

## Sowing and cultivation information for Aeonium, Aichryson & Greenovia

### Origin



These fascinating genera of succulents belong to the **orpine family** or **stonecrop family (Crassulaceae)** and are mainly **endemic to the Canary islands, Spain**. Few species only are found on **Madeira** (Aeonium glandulosum, respectively Aeonium glutinosum), in **Eritrea and Ethiopia**, East Africa (Aeonium stuessyi, respectively Aeonium leucoblepharum), in the Anti-Atlas mountain range in **south-western Morocco** (Aeonium arboreum = syn. Aeonium korneliuslemsii, as well as a couple of little know Aichryson species) and last but not least on the **Cape Verde islands** (only Aeonium gorgoneum).

### The Genus Aeonium

At least for the genus Aeonium it is supposed that all taxa derive from a single **Prototype "Aeonium"** which had been growing some **19 million years ago** in the former area of the "Thetys" ocean (which is now the Mediterranean area) and of which some seeds incidentally arrived at the Canary Islands, raising from the Atlantic Ocean in that era. Due to drastic climatic changes over the past 15 million years in that area, in which for example the great Sahara desert in North Africa developed, the prototype vanished and left a disjunctional gap between populations in eastern Africa and the Canary islands, which had completely been separated by the desert. Because of rather unfavorable climatic conditions in eastern Africa only two new species were able to develop in this area (Aeonium stuessyi and Aeonium leucoblepharum), whereas on the Canary islands some astonishing 40 taxa arose in a process of evolutionary radiation and vicariation.



Aeonium populations in south-western Morocco and on the Cape Verde archipelago most likely derive from Canarian ancestors, whereas the decency of Aeonium glutinosum and Aeonium glandulosum on Madeira is still questionable, as it seems that Aeonium nobile (endemic to la Palma, Canary islands) derives from Aeonium glutinosum. At present some 39 valid taxa have been described and for a couple of recent discoveries in the last years a valid description is pending. The provisional names of the latter species bear a suffix like "sp. nov. ined.", "ssp. nov. ined." or "var. nov. ined." in our listings.

**Tenerife shows the highest diversity in the genus Aeonium**, with some 12 species, out of which 10 are endemic to this island. The abundance of endemic species is most likely a result of the enormous geological and climatic niches on this island. Each species of Aeonium is perfectly





adapted to its more or less restricted habitat. Some species appear in the lower xerophytic zone (succulent shrub), which starts only few meters above sea-level, such as *Aeonium lindleyi* in the north-eastern part of the Anaga Mountain range on Tenerife, *Aeonium percanium* in open lava formations on the eastern part of Gran Canaria and *Aeonium lancerottense* as its counter-part on Lanzarote. However the majority of *Aeonium* species prefer a more balanced and semi-humid climate on north-facing sides of all western islands (La Palma, El Hierro, La Gomera and Tenerife) as well as on Gran Canaria, at some hundred meter above sea-level. The tropical trade winds from the North have to climb up the central mountain ranges, which are between some 800m to almost 2.000 m in height. The winds cool down results in a condensation of

humidity. Under these conditions, yet in separated habitats, most *Aeonium* species occur. Two species with rather untypical habitats grow on Tenerife: *Aeonium smithii* in the subalpine zone of the Cañadas depression and the "Valle de Ucanca" (Ucanca Valley) in the southern part of the Cañadas at some 2.100 m above sea level and on the other hand *Aeonium cuneatum* from quite the contrary environment, namely the evergreen and rather humid laurel forest in both, the eastern and the western part of Tenerife.



All *Aeonium* species either grow as **perennials or small, semi-woody shrubs**. *Aeonium hierrense* (El Hierro) and *Aeonium urbicum* and *Aeonium urbicum* ssp. *meriodonalis* (both from Tenerife), *Aeonium appendiculatum* (La Gomera), as well as *Aeonium nobile* (La Palma) and *Aeonium tabuliforme* (Tenerife) flower only one time in their life. After that they slowly die down, leaving millions of dust like seeds for the next generation. In all other species the flowering rosette will die down as well, however, it will make new offsets below so that plants keep on growing vegetatively.



What you might find at your local garden store offered as "Aeonium" has seldom anything to do with the real species. You might be very disappointed to know that those plants usually are hybrids and cultivars of little botanical value, and will hardly survive in your cultivation, except for the commonly offered *Aeonium arboreum* "Zwartkop", which is a selected cultivar. Most specimens of *Aeonium* "Atropurpureum" are degenerated due to excessive ongoing hybridization. However this plant definitely does not descend from the real species *Aeonium arboreum* (now botanically corrected to *Aeonium korneliuslemsii*). The real

species *Aeonium arboreum* is found at only very few sites in coastal mountains of the south-western Morocco and does not occur on the Canaries, nor is it offered at any nursery specialized in succulents in the world. If you haven't seen the vigor and beauty of a real *Aeonium arboreum* flowering, then you might think *Aeonium* "Zwartkop" is an ornamental species. What makes a correct identification and species' segregation even worse is that numerous old, invalid synonyms (such as *Aeonium pseudotabuliforme*) or even "fantasy" names are still in use in order to have a very broad offer. Private enthusiasts, who would like to build up a botanical collection, might become frustrated when they realize that what they grow is of little horticultural value. Furthermore,



all *Aeonium* species from the Canaries easily hybridize, and even intergeneric hybrids between *Aeonium* and *Greenovia* do naturally occur (= x *Greenonium*). So what you might be sold as for example *Aeonium holochrysum* rarely does represent a true-to-type plant. All our seeds are from true-to-type specimens. When you buy seeds from us, you will be sure to get the species you would like to grow!



