Cerastium stenopetalum Fenzl ex Grenier and C. soleirolii Ser. ex Duby (Caryophyllaceae): biosystematic and taxonomic investigations

Abstract


C. soleirolii Duby s.l. has been studied by means of biosystematic analysis of dried and living specimens, in natural environments and under cultivation. Two species endemic of Corsica have been recognized: C. stenopetalum Grenier and C. soleirolii Duby. C. stenopetalum is widespread over 750 m, on scree and dry grasslands. It presents two ploidy levels, diploid and tetraploid. The latter is the most widespread. A dwarf morphotype occurring in the highest sites of the distribution area, has been distinguished as C. stenopetalum var. nanul1l Barberis & al. nov. C. stenopetalum seems to be related to C. striense Barberis, an endemic species of Ligurian-Piedmontese Apennines. C. soleirolii is restricted to the summit area, over 1800 m, of Mount Renuso, Mount d’Oro and Mount Rotondo. It is a diploid relic entity. A detailed description, a new iconography and information on nomenclature, ecology and distribution are provided for both taxa.

Introduction

Perennial Cerastium populations from Corsica with rigid hairs are highly polymorphic and their taxonomic treatment is quite controversia!. Dwarf, caespitose, compact specimens, strongly glandular-pubescent on stems and leaves, occurring on the top of some of the highest mountains in the central part of the isle, distinctly differ from glabrescent, loosely-matted specimens with longer internodes widespread from 750 m to mountain tops of Corsica. Briquet (1910) ascribed individuals with generally linear, glabrescent leaves, large flowers, long acuminate sepal, large loose testa seeds, to C. stenopetalum; he ascribed dwarf, caespitose, glandular-pubescent individuals, with ovate-oblong to lanceolate leaves, and close testa seeds, to C. thomassii Ten.

For Buschmann (1938) the distinguishing characters of C. soleirolii are: bracts ciliate up to the apex; erect fruiting pedicels; oblong petals; straight and slender capsules; loose testa seeds with smooth surface. Moreover Buschmann (1938) distinguished two
subspecies: C. soleirolii subsp. eusoleiroli (small and caespitose plants) and C. soleirolii subsp. stenopetalum (luxuriant and loosely-matted plants).

Contandriopoulos (1962) considered C. stenopetalum as a very polymorphic species, endemic but widespread in Corsica from 1000 m to the mountain tops, loosely-matted, stoloniferous, with loose testa seeds, in which many local variants can be recognized. Contandriopoulos (1962) did not admit the presence of C. thomasii in Corsica.


A wide biosystematic investigation on numerous Corsican populations, has been carried out to evaluate their morphological, karyological and anatomical variation.

Analysis of populations

The following populations have been examined:

A - Col de Vizzavona, 1040 m;  
B - Haut-Asco, 1230 m;  
C - " 1380 m;  
D - " 1470 m;  
E - " 1570 m;  
F - " 1720 m;  
G - Val Restonica, 1250 m;  
H - " towards Lake Capitello, 1804 m;  
I - " GR20 above Lake Capitello, 2035 m;  
J - " Col de Rinoso, 2100 m;  
K - Mount d'Oro, NE slope, 1980 m;  
L - " S-SE slope, 2190 m;  
M - " S-SE slope (exp. E), 2200 m;  
N - Mount Renoso, at Lake Bastiani, 2095 m;  
O - " above Lake Bastiani, 2150 m;  
P - " above Lake Bastiani, 2200 m;  
Q - " above Lake Bastiani, 2200 m;  
R - " plateau above Lake Bastiani, 2220 m;  
S - " beneath Punta Bacinellu, 2230 m;  
T - Col de Bavella, at the beginning of the path towards refuge Paliri, 1183 m;  
U - " on the side of the path "piste di Alturaghja", 1200 m;  
V - Track beyond refuge Bucchinera above Quenza, 1550-1600 m;  
W - Track beyond refuge Bucchinera above Quenza, 1550-1600 m.

