

WEED FLORA IN BLACE REGION

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In this article we investigated weed flora of Blace region. We performed research during four years (1996-2000). Among 288 recorded taxa (50 plant families), the most frequent representatives belong to *Asteraceae* (13.88%), *Lamiaceae* (9.37%), *Poaceae* (9.03%), *Fabaceae* (9.03%).

Hemicryptophytes dominate among life forms of investigated plants (44.8%). Analysed plants belong to 29 floristic elements, and the most frequent among them are: Eurasian (19.80%), submiddleeuropean (17.71%) and subeurassian (12.85%).

Considering adaptations to moisture, light, temperature, soil acidity and richness of soil in nitrogen, most of investigated plants belong to groups of submesophytes (42.36%), hemisciophytes and heliophytes (51.74%), mesothermophytes (60.76%), neutrophylous plants (61.81%) and mesotrophic (44.44%) species, respectively.

Key words: Blace, ecological plant group, floral elements, life forms, weeds

INTRODUCTION

Blace region belongs to the northern part of South Serbia. Basic soil types in investigated area are: eutric cambisol, vertisol and terra rossa (ŽIVKOVIĆ, 1991). Numerous hills and mountains specify orography of investigated region. Climate is moderately continental climate, slightly modified by influence of Kopaonik and Jastrebac mountains. Mean values for temperature and rainfall for 25 years period (1965-1990) are 9.6°C, and 673.9 mm, respectively. In a biogeographic sense, investigated area belongs to Central European region and Moesian province (STEVANOVIĆ, 1995).

MATERIAL AND METHODS

Floristic investigations of weed flora in Blace surroundings were performed seasonally, in the period from 1996 to 2000. Research was included following localities: Javorac, Džurla, Čučale, Konđelova, in gorge "Jankova klisura", and coasts along Žunjska and Blatašnička rivers. Plant species were collected from different habitats (pastures, meadows, forests, along the streams and roadsides, swamps, cultivable soil, inhabited places). Weed plant species were determined according to several literature sources (JOSIFOVIĆ, 1970-1980; JAVORKA and CSAPODY, 1975; KOJIĆ, 1986; ŠARIĆ, 1989, 1990). All plants were assigned to ecological groups (in relation to humidity, light, temperature, soil acidity and nitrogen amount), according to KOJIĆ *et al.*, 1996. Classification of weed species into life forms was performed according to DIKLIĆ (1984), and floristic elements were determined according to GAJIĆ (1984).

RESULTS AND DISCUSSION

Weed species, their life forms, floral elements as well as ecological indices for humidity, light, temperature, acidity and nitrogen amount in soil are shown in table 1.

Table 1. - Weed flora in Blace region

species	areal-type	l f	m	l	t	a	n
<i>Achillea millefolium</i>	Evr.	h	2	4	3	3	3
<i>Adonis flammea</i>	Subpont.-subm.	t	2	3	4	5	2
<i>Adonis vernalis</i>	Pont.-ca.	h	1	4	5	4	2
<i>Agrimonia eupatoria</i>	Evr.	h	2	4	3	4	3
<i>Agropyrum repens</i>	Evr.	g	3	4	3	4	4
<i>Agrostis alba</i>	Subevr.	h	4	4	3	3	3
<i>Aira caryophyllea</i>	Subm.	t	1	5	4	2	1
<i>Ajuga genevensis</i>	Evr.	h	2	3	3	3	2
<i>Alisma plantago-aquatica</i>	Kosm.	g	6	4	3	3	3
<i>Alliaria officinalis</i>	Subse.	h	3	3	3	3	4
<i>Allium ursinum</i>	Se.	g	3	2	3	4	4

