AEONIUM MASCAENSE, A NEW SPECIES OF CRASSULACEAE FROM THE CANARY ISLANDS.

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SUMMARY

A new species of Crassulaceae from the Canary Islands, *Aeonium mascaense*, is described for the first time. It is endemic to a small area of the island of Tenerife in the Barranco de Masca. The characters differentiating it from other species of *Aeonium* sect. *Urbica* are discussed as are its ecology and distribution. A list of associated species is given.

RESUMEN

Se describe por primera vez una nueva especie de Crassulaceae de las Islas Canarias, el *Aeonium mascaense*. Es planta endémica de una pequeña área en el barranco de Masca, de la isla de Tenerife. Se trata de los caracteres diferenciadores con respecto a otras especies de *Aeonium* sect. *Urbica*, así como de su ecología y reparto. Se dá una lista de especies asociadas.

INTRODUCTION

Though the flora of the Canary Islands is now very well known, their rugged terrain with extensive areas of cliffs and deep ravines make exploration difficult and a few novelties are still expected to occur, this is the case with the new species of *Aeonium* described here.

The genus *Aeonium* is one of most interesting of the Canarian genera because of its high concentration of species resulting from local adaptive radiation (Lems, 1960; Voggenreiter, 1974) and its disjunct East African-Macaronesian distribution (Bramwell, 1972).

The genus was extensively monographed by Praeger (1932) and only two local endemic species have been described since, *A. rubrolineatum* Svent. (Sventenius, 1954) and *A. vestitum* Svent. (Sventenius, 1960). Both these are very rare endemic species which were overlooked by previous explorers and the new species described below is also a species of restricted distribution found in a very small area and with a known population of less than fifty plants which means that it must immediately be considered as yet another seriously endangered Canarian endemic species. *Aeonium mascaense* is, however, now included in a programme of cultivation of endangered endemics carried out in the Jardín Botánico Canario "Viera y Clavijo" on the island of Gran Canaria.

DESCRIPTION

AEONIUM MASCAENSE spec. nova

Haec species in Nivaria regione septentriono-occidentali rarissima ab affinibus *A. castello-paivae, A. haworthii* et *A. decorum* inflorescentia glabra, antheris productis acutis, foliorum rosulis compactis, section foliari elliptica recedit.

Holotypus: D. Bramwell n°. 1386, Nivaria insula (Tenerife dicta) in anfractuosis Mascae ubi reperta fuit die 26 martii 1969. In Herb. Hort. Bot. Canar. "Viera y Clavijo" (JVC) servatus.

Much branched, small, glabrous subshrub up to 25 cm, forming a dense bush. Stems with prominent, rough leaf-scars. Leaves in small dense rosettes, glaucous green, shiny, red-edged and streaked, spathulate-claviform up to 3.5 cm long, very fleshy, apiculate, rounded on the lower surface, more or less convex on the upper; the margins with long, forward-curved cilia.

Flowering stems erect, 20-30 cm, pale pink, with a few bracts; inflorescences lax, the buds broadly conical, white becoming pale pink on anthesis. Flowers 6 to 8 - parted, campanulate. Calyx fleshy, glabrous to very sparsely

