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ÁNGEL BAÑARES BAUDET & M. CATALINA LEÓN

The identity of *Aeonium ciliatum* (Willd.) Webb & Berth. *(Crassulaceae)*

Abstract

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Aeonium ciliatum, a local endemic of Tenerife, Canary Islands, has long been merged with a different species from the island of La Palma. Based on an analysis of the type and other material, its actual identity is clarified, and a revised description, an illustration and a comparison with related and easily confused species is provided.

Willdenow (1809) described *Sempervivum ciliatum* based on a collection made by P.M.A. Broussonet on the Canarian island of Tenerife in 1807. Although the name *Sempervivum ciliatum* had already been published by Gilibert (1782), Willdenow's binomial is legitimate since the names of species and infraspecific taxa in Gilibert's "Flora lituanica inchoata" are not accepted as validly published (Greuter & al. 1994, App. V). Willdenow's diagnosis reads: "S. caule frutescente, foliis obovatis, acutis, glabris, cartilagineo-ciliatis, cymis confertis. Habitat in Teneriffa. Broussonet. Flores albi". A corresponding specimen, preserved in the Willdenow herbarium at Berlin (B-W), has been designated as lectotype by Liu (1989, "holotype"). This specimen consists of a flowering branch with marginally ciliate but otherwise glabrous, spathulate to obovate leaves and a completely glabrous inflorescence.

Webb & Berthelot (1841) transferred the taxon to *Aeonium*, forming the combination *Aeonium ciliatum* (Willd.) Webb & Berth. At the same time, these authors, however, identified Willdenow's species with a plant from La Palma, and based both the description and illustration of *Aeonium ciliatum* on material collected on this island ("legimus quoque in insulae Palmae convallibus circa Miraflor", Webb & Berthelot 1841: 195, t. 35). An original specimen, accompanied by the corresponding page of the manuscript and labelled "*Sempervivum ciliatum* Willd. In rupibus Ins. Can. legi in Palma", is extant in the Herbarium Webbianum at Firenze (FI-W). In contrast to the type material of *Sempervivum ciliatum*, this specimen has puberulent, obovate to oblanceolate leaves with a ciliate margin and a pubescent inflorescence, as is expressed in the description and shown in the illustration of *Aeonium ciliatum* by these authors.

Later authors, following Webb & Berthelot (1841), therefore frequently applied the name *Aeonium ciliatum* also to plants with pubescent or puberulent inflorescences and flowers from Tenerife (Liu 1989) or both Tenerife and La Palma (Praeger 1932). The intention of this contribution is thus to clarify the concept of *Aeonium ciliatum* in the sense of the type and to outline the differences to its allies.

