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The *Centaurea parlatoris* complex (Asteraceae): taxonomic checklist and typifications

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Abstract

A taxonomic account of the *Centaurea parlatoris* complex (Asteraceae), endemic to Sicily, is presented. This complex includes six taxa, three described in the 19th century (*C. parlatoris*, *C. parlatoris* var. *tomentosa* and *C. parlatoris* var. *virescens*) and three recently described (*C. sicana*, *C. giardinae* and *C. heywoodiana*). Starting from the designation of the types for the oldest plant names that have not been typified yet, taxonomic considerations are formulated and *C. parlatoris* var. *virescens* is elevated to the rank of species. An identification key and a distribution map complete this account.

Key words: *Compositae,* endemism, Mediterranean flora, nomenclature, Sicily

Introduction

The *Centaurea parlatoris* complex (*C.* sect. *Dissecta*, Asteraceae) according to the latest accounts (Bartolucci *et al.* 2018, Pignatti 2018, Brullo & Brullo 2020, Raimondo *et al.* 2020) is endemic to Sicily and includes six taxa: *Centaurea parlatoris* Heldreich (1843: 287) subsp. *parlatoris*, *C. parlatoris* subsp. *virescens* (Gussone 1843–1844: 510) Raimondo & Bancheva (2009: 305), *C. giardinae* Raimondo & Spadaro (2006: 373), *C. gussonei* Raimondo & Spadaro (2007: 394), *C. sicana* Raimondo & Spadaro (2008: 785), and *C. heywoodiana* Raimondo *et al.* (2020).

Centaurea parlatoris, the first taxon described within this group, was initially recorded from the Mounts around Palermo, the Madonie Mts, the Sicani Mts, the Etna Mt., and the Peloritani Mts. Subsequent studies (Raimondo & Spadaro 2006, 2008, Raimondo *et al.* 2020) split this single taxon, considered polymorphic, into the taxa reported above. The morphological and genetic differentiation (Bancheva *et al.* 2011) is supported also by a geographic separation: *C. parlatoris* Heldr. subsp. *parlatoris* occurs in the Madonie, Mounts around Palermo and Castellammare del Golfo, *C. parlatoris* subsp. *virescens* in the Mounts around Palermo, *C. giardinae* in the Etna Mt., *C. gussonei* in the Peloritani and Madonie Mts, *C. sicana* in the Sicani Mts and, finally, *C. heywoodiana* in the Nebrodi Mts.

With the exception of *C. giardinae*, *C. sicana* and *C. heywoodiana,* recently described, the other three plant names have not been typified yet (Peruzzi *et al.* 2015).

The aim of this contribution is to present a taxonomic account of this complex starting from the designation of the types for the names *C. parlatoris* subsp. *parlatoris*, *C. parlatoris* subsp. *virescens* and *C. gussonei* as part of ongoing studies on the names of vascular plants described from Sicily (e.g. Domina *et al*. 2016, Di Gristina *et al*. 2012, 2017, 2020, Traclet *et al*. 2017). The present study also falls within the researches promoted by the Italian Botanical Society aimed to recognize and typify all the taxa described from Italy, in order to increase their systematic knowledge and promote further studies (Peruzzi *et al*. 2015, Brundu *et al*. 2017, Peruzzi *et al*. 2019).

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Materials & methods

For the typification of names we performed a survey of the original material at NAP, where the Herbarium of Giovanni Gussone is housed. This herbarium includes also various specimens collected by Theodor Heldreich during his travel to Sicily in 1840 (La Valva 1993). Furthermore, we also checked specimens preserved at PAL, FI, P, W (acronyms follow Thiers 2021) and in the herbarium of Francesco Minà Palumbo in Castelbuono, where duplicates by Gussone and other Sicilian historical collections are kept, in order to trace further original material. The distribution of the taxa was drawn on the basis of the revised herbarium material in CAT, FI, K, P, PAL, and W.

Taxonomic notes are based on the observation of types and plants in topotypical populations and have been verified against several herbarium samples and populations in the field.

Taxonomic account

Centaurea parlatoris Heldreich ([after 10 August] 1843: 287) ≡ *Centaurea dissecta* var. *parlatoris* (Heldr.) Nyman (1903: 56).

Ind. Loc.:—"nasce ne' luoghi aridi montuosi della Sicilia. Il Cav. Gussone la raccolse vicino Palermo sopra S. Martino al Monte dell'Occhio ed a S. Anna; all'Etna sul monte rosso presso Nicolosi, a Bronte ed a Linguaglossa. La stessa specie fu trovata nelle rupi delle Madonie sopra Isnello alle falde della Culma grande in Giugno 1840 da me e dal prof. Filippo Parlatore".

Type:—ITALY. Sicily: "*Centaurea parlatoris* Nob., in rupibus a Isnello, raccolto da F. Parlatore nel Giugno", 1840, *Th. de Heldreich* (lectotype NAP-Guss!, designated here).