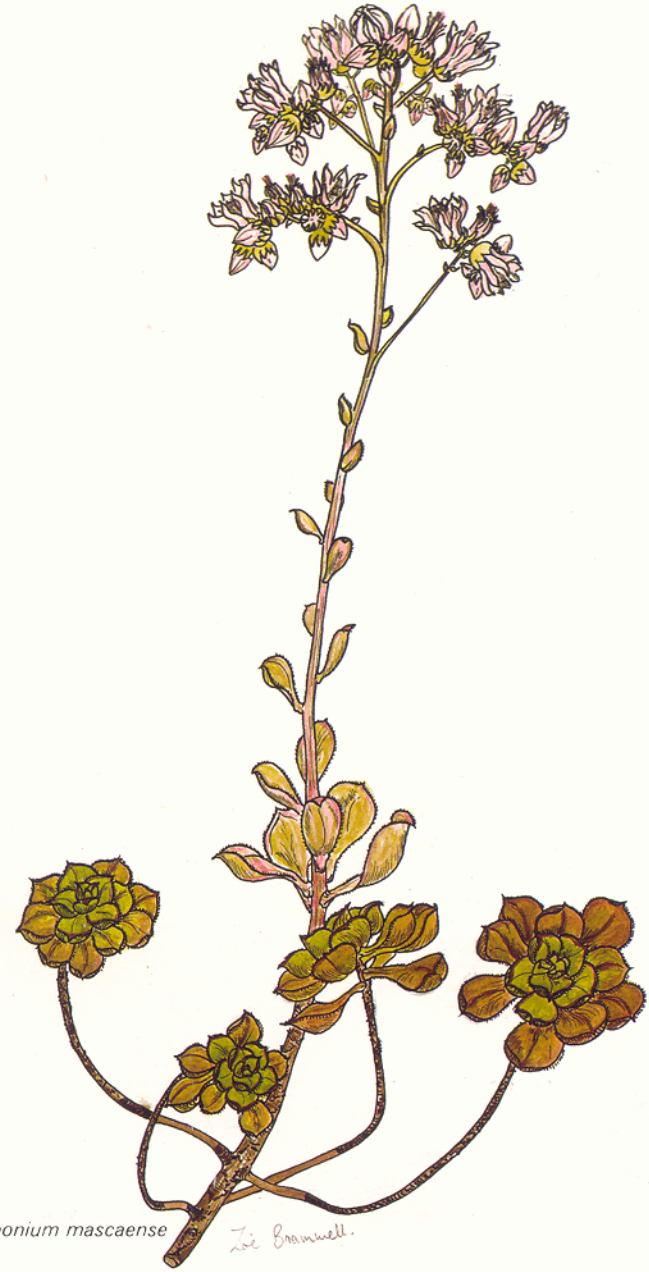

Figure 1: *Aeonium mascaense*

Figure 2: Inflorescence branches of *A. mascaense* and its nearest relatives.

pubescent, the teeth fleshy, deltoid, subacute. Petals about 1 cm, lanceolate, acute, white to pale pink. Stamens white, the anthers elongated and very acute at the apex. Carpels erect, white to pale pink with the styles pink-tipped. Figure 1.

TAXONOMY

This extremely rare plant is a member of the section *Urbica* of the genus *Aeonium* which contains several small, natural series of species including the *A. haworthii* group in which the present species must be placed. The *A. haworthii* group consists of two species endemic to the island of La Gomera, *A. decorum* Webb ex Bolle and *A. castello-paivae* Bolle and two found only on Tenerife *A. haworthii* Webb & Berth. and *A. mascaense.* All are small, much-branched shrublets with campanulate creamy-white to pink flowers and small, dense leaf-rosettes. They are generally species of dry, rocky areas between sea-level and about 800 m. and except for *A. mascaense* are locally common.

A. mascaense is the smallest, most delicate and rarest species of the group and, indeed, of the section *Urbica.* It is distinct from the other members in its small, tight rosettes of very fleshy, shiny red-streaked leaves which are manifestly convex on the upper surface and in the rough leaf-scars which are less prominent than those of *A. decorum* and somewhat resemble those of *A. ciliatum.* The glabrous inflorescence of *A. mascaense* is like that of *A. haworthii,* the inflorescence of both the other species being finely pubescent. *A. mascaense* is, however, easily distinguishable from *A. haworthii* by leaf-shape and colour, flower-colour and by the very elongated, pointed anthers. The differential characters are shown in figures 2, 3, 4 & 5.

A. mascaense is probably best considered as a vicariant of the Gomera species *A. decorum* and *A. castello-paivae* and several species otherwise confined to the island of La Gomera also occur in the Masca area of Tenerife, for example *Dicheranthus plocamoides, Sideritis lotsyi* (with var. *mascaense)* and *Polycarpaea carnosa* var. *spathulata.* This gives some botanical support to Hausen's suggestion (Hausen, 1956), based on geological evidence, that the Masca region of Tenerife may once have been physically connected with the nearby island of La Gomera.

