



Correspondence

Revised lectotypification of the name *Calendula maritima* (Asteraceae)

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Calendula maritima Gussone (1825: 3) is endemic to a few coastal areas near Trapani, western Sicily, Italy. Its taxonomic distinctness is generally recognised, even though some authors have treated it as a subspecies rather than species, either as *C. incana* subsp. *maritima* (Guss.) Ohle (1974: 279) or as *C. suffruticosa* subsp. *maritima* (Guss.) Meikle (1976: 274), its uncertain position reflecting the difficulty in establishing a satisfactory taxonomic classification within the highly diverse genus *Calendula* Linnaeus (1753: 921). *Calendula maritima* has recently been included in an IUCN pilot project devoted to the study of the fifty most threatened Mediterranean island plants (Montmollin & Strahm 2005) and, in that context, it has been made the central subject of a special international meeting (Troia & Raimondo 2011).

Calendula maritima was one of the early species described by Giovanni Gussone (1787–1866), whose main works regarding Sicily and its surrounding islets were ‘*Florae Siculae Prodrromus*’ (1827–28) and ‘*Florae Siculae Synopsis*’ (1842–44) (Stafleu & Cowan 1976). The protologue of *C. maritima* (Gussone 1825) consists of a brief diagnostic description but lacks any indication of the type locality: ‘*C. incanae*, pro qua habui, et *C. marginatae* Willd. en. proxima; sed foliis integerrimis et viscositate omnium partium, quae cultura perstat, ab utraque distincta’. In the following years, Gussone sent specimens of the new species to several colleagues and friends all over Europe. Candolle (1838) accepted *C. maritima* Guss. and mentioned the locality where it occurs: ‘in Sicilia circa Trapaniam’. Gussone (1844) eventually listed the places in which he had found *C. maritima*: Trapani, the nearby islands of Ronciglio and Formiche, Mt. Cofano, and S. Vito.

In his seminal revision of the perennial *Calendula* species of southern Europe, Ohle (1974) stated the type (‘Typus’) of *C. maritima* in the following terms: ‘Sizilien, Ronciglio bei Trapani, leg. Gussone 1824 (FI)’. Under the ‘Code’ (McNeill *et al.* 2012: Art. 9.8) that statement is equivalent to a lectotype designation.

Unfortunately, a search of the FI herbarium—with the kind and expert help of the curator, Chiara Nepi—failed to locate any such specimen (or indeed any specimen of *C. maritima* collected by Gussone). It is not certain that Ohle had actually seen the FI specimen he cited; he might only have inferred that the type was kept at FI, a hypothesis supported by the fact that he did not again include that specimen among the ‘specimina visa’ (= specimens seen), as he used to do for other type specimens he mentioned in the same paper.

According to the ‘Code’ (McNeill *et al.* 2012: Art. 9.11), if “the previously designated lectotype has been lost or destroyed [supposing it ever existed], a new lectotype may be designated”. Doing so is the purpose of the present note.

Relevant herbarium material kept in BOLO, FI, NAP, PAL has been studied. In addition, we also checked some herbarium holdings available via the internet: B, BM, G, P, Z or on microfiche (G–DC) (acronyms according to Thiers 2012). Gussone’s handwriting was identified by comparison with published samples (Burdet 1975).



FIGURE 1. Lectotype of *Calendula maritima* Guss. (BOLO) (reproduced with permission of the Herbarium, University of Bologna, Italy).

In NAP, where the herbaria of Gussone (Sicily) and Gussone (General) are kept, some specimens exist that were collected by that author in the localities mentioned in his ‘Synopsis’, but they were not unmistakably part of the original material, and thus unsuitable for lectotypification purposes, since they were either undated or had been collected later than 1825. For some of them (Trapani al Ronciglio, 7 Mag 1829; Trapani nell’isola del Ronciglio, no date) the locality coincides with that of Ohle’s ‘typus’, except for the date.

In BOLO (Bertoloni herbarium) we found a single specimen, sent by Gussone to Bertoloni. The label, in Gussone’s handwriting, reports the species name (‘*Calendula maritima* Nob.’, where ‘Nob.’ = ‘Nobis’ = [belonging/attributed] to ourselves) and the collecting place (‘Trapani, Favignana’); on the same label, Bertoloni added, in particular, the year in which he received the specimen: 1824. As that date (and hence, obviously, the collecting date) is earlier than the date of publication of the species, the specimen is definitely original material according to the ‘Code’ (McNeill *et al.* 2012: Art. 9.3). Favignana, an island belonging to the Egadi archipelago near Trapani, was unaccountably omitted from Gussone’s (1844) statement of distribution, but was mentioned later by Bertoloni (1854). Today *C. maritima* appears to be extinct on that island (no records exist since Di Martino & Trapani 1967), but in PAL there is a specimen from there collected as late as 1854.

