The taxonomic problems of the Festuca vaginata agg. and their coenosystematic aspects in the sandy areas along the Danube

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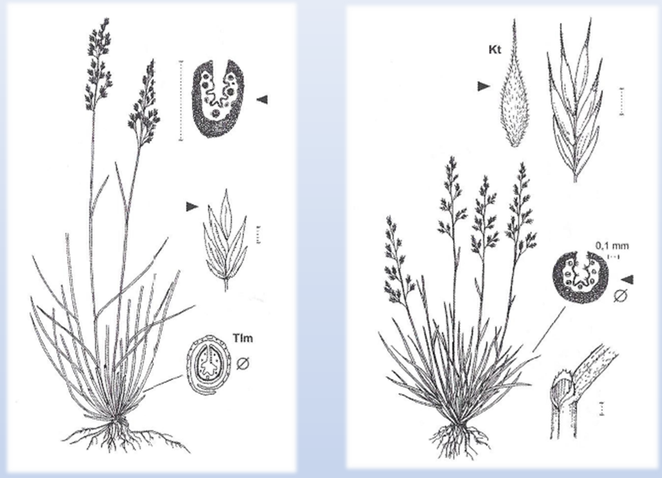
We studied the vegetation of the sandy areas along the Danube. The most important dominant species of these grasslands is Festuca vaginata. Besides Festuca vaginata, another taxon, Festuca pseudovaginata was also discovered (Penksza 2003). According to Borhidi et al. (2012) F. dominii is a dominant species on acidic grasslands. Taxonomical judgement of Festuca dominii Krajina has changed remarkably. Šmarda et al. (2007) clarified the taxon, and named it as a subspecies of F. psammophila (Čelak.) Fritsch (which occurs only in pine forests in North Europe). Pawlus (1985) has distinguished several new series within the Festuca genus. The F. trachyphylla series includes 3 species: F. trachyphylla (Hack.) Krajina, F. macutrensis Zapalowicz, F. duvalii (St-Yves) Stohr. Subsequently, Šmarda et al. (2008) in their work treated F. trachyphylla taxon validly as F. brevipila. We checked in the Carpathian Basin and in the natural grasslands which of these 3 taxa occur: Festuca vaginata, F. pseudovaginata, F. brevipila. In addition to these, hybrid taxa have been detected during our investigations, and the expulsion of Festuca wagneri and F. javorkae has also been widened, and their vegetation types has been clarified.

In 20 Hungarian areas, we examined individuals belonging to F. vaginata. On the basis of the results, we found that taxon F. vaginata were the typical without awn. In addition, we have collected shorter or longer awn from the tip of the lemma, which have short fibers under the tip of the lemma. Clarification of taxa also means clarifying the name and dominant species of sandy vegetation, and the overriding and correction of the associations and coenotaxa described above is also necessary.

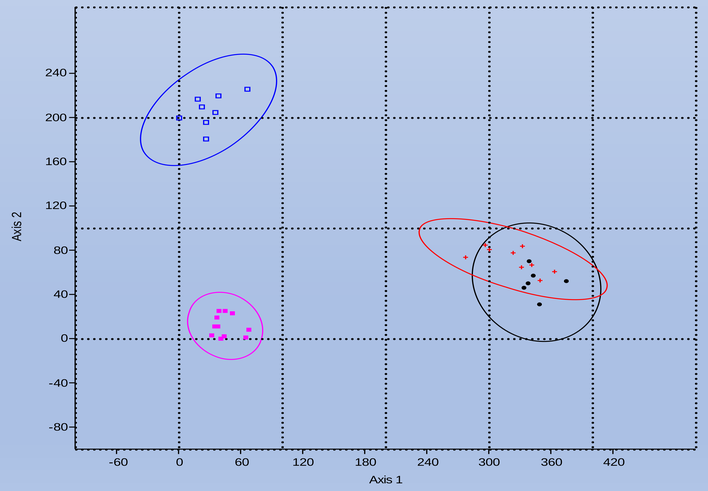
Even the color is different – F. pseudovaginata (left) and F. vaginata (right). Photo: Gergely Pápay



Festuca vaginata and F. pseudovaginata (from Király: Új Magyar Füvészkönyv)

On pastured areas *F. pseudovina* appeared as a dominant, disturbance tolerant species. *F. pseudovaginata* vegetations were more significant considering species count and diversity; they can be found mainly in forest-grassland patches, even under *Populus alba* populations. We also examined degraded patches of this type, where weed and naural pioneer species became dominant in the autumn records. These patches formed secondarily on cut or disturbed areas. The vegetation type of *Festuca vaginata* had fewer species, but weed did not appear in them.

According to nature conservational valuing, *F. vaginata* patches were more valuable; populations of *F. pseudovaginata* showed natural and disturbed conditions, but they appeared along a larger oecological spectrum as patches with individual species combinations, showing that this newly recorded species is more adaptive to changing environmental conditions.



DCA analysis of the vegetation types. Blue and purple are two Festuca pseudovaginata vegetations from two locations; black and red are Festuca vaginata vegetations from the same two locations.

ACKNOWLEDGEMENT

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