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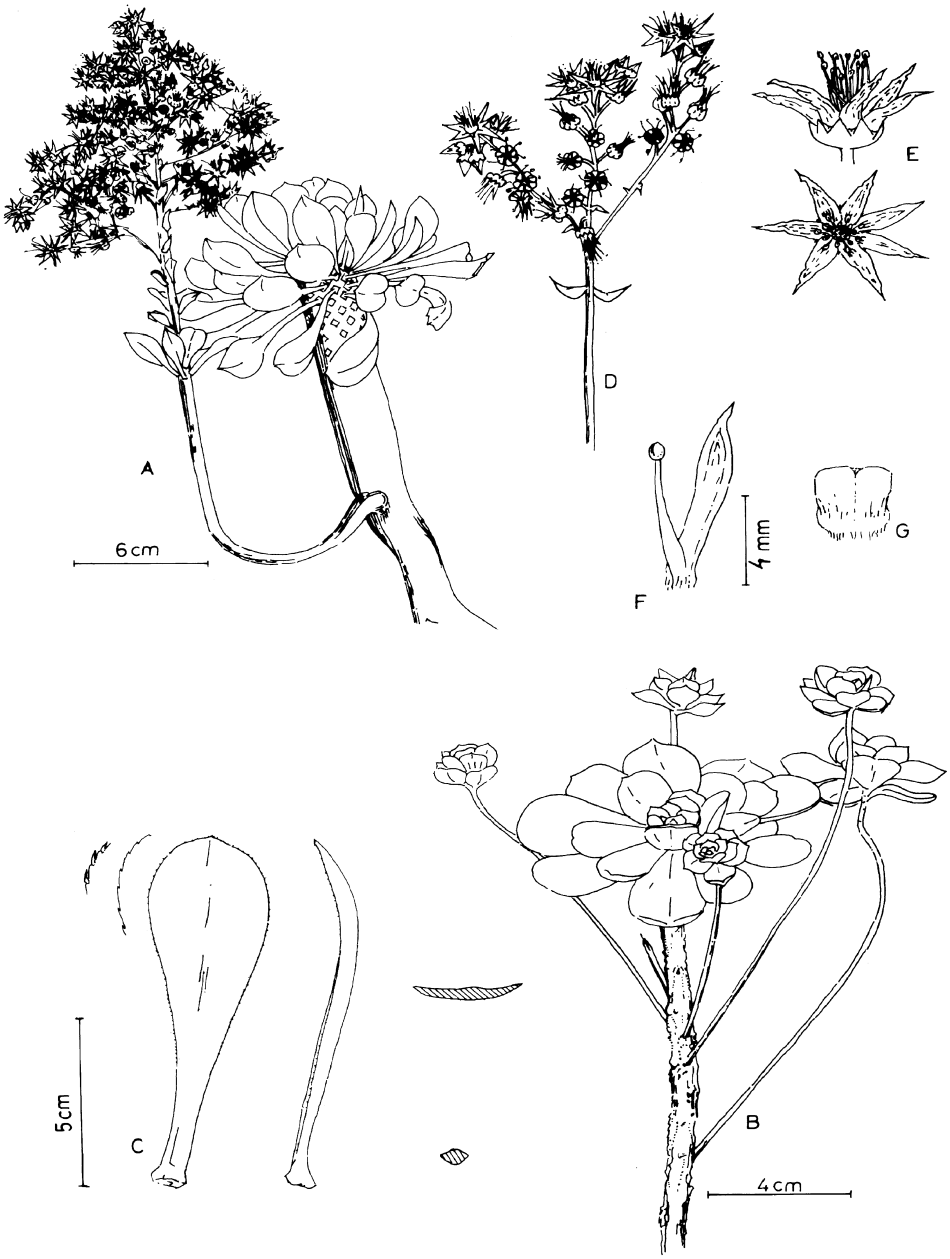

Fig. 1. *Aeonium ciliatum* (Willd.) Webb & Berth. – A: adult plant, B: young plant, C: leaves, D: peduncle, E: flowers, F: petal and stamen, G: nectariferous gland. – Drawings after *Bañares 36883* (TFC).

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Tab. 1. Diagnostic features of *Aeonium ciliatum* and related species.

	Aeonium					
Features	*ciliatum*	*gomerense*	*haworthii*	*urbicum*	*davidbramwellii*	pseudourbicum
Stem	branched, scaly	branched, rough	strongly branched, smooth	unbranched, smooth (young plants scaly)	branched, smooth	unbranched, smooth
Leaves	green, oblanceolate-spathulate, glabrous to glabrate	glaucous, obovate-oblanceolate, glabrous	glaucous, obovate, glabrous	green to glaucous, spathulate-oblanceolate, puberulent	glaucous, obovate to oblanceolate-spathulate, densely puberulent	glaucous, spathulate to oblanceolate, glabrous
Inflorescence	glabrous	glabrous	glabrous	glabrous	pubescent	pubescent
Sepals	glabrous	glabrous	glabrous	glabrous	pubescent	pubescent
Petals	white-greenish, glabrous	white-greenish, glabrous	white-greenish or white-pinkish, glabrous	white-greenish or white-pinkish, glabrous	white-greenish puberulent	white-greenish or white-pinkish, puberulent
Carpels	glabrous	glabrous	glabrous	glabrous	pubescent	pubescent
Distribution	Tenerife	Gomera	Tenerife	Tenerife Gomera	La Palma	Tenerife
Flowering	June-July	April	April	April	April	March

Aeonium ciliatum (Willd.) Webb & Berth., Hist. Nat. Iles Canaries 3(2,1): 195. 1841 ≡ *Sempervivum ciliatum* Willd., Enum. Pl.: 508. 1809. – Lectotype (designated by Liu 1989: 84 [as "holotype"]): "Teneriffa", *Broussonet* (B-W 9408! [IDC 7440 mf. 651]; isolectotype: LE (fide Liu 1989: 84).

