Aeonium cuneatum: the succulent which comes from the clouds

Marco Cristitii

Aeonium 'Emerald Carpet' at Roraima Nursery.

Aeoniums are common and widespread plants, which almost all succulentophiles have met almost once. They are deservedly famous for their geometrical shape, for their wonderful flowers and for their drought-resistance. Surfing the net it is easy to find photos of them in their main habitat, the Canary Islands, growing in arid hills and on sunny outcrops or thriving in windy valleys.

Aeoniums are quite widespread also in Southern Europe, in California, in Australia and in New Zealand, where they are cultivated in gardens and greenhouses next to cacti and other desert plants, so it is easy to think that all these succulents come from dry regions and have to be grown accordingly, but in every genus of plants there are exceptions and this article is about one of them, *Aeonium cuneatum*.

The first time I saw *Aeonium cuneatum* I was not particularly impressed. I was visiting the Botanical Garden of Rome and I spotted the plant in a greenhouse, together with many other aeoniums. I duly photographed it, but I was more attracted by other species, such as the big *Aeonium urbicum*, the bushy *Aeonium arboreum* or the intriguing *Aeonium castello-paivae*, which was in blossom. After a year I met again *A. cuneatum*, this time at Jardin Exotique de Monaco. The plants grew together with other aeoniums and they looked much better than those I saw in Rome, but I did lot linger long before them, since they seemed to me quite normal, ordinary succulents

summary

Photo credit Noelene Tomlinson

Aeonium cuneatum growing in Melbourne.

I quite forgot them until I bought Rudolf Schulz's Aeonium in habitat and cultivation, the book which introduced me to the wonderful world of aeoniums. When reading the pages about Aeonium cuneatum, I discovered a fascinating story. This plant, which looks so ordinary in cultivation, comes from the most humid part of Tenerife, the Anaga region, and grows in the evergreen laurel forest (laurisilva) under tall trees. Unlike other aeoniums, it likes shady and wet spots, where it reaches 40 cm in diameter. I think that this is the reason, why A. cuneatum does not thrive when grown together with other aeoniums. In fact it needs a richer soil and a wetter environment in order to retain its distinctive features.

During the following months and years I kept looking for information about this big and strange succulent, but I did not manage to find much more. Then I had the opportunity, in August 2016, to spend my holidays on Tenerife and I planned a trip to Anaga to look for A. cuneatum and other plants.

I was not disappointed.

Photo credit Noelene Tomlinson

summary→

Tenerife, Taborno, *Aeonium cuneatum* among ferns in a very shady spot.

Tenerife, Taborno, the habitat of *Aeonium cuneatum*.

My first meeting with this wonderful species took place on 15th August. In the morning I went to Chinamada (Anaga), where I saw and photographed many A. lindleyi in full blossom. In spite of the weather, which was rainy and cloudy, the sight of hundreds of aeonium bushes yellow with flowers was unforgettable. On the way back I noticed a few strange plants beside the road, near Taborno, so I stopped to observe them more carefully.

Upon coming closer I was surprised by what I saw. Under the trees, among ferns and moss, there were dozens of A. cuneatum, many having 30-40 cm in diameter. They grow in the under-wood, in the middle of a very wet laurisilva forest. When I was there, the air was full of humidity, water was trickling from the branches and the soil was very moist. "No country for succulents" I would have thought looking at the sky, full of thick and fast clouds, if I had not seen A. cuneatum thriving there.

I do not know the average weather of that region of Tenerife, but the other parts of the island were very dry when I went there, whereas I always saw clouds over Anaga. Moreover, the plants grow under the trees and, sometimes, they are also hidden by ferns and bushes, so they do not manage to receive much sunlight. Shadow and humidity, however, seem not to be a problem for them.

summary↔

Tenerife, Taborno, a group of *Aeonium cuneatum*.

summary↓

Two days later I traveled east of Taborno and I saw again some A. cuneatum near Roque Suarez (see map 2). There the plants were, if possible, bigger than those I saw before. It is not easy to appreciate their size from the photos, so I once put my arm near a big specimen and I noticed that one leaf was almost as large as my hand. Also the plants near Roque Suarez grow under the **laurisilva**[1] forest foliage, on a wet terrain, which is covered by moss and ferns. I also observed smaller specimens, probably seedlings. It is easy to take photos of these plants, because they are very abundant near the TF-12 road. I did not dare to venture into the woods, since they seemed quite dark and impenetrable and I had plenty of photogenic subjects waiting for me a few steps from the asphalt, but more adventurous travelers can surely find plenty of A. cuneatum in the depth of the laurisilva forest

Tenerife, Pico del Ingles, *Aeonium cuneatum*, (close-up).

summary

On 19th August I was again in Anaga and I spotted many A. cuneatum around Pico del Ingles, which is not far from Taborno. They grow together with Monanthes anagensis, always on mossy terrain. The plants, however, looked smaller and with more rounded leaves than the ones I saw previously, maybe because there was more light.