Morpho-biometric investigation

13 quantitative and 9 qualitative characters have been examined on 88 individuals. Further measurements regarding other quantitative characters, such as seeds size and capsules size, scarcely represented in the cited individuals, were taken into consideration. We considered the mean, the median, the mode, the minimum, the maximum and the
standard deviation values of the quantitative characters. We also calculated the ratios of:
length/width of leaves of the uppermost node of flowering stems; length/width of leaves of
axillary shoots; distance of the maximum width of leaves from the base/length of leaves;
length of capsule/length of sepals; length of peduncle of inflorescence/length of the
uppermost internode.

On the basis of the habitus of plants, leaf shape of flowering stems and general hairiness
we can distinguish two groups (Table 1):

Group I - It is quite variable in plants size, axillary shoots development, leaf width of
axillary shoots; it includes the following populations: A, B, C, D, E, F, G, H, I, J, K, L, M,
N, Q, S, T, U, V, W.

Group II - It is very homogeneous, and includes the following populations: O, P, R.

*Upper leaves of flowering stems* — In group I they are narrowly ovate to linear-ovate
(the maximum width is in the first quarter from the base), mostly acute (often acuminate in
population A), glabrous or glabrescent, shortly ciliate up to the apex, sometimes only at
the base. In group II they are oblong-ovate to lanceolate (the maximum width is in the
second quarter from the base), mostly obtuse, glandular-pubescent on both sides.

*Hairiness* — In group I hairs are few or many in the inflorescence and in the uppermost
internode of flowering stems, disposed on one or two lines, always very few or absent in
the lower internodes; glandular hairs are often present and abundant in the inflorescence,
rarely present in the uppermost internode and leaves (anyway very few), always absent in
the lower internodes. In group II glandular and eglandular hairs are abundant on stems
(disposed all around) and on leaves; we only found one individual densely hairy but with
very few glandular hairs.

*Plant size* — Plants of group I are loosely-matted, and quite variable in size; those of
populations A, B, C, D, E, F, G, H, K, L, N, T, U, V, 7-20 cm; those of populations J, M, Q, S, W, 2-7 cm, with short internodes. Plants of group II are densely caespitose, 2.5-
7.5 cm. Individuals of group II can be also distinguished from those of small size of group
I, for the smaller size of inflorescence respecting to the general size of the plant.

*Axillary shoots* — Very short, generally shorter than the axillant leaf, with very narrow
leaves, in population A; in the other populations of group I, either shorter or a little longer
than the axillant leaf (1-2 cm, very rarely 5 cm). Axillary shoots generally quite short in
populations of group II (they rarely reach 2 cm).

*Lowest bracts* — Ciliate up to the apex. More scarious, in group I; generally more
hairy, in group II.

*Capsules* — Straight and erect on fruiting pedicels, variable in size inside each
population. They are, on the average, larger in population A, and smaller in group II. They
vary from a little shorter than to as long as sepals in group I; from as long as to a little
longer than sepals in group II.
Table 1. Mean (x), median (me), minimum (min), maximum (max), standard deviation (s), number of measured individuals (n), of the most significant morphological characters in group I and group II (distance = distance of the maximum width from the base).

