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AURELIA URSZULA WARCHOLIŃSKA

Department of Plants Ecology and Phytosociology, Institute of Ecology and Environment Conservation, Łódź University, 12/16 Banacha Str., 90–237 Łódź, Poland

### MEDICAL SEGETAL FLORA OF CENTRAL POLAND

**Abstract:** In the paper a list and general characterization of medical segetal flora of Central Poland is given. This flora consists of 300 taxa. Among the most threatened species there are 6 taxa: *Adonis aestivalis*, *A. flammea*, *Anagallis foemina*, *Bupleurum rotundifolium*, *Camelina sativa*, *Cuscuta europaea*.

**Key words:** flora, medical plants, endangered medical plants, Central Poland

#### 1. INTRODUCTION

The medical segetal flora of Central Poland was not so far complexly investigated. Initial, very limited data about the occurrence of medical plants in the cultivated fields of the town of Krośniewice were supplied by GMEREK (1998). The authoress recorded 8 species of medical segetal plants: *Elymus repens*, *Centaurea cyanus*, *Chamomilla recutita*, *Equisetum arvense*, *Rumex acetosa*, *R. crispus*, *Urtica urens*, *Viola tricolor*.

Numerous facts connected with the decrease in number and size of sites and abundance of populations of the segetal flora of Central Poland (WARCHOLIŃSKA 2002a, b, 2004) necessitated the assessment of the present state, determination of characteristics and degree of threat to species (threat status) of medical segetal flora species in Central Poland.

In the present study the lists of taxa of the medical segetal flora of Central Poland, number of the threatened species and their general characterization are presented.

## 2. MATERIALS AND METHODS

The assessment of the state of medical segetal flora of Central Poland is based on data from the study by WARCHOLIŃSKA (2004) and results of investigations carried out in 2002–2003. On the basis of analyzing respective results a list of medical taxa of segetal flora in Central Poland and a list of threatened species of the flora were compiled, as well as a general characterization of the flora was prepared.

The systematic composition of taxa on the list of medical segetal flora was accepted after SZAFER et al. (1976), while the botanic nomenclature after MIREK et al. (2002). Also, the following publications were used: JACKOWIAK (1990); MOWSZOWICZ (1975A); ROTHMALER (1976); RUTKOWSKI (1998); SUWARA-SZMIGIELSKA (2004); TUTIN et al. (1964–1980); WARCHOLIŃSKA (1993, 2003, 2004).

In the list of taxa, the following characteristics are given before and after the Latin names:

- \* – Pharmacopeial plants;
- Constancy (**Shl** – short-living plants, **Per** – perennial plants);
- Life form (**M** – Megaphanerophytes, **N** – Nanophanerophytes, **Ch** – Woody chamaephytes, **C** – Herbaceous chamaephytes, **H** – Hemicryptophytes, **G** – Geophytes, **T** – Theropytes);
- Geographic-historical group (**Ap** – Apophytes, **Ar** – Archaeophytes, **Ep** – Epocophytes, **He** – Hemiagriophytes, **Er** – Ergaziophygophytes);
- Category of threat (**CR** – critically endangered, **EN** – endangered, **VU** – vulnerable, **LR** – lower risk, **DD** – data deficient);
- Frequency classes (very rare, rare, rather frequent, frequent, common).

In the list of the threatened medical plants are arranged in alphabetical order (Table 1).

**Table 1:** The list of the endangered medical plants of Central Poland

No	Species	Categories of threat				
		CR	EN	VU	LR	DD
1	<i>Adonis aestivalis</i>		+			
2	<i>A. flammea</i>	+				
3	<i>Aethusa cynapium</i> subsp. <i>agrestis</i>					+
4	<i>Agrostemma githago</i>			+		
5	<i>Ajuga genevensis</i>					+
6	<i>Allium oleraceum</i>			+		
7	<i>Anagallis foemina</i>		+			
8	<i>Anthemis tinctoria</i>			+		

Table 1: (cont.)