<i>Alopecurus pratensis</i>	Evr.	h	3	3	3	3	4
<i>Althaea officinalis</i>	Subpont.-ca.	h	3	4	5	3	3
<i>Althaea pallida</i>	Pont.-pan.	th	2	4	4	4	2
<i>Alyssum montanum</i>	Subpont.-subm.	zc	1	4	4	4	1
<i>Alyssum murale</i>	Pont.	h	3	4	4	3	2
<i>Amaranthus retroflexus</i>	Adv.	t	2	4	4	3	4
<i>Anagallis arvensis</i>	Kosm.	t	3	3	3	3	3
<i>Anchusa officinalis</i>	Subse.	h	2	4	4	3	3
<i>Andropogon ischaemum</i>	Pont.ca.-subm.	h	2	5	5	3	2
<i>Anemone nemorosa</i>	Cirk.	g	3	2	3	3	3
<i>Angelica sylvestris</i>	Evr.	h	4	3	3	3	3
<i>Anthemis cotula</i>	Kosm.	t	2	4	4	3	3
<i>Anthemis tinctoria</i>	Subpont.-subca.	h	1	4	4	3	2
<i>Anthoxanthum odoratum</i>	Subevr.	h	3	4	3	3	2
<i>Arctium lappa</i>	Evr.	h	3		4	3	5
<i>Arctium tomentosum</i>	Evr.	h	2	4	3	4	5
<i>Arenaria serpyllifolia</i>	Evr.	th	2	4	4	3	3
<i>Aristolochia clematitis</i>	Subm.	g	3	3	4	4	4
<i>Arrhenatherum elatius</i>	Subse.	h	3	3	3	3	4
<i>Artemisia annua</i>	Subj.sib.	t	3	4	4	3	4
<i>Artemisia vulgaris</i>	Cirk.	h	3	4	3	3	4
<i>Asplenium adiantum-nigrum</i>	Subse.	h	2	3	4	1	2
<i>Asplenium trichomanes</i>	Kosm.	h	3	3	3	3	2
<i>Astragalus glycyphyllos</i>	Subpont.-ca.	h	2	3	4	3	2
<i>Athyrium felix-femina</i>	Kosm.	h	4	2	3	3	3
<i>Atropa bella-dona</i>	Subse.	h	3	3	3	4	4
<i>Avena fatua</i>	Subevr.	t	2	3	3	4	3
<i>Ballota nigra</i>	Subpont.	g	3	4	4	3	4
<i>Barbarea vulgaris</i>	Subevr.	th	3	4	3	3	3
<i>Bellis perennis</i>	Subse.	h	3	4	3	3	3
<i>Berteroa incana</i>	Subpont.-ca	th	2	4	3	3	2
<i>Bidens tripartitus</i>	Subse.	t	4	4	3	3	4
<i>Brassica nigra</i>	Is.subm.	t	4	4	5	3	4
<i>Bromus erectus</i>	Subm.	h	2	4	3	4	2
<i>Bromus mollis</i>	Subm.	t	3	3	3	3	3
<i>Bromus racemosus</i>	Se.	t	4	3	3	3	3
<i>Bromus sterilis</i>	Subevr.	t	2	3	3	3	4
<i>Calamintha acinos</i>	Subpont.	h	2	4	3	4	2
<i>Calamintha vulgaris</i>	Cirk.	h	3	4	3	4	2
<i>Calepina iredularis</i>	Subm.	th	2	4	5	3	3
<i>Calystegia sepium</i>	Evr.	g	4	3	3	4	4
<i>Campanula hononiensis</i>	Subj.sib.	h	2	3	4	4	2
<i>Campanula glomerata</i>	Evr.	h	2	4	3	4	3
<i>Campanula patula</i>	Subse.	th	3	4	3	3	2
<i>Campanula rapunculoides</i>	Subse.	g	2	3	3	4	3
<i>Campanula rapunculus</i>	Subevr.	h	2	3	4	3	2
<i>Campanula trachelium</i>	Subevr.	h	3	2	3	3	3
<i>Capsella bursa-pastoris</i>	Kosm.	th	2	4	3	3	3
<i>Carduus acanthoides</i>	Subse.	h	2	4	4	3	4
<i>Carex caryophyllea</i>	Evr.	h	2	4	3	3	2
<i>Carex vulpina</i>	Subevr.	h	3	4	4	3	2
<i>Carlina acaulis</i>	Se.	h	2	4	3	3	2
<i>Carlina vulgaris</i>	Evr.	h	2	3	4	4	2
<i>Centaurea cyanis</i>	Subm.	th	2	4	4	3	3
<i>Centaurea jacea</i>	Subevr.	h	3	4	3	3	3
<i>Centaurea scabiosa</i>	Subpont.-ca.	h	2	4	3	4	2

