Online Resource 4
Wetland species indicator values

Species name	species optima related to environmental factors			
	WD	WLF	IS	TS
Agrostis canina	1–2	0	2–3	0–2
Alisma plantago-aquatica*	2–3	1–2	3	3–4
Alopecurus aequalis	2	1–2	3	3
Calamagrostis canescens	1	1	2–3	2
Carduus crispus	1–2	0	2	3–4
Carex acuta	1–2	1	3	2–3
Carex cf. acutiformis	1–2	1–2	2–3	3
Carex cf. elongata	1–2	0	1–2	1–2
Carex cf. riparia	1–3	3	2–3	3–4
Carex cf. vesicaria	2	1	2–3	3
Cyperus fuscus	2	2–3	3	3
Eleocharis palustris agg.**	1–2	2–3	3	2–3
Galium cf. palustre	1–2	1	2–3	2–3
Glyceria fluitans	2	1–2	2–3	2
Hottonia palustris	2–4	2	1–2	2–3
Humulus lupulus	1–2	1	1–2	3
Juncus effusus	1–2	1	2–3	2–3
Lemna gibba	2–5	0–2	3	4
Lycopus europaeus	1–2	1	2–3	2–3
Lysimachia vulgaris	1–2	1	2–3	2–3
Lythrum salicaria	1–3	1	3	3
Oenanthe aquatica	2–3	2	3	4
Persicaria hydropiper^	1–2	2–3	2–3	2–3
Persicaria mitis	1–2	2–3	2–3	3
Persicaria lapathifolia	1–2	2–3	3	3–4
Persicaria minor	1–2	2–3	3	3
Phragmites australis	2–3	2	3	2–3
Potamogeton natans	3–5	0	2–3	2
Solanum dulcamara	2–4	1	2–3	2–3
Sparganium erectum^^	2–3	1–2	3	3
Typha angustifolia	4	2	3	3
Typha latifolia^^^	2–3	2	3	3–4
Urtica dioica	1–2	1	2	4
Utricularia vulgaris	2–3	1	3	3

Explanations

cf.: species identification was problematic in some samples

*: Three *Alisma* species occur in South-Moravian wetlands (*A. plantago-aquatica, A. lanceolatum* and *A. gramineum*). While the first is a common part of wetland vegetation, the two latter species are quite rare in the broader area. As the seeds of *Alisma* were present only in the form of fragments, it was not possible to distinguish the species precisely (important species-related identification traits were missing). Because the occurrence of *A. plantago-aquatica* is the most probable species at the study sites, we used its values in the analyses.
**: The broader range of values is partly related to the fact that the aggregate of several species was evaluated
^: *Persicaria hydropiper* and *P. mitis* are ecologically overlapping in southern Moravian wetlands and their seeds are difficult to distinguish. Therefore we merged the two species and used the arithmetic averages of the individual values in the analyses.
^^: Individual subspecies of this species may slightly differ in their habitat requirements, especially trophy level
^^^: Both species are a common part of southern Moravian wetlands and are likely to occur in Dúbrava. Their seeds are difficult to distinguish. Therefore we used the taxon Typha sp. in the analyses, with values that are arithmetic averages of the values of the two species.

Species optima related to environmental factors
We call "optimum" the intensity of a particular factor which enables the full development of a particular plant species including its vegetative parts, flowers and fruits. In case of a broader optimum, or various optima for different stages of life cycles (very common in wetland plant species), a range of values is given.

WD (water depth): 0 – no water, substrate dry to slightly moist, 1 – no water, substrate considerably moist to wet, 2 – substrate waterlogged to slightly flooded (up to ca. 5 cm), 3 – shallow water (> 5 cm < 30 cm), 4 – medium-deep water (> 30 cm < 60 cm), 5 – deep water (> 60 cm)

WLF (water level fluctuation): x – irrelevant, the plant grows neither in aquatic habitats nor on their borders (value 0 of WD), 0 – water column without fluctuations or with negligible fluctuations only, i.e. the species requires stable substrate moisture/water depth, 1 – fluctuations between the values of WD, but without considerable changes from deeper flooded (WD 3–5) to exposed substrates or vice versa, 2 – considerable fluctuations between deeper flooded (WD 3–5) and wet substrates, 3 – extreme fluctuations between deeper flooded (WD 3–5) and dry substrates

Note that in many cases large water level fluctuations are necessary for the development of the species, but each life cycle phase may require specific water depth/substrate moisture. For instance, annual species of exposed pond bottoms generally require large water level fluctuations. However, they usually survive the deep flood phase "hidden" as seeds in the soil seed bank. In addition, the seedlings of these species do not survive large water level fluctuations.

IS (insolation): 0 – full shade, i.e. conditions under dense tree or other shrub canopy), 1 – half-shade, i.e. conditions under open tree or shrub canopy, 2 – moderate shade, i.e. conditions on the forest margin, 3 – full insolation

TS (trophic status): 0 – oligotrophic habitat, 1 – oligo-mesotrophic habitat, 2 – mesotrophic habitat, 3 – (naturally) eutrophic habitat, 4 – hypertrophic habitat