

a limited significance and their variability within populations can be much higher than differences between populations.

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Diversity of diatom on mine pit lake Vrtlište (Kakanj, Bosnia and Herzegovina)

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The area of Bosnia and Herzegovina is characterized by a high diversity of habitats which are incorporated into a variety of landscapes. In addition to the natural ecosystems, there is also a diversity of anthropogenic ecosystems in Bosnia and Herzegovina. The group of these landscapes includes abandoned surface mine areas and landfills of barren soil material that are located in the vicinity of mines and thermal power plants. At the abandoned open-pit mines, anthropogenic swamp ecosystems are in process of establishment. The formation of anthropogenic wetlands is a process opposite to the trend of extinction of wetlands in the world. Research for this study was conducted at mine pit Lake Vrtlište near Kakanj. Fieldwork was carried out during the summer (July) and autumn (October) seasons in 2013 and 2014. Physical and chemical parameters of water are also analyzed. A total of 126 taxa, classified in 46 genera, were identified. The most represent genera were: *Pinnularia* (12), *Nitzschia* (11), *Navicula* (8), *Cymbella* (7), *Gomphonema* (7), *Eunotia* (6) and *Gyrosigma* (5). The most significant species of the investigated mine pit lake are: *Amphipleura pellucida* Kützing, *Brachysira neoexillis* Lange-Bertalot, *Denticula kützingii* Grunow, *Cymbella cistula* (Ehrenberg) Kirchner, *Cymbopleura amphicephala* Krammer, *Encyonopsis microcephala* (Grunow) Krammer, *Eunotia bilunaris* (Ehrenberg) Schaarschmidt, *Eunotia minor* (Kützing) Grunow in Van Heurck, *Navicula radiosa* Kützing, *Pinnularia borealis* Ehrenberg, *Rhopalodia gibba* (Ehr.) O.Müller, *Sellaphora pupula* (Kützing) Mereschowsky etc. Based on conducted research of mine pit lake we discussed about the importance of anthropogenic water bodies. They currently represent new habitat for establishment and protection of wetland biodiversity. Using different restoration activities which involve removing of heavy metals and neutralization by biological features, these water bodies could be used as a medium for constructed wetlands.

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Pollen morphology of *Crocus reticulatus* Steven ex Adams (Iridaceae)

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Pollen of wild saffron (*Crocus reticulatus* Steven ex Adams) was analyzed using scanning electron microscope in order to contribute to palynomorphological and taxonomic research of apiflora of Serbia. *Crocus reticulatus* is a herbaceous perennial plant, growing from 5 to 15 (18) cm in height, with usually solitary pale-lilac to whitish flowers with 3 wide stripes on the outer surface of the tepals. This species belongs to the Pontian-Mediterranean floral element, inhabiting dry grassy or rocky slopes, steppe meadows, sandstone, and bright forests. In Serbia, it is usually found growing in the vicinity of Belgrade, on Vršac Hill and Mt. Fruška Gora, near Kladovo and Kostolac and also in Deliblato Sands where material for this analysis was collected from. The following morphological characteristics of pollen were examined:

polarity, shape, size (pollen diameter), apertures, ornamentation and symmetry. Observations and measurements were performed on a sample of 25 pollen grains for each of the analyzed morphological characters. Pollen grains of *C. reticulatus* are radially symmetrical, spheroidal in shape and large-sized. The average pollen diameter is $66.71 \pm 1.57 \mu\text{m}$. The exine has extensive or spiral shallow furrows (spiraperturate). Exine ornamentation is microechinate-microperforate. The tectum is covered with minute ehini averaging $0.69 \pm 0.15 \mu\text{m}$ in height, irregularly distributed between the perforations. The microechini average number per sample area of $5 \mu\text{m} \times 5 \mu\text{m}$ is 5.9 ± 0.87 .

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Flora and urbanization – differences and similarities among urban floras in SE Europe

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Urban flora draws researcher's attention for a long time. Back to centuries, in many old cities in Europe, flora in urban and neighbouring areas was recorded. By now, urban floras in SE Europe were analysed primarily from floristic and ecological perspective, lacking results comparison. Therefore, we decided to integrate the data and analyze the differences and similarities among urban floras. Additionally, urban flora structure is compared with urbanization to define the potential patterns of changes. For the analyses, 11 cities in Southeast Europe: from the South Pannonia to Central Balkans are chosen. Cities differ in population size, travel network development and distance from major rivers. Remarkable is the difference in the species number, presence of unique species and aliens, and the most noticeable in the urban flora of Belgrade, city with the highest urbanisation level. Concerning floristic structure, Kosovska Mitrovica, Grocka and Požarevac stood out. These cities have big number of species, and low ratio of the aliens, with regard to urbanisation. On the other side Kovin, Novi Sad and Vranje are grouped by similar floristic structure, relatively similar proportion of alien species and approximately similar number of unique species in relation to the total number of species. In all analysed urban floras, dominant plant strategy types were: disturbing tolerant plants, weeds and generalists. It is verified that urban floras have therophytic-hemicryptophytic character, with predomination of the therophytes in almost all cities, which can be mainly explained by urban heat effect that impact urban flora structure. From the results follows that other factor beside urbanisation have important effects on floristic structure. Exception is presence of aliens, which is highly positively correlated with urbanization. The complex interaction of the environment and human, even in cities closely located provides specific conditions, resulting in specific and rich urban floras.

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***Phytolacca acinosa* Roxb. (Phytolaccaceae), a new alien species of the Croatian flora**

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Phytolacca acinosa Roxb. is an East Asian origin, naturalised in many parts of European continent. In summer 2014 it was found for the first time in Croatia. *Ph. acinosa* is located in two anthropogenic habitats in the Varaždin city. In Croatia, there is a species *Ph. americana*