



Dry grasslands of the *Bromo pannonici-Festucion pallentis* and *Diantho lumnitzeri-Seslerion* in Slovakia - a formalized classification

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The syntaxonomical revision of dry grassland communities of the alliances *Bromo pannonici-Festucion pallentis* and *Diantho lumnitzeri-Seslerion* was performed including recent and historical data available in the Slovak phytosociological database (<http://ibot.sav.sk/cdf/index.html>). The stratified data set of 16640 relevés belonging to all syntaxa stored in this database were used to generate sociological species groups by the COCKTAIL method. Altogether, 17 sociological species groups were used to formulate the formal definitions of 6 associations of the *Bromo pannonici-Festucion pallentis* and 3 associations of the *Diantho lumnitzeri-Seslerion* alliances. The obtained results were compared with the results of an over-national large-scale classification of Central European dry grasslands.

The communities of the *Bromo pannonici-Festucion pallentis* alliance are dominated mostly by xerophilous stress-tolerant species *Carex humilis* or *Festuca pallens*. The vegetation cover is unclosed or patchy. In Slovakia, the floristic composition and the overall structure of these communities are affected mainly by the geographical position, microclimatic features and type of bedrock. They are distributed predominantly in the warm colline belt of pericarpethian mountains in the western and southern Slovakia, sparsely they occur on warm slopes of inner-Carpathian basins. Following associations were distinguished within this alliance: *Poo badensis-Festucetum pallentis*, *Festuco pallentis-Caricetum humilis*, "*Orphantho luteae-Caricetum humilis*", *Campanulo divergentiformis-Festucetum pallentis*, {XE "*Poo badensis-Caricetum humilis* and *Seslerietum heuflerianae*"} {XE "*Festuco pallentis-Caricetum humilis*"}

The alliance *Diantho lumnitzeri-Seslerion* involves communities dominated by *Sesleria albicans* at lower altitudes (colline to submontane belt). They occupy usually cooler and moister locations in the warm pericarpethian calcareous mountains. Typical is the presence of numerous dealpine species. Thermophilous *Festuco-Brometea* {XE "*Festuco-Brometea*" } species differentiate these communities from *Sesleria*-communities of higher altitudes belonging to the alliance *Astero alpini-Seslerion calcariae* {XE "*Astero alpini-Seslerion calcariae*"}. Recently, many of these relic localities are endangered by succession or afforestation. Three associations were distinguished within this alliance: *Saxifrago aizoi-Seslerietum calcariae* {XE "*Saxifrago aizoi-Seslerietum calcariae*"}, *Minuartio setaceae-Seslerietum calcariae* {XE "*Minuartio setaceae-Seslerietum calcariae*" } and *Festuco pallentis-Seslerietum calcariae* {XE "*Festuco pallentis-Seslerietum calcariae*" }.

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