

Flora and vegetation of Protected area "Marsh Maluk Preslavets"

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Abstract:

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Introduction

The vegetation is the basic component of the living world in the wetlands. Determination of their floristic composition and coenotic structure is exceptionally important for the protection of the nature complexes in them.

The marsh near village Maluk Preslavets had been an object of small number of surveys. This is due to the slight attention paid to the need of scientific investigations of the wetlands in Bulgaria till now (Йорданов, 1931; Кочев, 1986; Кочев, Йорданов, 1981; Кочев, 1994).

The region where is situated protected area "Marsh Maluk Preslavets" belongs to the Low-Danube province of the Euro-Asiatic steppes and wood-steppes (Бондев, 2002).

A scientific investigation of the floristic and coenotic complex of the plant cover was done in 2004. As a result contemporary information on species and phytocoenotic diversity of the surveyed area was obtained.

Results and discussion

Vegetation diversity

The plant cover of protected area "Marsh Maluk Preslavets" could be divided into three main types: forest vegetation, grass vegetation and macrophyte vegetation.

Forest vegetation

It occupies the west bank of the marsh (map symbol 10) and represents a natural broad-leaved forest. Dominating species in it is *Tilia argentea*. The tree stand has about 50-60 years age, and its height is 8-10 m.

In the formation of the tree stand take part also *Quercus cerris*, *Acer campestre*, *Acer hyrcanum*, *Acer pseudoplatanus*, *Prunus mahaleb*, *Crataegus monogyna*, etc. Groups of *Salix* sp. grow on the banks.

The grass stand is comparatively poor in species: *Viola odorata*, *Allium ursinum*, *Arum maculatum*, *Muscary botrioides*, *M. comosum*, *Dactylis glomerata*, *Lamiastrum galeobdolon*, etc.

The north-east bank of the marsh is occupied of shrub communities (11). They form a strip with 400-500 m length. On some places *Rubus* sp., *Clematis vitalba*, *Parthenocyssus quinquefolia* and *Calystegia sepium* are abundant.

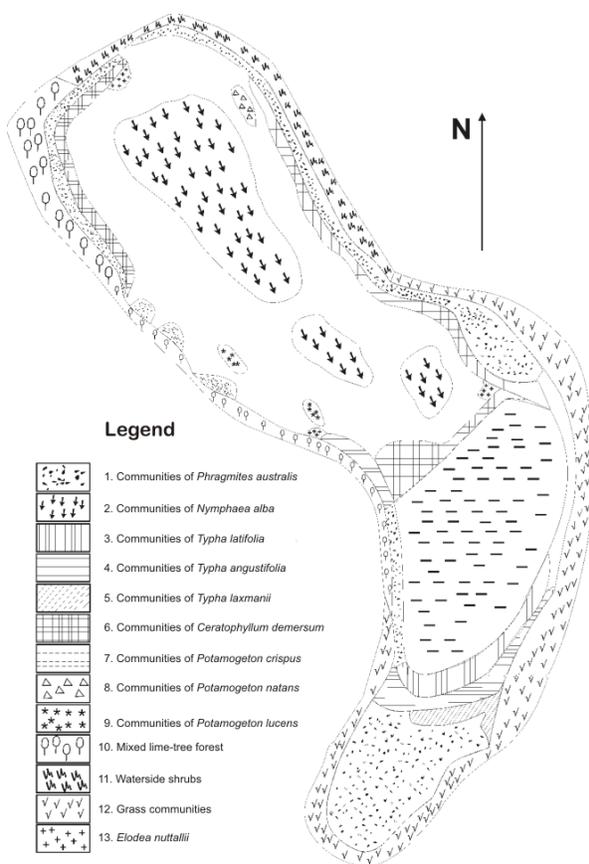


Fig. 1. Vegetation of Marsh Maluk Preslavets

Grass vegetation

In relation to the different moisture of the ground several transitions from typical dry grass communities (on the east bank of the water body) to wet and soggy meadows (near the tail-end of the marsh, map symbol 12) are present. In these communities species from different plant families are found, and many of them are weeds.

In the wet and soggy places representatives of Juncaceae and Cyperaceae families are predominating. Near the tail-end of the marsh a community of *Ranunculus aquatilis* was found.

Macrophyte vegetation

Communities of *Phragmites australis* occupy a large part of the marsh (map symbol 1). *Lemna minor*, *Sparganium ramosum*, *Typha latifolia*, *Typha angustifolia*, *Hydrocharis morsus-ranae* and *Lemna trisulca* also take part in them.

The communities of *Nymphaea alba* are situated mainly in the middle of the water surface (map symbol 2). They are almost monospecific, only individual representatives of *Myriophyllum spicatum* and *Potamogeton crispus* could be found

in them. Separate groups of European white waterlily are located near the banks.

Monospecific and mixed communities of three species of genus *Typha* (*T. latifolia*, *T. angustifolia* and *T. laxmanii*) cover large areas of the marsh (map symbols 3, 4 and 5). *Hydrocharis morsus-ranae*, *Potamogeton crispus*, *Myriophyllum spicatum*, *Ceratophyllum demersum*, *Lemna minor* and other species are also found in them.

Ceratophyllum demersum (map symbol 6) develops communities which are almost monospecific.

Potamogeton crispus (map symbol 7) forms communities which are situated in the shallower part of the marsh, near the tail-end.

The localities of *Potamogeton natans* (map symbol 8) and *Potamogeton lucens* (map symbol 9) are not far from the banks, where the water is not too deep.

The phytocoenotic diversity of protected area “Marsh Maluk Preslavets” is not high. Most likely the cause for the decrease of the diversity is the artificial rise of the water level in the nineties of the previous century. This is obvious when comparing the data of Kocheff (1994), who gives 23 mapped units for the marsh.

Floristic richness

The investigation of the floristic composition of the natural landmark showed 177 species of higher plants belonging to 61 plant families. Most numerous are the members of families Asteraceae with 21 species. Following are Poaceae with 13 species and Lamiaceae with twelve species. After them come Fabaceae (eleven species), Rosaceae (nine species), and Apiaceae (seven species). Two families are represented with five species each, one family with four species, 14 families with three species each, nine families with two species each and 27 families are represented with one species each.

From natural protection view-point most important place takes the European white waterlily (*Nymphaea alba*), an endangered species in Bulgarian Red Data Book (1984). The communities of European white waterlily in this marsh form its largest population in Bulgaria.

In the marsh's water colonies of *Elodea nuttallii* were found, which is a new species for the Bulgarian flora (found in Danube river in 2003). Protected area “Marsh Maluk Preslavets” is the first inland water body in Bulgaria where the species mentioned was found.

This survey of floristic and phytocoenotic diversity of protected area “Marsh Maluk

Preslavets" is the first of its sort for the whole territory of the marsh.

From natural protection view-point the most important fact is that the population of the European white waterlily (*Nymphaea alba*) is in very good condition.

The 177 higher plants determined till now in the surveyed area represent about 4.8% of the actual number of species in the Bulgarian higher plants flora.

The protected area "Marsh Maluk Preslavets" covers one of the best-preserved Bulgarian wetlands at present.

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