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The genus *Cerastium* (*Caryophyllaceae*) in the Stelvio National Park (Central Alps)

Abstract

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This work presents the list of species of *Cerastium* L. (*Caryophyllaceae*) collected in the Stelvio National Park (the Ortles-Cevedale group in the central Alps) in the years from 1961 to 1970 by F. Pedrotti, E. Orsomando and C. Cortini Pedrotti (Camerino). A total of 9 entities were found and identified by W. Moeschl (Graz) (†); in addition, *Cerastium holeosteoides* from the Val di Sole (Trentino) is reported. The material collected was deposited in the Herbarium of the former Department of Botany and Ecology of the University of Camerino (CAME).

Key words: *Cerastium*, altitudinal distribution, vegetation belts, phytosociology.

Introduction

This work lists the nine entities of *Cerastium* L. (*Caryophyllaceae*) collected in the years between 1961 and 1970 in the Stelvio National Park, defined by its 1935 boundaries, which is in the Ortles-Cevedale group in the central Alps (leg. F. Pedrotti, E. Orsomando & C. Cortini Pedrotti). The items collected were deposited in the Herbarium of the Department of Ecology and Botany of the University of Camerino (CAME).

All the *exsiccata* were determined by W. Moeschl (Graz) (†). A preliminary list of the species of the *Cerastium* L. genus in the Stelvio National Park was published by Pedrotti in 2005.

Material and methods

For each taxon the following information is presented: nomenclature (Conti & 2005), the chorological element (Aeschimann & 2004), the minimum and maximum altitude at which the item was found, the altitudinal level(s) of reference, the type of vegetation in which the *taxon* was observed at the moment of collection and during the execution of the phytosociological relevés (Pedrotti & al. 1974), and the name of the collection area.

In addition, *Cerastium holosteoides* was collected in the Val di Sole (Trentino), in an area close to the Stelvio National Park; the *exsiccatum* of this finding (*leg. F. Pedrotti; det. W. Moeschl*) was also deposited in the University of Camerino Herbarium (CAME).

The names of the collection localities are reported as they appear on the herbarium labels; followed by the toponym, the name of the valley where the plant was found from Pedrotti & al. (1974), in parenthesis to facilitate interpretation, with the lone exceptions of the cases in which the collecting locality in the label and the name of the valley in the I.G.M. maps coincide.

The locations are grouped with the following abbreviations: AA = Alto Adige (Sudtirol), TR = Trentino.

List of species

Cerastium alpinum L. subsp. *alpinum*

Arctic-alpine; 2420-2580 m; alpine belt; various environments (moraines, soils rich in humus, etc.).

AA: morene Vedretta Saent (Val Martello), 2580 m, 26-VIII-1964.

TR: nei cirsieti (*Peucedano-Cirsietum spinosissimi*) presso il Rifugio Dorigoni (Rabbi), 2420 m, 3-VIII-1964.

Note: this finding confirms its presence in Trentino.

C. arvense subsp. *molle* (Vill.) Arcang.

South-eastern European; 1550-2500 m; from the montane to the alpine belt; various environments (grazed alpine meadows, "campivoli" [grazing areas near mountain stalls], rocky environments, etc.).

AA: Solda di Fuori, 1550-1600 m, 25-VI-1965.

TR: sopra Malga Giumella (Peio), 1800 m, 21-VI-1965; parete rocciosa di Cima Vioz, 2500 m, 5-IX-1962; pendici occidentali Cima Vioz, nel *Festucetum variae*, 2400-2500 m, 5-IX-1962; Dente del Vioz, nel *Festucetum variae*, 2500 m, 5-IX-1962; sopra Peio, 1600-1650 m, 21-VI-1965; sopra Malga Stablazol (Rabbi), 1600 m, 20-VI-1965.

C. arvense subsp. *strictum* (W.D.J. Koch) Schinz & R. Keller

Montane southern European; 1800-2600 m; from the high hilly to the alpine belt; various environments (grazed alpine meadows, grassy slopes, calcareous gravel screes, moraines, pebbly riverbanks); indicated in the *Juniper-Arctostaphyletum* and *Homogyno-Piceetum* associations (Pedrotti 1966, 1980); *C. arvense* L. (*s.l.*, without indication of subspecies), it is reported in the phytosociological tables for *Cirsium* patches (*Peucedano-Cirsietum spinosissimi*) at the Cevedale Refuge and below Le Lame (Val di Peio) (Pedrotti 1983).

