

COMPLEX RESEARCH ON THE FLORA, HABITATS AND LANDSCAPE HISTORY OF PUTNOK HILLS (NORTH-EAST HUNGARY)

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Looking at the map of nature protected areas in Hungary, one can hardly find any white spots in the Northern Hungarian mountains – there are only a few smaller areas that do not have any bigger territory declared as nature protected area. Among these areas, one can find also the Borsod Hills, which contains two small areas, the Sajó River's Valley and the Putnok Hills, situated north of Sajó River and south of Aggtelek National Park, North-East Hungary. I have been taking part in the botanical research of Putnok Hills since the spring of 1999.

Besides the floristical data unique for Hungary or interesting for a bigger area, also habitats in a close-to-nature state are taken into account during the research work. Historical and current forms of landscape management are also observed, since the valuable taxa found may be preserved for the future generations only within their original habitat, sustaining the management patterns used through hundreds of years in the past (grazing animals, hayfield management, extensive land use on arable lands and in orchards).

Around the middle of the 20th century, agriculture expanded onto the smaller hills surrounding the villages of the area, but, since the 1970's, a considerable part of arable fields have been abandoned, and this trend can still be sensed. Meanwhile the period of strengthening large-scale farms, those habitat types that showed stability were alder groves surrounding streams, old or abandoned grapeyards, traditionally managed orchards, some hayfields along streams and those forests which remained in a nearly intact state. This is why mainly these habitats enriched our lists with nature protected plant taxa, including rare weed species occurring in abandoned or extensively managed arable lands.

The most significant species is *Geum rivale* L., found as a new member of the Hungarian flora. Further important taxa are *Dryopteris dilatata* (Hoffm.) A. Gray, *Pulsatilla pratensis* (L.) Mill. subsp. *nigricans* (Störck) Zamels, *Clematis integrifolia* L., *Chamaecytisus ratisbonensis* (Schaeff.) Rothm., *Dictamnus albus* L., *Euphorbia salicifolia* Host, *Echium maculatum* L., *Rapistrum perenne* (L.) All., *Cardamine glanduligera* O. Schwartz, *Artemisia pontica* L., *Dianthus collinus* W. et K., *Iris aphylla* L. subsp. *hungarica* (W. et K.) Hegi, *Iris sibirica* L., *Epipactis albensis* Novakova et Rydlo, *Orchis tridentata* Scop., *Orchis militaris* L., *Carex cespitosa* L., *Carex buekii* Wimm., *Stipa dasyphylla* Czern.

Meanwhile the presentation, botanical values are presented according to the types of their habitat after giving a draft about the geographical background and characteristics of nature, referring to the endangering factors and giving advice about the adequate management methods towards preserving the values. Literature review of taxa new for a certain area is also presented.