In the herbarium of Candolle’s ‘Prodromus’ (G–DC) there are two specimens of Gussone, from ‘Prope Drepanum’ and ‘Sicilia, Trapani’, which were annotated by Candolle as having been received in 1828 and 1831, respectively. There is also a specimen from ‘Sicile’ in P (n. 03744728) ‘extrait de l’Herbier de Mr. De Candolle’, but it is undated and not explicitly ascribed to Gussone. A second, similarly undated specimen of *C. maritima* in P (n. 03744726) has a label written in Gussone’s hand: ‘*Calendula incana*, in maritimis Siciliae meridionalis’; this we consider as part of the original material, as the name ‘*C. incana*’ is the one that Gussone initially used for the plant, before describing it as new (see the protologue entry, quoted above); however, the geographical origin is given in terms that are too vague and not quite accurate. Therefore we give preference to the first-mentioned specimen, which is unquestionably an original element, agrees with the original description, is complete with flowers and fruits, and preserved in good condition.

Calendula maritima Gussone (1825: 3)

Lectotype (designated here):—ITALY. ‘*Calendula maritima* Nob., Trapani, Favignana’ [in Gussone’s handwriting], ‘*Calendula maritima* Guss., Bert. Fl. Ital. v. 9 p. 499 n. 8. Dedit Gussone 1824’ [Bertoloni’s handwriting] (BOLO; Fig. 1).

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References

- Bertoloni, A. (1854) *Calendula*. In: *Flora Italica*, vol. 9. Ex Typographeo Hæredum Richardii Masii, Bologna, pp. 493–500.
- Burdet, H.M. (1975) Cartulae ad botanicorum graphicem. VII. *Candollea* 30: 379–410.
- Candolle, A.-P. de (1837 [1838]) *Prodromus systematis naturalis regni vegetabilis*, 6. Treuttel et Würtz, Paris, 687 pp.
- Di Martino, A. & Trapani, S. (1967) Flora e vegetazione delle isole di Favignana e Levanzo nell’Arcipelago delle Egadi. I. Favignana. *Lavori dell’Istituto Botanico e Giardino Coloniale di Palermo* 22: 122–228.

- Gussone, G. (1825) *Index Seminum anni 1825 quae ab Horto Regio in Boccadifalco pro mutua commutatione exhibentur*. [Napoli ?], 12 pp.
- Gussone, G. (1844) *Calendula*. In: *Florae siculae synopsis, vol. 2*. Ex Typis Tramater, Napoli, pp. 522–525.
- Linnaeus, C. (1753) *Species Plantarum* 2. Laurentius Salvius, Stockholm.
- McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Prud'homme van Reine, W.F., Smith, G.E., Wiersema, J.H. & Turland, N.J. (eds) (2012) *International code of nomenclature for algae, fungi, and plants (Melbourne Code), adopted by the Eighteenth International Botanical Congress Melbourne, Australia, July 2011*. Regnum Vegetabile. Gantner Verlag, Ruggell [in print].
- Meikle, R.D. (1975 [1976]) Flora europaea: notulae systematicae ad floram europaeam spectantes: no. 19. Compositae (267) *Calendula suffruticosa* subsp. *maritima* (Guss.) Meikle, comb. nov. *Botanical Journal of the Linnean Society* 71: 274.
- Montmollin, B. de & Strahm, W. (eds) (2005) *The top 50 Mediterranean island plants: Wild plants at the brink of extinction, and what is needed to save them*. IUCN SSC Mediterranean Islands Plant Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK, X + 110 pp.
- Ohle, H. (1974) Beiträge zur Taxonomie der Gattung *Calendula*. II. Taxonomische Revision der südeuropäischen perennierenden *Calendula*-Sippen. *Feddes Repertorium* 85: 245–283.
- Stafleu, F.A. & Cowan, R.S. (1976) *Taxonomic literature. A selective guide to botanical publications and collections with dates, commentaries and types, ed. 2, vol. 1*. Regnum Vegetabile 94, Bohn, Scheltema & Holkema, Utrecht, 1136 pp.
- Thiers, B. (2012) *Index herbariorum: A global directory of public herbaria and associated staff*. New York Botanical Garden's Virtual Herbarium. Available from: <http://sweetgum.nybg.org/ih/> (continuously updated – accessed: 3 September 2012).
- Troia, A. & Raimondo, F.M. (eds) (2011) Proceedings of the International Meeting “The *Calendula* of Trapani, an emblematic threatened Mediterranean endemic”, Trapani, 20 February 2010. *Naturalista Siciliano* 35: 1–129. Also available from: http://www.ssn.it/indice_.htm (accessed: 3 September 2012).