No	Species	Categories of threat				
		CR	EN	VU	LR	DD
9	<i>Asparagus officinalis</i>					+
10	<i>Borago officinalis</i>					+
11	<i>Bupleurum rotundifolium</i>	+				
12	<i>Camelina sativa</i>	+				
13	<i>Centaurea cyanus</i>			+		
14	<i>Centaureum pulchellum</i>					+
15	<i>Chenopodium hybridum</i>					+
16	<i>Consolida regalis</i>			+		
17	<i>Cuscuta europea</i>		+			
18	<i>Cynoglossum officinale</i>					+
19	<i>Datura stramonium</i>					+
20	<i>Echinops sphaerocephalus</i>					+
21	<i>Elsholtzia ciliata</i>					+
22	<i>Falcaria vulgaris</i>					+
23	<i>Fumaria officinalis</i>				+	
24	<i>Gagea arvensis</i>					+
25	<i>G. pratensis</i>			+		
26	<i>Galeopsis angustifolia</i>					+
27	<i>Helichrysum arenarium</i>			+		
28	<i>Herniaria glabra</i>					+
29	<i>H. hirsuta</i>			+		
30	<i>Hyoscyamus niger</i>					+
31	<i>Hypericum humifusum</i>			+		
32	<i>Melisa officinalis</i>					+
33	<i>Onopordum acanthium</i>					+
34	<i>Papaver dubium</i>			+		
35	<i>P. rhoeas</i>			+		
36	<i>Petasites hybridus</i>					+
37	<i>Plantago intermedia</i>			+		
38	<i>Sanguisorba minor</i>					+
39	<i>Sinapis arvensis</i>			+		
40	<i>Thalictrum minus</i> subsp. <i>minus</i>					+
41	<i>Vincetoxicum hirundinaria</i>					+
Total		3	3	13	1	21

While determining the characteristics of the medical segetal flora plants the following studies were used: CZYŻEWSKA (1998); GŁOWACIŃSKI (1997); IUCN 1994; JACKOWIAK (1990); JAKUBOWSKA-GABARA, KUCHARSKI (1999); KAŻMIERCZAKOWA, ZARZYCKI (2001); KORNAŚ (1968, 1990); MIREK et al. (2002); MOWSZOWICZ (1975a); SZAFER et al. (1976); WARCHOLIŃSKA (1993, 2002a, b, 2003, 2004); ZAJĄC, ZAJĄC (1975); ZARZYCKI et al. 2002.

The affinity of taxa of segetal flora in Central Poland (WARCHOLIŃSKA 2004) to the group of medical plants was determined on the basis of the following studies: ANIOŁ-KWIATKOWSKA, KWIATKOWSKI (1993); BREMMNESS (1995); BRODA, MOWSZOWICZ (1968, 1971); Farmacopea Polska (1970, 1999); GMEREK (1998); KUŹNIEWSKI, AUGUSTYN-PUZIEWICZ (1986); MOWSZOWICZ (1975a, b, c, 1977, 1980); OŹAROWSKI, JARONIEWSKI (1987); PODBIELKOWSKI (1985); PODLECH (1994); RUTKOWSKI (1998); SCHÖNFELDER (1992); STARÝ, JIRÁSEK (1976); SZAFER et al. (1988); SZMEJA (1988); SZMEJA, TOKARZ (1982); ŚWIEJKOWSKI (1990); TOKARZ et al. (1980, 1981); VOLÁK, STODOLA (1992); ŹARNOWIEC et al. (1997).

### 3. RESULTS

#### 3.1. List of taxa

##### *Polypodiaceae*

1. *Athyrium filix-femina* (L.) Roth – Per, H, Ap, very rare
- \*2. *Dryopteris filix-mas* (L.) Schott – Per, H, Ap, very rare
3. *Pteridium aquilinum* (L.) Kuhn – Per, G, Ap, rare

##### *Equisetaceae*

- \*4. *Equisetum arvense* L. – Per, G, Ap, common
5. *E. fluviatile* L. – Per, G, Ap, very rare
6. *E. palustre* L. – Per, G, Ap, very rare

##### *Cannabaceae*

7. *Cannabis sativa* L. – Shl, T, Er, very rare

##### *Urticaceae*

8. *Urtica urens* L. – Shl, T, Ar, rather frequent
9. *U. dioica* L. subsp. *dioica* – Per, H, Ap, rare

##### *Polygonaceae*

10. *Rumex maritimus* L. – Shl, T, Ap, very rare
11. *R. obtusifolius* L. – Per, H, Ap, rather frequent
12. *R. hydrolapathum* Huds. – Per, H, Ap, very rare
13. *R. confertus* Willd. – Per, H, Ep, very rare
14. *R. crispus* L. – Per, H, Ap, frequent

15. *R. acetosa* L. – Per, H, Ap, very rare
16. *R. acetosella* L. – Per, G, Ap, common
17. *Polygonum amphibium* L. var. *terrestre* Leysser – Per, G, Ap, rather frequent
18. *P. persicaria* L. – Shl, T, Ap, common
19. *P. lapathifolium* L. subsp. *pallidum* (With.) – Shl, T, Ap, common
20. *P. lapathifolium* L. subsp. *lapathifolium* – Shl, T, Ap, frequent
- \*21. *P. hydropiper* L. – Shl, T, Ap, frequent
- \*22. *P. aequale* Lindm. – Shl, T, Ap, rather frequent
- \*23. *P. heterophyllum* Lindm. Emend. H. Schultz. – Shl, T, Ap, frequent
- \*24. *P. neglectum* Besser. – Shl, T, Ap, rather frequent
25. *Fallopia convolvulus* (L.) Á. Löve – Shl, T, Ar, common
26. *F. dumetorum* (L.) Holub – Shl, T, Ap, very rare
27. *Fagopyrum esculentum* Moench – Shl, T, Er, very rare
28. *F. tataricum* (L.) Gaertn. – Shl, T, Er, very rare

