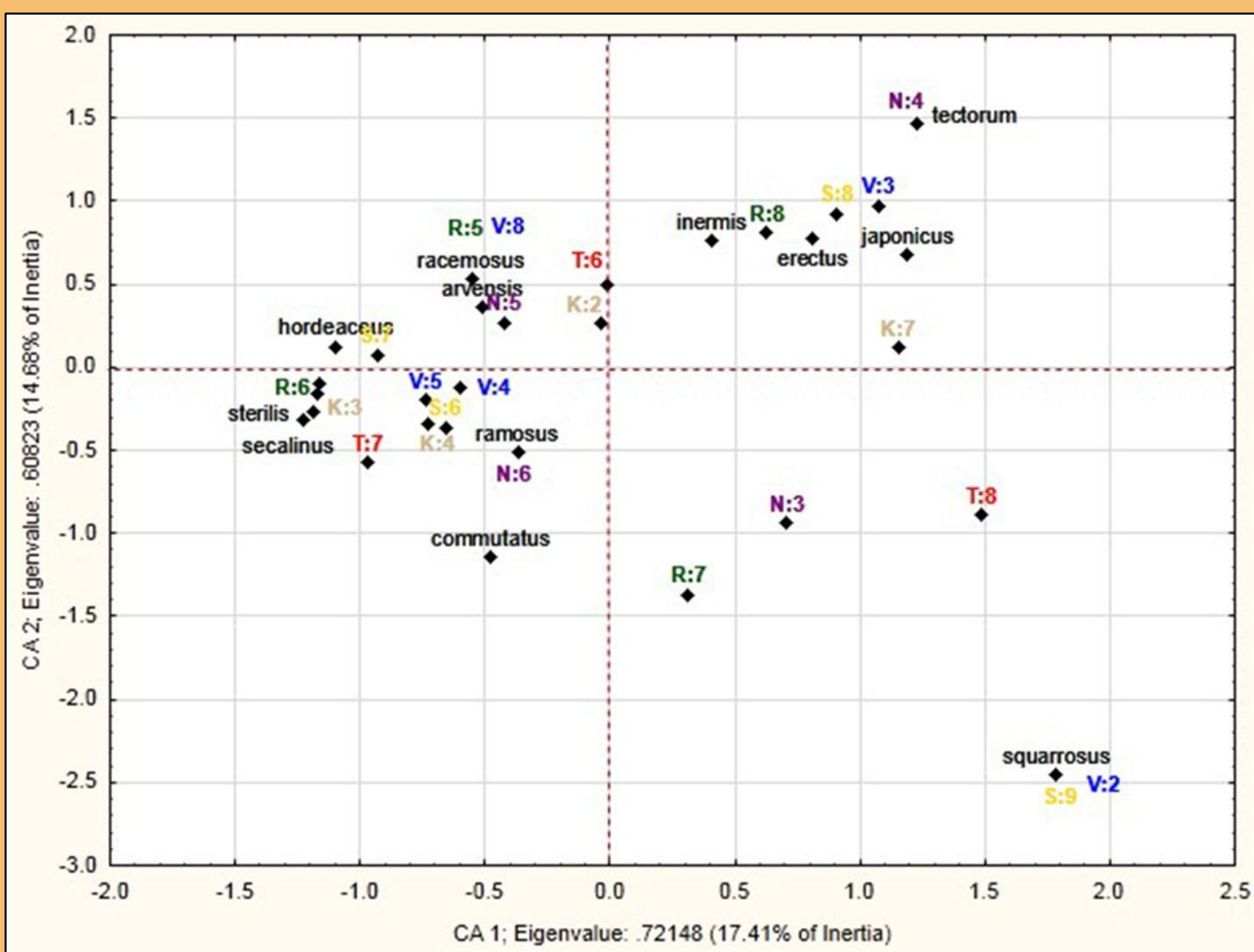


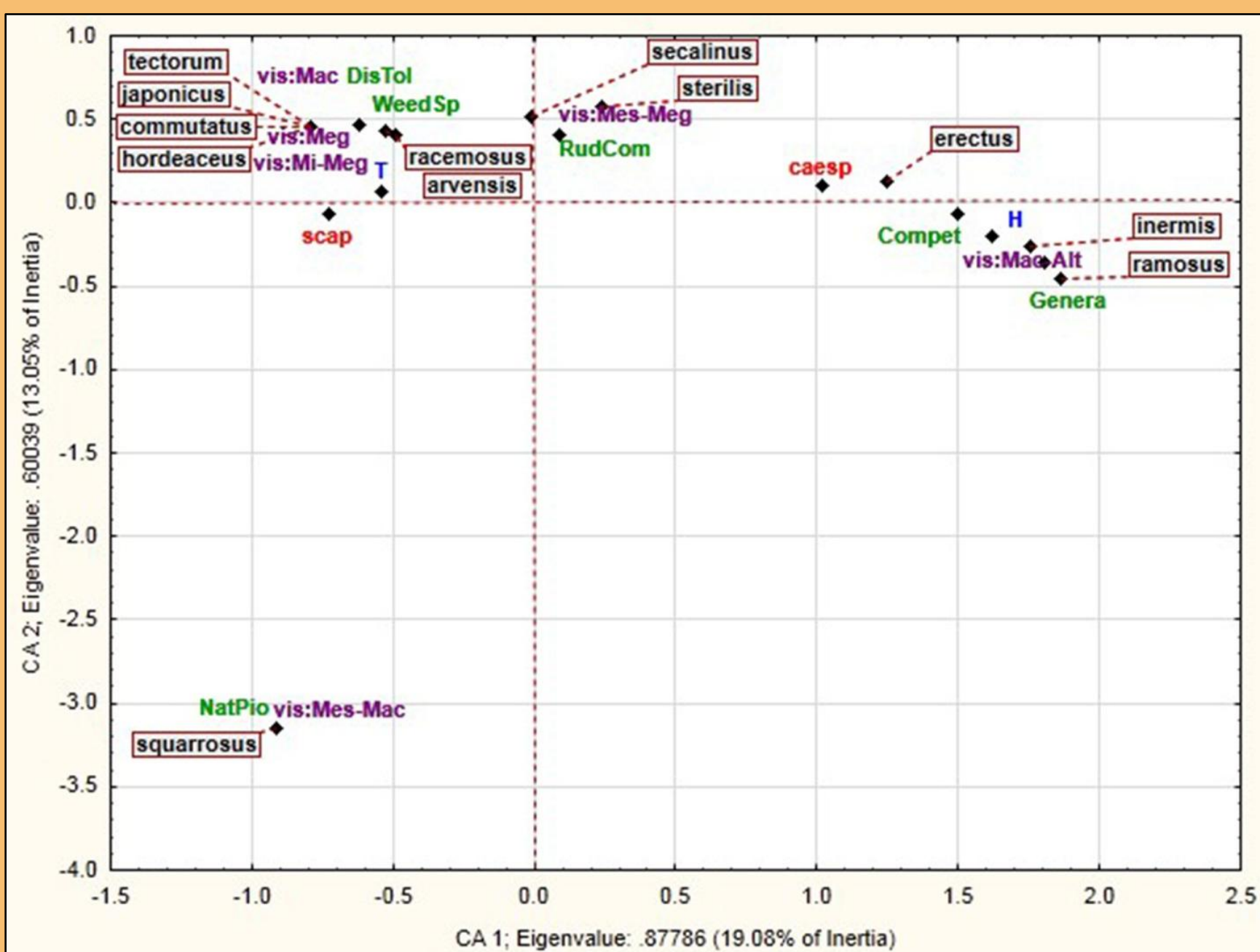
# DIVERSITY AND DISTRIBUTION OF THE SPECIES OF GENUS *BROMUS* L. 1753 IN VOJVODINA