Tenerife, Pico del Ingles, small *Aeonium cuneatum*.

Tenerife, Pico del Ingles, *Aeonium cuneatum*, in a less humid habitat than usual.

After returning home I decided to study A. cuneatum more carefully, so I looked for this succulent in books and articles about aeoniums. I soon made an interesting discovery. In fact almost all sources state that A. cuneatum grows both in Anaga and in Teno, but they are very vague about its habitat in the latter region (see table 1). Let us begin with the most recent monograph. Ángel Bañares Baudet, in his Las plantas suculentas (Crassulaceae) endémicas de las Islas Canarias (2015), states that A. cuneatum grows between 500 and 950 meters in both Anaga and Teno without further information. Joël Lodé, in his Plantas Suculentas de las Islas Canarias (2010), offers more details, since he writes that our succulent can be found between 500-950 m in Anaga, El Bailadero, Cruz de Taganana and Teno.

We learn two precise places in the Anaga region, but none in Teno.

summary

Tenerife, Pico del Ingles, three nice *Aeonium cuneatum*.

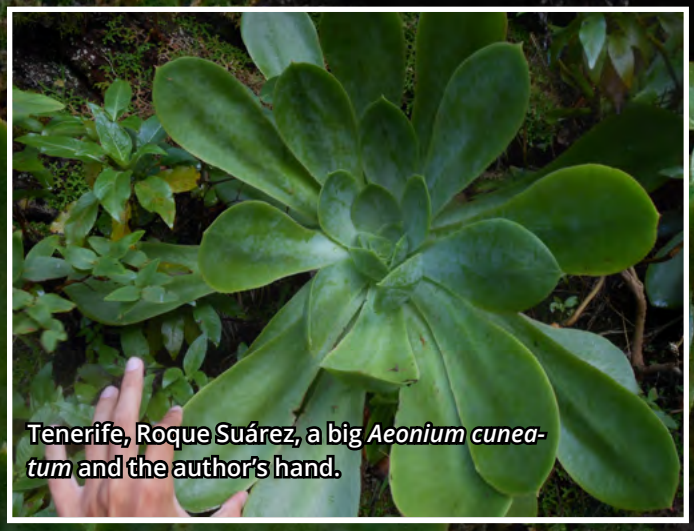
The situation is similar in Eduardo Carbonell's book, Cuadernos de succulencia (2007), where he locates the species in Anaga, El Bailadero, El Teno and Taganana. Rudolf Schulz, in his Aeonium in habitat and cultivation (2007), mentions only "Tenerife's wet and windy northeast peninsula", whereas Reto Nyffler, in Urs Eggli's Illustrated Handbook of Succulent Plants: Crassulaceae (2003), writes that A. cuneatum grows between 500-900 m in East and West Tenerife, echoing Ho-Yih Liu's Systematics of Aeonium (Crassulaceae) (1989), where the succulent is said to live between "500-950 m, in the laurel forest regions of the eastern and western ends of Tenerife". Liu, on the other hand, was quoting Robert Lloyd Praeger's An account of the Sempervivum Group (1932), where we find out that our succulent grows "at the eastern and western ends of the island" of Tenerife "about 1500 to 3500 feet", that is between 457,2 and 914,4 meters (1 ft = 0, 3048 m) or, if we want to round up these numbers, between 500 and 900/950 meters. A slightly different information is to be found in David and Zoë Bramwell's Flores Silvestres de las Islas Canarias (1974), where they again write that A. cuneatum grows at the eastern and western ends of Tenerife, but between 600-800 meters. This little experiment of Quellenforschung (a German word which means "looking for the sources") tells us that all authors who wrote about A. cuneatum's distribution (with the possible exception of Schulz) more or less quoted Praeger, whereas the Bramwells probably derived the altitudinal vegetation zone of this species from their experience.

summary

Tenerife, Roque Suárez, medium-sized *Aeonium cuneatum*, seedlings.

Now the obvious question is: where did Praeger's information about A. cuneatum in Teno come from? The answer is very easy: from himself. In an article published in 1929 Praeger writes that he saw A. cuneatum "in abundance in several places in the great wooded valley behind Los Silos, 750-1050 meters". He found it there because Oscar Burchard (1863-1949) told him that "he had found this plant near the western end of the island" (Praeger 1929). In fact Burchard published in the same year his Beiträge zur Ökologie und Biologie der Kanarenpflanzen, where he writes that he found A. cuneatum both in Anaga, between 500 and 1000 m, and in Teno, under the Fuente de Calera (750 m), which I was unfortunately unable to locate on the map. Since it is said to be on Monte de Los Silos (750 m) in an area rich of water, I think that it could be east of El Palmar (see maps 3 and 4). Burchard provides the readers also with a good black and white photo, which is the only image of an Aeonium cuneatum plant growing in Teno I was able to find in botanical literature.

summary



Tenerife, Roque Suárez, a big *Aeonium cuneatum* and the author's hand.