<table>
<thead>
<tr>
<th>Character</th>
<th>GROUP I</th>
<th>GROUP II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flowering stem uppermost internode (mm)</td>
<td>9.0 8.0 1.0 28.0 5.4 74</td>
<td>4.3 4.0 2.0 6.5 2.0 16</td>
</tr>
<tr>
<td>upper leaves length (mm)</td>
<td>9.0 9.0 3.8 15.1 2.3 113</td>
<td>7.8 8.2 5.1 10.0 1.6 16</td>
</tr>
<tr>
<td>width (mm)</td>
<td>1.9 1.8 0.7 4.0 0.6 113</td>
<td>2.3 2.3 1.3 3.7 0.7 16</td>
</tr>
<tr>
<td>distance (mm)</td>
<td>1.6 1.6 0.4 3.0 0.5 48</td>
<td>2.5 2.5 2.0 3.2 0.4 9</td>
</tr>
<tr>
<td>distance/length</td>
<td>5.3 5.1 3.4 10.0 1.3 48</td>
<td>2.9 2.5 2.0 4.4 0.9 9</td>
</tr>
<tr>
<td>inflorescence number of flowers</td>
<td>2.8 3.0 1.0 9.0 1.5 113</td>
<td>1.7 1.0 1.0 4.0 1.0 16</td>
</tr>
<tr>
<td>peduncle (mm)</td>
<td>20.4 18.8 2.3 57.0 12.4 74</td>
<td>6.9 6.5 2.0 14.0 3.7 16</td>
</tr>
<tr>
<td>lowest bracts (mm)</td>
<td>4.5 4.4 2.7 6.7 1.0 74</td>
<td>3.5 3.8 2.3 5.2 0.9 16</td>
</tr>
<tr>
<td>sepal length (mm)</td>
<td>7.4 7.5 4.5 9.4 0.9 113</td>
<td>6.2 6.3 5.0 7.3 0.8 16</td>
</tr>
<tr>
<td>capsule length (mm)</td>
<td>7.0 7.0 5.2 9.5 1.1 72</td>
<td>6.8 6.6 5.0 8.8 1.1 17</td>
</tr>
<tr>
<td>capsule/sepal length</td>
<td>0.9 0.9 0.6 1.3 0.1 72</td>
<td>1.1 1.1 0.8 1.5 0.2 17</td>
</tr>
<tr>
<td>seeds length (mm)</td>
<td>1.3 1.4 0.8 1.9 0.2 196</td>
<td>1.1 1.1 0.8 1.4 0.2 31</td>
</tr>
</tbody>
</table>
Table 2. Differential characters among the examined taxa.

<table>
<thead>
<tr>
<th>Character</th>
<th>C. stenopetalum</th>
<th>C. soleirolii</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inflorescence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>length of peduncle (mm)</td>
<td>(8) - 15 - 45 - (57)</td>
<td>(2) - 5 - 17 - (22)</td>
</tr>
<tr>
<td>lowest bracts length (mm)</td>
<td>(3.2) - 3.5 - 6 - (6.7)</td>
<td>(2.7) - 3 - 4.7 - (5.1)</td>
</tr>
<tr>
<td>Capsule (first flower) length (mm)</td>
<td>(5.3) - 6 - 8 - (9.5)</td>
<td>(5.2) - 5.5 - 8 - (9.5)</td>
</tr>
<tr>
<td>Seed length (mm)</td>
<td>(0.9) - 1 - 1.5 - (1.9)</td>
<td>(0.8) - 1 - 1.7 - (1.9)</td>
</tr>
<tr>
<td>Flowering stem (above the upper axillary shoot) length (mm)</td>
<td>1 - 2 - (3)</td>
<td>(0) - 1 - (4)</td>
</tr>
<tr>
<td>number of internodes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>uppermost internode:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hairiness</td>
<td>eglandular, rarely glandular, mostly reflected, on two opposite sides or all around</td>
<td>mostly eglandular, glandular and eglandular, patent, all around</td>
</tr>
<tr>
<td>upper leaves:</td>
<td>narrowly ovate to linear-ovate, acute to acuminate, glabrous or glabrescent, shortly ciliate</td>
<td>narrowly ovate to linear-ovate, mostly acute, glabrous or glabrescent, glandular on both sides</td>
</tr>
<tr>
<td>length (mm)</td>
<td>(6) - 7.5 - 12.5 - (15.1)</td>
<td>(3.8) - 4.5 - 9 - (10.4)</td>
</tr>
<tr>
<td>length/width</td>
<td>(2.5) - 3.5 - 7.5 - (10)</td>
<td>(2.3) - 3 - 6 - (7.4)</td>
</tr>
<tr>
<td>max width</td>
<td>in the first quarter from the base</td>
<td>in the first quarter from the base</td>
</tr>
<tr>
<td>Axillary shoot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>leaves:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>width (mm)</td>
<td>(0.3) - 0.7 - 2.1 - (3)</td>
<td>(0.2) - 0.5 - 1.5</td>
</tr>
<tr>
<td>length/width</td>
<td>3.7 - 14.5 - (27.5)</td>
<td>(2.9) - 4 - 9.5 - (12.4)</td>
</tr>
<tr>
<td>Chromosome number</td>
<td>$2n = 36, 72$</td>
<td>$2n = 72$</td>
</tr>
</tbody>
</table>
Fig. 1. Central area of cross section of leaf in *Cerastium stenopetalum*: a, diploid; b, tetraploid.