<i>Cerintho minor</i>	Subpont.	th	2	4	5	4	3
<i>Chamaenerion angustifolium</i>	Cirk.	h	3	4	3	2	4
<i>Chelidonium majus</i>	Evr.	h	3	3	3	3	4
<i>Chenopodium album</i>	Kosm.	t	2	3	3	3	4
<i>Chenopodium hybridum</i>	Subcirk.	t	3	4	3	4	4
<i>Cichorium intybus</i>	Subevr.	h	2	5	4	4	3
<i>Cirsium arvense</i>	Subevr.	g	3	4	4	3	4
<i>Clematis vitalba</i>	Subatl.-subm.	p	3	3	3	4	3
<i>Colchicum autumnale</i>	Se.	g	3	3	3	3	3
<i>Conium maculatum</i>	Subevr.	th	4	4	4	3	3
<i>Consolida regalis</i>	Subse.	t	2	3	4	4	3
<i>Convolvulus arvensis</i>	Kosm.	g	2	4	3	4	3
<i>Coronilla varia</i>	Subpont.	h	2	3	3	4	2
<i>Crataegus monogyna</i>	Subse.	p	2	4	3	3	4
<i>Crepis setosa</i>	Subm.	t	2	4	5	3	3
<i>Cynanchum vincetoxicum</i>	Pont.-ca.	h	2	3	3	4	2
<i>Cynosurus echinatus</i>	Subatl.-subm.	t	1	5	5	3	3
<i>Dactylis glomerata</i>	Subevr.	h	4	3	3	3	3
<i>Danna cornubiensis</i>	Subm.	h	3	4	5	2	2
<i>Datura stramonium</i>	Kosm.	t	3	4	4	3	4
<i>Daucus carota</i>	Subevr.	th	2	4	3	3	2
<i>Digitalis ambigua</i>	Subse.	h	2	3	3	3	2
<i>Digitalis ferruginea</i>	Is.-subm.	g	2	4	4	4	2
<i>Dipsacus laciniatus</i>	Pont.-ca.-subm.	th	3	4	5	4	4
<i>Dryopteris filix-mas</i>	Kosm.	h	3	2	3	3	3
<i>Echium vulgare</i>	Subse.	h	1	5	4	3	3
<i>Epilobium hirsutum</i>	Subevr.	h	4	3	4	4	4
<i>Epilobium montanum</i>	Evr.	h	3	2	3	3	3
<i>Epilobium parviflorum</i>	Subevr.	h	4	4	3	3	3
<i>Equisetum arvense</i>	Cirk.	g	3	3	3	3	3
<i>Equisetum telmateia</i>	Cirk.	g	4	3	3	3	2
<i>Erigeron acer</i>	Cirk.	h	2	4	3	4	2
<i>Erigeron canadensis</i>	Adv.	th	2	4	4	3	3
<i>Erodium cicutarium</i>	Evr.	th	2	4	3	3	3
<i>Eryngium campestre</i>	Subpont.-subm.	h	1	4	4	4	3
<i>Eupatorium cannabinum</i>	Subse.	h	4	3	3	4	3
<i>Euphorbia amygdaloides</i>	Subatl.-subm.	zc	3	2	3	4	3
<i>Euphorbia cyparissias</i>	Evr.	h	2	4	3	3	2
<i>Euphorbia virgata</i>	Subpont.	h	3	3	3	3	2
<i>Euphrasia stricta</i>	Subse.	t	2	3	3	3	2
<i>Festuca pratensis</i>	Evr.	h	3	4	3	3	3
<i>Ficaria verna</i>	Subse.	g	3	3	3	3	4
<i>Filago arvensis</i>	Subse.	t	1	4	4	2	2
<i>Filago germanica</i>	Subm.	t	1	4	5	2	2
<i>Filipendula hexapetala</i>	Evr.	h	2	4	4	3	2
<i>Foeniculum vulgare</i>	Adv.	th	4	4	4	3	3
<i>Fragaria vesca</i>	Evr.	h	3	3	3	3	3
<i>Fumaria officinalis</i>	Subevr.	t	2	3	3	3	4
<i>Galega officinalis</i>	Subm.	h	4	3	4	3	3
<i>Galeopsis ladanum</i>	Evr.	th	2	4	2	4	2
<i>Galeopsis speciosa</i>	Subse.	t	3	3	2	3	4
<i>Galeopsis tetrahit</i>	Evr.	t	2	3	2	2	4
<i>Galinsoga parviflora</i>	Adv.	t	2	4	4	3	3
<i>Galium cruciata</i>	Subse.	g	3	4	3	3	3
<i>Galium mollugo</i>	Subse.	h	3	3	3	3	3
<i>Galium pseudoaristatum</i>	Submez.-subpan.	h	2	2	3	3	3

