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CAREX DEPAUPERATA GOODENOUGH IN CURTIS EX WITHERING.
NEW SPECIES OF SLOVENIAN FLORA

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NUOVA SPECIE PER LA FLORA SLOVENA

Abstract - The author describes locality of species *Carex depauperata* With., which has been found in Slovenia for the first time in rocky and steep slopes above the Kolpa River in the area of Bela Krajina (S Slovenia).

Key words: *Carex depauperata*, Flora, Slovenia.

Riassunto breve - L'autore descrive nuove località della specie *Carex depauperata* With., scoperta per la prima volta sui versanti rocciosi della valle del fiume Kolpa (Bela krajina).

Parole chiave: *Carex depauperata*, Flora, Slovenia.

1. Introduction

Among the *Cyperaceae* genus *Carex* is most numerous. There are about 119 species known in Central Europe (SCHULTZE-MOTEL, 1977) and over 80 species in Slovenia (MARTINČIČ & SUŠNIK et al., 1984). The newly discovered locality of *Carex depauperata* has enriched the genus *Carex* and also the Slovenian flora with a new species. The species mentioned above has not been known in Slovenia so far. For the same reason it has not been dealt with, so it is appropriate to take a closer look of it.

2. General distribution

From botanical sources we can recognize that *Carex depauperata* is generally present in Western Europe (South of England, Southern Belgium, France), in the western part of Central Europe, in Southern Europe (Pyrenean peninsula, Italy, Balkans, Crimea), in Caucasus and in Iran (SCHULTZE-MOTEL, 1969: 231). It is considered to be an Atlantic - Mediterranean (ibid.) or Submediterranean - Atlantic species (OBERDORFER, 1979: 182) respectively. In the Southern Rhineland (Germany) it has been classified into local *Ulmo-Carpinetum* association

that belongs to the *Carpinion betuli* (SCHULTZE-MOTEL, 1969:231) union. Otherwise it is considered to be characteristic species for *Quercetalia pubescentis* order in Europe (ibid., OBERDORFER, 1979: 182). In Italy it grows also in thermophilous deciduous forests (PIGNATTI, 1982, 3: 662).

3. Ecological conditions of the new locality

C. depauperata was discovered in rocky steep slopes above the Kolpa River between the village of Radenci and the hamlet of Breg on Kolpa [0556/2, (UTM WL 03), n. viš. 380 m, SW. Leg. M. ACCETTO, March 27, 1997, det. M. ACCETTO & T. WRABER June 6, 1997 - herbarium LJU] characterized by rock faces that are 20 to 80 metres of the most high, isolated from each other, steep to vertical: Mala stena, Velika stena, Baba and Kavanova stena. The said rock faces and their surroundings consist of jurassic dolomites and limestones (SAVIĆ & DOZET, 1985) with the admixture of flints.

This locality, whose central part (i. e. forest compartment 201a with an area of 55-54 hectares) has been designated as a new forest reserve (MLINŠEK et al., 1980), is covered by numerous forest and on-rock plant associations and their developmental stages. In addition, *Carex depauperata* grows also in an yet unclassified plant association of *Ostrya carpinifolia* and *Quercus pubescens* represented by the following floristic relevé:

Right under Velika stena, 380 metres above sea level, SW, slope 35 degrees, rock cover 40 percent, area 10 by 10 metres, jurassic limestone with flints, the greatest diameter 30 cm, the greatest height 23 metres, April 10, 1997 and May 16, 1997;

E3 (90%): *Ostrya carpinifolia* 3, *Tilia platyphyllos* 2, *Quercus pubescens* 1, *Q. cerris* 1, *Hedera helix* 1, *Sorbus aria* +, *Fraxinus ornus* +, *Sorbus torminalis* +; E2 (50%): *Cornus mas* 2, *Euonymus verrucosa* 2, *Viburnum lantana* 1, *Crataegus monogyna* 1, *Prunus mahaleb* 1, *Tamus communis* 1, *Acer campestre*, *Acer obtusatum* +, *Ligustrum vulgare* +, *Clematis vitalba* +; E1 (40 %): *Carex pilosa* 2, *Galanthus nivalis* 2, *Glechoma hirsuta* 2, *Hedera helix* 2, *Aristolochia lutea* 1, *Arabis turrita* 1, *Asplenium adiantum-nigrum* 1, *Asplenium trichomanes* 1, *Allium* sp. 1, *Carduus carduelis* ssp.? 1, *Carex depauperata* 1, *Campanula persicifolia* ssp. *sessiliflora* 1, *Cyclamen purpurascens* 1, *Geranium robertianum* 1, *Isopyrum thalictroides* 1, *Lamium orvala* 1, *Buglossoides purpureocaerulea* 1, *Piptatherum virescens* 1, *Potentilla micrantha* 1, *Silene nutans* 1, *Tamus communis* 1, *Vincetoxicum hirundinaria* 1, *Allium carinatum* +, *Anemone ranunculoides* +, *Asparagus tenuifolius* +, *Cardaminopsis arenosa* +, *Corydalis cava* +, *Cotinus coggygria* +, *Dentaria bulbifera* +, *Dianthus monspessulanus* +, *Digitalis grandiflora* +, *Erythronium dens-canis* +, *Geranium sanguineum* +, *Mycelis muralis* +, *Peucedanum austriacum* +, *Polypodium vulgare* +, *Polystichum setiferum* +, *Stellaria holostea* +, *Symphytum tuberosum* +, *Valeriana collina* +, *Veronica chamaedrys* +; E0 (40 %): *Anomodon viticulosus* 3, *Homalothecium* sp. 2, *Hypnum cupressiforme* 2, *Isoetecium myurum* 2, *Neckera crispa* 1, *N. complanata* 1, *Frullania* sp. + and others.

