

Gypsophila repens L. (*Caryophyllaceae*), an overlooked species in the flora of Croatia

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The paper deals with the species *Gypsophila repens* L., the occurrence of which in Croatia has previously been doubtful. *G. repens* was found on the east slope of Segestin (south Velebit) on alpine grassland ca 1700 m a.s.l.

Key words: *Gypsophila repens*, plant geography, flora, Velebit, Croatia

Introduction

Gypsophila repens L. (syn.: *Saponaria diffusa* Lam.) is a subalpine-alpine plant species distributed on the mountains of the west and middle parts of South and Central Europe: the Alps, Pyrenees, Apennines, Carpathians and the Jura (cf. MEUSEL and MÜHLBERG 1979: 960, SEYBOLD 1993: 448). The general distribution of the species in Croatia is presented in Fig. 1. It belongs to the Alpine (SEYBOLD 1993: 448) or to the Alpine-Carpathian (WALTER and STRAKA 1970: 344) floral element. A more precise definition is given by MEUSEL and MÜHLBERG (1979: 960), who defined this species as a »pyren/alpin-(apenin/alpin)-alpisch-alpin-dealpin + nordkarpat/subalpin-(südsubatlant)« floral element.

According to SCHROETER (1908: 545), ROTHMALER (1952–1954: 34) and WALTER and STRAKA (1970: 379) *G. repens* is treated as glacial relict for the Harz mountains (Germany).

The species grows predominantly on lime rock screes, alpine grasslands, *Pinus mugo*-*Erica carnea* stands and prefers sunny, periodically dry habitats (cf. MEUSEL and MÜHLBERG 1979: 960, SEYBOLD 1993: 448).

Gypsophila repens can be floated down by alpine brooks, rivulets and rivers into lower regions after which it then grows on open alluvial pebbles (ASCHERSON and GRAEBNER 1929: 236, MEUSEL and MÜHLBERG 1979: 960, SEYBOLD 1993: 448, OBERDORFER 1994: 366, ADLER 1994: 321, VREŠ 1999: 157).

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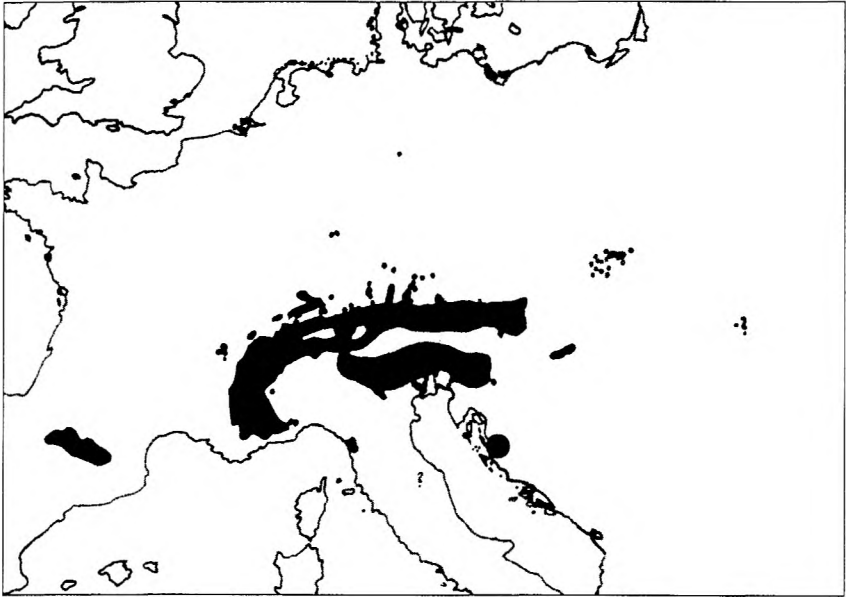


Fig. 1. Distribution of *Gypsophila repens* L. in Europe (after MEUSEL and MÜHLBERG 1979) with added locality in Croatia

● New locality on Segestin, the peak in the southern Velebit mountain.

From the phytosociological point of view (ROTHMALER 1990: 154, OBERDORFER 1994: 366), it grows in *Petasition paradoxi* Zoll. 66 (a vicariant alliance in the Dinaric region is *Peltarion alliaceae* H-ić(56) 58, authors' annotation) and it is a characteristic species of the class *Thlaspietea rotundifolii* Br.-Bl. et al. 47. Further, it grows also in associations of the order *Seslerietalia albicantis* Br.-Bl. 48 em. Oberd. 78 (*Seslerietalia juncifoliae* Ht 30 in the Dinaric region, authors' annotation) and *Mesobromion erecti* Br.-Bl. et Moor 38 em. Oberd. 78. (ROTHMALER 1990: 154).

Results and discussion

During our fieldwork on south Velebit in the summer of 1999 we found specimens of a small plant species, which was later identified as *G. repens* and compared with the existing herbarium material from other parts of Europe deposited in ZA and ZAHO. The plant was found on July 3rd, 1999 on the east slope of Segestin (Fig. 2), ca 1700 m a.s.l., UTM WK41. It was growing on the border of rocky dry alpine grassland (ass. *Festucetum pungentis* Ht 30) close to *Pinus mugo* shrubs (ass. *Lonicero borbasiarum-Pinetum mugii* Ht. 38). We found a few dozen well-developed and vital specimens in the early stage of flowering, so we did not notice any fruits or seeds.