<i>Galium silvaticum</i>	Se.	g	2	2	3	3	3
<i>Galium verum</i>	Evr.	g	2	4	3	4	2
<i>Geranium dissectum</i>	Evr.	t	2	4	4	3	3
<i>Geranium robertianum</i>	Subcirk.	th	3	2	3	3	4
<i>Geranium sanguineum</i>	Subpont.	h	2	3	3	4	2
<i>Geum urbanum</i>	Evr.	h	3	2	3	3	4
<i>Glechoma hederacea</i>	Evr.	h	3	3	3	3	3
<i>Gnaphalium uliginosum</i>	Evr.	t	4	4	3	3	3
<i>Gypsophila muralis</i>	Evr.	t	3	4	3	2	1
<i>Hedera helix</i>	Subatl.-subm.	pl	3	2	4	3	3
<i>Helleborus odoratus</i>	Srbalk.	h	3	3	4	1	2
<i>Heracleum sphondylium</i>	Evr.	h	3	3	2	3	4
<i>Holcus lanatus</i>	Evr.	h	3	4	3	3	3
<i>Hordeum murinum</i>	Subm.	t	2	4	4	3	4
<i>Humulus lupulus</i>	Subj.sib.	h	4	3	3	3	4
<i>Hypericum perforatum</i>	Subevr.	h	2	3	3	3	3
<i>Inula britannica</i>	Subse.	h	4	3	4	4	3
<i>Inula helenium</i>	Subj.sib.	h	3	3	4	3	3
<i>Juncus articulatus</i>	Cirk.	h	2	4	3	4	3
<i>Juncus conglomeratus</i>	Cirk.	h	3	4	3	4	2
<i>Juncus effusus</i>	Kosm.	h	4	3	3	2	3
<i>Kickxia elatine</i>	Subatl.-subm.	t	2	4	5	3	3
<i>Lactuca serriola</i>	Subpont.-subca.-subm.	th	3	5	4	2	3
<i>Lamium purpureum</i>	Subse.	th	3	4	3	4	4
<i>Lathyrus aphaca</i>	Pont.-subm.	t	3	3	4	2	3
<i>Lathyrus latifolius</i>	Sumb.	g	2	4	5	4	2
<i>Lathyrus niger</i>	Subpont.	g	2	2	3	3	2
<i>Lathyrus nissolia</i>	Subatl.-subm.	t	2	3	5	2	3
<i>Lathyrus pratensis</i>	Subevr.	g	3	3	3	3	3
