

PLANT COVER OF NATURAL PASTURES LOCATED IN THE VICINITY OF THE TOWN OF NOVI KNEŽEVAC*

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*SUMMARY: Specific features of the plant cover of the natural pastures located in the vicinity of the town of Novi Kneževac (the Vojvodina Province, Serbia) result from their floristic, ecological, plant geographic, florogenetic and phytocoenological characteristics. Floristic characteristics result from 205 taxa. Of the 205 taxa, 191 taxa (177 species, six subspecies, three varieties and five forms) were listed on account of their distinctive floristic characteristics. Ecological characteristics result from 55 halophyte taxa with the ecological index S_+ . Plant geographic characteristics result from one endemic species of the Pannonian Plain *Statice gmelini* subsp. *hungaricum* and subendemic species in the Pannonian Plain *Achillea asplenifolia*, *Puccinellia limosa* and *Roripa kernerii*. Florogenetic characteristics result from postglacial relic *Scilla autumnalis*. The registered taxa form stands of 12 plant communities that belong to the vegetation classes *Phragmitetea*, *Thero-Salicornietea*, *Festuco-Puccinellietea* and *Festuco-Brometea*. Taking in consideration the considerable presence of halophyte taxa, the presence of Pannonian and sub-Pannonian floristic elements, and domination of phytocoenoses of the class *Festuco-Puccinellietea* it was concluded that the studied plant cover is part of the halobiome of the Pannonian Plain.*

Key words: *Novi Kneževac (the Vojvodina Province – Serbia), natural pasture, flora, vegetation.*

INTRODUCTION

Novi Kneževac is a town on the Tisza River, located in northern Banat (the Vojvodina Province, Serbia). A climate diagram after Walter made on the basis of the

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data from the meteorological station in Kikinda shows that the studied location has the average annual rainfall of 555 mm and the average annual temperature of 11.1°C (Ljevnaić-Mašić, 2010). The beginning of the vegetation period (April) is characterized by a substantial increase in precipitation and a high but gradual increase in temperature. After reaching maximum levels in June, the rainfall drops considerably. In contrast to precipitation, the temperature, that had gradually increased at the beginning of the vegetation period, remains steady and high in the middle of the vegetation period, and, only after a considerable dry spell, starts to go down perceptibly in October. Because of the above precipitation and temperature patterns, the studied area passes through a semi-arid period from mid-July to late September, which negatively affects the present vegetation cover.

East of the town of Novi Kneževac, there are large areas of the solonetz and the solonchakic solonetz soils (Benka and Salvai, 2005), which are not cultivated due to low contents of organic matter. These areas, which are overgrown with their natural vegetation, are used by local farmers mostly for cattle grazing, less frequently for mowing.

The objective of this study was to establish the status of the extant flora and vegetation cover of the natural pastures located in the vicinity of the town of Novi Kneževac.

MATERIAL AND METHODS OF THE STUDY

The data on the natural plant cover of the pastures located in the vicinity of Novi Kneževac combine a part of the results of a previous study of plant cover of saline soils of Banat (Knežević et al., 2008) and the results of a subsequent study conducted in the location mentioned above.

The observed plants were determined and their names identified in accordance with the nomenclature in the publications 'Flora of SR Serbia' (Josifović, M. ed. IX, 1970-1976), Flora Europaea (Tutin et al., 1960-1980).

Of the 205 taxa found in the flora of the natural pastures surrounding the town of Novi Kneževac, 191 were listed as distinct species.

The latter taxa comprised of 177 species, six subspecies, three varieties and five forms. The varieties *Aster tripolium* L. var. *pannonicus* (Jacq.) Beck, *Chenopodium rubrum* L. subsp. *botryoides* Sm. var. *crassifolium* (Hornem) Kov. i *Sonchus arvensis* L. var. *uliginosus* (M.B.) Grec. and forms *Aster sedifolius* L. f. *subsquamosus* Soó, *Bromus commutatus* Schrad. f. *violaceus* Podp., *Mentha aquatica* L. f. *erramera* Top., *Poa bulbosa* L. f. *vivipara* Koel. i *Scleranthus annus* L. f. *minimus* Schur. were put on the list because their higher taxonomic categories were not found in the studied flora.

The listed taxa were divided according to floristic elements on the basis of publications of Soó (1964-1985).