Tenerife, Roque Suárez, a big *Aeonium cuneatum*.

When I went to Tenerife, I stopped at Los Silos and I walked for a few hours on a path leading towards the hills, but then I unfortunately had not yet found out the exact location of A. cuneatum in Teno, so I did not look for it. The landscape I saw, however, was very dry. There was plenty of A. urbicum, A. tabuliforme and A. canariense, but no moss, no ferns and no A. cuneatum. Since reading about Praeger's and Burchard's discoveries, I wrote to a few experts of Tenerife's flora in order to find out whether they have ever seen such a succulent in the Teno area. Ricardo Mesa Coello kindly answered me that he saw the plant in Las Calabaceras and in the upper part of the Barranco de los Cochinos, in the escarpments looking to the north. Then, on 14th June 2017 he went to Monte del Agua, where he photographed a thriving population of A. cuneatum with some rosettes bearing inflorescences (located at these coordinates: 28° 20' 14.08" N; 16° 49' 36.92" W or, if we use UTM coordinates, 28 R 320918 3135918).

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Tenerife, Roque Suárez, *Aeonium cuneatum* in the laurisilva.

Tenerife, Roque Suárez, *Aeonium cuneatum* with a stolon.

If we leave Teno and return to Anaga, we have more detailed information about the places where Aeonium cuneatum grows. As I said before, I photographed the plant near the TF-12 road at Pico del Ingles, Roque Suarez and Taborno. Other known locations are El Bailadero, Cruz de Taganana, las Vueltas de Taganana, Cruz de Afur, Roque de Anambre, Cumbre de Anaga, las Casillas and Punta de Anaga.

The most detailed survey of A. cuneatum distribution in Anaga is still a Latin article published by Carl Bolle (1821-1909) in 1859, after two visits to the Canary Islands in 1852 and 1856 (see Table 1). The original description did not help because Aeonium cuneatum was first published by Sabin Berthelot (1794-1880), a French naturalist, and Philip Baker-Webb (1793-1854), an English botanist who described the species using a plant cultivated in his own garden at Milford, England. We did not know whence the plant came from, but since A. cuneatum is hard to find in Teno and is quite abundant in Anaga, I think that they used a specimen coming from the latter region.

summary

A big *Aeonium cuneatum* at Monte del Agua.

Photo credit Ricardo Mesa Coello

Aeonium cuneatum at Monte del Agua.

Photo credit Ricardo Mesa Coello

This conjecture, together with the history of botanical literature about A. cuneatum, raises interesting questions.

The succulent has in fact been studied, apart from Burchard and Praeger, using only plants coming from Anaga. Moreover, it is not clear whether these authors compared the specimens they found in Teno with those found in Anaga or not. If they did so, they did not write it in their works.

The western and eastern peninsulas of Tenerife are quite apart and A. cuneatum is nowhere to be found in the center of the island. How can we explain this distribution?

summary

An inflorescence of *Aeonium cuneatum* in its habitat at Monte del Agua.

Photo credit Ricardo Mesa Coello

Possibly, once A. cuneatum grew throughout Tenerife, and then an eruption of El Teide or a climate change divided the two populations. It is very difficult to guess when this happened, but I think that a careful analysis of the eastern population of A. cuneatum could offer some clues. It would also be interesting to investigate whether these plants are really identical to those living in Teno or they belong to two different subspecies (a sort of Aeonium cuneatum ssp. tenense and A. cuneatum ssp. anagense), as it often happens when two populations of the same taxon have been growing apart from each other for a long time. For all these reasons it would be a very praiseworthy enterprise if a botanist decided to explore the Teno area in search of A. cuneatum and then to compare it with the plants growing in Anaga.

summary

Close-up of inflorescence of *Aeonium cuneatum* in its habitat at Monte del Agua.

summary

After this long discussion about A. cuneatum distribution, however, it is time to provide the readers with a short description of it. A. cuneatum is a perennial succulent, sometimes epiphytic, whose rosettes, up to 40 cm (or more) in diameter, are often solitary, but they sometimes develop stolons up to 25 cm long (Praeger 1932), which appear, according to Burchard, around flowering rosettes. The stem is stout, very short and smooth.

The green-bluish leaves are rigid, quite fleshy, obovate to obovate-oblanceolate, mucronate, finely ciliate, usually 10-30 cm long and 5-8 cm wide, but there are also bigger plants, with leaves up to 40 cm long. The inner leaves sometimes form a cup

Photo credit Ricardo Mesa Coello

Bracts of *Aeonium cuneatum* nel suo habitat a Monte del Agua.

Photo credit Ricardo Mesa Coello

summary

A. cuneatum flowers from April to June according to literature. In fact the inflorescences photographed by Ricardo Mesa Coello on 14th June 2017 in Teno were spent, but still green. The flowering stem is 1 m tall and very leafy, with many yellow flowers with 8-10 triangular sepals 3-4 mm long; 8-10 oblanceolate, glabrous and acuminate petals 6-7 mm long; yellow stamens 6 mm long and pale green carpels 6 mm long. Citology is said to be n = 18 by Liu.