<i>Lathyrus sylvestris</i>	Subse.	g	3	3	4	3	2
<i>Lathyrus tuberosus</i>	Subj.sib.	g	2	4	4	4	2
<i>Lavatera thuringiaca</i>	Pont.-ca.	h	3	3	3	3	2
<i>Leonurus cardiaca</i>	Evr.	h	2	4	4	4	5
<i>Lepidium campestre</i>	Subse.	th	2	4	3	4	3
<i>Lepidium draba</i>	Pont.-ca.-subm.	h	2	3	4	4	3
<i>Linaria vulgaris</i>	Subse.	h	3	4	3	3	3
<i>Linum austriacum</i>	Subpont.-subm.	h	1	4	4	4	2
<i>Lithospermum purpureo-coeruleum</i>	Pont.-subm.	zc	2	3	4	4	2
<i>Lolium perenne</i>	Subse.	h	3	4	3	3	4
<i>Lotus corniculatus</i>	Subevr.	h	2	4	3	4	3
<i>Lychnis flos-cuculi</i>	Subj.sib.	h	3	4	3	4	3
<i>Lycopus exaltatus</i>	Subj.sib.	h	4	3	3	3	3
<i>Lysimachia nummularia</i>	Subse.	zc	4	2	3	3	3
<i>Lythrum salicaria</i>	Pont.-ca.-subm.	h	4	3	3	3	3
<i>Malva neglecta</i>	Evr.	th	3	4	3	3	5
<i>Malva sylvestris</i>	Evr.	th	2	4	4	3	4
<i>Matricaria inodora</i>	Evr.	th	3	3	3	3	3
<i>Medicago lupulina</i>	Subevr.	th	2	3	4	4	3
<i>Melampyrum barbaticum</i>	Pan.	t	3	4	4	4	3
<i>Melampyrum pratense</i>	Subbor.-evrop.-z.sib.	t	3	3	3	1	2
<i>Melica uniflora</i>	Se.	g	3	2	3	3	2
<i>Melilotus albus</i>	Subse.	th	2	4	3	3	2
<i>Melilotus officinalis</i>	Evr.	th	2	4	3	4	3
<i>Melissa officinalis</i>	Subm.	g	3	3	4	4	3
<i>Mentha longifolia</i>	Subse.	g	4	3	3	4	4
<i>Mentha longifolia</i> spp. <i>minutiflora</i>	Subse.	g	4	3	3	4	4