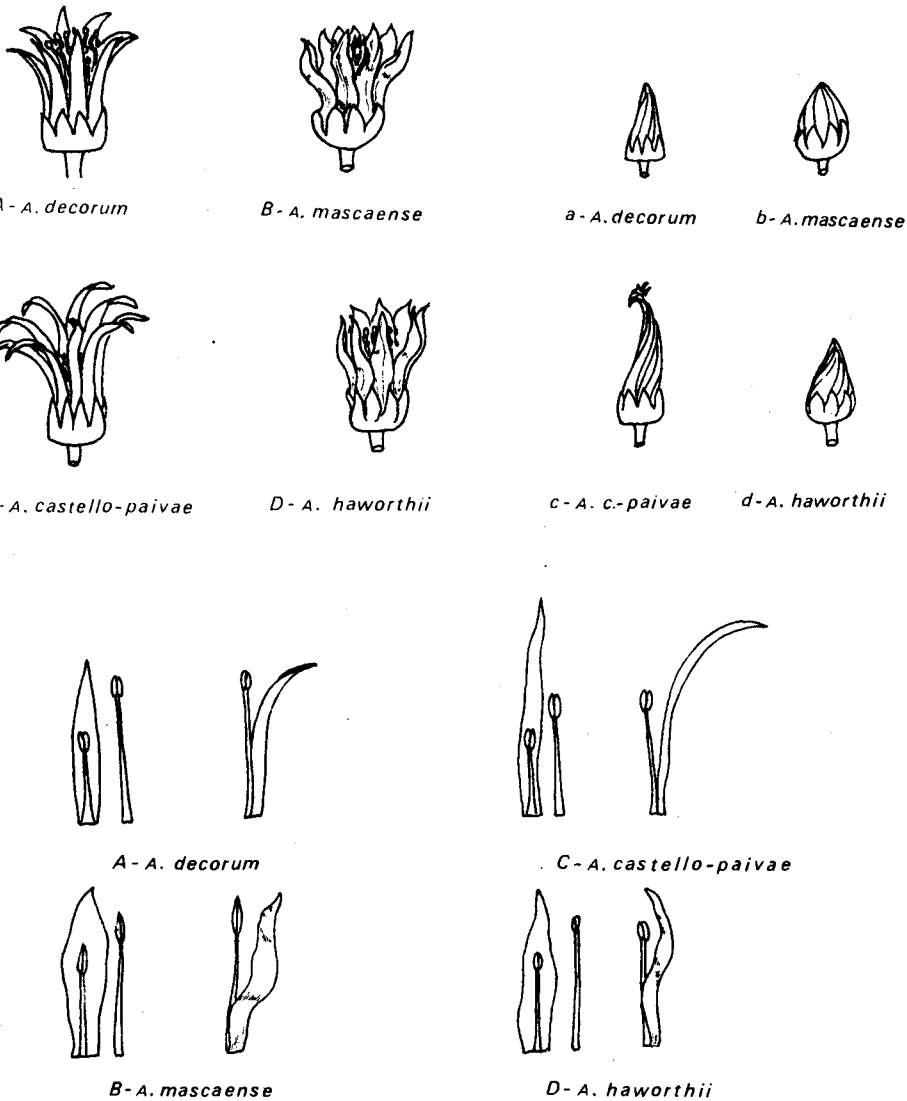

Figure 3: Floral and bud details of *A. mascaense, A. decorum, A. castello-paivae* and *A. haworthii.*