*Seeds* — Larger with flat tubercules in group I; on the average smaller and with more prominent tubercules in group II.
Fig. 2. Central area of cross section of leaf in a, *C. utriense* and b, *C. soleirolii*.
Karyological investigation

The karyological analysis was carried out on c-metaphases of root-tip cells stained by the usual Feulgen techniques.

A previous karyological investigation (Bechi & Miceli 1995) has shown the presence in Corsica of two cytotypes: diploid \((2n = 36\) population A), and tetraploid \((2n = 72\) population D). Further research have revealed other diploids (populations P, R), and tetraploids (populations H, I, J, K, L, M, N, U, V, W).

Anatomical investigation

We examined cross sections of the central rib of leaves (first node below the inflorescence) of flowering stems and of the seeds, which have already proved to be useful for systematic use (Miceli et al. 1997). Sections were stained with toluidine blue, zinc chloride iodide, Delafield’s haematoxylin, phloroglucin.

Leaf — It presents a sclerenchyma cap associated with the central vascular bundle. Within group I, population A differs for the midrib not much prominent and the flat adaxial surface (Fig. 1a, b). Group II differs from group I, for its thicker mesophyll with larger cells and its palisade tissue often three-layered (Fig. 2b).

Stem — It has a sclerenchymatous two-three-layered pericycle in all the examined populations.

Seed — With loose testa in all the populations (Fig. 3c). In group II the testa is less evidently loose, and the tubercules are more prominent (Fig. 3a, b). For this reason Briquet (1910) interpreted them as close testa seeds, belonging to C. thomasii.

Ecological-chorological investigation

Populations of group I are distributed between 1000 and 2250 m, in open sites, on screees, stony grasslands and juniper scrubbs. Populations of group II are limited to the top and to the upper slopes (over 2000 m) of Mount Renoso, on rock crevices, screees and stony grasslands.

Results

Our investigations allowed us to distinguish two systematic groups: Group I in which the type of C. stenopetalum is included; and Group II in which the type of C. soleirolii is included. It seems appropriate to separate at specific level the two groups since the diploid cytotype of group I and group II are clearly distinct from a morphological point of view, and the small sized individuals of high altitude belonging to group I (C. stenopetalum var. nanum), are tetraploid and easily distinguishable from the components of group II (Table 2). No intermediates between the two species have been observed either in the field or among herbarium specimens.
Fig. 3. Microphotograph of the seed in a, C. soleirolii, and b, in C. stenopetalum; c, section of loose testa seed in C. stenopetalum.

C. stenopetalum has got two cytotypes ($2n = 36$ and $2n = 72$, Fig. 5) probably through autopoliploidy. Diploids have been found in one population (A). Tetraploids are more diffused and differ from diploids in leaf size and capsule length (see Tab. 2 in Barberis &
al. 1995). *C. stenopetalum* occurs in similar habitats which in the Continental areas are occupied by *C. arvense* L. var. *strictum* Koch or by *C. arvense* L. subsp. *suffruticosum* (L.) Nyman.

*C. soleirolii* is diploid (2n = 36, Fig. 5) and shows an apparently low seeds production. We found *C. soleirolii* only on Mount Renoso, but on the basis of few specimens (G, K, P) it seems also present on Mount d'Oro and on Mount Rotondo. It seems to be a relic entity.