An *Aeonium cuneatum* hybrid.

Praeger (1929) writes that this aeonium hybridizes with A. canariense var. canariense and A. urbicum. He gives a Latin description of the former hybrid, which, translated, says "rosettes many, cup-shaped. Leaves spathulate, intermediate between the parents, fresh green, glabrous or lightly pubescent, ciliate with pectinate or pubescent cilia, or without cilia. Inflorescence densely glandular-pubescent. Flowers pale yellow, petals 7 mm long" (Praeger's translation, published in 1932). Praeger found two hybrids, one nearer to A. cuneatum and another nearer to A. canariense, at the head of Barranco Tajodio (or Tahodio), above a 30-foot waterfall at 700 meters. During the late Twenties, when Praeger saw the plant, the Embalse de Tahodio, an artificial lake, was created for irrigation purposes and maybe the 30-foot waterfall Praeger spoke of is to be connected with the dam which seals the lake. This hybrid is called Aeonium x tahodiense by Bañares (2007), who partially translates Praeger's description in Spanish in his book (2015) and writes (in both article, 2007, and book, 2015) that the lectotypus is the only extant illustration of the plant, published on plate IX (figure 4) of Praeger's article (1929), which, however, is of very little help, since it is only a quick sketch of the leaves. The plant was previously called Aeonium x bramwellii by Gordon Rowley (Jacobsen & Rowley 1973).

Photo credit Noelene Tomlinson

summary↓

Aeonium 'Emerald Carpet' in Perth.

Photo credit Treacy Lockie

As far as the hybrid with A. urbicum is concerned, Praeger (1929) is more uncertain, he writes about some strange plants he found in the Anaga woods having yellowish flowers and lightly glandular-pubescent inflorescence-branches, bracts and calices. He thinks that they could be a cross between A. cuneatum and A. urbicum, but he writes that the plants are very similar to A. urbicum. Unfortunately, he is not very precise about the place where he found this alleged hybrid, so it is impossible to locate it on the map.

summary

Aeonium 'Emerald Carpet' in Perth.

A. cuneatum hybridizes also in cultivation and it is thought to be a parent of Aeonium 'Emerald Carpet'. Noelene Tomlinson wrote me that she saw three hybrids of A. cuneatum in Melbourne and that both A. cuneatum and A. 'Emerald Carpet' are quite common there. The latter is to be found at Melbourne's Royal Botanic Gardens Victoria and, as Treacy Lockie wrote me, grows also in Perth, where it has been cultivated for quite a few years, since her parents obtained a cutting of it between the late 70's and the early 80's. A. 'Emerald Carpet' grows very well in poor soil and develops offshoots, one of the main features of A. cuneatum. Treacy wrote me also that it took ten years before the plant flowered. The climate of Perth can be very hot, dry and windy in summer, so it is similar to that of Tenerife and this is almost surely the main reason, why A. 'Emerald Carpet' grows so well there. Since A. cuneatum likes shady and wet spots, the other parent of this hybrid should be a very drought-tolerant aeonium, maybe A. urbicum. This guess is corroborated by Praeger, who wrote about such an hybrid, and by Attila Kapitany, who reports that A. cuneatum crossed with A. davidbramwellii and A. urbicum in his garden, giving birth to plants with pale yellow-cream flowers.

Photo credit Treacy Lockie

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Aeonium 'Emerald Carpet' at Perth.

Photo credit Treacy Lockie

Aeonium cuneatum in cultivation.

Aeonium cuneatum is not widespread in cultivation. What Praeger wrote in 1932 is still true today: "It is rare in cultivation and deserves to be more widely grown". Rudolf Schulz (2007) says that it can be found in California and that it "should do well in wetter environments such as the Pacific north coast of the USA and New Zealand", where it could be used as a ground cover. He also warns that this species does not grow well in pot. He then wrote me that he "found that it grew quickly and easily as a seedling, but it did not do well outdoors near Melbourne, in Australia, as it did not seem to like the extreme summer heat". Also Joël Lodé kindly shared with me his cultivation experience, stating that the plant can be grown in the shade of a greenhouse with humus and pozzolana, but some humidity is advised. Noelene Tomlinson confirms these cultivation requirements stating that this aeonium "prefers afternoon shade and wet conditions, but good drainage".

Aeonium 'Emerald Carpet' at Royal Botanic Gardens Victoria, Melbourne.

summary

Roma, Orto Botanico, *Aeonium cuneatum*.

Roma, Orto Botanico,i *Aeonium cuneatum* leaf.

Bañares (2015) too stresses the importance of humidity and writes that A. cuneatum needs an environment similar to its habitat. When I am writing this article (May 2017), I have been growing this plant for ten months and I agree that it can be a difficult species, since its growth is slow and it is easily attacked by mealy-bugs if kept indoors during winter. However, if one lives in a frost-free and not too arid area, I would recommend this succulent, because it is really a wonderful plant.

