



## *Limonium poimenum* (Plumbaginaceae), a new chasmophyte species from Sicily

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### Abstract

*Limonium poimenum* is here proposed as a new species for Science. It is a very peculiar and extremely localized species, growing on a calcareous mountain of NW Sicily (southern Italy), where it grows on rupestrian places together with many other rare chasmophytic endemics. Iconography, morphological features, ecology and conservation status are provided, as well as a morphological comparison with *L. todaroanum*.

**Key words:** Endemic, Mediterranean flora, new chasmophilous species, Sicily

### Introduction

*Limonium* Miller (1754: 1328) is a genus with a subcosmopolitan distribution showing a remarkable species richness mainly found in the Mediterranean territories. About 500 taxa currently occur in the Mediterranean basin (see e.g., Greuter *et al.* 1989, Lledó *et al.* 2005, Bogdanović & Brullo 2014, Brullo & Erben 2014) that represents one of the main center of diversity for the genus *Limonium* (Cowan 1998, Palacios *et al.* 2000, Lledo *et al.*, 2011). In particular, the highest number of *Limonium* species has been mainly detected in the Mediterranean islands and neighboring islets (e.g., Balears, Corsica, Sardinia, Sicily, Aegean archipelago, and Crete), where the speciation processes due to geographical isolation of the populations are much more pronounced. Sicily includes more than 40 species, so representing one of the territories with the largest number of *Limonium* species (see e.g., Pignatti 1971, Brullo 1980, 1988, Raimondo & Pignatti 1986, Raimondo 1993, Brullo *et al.* 1996, Giardina *et al.* 2007). Usually, the *Limonium* species are halophytes linked to salt-marshes or rocky coasts directly influenced by the sea waves and salt aerosol, while they are rarely located in non-salty habitats far from the sea. Concerning the Sicilian territory, only two not typically halophilous species are hitherto known colonizing limestone cliffs far from the sea: *L. panormitanum* (Todaro 1857: 45) Pignatti (1971: 365), and *L. todaroanum* Raimondo & Pignatti (1986: 417). During a fieldtrip in NW Sicily, a small population of an unknown and very peculiar *Limonium* was discovered. It was found on limestone cliffs at an elevation of about 700 m a.s.l. together with many other rare endemic chasmophytes (e.g., *Centaurea panormitana*, *Seseli bocconeii*, *Iberis semperflorens*). Having the population found some peculiar morphological features and relating to its very unusual ecology, it is here described as species new to science and named *Limonium poimenum*.

### Results and taxonomic treatment

*Limonium poimenum* Ilardi, Brullo, Cusimano & Giusso *sp. nov.* (Figs. 1, 2A–C)

Type:—ITALY. Sicily: Monte Pecoraro presso Palermo, versante occidentale, a ca. 700 m di quota, 39° 09' 48" N, 13° 07' 22" E, 11 July 2014, Ilardi & Cusimano *s.n.* (holotype CAT!; isotypes: CAT!, PAL!)

**Conservation status:**—According to the IUCN Red list category and criteria (IUCN 2014), *Limonium poimenum* should be treated as Endangered: EN (criterion D), because of the low number of individuals (less than 100) and the very limited distribution (less than 1 km<sup>2</sup>).

**Taxonomical notes:**—*Limonium poimenum* belongs to the subgenus *Limonium* and it is morphologically well different from other species by a pool of diacritical characters: the dense shrubby pulvinate habit, few branched and poor inflorescence, leaves densely arranged along the caudices, dense and very short spikes. Among the *Limonium* occurring in Sicily, this new species shows some relationships mostly with *L. todaroanum*, which grows at Mt. Passo del Lupo (San Vito Lo Capo, NW Sicily) not far from Mt. Pecoraro (Fig. 3). *L. todaroanum* also grows in the crevices of a calcareous cliff of a mountain near Trapani at a elevation of about 700 m a.s.l., together with several other endemic chasmophytes. Despite this *L. todaroanum* clearly differs from *L. poimenum* in having a habit lax not pulvinate, leaves dark green, (1–)3-nerved, obtuse (rarely rounded or retuse), (20–)30–70 × 7–12 mm, flat, stems slightly scabrous, sterile branches absent or rare, spikes longer and lax, 2–6 cm long, with 2–4(–5) spikelets per 1 cm, spikelets (2–)3-lowered, 7–8 mm long, outer bract 1.5–2 × 1.3–1.5 mm, middle bract smooth at the apex, inner bract with central tip 0.9–1.0 mm long, not reaching the upper margin; calyx 5–7 mm long, exceeding the inner bract by 2–3 mm, with tube sparsely hairy at the base and lobes subrounded (Figs. 2D, 4). Besides, both species behave as true chasmophytes linked to unsalted substrates and growing in mountain stands. For their peculiar morphological features, unusual ecological requirements, isolated and well circumscribed distribution, as well as for the low number of individuals, these two species must be considered as relicts, similarly to many other rupestrian species occurring in this habitat.

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