*C. thomasii* Ten. - endemic of Central Apennines - differs from *C. soleirolii* in the indumentum, the kind of capsule and seed.

*C. soleirolii* s.l. has been related with *C. utriense*, an endemic species of the Ligurian-Piedmontese Apennines (Barberis 1988, Barberis & al. 1995). As a result of this research we think that *C. utriense* is morphologically similar to *C. stenopetalum* mainly in having large loose testa seeds with a flat surface, glabrescent leaves, stems with hairs disposed on lines or alternate sides at the nodes. We carried out karyological investigation on *C. utriense* (Liguria, Mount Dente, 950 m) which have confirmed the previous count (2n = 36 in Barberis 1988), and morpho-anatomical analyses which have shown several common aspects of the Ligurian population with the diploid cytotype of *C. stenopetalum* (Fig. 2a). *C. utriense* differs from *C. stenopetalum* especially for larger general size, caespitose habitus, absence or extreme reduction of axillary shoots, bracts with larger scarious margins and smaller flowers.

*C. stenopetalum, C. soleirolii* and *C. utriense* belong to the group of *C. banaticum* (Rochel) Heuff. (Boșcaiu & al. 1996) and differ from *C. arvense* s.l. in having cylindrical, straight capsules, erect fruiting pedicels, larger and loose testa seeds, with lower tubercules.

**Key to the species**

Caespitose plants, with densely glandular-pubescent stems and leaves at least as far as the third internode (from the top); maximum width of leaves in the second quarter from the base .......................................................... *C. soleirolii*

Loosely-matted plants, with pubescent, sometimes also glandular, inflorescence, but glabrescent from the first internode (from the top) downwards; leaves ciliate; maximum width of leaves in the first quarter from the base ........................................... *C. stenopetalum*

*Cerastium stenopetalum* Fenzl ex Grenier in Grenier et Godron, Fl. France 1: 272.1847.

Fig. 4. *C. stenopetalum*: a, var. *stenopetalum*; b, var. *nanum*; c, uppermost node; d, flower; e, seed.
Fig. 5. Distribution area of *C. stenopetalum* (continuous line) and *C. soleirolii* (broken line). Chromosome counts in *C. stenopetalum* (2n = 36 ●; 2n = 72 ■) and *C. soleirolii* (2n = 36).
Infraspecific variation

The morpho-biometric analysis has shown a great morphological variability in C. stenopetalum. Briquet (1905) recognized two varieties on the basis of hairiness: C. stenopetalum var. polyadenum: individuals densely glandular in the inflorescence; C. stenopetalum var. oligadenum: individuals pubescent or with very few glandular hairs in the inflorescence. Since there can be both glandular and eglandular individuals in the same population, we don't think that the indumentum variability in C. stenopetalum should be deemed of any taxonomic value as noted by Contandriopoulos (1962). On the contrary, we think it is useful to distinguish populations of dwarf individuals, occurring in the highest sites of the distribution area, as a new variety.

var. stenopetalum

Description — Perennial, 7-16 (-22) cm; stems above with eglandular hairs generally disposed on two lines alternating at the nodes, towards the basal part, glabrous. Leaves (8-) 15-45 (-57) mm, narrowly ovoate to linear-triangular, acuminate or acute, mostly glabrous, ciliate at margins. Inflorescence pubescent, glandular-pubescent. Flowers (1) 3 (9); bracts lanceolate, acute, scarious at the apex which is usually ciliate; sepals (4.5-) 6-9 (-9.5) mm, acute, with long scarious apex; petals (8-) 10-12.5 (-16.2) mm. Capsules (5-) 6-8 (-9.5) mm, cylindrical, straight, erect on the fruiting pedicels. Seeds (0.8-) 1.3-1.7 (-1.9) mm, testa loose, with flat surface.