Jardin Exotique de Monaco, *Aeonium cuneatum*.

To conclude, this brief paper has shown that Aeonium cuneatum deserves more attention from both botanists and succulentophiles. The distribution of this beautiful species has not been adequately investigated and the most detailed studies about it are almost a century old. The population of A. cuneatum growing in Teno could offer valuable clues to understand better this species' history, taxonomy and distribution, so a careful investigation would be a praiseworthy task.

Moreover, this succulent has, in my opinion, a great cultivation potential, because it can be grow in wet climates, where other succulents would rot quickly. For this reason it could become popular among all succulentophiles living in wet and temperate regions. In fact, where other plants suffer because of frequent rains and constant shadow, Aeonium cuneatum feels at home and thrives, as it thrives in its remote habitat, among the woods and the clouds of Anaga.

summary

Addendum

A group of *A. cuneatum* belonging to the first population.

Aeonium cuneatum on Monte de los Pasos (Teno)

After I finished my article about Aeonium cuneatum, I had an unexpected opportunity to spend a day on Tenerife on 11th August 2017 and I went to Teno in order to look for this elusive succulent. Thanks to Ricardo Mesa Coello, who kindly informed me about the coordinates of the plants observed by him, I was able to pin down on my map the location of A. cuneatum and to plan my trip accordingly. So I went by car to Las Portelas and then I took the Carretera Monte del Agua, a road which is suitable for vehicles, but I advise to walk, if one has not a jeep. Along the path there are lots of wonderful Aeonium haworthii bushes and quite a few well developed A. urbicum. The road is sunny and hot at the beginning, but it enters soon in the laurisilva, where the air is more damp and the temperature much more endurable. There I spotted many dry inflorescences of Aichryson laxum, a few tiny plants of this species and one solitary Monanthes laxiflora.

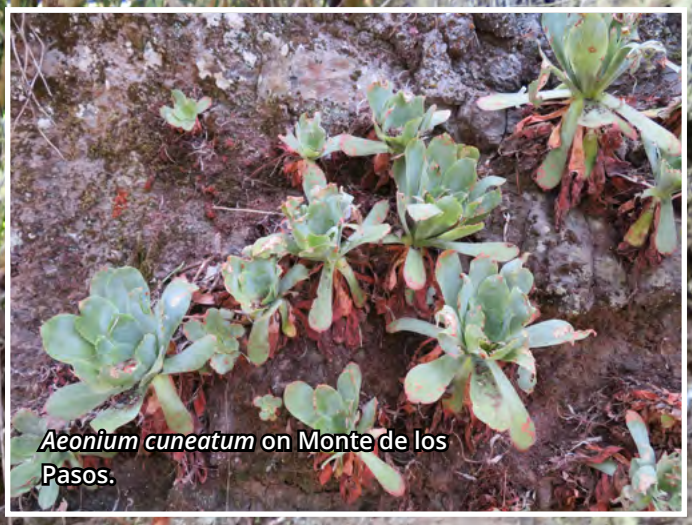
summary

A plant of *Aeonium cuneatum* on Monte de los Pasos.

The first population of *A. cuneatum* on Monte de los Pasos

At a crossroad with signs for Erjos (6.3 km far), Las Portelas (4.4 km far) and Las Moradas I took the path for the latter destination and after 100-150 meters I spotted a group of *A. cuneatum* partially concealed by bushes, growing on a steep mossy cliff, on the Western slope of Monte de los Pasos. The GPS coordinates provided by my smartphone were 28° 20′ 13.94″ N, 16° 49′ 36.95″ W (more or less 850 m above sea level). The succulents were not in a very good shape, because many of their leaves had been damaged by insects, but they were quite similar to those I saw in Anaga, albeit a bit smaller. The environment, however, was drier than the laurisilva of Anaga, at least during my visit. In this first group of plants there were a few grown specimens, but I saw no traces of inflorescences. After a few meters there was a second population of *A. cuneatum*, again growing on a steep cliff, where I spotted two dried inflorescences. These plants looked healthier than those I observed before, but were fewer in number.

summary



Aeonium cuneatum on Monte de los Pasos.

The second population of *A. cuneatum* on Monte de los Pasos.

I walked on this path towards Las Moradas for quite a while and then I carried on along the main road towards Erjos until another cross-road (4.5 km from Erjos). I spotted again *A. haworthii* and *A. urbicum*, several good-looking Aichryson laxum, some very dried members of section Greenovia (maybe *A. diplocyclum*) and a single *A. canariense* var. *canariense*, but no *Aeonium cuneatum*.

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A plant whose leaves have been damaged by insects.

Two *Aeonium cuneatum* on Monte de los Pasos.