#### *Chenopodiaceae*

29. *Beta vulgaris* L. – Shl, T, Er, very rare
30. *Chenopodium hybridum* L. – Shl, T, Ap, DD, rare
31. *Ch. album* L. – Shl, T, Ap, common
32. *Ch. rubrum* L. – Shl, T, Ap, very rare
33. *Ch. bonus-henricus* L. – Per, C, Ar, very rare
34. *Spinacia oleracea* L. – Shl, T, Er, very rare
35. *Atriplex hortensis* L. – Shl, T, Ep, very rare
36. *A. patula* L. – Shl, T, Ap, frequent
37. *A. prostrata* Boucher Ex DC. subsp. *prostrata* – Shl, T, Ap, very rare

#### *Amaranthaceae*

38. *Amaranthus retroflexus* L. – Shl, T, Ep, frequent

#### *Caryophyllaceae*

39. *Dianthus carthusianorum* L. – Per, C, Ap, very rare
40. *D. deltoides* L. – Per, H, Ap, very rare
- \*41. *Saponaria officinalis* L. – Per, H, Ap, very rare
42. *Lychnis flos-cuculi* L. – Per, H, Ap, very rare
43. *Melandrium album* (Mill.) Garcke – Shl, H, Ap, rather frequent
44. *Silene vulgaris* (Moench) Garcke – Per, H, Ap, very rare
45. *Agrostemma githago* L. – Shl, T, Ar, VU, rather frequent
46. *Stellaria media* (L.) Vill. – Shl, T, Ap, common

47. *S. graminea* L. – Per, H, Ap, rather frequent  
48. *Cerastium arvense* L. – Per, C, Ap, rare  
49. *Spergularia rubra* (L.) J. Presl & C. Presl – Shl, H, Ap, frequent  
\*50. *Herniaria glabra* L. – Shl, T, Ap, DD, rare  
\*51. *H. hirsuta* L. – Shl, T, Ar, VU, very rare

*Euphorbiaceae*

52. *Euphorbia peplus* L. – Shl, T, Ar, rather frequent  
53. *E. helioscopia* L. – Shl, T, Ar, frequent  
54. *E. cyparissias* L. – Per, H, Ap, rare  
55. *E. esula* L. – Per, H, Ap, rare

*Ranunculaceae*

56. *Nigella sativa* L. – Shl, T, Er, very rare  
57. *Consolida regalis* S. F. Gray – Shl, T, Ar, VU, rather frequent  
58. *Ranunculus bulbosus* L. – Per, G, Ap, very rare  
59. *R. repens* L. – Per, H, Ap, frequent  
60. *R. acris* L. – Per, H, Ap, very rare  
61. *Ficaria verna* Huds. – Per, G, Ap, very rare  
62. *Thalictrum minus* L. subsp. *minus* – Per, H, Ap, DD, very rare  
63. *Adonis aestivalis* L. – Shl, T, Ar, EN, very rare  
64. *A. flammea* Jacq. – Shl, Per, Ar, CR, very rare

*Papaveraceae*

65. *Papaver argemone* L. – Shl, T, Ar, frequent  
66. *P. dubium* L. – Shl, T, Ar, VU, rare  
67. *P. rhoeas* L. – Shl, T, Ar, VU, rather frequent  
\*68. *P. somniferum* L. – Shl, T, Er, very rare  
69. *Chelidonium majus* L. – Per, H, Ap, very rare  
70. *Fumaria officinalis* L. subsp. *officinalis* – Shl, T, Ar, LR, rather frequent

*Brassicaceae*

71. *Cardamine amara* L. subsp. *amara* – Per, H, Ap, very rare  
72. *C. pratensis* L. s. str. – Per, H, Ap, very rare  
73. *Rorippa sylvestris* (L.) Besser. – Per, H, Ap, rather frequent  
74. *Barbarea vulgaris* R. Br. – Shl, H, Ap, very rare  
75. *Cheiranthus cheiri* L. – Per, H, Er, very rare  
76. *Sisymbrium officinale* (L.) Scop. – Shl, T, Ar, rare  
77. *Descurainia sophia* (L.) Webb. – Shl, T, Ar, rare  
78. *Erysimum cheiranthoides* L. – Shl, T, Ar, rather frequent  
79. *Brassica oleracea* L. subsp. *capitata* (L.) Duchesne – Shl, T, Er, very rare

