

Chromosome numbers for the Italian flora: 18

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Abstract

This study presents new chromosome numbers for two native Italian species: *Crepis suffreniana* (DC.) Steud. (Asteraceae), whose only Italian population is known for the Migliarino-San Rossore-Massaciuccoli Regional Park in Tuscany, and *Dianthus furcatus* Balb. subsp. *furcatus* (Caryophyllaceae), a taxon distributed in Italy in the western Alps. Concerning *C. suffreniana*, our count confirms previously published reports from France. For *D. furcatus* subsp. *furcatus*, we report a hexaploid level, contrasting with previous studies on *D. furcatus* s.l. from the Italian Alps, which documented only the diploid level.

Keywords

Asteraceae, Caryophyllaceae, *Crepis*, cytotaxonomy, *Dianthus*

How to contribute

Texts concerning new chromosome data should be submitted electronically to Antonio Giacò (antonio.giacco@biologia.unipi.it), including indications on voucher specimens and methods used.

Chromosome counts

Crepis suffreniana (DC.) Steud. (Asteraceae)

Chromosome number. $2n = 8$ (Fig. 1)

Voucher specimen. ITALY. Toscana. Tenuta di San Rossore (Pisa) in loc. Sterpaia (WGS84: 43.73820°N, 10.33496°E), 30 April 2025, G. Antonelli & J. Franzoni (PI069509).

Method. Squash preparations were made on root tips obtained from germinating seeds. Root tips were pre-treated with 0.4% colchicine for 3 h and then fixed in Carnoy solution for 1 h. After hydrolysis in 1 N HCl at 60 °C for 8 minutes, the tips were stained with leuco-basic fuchsin.

Observations. *Crepis suffreniana* (DC.) Steud. is an annual species growing on sandy soils in France and Italy (Babcock 1947), whose distribution range is fragmented in three main areas: the maritime regions of south-western France, south-eastern France, and Tuscany (central Italy), here only within the Migliarino-San Rossore-Massaciuccoli Regional Park (Peruzzi et al. 2025). Eight out of ten species belonging to *C.* sect. *Phytodesia* Babc., including *C. suffreniana*, are characterized by $2n = 8$ chromosomes, whereas *C. capillaris* (L.) Wallr. and *C. fuliginosa* Sm. exhibit $2n = 6$ (Babcock 1947). Nevertheless, in his revision of the genus *Crepis*, Babcock (1947) did not specify whether the chromosome count for *C. suffreniana* was obtained from French or Italian material. Here we report the first documented chromosome count for the Italian population of *C. suffreniana*, which agrees with Babcock (1947).

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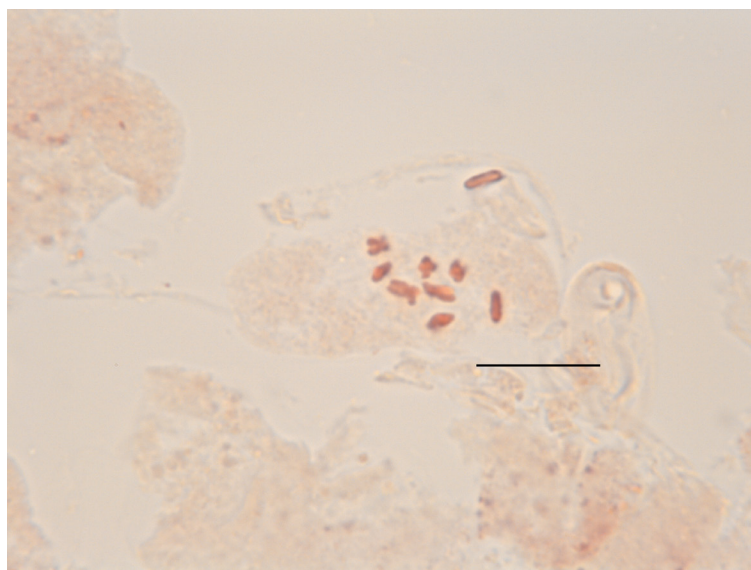


Figure 1. *Crepis suffreniana* (DC.) Steud. from Tenuta di San Rossore (Toscana). $2n = 8$. Scale bar: 10 μ m.

Dianthus furcatus Balb. subsp. *furcatus* (Caryophyllaceae)

Chromosome number. $2n = 90$ (Fig. 2)

Voucher specimen. ITALY. Liguria. Monte Frontè, Triora (Imperia), sul versante meridionale del monte, lungo la Strada Provinciale 2 (WGS84: 44.048760°N, 7.760786°E), praterie con rocce affioranti, 1668 m s.l.m., 14 July 2025, J. Franzoni & L. Peruzzi (PI070233).

Method. Squash preparations were made on root tips obtained from germinating seeds. Root tips were pre-treated with 0.4% colchicine for 3 h and then fixed in Carnoy solution for 1 h. After hydrolysis in 1 N HCl at 60 °C for 8.5 minutes, the tips were stained with leuco-basic fuchsin.

Observations. *Dianthus furcatus* Balb. is a Mediterranean orophyte growing in western Alps, across France and Italy (Tison and de Foucault 2014; Bartolucci et al. 2024). The Italian populations are organized in three subspecies (Pignatti 2017): *D. furcatus* subsp. *furcatus* growing throughout the western Alps; *D. furcatus* subsp. *dissimilis* (Burnat) Pignatti described and recorded so far only for Vallone degli Alberghi (Piemonte) in the Maritime Alps; and *D. furcatus* subsp. *lereschii* (Burnat) Pignatti, occurring in the Graian Alps. Some authors also consider *D. gyspergerae* Rouy, endemic to Corsica, as a subspecies of *D. furcatus* (Marhold 2011; Pignatti 2017). According to literature, *D. furcatus* is reported as tetraploid with $2n = 4x = 60$ chromosomes (Darlington and Wylie 1956; Carolin 1957), whereas *D. furcatus* subsp. *gyspergerae* (Rouy) Briq. is reported as diploid (Contandriopoulos 1964). Our chromosome count does not agree with previously published reports (referring generically to “Italy, Alps”, see Darlington and Wylie 1956), as the investigated population is showing consistently $2n = 90$ chromosomes, representing a hexaploid level in this genus.

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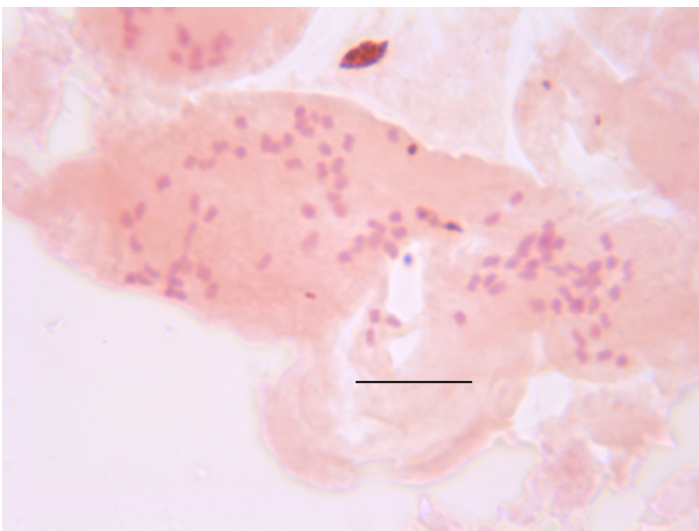


Figure 2. *Dianthus furcatus* Balb. subsp. *furcatus* Monte Frontè (Liguria). $2n = 90$. J. Franzoni, A. Giacò, L. Peruzzi. Scale bar: 10 μ m.

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