I was impressed by how few *A. cuneatum* I saw. Moreover, they grow only on two cliffs and many plants were badly damaged by insects. I fear that a landslide or a massive attack by parasites could entirely destroy these little populations. The mountain behind the plant, however, is quite steep and it is not easy to explore the neighboring forest, so I hope that there are other groups of *Aeonium cuneaum* hidden in the laurisilva of Teno.

summary↵

Table 1: *Aeonium cuneatum* distribution according to literature

Banares Baudet 2015	Elemento termomediterráneo relegado a los ambientes más húmedos del monteverde en Tenerife (Anaga y Teno) donde crece en sectores escarpados y sotobosque así como epifitico de árboles de esta formación forestal, desde los 500 a 900 m s.m.
Lodé 2010	Tenerife (Anaga, El Bailadero, Cruz de Taganana, Teno) […] *Aeonium cuneatum* grows between 500-950 m in alt., in the laurel forest, on cliffs or soil banks, sometimes on trees, in relatively wet habitats.
Carbonell 2007	Medium-high wooded areas of Tenerife: Anaga, El Bailadero, El Teno and Taganana.
Schulz 2007	In clearings in the dense evergreen laurel forest on Tenerife's wet and windy northeast peninsula.
Nyffler 2003	Canary Islands (E and W Tenerife); 500 - 950 m, laurel forest region in fairly humid habitats.
Liu 1989	Common on rocks, soil banks, and among bushes, occasionally on trees, in fairly moist habitats; 500-950 m; in the laurel forest regions of the eastern and western ends of Tenerife, Canary Islands.
Bramwell 1974	Limitada a los viejos bloques montañosos en cada extremo de la Isla, Anaga y Teno, riscos de bosques y terraplenes, común localmente por la cumbre de Anaga, Cumbres de Taganana, El Bailadero, 600-800 m.
Praeger 1932	Canary Islands: Tenerife, locally abundant at the eastern and western ends of the island, on rocks, banks and among bushes, about 1500 to 3500 feet.
Praeger 1929	Dr. Burchard told me that he had found this plant near the western end of the island (it had been known previously only from the Anaga area, in the extreme east), so I was not surprised when I saw it in abundance in several places in the great wooded valley behind Los Silos, 750-1050 meters. Both here and at Anaga it may be found growing in woods in deep shade, among luxuriant ferns and *Selaginella*, as well as in exposed situations.
Burchard 1929	Ist es sehr auffallend, daß sich mehrere nur und ausschließlich im Anaga-Gebirge bekannte Sondertypen von Crassulaceen jetzt auch im Tenogebirge haben nachweisen lassen, welche sonst absolut nirgends vorkommen, *Aeonium cuneatum* und die bisher als große Seltenheit bekannte *Greenovia gracilis*. (*p. 43*) […] Im Tenowalde findet sie [*Prunus lusitanica*] sich etwas unterhalb der fuente de Calera, einer anderen Quelle in 750 m Höhe, auch ist weiter oben an Felsen der cumbre *Aeonium cuneatum* in großen Mengen. (*p. 45*) […] Die Art war bisher nur aus dem Anagagebirge bekannt, wo dieselbe auf den Felsen der Cumbre, etwa vom Cruz de Afur beginnend, nach Osten zu immer häufiger wird und in der Umgebung des Ostabsturzes der Insel beim Roque de Anambre. Massenvegetation bildet, hier auch vielerorts auf den Humusboden der Wälder übergeht, 700-1000 m. Schon vor vielen Jahren entdeckte ich dies *Sempervivum* an den feuchtesten Stellen der Teno-kette im Westen, wo ich das Bild (Taf. 40) bei der Fuente de Calera (750 m) aufnahm. Die Art dringt hier kaum tiefer in die obere Küstenzone hinab. Sie fehlt völlig im zentralen Teile der Insel. (*p. 128*)
Pitard-Proust 1908	Vueltas de Taganana (Bourg.); Punta de Anaga (Christ).
Bornmueller 1904	Teneriffa: in rupibus montium Anagae inter Cruz de Afur et Cruz de Taganana (n. 657), in jugo inter Taganana et San Andres, c. 900 m s. m
Bolle 1859	Habitat in Nivaria quam maxime septentrionali secus viam sylvosam las Vueltas de Taganana; abunde in lauretis et dendro-ericetis supra vallem las Palmas et inde ad Punta de Anaga et las Casillas usque nec non ubi ima vallis S. Andreae jugum Cumbre de Anaga dictum attingit.