- \*80. *B. napus* L. subsp. *napus* – Shl, T, Er, very rare
- \*81. *B. rapa* L. subsp. *oleifera* DC. – Shl, T, Er, very rare
- \*82. *B. nigra* (L.) W. D. J. Koch – Shl, T, Er, very rare
- 83. *Sinapis arvensis* L. – Shl, T, Ar, rather frequent
- \*84. *S. alba* L. – Shl, T, Er, rare
- 85. *Armoracia rusticana* P. Gaerth. – Per, G, Ar, very rare
- 86. *Camelina sativa* (L.) Crantz – Shl, T, Ar, CR, very rare
- 87. *Thlaspi arvense* L. – Shl, T, Ar, rather frequent
- 88. *Lepidium ruderale* L. – Shl, T, Ar, very rare
- 89. *Capsella bursa-pastoris* (L.) Medik. – Shl, T, Ar, frequent
- 90. *Raphanus raphanistrum* L. – Shl, T, Ar, common
- 91. *R. sativus* L. – Shl, T, Er, rather frequent

#### Violaceae

- 92. *Viola tricolor* L. s. str. – Shl, T, Ar, frequent
- 93. *V. arvensis* Murray – Shl, T, Ar, common

#### Clusiaceae

- 94. *Hypericum humifusum* L. – Shl, T, Ap, VU, rare
- \*95. *H. perforatum* L. – Per, H, Ap, very rare
- 96. *H. maculatum* Crantz. – Per, H, Ap, very rare
- 97. *H. tetrapterum* Fr. – Per, H, Ap, very rare

#### Crassulaceae

- 98. *Sedum acre* L. – Per, C, Ap, very rare

#### Saxifragaceae

- 99. *Saxifraga granulata* L. – Per, H, Ap, very rare

#### Rosaceae

- 100. *Rubus plicatus* Weihe & Ness – Per, N, Ap, very rare
- 101. *R. caesius* L. – Per, N, Ap, rare
- 102. *Potentilla argentea* L. s. str. – Per, H, Ap, rare
- 103. *P. reptans* L. – Per, H, Ap, rare
- \*104. *P. erecta* (L.) Raeusch. – Per, H, Ap, very rare
- 105. *P. anserina* L. – Per, H, Ap, frequent
- 106. *Alchemilla monticola* Opiz – Per, H, Ap, very rare
- 107. *Aphanes arvensis* L. – Shl, T, Ar, rather frequent
- 108. *Geum rivale* L. – Per, H, Ap, very rare
- 109. *G. urbanum* L. – Per, H, Ap, rare
- 110. *Agrimonia eupatoria* L. – Per, H, Ap, very rare
- 111. *Sanguisorba minor* Scop. – Per, H, Ap, DD, very rare

*Fabaceae*

112. *Ononis arvensis* L. – Per, H, Ap, very rare  
113. *Medicago sativa* L. – Per, H, Er, very rare  
\*114. *Melilotus officinallis* (L.) Pall. – Shl, H, Ap, very rare  
115. *Trifolium arvense* L. – Shl, T, Ap, rare  
116. *T. repens* L. – Per, H, Ap, rather frequent  
117. *T. pratense* L. – Per, H, Ap, very rare  
118. *Anthyllis vulneraria* L. – Per, H, Ap, very rare  
119. *Coronilla varia* L. – Per, H, Ap, very rare  
120. *Vicia hirsuta* (L.) S. F. Gray – Shl, T, Ar, common  
121. *V. cracca* L. – Per, H, Ap, rare  
122. *V. angustifolia* L. – Shl, T, Ap, frequent  
123. *Lathyrus pratensis* L. – Per, H, Ap, very rare  
124. *Phaseolus vulgaris* L. – Shl, T, Er, very rare

*Lythraceae*

125. *Lythrum salicaria* L. – Per, H, Ap, rare

*Onagraceae*

126. *Epilobium parviflorum* Schreb. – Per, H, Ap, very rare  
127. *E. palustre* L. – Per, H, Ap, very rare  
128. *Chamaenerion angustifolium* (L.) Scop. – Per, H, Ap, very rare  
129. *Oenothera biennis* L. s. str. – Shl, H, Ap, rare

*Malvaceae*

130. *Malva sylvestris* L. – Shl, H, Ar, very rare  
131. *M. neglecta* Wallr. – Shl, H, Ar, very rare  
132. *Alcea rosea* L. – Per, H, Ar, very rare

*Tiliaceae*

- \*133. *Tilia cordata* Mill. – Per, M, Ap, very rare

*Linaceae*

134. *Linum catharticum* L. – Shl, T, Ap, very rare  
135. *L. usitatissimum* L. – Shl, T, Er, very rare

