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***Crassula basaltica* (*Crassulaceae*), a new species from Mt. Etna (Sicily)**

Abstract

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A new species of *Crassula*, *C. basaltica*, is described from Mt. Etna in Sicily. It occurs in ephemeral communities of dwarf plants, on basaltic rocks. Its relationship with *C. tillaea* is discussed.

The genus *Crassula* is represented by three species in the Mediterranean flora (Webb 1968, Pignatti 1982, Greuter & al. 1986, Silvestre 1987). These are *C. tillaea* Lester-Garland, which is widespread in the Euro-Mediterranean region, *C. vaillantii* (Willd.) Roth, with a prevalently Mediterranean distribution (it occurs also in some localities of C and S Africa), and *C. alata* (Viv.) A. Berger which occurs only in the E Mediterranean area. Recently, a population of *Crassula* was collected on volcanic rocks of Mt. Etna in Sicily. It showed several peculiar characters, and in particular by its habit, leaf shape and pentamerous flowers, it can be easily distinguished from the other Eurasian species of the genus. Therefore, it is here treated as a new species, *Crassula basaltica*.

***Crassula basaltica* Brullo & Siracusa sp. nov. (Fig. 1). - Type: Sicily, Etna, Bronte in contr. Cipollazzo, su lave basaltiche, 8.4.1994, Brullo & Siracusa (CAT).**

Planta annua, glabra, pruinosa, 1-4 cm alta, caule erecto vel arcuato, simpliciter vel interdum e basi 1-2(-4)-ramoso, internodiis 0,5-3 mm longis. Folia opposita, 1-5 mm longa, glauco-viridia, basi per 0,1-0,2 mm connata, subspatulato-lanceolata, ad 2 mm lata, papilloso-verrucosa, superne valde incrassata, apice acuta vel rare apiculata. Flores pentameri, 2-3 in axillis foliorum, aggregati, quorum duo bracteolis praediti, pedicellis subnullis vel 0,5 mm longis. Calyx urceolatus, sepalis crassiusculis ovato-lanceolatis, 2 x 0,8 mm, mucronatis, inferne albis et laevibus, superne viridibus et papillois. Petala lanceolata, mucronata, rubro-purpurea, 1,2 mm longa. Stamina 5, 0,4 mm longa, cum structuris (squamis nectariferis vel staminodiis) epipetalis alternantia, anthera purpurea suborbiculata, filamentum roseo. Carpella 5, libera, luteo-viridia, 0,2 mm longa. Stylus brevissimus, purpureus. Follicoli 0,5-0,6 mm longi, seminibus binis. Semina elliptica, laevia, brunnea, 0,25 mm longa.