The floristic literature referring to the area of Croatia has not previously noted this species (VISIANI 1852; NEILREICH 1868, 1869; SCHLOSSER and VUKO-

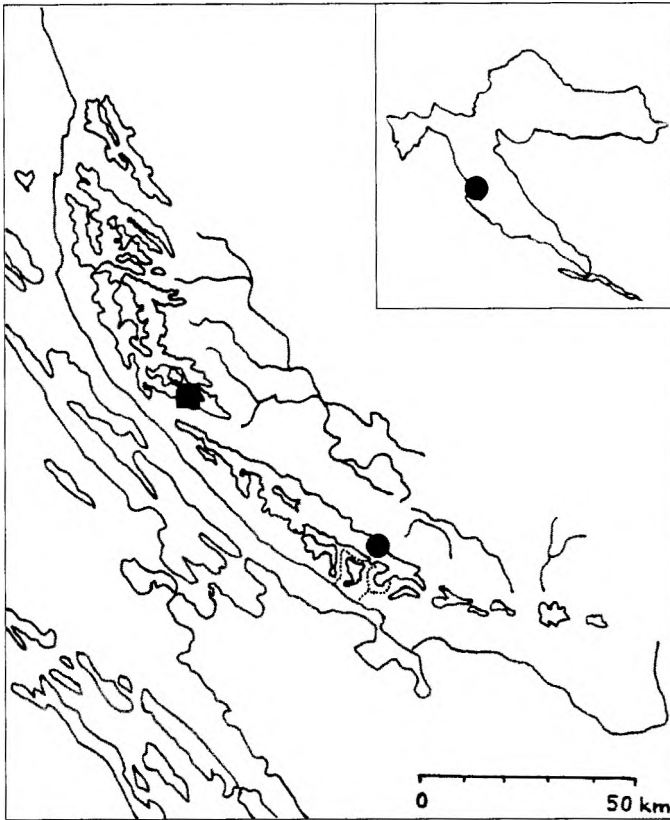


Fig. 2. Localities of *Gypsophila repens* L. on the Velebit mountain in Croatia.

■ FORENBACHER 1990

● New locality on Segestin, the peak in the southern Velebit mountain.

TINOVIĆ 1869, 1876; FRITSCH 1897; HIRC 1896, 1903; ROSSI 1911, 1913, 1914, 1924, 1928, 1930; HEIMERL 1912; GJURAŠIN 1920; HAYEK 1927; ASCHERSON and GRAEBNER 1929; HORVAT 1930, 1931; DEGEN 1937; RADIĆ 1976; TRINAJSTIĆ 1979a, b, 1994; VLADOVIĆ 1994).

AKERROYD (1993: 220) quotes Yugoslavia (of which Croatia was a constituent until 1991) as a part of the range of *G. repens* but this refers only to Slovenia (TRINAJSTIĆ 1979a: 702, VREŠ 1999: 157).

FORENBACHER (1990: 358–359) found *G. repens* on Velebit mountain. He wrote that *G. repens* can be sporadically found, and as a precise locality (Fig. 2) he quoted Došen-dabar (middle Velebit): a rocky slope by an abandoned cistern, ca 780 m a.s.l. (UTM WK13). This was the first finding of *G. repens* for the flora of Croatia but it has been completely overlooked, probably because there is no herbarium specimen. So, in the new edition of »Flora Hrvatske« (DOMAC 1994: 83) we can find only *G. muralis* L. and in »Index Florae Croatiae« (HRŠAK 1994: 71) only *G. muralis* L. and *G. fastigiata* L. are quoted. In the herbarium collections ZA and ZAHO specimens of *G. repens* from Croatia are not represented.

With this finding, the existence of *G. repens* in Croatia, on Velebit, is confirmed and the border of its range is shifted further to the South-East, deep into the Dinaric region. So, its range includes not only the western and middle parts of Southern and Central Europe but also the eastern part of Southern Europe.

For the flora of Croatia, *G. repens* can be considered a rare plant species. We suppose it is not directly endangered because the specimens found were vigorous and flowering, and the mountain habitats are far away from significant human influence. In addition, the finding place on Segestin is within the borders of the National Park »Paklenica«.

Further floristic investigation is necessary to show us the precise distribution and ecological relationships of *G. repens* in Croatia.

For the practical distinction of *G. repens* from the other two *Gypsophila* species growing in Croatia, the following determination key can be used:

- 1 Annual, without woody stock and sterile shoots

Gypsophila muralis L.

- 1* Perennial, with woody stock and sterile leafy shoots

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- 2 Whole plant glabrous, ascending; leaves obtuse 10–30 × 1.5–3 mm; pedicels more than twice as long as calyx; calyx teeth acute

Gypsophila repens L.

- 2* Glandular pubescent above and in the inflorescence, erect, often branched;

leaves 20–80 × 1–4 mm, obtuse or abruptly acute; pedicels usually shorter than calyx; calyx teeth ovate, obtuse, not apiculate

Gypsophila fastigiata L.

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