Values of the salinity index (S) of the observed taxa were estimated according to the criterion of Landolt (Landolt, 1977; Knežević, 1994).

The syntaxonomic position of the observed plant communities at the natural pastures located in the vicinity of Novi Kneževac was defined according to the publication 'Halophytic Vegetation of the Yugoslav Part of the Banat Region' (Knežević et al. 1998).

RESULTS AND DISCUSSION

Flora of saline habitats in the vicinity of Novi Kneževac:

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| <p>1. <i>Achillea asplenifolia</i> Venet. /S₊/</p> <p>2. <i>A. millefolium</i> L. /S/</p> <p>3. <i>A. millefolium</i> L. subsp. <i>pannonica</i> (Scheele) Hayek /S/</p> <p>4. <i>A. setacea</i> W. et K. /S/</p> <p>5. <i>Acorellus pannonicus</i> (Jacq.) Palla /S₊/</p> <p>6. <i>Agropyrum repens</i> (L.) Beauv. /S₊/</p> <p>7. <i>Agrostis alba</i> L. /S/</p> <p style="padding-left: 20px;"><i>A. alba</i> L. f. <i>coarctata</i> Rchb.</p> <p>8. <i>Alisma plantago-aquatica</i> L. /S/</p> <p>9. <i>Allium scorodoprasum</i> L. /S/</p> <p>10. <i>Alopecurus geniculatus</i> L. /S₊/</p> <p>11. <i>A. pratensis</i> L. /S/</p> <p>12. <i>Andropogon ischaemum</i> L. /S/</p> <p>13. <i>Artemisia austriaca</i> Jacq. /S/</p> <p>14. <i>A. maritima</i> L. subsp. <i>monogyna</i> (W. et K.) Gams. /S₊/</p> <p>15. <i>A. maritima</i> L. subsp. <i>salina</i> (Willd.) Gams. /S₊/</p> <p>16. <i>Aster sedifolius</i> L. f. <i>subsquamosus</i> Soó /S₊/</p> <p>17. <i>A. tripolium</i> L. var. <i>pannonicus</i> (Jacq.) Beck /S₊/</p> <p>18. <i>Astragalus cicer</i> L. /S/</p> <p>19. <i>Atriplex hastata</i> L. /S₊/</p> <p>20. <i>A. litoralis</i> L. /S₊/</p> <p>21. <i>A. tatarica</i> L. /S₊/</p> <p style="padding-left: 20px;"><i>A. tatarica</i> L. var. <i>diffusa</i> (Ten. Gürke</p> <p>22. <i>Ballota nigra</i> L. /S/</p> <p>23. <i>Berteroa incana</i> (L.) DC. /S/</p> <p>24. <i>Bidens tripartitus</i> L. /S/</p> <p>25. <i>Bolboschoenus maritimus</i> (L.) Palla /S₊/</p> <p style="padding-left: 20px;"><i>B. maritimus</i> (L.) Palla var. <i>compactus</i> (Hoffm.) Jáv.</p> <p>26. <i>Bromus commutatus</i> Schrad. f. <i>violaceus</i> Podp. /S/</p> <p>27. <i>B. erectus</i> Huds. /S/</p> <p>28. <i>B. mollis</i> L. /S/</p> <p>29. <i>Bupleurum pachnospermum</i> Pančić /S/</p> <p>30. <i>B. tenuissimum</i> L. /S₊/</p> <p>31. <i>Calystegia sepium</i> (L.) R. Br. /S/</p> <p>32. <i>Camphorosma annua</i> Pall. /S₊/</p> <p>33. <i>Capsella bursa pastoris</i> (L.) Medik. /S/</p> <p>34. <i>Carduus acanthoides</i> L. /S/</p> <p>35. <i>Carex hirta</i> L. /S/</p> <p>36. <i>C. praecox</i> Schreb. /S/</p> <p>37. <i>C. pseudocyperus</i> L. /S/</p> <p>38. <i>C. spicata</i> Huds. /S/</p> | <p>39. <i>C. stenophylla</i> Wahlbg. /S/</p> <p>40. <i>C. vulpina</i> L. /S/</p> <p>41. <i>Carthamus lanatus</i> L. /S/</p> <p>42. <i>Centaurea cyanus</i> L. /S/</p> <p>43. <i>Cerastium caespitosum</i> Gilib. /S/</p> <p>44. <i>C. semidecandrum</i> L. /S/</p> <p>45. <i>Chenopodium album</i> L. /S/</p> <p>46. <i>Ch. glaucum</i> L. /S₊/</p> <p>47. <i>Chenopodium polyspermum</i> L. /S/</p> <p>48. <i>Ch. rubrum</i> L. subsp. <i>botryoides</i> Sm. var. <i>crassifolium</i> (Hornem) Kov. /S₊/</p> <p>49. <i>Chrysopogon gryllus</i> (L.) Trin. /S/</p> <p>50. <i>Cichorium intybus</i> L. /S/</p> <p>51. <i>Cirsium arvense</i> (L.) Scop. /S/</p> <p>52. <i>C. lanceolatum</i> (L.) Scop. /S/</p> <p>53. <i>Convolvulus arvensis</i> L. /S/</p> <p>54. <i>Crepis capillaris</i> (L.) Wallr. /S/</p> <p>55. <i>C. setosa</i> Hall. /S/</p> <p>56. <i>Crypsis aculeata</i> (L.) Aitt. /S₊/</p> <p>57. <i>Cynodon dactylon</i> (L.) Pers. /S/</p> <p>58. <i>Epilobium adnatum</i> Griseb. /S/</p> <p>59. <i>Erodium cicutarium</i> (L.) L. Hérit. /S/</p> <p>60. <i>Erophila verna</i> (L.) Schevall. /S/</p> <p>61. <i>Eryngium campestre</i> L. /S/</p> <p>62. <i>Euclidium syriaca</i> (L.) R. Br. /S/</p> <p>63. <i>Euphorbia cyparissias</i> L. /S/</p> <p>64. <i>E. platyphyllos</i> L. /S/</p> <p>65. <i>Festuca vallesiaca</i> Sch. /S/</p> <p>66. <i>F. vallesiaca</i> Sch. subsp. <i>pseudovina</i> (Hack.) A. et G. /S₊/</p> <p style="padding-left: 20px;"><i>F. vallesiaca</i> Sch. subsp. <i>pseudovina</i> (Hack.) A. et G. f. <i>rutila</i> Hack.