*Geraniaceae*

136. *Geranium pratense* L. – Per, H, Ap, very rare  
137. *Erodium cicutarium* (L.) L'Hérit. – Shl, T, Ap, common

*Apiaceae*

138. *Sium latifolium* L. – Per, H, Ap, very rare  
139. *Falcaria vulgaris* Bernh. – Per, H, Ap, DD, rare



- \*140. *Carum carvi* L. – Shl, H, Ap, very rare  
141. *Aegopodium podagraria* L. – Per, H, Ap, very rare  
142. *Pimpinella saxifraga* L. – Per, H, Ap, very rare  
143. *Bupleurum rotundifolium* L. – Shl, T, Ar, CR, very rare  
144. *Petroselinum crispum* (Mill.) A. W. Hill – Shl, H, Er, very rare  
145. *Aethusa cynapium* L. subsp. *agrestis* (Wallr.) Dostál – Shl, T, Ar, DD, rare  
146. *A. cynapium* L. subsp. *cynapium* – Shl, T, Ap, rare  
147. *Heracleum sphondylium* L. s. str. – Per, H, Ap, very rare  
148. *Peucedanum oreoselinum* (L.) Moench – Per, H, Ap, rare  
149. *Pastinaca sativa* L. s. str. – Shl, H, Ap, very rare  
150. *Anethum graveolens* L. – Shl, T, Er, very rare  
151. *Daucus carota* L. subsp. *carota* Roth – Shl, H, Ap, rare  
152. *D. carota* L. subsp. *sativa* (Hoffm.) Arcangeli – Shl, H, Ap, very rare  
153. *Anthriscus sylvestris* (L.) Hoffm. – Per, H, Ap, very rare  
154. *Coriandrum sativum* L. – Shl, T, Er, very rare  
155. *Chaerophyllum aromaticum* L. – Per, H, Ap, very rare

*Primulaceae*

156. *Anagallis arvensis* L. – Shl, T, Ar, frequent  
157. *A. foemina* Mill. – Shl, T, Ar, EN, very rare  
158. *Lysimachia nummularia* L. – Per, C, Ap, very rare  
159. *L. vulgaris* L. – Per, H, Ap, rather frequent

*Convolvulaceae*

160. *Convolvulus arvensis* L. – Per, G, Ar, common

*Cuscutaceae*

161. *Cuscuta europaea* L. – Shl, T, Ap, very rare

*Boraginaceae*

162. *Borago officinalis* L. – Shl, T, Ar, DD, very rare  
163. *Anchusa officinalis* L. – Shl, H, Ar, rare  
\*164. *Symphytum officinale* L. – Per, H, Ap, very rare  
165. *Echium vulgare* L. – Shl, H, Ap, very rare  
166. *Lithospermum arvense* L. – Shl, T, Ar, frequent  
167. *Myosotis palustris* (L.) L. Emend. Rchb. – Per, H, Ap, rare  
168. *M. arvensis* (L.) Hill – Shl, T, Ar, frequent  
169. *Cynoglossum officinale* L. – Per, H, Ar, DD, very rare

*Solanaceae*

- \*170. *Hyoscyamus niger* L. – Shl, T, Ar, DD, very rare  
171. *Solanum nigrum* L. Emend. Mill. – Shl, T, Ar, rare

- \*172. *S. tuberosum* L. – Per, G, Er, very rare  
173. *Lycopersicon esculentum* Mill. – Shl, T, Er, very rare  
\*174. *Datura stramonium* L. – Shl, T, Ep, DD, very rare

*Scrophulariaceae*

175. *Verbascum thapsus* L. – Shl, H, Ap, very rare  
\*176. *V. densiflorum* Bertol. – Shl, H, Ap, very rare  
\*177. *V. phlomoides* L. – Shl, H, Ap, very rare  
178. *Linaria vulgaris* Mill. – Per, G, Ap, very rare  
179. *Scrophularia nodosa* L. – Per, H, Ap, very rare  
180. *Veronica beccabunga* L. – Per, C, Ap, very rare  
181. *V. chamaedrys* L. s. str. – Per, C, Ap, very rare  
182. *V. spicata* L. subsp. *spicata* – Per, C, Ap, very rare  
183. *V. arvensis* L. – Shl, T, Ar, frequent  
184. *V. triphyllos* L. – Shl, T, Ar, rather frequent  
185. *V. dillenii* Crantz – Shl, T, Ap, rather frequent  
186. *V. persica* Poir. – Shl, T, Ep, frequent  
187. *V. hederifolia* L. s. str. – Shl, T, Ar, rather frequent  
188. *Euphrasia rostkoviana* Hayne – Shl, T, Ap, very rare  
189. *E. stricta* D. Wolff Ex J. F. Lehm. – Shl, T, Ap, very rare  
190. *Odontites serotina* (Lam.) Rchb. s. str. – Shl, T, Ap, rare  
191. *O. verna* (Bellardi) Dumort. – Shl, T, Ar, rare  
192. *Rhinanthus serotinus* (Schönh.) Oborný – Shl, T, Ar, rather frequent