summary↑

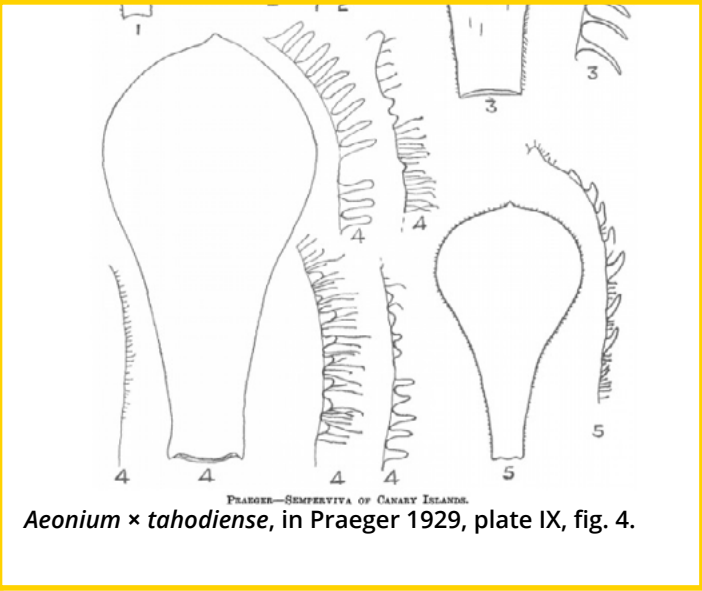
Table 2: *Aeonium cuneatum* in literature - page 1

	Bañares Baudet 2015	Lodé 2010	Carbonell 2007	Nyffler 2003	Liu 1989	Bramwell 1974	Praeger 1932	Burchard 1929	Webb & Berthelot 1841
Name	*Aeonium cuneatum* Webb & Berthelot, Hist. Nat. Iles Canar. (Phytogr.) 3 (2.1): 197 (1841) (Góngaro de Anaga).	*Aeonium cuneatum* Webb & Berthelot 1841.	*Aeonium cuneatum* Webb & Berthelot (Phyt. Canar. 197).	**A. cuneatum** Webb & Berthelot (Phytogr. Canar. 1: 197, 1841).	*Aeonium cuneatum* Webb & Berth., Hist. Nat. Iles Canaries 3(2.1): 197. 1841.	***A. cuneatum*** Webb & Berth.	**Aeonium cuneatum** Webb & Berth.	*Sempervivum cuneatum* W.B.	*Aeonium cuneatum* Nob.
Type				Canary Islands (Anonymus s.n. [not located]).	Spain, Canary Islands, detailed locality, collector and date unknown; cultivated in Webb's own garden at Milford, England (type specimen has not been located in the Webb herbarium).				
Synonymes	*Sempervivum cuneatum* (Webb & Berthelot) Webb & Berthelot *ex* Christ 1888.			*Sempervivum cuneatum* (Webb & Berthelot) Webb ex Christ (1888).	*Sempervivum cuneatum* (Webb & Berth.) Webb & Berth. ex Christ, Bot. Jahrb. Syst. 9:161. 1888.		*Aeonium cuneatum* Webb & Berth. Phyt. Canar. 1, 197 (1840) *Sempervivum cuneatum* Webb & Berth. *l.c.* (1840).	*Aeonium cuneatum* Webb.	*Sempervivum cuneatum* Nob. in hort. Milf.
Habit	Cespitoso, de hasta 20 cm de alto, suacaule, a menudo estolonífero.	Herbaceous succulent, sometimes epiphytic.	Ascending, rosetted plant.	Perennials, rosettes solitary or ccasionally off-setting.	Perennial terrestrial or epiphytic herbs.	Planta arrosetada.			
Stems		Very short, often stoloniferous stems.	Very short.	Stout, glabrous, smooth.	Very short, often stoloniferous, 0.5-3 cm diam., brown, erect.		Usually very short or decumbent.	Kurz, stark.	Caule fruticoso, crasso.
Stolones					To 25 cm long, decumbent, glabrous, leafy.		Few, strong, horizontal, on leafy stems up to 25 cm long.	Zahlreiche Ausläufer mit Tochter-rosetten umgeben die Hauptrosette, welche zuerst zur Blüte gelangt.	
Rosettes	De 20-40 cm de diámetro.	15-20 cm in diam.	Very tight […] greyish green colour, almost a bluish green.	15 – 50 cm diameter, cup-shaped.	15-50 cm diam.; phyllotaxy 5/13.		Very large, up to 1,5 foot across, *canariense*-like, the inner leaves forming a cup.		
Leaves	Glaucas, cuneadas y mucronadas, de 12-30(40) x 5-8 cm, glabriúsculas.	Fleshy […] obovate-oblanceolate to cuneate, glaborus, stiff, arranged horizontally, those of centre ascending, sometimes waved, bluish-glaucous.	Long and wide […] oblong-spathulate […] have a mucronate tip. They are concave, rigid and completely glabrous.	Inner leaves generally tightly appressed to each other; leaves 10-25 x 5-8 cm, 5-9 mm thick, obovate or obovate-spatulate, apically acute, mucronate, basally cuneate, glabrate, […] occasionally slightly undulate.	Obovate to obovate-oblanceolate, 10-25 cm long, 5-8 cm wide, narrowly transversely rhombic in cross-section, 5-9 mm thick, glabrate, at base cuneate, at apex mucronate, [...] and sometimes with portions of margin undulate.	Ascendentes sobre-saliendo, horizontales. Hojas rígidas, glabras, azulglauco, más ó menos oblongas, el ápice mucronado.	Rigid, glabrous, glaucous in shelter or when young, elongate-cuneate, broadest near apex, up to 25 cm long, 8 cm broad above, 5 cm broad at base, acute and mucronate at apex.	Mit schmal spatel-förmigen, völlig glatten unbehaarten, bläulich-grünen Rosetten-blättern. […] Die jungen Blätter neigen sich eiförmig zusammen.	Foliis rigidis, elongato-cuneatis, laete viridibus, apice mucronatis, ad basim sensim attenuatis 4-gonis.
Cilia	Margen con cilios cilíndricos.	With the margins very finely ciliate.		Margin with conical cilia (≤ 0.4 mm).	At margin ciliate with conical unicellular trichomes c. 0.4 mm long.	Bordes sutilmente ciliados.	Margins finely and evenly ciliate. Cilia patent, crowded, almost cylindrical blunt hyaline.		Margine breviter ciliatis.
Phenology	En abril-mayo.	April-June.	From April to June.		Flowering from April to June.		Aprile-June.	Die Blütezeit ist wenig später als die von *Aeonium canariense*.	
Flowering stem						Tallo floral frondoso, hasta 1 m de altura.	Terminal, up to 3 or 4 feet long or more, very leafy, with decreasing leaves.		

