

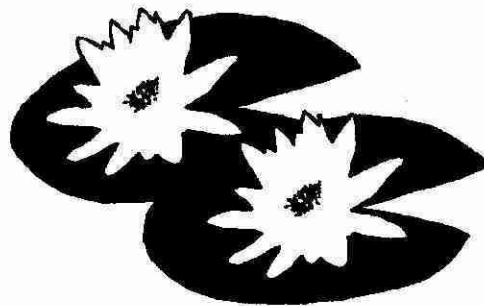
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*- Riassunti delle Comunicazioni e dei Poster -*

### Diversity of reeds and tall-sedge wetlands in Carpathian-Pannonian region and application of vegetation units for nature conservation

VALACHOVIC M.<sup>(1)</sup>, OTAHELOVA H.<sup>(1)</sup>, HRIVNAK R.<sup>(2)</sup>

(1) Institute of Botany, Slovak Academy of Sciences, Dubravská cesta 14, SK-842 23 Bratislava, Slovakia, e-mail: botumiva@savba.sk

(2) Department of Phytology, Faculty of Forestry, Technical University, Masarykova 54, SK-960 53 Zvolen, e-mail: hrivnak@vsld.tuzvo.sk

The freshwater wetlands belong to the most endangered ecosystems of the world. From the point of view of biodiversity and its protection the wetlands play the leading role, and the "wetlands" is one of the most frequently used words in nature conservation. Increased economic pressure on landscape resulted in demise of many wetland sites as consequence of drainage schemes, streamlining of watercourse and excavation of peat. On the other hand, new water bodies have been created, such as water dams, fishponds and systems of irrigation and regulation canals. The aim of the presentation is to enquire into the reasons of this variability and inform about research activities in Slovakia connected with wetlands, especially with the class *Phragmito-Magnocaricetea*. Among the fresh-water wetland habitats of the class belongs to the extremely diversified in vegetation units in Carpathian-Pannonian region.

A comparison with units described from neighbouring countries, especially those of the study region, based on original data, is an inevitable exercise. During study of wetlands near borders between Slovakia and Hungary were found a similar (identical) plant communities, sometimes without relevant information on their distribution in inland literature (cf. Hrivnak et al. 2001).

The complete survey of syntaxa organised into a hierarchical structure offering scientific basis for mapping of real vegetation of wetlands at all levels of complexity is needed. This comparable study is based on actual surveys of vegetation in Romania (Coldea 1997), Hungary (Borhidi & Santa 1999), Ukraine (Malinovsky & Kricsfalusy 2001), and Slovakia (Valachovic, ed. 2001).

Despite the overall low species diversity, the class *Phragmito-Magnocaricetea* comprises a large number of sub-ordinate units. In the vegetation survey of Slovakia, were accepted 4 orders, such as *Phragmitetalia*, *Nasturtio-Glycerietalia*, *Oenanthetalia aquatica*, and *Bolboschoenetalia maritimi*. Some authors (e.g. Rivas-Martínez et al. 2001) consider to be correct also the order *Magnocaricetalia*. The synthesis of 1060 relevés from Slovakia failed to confirm the separation of the *Phragmitetalia* and *Magnocaricetalia* as own units on the level of orders, but well differentiated both floristically and by prevailing life forms on alliance level. The *Nasturtio-Glycerietalia* comprises two alliances, such as *Phalaridion arundinaceae* and *Glycerio-Sparganion*. The former alliance encompasses communities found along middle reaches of rivers and brooks of the planare, mostly colline to submontane belts, while the latter alliance is characteristic of lowland brook habitats. The order *Oenanthetalia aquatica* is distributed in Europe especially in the planare and colline belts and comprises freshwater amphibious herbaceous communities of periodically flooded habitats. Presence of halophytes is the most striking feature of *Bolboschoenetalia maritimi*. This fact led several authors to description of an independent class. The *Bolboschoenetalia maritimi* and the *Phragmito-Magnocaricetea* share a lot of common species, which justifies the classification of this unit as own order within the latter class.