</p> <p>67. <i>Filago germanica</i> L. /S/</p> <p>68. <i>Filipendula hexapetala</i> Gilib. /S/</p> <p>69. <i>Fragaria viridis</i> Duchense /S/</p> <p>70. <i>Gagea pratensis</i> (Pers.) Dumort. /S/</p> <p>71. <i>Galium aparine</i> L. /S/</p> <p>72. <i>G. pedemontanum</i> All. /S/</p> <p>73. <i>G. verum</i> L. /S/</p> <p>74. <i>Geranium columbinum</i> L. /S/</p> <p>75. <i>Glyceria maxima</i> (Hartm.) Holombg. /S/</p> <p>76. <i>Glycyrrhiza echinata</i> L. /S/</p> <p>77. <i>Gratiola officinalis</i> L. /S₊/</p> <p>78. <i>Gypsophila muralis</i> L. /S/</p> <p>79. <i>Heleocharis palustris</i> (L.) R. Br. /S/</p> <p>80. <i>Heleochoa alopecuroides</i> (Pill. et Mitterp.) Host /S/</p> |
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81. *H. schoenoides* (L.) Host /S₊/
82. *Helminthia echioides* (L.) Gärt. /S₋/
83. *Hordeum maritimum* Stokes subsp. *gussoneanum* (Parl.) A. et G. /S₊/
84. *Inula britannica* L. /S₊/
85. *Juncus articulatus* L. /S₋/
86. *J. atratus* Krock. /S₋/
87. *J. compressus* Jacq. /S₊/
88. *J. gerardi* Lois. /S₊/
89. *Knautia arvensis* (L.) Coult. /S₋/
K. arvensis (L.) Coult. f. *pinnatifida* (W. et Gr.) Peterm.
90. *Kochia laniflora* (Gmel.) Borb. /S₋/
91. *K. prostrata* (L.) Schrad. /S₊/ *K. prostrata* (L.) Schrad. l. *rubens* Lag.
92. *Koeleria gracilis* Pers. /S₋/
93. *Lactuca saligna* L. /S₊/
94. *L. serriola* L. /S₋/
95. *Lathyrus hirsutus* L. /S₋/
96. *Lemna minor* L. /S₋/
97. *Lepidium draba* L. /S₋/
98. *L. perfoliatum* L. /S₋/
99. *L. ruderale* L. /S₋/
100. *Lolium perenne* L. /S₋/
101. *Lotus tenuis* Kit. /S₋/
102. *Lycopus europaeus* L. /S₋/
L. europaeus L. f. *turfosus* Beck
103. *L. exaltatus* L. /S₋/
104. *Lysimachia nummularia* L. /S₋/
105. *Lythrum hyssopifolia* L. /S₊/
106. *L. virgatun* L. /S₋/
107. *Marrubium peregrinum* L. /S₋/
108. *Matricaria chamomilla* L. /S₊/
109. *M. inodora* L. /S₊/
110. *M. suaveolens* (Pursh) Buch. /S₋/
111. *Medicago falcata* L. /S₋/
112. *M. lupulina* L. /S₋/
M. lupulina L. f. *canescens* (Menyh.) Soó
113. *Melilotus officinalis* (L.) Pallas /S₋/
114. *Mentha aquatica* L. f. *erramera* Top. /S₋/
115. *M. pulegium* L. /S₊/
116. *Muscari racemosum* (L.) Mill. /S₋/
117. *Myosotis collina* Hoffm. /S₋/
118. *Myosurus minimus* L. /S₋/
119. *Oenanthe silaifolia* M.B. /S₊/
120. *Onopordon acanthium* L. /S₋/
121. *Ornithogalum gussonei* Ten. /S₋/
122. *O. umbellatum* L. /S₋/
123. *Panicum crus-galli* L. /S₋/
124. *Pastinaca sativa* L. /S₋/
125. *Pholiurus pannonicus* (Host) Trin. /S₊/
126. *Phragmites communis* Trin. /S₊/
127. *Picris hieracioides* L. /S₋/
128. *Pimpinella saxifraga* L. /S₋/
129. *Plantago lanceolata* L. (S₋)
P. lanceolata L. var. *lanceolata*
130. *P. maior* L. /S₊/
131. *P. maritima* L. /S₊/
P. tenuiflora W. et K. /S₊/
P. tenuiflora W. et K. f. *depauperata* Domin
132. *Poa annua* L. /S₋/
133. *P. bulbosa* L. f. *vivipara* Koel. /S₋/
134. *P. pratensis* L. /S₋/
135. *Podospermum canum* C.A.Mey. /S₊/
136. *Polygonum aviculare* L. /S₋/
137. *P. lapathifolium* L. /S₋/
P. lapathifolium L. var. *tomentosum* (Schrk.) Bay.
138. *Portulaca oleracea* L. /S₋/
139. *Potentilla argentea* L. /S₋/
140. *P. supina* L. /S₋/
141. *Prunus spinosa* L. /S₋/
142. *Puccinellia limosa* (Schur) Holmb. /S₊/
143. *Pulicaria vulgaris* Gärt. /S₊/
144. *Ranunculus aquatilis* L. /S₋/
145. *R. paucistamineus* Tsch. /S₋/
146. *R. repens* L. /S₋/
147. *Roripa austriaca* (Cr.) Bess. /S₋/
148. *R. kernerii* Menyh. /S₊/
149. *Rosa canina* L. /S₋/
150. *Rumex obtusifolius* L. /S₋/
151. *R. palustris* Sm. /S₋/
152. *R. patientia* L. /S₋/
153. *R. stenophyllus* Ledeb. /S₊/
154. *Salvia nemorosa* L. /S₋/
155. *Schoenoplectus lacuster* (L.) Palla /S₋/ *S. lacuster* (L.) Palla f. *conglomeratus* (Junge) Soó
156. *Scilla autumnalis* L. /S₋/
157. *Scleranthus annuus* L. f. *minimus* Schur. /S₋/
158. *Sclerochloa dura* (L.) Beauv. /S₋/
159. *Sedum caespitosum* (Cav.) D.C. /S₊/
160. *Sinapis arvensis* L. /S₋/
161. *Sonchus arvensis* L. var. *uliginosus* (M.B.) Grec. /S₊/
162. *S. asper* (L.) Hill. /S₋/
163. *Spergularia salina* J. et C. Presl. /S₊/
164. *Stachys germanica* L. /S₋/
165. *Statice gmelini* Willd. subsp. *hungaricum* (Klokov) Soó (S₊)