<i>Mentha longifolia</i> spp. <i>planitiensis</i>	Subse.	g	4	3	3	4	4
<i>Mentha pulegium</i>	Subse.	g	4	3	4	3	3
<i>Myosotis arvensis</i>	Subevr.	th	2	3	2	3	3
<i>Ononis spinosa</i>	Subse.	zc	2	4	5	3	2
<i>Orchis morio</i>	Subse.	g	2	3	3	3	2
<i>Origanum vulgare</i>	Evr.	g	2	3	3	3	2
<i>Ornithogalum pyramidale</i>	Subilir.	g	2	4	4	3	2
<i>Ornithogalum umbellatum</i>	Subse.	g	3	4	4	4	3
<i>Oxalis acetosella</i>	Cirk.	g	3	1	3	3	3
<i>Panicum crus-gali</i>	Kosm.	t	3	3	4	3	4
<i>Papaver rhoeas</i>	Subevr.	th	3	3	3	4	3
<i>Parietaria officinalis</i>	Subm.	h	3	3	4	4	4
<i>Pastinaca sativa</i>	Evr.	th	3	4	3	4	3
<i>Phleum pratense</i>	Subevr.	h	3	3	3	3	3
<i>Phragmites communis</i>	Kosm.	t	5	3	3	3	3
<i>Physalis alkekengi</i>	Subpont.-subca.-subm.	g	3	3	4	4	4
<i>Picris hieracioides</i>	Subpont.-ca.	h	2	4	3	4	3
<i>Pimpinella saxifraga</i>	Subj.sib.	h	3	4	3	3	2
<i>Plantago lanceolata</i>	Evr.	h	3	3	3	3	3
<i>Plantago major</i>	Evr.	h	3	4	3	3	3
<i>Plantago media</i>	Evr.	h	2	4	3	4	2
<i>Poa bulbosa</i>	Subevr.	h	2	4	4	3	2
<i>Poa nemoralis</i>	Cirk.	h	3	2	3	3	2
<i>Poa pratensis</i>	Subcirk.	h	3	3	3	3	3
<i>Polygala vulgaris</i>	Evr.	h	2	4	3	3	1
<i>Polygonum aviculare</i>	Kosm.	t	3	4	3	3	4
<i>Polygonum persicaria</i>	Evr.	t	3	3	3	3	4
<i>Polypodium vulgare</i>	Subcirk.	h	3	3	2	2	2
<i>Prunella laciniata</i>	Pont.-subm.	h	2	4	4	3	2
<i>Prunella vulgaris</i>	Subevr.	h	3	4	3	3	3
<i>Pteridium aquilinum</i>	Kosm.	g	3	3	3	2	2
<i>Pulicaria vulgaris</i>	Subevr.	t	4	4	4	2	4
<i>Pulmonaria officinalis</i>	Subse.	h	3	3	3	4	3
<i>Ranunculus polyanthemus</i>	Subpont.	h	2	3	4	3	2
<i>Ranunculus repens</i>	Evr.	h	4	3	3	3	3
<i>Rhinanthus rumelicus</i>	Subsr.balk.	t	3	4	3	3	2
<i>Rosa canina</i>	Subse.	np	3	3	3	3	2
<i>Rubus caesius</i>	Subj.sib.	np	4	3	4	3	5
<i>Rumex acetosa</i>	Evr.	h	3	4	3	3	3
<i>Rumex acetosella</i>	Subcirk.	h	2	5	3	1	1
<i>Rumex crispus</i>	Evr.	h	3	4	3	3	3
<i>Rumex patientia</i>	Pont.-pan.	h	3	4	5	3	4
<i>Ruscus aculeatus</i>	Subatl.-subm.	np	3	2	5	3	3
<i>Ruscus hypoglossum</i>	Subm.	np	3	4	5	4	3
<i>Salvia pratensis</i>	Subse.	h	2	4	5	2	5
<i>Salvia verticillata</i>	Subpont.-subm.	h	2	4	5	2	5
<i>Sambucus ebulus</i>	Subpont.-subm.	g	3	4	4	4	4
<i>Sanguisorba minor</i>	Subevr.	h	2	4	3	4	2
<i>Saponaria officinalis</i>	Evr.	h	2	3	3	4	3
<i>Scabiosa columbaria</i>	Subse.	h	2	4	3	4	2
<i>Scabiosa ochroleuca</i>	Pont.-ca.	h	1	4	3	4	2
<i>Scrophularia nodosa</i>	Evr.	h	3	2	3	3	3
<i>Scutellaria hastifolia</i>	Subpont.	g	4	3	4	3	3
<i>Senecio vernalis</i>	Subpont.-ca.	th	2	4	4	3	3
<i>Seseli annuum</i>	Pont.ca.	th	1	4	3	4	2
<i>Setaria glauca</i>	Kosm.	t	2	4	4	3	3

