

***Dianthus minae* (Caryophyllaceae), a new species from the Madonie Mountains (N-Sicily)**

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Abstract

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Dianthus minae, a new endemic species from Sicily belonging to the *D. caryophyllus* group, is here described from the Madonie Mountains, where it is exclusive to the limestone cliffs between 600-800 m altitude. Remarks on its ecology and taxonomic relationships, especially with *D. arrostii* C. Presl, are also given.

Introduction

Dianthus is among the genera that, in absence of recent monographs, are insufficiently known and inconsistently treated, since well defined taxa, groups very closely related, highly polymorphic groups with a high intraspecific diversity, and imperfectly defined groups coexist within it (Pignatti 1982). With regard to Sicily, 6 (Pignatti 1982), 7 (Greuter & al. 1980), or 8 (Tutin & Walters 1993) taxa are there reported, with discrepancies mainly concerning the *Dianthus caryophyllus* group. Some other taxa described by Lojacono Pojero (1888, 1906), apart from their taxonomical status, which is still to be evaluated, remark that same diversity. Further questions concern the real identity of some taxa, such as *D. arrostii* C. Presl, endemic to Sicily and Sardinia, which is currently distinguished through additional characters not corresponding neither to the Presl's diagnosis (1822) and the relevant original material (Camarda & Corrias 1987), nor to plants in the field. It is quite evident, therefore, that all the *caryophyllus* group, with special concern in *D. arrostii* and related taxa, is in need to be revised especially in Sicily. As a first step toward such revision, a new species found in the Madonie (N-Sicily) during the third Iter Mediterraneum is here described and named *Dianthus minae*.

***Dianthus minae* Mazzola, Raimondo & Ilardi, sp. nova**

TYPUS – *Holotypus*: Castelbuono, Passo Scuro, carbonate cliff, 700 m a.s.l., 04.06.1990, 1162., Raimondo & al. (PAL). — *Isotypi* in PAL, G, SEV, B, RNG, CAT, Herbarium of Museum "Minà-Palumbo" (Castelbuono).



Fig. 1. *Dianthus minae*: a) habit; b) tuft of basal leaves; c) longitudinal section of the flower; d) calyx with the cup-shaped epicalyx; e) teeth of the calyx; f) petal; g) stem leaves. Drawn by L. C. Raimondo.

ICONOGRAPHY — FIG. 1

DIAGNOSIS — *Suffrutex glabrus*, 50-70 cm altus. Basis late coespitosa, ramoso-dichotoma, ramis valde lignosis, 0.5-1 cm crassis. Caules floriferi plures, herbacei, cylindrici, erecti, virides, ad 60 cm alti; steriles 30 cm attingentes. Folia linearia, 4-18 × 0.2-0.4 cm, subulata; lamina canaliculata, dorso costata, margine integro vel raro obscure serrulato; folia caulina attenuata; vagina ad nodos foliorum 0.5-1 cm. Inflorescentia laxe corymbosa; flores 2-8 fragrant. Calyculus 4-bracteatus, cyathiformis; bractee patentes, mucronatae; exteriores ellipticae 0.8 × 0.6 cm, scariosae; interiores late obovatae 1.1 × 0.9 cm, rubescentes. Calyx tubulosus, 2.8-3.2 × 0.6-0.8 cm, rubronervis; scariosus ad basim; herbaceus, nervosus ad apicem; dentes calycis 0.6-0.8 cm, acuti, margine anguste scarioso. Petala 4 cm, rosea; limbus rotundatus, irregulariter denticulatus; unguis 3 cm, longe attenuatus. Recedit a *D. arrostio* foliis viridibus, bracteis calyculi patentibus, calyce longiore, dentibus calycis longioribus et angustioribus, dentibus petalorum irregularibus.

ETYMOLOGY — The epithet is devoted to Francesco Minà Palumbo (1814-1899), the bard of the Madonie, whose collections, kept in his little museum at Castelbuono, served as the basis for most of the studies on the natural history of that area from mid XIX century on.

