

"Bünteljárás helyettesítő tudatosul, hogy a másolat
az eredetivel mindenben egyezik."

Újra írt

Eastern Alpine and Dinaric Society
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Book of Abstracts



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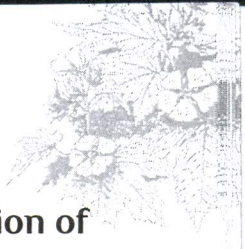
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Floristic, phytosociological and ecological investigation of the spring plant communities (*Montio-Cardaminetea*) in the Mecsek Mts. and the South-Zselic

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Although the wells possess in Hungary „ex lege” protection, the floristic, phytosociological and ecological investigation of the regionally endangered or critically endangered spring plant communities (*Montio-Cardaminetea*) lag behind from the neighbouring countries. There are some regions in Hungary, from where spring relevés were not mentioned before, such as the Mecsek and the South-Zselic. We recorded 38 relevés along natural, unset fountains in these areas, according to the guidelines of the Zürich-Montpellier School. According to our results, we distinguished 3 spring associations by the species composition, the species groups and the abiotic factors: 1. *Caricetum remotae*, 2. *Cardamino-Chrysosplenietum alternifolii*, 3. *Brachythecio rivularis-Cratoneuretum*. From this three crenal communities only the presence of *Cardamino-Chrysosplenietum alternifolii* were published in our country erstwhile. *Caricetum remotae* belonging to *Caricion remotae* is new to Hungary, like the *Brachythecio rivularis-Cratoneuretum*, which occupies crenal habitats surrounded by forests and belongs to the *Lycopodo europaei-Cratoneurion commutati*. This alliance was never mentioned from Hungary before. We detected 48 bryophytes and liverworts, some of them are rare, Red List species, like *Fissidens incurvus* (EN), *Palustriella commutata* (EN), *Philonotis marchica* (DD). The diversity of the vascular plants is surprising (131 species); protected, endangered taxa, moreover zoological curiosities (*Pomatias rivulare*, *Cordulegaster heros* (NT), *Carabus nodulosus*) occurred in some relevés. For this reason, the spring plant communities are not protectable only because of their habitat speciality, but the rare plants and animals, so should be examined at regional scale.

Floristic, phytosociological and ecological investigation of the spring plant communities (*Montio-Cardaminetea*) in the Mecsek Mts. and the South-Zselic (Hungary)

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The plant communities of the class *Montio-Cardaminetea* are situated at springs and along streams of hills and mountains. These are treeless syntaxa with special features such as cold microclimate, presence of clear water with high oxygen saturation, which steep the soil and the debris. Because of these factors, a selected species pool can be found there, causing serious contrast with the surrounding vegetation. Although the wells possess in Hungary „ex lege” protection, the floristic, phytosociological and ecological investigation of the regionally endangered or critically endangered spring plant communities lag behind from the neighbouring countries. For this reason, their protection achievable only if we possess enough information about these objects, so their investigation is seriously justified. In Hungary there are only few areas, from where spring relevés were published, but the Mecsek Mts. and the South-Zselic are not among them.

We recorded 38 relevés (Fig. 1) along natural, unset fountains in these areas, according to the guidelines of the Zürich-Montpellier School. For classification we used the species composition (R software system: agnes, $\beta=0.25$; JUICE: frequency of occurrence $\geq 50\%$, $\phi \geq 0.30$) and some abiotic factors (pH, electrical conductivity). Four clusters were distinguished (Fig. 2), three of them can be identified by phytosociological systems, two of them are new associations for Hungary.

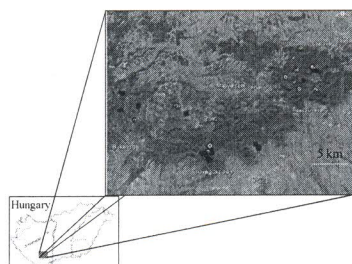


Fig. 1. Distribution of the relevés

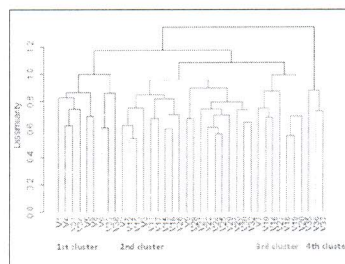


Fig. 2. Result of the cluster analysis



	<i>Brachythecio rivularis-Cratoneuretum</i>	<i>Caricetum remotae</i>	<i>Cardamino-Chrysosplenietum alternifolii</i>	„4th cluster”
cluster	1th	2nd	3rd	4th
alliance	<i>Lycopodo europaei-Cratoneurion commutati</i>	<i>Caricion remotae</i>	<i>Caricion remotae</i>	
diagnostic species	<i>Brachythecium rivulare</i> , <i>Geranium robertianum</i> , <i>Palustriella commutata</i>	<i>Cardamine flexuosa</i> , <i>Carex remota</i> , <i>Ranunculus repens</i> , <i>Rumex sanguineus</i> , <i>Urtica dioica</i> , <i>Veronica beccabunga</i> , <i>Veronica montana</i>	<i>Cardamine amara</i> , <i>Carex remota</i> , <i>Chrysosplenium alternifolium</i> , <i>Myosotis palustris</i> , <i>Ranunculus repens</i>	can not be identified because of the pioneer stands
new to Hungary	✓	✓	X	
dominant layer	moss	herb	herb	moss
pH	basic	indifferent	indifferent	basic



131 vascular plant as well as 48 bryophyte and liverwort species were detected in 38 stands. Some of them are protected and/or rare, Red Listed taxa in Hungary, e.g. *Aruncus dioicus*, *Asplenium scolopendrium* (NT), *Cardamine amara* (Fig. 3), *Cardamine flexuosa* (NT) (Fig. 4), *Carex strigosa*, *Catabrosa aquatica* (NT), *Epilobium obscurum* (VU), *Fissidens incurvus* (EN), *Palustriella commutata* (EN) (Fig. 5), *Philonotis marchica* (DD) (Fig. 6). Moreover, we have found zoological rarities in the investigated wells (e.g. *Cordulegaster heros* (NT), *Pomatias rivulare*) which are protected and/or Natura 2000 species in Hungary (Fig. 7-8). One of them (*Carabus nodulosus*) is thought to be extinct from the Mecsek Mts.

Considering these data, the further research of springs is recommended in the aspect of syntaxonomy, botany and zoology as well.



Fig. 3. *Cardamine amara*



Fig. 4. *Cardamine flexuosa*



Fig. 5. *Palustriella commutata*



Fig. 6. *Philonotis marchica*

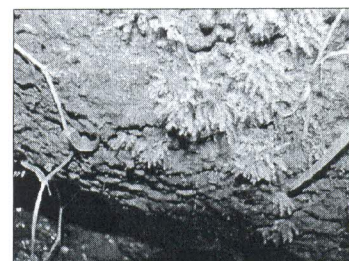


Fig. 8. *Pomatias rivulare*



Fig. 7. *Cordulegaster heros*

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