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A new polyploid species of *Limonium* (Plumbaginaceae) from the Western Mediterranean basin

P. P. FERRER-GALLEGO[1,2,*], A. NAVARRO[1,2], P. PÉREZ[2], R. ROSELLÓ[3], J. A. ROSSELLÓ[4,5], M. ROSATO[4] & E. LAGUNA[1]

[1]*Servicio de Vida Silvestre. Centro para la Investigación y Experimentación Forestal de la Generalitat Valenciana (CIEF). VAERSA. Av. Comarques del País Valencià, 114, E–46930, Quart de Poblet, València, Spain, flora.cief@gva.es*
[2]*VAERSA. Avda. Corts Valencianes, 20, E–46015, València, Spain*
[3]*Departament de Botànica. Facultat de Farmacia. Universitat de València. Avda. Dr. Moliner, 50, 46100, Burjassot, València, Spain, rrosello514k@cv.gva.es*
[4]*Jardín Botánico, Universitat de València. C/ Quart, 80, E–46008, València. España, marcela.rosato@uv.es*
[5]*Carl Faust Fdn., P.O. Box 112, E–17300, Blanes, Spain, rossello@uv.es*
** Author for correspondence*

Abstract

A new species of Plumbaginaceae, *Limonium irtaensis*, is described and illustrated from the Western Mediterranean basin (Iberian Peninsula). The new species is triploid ($2n = 26$) and shows a papillate stigma and pollen with a fine reticulate exine (B type). A detailed morphological description is given, and its main diagnostic characters are compared with the related species. Conservation status has been assessed according to the IUCN protocol.

Key words: Castellón province, *Limonium*, Plumbaginaceae, Spain, taxonomy

Introduction

The genus *Limonium* Miller (1754: without page) (Plumbaginaceae Juss.) is one of the richest groups of the Mediterranean flora. Highly diversification rates occurred through hybridization and polyploidization processes, resulting in a challenging and difficult taxonomy throughout this area (Erben 1993).

The Iberian Peninsula is one of the center of diversity for *Limonium*, and about 100 species are recorded for this area (see e.g., Erben 1993). According to Mateo & Crespo (2014), and Crespo & Lledó (1998) at least 27 *Limonium* species occur in the Valencian Community. Field surveys carried out along the coastal cliffs (Castellón, Cerromar) allowed to verify the occurrence of a rare and endangered endemic species, *Limonium perplexum* L. Sáez & Rosselló (1999: 48). Unexpectedly, we found some scattered plants of *Limonium* showing a particular combination of morphological characteristics that did not fit any other species growing in the area, viz *L. perplexum*, *L. virgatum* (Willdenow 1809: 336) Fourreau (1869: 141), *L. girardianum* (Gussone 1843: 368) Fourreau (1869: 141) and *L. thiniense* Erben (1981: 485). A detailed study revealed that these specimens belong to a new polyploid species which is accordingly here described as *L. irtaensis*.

Material and Methods

The studied material is preserved at BC, MA, and VAL herbaria (acronyms according to Thiers 2015+). In order to verify the constancy in the morphological diagnostic features, 10 plants germinated from seeds sampled in the wild were cultivated and compared with 10 specimens collected from natural populations.

For chromosome number determination, root tips were pretreated with 0.002 M 8-hydroxyquinoline solution for 2 h at 4 °C and 2 h at room temperature, washed with distilled water, fixed in fresh Carnoy I solution (absolute ethanol: glacial acetic acid; 3:1) overnight and stored at 4 °C until used. For chromosome counts, the root tips were hydrolysed for 10 min in 1 N HCl at 60 °C, washed and stained in aceto-orcein for 4–6 hours. Stained meristems were squashed

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