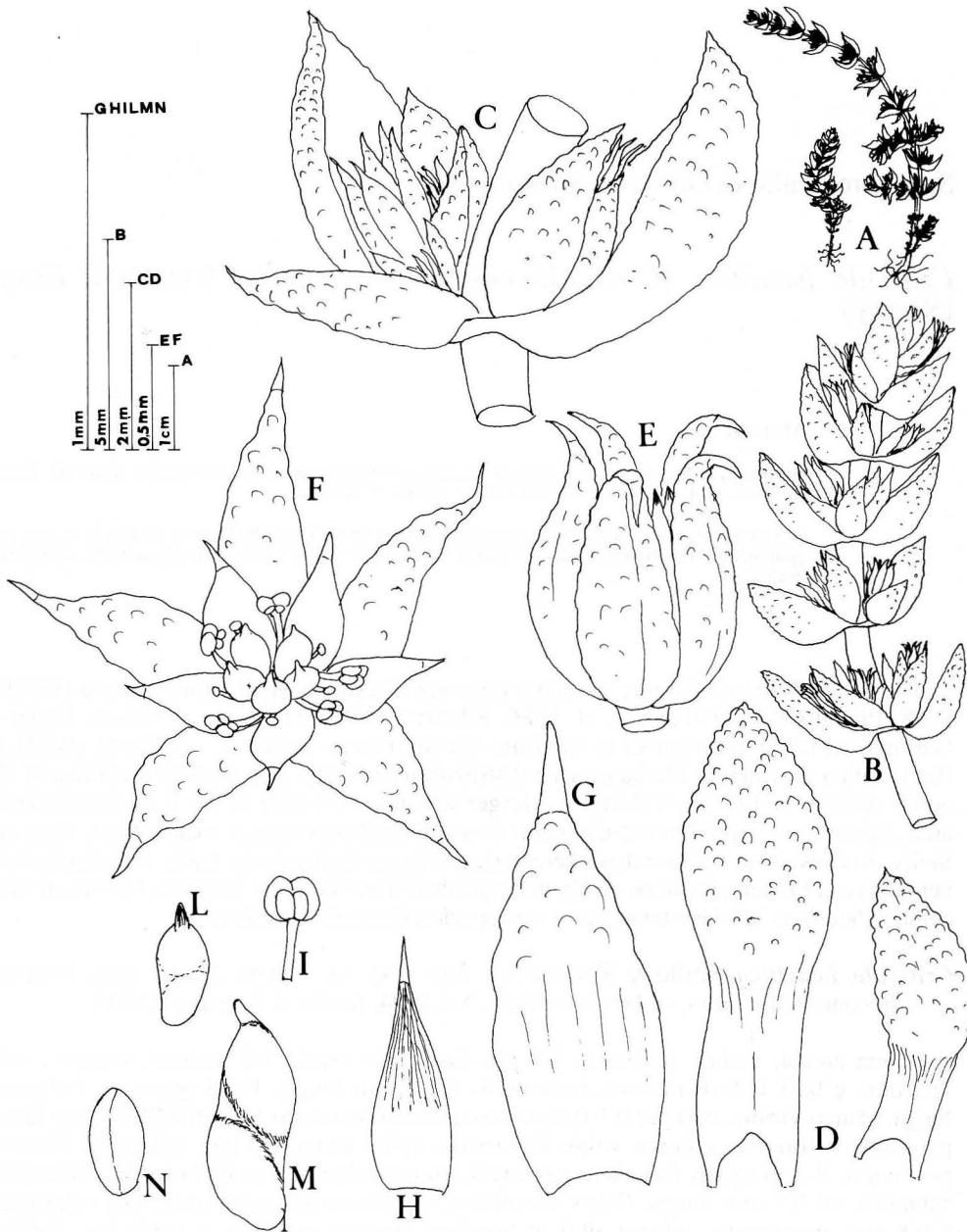


Fig. 1. *Crassula basaltica* from the type. - A, habit; B, upper part of the stem; C, detail of the inflorescence; D, leaves; E, closed flower; F, opened flower; G, sepal; H, petal; I, stamen; L, carpel; M, follicle; N, seed.

