



Two lectotypifications and a new combination in *Calendula* (Asteraceae) for *Flora Iberica*

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Abstract

This paper presents a new combination, *Calendula suffruticosa* subsp. *cinerea*, and two lectotypifications, for *Calendula suffruticosa* subsp. *tomentosa* and *Calendula suffruticosa* subsp. *cinerea*, in the course of a taxonomic revision for *Flora Iberica*. Explanations about the taxonomic concept here adopted are also provided.

Key words: lectotypifications, new combination, *Calendula suffruticosa*, *Calendula incana*

Introduction

The genus *Calendula* Linnaeus (1753: 921) (Calenduleae, Asteraceae) includes 10 to 27 species, depending on the taxonomic concept. It is native to the Mediterranean basin and has been considered as a taxonomically difficult genus (Nordlindh 1977; Heyn & Joel 1983). So far, no taxonomic revision including the entire genus has been done and the most recent monographic studies have been conducted by Heyn *et al.* (1974) for the annual species and by Ohle (1974, 1975a, b) for the perennial ones.

Mainly on the basis of leaf morphology and life span, the latter author has split the group of wild perennials with $2n=32$ into two species, *Calendula suffruticosa* Vahl (1791: 94) and *C. incana* Willdenow (1803: 2341), both with several subspecies. However, this reclassification was not consensual and later works (e.g. Meikle 1976), besides not recognizing some of the infraspecific taxa accepted by Ohle (1974), continued to include all the accepted subspecies under *C. suffruticosa*.

In the course of a taxonomic revision for *Flora Iberica* (Silveira & Gonçalves, *in press*), we revised the Iberian representatives of the genus and decided to follow Heyn *et al.* (1974) for the annual plants and a mixed approach for the perennials, i.e. to include most of the taxa recognized by Ohle (1974) but exclusively under *C. suffruticosa*, instead of sorting them between *C. incana* and *C. suffruticosa*.

This option was based on our observation that there are some patterns of morphological variation (especially regarding the achenes) correlated with geographical distribution and ecology that deserve taxonomic recognition. However, there is a gradient of morphological variation (and also of DNA content as demonstrated by Nora *et al.* 2013) between plants treated by Ohle as *C. incana* and its subspecies, towards others treated as *C. suffruticosa* and its subspecies, and we could not find a clear and consistent morphological separation between these two groups. In fact, life span and leaf morphology are sometimes variable within the same taxon or population and dependent upon microsite ecological conditions encountered by the individual plants.

Furthermore, it was not possible to find any closer phylogenetic relationship between the taxa included in any of these groups than with the other using molecular markers (Olofron Plume, personal communication).

Ohle (1974: 277) indicated two duplicates of the specimen ‘Rechinger 0-2588’, supposedly held at HAL and W herbaria, as syntypes. Nevertheless, there is no such collection held at HAL, while the existence of the W duplicate was confirmed. Consequently, we designate the syntype at W as the lectotype of *Calendula incana* var. *cinerea*.

***Calendula suffruticosa* Vahl subsp. *cinerea* (Ohle) P. Silveira & A.C.Gonç., comb. & stat. nov.**

Basionym:—*Calendula incana* subsp. *algarbiensis* var. *cinerea* Ohle (1974: 277). Type:—PORTUGAL. Algarve, Cabo de São Vicente, Rechinger 0-2588 (lectotype W!, designated here).

Acknowledgments

We thank the consulted herbaria (B, C, HAL, MAF, MPU, P, W), and its staff. On this regard, we especially thank Robert Vogt (B), Uwe Braun (HAL), José Pizarro (MAF), Marc Jeanson (MPU), Cécile Aupic (P), Vanessa Damianthe (P), Gérard Aymonin (also from P, for confirming the identity of Desfontaines and Broussonet’s handwritings), Armin Löckher (W) and Ernst Vitek (W). We should further thank Carlos Aedo and Félix Muñoz Garmendia for some fruitful discussions and advice and Alexander Sennikov for reviewing the manuscript. FCT supported the PhD fellowship of A.C.Gonçalves (SFRH / BD / 51464 / 2011).

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