AA: Solda, gretto Rio Solda, 1850-1870 m, 20-VIII-1965; Val del Pozzo (Val Martello), 2350 m, 29-VIII-1964; Dosso Tabareta, 2539 m, 11-VIII-1965; Malga Campo Piccolo (Trafoi), 2050 m, 23-VIII-1965; morene Vedretta Fine del Mondo, ghiaioni calcarei, 2340 m, 28-VIII-1965; stazione di arrivo della seggiovia Monte delle Vacche (Solda), nel *Festucetum halleri*, 2350 m, 28-VIII-1965; Monte Muta (Solda), vegetazione nitro-

fila a *Poa alpina*, 2550-2570 m, 9-VIII-1965; imbocco Val Rosin (Val Martello), 1820 m, 2-IX-1964; ghiaioni calcarei fra Monte Marlet e Monte Muta, 2550 m, 9-VIII-1965; Solda, zone erbose vicino alla mugheta, 1900 m, 5-VIII-1965; Solda, scarpate erbose, 1900 m, 6-VIII-1965; Dosso Gloreza, 2000 m ca, 29-VI-1966; Val Martello, alla testata, 2200 m, 21-VIII-1964; lungo la strada dello Stelvio, 2000 m, 24-VI-1965; Val Peder (Val Martello), 2350-2400 m, 23-VIII-1964; sopra Rifugio Tabaretta (Solda), 2580 m, 8-VIII-1965; lungo strada dello Stelvio, 2000 m, 24-VI-1965.

TR: Pala della Donzella (Peio), 2600 m, 7-IX-1962; Saent (Rabbi), nello *Juniper-Arctostaphyletum*, lungo il sentiero dal Rifugio Dorigoni a Casotto Saent (versante sinistro), 2300 m, 20-VIII-1963; Passo Cercena (Peio), 2600 m, 12-VIII-1962; Monte Vedretta Lamare, 2500-2600 m, 23-VIII-1962; Saentin (Rabbi), 2150 m, 13-VIII-1964; nel *Peucedano-Cirsietum spinosissimi* alla base delle morene Vedretta di Lamare, 2400 m ca, 22-VIII-1962; costa sopra Malga Pontevecchio (Val Lamare), nel *Festucetum variae*, 2325 m, 12-VIII-1962; sopra Peio, 1600-1650 m, 21-VI-1965; sopra malga Stablasiol (Rabbi), 1600-1650 m, 20-VI-1965.

C. cerastoides (L.) Britton

Arctic-alpine; 2436-2800 m; alpine belt; vegetation of the small nival valleys (*Salicetalia herbaceae*).

TR: Val Lamare, IX-1961; morene Vedretta Lamare, 2450-2500 m, 22-VIII-1962; Rifugio Dorigoni (Rabbi), 2436 m, 2-VIII-1962; costa sopra Lago Corvo (Rabbi), 2700-2800 m, 8-VIII-1964; Passo di Rabbi, 2480 m, 7-VIII-1964.

C. fontanum Baumg.

Arctic-alpine; 1880-2100 m; montane and subalpine belts; various environments (larch groves, peaty meadows, etc.).

AA: Paradiso del Cevedale (Val Martello), 2100 m, 26-VIII-1964; Solda, nel loriceto, 1880 m, 6-VIII-1965.

C. glutinosum Fr.

Mediterranean; up to 1600 m; montane belt; steppe meadows (*Festucetalia vallesiacae*).

TR: Peio, nella vegetazione steppica, 1600 m ca, 11-VIII-1962.

C. holosteoides Fr. [*C. holosteoides* subsp. *triviale* f. *glandulosum* (Boenn.) Möschl; *C. fontanum* subsp. *vulgare* (Hartm.) Greuter & Burdet]

Eurasian which became cosmopolitan; 1600-2600 m; from the montane to the alpine belt; in alpine meadows (*Arrhenatheretalia*) and in the megaforbs communities (*Adenostyletalia*); previously reported (sub *C. triviale*) for the following locations: Dorigoni Refuge (Val di Rabbi), Vallombrina, under the Cevedale Refuge, Lago Lungo, Casotto del Careser (Val di Peio), where it grows in the *Peucedano-Cirsietum spinosissimi* association (Pedrotti, 1983).

AA: Sottostelvio (Trafoi), nel *Rumicetum alpini*, 2188 m, 27-VIII-1965; Tre Fontane Sante (Trafoi), 1600 m ca, 29-VI-1966.

TR: presso Rifugio Cevedale, nel *Festucetum halleri*, 2550-2600 m, 26-VIII-1962; Peio nella vegetazione steppica, 1600 m ca, 11-VIII-1962; Val Maleda, 26-VIII-1963.

In the Val di Sole (Trentino) *C. holosteoides* grows from 800 to 1650 m on mowable meadows throughout the valley where it is common in the meadow associations *Melandri-Arrhenatheretum* and *Trisetetum flavescentis* (*Arrhenatheretalia*), *Scirpetum sylvatici* (*Molinietalia*) and *Rumicetum alpini* (*Adenostyletalia*); already reported (sub *C. caespitosum*) for the Val di Sole (Pedrotti 1963).