166. *Taraxacum officinale* Weber /S₊/
 167. *Teucrium scordium* L. /S₊/,
 168. *Thymus glabrescens* Willd. /S₋/
 169. *Th. marschallianus* Willd. /S₋/
 170. *Torilis arvensis* (Huds.) Link. /S₋/
 171. *Trifolium angulatum* W.et K. /S₊/
 172. *T. arvense* L. /S₋/
 173. *T. campestre* Schreb. /S₋/
 T. campestre Schreb. var. *minus*
 (Koch) Gremlí
 174. *T. filiforme* L. /S₋/
 175. *T. fragiferum* L. /S₊/
 176. *T. hybridum* L. /S₋/
 177. *T. ornithopodioides* (L.) Sm. /S₊/
 178. *T. parviflorum* Ehrh. /S₊/
179. *T. pratense* L. /S₋/
 180. *T. repens* L. /S₊/
 T. repens L. f. *microphyllum*
 Larg.-Fossat
 181. *T. striatum* L. /S₊/
 182. *T. strictum* (L.) Jusl. /S₊/
 183. *Typha angustifolia* L. /S₊/
 184. *Ventenata dubia* (Leers.) F.Schultz /S₋/
 185. *Verbena officinalis* L. /S₋/
 186. *Veronica anagalloides* Guss. /S₋/
 187. *V. arvensis* L. /S₋/
 188. *Vicia angustifolia* L. /S₋/
 189. *Xanthium italicum* Moretti /S₋/
 190. *X. spinosum* L. /S₋/

