

**BOOK REVIEW**

Milan Chytrý (ed.) 2011.

**Vegetation of the Czech Republic. 3.  
Aquatic and Wetland Vegetation.**

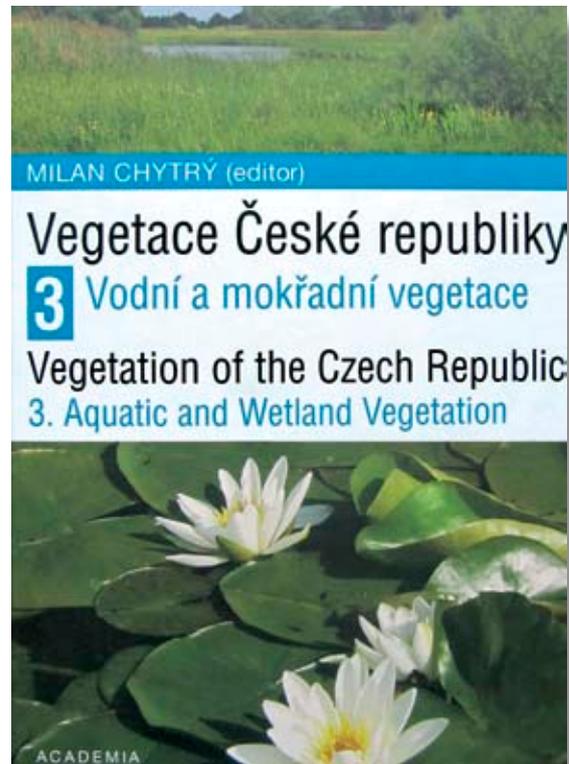
Academia, Praha. Hardback, 520 pp. ISBN: 978-80-200-1918-9  
(in Czech with English summaries).

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The third volume of the *Vegetation of the Czech Republic* was published in 2011. This book results from the project for revision of the vegetation of the Czech Republic. The volume is dedicated to aquatic and wetland vegetation. This vegetation is particularly endangered in Europe, because of the strong anthropogenic impact: drainage of wetlands, water pollution, global climate changes, etc. Investigation and conservation of the aquatic communities is very important not only for nature conservation, but also for humans in the adjacent territories. Many aquatic communities have disappeared, especially in Bulgaria, long before their exploration. Every scientific book on wetlands and their ecology is valued as a new contribution. In addition to this, the new Czech publication is the most complete revision of wetland vegetation not only in the Czech Republic but also in Europe. It is a very important contribution to the exploration of wetland vegetation in our continent.

The preparation of this volume was funded by the Grant Agency and by the Ministry of Education of the Czech Republic. This project was



coordinated and implemented by the Department of Botany and Zoology of Masaryk University in Brno, in cooperation with the Institute of Botany of the Academy of Science of the Czech Republic and colleagues from other institutions. The Editor is Prof. Milan Chytrý – one of the leading European phytocoenologists. Treatments of more than half of the syntaxa were written by Kateřina Šumberová and another extensive contribution to them was made by Petra Hájková and Michal Hájek. They all were also engaged in an important project for compiling an inventory of the Bulgarian wetland and mire vegetation. The process of data selection and data analysis followed the methods used in the first and second volumes. Classification at the association level followed the Cocktail Method (Bruehlheide 1995, 2000), modified according to Kočí et al. (2003). Data from 14 463 relevés were used in the book,

which were collected during a 80-year period. The content includes different aquatic vegetation types – from aquatic syntaxa of the plains and lowlands to the mountain mires, and vegetation of the exposed water body floors. Vegetation of the free-floating aquatic plants is represented by the class *Lemnetea*. It includes the alliances *Lemnion minoris* with 11 associations; *Utricularion vulgaris* with two associations; and *Hydrocharition morsus-ranae* with four associations. Vegetation of the aquatic plants rooted in the water body floors is represented by the class *Potametea*. This class includes the following alliances and associations: *Nymphaeion albae* with seven associations; *Potamion* with 23 associations; *Batrachion fluitantis* with three associations; and *Ranunculion aquatilis* with seven associations. An interesting association in the last alliance is *Hottonietum palustris* – a community of extinct species in Bulgaria – *Hottonia palustris*. A very important part of the book is the description of class *Charetea* and its alliances *Nittelion flexilis* (two associations) and *Charion globularis* (five associations). Information about communities of the Charophytae algae is very scanty in European literature. Vegetation of oligotrophic water bodies is represented by the class *Littoreletea uniflorae*. It has three alliances: *Littorelion uniflorae* with two associations (including the communities of *Isoetes lacustris*); *Eleocharition acicularis* with five associations; and *Sphagno-Utricularion* with three associations. The class *Isoeto-Nano-Juncetea* includes the vegetation of annual wetland herbs. It has the following alliances: *Eleocharition ovatae* with three associations; *Radiolion linoidis* with two associations; and *Verbenion supinae* with one association. Similarly, the vegetation of nitrophilous wetland herbs is represented by the class *Bidentetea tripartitii*. It has two alliances: *Bidention tripartitae* with six associations; and *Chenopodion rubri* with four associations. Marsh vegetation – class *Phragmito-Magno-Caricetea* – is well represented and diverse in the Czech Republic and also in Bulgaria. This class has eight alliances: *Phragmition australis* with 10 associations; *Meliloto dentate-Bolboschoenion maritime* with two associations; *Eleocharito palustris-Sagittarion sagittifoliae* with 12 associations; *Phalaridion arundinaceae* with three associations; *Glycerio-Sparagnion* with six associations; *Carici-Rumicion hydrolapathi* with three associations;

*Magno-Caricion elatae* with eight associations; and *Magno-Caricion gracilis* with eight associations. Spring vegetation is included in the class *Montio-Cardaminetea*. It has three alliances: *Caricion remotae* with three associations; *Lycopodo europaei-Cratoneurion commutati* with one association; *Epilobio nutantis-Montion fontanae* with one association; and *Swertio perennis-Dichodontion palustris* with three associations. Important and rich in glacial relics is the vegetation of fens, transitional mires and bog hollows of the class *Scheuchzerio palustris-Caricetea nigrae*. It is represented in the Czech Republic by the following alliances: *Caricion davallianae* (six associations); *Sphagno warnstorffii-Tomentypion nitentis* (three associations); *Caricion canescenti-nigrae* (five associations); *Sphagno-Caricion canescentis* (four associations) and *Sphagnion cuspidate* (three associations). The last class in the book is *Oxycocco-Sphagnetes*: the rise bog vegetation. It has three alliances: *Sphagnion magellanici* with five associations; *Oxycocco palustris-Ericion tetralicis* (one association) and *Oxycocco microcarpi-Empetrium hermaphroditi* (two associations).

Synonyms, diagnostic, dominant and constant species are recorded for every association and alliance. Information about publications about the species in other European countries, including Bulgaria, is also included. Information on the classes is very detailed. There are also synoptic tables and good-quality photographs of the aquatic communities. The comparison of associations is illustrated with box-plot graphics using the Ellenberg indicator values for altitude, reaction, continentality, light, nutrients, herb layer cover, moisture, and temperature. Distribution maps of the associations are drawn, with grid cells of approximately 6×5.5 km. The descriptions of the associations follow a unified structure, including information about the species composition, dynamics and management, overall distribution, variability, and significance for nature conservation.

*Vegetation of the Czech Republic* sets a good example of high-quality comprehensive, scientific team work to the Bulgarian botanists and phytocoenologists. The book could be also used by ecologists, hydro-biologists, students, and persons with broad interests in natural history and water ecology.