Type — (Neotype) here designated: “Soleirol, herb. cors. 979/ Cerastium strictum / mont grosso / S” (Herb. Grenier, P).

Phenology — It flowers in June-August, it bears fruits in July-September.

Iconography — Coste (1901) 1:219; Briquet (1910) Fig. 2:D, Fig. 3; Pignatti (1982) n° 480 sub C. soleirolii; Fig. 4a, c, d, e (A. Maury, Florence).

Chromosome number — 2n = 36 and 2n = 72.

Ecology — In open sites, on screes, stony grasslands and juniper scrubs, from 750 m to the mountain tops, on silicate rocks.

Distribution area — Endemic of mountains of Corsica (Fig. 5).

Specimens seen — Mont Grosso près Calvi, sine data, Soleirol, 1002 (herb. Webb Fl, P); Mont Grosso, sine data, Soleirol (herb. D. Fl, K, P); M. Cinto, 1800 m, sine data, sine coll. (WAG); M. Cinto, 2400 m, sine data, sine coll. (WAG); Bastelica montagnes, 28 Jun 1879, Revelière (BM); Canbon de Serra à la Bocca della Vaccia, 21 Jul 1879, Revelière (BM); e montibus Corsicæ, 1821, Salzmann (HE); Auf sommet du Monte Rotundo, Sep 1863, sine coll. (BM); Corte, 1867, Kesselmeyr (G); Corse: rocallies des montagnes de Corte, de 1000 à 2000 m, 5 Jun 1877, Ch. Burnouf (LY); Monte Felce, près Corte, 31 May 1879, sine coll. (FI); Monte Asto, rochers et lieux pierreux des montagnes,
24 Jun 1881, A. Chabert (FL); Corse, Gorges de la Restonica, 20 May 1896, Foucaud (LY); rochers de Venaco, 25 May 1896, Foucaud (LY); Corse, Mont Rotondo, 18 Jul 1898, Foucaud (LY); Monte Rotondo, près de la bergerie du Timozzo, Jul 1898, Mandón (G, LY); ad via in saxosis Cristinaccia 850 m, 22 May 1905, M. Spencer (FL); Foce di Vizzavona env. 1300 m, 18 Jun 1906, Gysperger (? (LY); in arenosis Col di Vergio Insula Corsica, 1460 m, 6 Jun 1906, M. Spencer (LY); Corse: Mte. San Pietro, graviers, vers 1500 m, 6 Jul 1906, de Litardière (LY); Environ de Calvi, entre la bergerie de Spasimata et la cime de Mufrella, rocaillies, silice, 1800-2000 m, 12 Jul 1906, E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier, E. Abrezol (FL); Env. de Calvi, bergerie de Spasimata au dessus de Bonifatto, rocaillies, silicées, 1400 m, 12 Jul 1906, E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier, E. Abrezol (G); environ de Vizzavona, vallon de l’Anghione, rocaillies, silice, 1100-1200 m, 21 Jul 1906, E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier, E. Abrezol (G); Paglia Orba, rocaillies, silice, 2300 m, 9 Aug 1906, E. Burnat, J. Briquet, A. Saint-Yves, F. Cavillier, E. Abrezol (FL); Vetta di Monte d’Oro, 24 Jul 1907, U. Martelli (FL); Corse: sommet du Mte. Rotondo (2625 m), 13 Jun 1908, de Litardière (LY); Monte Padro, rochers, silice, 2300 m, 4 Jul 1908, J. Briquet (G); Corse: sommet du Mte. Grosso (1941 m), 21 Jul 1908, de Litardière (LY); Corse: rocaillies au Col de Salto (1350 m), 26 Jul 1908, de Litardière (LY); Corse Punta Artica, gravier vers 2100 m (Niol), Aug 1908, de Litardière (LY); forêt de Valdaniello, 1130 m, 10 Jul 1911, [?] (FI); Corsica, Valdaniello, 1000 m, Jun 1912, Duffour (LY); Corsica, Lozzi, 1350 m, Jun 1912, Cousturier (LY); Corsica, Casamiccioli, 1200 m, Jun 1912, Cousturier (LY) [sub forma umbrosa]; Corsica, Gorges S. Regina, 750 m, granitoJun 1912, Cousturier (LY); Vizzavona in saxosis, 1200 m, 6 Apr 1912, M. Spencer (PAD); Corse colline à l’ouest de Lozzi, 1300 m, 1 Jun 1912, Cousturier (LY); Corsica, monte d’Oro, 2600 m, Jul 1912, Cousturier (LY); Corte, fentes des rochers granitiques, 1200 m, Jun 1929, G. Desplanteres (FI); Gemeinde Sisco, aufstieg zum San Giovanni Pass, Geröll auf den Ost-Abbängen von Cima di Cagnolo, in den Nischen des Gerölls, 800-850 m, 23 May 1973, G. Bocquet, H. Seitter, P. Blaser, M. Dreyfuss, G. Laflamme, P. Rachle (BM); Haut-Asco, 1230 m, 9 Jul 1987, De Giorgis (GE); Haut-Asco, 1380 m, 9 Jul 1987, Barberis, Paola (GE); Haut-Asco, 1470 m, 9 Jul 1987, Barberis, Paola (GE); Haut-Asco, 1570 m, 9 Jul 1987, Barberis, Paola (GE); Col de Vizzavona, 1040 m, 11 Jul 1987, Barberis, Paola (GE); Val Restonica, 1250 m, Barberis, Paola, 12 Jul 1987 (GE); Val Restonica, towards Lake Capitello, 1804 m, 19 Aug 1994, Barberis, Bechi, Cesati (GE); Mount d’Oro, NE slope, 1980 m, 21 Aug 1994, Barberis, Bechi, Cesati (GE); Mount d’Oro, S-SE slope, 2190 m, 21 Aug 1994, Barberis, Bechi, Cesati (GE); Mount Renoso, at Lake Bastiani, 2095 m, 23 Aug 1994, Barberis, Bechi, Calderisi, Cesati, Miceli (GE); Col de Bawella, at the beginning of the path towards refuge Paliri, 1183 m, 23 Aug 1994, Calderisi, Miceli (GE); Col de Bawella, on the sides of the path “piste di Alturaghjì”, 1200 m, 25 Aug 1994, Calderisi, Miceli (GE); track beyond refuge Bucchinera above Quenza, 1550-1600 m, 25 Aug 1994, Barberis, Bechi, Cesati (GE).