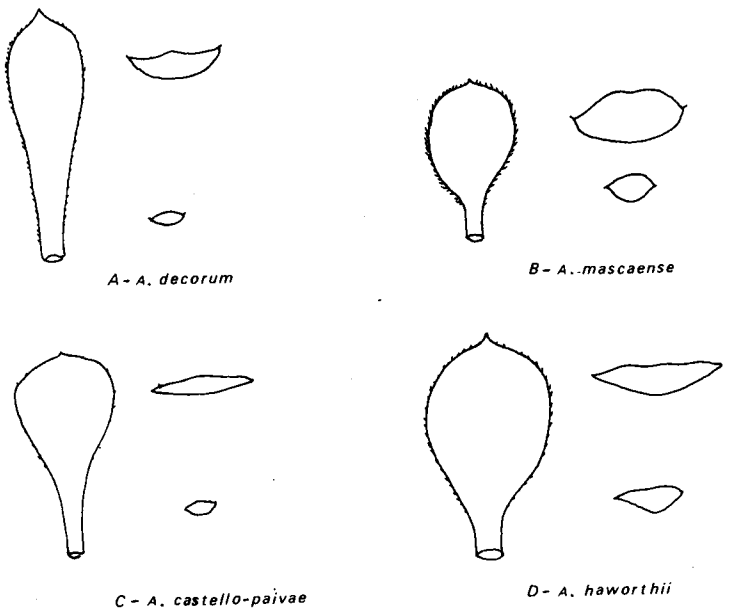

Figure 4: Leaf outline and transverse section of *A. mascaense* and its three closest relatives.

ECOLOGY AND DISTRIBUTION

A. mascaense has only been found in a very small area of the Barranco de Masca on the western side of the island of Tenerife at about 400 m. above sea-level Fig. 6. This makes it probably the rarest and most narrowly distributed of all the Canarian *Aeonium* species and it is found in association with several other very restricted local endemic species such as *Teline osyroides, Lotus mascaensis, Cheirolophus canariensis, Sonchus fauces-orci, Aeonium sedifolium* and *Crambe laevigata.*

The base rocks of the area are ancient basalts and phonolites with numerous olivine dykes and *A. mascaense* is found amongst the loose rocks and boulders beneath the high vertical cliffs of the valley below the hamlet of Masca. The rupicolous habitat in sunny, exposed places is typical of all the species of the group. A list of species observed in the same area as *A. mascaense* is contained in fig. 7.

	A. mascaense	*A. haworthii*	*A. decorum*	*A. castello-paivae*
leaf-scars	ridged	smooth	very prominently ridged	smooth
leaf T.S.	oval	upper surface flat	upper surface flat	flattish on both surfaces
leaf - shape	spathulate-claviform	obovate	oblanceolate-spathulate	subspathulate
calyx	very fleshy, glabrous	glabrous, slightly fleshy	pubescent	glandular-pubescent
inflorescence	glabrous	glabrous	pubescent	pubescent
flower colour	white-pale pink	pale yellow, suffused pink	pink	creamy white or pinkish
anthers	elongated, acute, filaments glabrous	rounded, subacute, filaments finely pubescent in upper 1/3	rounded, filaments pubescent	rounded, filaments glandular pubescent

Figure 5. Differential characters for species of the *A. mascaense* group.