*Lamiaceae*

193. *Ajuga reptans* L. – Per, H, Ap, very rare  
194. *A. genevensis* L. – Per, H, Ap, DD, very rare  
195. *Nepeta cataria* L. – Per, H, Ar, very rare  
196. *Glechoma hederacea* L. – Per, H, Ap, very rare  
197. *Prunella vulgaris* L. – Per, H, Ap, very rare  
198. *Galeopsis ladanum* L. – Shl, T, Ar, rare  
199. *G. angustifolia* (Ehrh.) Hoffm. – Shl, T, Ap, DD, very rare  
200. *G. tetrahit* L. – Shl, T, Ap, frequent  
201. *G. speciosa* Mill. – Shl, T, Ap, very rare  
202. *Lamium album* L. – Per, H, Ar, very rare  
203. *L. amplexicaule* L. – Shl, T, Ar, frequent  
204. *Leonurus cardiaca* L. – Per, H, Ar, rare  
205. *Ballota nigra* L. subsp. *nigra* – Per, H, Ar, rare  
\*206. *Melissa officinalis* L. – Per, H, Er, DD, very rare  
207. *Clinopodium vulgare* L. – Per, H, Ap, very rare  
\*208. *Origanum vulgare* L. – Per, H, Ap, very rare

209. *Thymus pulegioides* L. – Per, C, Ap, very rare  
\*210. *Th. serpyllum* L. Emend. Fr. – Per, C, Ap, very rare  
211. *Mentha longifolia* (L.) L. – Per, H, Ap, very rare  
\*212. *M. × citrata* Ehrh. subsp. *citrata* – Per, H, Er, very rare  
213. *M. aquatica* L. – Per, H, Ap, very rare  
214. *M. arvensis* L. – Per, G, Ap, frequent  
215. *Elsholtzia ciliata* (Thunb.) Hyl. – Shl, T, Ep, DD, rare

*Plantaginaceae*

216. *Plantago major* L. s. str. – Per, H, Ap, frequent  
217. *P. intermedia* Gilib. – Per, H, Ap, VU, rare  
218. *P. media* L. – Per, H, Ap, very rare  
219. *P. lanceolata* L. – Per, H, Ap, rather frequent  
220. *P. arenaria* Waldst. & Kit. – Shl, T, Ap, very rare

*Gentianaceae*

221. *Centaureum pulchellum* (Sw.) Druce – Shl, T, Ap, DD, very rare

*Asclepiadaceae*

222. *Vincetoxicum hirsutinaria* Medik. – Per, H, Ap, DD, very rare

*Rubiaceae*

223. *Galium verum* L. s. str. – Per, H, Ap, very rare  
224. *G. mollugo* L. s. str. – Per, H, Ap, very rare  
225. *G. aparine* L. – Shl, T, Ap, frequent

*Caprifoliaceae*

226. *Sambucus ebulus* L. – Per, H, Ap, very rare  
\*227. *S. nigra* L. – Per, N, Ap, very rare

*Dipsacaceae*

228. *Knautia arvensis* (L.) J. M. Coult. – Per, H, Ap, rather frequent

*Cucurbitaceae*

229. *Cucurbita pepo* L. – Shl, T, Er, very rare  
230. *Cucumis sativus* L. – Shl, T, Er, very rare

*Campanulaceae*

231. *Jasione montana* L. – Shl, H, Ap, very rare  
232. *Campanula glomerata* L. – Per, H, Ap, very rare