<i>Sherardia arvensis</i>	Kosm.	t	2	4	4	4	3
<i>Silene alba</i>	Subevr.	th	2	4	3	3	4
<i>Silene vulgaris</i>	Subevr.	h	2	4	3	3	2
<i>Sinapis arvensis</i>	Subevr.	t	3	4	3	4	3
<i>Sisymbrium officinale</i>	Subevr.	th	2	4	3	3	4
<i>Solanum dulcamara</i>	Subevr.	dc	4	3	3	3	4
<i>Solanum nigrum</i>	Kosm.	t	3	4	3	3	4
<i>Sonchus arvensis</i>	Evr.	h	3	3	3	3	4
<i>Stachys germanica</i>	Pont.-subm.	h	2	4	4	4	3
<i>Stachys officinalis</i>	Subse.	h	3	4	3	3	2
<i>Stachys silvatica</i>	Subse.	g	4	2	3	3	4
<i>Stellaria graminea</i>	Evr.	h	3	3	3	2	3
<i>Stellaria holostea</i>	Subevr.	zc	3	2	4	3	3
<i>Stellaria media</i>	Kosm.	th	3	3	3	3	4
<i>Stenactis annua</i>	Adv.	th	3	4	4	3	3
<i>Symphytum officinale</i>	Subse.	h	4	3	2	3	4
<i>Symphytum tuberosum</i>	Pont.-subm.	g	3	2	3	4	3
<i>Tanacetum vulgare</i>	Evr.	h	3	4	3	3	3
<i>Taraxacum officinale</i>	Evr.	h	3	4	3	3	4
<i>Teucrium chamedrys</i>	Subpont.-subm.	dc	1	4	3	4	1
<i>Thymus serpyllum</i>	Se.	zc	1	4	3	2	1
<i>Torilis anthriscus</i>	Subse.	th	3	3	3	4	4
<i>Tragopogon pratensis</i>	Evr.	h	2	4	3	3	3
<i>Trifolium arvense</i>	Subse.	th	1	4	3	1	1
<i>Trifolium incarnatum</i>	Subatl.subm.	th	2	4	5	3	3
<i>Trifolium media</i>	Subse.	h	2	3	4	3	2
<i>Trifolium montanum</i>	Subpont.	h	2	4	3	4	2
<i>Trifolium patens</i>	Subm.	th	4	4	4	3	2
<i>Trifolium pratense</i>	Subevr.	h	3	3	3	3	3
<i>Trifolium repens</i>	Subevr.	h	3	4	3	3	4
<i>Tussilago farfara</i>	Subevr.	g	3	4	3	4	3
<i>Typha angustifolia</i>	Cirk.	g	5	4	4	3	3
<i>Typha latifolia</i>	Kosm.	g	5	4	4	3	3
<i>Urtica dioica</i>	Evr.	h	3	3	3	3	5
<i>Verbascum blattaria</i>	Evr.	th	2	4	4	4	3
<i>Verbascum phlomoides</i>	Subpont.-subm.	th	2	4	5	4	3
<i>Verbena officinalis</i>	Kosm.	th	2	4	3	3	4
<i>Verbena supina</i>	Subm.	t	4	3	4	3	3
<i>Veronica chamedrys</i>	Subse.	g	3	3	3	3	3
<i>Veronica officinalis</i>	Subbor.-cirk.	zc	3	3	3	4	4
<i>Veronica persica</i>	Adv.	th	3	3	3	4	4
<i>Veronica polita</i>	Subse.	t	2	3	3	4	4
<i>Veronica praecox</i>	Pont.-subm.	t	1	4	4	4	1
<i>Vicia angustifolia</i>	Subse.	th	2	4	4	3	3
<i>Vicia cracca</i>	Evr.	h	3	4	3	3	3
<i>Vicia grandiflora</i>	Pont.-is.subm.	th	2	3	3	3	2
<i>Vicia pannonica</i>	Pont.-ca.	th	2	3	3	3	2
<i>Viola arvensis</i>	Evr.	th	3	3	3	3	3
<i>Viola hirta</i>	Subj.sib.	h	2	3	3	4	1
<i>Viola silvestris</i>	Se.	h	3	2	3	3	3
<i>Viola tricolor</i>	Evr.	th	3	3	3	3	3
<i>Xanthium strumarium</i>	Adv.	t	3	4	5	3	4
<i>Xeranthemum annuum</i>	Pont.-subm.	t	1	4	5	3	2