TR: Claiano, nei prati falcabili, 1000 m ca, 30-VI-1960; Menas, nei prati falcabili, 1650 m, VI-1960; Dimaro, 800-850 m, VI-1960; Carciato, prati falcabili, 850 m, 29-VI-1960.

C. pedunculatum Gaudin

Alpine; 2450-2900 m; alpine belt; pioneer vegetation of silicate substrata (*Androsacetalia alpinae*).

TR: morene Vedretta Lamare, 2450-2500 m, 22-VIII-1962; verso Passo Cavaion sopra bacino del Careser (Peio), 2800-2900 m, 11-IX-1962.

C. uniflorum Clairv.

Alpine-carpatic; 2100-3100 m; subalpine and alpine belts; pioneer vegetation of silicatic (*Androsacetalia alpinae*) and carbonatic (*Thaspietalia rotundifolii*) substrata.

AA: Val Martello, parete rocciosa sotto Rifugio Corsi, 2100-2220 m, 21-VIII-1964; verso Passo di Saent (Val Martello), 3000 m, 26-VIII-1964; Rifugio Tabareta (Solda), 2555 m, 8-VIII-1965; Val Peder (Val Martello), 2780 m, 23-VIII-1964; ghiaioni calcarei fra Monte Muta e Monte Marlet, 2550 m, 9-VIII-1965; morene Vedretta Marlet (Solda), 2350 m, 8-VIII-1965; Passo Madriccio (Solda), 3124 m, 28-VIII-1964; Val Madriccio (Val Martello), 28-VIII-1964; morene Vedretta Saent (Val Martello), 2580 m, 26-VIII-1964; Dosso Tabareta (Solda), 2539 m, 11-VIII-1965; sotto Rifugio Tabareta (Solda), 8-VIII-1965; verso Passo del Coston (Solda), 2600 m ca, 26-VIII-1965; cresta sotto Rifugio Payer, 2900-3000 m, 10-VIII-1965.

TR: Vallombrina (Val del Monte, Peio), 2350-2400 m, 10-VIII-1962; La Valletta (Val del Monte, Peio), 2400-2500 m, 10-VIII-1962; Pala della Donzella (Peio), 2600 m, 7-IX-1962; ghiaioni sopra Lago Corvo (Rabbi), 2900 m ca, 8-VIII-1964; verso Passo Cavaion, sopra bacino del Careser, 2800-2900 m, 11-IX-1962; Saentin (Rabbi), 2150 m, 13-VIII-1964; Dente del Vioz (Peio), 2850-2900 m, 4-IX-1962; Val Lamare, IX-1961; Giogo Nero (Rabbi), 2833 m, 10-VIII-1964.

Discussion

The taxa of *Cerastium* were grouped according to the following altitudinal belts: from the high hilly to the montane (*C. glutinosum*, *C. holosteoides*, *C. arvense* subsp. *strictum*, *C. fontanum*), from the montane to the subalpine (*C. arvense* subsp. *molle*, *C. fontanum*, *C. holosteoides*) and from the subalpine to the alpine (*C. arvense* subsp. *strictum*, *C. arvense* subsp. *molle*, *C. uniflorum*, *C. alpinum* subsp. *alpinum*, *C. cerastoides*, *C. pedunculatum*).

The taxa of the high hilly and montane belts are elements that gravitate in mediterranean environments (subpontic) and in montane western Europe, reaching the continent of Asia, while those of the subalpine and alpine belts are arctic-alpine or alpine elements.

Concerning the environment and the vegetational types where they grow, the alpine and subalpine belts host a pioneer vegetation belonging to the *Androsacetalia alpinae* and *Thlaspietalia rotundifolii* (*C. uniflorum*, *C. pedunculatum*) orders, that of the small nival valleys (*Salicetalia herbaceae*) (*C. cerastoides*) and that of various environments (moraines, soils rich in humus, etc.) (*C. alpinum* subsp.*a.*). In the montane and subalpine belts, some species are of the mesophile meadows (*Arrhenatheretalia* and *Nardetalia*) and of the megaforbs communities (*Adenostyletalia*) such as *C. holosteoides*, others of steppe meadows (*Festucetalia vallesiacae*) like *C. glutinosum*. Finally, a group of taxa grows in diversified environments such as alpine meadows, megaforbs communities, grassy slopes, gravel screes, moraines, pebbly riverbanks, larch groves, open spruce woods and Swiss stone pine stands (*C. fontanum*, *C. arvense* subsp. *strictum*, *C. arvense* subsp. *molle*).

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