Notes:—It has been shown that the specimens reported by Heldreich in the protologue belong to different species (Raimondo & Spadaro 2006, 2008, Bancheva *et al*. 2011). Based on the author's description and according to the taxonomic consensus (Giardina *et al.* 2007, Pignatti 2018, Brullo & Brullo 2020), we select here a specimen collected from the Madonie mountains as the lectotype of this taxon.

Centaurea virescens (Guss.) Domina & Raimondo, ***comb. et stat. nov.*** ≡ *Centaurea parlatoris* var. *virescens* Gussone ([August] 1843–[June] 1844: 510) ≡ *Centaurea parlatoris* subsp. *virescens* (Guss.) Raimondo & Bancheva (2009: 305).

Ind. Loc.:—"Monti di Palermo all'Occhio".

Type:—ITALY. Sicily: "*Centaurea parlatoris* c. *virescens* Syn. Sic. 2 p. 510, Junio, Julio, in aridis montosis [manu Gussone]; M. dell'Occhio [manu Gussone]" (lectotype NAP-Guss.!, designated here).

Notes:—We traced only one relevant original specimen at NAP-Guss but due to the uncertainty that there may have been other elements of the original material in existence we designate this specimen as the lectotype of the name. The selected specimen conforms to the description in the protologue and corresponds to the current application of the name (Bancheva *et al.* 2011, Brullo & Brullo 2020). This taxon differs from *C. parlatoris* s. s. by a different shape of the rosette and lower cauline leaves and a usually longer pappus. The genetic studies carried out by Bancheva *et al.* (2011) support the taxonomic differentiation of this taxon at the species level from the other taxa recognized within the *C. parlatoris* complex.

Centaurea gussonei Raimondo & Spadaro (2007: 10) ≡ *Centaurea parlatoris* var. *tomentosa* Gussone (1843–1844: 510) ≡ *Centaurea dissecta* var. *tomentosa* (Guss.) Fiori in Fiori & Béguinot (1904: 336).

Ind. Loc.:—"In apricis pascuis montosis: Madonie, Messina al campo, Monte Scuderi".

Type:—ITALY. Sicily: "*Centaurea parlatoris* Heldr.! Monte Scuderi giugno legit Gussone [manu Grande]; Centaurea ~~paniculata~~, giugno. Monte Scuderi [manu Gussone]" (lectotype NAP-Guss.!, designated here).

Notes:—In the protologue Gussone reports three localities whose populations, as it has been demonstrated by Bancheva *et al.* (2011), are genetically differentiated. The lectotype designated here serves to guarantee nomenclatural stability by fixing the name to the species of Monte Scuderi as it has been generally understood (Giardina *et al.* 2007, Pignatti 2018, Brullo & Brullo 2020).

Centaurea giardinae Raimondo & Spadaro (2006: 373).

Ind. Loc.:—NW slopes of the Etna Mt., above Linguaglossa (Catania) in locality Mareneve.

Type:—ITALY. Sicily: "pendici nord-orientali dell'Etna sopra Linguaglossa (Catania), su suolo lavico in località Mareneve in ambiente semirupestre, 760 m s.l.m., 37°49'49,02"N–15°06'30,72"E", 15 June 2005, *Raimondo & Spadaro* (holotype PAL; isotypes PAL, FI).

Notes:—This species is very common in the Etna volcano. Compared to the other species of the *C. parlatoris* complex, it usually has a caespitose habit.

Centaurea sicana Raimondo & Spadaro (2008: 785).

Ind. Loc.:—N slopes of Cammarata Mt.

Type:—ITALY. Sicily: "ad rupes septentriones spectantes montis Cammarata (Agrigento), solo carbonatico, c. 1250 m", 8 June 2005, *Raimondo & Spadaro* (holotype PAL; isotypes PAL, FI).

Notes:—Species confined to Cammarata and Delle Rose Mt. in the Sicani mountains (C Sicily); it is the only member of the *C. parlatoris* group to have glabrous cypselae.

Centaurea heywoodiana Raimondo, Spadaro & Di Gristina (2020: 370).

Ind. Loc.:—Nebrodi Mts, Floresta, SE slopes of Musarra Mt.

Type:—ITALY. Sicily: "Monti Nebrodi, Floresta, pendici sud orientali di Monte Musarra, nei luoghi aperti pascolati, su suolo argilloso-calcareo, 1081 m (s.l.m.), 37°51'39,45" N–14°54°28,94" E", 27 July 2020, *Raimondo* (holotype PAL-Gr; isotypes FI, PAL).

Notes:—Species currently known only from the *locus classicus* in the Nebrodi Mts (NE Sicily); it is a small plant, prostrate with branches spreading over the ground.