var. nanum Barberis, Bechi & Miceli, var. nov.

Diagnosis — C. stenopetalum var. nanum, a forma typica differt, internodii abbreviatis, foliis brevioribus atque floribus pauciornibus.
Fig. 6. *C. soleirolii*: a, entire plant; b, branch with capsules; c, uppermost node; d, flower; e, seed.

Iconography — Fig. 4b (A. Maury, Florence).

Distribution area — Mountains of Corsica (Fig. 5).

Specimens seen — Corse, Cagnone, sine data, Jordan (FI); Corse, Monte Renoso, 7 Aug 1878, Reverchon, n° 37 (LY); Corse: sommet du M.te Rotondo, 2625 m, 13 Aug 1908, R. de Litardière (LY); rochers du sommet du mont Rotondo, 2625 m, 19 Aug 1908 R. de Litardière (LY); Val Restonica, Col de Rinoso, 2100 m, 19 Aug 1994, Barberis, Bechi, Cesati (GE); Val Restonica, GR20 above Lake Capitello, 2035 m, 19 Aug 1994, Barberis, Bechi, Cesati (GE); Mount d'Oro, S-SE slope (exp. E), 2200 m, 21 Aug 1994 Barberis, Bechi, Cesati (GE); Mount Renoso, above Lake Bastiani, 2200 m, 23 Aug 1994, Barberis, Bechi, Calderisi, Cesati, Miceli (GE); Mount Renoso, beneath P. Bacinellu, 2230 m, 23 Aug 1994, Barberis, Bechi, Calderisi, Cesati, Miceli (GE); Track beyond refuge Bucchinera above Quenza, 1550-1600 m, 25 Aug 1994, Barberis, Bechi, Cesati (GE).