### The Genus *Aichryson*

Some 10 endemic *Aichryson* taxa occur on the Canary islands and another at least 6 taxa outside this archipelago. *Aichryson* usually share their habitat with either *Aeonium* or *Greenovia* species, yet in general they prefer more sheltered and humid places, as they either grow as fragile weeds or low subshrubs. They have numerous, rather large, usually bright yellow flowers and are as easy to grow as are *Aeonium* species. In winter they require a rather sunny spot inside at moderate, cool temperatures. If they become too large,



plants can be cut back. Cuttings will easily root within few days. These ornamental dwarf plants are excellent pot plants and will thrive in any partially shaded spot at cool temperatures, e.g. on a window sill. In our shop you will find the most complete selection of seeds from *Aichryson* species, which you will ever see throughout the world!

### The Genus *Greenovia*



The genus *Greenovia* consists of only 4 taxa (*Greenovia aizoon*, *Greenovia aurea*, *Greenovia diplocycla* and *Greenovia dodrentalis*), out of which 3 species occur on the island of Tenerife. Most of them grow in north-facing rock crevices in the "Barrancos" (typical deep-cut valleys, especially on the western islands and on Gran Canaria). Due to their dense rosettes and brilliant green, glaucous color of their leaves, these plants are locally called "rosas del monte" (mountain roses). All species (except *Greenovia diplocycla*) offset rather freely, whereas the mother-plant will slowly die down after flowering.

*Greenovia aizoon* is one of the rarest of all endemic species on this archipelago and can be found in very limited localities on Tenerife only. *Greenovia dodrentalis* used to have its main locality in the Barranco de Masca on Tenerife, yet due to excessive touristic activities (especially hiking and probably "incidentally" plant collection) its' populations have decreased significantly in recent years so that it has become threatened with extinction. All *Greenovia* species form perfect, very dense rosettes and a single large inflorescence of numerous yellow flowers before the mother plant will die down. They are highly ornamental species due to their dense rosette of glaucous leaves which will close almost completely



during summer, if plants are not watered. The outer leaves will then wither and turn orange-red or whitish-beige. As soon as temperatures will decrease in autumn in combination with a raise in air humidity, the dry-looking rosettes will restart their growth and completely unfold within few weeks. In our shop you will find seeds from all *Greenovia* species and even a new discovery, namely *Greenovia diplocyca* var. *gigantea* from La Gomera, which makes huge rosettes embedded in paper-like whitish-beige dry leaves in summer - a superb new species!

### Sowing and Cultivation

Sowing of *Aeonium*, *Aichryson*, *Greenovia* and their relatives within the oprine family from the Canaries, Madeira and the Mediterranean region (e. g. several *Sedum* and *Umbilicus* species) is very easy. for most adopt very well to different cultivation conditions. All species can be virtually grown in any substrate, which should be very well draining and rather pH-neutral (~ pH 7). Use any soil which you would use for cacti or any other succulents, for example. In general the substrate should be rather inorganic, i. e. it should consist of few parts of humus only. All smaller species, including all *Greenovia* as well as most *Sedum* species should be given some extra crushed lava, some grit sand or some pumice in order to enhance drainage. *Aeonium cuneatum* and other species from the semi-moist laurel forest (such as most *Aichryson* and all *Umbilicus* species) may be given some extra parts of humus (up to 50% vol.), e. g. some old, well-matured compost.



Sow the dust-like seeds very thin and evenly on the substrate's surface. Do not cover seeds with soil. It is recommendable to use only about one third of the seeds supplied per species for a first try. If too many seeds are sowed, within few days a "carpet" of seedlings will develop. Later these numerous seedlings will suppress each other in growth. You may want to store unused seeds in the original sealed package in a refrigerator (not in the freezer!!), where they will maintain an overall high viability for at least 5 years. Water sowing always from beneath in order not to shed the seeds from the surface and keep pots in a warm and partially shaded spot at between 15°C and 25°C. Temperatures above 25°C will inhibit germination for seeds will enter a heat induced dormancy till they may eventually germinate with decreasing temperatures. Germination occurs quite fast and evenly within some 7 to 21 days. As soon as seedlings appear, place them into direct sunlight (during winter months), respectively into partial shade (during summer months) and never let dry out the soil completely.



Many species in these genera will enter a more or less pronounced dormancy period during hot weather in summer months in Central Europe. With rising temperatures in early summer most plants will more or less close their rosettes and/or will lose most of their leaves in order to protect themselves from dissection by reducing surfaces of assimilation and transpiration. However, plants in cultivation do much better if they are not "baked" in summer, as it usually happens in their natural habitats. Keep them always slightly moist, thus they will grow faster and will gain flowering size sooner. During winter all smaller species should be

placed in a sunny and warm spot with slightly reduced watering. Under these conditions, some species might start to flower towards the end of spring or in early summer already. Larger shrub-like and somewhat woody species, such as *Aeonium manriqueorum*, *Aeonium ciliatum*, *Aeonium davidbramwellii*, as well as the giant species such as *Aeonium hierrense* and *Aeonium undulatum* might be kept at cooler temperatures during winter as long as soil is kept almost completely dry.



Under these conditions plants may shrink significantly and most likely they will lose most of their leaves, so that only the compact center of the leaf rosette will survive. New leaves will soon emerge within few weeks in spring with rising temperatures and increased watering. Most species will hence develop their ornamental inflorescences.

For certain species with deviant horticultural requirements some additional instructions and information are given on the main page for these genera. **Note:** All offered seeds are from **true-to-type plants** and derive from **artificially propagated plants**.