## Asteraceae

233. *Solidago virgaurea* L. s. str. – Per, H, Ap, very rare  
234. *S. canadensis* L. – Per, H, He, very rare  
235. *S. gigantea* Aiton – Per, H, He, very rare  
236. *Bellis perennis* L. – Per, H, Ap, very rare  
237. *Conyza canadensis* (L.) Cornquist – Shl, T, Ep, common  
238. *Gnaphalium uliginosum* L. – Shl, T, Ap, frequent  
239. *G. sylvaticum* L. – Per, H, Ap, very rare  
\*240. *Helichrysum arenarium* (L.) Moench – Per, H, Ap, VU, very rare  
241. *Inula britannica* L. – Per, H, Ap, very rare  
242. *Xanthium strumarium* L. – Shl, T, Ep, very rare  
243. *Helianthus annuus* L. – Shl, T, Er, very rare  
244. *H. tuberosus* L. – Per, G, He, very rare  
245. *Bidens tripartita* L. – Shl, T, Ap, frequent  
246. *Galinsoga parviflora* Cav. – Shl, T, Ep, frequent  
247. *G. ciliata* (Raf.) S. F. Blake – Shl, T, Ep, rather frequent  
248. *Anthemis tinctoria* L. – Shl, H, Ap, VU, very rare  
249. *A. arvensis* L. – Shl, T, Ar, common  
250. *A. cotula* L. – Shl, T, Ar, Rare  
\*251. *Achillea millefolium* L. s. str. – Per, H, Ap, common  
\*252. *Chamomilla recutita* (L.) Rauschert – Shl, T, Ar, rather frequent  
253. *Ch. suaveolens* (Pursh) Rydb. – Shl, T, Ep, rather frequent  
254. *Leucanthemum vulgare* Lam. s. str. – Per, H, Ap, rare  
255. *Tanacetum vulgare* Lam. – Per, H, Ap, rare  
\*256. *Artemisia absinthium* L. – Per, Ch, Ap, very rare  
257. *A. vulgaris* L. – Per, H, Ap, frequent  
258. *A. scoparia* Waldst. & Kit. – Shl, T, Ap, very rare  
259. *A. campestris* L. subsp. *campestris* – Per, Ch, Ap, rare  
\*260. *Tussilago farfara* L. – Per, G, Ap, rare  
261. *Petasites hybridus* (L.) P. Gaertn., B. Mey. & Scherb. – Per, G, Ap, DD, very rare  
262. *Senecio vulgaris* L. – Shl, T, Ar, rare  
263. *S. jacobaea* L. – Per, H, Ap, – very rare  
264. *Calendula officinalis* L. – Shl, T, Er, very rare  
265. *Echinops sphaerocephalus* L. – Per, H, Ep, DD, very rare  
266. *Arctium tomentosum* Mill. – Shl, H, Ap, very rare  
267. *A. lappa* L. – Shl, H, Ap, very rare  
268. *A. minus* (Hill) Bernh. – Shl, H, Ap, very rare  
269. *Cirsium oleraceum* (L.) Scop. – Per, H, Ap, rare  
270. *C. arvense* (L.) Scop. – Per, G, Ap, common  
271. *Onopordum acanthium* L. – Shl, H, Ar, DD, very rare  
272. *Centaurea cyanus* L. – Shl, T, Ar, VU, frequent

273. *C. jacea* L. – Per, H, Ap, very rare  
274. *Cichorium intybus* L. – Per, H, Ar, rare  
275. *Lapsana communis* L. – Shl, T, Ap, very rare  
276. *Tragopogon pratensis* L. s. str. – Shl, H, Ap, very rare  
\*277. *Taraxacum officinale* F. H. Wigg. – Per, H, Ap, common  
278. *Sonchus oleraceus* L. – Shl, T, Ar, rather frequent  
279. *S. arvensis* L. subsp. *arvensis* – Per, G, Ap, common  
280. *Lactuca serriola* L. – Shl, H, Ar, very rare  
281. *L. sativa* L. – Shl, T, Er, very rare  
282. *Hieracium pilosella* L. – Per, H, Ap, rare

#### Liliaceae

283. *Allium cepa* L. – Per, G, Er, very rare  
284. *A. porrum* L. – Per, G, Er, very rare  
285. *A. schoenoprasum* L. – Per, G, Er, very rare  
286. *A. sativum* L. – Per, G, Er, very rare  
287. *A. oleraceum* L. – Per, G, Ap, VU, very rare  
288. *Gagea pratensis* (Pers.) Dumort. – Per, G, Ap, VU, rare  
289. *G. arvensis* (Pers.) Dumort. – Per, G, Ar, very rare  
290. *Asparagus officinalis* L. – Per, G, Ap, DD, very rare

#### Juncaceae

291. *Juncus effusus* L. – Per, H, Ap, very rare  
292. *J. conglomeratus* L. Emend. Leers. – Per, H, Ap, very rare

#### Poaceae

293. *Anthoxanthum odoratum* L. s. str. – Per, H, Ap, very rare  
294. *Avena sativa* L. – Shl, T, Er, very rare  
295. *Phragmites australis* (Cav.) Trin. Ex Steud. – Per, G, Ap, very rare  
296. *Dactylis glomerata* L. subsp. *glomerata* – Per, H, Ap, very rare  
\*297. *Elymus repens* (L.) Gould – Per, G, Ap, common  
\*298. *Triticum aestivum* L. – Shl, T, Er, very rare  
299. *Hordeum vulgare* L. – Shl, T, Er, very rare  
300. *Zea mays* L. – Shl, T, Er, very rare