DESCRIPTION — Subshrub glabrous, 50-70 cm high, Basal woody part up to 10 cm, dichotomously branched, 0.5-1 cm thick; Flowering stems many, herbaceous, terete, erect, green, 40-60 cm; sterile stems up to 30 cm. Leaves linear, 4-18 × 0.2-0.4 cm, subulate; lamina canaliculata; dorsal midrib prominent; margin entire or sometimes finely serrulate at the base; stem leaves gradually reduced in size; sheath 0.5-1 cm. Inflorescence lax, corymbose. Flowers 2-8, fragrant. Epicalyx cup-shaped; scales 4, patent, mucronate; external scales elliptical, 0.8 × 0.6 cm, scarious; inner scales broadly obovatae 1.1 × 0.9 cm, reddish. Calyx tubular, 2.8-3.2 × 0.6-0.8 cm, red veined; scarious in the lower part; herbaceous, nerved in the upper part; calyx teeth acute, with scarious margins, 0.6-0.8 cm. Petals 4 cm, pink; limb rounded, irregularly dentate; claw 3 cm, attenuate.

BIOLOGICAL FORM — Chamaephyte suffruticose with chasmophyte habit.

PHENOLOGY — Flowering period: May-June.

DISTRIBUTION AND ECOLOGY — *Dianthus minae* occurs only on the more or less shady cliffs of the limestone reliefs south of Castelbuono town (Palermo Province), in the Madonie regional park, between Vallone Canna, S. Calogero stream and Aquileia localities, at 600-800 m altitude. It belongs to a chasmophilous community, characterized by many endemics and other rare or biogeographically interesting taxa such as *Anthemis cupaniana* Tod., *Iberis semperflorens* L., *Scabiosa cretica* L., *Cymbalaria pubescens* (Presl) Cufod., *Brassica rupestris* Raf., *Silene fruticosa* L., *Athamanta sicula* L., *Ballota rupestris* (Biv.) Vis., *Sedum sediforme* (Jacq.) Pau, *Galium lucidum* All., *Ceterach officinarum* DC., *Phagnalon rupestre* (L.) DC., *Coronilla valentina* L., *Ruta chalepensis* L., *Teucrium*



Fig. 2. Mature individual of *Dianthus minae* in the wild. Note the cushion-shaped chasmophyte habit.



Fig. 3. *Dianthus minae* in flower. Note details of dentate petal limb and cup-shaped 4-bracteate epicalyx.