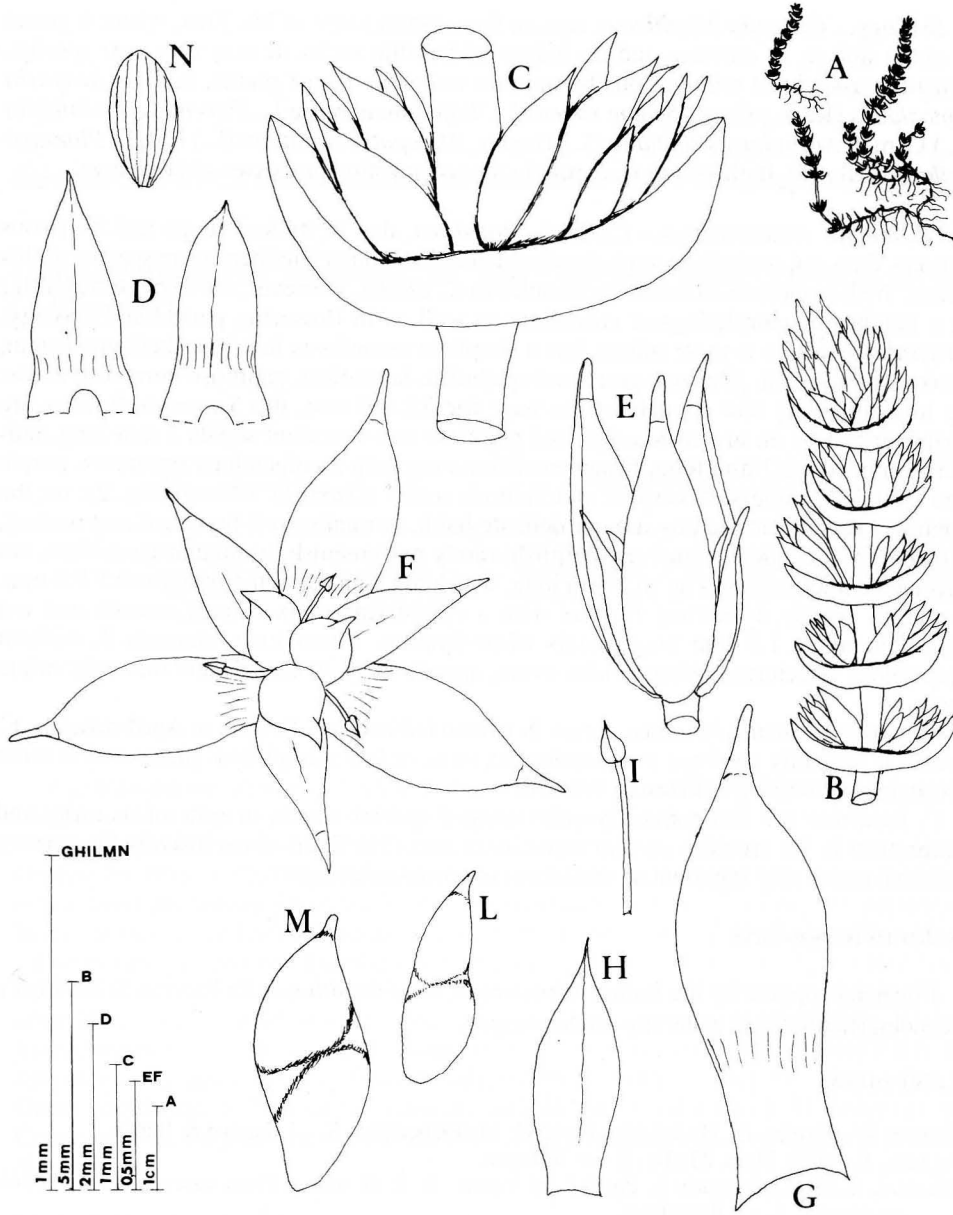


Fig. 2. *Crassula tillaea* (Etna specimens). - A, habit; B, upper part of the stem; C, detail of the inflorescence; D, leaves; E, closed flower; F, opened flower; G, sepal; H, petal; I, stamen; L, carpel; M, follicle; N, seed.

Ecology. - *Crassula basaltica* occurs on the western slope of Mt. Etna, where it grows at about 800 m in crevices and on ledges of basaltic rocks. It is a very rare species, generally associated with various bryophytes and other dwarf plants, such as *Arenaria leptocladus* (Rchb.) Guss., *Sedum rubens* L., *Trifolium arvense* L., *Parentucellia latifolia* (L.) Caruel, *Arabidopsis thaliana* (L.) Heynh., *Misopates orontium* (L.) Rafin., *Plantago bellardii* All., etc. It plays a pioneer role in the colonization processes of lava flows.

Taxonomic relationships. - *Crassula basaltica*, due to its leaf shape and 5-merous flowers, does not seem to be very closely related to the other Mediterranean species of this genus. With respect to its habit it resembles to *C. tillaea*. However, the two species differ in a number of morphological characters as well as in flowering period and ecology. *Crassula basaltica* is more robust, has a simple or sometimes few-branched, erect stem, markedly succulent, glaucous-green, subspathulate-lanceolate, papillose-verrucose leaves up to 5 mm long and connate at the base for 0.1-0.2 mm, the 5-merous flowers are characterized by an urceolate calyx and papillose and succulent sepals 2 mm long, red-purplish petals, 1.2 mm long, 5 stamens alternating with 5 epipetalous structures, purple and roundish anthers, 5 carpels and smooth seeds. *Crassula tillaea* (Fig. 2), on the contrary, is characterized by a more delicate habit, normally well-branched and rooting, prostrate or ascendent stems, red-purplish, rarely red-greenish, triangular-lanceolate, not succulent, smooth leaves up to 2 mm long, which are connate at the base for 0.5-0.6 mm, 3-merous (rarely 4-merous) flowers with a cylindrical calyx, sepals smooth and not succulent up to 1.5 mm long, petals white-hyaline, 1 mm long, stamens 3, without epipetalous structures, anthers white, ovate, apiculate, 3 (-4) carpels and minutely striate seeds.

Moreover, *Crassula basaltica* occurs in natural habitats and flowers in April, whereas *C. tillaea* is normally confined to synanthropic, more or less nitrophilous places and is more precocious (flowering in February-March).

C. basaltica is a taxonomically quite isolated species which, in spite of its rarity and occurrence in the crevices on lava flows in an area (Mt. Etna) of exclusively Quaternary volcanic rocks, may represent an endemism of considerable age.

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