Of the 205 registered taxa (177 species, six subspecies, eight varieties, 13 forms and one *lusus*), 191 were listed as separate species. The latter groups comprised 177 species, six subspecies, two varieties and five forms. The varieties *Aster tripolium* L. var. *pannonicus* (Jacq.) Beck, *Chenopodium rubrum* L. subsp. *botryoides* Sm. var. *crassifolium* (Hornem) Kov. i *Sonchus arvensis* L. var. *uliginosus* (M.B.) Grec. and forms *Aster sedifolius* L. f. *subsquamosus* Soó, *Bromus commutatus* Schrad. f. *violaceus* Podp., *Mentha aquatica* L. f. *erramera* Top., *Poa bulbosa* L. f. *vivipara* Koel. i *Scleranthus annuus* L. f. *minimus* Schur. were put on the list because their higher taxonomic categories were not found in the studied flora.

The 14 unlisted taxa had a lower taxonomic rank than subspecies, and we registered their higher taxonomic categories in the studied flora.

This group included five varieties (*Atriplex tatarica* L. var. *diffusa* (Ten.) Gürke, *Bolboschoenus maritimus* (L.) Palla var. *compactus* /Hoffm./ Jáv., *Plantago lanceolata* L. var. *lanceolata*, *Polygonum lapathifolium* L. var. *tomentosum* (Schrk.) Bay. i *Trifolium campestre* Schreb. var. *minus* (Koch) Gremlí), eight forms (*Agrostis alba* L. f. *coarctata* Rchb., *Festuca vallesiaca* Sch. subsp. *pseudovina* (Hack.) A. et G. f. *rutila* Hack., *Knautia arvensis* (L.) Coult. f. *pinnatifida* (W. et Gr.) Peterm., *Lycopus europaeus* L. f. *turfosus* Beck, *Medicago lupulina* L. f. *canescens* (Menth.) Soó, *Plantago tenuiflora* W. et K. f. *depauperata* Domin, *Schoenoplectus lacustris* (L.) Palla f. *conglomeratus* (Junge) Soó i *Trifolium repens* L. f. *microphyllum* Larg.-Fossat) and one *lusus* (*Kochia prostrata* (L.) Schrad. l. *rubens* Lag.).

The group of 191 taxa, listed as present in the flora of natural pastures located in the vicinity of Novi Kneževac, comprised 55 or 28.80% taxa which were labeled with the ecological index S₊ and 136 or 71.20% taxa with the ecological index S₋.

