

THE CHARETUM CONTRARIAE ASSOCIATION, NEW TO HUNGARY

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The *Charetum contrariae*, stoneworth plant community, was found during the research of aquatic biotopes in the catchment area of the Ipeľ river in the summer of 2000. It has not been detected in Hungary. Up to now, the community is known from Slovakia and Poland at the territory of Central Europe.

Key words: aquatic community, *Charetea fragilis*, Hungary

An intensive research of aquatic plant communities in the catchment area of the Ipeľ river (territory of Slovakia and particularly of Hungary) brought several interesting results. Numerous new plant communities for Slovakia (e.g. the *Batrachium rhipiphyllum* community), Hungary (*Lemno minoris*–*Spirodeletum polyrhizae* Koch 1954) and mainly for the studied area (e.g. *Riccio-carpetum natantis* R. Tx. 1974) were detected during the period of 1993–2002 (cf. Hrivnák *et al.* 2001a, b, Hrivnák 2002a, b). Within stoneworth plant communities of the *Charetea fragilis* Fukarek ex Krausch 1964 class, the *Charetum vulgaris* Corillion 1957 and *Nitelletum mucronatae* Tomaszewicz ex Hrivnák *et al.* 2001 associations were found (Hrivnák *et al.* 2001a, Hrivnák 2002a). Both of them were detected in the Slovak part of the catchment area of the Ipeľ river. The second mentioned association represented the first record in Slovakia (cf. Hrivnák *et al.* 2001a, Otaheľová 2001).

Another plant community with the dominance of a macroscopic alga, *Charetum contrariae* Corillion 1957 (*Charion fragilis* Krausch 1964, *Charetalia hispidae* Sauer ex Krausch 1964, *Charetea fragilis* Fukarek ex Krausch 1964) was found in the Hungarian part of the Ipeľ river catchment area at the end of the summer 2000. It grew in an artificial pool (sewage tank) near the Mihálygerge village. The bottom is formed of fine predominantly inorganic substrate. The stand is characterised by the following phytosociological relevé. The occurrence of helophytes is a result of the decrease of water level during the summer season. In the littoral, *Chara contraria* grew as the synusia of stands of the *Typhetum latifoliae* Lang 1973 association, too.

Mihálygerge, NW margin of the village, near the way to Komra-völgyi water reservoir, artificial pool; altitude 167 m; area: 4 m × 3 m; cover: 85%; stagnating water; depth of the water: 3–5 cm; date: 8.9.2000; author: Hrivnák, R.

<i>Chara contraria</i>	5
<i>Typha latifolia</i>	2a
<i>Juncus articulatus</i>	+
<i>Lemna minor</i>	+

Charetum contrariae has not been detected in Hungary (Borhidi 1996, Borhidi and Sánta 1999). In the surrounding countries, community is known from Slovakia (flooded stone-pit, locality Marianka, the Borská nížina lowland; Ofaheľová 2001) and Poland (northern and eastern part; Tomaszewicz 1979). It belongs to rare ones in Slovakia, but is very frequent in Poland (there, it was documented by 108 phytosociological relevés), where it grows in all types of eutrophic stagnating water deep from 0.1 to 3 m (cf. Ofaheľová l. c., Tomaszewicz l. c.). In the survey of vegetation units of the other Central European countries (Ukraine, Czech republic, Germany, Austria), *Charetum contrariae* is not mentioned (Solomacha 1995, Husák 1995, Pott 1992, Schratz 1993). On the other hand, *Chara contraria* is widespread in Central Europe (Krause 1997). We can suppose that next localities of the *Charetum contraria* association will be found in future.

Note: The names of vascular plants and stoneworths are given according to Marhold (1998) and Krause (1997), respectively.

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REFERENCES

- Borhidi, A. (ed.) (1996): *Critical revision of the Hungarian plant communities*. – Janus Pannonius University, Pécs, 138 pp.
- Borhidi, A. and Sánta, A. (1999): *Vörös könyv Magyarország növénytársulásairól*. 1. – Természet BÚVÁR Alapítvány Kiadó, Budapest, 362 pp.
- Hrivnák, R. (2002a): Aquatic plant communities in the catchment area of the Ipeľ river in Slovakia and Hungary. Part I. Classes Lemnetaea and Charetea fragilis. – *Thaiszia, J. Bot.* 12(1): 25–50.
- Hrivnák, R. (2002b): Aquatic plant communities in the catchment area of the Ipeľ river in Slovakia and Hungary. Part II. Class Potametea. – *Thaiszia, J. Bot.* 12(2): 137–160.

- Hrivnák, R., Ofaheľová, H. and Husák, Š. (2001a): *Nitella mucronata* and *N. translucens* – contribution to occurrence and ecology in Slovakia. – *Biologia* 56(1): 13–15.
- Hrivnák, R., Ofaheľová, H., Valachovič, M., Cvachová, A. and Balázs, P. (2001b): Aquatic and marsh plant communities of an inundation area of the Ipeľ River (rkm 96–119). – *Kitaibelia* 6(2): 267–279.
- Husák, Š. (1995): *Charetea fragilis*. – In: Moravec, J. (ed.): Rostlinná spoločenstva České republiky a jejich ohrožení. 2. vydání. Severočeskou Přír., Litoměřice, příl. 1995, pp. 25–27.
- Krause, W. (1997): *Charales (Charophyceae)*. – In: Ettl, H., Gärtner, G., Heynig, W. and Mollenhauer, D. (eds): Süßwasserflora von Mitteleuropa 18. Gustav Fischer Verlag, Jena, pp. 1–202.
- Marhold, K. (ed.) (1998): *Papraďorasty a semenné rastliny*. – In: Marhold, K. and Hindák, F. (eds): Zoznam nižších a vyšších rastlín Slovenska. Veda, Bratislava, pp. 333–687.
- Ofaheľová, H. (2001): *Charetea fragilis* Fukarek ex Krausch 1964. – In: Valachovič, M. (ed.): Rastlinné spoločenstvá Slovenska 3. Vegetácia mokradí. Veda, Bratislava, pp. 391–406.
- Pott, R. (1992): *Die Pflanzengesellschaften Deutschlands*. – Verlag Eugen Ulmer Stuttgart, 427 pp.
- Schratt, L. (1993): *Charetea fragilis*. – In: Grabherr, G. and Mucina, L. (eds): Die Pflanzengesellschaften Österreichs. Teil II. Natürliche waldfreie Vegetation, Gustav Fischer Verlag, Jena, pp. 45–54.
- Solomacha, V. A. (1995): *Sintaxóni roslinnosti Ukrajiny za metodom Braun Blanketa jch osobli-vosti*. – Nacionálnij Kijvskij universitet im. Tarasa Ševčenka, Kijv.
- Tomaszewicz, H. (1979): *Róslinność wodna i szuwarowa Polski (klasy: Lemneta, Charetea, Potamogetonetea, Phragmitetea) wg stanu zbadania na rok 1975*. – Rozpr. Uniw. Warsz., Wydawnictwo Uniwersytetu Warszawskiego, Warszawa, 324 pp.