



Dianthus borbonicus (Caryophyllaceae), a new species from Sicily

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Abstract

Dianthus borbonicus a new species occurring in North-Western Sicily is described and illustrated. It is a rare chasmophyte belonging to the *D. sylvestris* group, which is exclusive of a rupestrian stand near Rocca Busambra (Ficuzza). Its macro- and micromorphological features (seed testa sculptures, and leaf anatomy), ecology, conservation status and a comparison with the related species are provided too.

Key Words: Anatomy, *Dianthus*, seed testa, Sicily, taxonomy

Introduction

Dianthus Linnaeus (1753: 409) is one of the largest genera of Caryophyllaceae comprising approximately 600 species, which are widespread distributed in Europe, Asia and North Africa, while some species occur in North America and South Africa (see e.g., İlçim *et al.* 2013). Owing to their ornamental properties, several taxa (species, subspecies, varieties, cultivars or hybrids) are cultivated for gardening. Concerning the native species, they mainly occur in rupestrian habitat, which are usually considered as refuge sites for ancestral plants, as well as grasslands, garigues, steppes, mesic meadows, etc. (Bacchetta *et al.* 2010).

An important diversity centre of the genus *Dianthus*, mainly regarding the *Dianthus sylvestris* group, is the central Mediterranean area (Sardinia, Corsica, Sicily, Italian Peninsula and Croatia) where the number of taxa is high (see e.g., Bacchetta *et al.* 2010).

Recent field investigations carried out in some poorly known areas of Sicily led us to discover of an unusual and quite isolated population of *Dianthus*, which appears to be morphologically well different from the other taxa included in the *D. sylvestris* group. Taxonomical investigations carried out on living plants, and anatomical analyses on the leaves and seed surface, allowed to establish that the population found can be proposed as a distinct species, named *D. borbonicus*.

Materials and methods

Morphological analyses are carried out on both herbarium material (Herbarium CAT, acronym according to Thiers 2015 continuously update) and living plants (from *locus classicus*) (Table 1).

Seed testa morphology was examined on mature and dried seeds by using a scanning electron microscope (SEM) Zeiss EVO LS10, according to the protocol reported by Stork *et al.* (1980), while terminology of the seed coat sculpturing follows Bartholot (1981) and Gontcharova *et al.* (2009) (see Table 1).