Thus, in the flora of the investigated natural pastures is less halophytes than in the flora of pastures located in vicinity of the town Melenci-Rusanda (Knežević et al. 2003), Melenci-Ostrovo (Knežević et al. 2005b), Novi Bečej-Slano Kopovo (Knežević et al. 2005a) and Kumane (Knežević et al. 2009a), and more than in the flora of pastures located in vicinity of the town Elemir-Okanj (Knežević et al. 2009b).

In the florogenetic sense, a characteristic feature of the studied pastures was the presence of the sub-Mediterranean species *Scilla autumnalis*, which is a postglacial relic.

In the plant geographic sense, the characteristic feature of the community was the presence of *Statice gmelini* subsp. *Hungaricum*, an endeme of the Pannonian Plain, and *Achillea asplenifolia*, *Puccinellia limosa* and *Roripa kernerii*, subendememes of the Pannonian Plain.

Therefore, based on the presence of the taxa labeled with the ecological index S_+ (55 or 28.80% of the listed taxa) and the presence of Pannonian endemic (*Statice gmelini* subsp. *hungaricum* *Statice gmelini* subsp. *hungaricum*) and Pannonian subendemic taxa (*Achillea asplenifolia*, *Puccinellia limosa* and *Roripa kernerii*), it was concluded that, in the ecological sense, the natural pastures on the solonetz and solonchakic solonetz soils located in the surroundings of the town of Novi Kneževac are part of the halobiome of the Pannonian Plain.

The above statement is further supported by the fact that the taxa found in the natural pastures on the solonetz and solonchakic solonetz soils located in the vicinity of the town of Novi Kneževac formed a complex mosaic comprised of stands of 12 plant communities, most of which are typical for saline habitats.

Sintaxonomic position of the identified plant communities:

Phragmitetea Tx.et Prsg. 1942

Phragmitetalia W. Koch 1926 emend. Pign. 1953

Phragmition communis W. Koch 1926 emend. Soó 1947

Ass. *Scirpo-Phragmitetum* W. Koch 1926

Bolboschenetalia maritimi Hejny 1967

Bolboschoenion maritimi continentale Soó (1945)1947 emend. Borhidi 1970

Ass. *Bolboschoenetum maritimi continentale* Soó (1927)1957

Thero-Salicornietea Tx. 1955, Tx. et Oberd. 1958

Thero-Salicornietalia (Br.–Bl. 1931) Tx. 1954 ex Tx. et Oberd. 1958

Thero-Salicornion Br.–Bl. 1931 em Tx.1950

Ass. *Acorelletum pannonici* Soó (1939)1947

Festuco-Puccinellietea Soó 1968

Festuco-Puccinellietalia Soó 1968

Puccinellion limosae (Klika 1937) Wendel. 1943

Ass. *Puccinellietum limosae* (Rapcs. 1927) Soó 1930

Ass. *Pholiuro-Plantaginetum tenuiflorae* (Rapcs. 1927) Wendel. 1943

Ass. *Hordeetum histricis* (Soó 1933) Wendel. 1943

Ass. *Camphorosmetum annuae* (Rapcs. 1916) Soó 1933 corr. Soó 1938

Halo-Agrostion albae pannonicum Knežević 1990

Ass. *Agrostio-Alopecuretum pratensis* Soó (1933) 1947

Ass. *Agrostio-Eleochariti-Alopecuretum geniculati* (Magyar 1928) Soó (1939) 1947

Artemisio-Festucetalia pseudovinae Soó 1968

Festucion pseudovinae Soó 1933.

Halo-Festucenion pseudovinae Vučković 1985

Ass. *Artemisio-Festucetum pseudovinae* (Magyar 1928) Soó 1945

Xero-Festucenion pseudovinae Vučković 1985

Ass. *Achilleo-Festucetum pseudovinae* (Magyar 1928) Soó 1945.

Festuco-Brometea Br.–Bl. et Tx.1943

Festucetalia valesiaca Br.–Bl. et Tx.1943

Festucion rupicola (*sulcatae*) Soó (1940) 1964

(*Cynodonto-Festucion /rupicola-pseudovinae/* Soó 1971)

Ass. *Festuco–Andropogonetum ischaemi* Vučk. 1985

Stands of the associations *Scirpo-Phragmitetum* and *Bolboschoenetum maritimi continentale* were found only in fragments and on small areas.