### 3.2. General characterization of the medical segetal flora

The medical segetal flora of Central Poland is rich. It comprises 300 taxa, which constitutes 51.1% of the total segetal flora of this part of Poland (WARCHOLIŃSKA 2004). They belong to 44 families. The following families are richest in medical plants: Compositae (50 taxa), Labiatae (23 taxa), Cru-

ciferae (21 taxa), Polygonaceae (19 taxa), Umbelliferae (18 taxa), Scrophulariaceae (18 taxa). They comprise a total of 149 (49.7%) taxa of the investigated flora. The most frequently recorded species were those of the very rare (178 taxa – 59.3%), and rare (44 taxa – 14.7%) groups. The other groups comprised: rather frequent – 30 taxa, frequent – 29 taxa, common – 19 taxa. Perennial plants dominated (153 taxa – 51.0%). In terms of life forms hemicryptophytes (134 taxa – 44.7%) and therophytes (122 taxa – 40.7%) plants dominated. The geophytes group comprised 28 (9.3%) taxa, while that of herbaceous chamaephytes 10 (3.3%) taxa. Only 6 taxa belonged to the other groups (megaphanerophytes – 1 taxon, nanophanerophytes – 3 taxa, and woody chamaephytes – 2 taxa). Native plants (apophytes) constituted the dominant group (184 taxa – 61.3%) among the geographic-historical plant groups. Archeophytes plants frequent (65 taxa – 21.7%), and ergasiophytes plants rather frequent (36 taxa – 12.0%) recorded. Epiphytes plants (12 taxa) were rare and hemiepiphytes plants very rare (3 taxa) recorded.

Among the medical segetal plants of Central Poland there are 41 taxa (13.7%) that are endangered (Table 1). The most abundant group (21 taxa) constitute those from the data deficient group (DD), while an abundant one (13 taxa) those of the vulnerable group (VU). Plants of the CR – critically endangered (3 taxa), EN – endangered (3 taxa) and LR – lower risk (1 taxon) groups are rare and very rare observed.

#### 4. DISCUSSION

The medical segetal flora of Central Poland is rich. At present it comprises 300 taxa, which constitute 51.1% of the total segetal flora of this part of Poland (WARCHOLIŃSKA 2004). The Compositae family is the richest in the species of medical plants (50 taxa). Plant species used in folk medicine are the most abundantly represented. To plant species used in folk medicine, and commonly occurring in the area of Central Poland belong, among others: *Polygonum lapathifolium*, *Fallopia convolvulus*, *Chenopodium album*, *Stellaria media*, *Raphanus raphanistrum*, *Convolvulus arvensis*, *Myosotis arvensis*, *Galeopsis tetrahit*, *Mentha arvensis*, *Plantago major*, *Galinsoga parviflora*, *Anthemis arvensis*, *Achillea millefolium*, *Sonchus arvensis*, *Elymus repens*. The medical flora of the discussed region comprises only 38 pharmacopeial plants. This group of plants includes also frequent and common plants, e.g. *Equisetum arvense*, *Polygonum hydropiper*, *Taraxacum officinale* and rarely noted, such as: *Herniaria hirsuta*, *Hyoscyamus niger*, *Melissa officinalis*, *Origanum vulgare*. In the group of medical plants of the discussed region, there are 41 (13.7%) threatened plants, e.g. *Adonis aestivalis*, *Camelina sativa*, *Hypericum humifusum*,

*Bupleurum rotundifolium*, *Anagallis foemina*, *Linaria vulgaris*, *Galeopsis angustifolia*, *Centaureum pulchellum*, *Gagea pratensis* (Table 1).

The most important changes in the flora of medical plants, expressed, among others, in decreases in the number of plants and number of sites, result first of all from changes in abiotic environmental conditions and transformations of agrophytocoenoses.

The threatened medical plants of segetal plants should be covered by legal protection.

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DISTRIBUTION OF TRICHOMED AND POLYTRICHOMED SPECIES  
EPHEMERAL PLANTS OF LACK

Abstract: The article presents the results of the research on the distribution of ephemeral and polytrichomed species of vascular plants in the Lack region. The research was carried out in the Lack region, which is a part of the Central Poland. The results of the research are presented in the form of a list of species and their distribution in the Lack region. The results of the research are presented in the form of a list of species and their distribution in the Lack region.

1. INTRODUCTION

The Lack region is the eastern part of Poland, in the Province of Lack, in the Central Poland. It is an important agricultural area, which is characterized by a high level of agricultural production. The Lack region is a part of the Central Poland, which is a part of the Central Poland. The Lack region is a part of the Central Poland, which is a part of the Central Poland.

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