesneriaceae species

1	***Haberlea rhodopensis***	Rhodope and Balkan Mountains (Bulgaria and Greece)*
2	***Jancaea heldreichii***	Olympus (Greece)
3	***Ramonda myconi***	Pyrenees and Catalonia (France and Spain)*
4	***Ramonda nathaliae***	Central Balkans (especially Macedonia)*
5	***Ramonda serbica***	West-central Balkans (especially Albania)

* Cultivated at the Botanical Garden of Geneva

Reviviscent plants

European Gesneriaceae possess a rare attribute amongst flowering plants, they can rehydrate themselves after becoming seriously dehydrated. They are therefore well adapted to changes in climate and this has enabled them to survive for many millions of years. The five European Gesneriaceae thrive at low and middle mountain elevations in well-shaded rock fissures, usually on limestone (but sometimes on serpentinite or siliceous rock).

Relicts of European flora of the Tertiary

During the Tertiary era (-65 million to -2.6 million years), Central Europe's vegetation was subtropical and tropical, the annual average temperature sometimes being over 10°C higher than today. It is therefore likely that the tropical Gesneriaceae family was also widely distributed in Europe. Following the later Tertiary periods (cooler, from -25 million years), then during the quaternary glaciations, the European tropical vegetation retreated and then disappeared. It is thought that many Gesneriaceae became extinct in Europe. The five species of the family still present in a few favourable regions in the south of the continent (Pyrenees and Balkans) are treated as relicts of the European thermophile flora of the Tertiary.

Molecular dating confirms an old theory

As early as the end of the 19th century a number of botanists had thought that the European Gesneriaceae probably had a Tertiary origin. But it was only very recently that molecular dating (molecular clock) was able to confirm the theory. The origin of European Gesneriaceae is now put at about 30 million years, during the Oligocene, during which they separated from the Asian Gesneriaceae (see Petrova et al. (2015), *International Journal of Plant Sciences* 176: 499–514). According to these authors, the separation of the lines resulted in the genus *Haberlea* on the one hand and the genera *Ramonda* and *Jancaea* on the other, nearly 25 million years ago. The division into the Pyrenean and Balkan lines of the *Ramonda* genus occurred nearly 8.5 million years ago, whereas the separation of the *Jancaea* genus of the Balkan line of the *Ramonda* genus goes back about 7 million years. However, speciation of *nathaliae/serbica* of the *Ramonda* genus is very recent in that it dates from the last glaciations (that is some tens or hundreds of thousands years ago).

Tertiary relics

During the Tertiary, Central Europe's vegetation was often a *laurisylva*, composed of evergreen species. Several tree species of the Lauraceae family occurred widely. But since the late Tertiary, then during the Quaternary glaciations, European tropical vegetation regressed and disappeared. Today we find laurel forests on the wet northern slopes of the Canary islands (such as at La Gomera and La Palma) and in Madeira.

Oswald Heer, pioneer of the study of Tertiary flora

The Swiss Oswald Heer (1809-1883) was one of the first to study fossilised flora and insects from the Tertiary period. His treatise *Flora tertiaria helvetiae* (1855-1859) focussed on northern Switzerland and examined the fossils of 920 species. The descriptions are illustrated by 156 engraved plates. Although most of the species documented by Oswald Heer disappeared from Europe, a few can still be found in the south of the continent. For example, a fern *(Woodwardia radicans)* and a palm *(Chamaerops humilis)*.

The European chain fern *(Woodwardia radicans)*

The large ferns of this genus were present north of the Alps during the Tertiary period. There are still some populations in north-west Spain, Portugal, Corsica, southern Italy, Crete, Algeria, the Azores, Madeira and the Canary Islands. They are relicts of the tropical vegetation which was widespread in Europe during the Tertiary. We can think of them as living fossils!

Dwarf fan palm *(Chamaerops humilis)*

This diminutive palm was also present north of the Alps in the Tertiary. It is still found in the western Mediterranean and is another witness (a living fossil) of Tertiary European flora.

The example of European Gesneriaceae

The tropical Gesneriaceae family was widespread in Europe during the Tertiary period even though no fossils have ever been found. The five species of this family still present in Europe grow in rock fissures, which means that they are not easily fossilised. This is why the family is not in Oswald Heer's work.

The three European Gesneriaceae cultivated at the Botanical Garden in Geneva

***Haberlea rhodopensis* Friv.**

The genus *Haberlea* was named after the German naturalist Karl Konstantin Haberle (1764-1832) by his pupil Imre Friváldszky von Friváld (1799-1870) in 1835. The only species of the *Haberlea* genus is found in the central Balkan Mountains (Bulgaria), in the Rhodope (Bulgaria and Greece), a mountain massif which gives its name to the species *(H. rhodopensis)*, as well as in several mountains of north-eastern Greece (notably the Pangaion).