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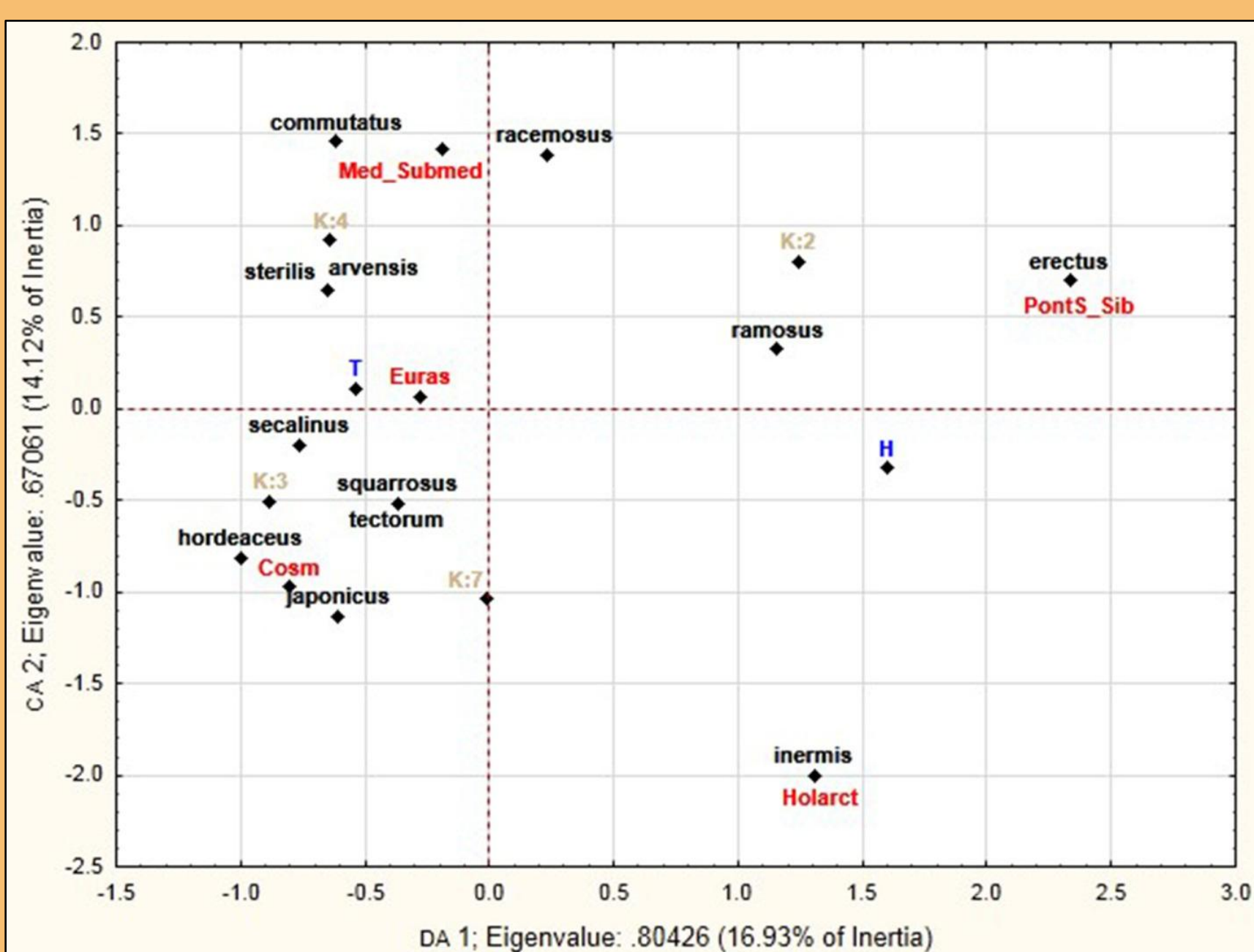
Vegetation of Vojvodina includes steppes, steppes-forests, sandy ecosystems on the loess plateau and sandstones, as well as continental halobiome (Stevanovic et al., 1995). Genus *Bromus* includes about 37 species, widespread predominantly in the northern temperate zone, while in Serbia are recorded 14 species (Smith, 1980; Tatić, 1976). Annuals species (15) occurs in ruderal habitats, as well as weeds on the surface of the culture and arid habitats, especially in the southern parts of their range (Smith, 1980). Most species are characterized by tolerance to drought and severe competition. As a important agricultural species stands out two species: *Bromus inermis* Leysr. and *B. erectus* Huds. Highly allergenic properties exhibits pollen of *B. sterilis* L. (Igić, 2012).