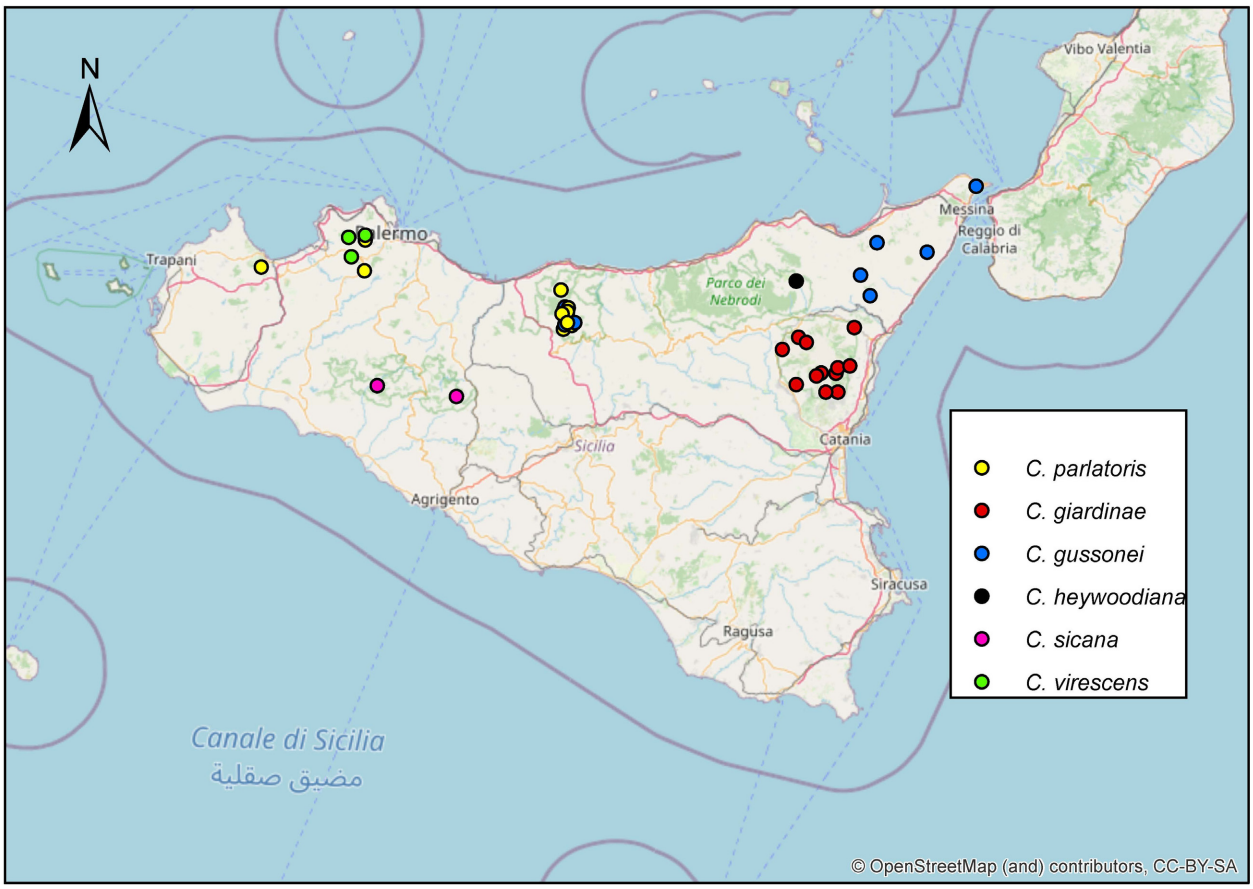

FIGURE 1. Distribution of the species of the *Centaurea parlatoris* complex.

Identification key

1. Capitula ovate, the upper ones 8–11 mm in diameter ..... ***C. gussonei***
– Capitula broadly oblong, the upper ones 6–7.5 mm in diameter 2
2. Scapes branched from the base 3
– Scapes branched in the upper half 4
3. Scapes and branches ascending, pappus 1/5 of the cypsela ..... ***C. giardinae***
– Scapes reclining, branches forming an angle with the scape between 45° and 90°, pappus 1/3 of the cypsela ..... ***C. heywoodiana***
4. Central appendage of the bracts twice as long as the lateral fimbriae; cypsela glabrous, pappus 1/5 of the cypsela ..... ***C. sicana***
– Central appendage of the bracts as long as the lateral fimbriae; cypsela hairy, pappus 1/3 of the cypsela **5**
5. Plant grey-tomentose; rosette and lower cauline leaves lyrate-pinnatifid ..... ***C. parlatoris***
– Plant green-lanuginose; rosette and lower cauline leaves bipinnatifid ..... ***C. virescens***

Discussion and conclusion

The study provides taxonomic alignments in this group, elevating one of the accepted taxa to the level of species. This taxonomic change was necessary because *Centaurea virescens* and *C. parlatoris* are sympatric in the Mounts around Palermo. The shape of the rosette and lower cauline leaves and the longer pappus in *C. virescens* allow a clear morphological distinction of the two taxa. This distinction is also supported by genetic differentiation. *Centaurea parlatoris* occurs in central-western northern Sicily with a wider distribution than the other species of the complex. *Centaurea gussonei* grows in central-eastern northern Sicily, while the others are limited to single mountain ranges. The most stable characters for the distinction of these taxa are the shape of the floriferous stem, the shape and size of capitula, the size and indumentum of cypselae. The habit of the plant and its indumentum must be observed on a large sample because in single plants variations can occur due to microclimatic conditions (water availability, insolation) and other factors such as grazing, fire, etc.

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