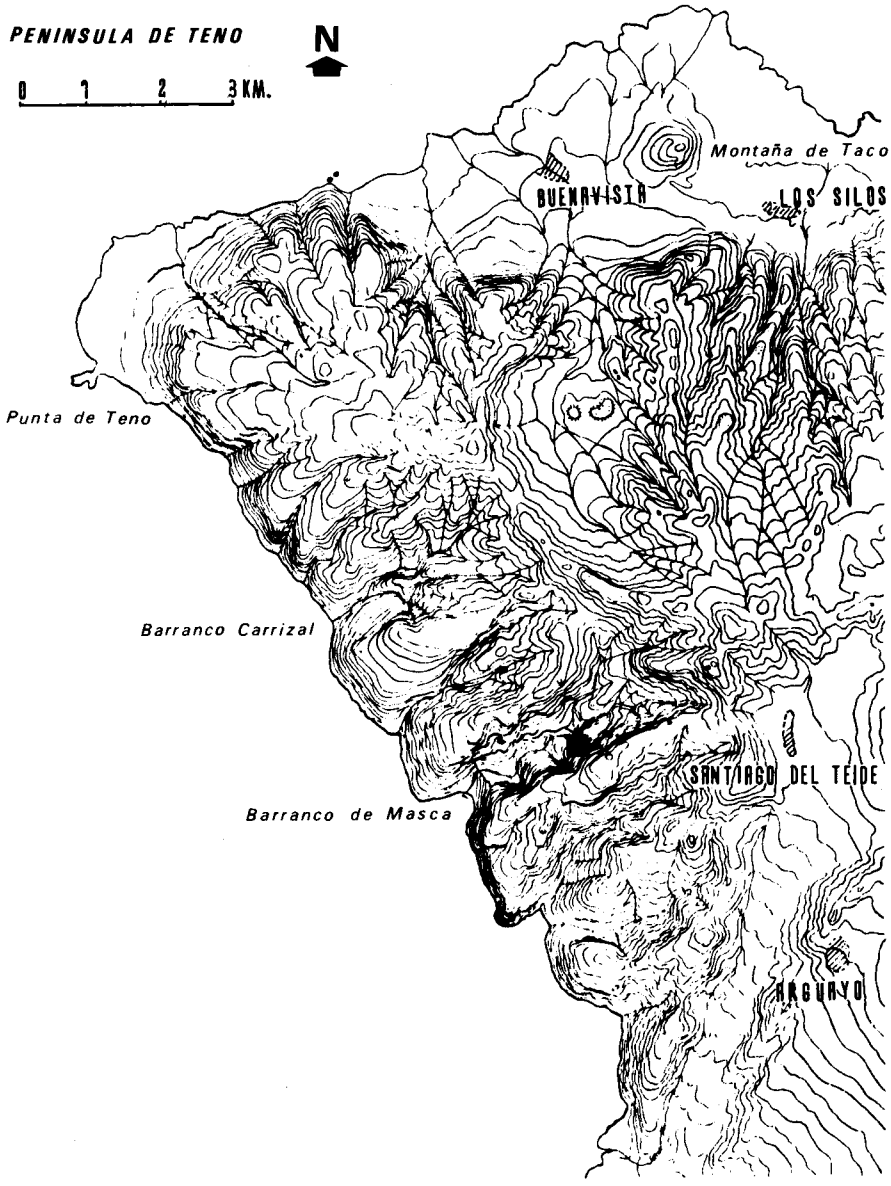

Figure 6: Distribution of *A. mascaense* in the Barranco de Masca, Tenerife.

In the same community:

Polypodium macaronesiacum
Argyranthemum foeniculaceum
Lavatera acerifolia
Rubia fruticosa
Senecio heritieri
Habenaria tridactylites
Teline osyroides
Lotus mascaensis
Tricholaena teneriffae
Dicheranthus plocamoides
Sonchus fauces-orci
Lobularia intermedia
Micromeria varia
Crambe laevigata
Monanthes pallens
Aeonium urbicum
Convolvulus perraudieri
Hyparrhenia hirta

In the immediate area:

Cheirolophus canariensis
Sonchus cf. capillaris
Polycarpaea carnosa
Lavandula pinnata
Sideritis lotsyi
Euphorbia atropurpurea
Euphorbia broussonetii
Echium aculeatum
Silene cf. lagunensis
Dorycnium broussonetii
Plantago arborescens
Paronychia canariensis
Dactylis smithii
Tricholaena teneriffae
Davallia canariensis
Aichryson parlatorei
Vieraea laevigata
Descurainia millefolia
Aeonium sedifolium
Aeonium X burchardii
Chamaecytisus proliferus
Bupleurum salicifolium
Ferula linkii
Tinguarra montana
Phyllis viscosa
Salvia broussonetii
Asparagus scoparius

Figure 7: Associated species of *A. mascaense* in the Barranco de Masca, Tenerife.

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