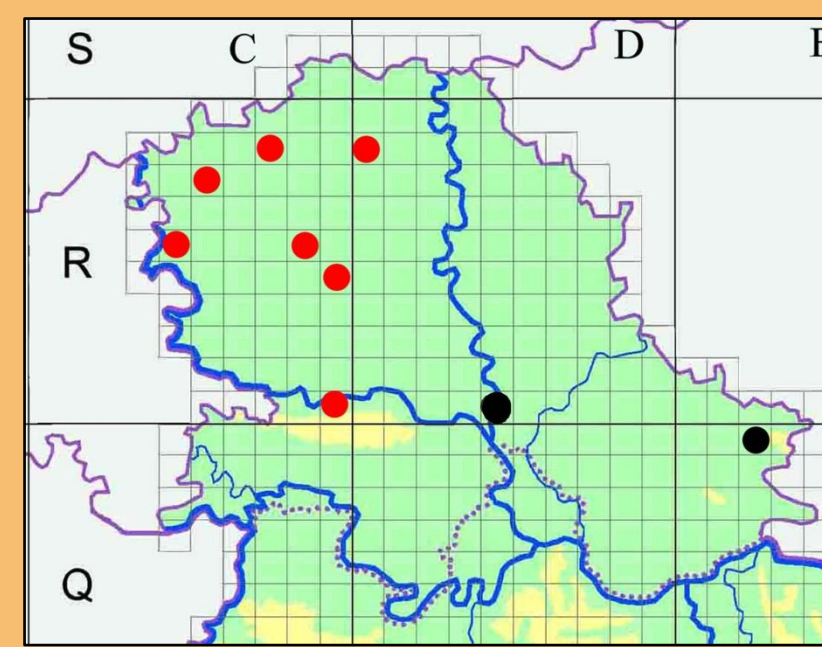
Mutual association of ecological indexes in the analyzed species of the genus *Bromus* in Vojvodina



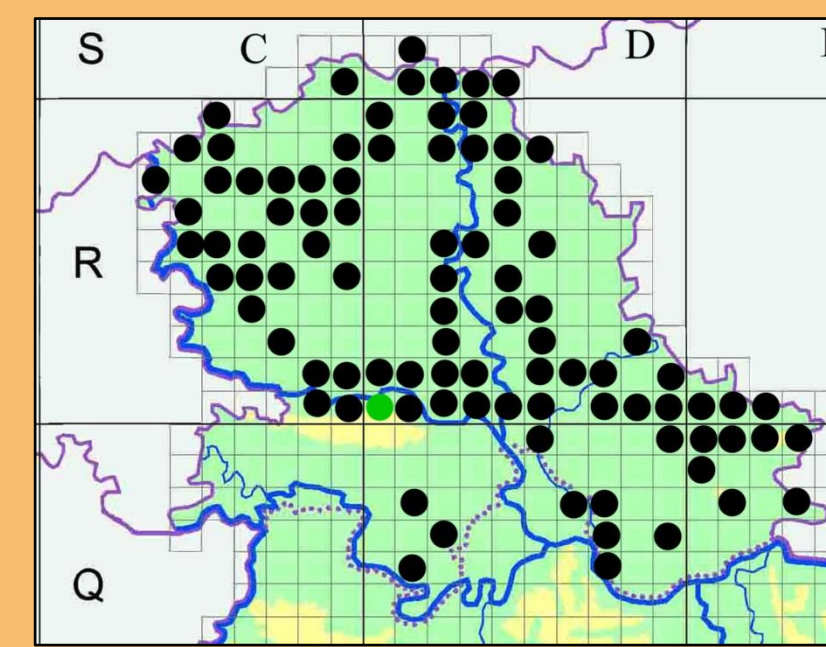
The frequency and mutual association elements of life form the adaptive strategies of the analyzed species of the genus *Bromus* in Vojvodina