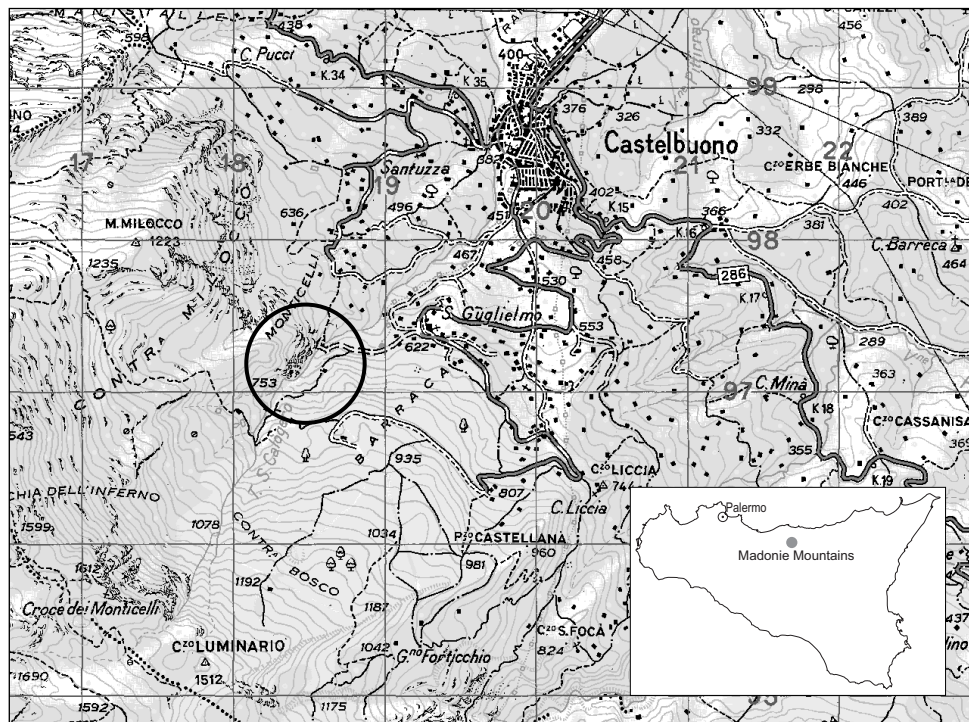


Fig. 4. Location of the *Dianthus minae* locus classicus (○).

flavum L., *Umbilicus horizontalis* (Guss.) DC., *U. rupestris* (Salisb.) Dandy, *Polypodium cambricum* L., *Satureja graeca* L. subsp. *graeca*, etc.

As far as bioclimate is concerned, according to Rivas-Martinez (1981) the area in question falls in the lower Thermo-Mediterranean bioclimatic stage, subhumid ombrotype.

STATUS – *Dianthus minae* does not appear suffering any threat, despite its endemic condition within a very small area. According to IUCN (2001), *Dianthus minae* should be classified as “Vulnerable” (VU).

CONSERVATION – With respect to possible measures for conservation of *D. minae*, they seem unnecessary since its distribution totally falls within the Madonie regional park. Cultivation for both ornamental and landscape restoration purposes could be proposed.

RELATIONSHIPS – From the morphological point of view, within the *Dianthus caryophyllus* group, *D. minae* is very close to *D. arrostii* from which it is distinct mainly by green leaves (not glaucous), calyx longer, calyx teeth longer and narrow, petal limb irregularly dentate and epicalyx patent. This latter character lacks in *D. arrostii*, as remarked by Camarda &

Corrias (1987), but is exclusive to *D. minae*. Other peculiar characters of *D. minae* are early flowering period and distribution at lower altitude.

Relating to other Sicilian taxa, *D. minae* shows both morphological and ecological affinities with *D. paniculatus* Lojac., which was described as endemic to shady limestone cliffs of Monte Busambra, and other mountains South of Palermo. Distinction between *D. minae* and *D. paniculatus* is easy by comparison of leaves and epicalyx as well as phenology, apart from the respective different occurrences.

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References

- Rivas Martinez, S. 1981: Les étage bioclimatiques de la végétation de la péninsule Ibérique. Acta III Congr. Optima. — Anales Jard. Bot. Madrid **37**: 251-268.
- Lojacono Pojero, M. 1888: Flora Sicula, **1**. — Palermo.
- 1906: *Addenda et Emendanda ad Floram Siculam*. — Malpighia **20**:188.
- Camarda, I. & Corrias, B., 1987: Tipificazione di *Dianthus siculus* C. Presl e di *D. arrosti* C. Presl in J & C. Presl. — Inform. Bot. Ital. **19**: 415-421.
- Greuter, W., Burdet, H. M. & Long, G. 1980: Med-Checklist **1**. — Gèneve & Berlin.
- I.U.C.N., 2001: Red List Categories, Version 3.1 — Gland and Cambridge, I.U.C.N. Species Survival Commission.
- Pignatti, S. 1982: *Flora d'Italia*, **1**. — Bologna.
- Presl, C. 1822: Plantarum rariorum Siciliae. — P. 60 in: Presl, J. & Presl, C., Deliciae pragenses, historiam naturalem spectantes. — Pragae.
- Tutin, T. G. & Walters, S. M. 1993: *Dianthus* L. — Pp. 227-246 in: Tutin, T. G. Burges N. A., Chater, A. O., Edmonson, J. R., Heywood, V. H., Moore, D. M., Valentine, D. H., Walters, S. M. & Webb D. A. (ed.), Flora Europaea **1**, 2nd ed. — Cambridge.

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