Description

Branched subshrub of 35–70 cm height, with abundant adventitious roots. Stem up to 3 cm in diameter, with apical rosettes 15–20 cm in diameter, the branches rough with prominent scalelike excrescences, ascending, 0.4–1 cm in diameter, with rosettes 7–10 cm in diameter. Young plants with a much branched and tubercular main stem and lax, upwards scaly branches. Leaves spathulate, 6–11 × 2.5–3.5 cm, lamina 2–3 mm thin, glabrous to glabrate, dark green and often marginally and dorsally reddish, margins weakly ciliated, apex acuminate and mucronate. Inflorescences lax, dome-shaped, 18–20 × 15–16 cm, glabrous; peduncles with lanceolate bracts higher up decreasing in size; pedicels 3 mm long. Flowers 8–9-parted; calyx glabrous, sepals acute; petals lanceolate, acuminate, 9–10 × 2 mm, green-whitish, glabrous; stamens with white, glabrous filaments, the epipetalous ones 6 mm, the episepalous ones 8 mm long; carpels white, glabrous; nectariferous glands quadrate, 0.6–0.7 × 0.8–1 mm. Flowering in June-July. (Fig. 1).

Distribution

Aeonium ciliatum is a rare endemic of Tenerife actually confined to some locations on the summit line and northern slopes of the Anaga Region. The distribution maps by Voggenreiter (1974) and Liu (1989) show a wider distribution due to confusion with other species.

Additional specimens seen

Spain: Canary Islands: Tenerife: Anaga, Casas de la Cumbre, 30.6.1993, *Bañares 36883* (TFC); Anaga, Chinamada, 7.1993, *Bañares 39564* (TFC); Anaga, El Pijaral, 7.1993, *Bañares 39565* (TFC); Anaga, El Bailadero, 7.1994, *Bañares 39563* (TFC).

Related species

Our studies revealed that the La Palma plants merged with *A. ciliatum* by Webb & Berthelot (1841) actually represent a different taxon, consistently distinguishable by its pubescent leaves,

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inflorescences and flowers, which has recently been described as *A. davidbramwellii* H.-Y. Liu (1989) and *A. ciliatum* subsp. *praegeri* Bañares (1990). The previous interpretation of this taxon as a subspecies of *A. ciliatum* by the first author of the present paper was, however, due to the wrong concept of the latter species in the tradition of Webb & Berthelot (1841), so that the name *A. davidbramwellii* is accepted as the correct name for the La Palma species. The diagnostic differences between *Aeonium ciliatum* and *A. davidbramwellii* as well as the other species frequently and easily confused with these are presented in Tab. 1.

Aeonium ciliatum is closely related to the similarly glabrous *A. urbicum* (C. Sm. ex Hornem.) Webb & Berth., but the latter species can usually be distinguished by its unbranched, smooth (in adult plants) and taller stems (up to 2 m), by its green or glaucous and frequently puberulent leaves (especially in its southern and western populations on Tenerife), the white-greenish or white-pinkish flowers and the larger inflorescences (25–75 cm long). Their distinction may, however, cause problems in localities of the Anaga Region where both taxa coexist, due to the presence of hybrids between both species. Superficially similar are, moreover, aberrant, branched forms of *A. urbicum* caused by browsing goats.

Another similar species is *A. haworthii* Webb & Berth. This is distinguished by its shorter size, the absence of a thick main stem and strongly branched, smooth secondary stems of the same diameter, similarly sized leaf rosettes, glaucous, thicker and smaller leaves (3–5.5 × 2–3 cm), short, lax, hemispherical inflorescences, and slightly keeled petals.

The similarly branched *A. gomerense* Praeger differs by its smooth bark, the glaucous, light green leaves and the larger inflorescences.

A. pseudourbicum Bañares is an unbranched plant with pubescent inflorescences.

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