Table 2: *Aeonium cuneatum* in literature - page 2

	Bañares Baudet 2015	Lodé 2010	Carbonell 2007	Nyffler 2003	Liu 1989	Bramwell 1974	Praeger 1932	Burchard 1929	Webb & Berthelot 1841
Inflorescences	Cónica; pedunculos y pedicelos pubescentes.	Conical, with flowers golden yellow in 8-10 parts.	Very tall and luxuriant.	18-60 x 12-30 cm; peduncle 15-50 cm, leafy.	18-60 cm long, 12-30 cm diam.	Cónica.	Occupying the upper third of the stem, 1 to 2 feet long, elongate-conical in outline, with alternate, glandular-hairy branches, sparingly bracteate in lower part, […] branching above into 6 to 12 simple or di- or trichotomous branchlets.	Der Blütenschaft erreicht Meterlänge.	
Bracts							Ovate acuminate.		
Buds							Ovoid, pointed.		
Flowers	8-9 partidas.		Golden coloured flowers.	8- to 9-merous.		Amarillo dorado, 8- a 10-partidas, planas.	Subsessile […], 8-to 9-parted, golden, flat.		
Calix	Pubescente; segmentos deltoides, agudos.						Densely glandular-pubescent, cup-shaped, 6 mm long, cut half-way down into ovate-lanceolate or deltoid-lanceolate acute segments.		
Pedicels				1-6 mm, puberulent.	1-6 mm long, puberulent.				
Sepals				Puberulent.	8-9, triangular, 3-4 mm long, 1.2-1.6 mm wide, puberulent, at apex acute.				
Petals	Amarillo-oro, linear-lanceolados, agudos y de margen serrulado.			6.5-7.5 x 1.3-1.6 mm, oblanceolate, acuminate, yellow.	Oblanceolate, 6.5-7.5 mm long, 1.3-1.6 mm wide, yellow, glabrous, at apex acuminate, at margin minutely denticulate.		Non contiguous, linear-lanceolate, finely subserrate, very acute, 7 mm long.		
Stamens	Glabros.				With interpetalous ones 5.5-6 mm long, with antipetalous ones 5-5.5 mm long.		Yellow, 6 mm long.		
Filaments				Glabrous.	Glabrous.				
Carpels	Puberulentos en su cara adaxial.				With ovaries 3-3.5 mm long, c. 1.8 mm diam., sparsely puberulent adaxially.		Slender, pale green, 6 mm. Long.		
Anthers					Yellow.				
Styles					3.5-4 mm long.		Equalling or slightly longer than ovaries.		
Nectaries	Subcuadrados, algo ensanchados en el ápice.				Widely obovate, c. 0.7 mm long, 0.6 mm wide, greenish, at apex rounded and slightly emarginate.	Subcuadradas o redondeadas.	Roundish-subquadrat, broader above, 0.75 mm long and broad, greenish.		
Citology					$n = 18$				

Aeonium cuneatum near Fuente de Calera, Los Silos (Burchard 1929, table 40).



Praeger—Semperviva of Canary Islands.

Aeonium × *tahodiense*, in Praeger 1929, plate IX, fig. 4.

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Sitography

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Notes

(1) **Laurel forest**, also called laurisilva or laurissilva, is a type of subtropical forest found in areas with high humidity and relatively stable, mild temperatures. The forest is characterized by broadleaf tree species with evergreen, glossy and elongated leaves, known as "laurophyll" or "lauroid". Plants from the laurel family (Lauraceae) may or may not be present, depending on the location.