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Changes in species composition in grasslands caused by changes in management during the last 15-19 years in Biele Karpaty Mts. (Slovakia).

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Changes in species composition in grasslands caused by changes in management during the last 15-19 years were studied in Biele Karpaty Mts. Grassland vegetation was sampled in the years 1991-1995. The localisation of relevés was marked in maps of scale 1:10 000. The studied communities belong to the associations *Brachypodio pinnati-Molinietum arundinaceae (Bromion erecti)*, *Pastinaco-Arrhenatheretum elatioris*, *Ranunculo bulbosi-Arrhenatheretum elatioris* and *Anthoxantho odorati-Agrostietum tenuis (Arrhenatherion elatioris)*.

In 2010 the repeated phytosociology research were made on sites of former relevés. Re-sampling was based on marks of old relevés in maps and on the historical description of sites. No permanent plots had been marked during the first sampling period. Over the course of years the type of management was changed in many localities.

Detrended correspondence analysis (DCA) from the CANOCO 4.5 for Windows package was applied for the evaluation of changes in the studied vegetation and for ecological interpretation of the main gradients. Nonparametric statistic followed by Kruskal-Wallis ANOVA and Mann-Whitney U Test (Statistica 8; <http://www.statsoft.com/>) were used to investigate whether the species richness was different among historical and recent relevés. Occurrence of different life forms and functional groups was compared between the old and new relevés. In many cases absence of any management led to succession changes in the community (decrease of number of species, increase of abundance of competitively strong species *Brachypodium pinnatum* or *Arrhenatheretum elatioris*, invasion of trees). Dicotyledonous herbs became rare in unmanaged stands. Several grasslands were changed into pastures.

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