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Fungus research work on the Bátorliget Ancient Bog: The mycorrhize fungus relations

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Bátorliget is found in Szabolcs-Szatmár-Bereg county, in the Eastern border region of Hungary. The strictly protected Ancient Bog carries the evolution, organising and structural change of the Hungarian Great Plain in its history and development.

János Tuzson directed the attention of the scientific world to the Bátorliget Ancient Bog in 1914. The discovering botanical and zoological investigations started on the region in 1928. Due to this work on the nature conservation area – established in 1938 – the strict protection of the Ancient Bog was enlarged to 53 hectares.

During surveying we registered 712 large fungus species on the area of the Bátorliget Ancient Bog in 1995-2003. The above mentioned data relate to the taxon-reachness and great variety of the large fungus world of the area, on the base of the nine years regular surveying, such a way that some of the genera with many species (*Clitocybe, Coprinus, Cortinarius, Entoloma, Lepiota,* etc.) have not occured with the expected number of species, yet.

We have not found species from such genera as *Cystolepiota, Gymnopilus, Lyophylum, Melanoleuca.* It is certain, that these genera, moreover the *Naucoria* genus – which is feature for the wet bio-species – is present with many species on the Bátorliget Ancient Bog. The 172 pieces of ectomycorrhize fungus mean near one-fives of the genera. The twentyfour genera refer to very wide circle of the large fungus taxonomily.

There is not any obligatory pine-mycorrhize fungus among the micorrhize genera, because there is not a connected pine plantation on the area of the

Bátorliget Ancient Bog, the natural presence of the pine-varieties can be left out of account. We have not done examination around the some present pine-trees. Although their fungus-links can be interesting in this situation.

Generally, from the group of the pine mycorrhize fungus the more tolerant to tree-partner ones appear under the *Quercus robur* (*Xerocomus badius*) or *Betula pendula* (*Amanita muscaria*).

The number of the mycorrhize fungus species, collected on the areas of the *Convallario-Quercetum tiliosum* plant association formation, is 152, which originated from 32 pieces of genera. The *Amanita, Boletus, Cortinarius, Hebeloma, Inocybe, Lactarius, Russula, Tricholoma* and *Xerocomus* genera have a dominant presentation.

The number of the *Quercus robur*-mycorrhize fungus species is 112, which are represented by 25 genera. The *Russules* (27) have the biggest species number, followed by the *Amanitas* (11) and *Boletules* (10), and they form the mycorrhize link.

The species number of the mycorrhize fungus of the *Betula pendula* is considerably smaller, than the registered ones in the oak-dominant plant associations. The twenty (20) species originated from seven genera. The fungus, fixed to the birch-tree, were found mostly on the spots of the *Calamagrostio-Salicetum cinereae*, or under the birch-tree, as we have not monitored fungus on the survival-spots of the birch-bog.