In the floristic inventory ecological conditions of the new *Carex depauperata* locality are best illustrated by the *Quercetalia pubescentis* (underlined) that are indicators of warm, dry and light sites, while *Asplenium adiantum-nigrum*, *Carex pilosa*, *Erythronium dens-canis* and *Sorbus torminalis* draw our attention to the presence of flints and acid ion soil components respectively.

4. Characteristics of *Carex depauperata*

Morphologically the *Carex depauperata* from the new locality by far and wide corresponds to those described in the literature (SCHULTZE-MOTEL, 1969: 230-231). The only difference has been noticed in the form of the fruits which are more puffed up in case of *Carex depauperata* from the Kolpa valley.

The comparison with foreign *Carex depauperata* specimens in the LJU herbarium has shown that the *Carex depauperata* in question is most similar to those of Hungary. In general *Carex depauperata* is considered to be a less variable species as hitherto no infraspecific taxa have been described nor are there any hybrids known (SCHULTZE-MOTEL, 1969: 230-231).

5. Discussion and conclusions

With regard to the already mentioned general spreading and phytosociological adherence of *Carex depauperata* one could expect its presence in various thermophilous plant associations in the territory of Croatia, as mentioned by DOMAC (1973: 474) and in the broader Southeastern European territory. However, it cannot be found neither in comprehensive phytocoenological comparative material by HORVAT (1959) nor in the even more extensive materials by POLDINI (1988), while it has a 60 per cent permanence in the area described here (based on 21 floristic relevés). It is more frequent on the slope below

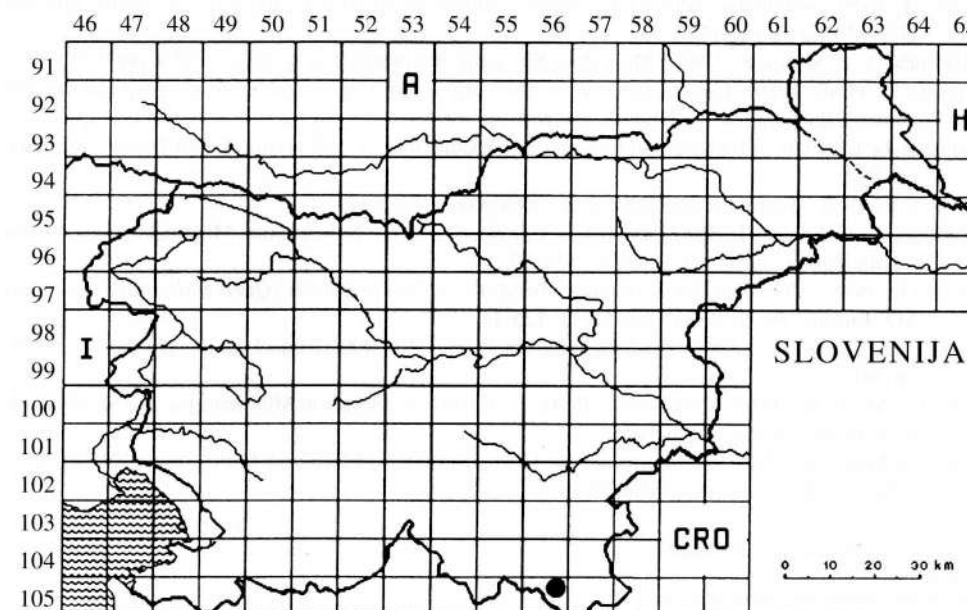


Fig. 1 - *Carex depauperata* in Slovenia.

Velika stene and Baba rock face. It is becoming more and more rare in the north as well as south direction. In floristic inventories in the neighboring territory of Bela krajina, i. e. in quadrants 0557/1,2,3 (PODOBNIK & T. WRABER, 1982) it has not been registered.

As a result the discovery of *Carex depauperata* in the Bela krajina part of Kolpa Valey is somewhat surprising from chorological, but not so much from ecological point of view as many other species grow here, adjusted to very steep, warm and dry sites.

Until now there are no comparative phytocoenological materials available with *Carex depauperata* present. Thus more detailed comparisons cannot be made. Therefore we can only conclude generally that *Carex depauperata* grows in Bela krajina in similar geobotanical conditions as elsewhere in Europe, so it can be classified as a species characteristic for the order *Quercetalia pubescentis* s. lat. also in Slovenia.

In classifying associations of *Ostrya carpinifolia* and *Quercus pubescens* *Carex depauperata* will play an important distinguishing - diagnostic role in Slovenia.

Discovery of *Carex depauperata* whose locality is shown in the area map (fig. 1) is not only a contribution to the knowledge of flora in Bela krajina but also in Slovenia. It is very likely that it will be also discovered in nearer or broader surroundings.

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