Vegetation survey in Slovakia (Valachovic, ed. 2001)  
**Phragmito-Magnocaricetea Klika in Klika et Novak 1941**  
**Phragmitetalia Koch 1926**  
**Phragmition communis Koch 1926**  
*Phragmitetum vulgare* von Soo 1927  
*Scirpetum lacustris* Chouard 1924  
*Typhetum angustifoliae* Pignatti 1953  
*Typhetum latifoliae* Lang 1973  
*Sparganietum erecti* Roll 1938  
*Glycerietum aquaticae* Hueck 1931  
**Phragmito-Schoenoplectetum tabernaemontani** Passarge (1964) 1978  
*Equisetetum limosi* Steffen 1931  
*Acoretum calami* Schultz 1941  
*Typhetum laxmannii* Nedelcu 1968  
*Iris pseudacorus* - community  
**Magnocaricion elatae Koch 1926**  
**Caricenion rostratae (Balatová-Tulacková 1963) Oberd. et al. 1967**  
*Mariscetum serrati* Zobrist 1935  
*Cicuto-Caricetum pseudocyperis* Boer et Sissingh in Boer 1942  
*Caricetum elatae* Koch 1926  
*Peucedano-Caricetum lasiocarpae* R. Tx. ex Balatova-Tulackova 1972  
*Caricetum diandrae* Jonas 1933  
*Caricetum paradoxae* Aszod 1936  
*Equiseto limosi-Caricetum rostratae* Zumpfe 1929  
*Marchantio-Caricetum acutiformis* Ruzickova 1971  
*Caricetum acutiformis* Egger 1933  
*Caricetum paniculatae* Wangerin ex von Rochow 1951  
*Calamagrostietum canescentis* Simon 1960  
**Caricenion gracilis (Neuhäusl 1959) Oberd. et al. 1967**  
*Caricetum intermediae* Steffen 1931  
*Caricetum gracilis* Almquist 1929  
*Caricetum vesicariae* Chouard 1924  
*Galio palustris-Caricetum ripariae* Balatova-Tulackova et al. 1993  
*Caricetum vulpinae* von Soo 1927  
*Caricetum melanostachyae* Balazs 1943  
*Phalaridetum arundinaceae* Libbert 1931  
**Nasturtio-Glycerietalia Pignatti 1953**  
**Phalaridion arundinaceae Kopecky 1961**  
*Caricetum buekii* Hejn\_ et Kopeck\_ in Kopecky et Hejny 1965  
*Rorippo-Phalaridetum arundinaceae* Kopecky 1961  
*Calamagrostietum pseudophragmitis* Kopecky 1968

***Glycerio-Sparganion* Br.-Bl. et Sissingh in Boer 1942**

*Glycerietum plicatae* (Kulczynski 1928) Oberd. 1954

*Glyceria nemoralis-Veronica beccabunga* - community

*Glycerietum fluitantis* Egger 1933

*Berula erecta* - community

*Leersietum oryzoidis* Egger 1933

*Catabrosetum aquaticae* Kaiser 1926

***Oenanthetalia aquaticae* Hejny in Kopecky et Hejny 1965**

***Oenanthion aquaticae* Hejny ex Neuhäusl 1959**

*Oenantho aquaticae-Rorippetum amphibiae* Lohmeyer 1950

*Sagittario-Sparganietum emersi* R.Tx. 1953

*Eleocharito palustri-Hippuridetum vulgaris* Passarge 1955

*Eleocharitetum palustris* Ubrizsy 1948

*Scirpetum radicans* Hejny in Hejny et Husak 1978

*Butometum umbellati* (Konczak 1968) Philippi 1973

*Bolboschoenetum maritimi* Egger 1933

*Bolboschoenetalia maritimi* Hejny in Holub et al. 1967

***Cirsio brachycephali-Bolboschoenion compacti* (Passarge 1978) Mucina in Balatova-Tulackova et al. 1993**

*Astero pannonicum-Bolboschoenetum compacti* Hejny et Vicherek ex Otahelova et al. 2001

*Schoenoplectetum tabernaemontani* Soó 1947

The vegetation survey is a result of work investment of many experts in various types of wetlands found in Slovakia. Together with the catalogue of wetlands of Slovakia (Slobodnik & Kadlecik 2000) this survey is offering an invaluable contribution of expertise to be utilised by nature conservationists, all those working in inventory and management of endangered freshwater habitats, plant communities and plant taxa, and last but not least to those taking legislature and executive decisions on land use and nature management at all levels of regional and national government. The wetlands are partly object of mapping of grasslands, which is a large project recently going in Slovakia and supported by GEF. The detailed knowledge on water and soil requirements in various communities are used by wetland restoration and creation of new wetlands also in Slovakia (e.g. Morava river). *Phragmito-Magnocaricetea* also reflect the actual character of water bodies. Wetland vegetation on the bank of rivers represent an important part of biotic objects mapped by Kohler's method, optimal for running waters, started last two years in Slovakia on Danube river and its catchment. Wetlands and macrophytes represent there a good indicator for assessment of quality of water bodies sensu Water Framework Directive of the European Community. The monitoring in future can give an available data for pollution control and for studies on relationship between environmental parameters and the aquatic and wetland vegetation. The freshwater wetlands play a major role in harmonising the approaches towards unified legislature regarding nature conservation and management of nature resources through initiatives such as NATURA 2000.

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