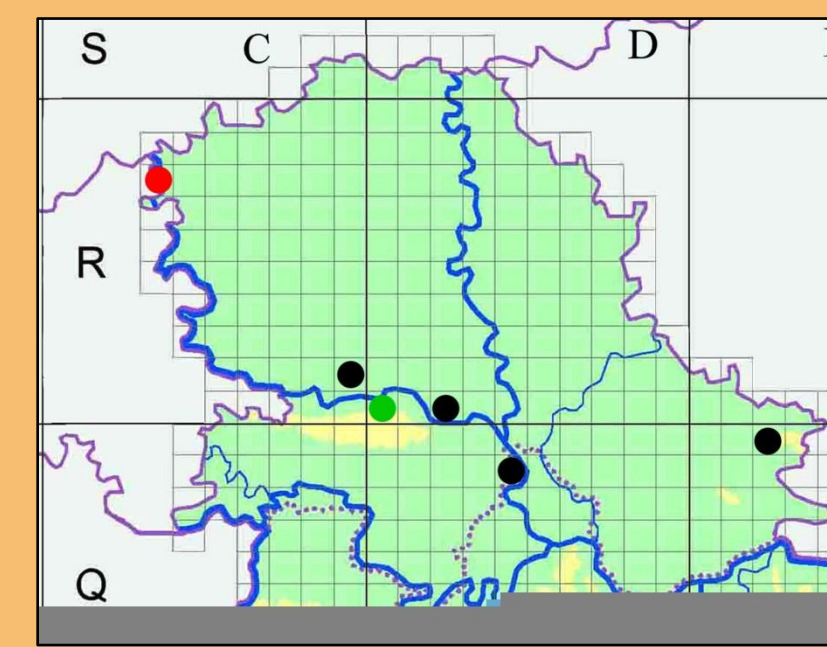
The frequency and mutual association areal types and continentality analyzed species of the genus *Bromus* in Vojvodina



Distribution of the *B. japonicus* Thunb. in Vojvodina mapped on 10 x 10 sq. km at UTM grid system



Distribution of the *B. hordeaceus* L. in Vojvodina mapped on 10 x 10 sq. km at UTM grid system



Distribution of the *B. ramosus* Huds. in Vojvodina mapped on 10 x 10 sq. km at UTM grid system

Analyzed data covered the period of 95 years, and obtained localities are grouped by regions: Backa, Banat and Srem.

• period to 1925 • 1926 – 1950 • 1951 – 1975 • 1976- 2010

Based on the analyzed data and created UTM maps, in Vojvodina are recorded 12 species from the genus *Bromus*. Data were collected from the literature and Herbarium BUNS, and cover a period of more than a century. Among analyzed taxa dominate the medium-high and high therophytes scaposus form. Based on the results of statistical analysis of areal types, can be seen that the Eurasian type is present in highest degree. According to the type of adaptive strategy most of the taxa belongs to the group DT - plants tolerant to changes in natural habitats. They are one of the main components of the plant communities of meadows and pastures, as well as the habitats under strong human impact. During studies of the genus *Bromus* in Vojvodina has been observed exceptional importance of knowing the type of adaptive strategy, which influences their presence/absence from the different habitats. Knowing distribution, diversity and ecology of these species can serve as an indicator of living conditions and habitat types in Vojvodina.