Stands of the associations *Acorelletum pannonicum*, *Puccinellietum limosae*, *Pholiuro-Plantaginetum tenuiflorae*, *Hordeetum histricis*, *Camphorosmetum annuae*, *Agrostio-Alopecuretum pratensis* and *Agrostio-Eleochariti-Alopecuretum geniculati* were floristically clearly differentiated, but they covered modest areas.

Stands of the associations *Artemisio-Festucetum pseudovinae*, *Achilleo-Festucetum pseudovinae* and *Festuco–Andropogonetum ischaemi* were typically developed and they made the dominant plant cover of the studied pastures.

CONCLUSION

Specific features of the plant cover of the natural pastures on the solonetz and solonchakic solonetz soils in the vicinity of the town of Novi Kneževac are created by its floristic, plant geographic, florogenetic and phytocoenological characteristics.

In the floristic sense, the characteristic feature of the studied location was the presence of 205 plant taxa (177 species, six subspecies, eight varieties, 13 forms and one *lusus*). It is important to mention that out of the 191 taxa found to comprise the flora of the studied natural pastures and listed as such (177 species, six subspecies, three varieties and five forms), 55 or 28.80% of them were labeled with the ecological index S_p , and 136 or 71.20% with the ecological index S_c .

In the plant geographic sense, the characteristic feature of the community was the presence of *Statice gmelini* subsp. *Hungaricum*, an endeme of the Pannonian Plain, and *Puccinellia limosa* and *Roripa kernerii*, subendememes of the Pannonian Plain.

Because of these characteristics, it was concluded that the studied natural pastures located in the vicinity of the town of Novi Kneževac are, in the ecological sense, part of the halobiome of the Pannonian Plain.

In the florogenetic sense, a characteristic feature of the studied pastures was the presence of *Scilla autumnalis*, a sub-Mediterranean species which is a postglacial relic.

In the phytocoenological sense, a characteristic feature of the studied pastures was the presence of stands of 12 plant communities that belong to the vegetation classes *Phragmitetea* Tx.et Prsg. 1942 (Ass. *Scirpo-Phragmitetum* and Ass. *Bolboschoenetum maritimi continentale*), *Thero-Salicornietea* Tx. 1955, Tx. et Oberd. 1958 (Ass. *Acorelletum pannonicum*), *Festuco-Puccinellietea* Soó 1968 (*Puccinellietum limosae*, *Pholiuro-Plantaginetum tenuiflorae*, *Hordeetum histricis*, *Camphorosmetum annuae*, *Agrostio-Alopecuretum pratensis* and *Agrostio-Eleochariti-Alopecuretum geniculati*, *Artemisio-Festucetum pseudovinae* and *Achilleo-Festucetum pseudovinae*) and *Festuco-Brometea* Br.–Bl. et Tx.1943 (*Festuco–Andropogonetum ischaemi*).

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BILJNI POKRIVAČ PRIRODNIH PAŠNJAKA U OKOLINI NASELJA NOVI KNEŽEVAC

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Izvod

Specifičnost biljnog pokrivača prirodnih pašnjaka u okolini naselja Novi Kneževac (Vojvodina – Srbija) su florističke, ekološke, biljnogeografske, florogenetske i fitocenološke karakteristike. Florističke karakteristike čini 205 taksona od kojih je, zbog florističke osobenosti, numeracijom posebno izdvojen 191 takson (177 vrsta, 6 podvrsta, 3 varijeteta i 5 formi). Ekološka karakteristike čini 55 halofitskih taksona okarakterisanih indeksom S_+ . Biljnogeografske karakteristike čine endem panonske nizije *Statice gmelini* subsp. *hungaricum* i subendemi panonske nizije *Achillea asplenifolia*, *Puccinellia limosa* i *Roripa kernerii*. Florogenetsku karakteristiku čini postglacijalni relikv *Scilla autumnalis*. Konstatovani taksoni formiraju sastojine 12 fitocenoza koje pripadaju klasama *Phragmitetea*, *Thero-Salicornietea*, *Festuco-Puccinellietea* i *Festuco-Brometea*. Na osnovu brojnosti halofitskih taksona, prisustva panonskih i subpanonskih elemenata flore i dominacije fitocenoza klase *Festuco-Puccinellietea* konstatujemo da je istraživani biljni pokrivač deo halobioma Panonske nizije.

Ključne reči: Novi Kneževac (Vojvodina – Srbija), prirodni pašnjak, flora, vegetacija.

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