***Ramonda myconi* (L.) Rchb.**

The *Ramonda* genus is named after Louis Ramond de Carbonnières (1755-1827), a French politician, geologist and botanist who was one of the early explorers of the high Pyrenees. The *R. myconi* species is named after the Catalan apothecary and botanist Franciso Micó (1582-1592, Latinised as *Franciscus Myconus*), who discovered the plant and signalled its presence particularly on the Montserrat (Catalonia). Micó informed the French naturalist Jacques Daléchamps (1513-1588) about his discovery, along with some thirty other new species, and no doubt mentioned the vernacular name for the plant: *oreja de oso*, "ear of the bear" (a reference to the shape, appearance and pilosity of its leaves). This is the reason why we find the first mention of the plant in 1587 in Daléchamps' *Historia generalis plantarum* under the name of *Auricula Ursi Myconi*, or the "Bear's ear of Micó". In 1753, Carl von Linné kept the *myconi* epithet and classified the species in the *Verbascum* genus. It wasn't until 1805 that Louis Claude Marie Richard created the *Ramonda* genus to which the *myconi* epithet was added in 1831 by Heinrich Gottlieb Ludwig Reichenbach. This plant thrives in the central and eastern Pyrenees (France and Spain) as well as in Catalonia.

***Ramonda nathaliae* Pančić & Petrović**

The *R. nathaliae* species is named for the Serbian queen Natalija Obrenović (1859-1941). It was during the first year of the reign of Natalie that two Serbian botanical pioneers, Joseph Pančić (1814-1888) and Sava Petrović (1839-1889), described this news species of the *Ramonda* genus.

The plant flourishes in the central Balkans. Most of the populations are found in the Macedonian Republic (ex-Yugoslav Republic), but it is also found in the west of Greek Macedonia (notably to the west-south-west of Naousa) as well as in south-eastern Serbia (south-east of Niš).

5. The Gesneriads, a family dedicated to the Swiss scholar Conrad Gessner

Who was Conrad Gessner?

This year marks the 500th anniversary of the birth of this Swiss scholar and naturalist born in Zurich in 1516. He died from the plague in his hometown in 1565. He was a contemporary of Calvin and a follower of the reformer Zwingli. Gessner synthesised a great deal of the knowledge covering a vast array of subjects. He had a remarkable mind and, in many voluminous works, he suggested innovative concepts which became the foundations of modern bibliography, zoology and botany amongst many others domains. Gessner's contribution to botany lay in a new method for describing plants by observing the specificities of their flowers, fruits and roots. Unfortunately, "Historia Plantarum", on which he toiled hard, was not published until 200 years after his death. He is the first scientist who recognized the role of the altitude and the temperature on the vegetation zonation in the Alps. The Gesneriaceae family, with its striking biological diversity, pays a well-deserved tribute to Gesnner, reflecting the wealth of contributions left by this Swiss scholar of international stature.

Conrad Gessner and vegetation belts

The Zurich naturalist Conrad Gessner (1516-1565) loved the mountains and was an early alpinist. In 1555 he climbed Mount Pilatus to the south west of Lucerne and published his observations in the same year. *Descriptio Montis Fracti sive Montis Pilati ut vulgo nominant, juxta Lucernam in Helvetia* is the first study of a Swiss mountain. During his ascent of the Pilatus, Conrad Gessner noticed the extent of climatic variation in relation to altitude and he described four "regions" according to the length of the seasons. Gessner was well in advance of his time. He was the first scientist to introduce a concept later used by 19th century authors to explain and develop the idea of vegetation belts, which is still applied today in biogeographical and botanical research. At a time when climate change has become crucially important for us all, Gessner's discovery five centuries ago is the cornerstone of thinking on the subject. Vegetation belts correspond to specific thermic levels where one or several types of characteristic plants are found. Any prolonged temperature change can therefore have serious consequences.

Some key dates

1516 The birth of Conrad Gessner 500 years ago in Zurich.

1587 The first description of a gesneriad, named *Auricula Ursi Myconi*, by the French botanist Jacques Daléchamps and the first mention (and the first engraving) of a gesneriad in the history of science. The species in question is from the Pyrenees and is now labelled *Ramonda myconi*.

1693-1695 Discovery of the first tropical gesneriad by the French botanist Charles Plumier who had been sent to explore the West Indies by King Louis XIV.

1703 Plumier called the plant "*Gesnera*" in honour of the scholar Conrad Gessner known as the "father of natural history". It was in reference to this name that the Gesneriaceae family was established.

1816 Exactly 200 years ago, Augustin Pyramus de Candolle, the celebrated Geneva botanist and founder of our institution, formalised the use of the family name Gesneriaceae.

2016 Over 3000 species are now recognised in a new classification of the family.