During floristic investigations, we recorded 288 weed plants. They are divided in 50 families. The most important among them are: *Asteraceae* (13.88%), *Lamiaceae* (9.37%), *Poaceae* (9.03%), *Fabaceae* (9.03%) and *Scrophulariaceae* (5.55%). Considering life forms, most plants belong to hemicryptophytes (44.80%). Percentage of other life forms is much lower (therophytes: 17.01%, thermo-hemicryptophytes: 17.01% and geophytes: 15.27%).

Analysed plants belong to 29 floristic elements. The most dominant among them are Eurasian (19.80%), submiddleeuropean (17.71%), subeurasian (12.85%), cosmopolitan (7.30%) and submediterranean (5.90%).

Weed species have broad ecological tolerance with respect to most ecological factors (KOJIĆ and ŠINŽAR, 1985). However, beside the eurivalent species (*Convolvulus arvensis*, *Cirsium arvense*, *Poligonum aviculare*), we also recorded segetal weeds (*Adonis flammea*, *Centaurea cyanis*, *Papaver rhoeas*), whose ecological tolerance is (according to STEVANOVIĆ, 2001) narrow.

Considering adaptations to habitat humidity, analysed plants can be involved in 6 ecological groups. The most important among them are submesophytes (42.36%), subxerophytes (37.85%) and mesophytes (12.15%). Xerophytes (6.25%), hygro-helophytes (1.04%) and amphibian and floating plants (0.35%) are also recorded. Most plants (51.74%) are adapted to half-shade and open habitat (transitory group between semisciophytes and helophytes). Plants that belong to true semisciophytes are also well represented (37.85%). Percentage of other groups is much lower.

Considering adaptations to temperature, most species belong to mesothermes (60.76%) and transitory group between mesotherms and thermophilous (28.47%). With respect to soil acidity, most plants are neutrophylous (61.81%) or slightly basophilous (29.86%).

Considering adaptations to nitrogen richness in soil, mesotrophic species (44.44%) dominate among investigated weeds.

CONCLUSION

In this article we investigated weed flora in Blace region. Analysing life-forms spectrum, distribution-types spectrum and adaptations of species to abiotic environment, we may conclude that ecological requirements of investigated weeds are extremely diverse. This explains the great weed diversity (288 species) in this region, since heterogeneous habitats enable existence of many ecologically different taxa.

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KOROVSKA FLORA NA PODRUČJU BLACASnežana PERIŠIĆ¹, Branko KARADŽIĆ¹ i Marina MAČUKANOVIĆ-JOCIĆ²¹Institut za biološka istraživanja "Siniša Stanković", Beograd²Fakultet veterinarske medicine, Beograd**I z v o d**

Blace se nalazi u severnom delu južne Srbije, u Topličkoj kotlini. Reljef istraživnog područja je brdsko-planinskog karaktera. Klima je umerenokontinentalna i pod uticajem je blizine Kopaonika i Jastrepca. Osnovni tipovi zemljišta su: gajnjača, smonica i crvenica. Floristička istraživanja su vršena u periodu od 1996. do 2000. Zabeleženo je 288 korovskih biljaka, svrstanih u 50 familija, od kojih su najzastupljenije *Asteraceae* (13.88%), *Lamiaceae* (9.37%), *Poaceae* (9.03%), *Fabaceae* (9.03%). Konstantovano je 9 različitih vrsta životnih formi, među kojima dominiraju hemikriptofite (44.8%), terofite (17.01%) i terohemikriptofite (17.01%). Spektar areal tipova čini 29 flornih elemenata, a najbrojniji su evroazijski (19.8%), subsrednjevropski (17.1%) i subevroazijski (12.85%).

U odnosu na vlažnost staništa najzastupljenija ekološka grupa korovskih biljaka su submezofite (42.36%). Prelazna grupa između polusciofita i heliofita (51.74%) je najbolje adaptirana na svetlost kao ekološki faktor. U odnosu na temperature, dominiraju mezotermne biljne vrste (60.76%). Sastav zemljišta najviše pogoduje neutrofilnoj ekološkoj grupi biljaka (61.81%), a količina azota u zemljištu mezotrofnim biljnim vrstama (44.44%).

Prema dobijenim rezultatima, korovska flora okoline Blaca je veoma raznovrsna. Na florističku raznovrsnost najviše utiče kompleks ekoloških faktora: konfiguracija terena, neposredna blizina Kopaonika i Jastrepca, antropogeni faktor i prisustvo obradivih površina.

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