Description — Perennial, (2.5-) 4.5 (-7.5) cm, caespitose; stem glandular-pubescent. Leaves (5.1-) 6-9.5 (-10) mm, oblong-ovate to lanceolate, the basal ones oblanceolate-spathulate, glandular-pubescent. Inflorescence 1-3 flowered, glandular-pubescent. Bracts with very narrow scarious margins, or herbaceous, ciliate up to the apex. Sepals (5-)6(-7.3) mm, ovate. Petals ca. 9-10 mm. Capsules (5-)6-8 (-8.8) mm, cylindrical, straight, erect on the fruiting pedicels. Seeds (0.8-) 1-1.3 (-1.4) mm, testa not so obviously loose, with low tubercules.

Type — (Neotype) here designated: “110 Soleiro dedit Xbr 1826/ Cerastium corsicum Soleir./ Près des neig es du mont/ d'oro au mois de juillet/ 1820 (Corse)” (K).

Phenology — It flowers from the end of July to August. It bears fruits in August.

Iconography — Briquet (1910) Fig. 2:C; Fig. 6 (A. Maury, Florence).
Chromosome number — 2n = 36.

Ecology — On rock crevices, screens and stony slopes, on silicate rocks, over 1800 m.

Distribution area — Endemic of some mountains of Corsica: Mount d’Oro, Mount Renoso, Mount Rotondo (Fig. 5). While many specimens have been collected by different collectors from Mount Renoso (BM, FI, G, G-BU, K, LY, P, PAD, PI), only three specimens from Mount d’Oro labelled under n° 110 (G, K, P), and one specimen from Mount Rotondo labelled under n° 110 bis (G) have been traced.

Specimens seen — Mont d’Oro, sine data, Soleirol, n° 110 (G, P); Monte Rotondo, sine data, Soleirol, n° 110 bis (G); H. in montibus Corsicae, sine data, Soleirol (BM, BR, herb. Webb FI, P, WAG); Monte Renoso, graviers des Crêtes, sine data, E. Burnat, J. Briquet, F. Caviller, n° 407 (G-BU); Monte Renoso, sine data, sine coll. (TO); Monte Renoso, sine data, Requien (PAD); Bastelica, sommet du Mte. Renoso, 17 Jun 1818, Revelière (BM); Corse, près des neiges du mont d’oro, Jul 1820, sine coll. n°110 (K); ad nives aeternum [?], 1824, Soleirol (TO); Monte Renoso, Jul 1847, sine coll. (FI); Monte Renoso, Jul 1847, M. Requien (K, LY, P); Sommet du Monte Renoso, 2200 m, 6 Aug 1867, P. Mabille, n° 217 (BM, G-BU, LY, PI); Monte Renoso, 2200 m, 1 Aug 1869, O. Debeaux (G-BU); Corse, Bastelica, Mont Renoso, 7 Aug 1878, E. Reverchon, n° 37 (BM, FI, G, LY); Monte Renoso, 1880, Reverchon (BM); Corse: sommet du Mte Renoso, 2357 m, 16 Jul 1907, de Litardière (LY); Monte Renoso, 22 Jul 1914, Burdon (BM); Mount Renoso, above Lake Bastiani, 2150 m, 23 Aug 1994, Barberis, Bechi, Calderisi, Cesati, Miceli (GE); Mount Renoso, above Lake Bastiani, 2200 m, 23 Aug 1994, Barberis, Bechi, Calderisi, Cesati, Miceli, (GE); Mount Renoso, plateau above Lake Bastiani, 2220 m, 23 Aug 1994, Barberis, Bechi, Calderisi, Cesati, Miceli (GE).

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References


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