Name of taxon	Floral element (Soó, 1973)/Areal type	Life form (Stevanović, 1992)	Ecological indexes (Borhidi, 1993)						Adaptive strategies (Borhidi, 1993)	Habitat types (Blaženčić et al., 2005)	
			TB	WB	RB	NB	LB	CB			SB
<i>B. arvensis</i> L. 1753	Evr./Euras	T	6	4	8	5	7	4	0	W	E1.2
<i>B. commutatus</i> Schrad. 1806	AsM/Med_Submed	T	7	4	7	3	6	4	0	DT	C3.2
<i>B. erectus</i> Huds. 1762	PaB/PontS_Sib	H	6	3	8	3	8	2	0	C	E1.2; F3.2; G1.A
<i>B. inermis</i> Leysr. 1761	Cir/Holarct	H	6	4	8	5	8	7	0	C	E3.4
<i>B. japonicus</i> Thunb. 1784	Koz/Cosm	T	8	3	8	5	8	7	0	DT	E1.2
<i>B. hordeaceus</i> L. 1753	Koz/Cosm	T	6	5	6	5	7	3	0	DT	D6.1, E1.2, E1.2C, E1.7, E2.5, E3.4, E6.2
<i>B. racemosus</i> L. 1762	AsM/Med_Submed	T	6	8	5	5	6	2	0	DT	E1.2
<i>B. ramosus</i> Huds. 1762	Evr./Euras	H	6	5	7	6	6	2	0	G	G1.6
<i>B. secalinus</i> L. 1753	Evr./Euras	T	7	4	6	5	6	3	0	DT	G1.1, F3.2
<i>B. squarrosus</i> L. 1753	Evr./Euras	T	8	2	7	3	9	7	0	NP	E1.2, E1.2C, E1.2F, F3.2, G1.7
<i>B. sterilis</i> L. 1753	Evr./Euras	T	7	4	6	5	7	4	0	RC	F3.2, G1.1, C3.5
<i>B. tectorum</i> L. 1753	Evr./Euras	T	6	3	8	4	8	7	0	DT	E3.4

\* Evr./Euras - Eurasian / Eurasian; AsM/Med\_Submed - Atlantic - submediterranean / Mediterranean - submediterranean; PaB/PontS\_S - Pannonian - Balkans / Pontic - South Siberian; Cir/Holarct - Circumpolar / Holarctic; Koz/Cosm - Cosmopolitan / Cosmopolitan

\*\* T - Therophyta; H - Hemicryptophyta

\*\*\* TB - The relative "temperature figures" reflecting the heat supply of the habitats where the species occur.; WB - The relative "moisture figures" (occurrence in relation to soil moisture or water table); RB - Reaction figures reflect to the occurrence of the plants in relation of the soil reaction of the habitats.; NB - Nitrogen figures based on the occurrence in relation to the ammonia and nitrate supply of the habitats.; LB - "Light figures" based on the occurrence of plants in relation to relative light intensity during summer time.; CB - "Continental figures" based on the main distribution of plants according to degree of continentality of the general climate with emphasis on maximum and minimum temperature.; SB - "Salto figures" for indicating plant occurrence in relation to the salt concentration of the soils.

\*\*\*\* C-competitors; G-generalists; NP-plants of habitats disturbed by natural factors: Natural pioneers; DT-Disturbance tolerant plants of natural

\*\*\*\*\* E 1.2 - Perennial calcareous grassland and basic steppes; C 3.2 -Water-fringing reedbeds and tall helophytes other than canes; F 3.2 - Submediterranean deciduous thickets and brushes; G 1.A - Meso- and eutrophic [Quercus], [Carpinus], [Fraxinus], [Acer], [Tilia], [Ulmus] and related woodland; D 6.1 - Inland saltmarshes; E 1.2C - Pannonic loess steppic grassland; E 1.7 - Closed non-Mediterranean dry acid and neutral grassland; E 2.5 - Meadows of the steppe zone; E 3.4 - Moist or wet eutrophic and mesotrophic grassland; E 6.2 - Continental inland salt steppes; G 1.6 - [Fagus] woodland E 1.2F - Pannonic sand steppes; G 1.7 - Thermophilous deciduous woodland; G 1.1 - Riparian and gallery woodland, with dominant [Alnus], [Betula], [Populus] or [Salix]; C 3.5 - Periodically inundated shores with pioneer and ephemeral vegetation

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