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Distribution of Macroinvertebrate Assemblages and its Differential Structure Along Longitudinal Profile of the Sava River

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The Sava River has a course more than 900km long. It flows through four states and all its hydromorphological characteristics vary greatly longitudinally. The river has many tributaries, and its basin is under various anthropogenic pressures. All these features lead us to expect interesting differences in the macroinvertebrate communities along the Sava River. Accordingly, the aim of the study was to determine the distribution of macroinvertebrate assemblages and its differential structure along the longitudinal profile of the Sava River. GLOBAQUA survey on the Sava was carried out in September 2015 at 14 sampling sites along the whole Sava watercourse, from the Sava Dolinka River (Ljubljana) to its confluence into the Danube River (Belgrade). Macroinvertebrate community was sampled at all sites following the multihabitat sampling procedure (10 subsamples at each locality, from all available habitats in respect to their ratio at site). During investigation a total of 348 macroinvertebrate taxa were recorded. Aquatic insects were found to be the dominant group in the community with 46,82% (Diptera 30%, Ephemeroptera 6,84%, Trichoptera 6,48%, Coleoptera 1,44%, Plecoptera 0,80%, Odonata 0,73%, Heteroptera 0,42%, and others). Subdominant groups with significant share in the community were Oligochaeta (21,52%), Mollusca (20,47%), and Crustacea (10,28%). For observing changes in the community structure along the course we have chosen the following groups: Diptera, Insecta without Diptera, Mollusca, Crustacea, and Oligochaeta, according to their presence in the river course. A gradual decrease of total number of taxa (N), as well as abundance of insects (without Diptera) was noticed in downstream direction along the course. Oligochaeta share was relatively constant at all sites, in spite of expecting lower abundances at upper stretches, where rocky bottom is present. Crustacea and Mollusca were groups that have increasing abundance downstream, which was in accordance with mollusks preferring river bed with more sediment. Diptera were abundant along the course, but with highest abundance in most upstream sites. Among Diptera, Chironomidae were the most numerous. Nevertheless, there was a difference between upper and lower stretches regarding taxa dominance: the most dominant genera in the upper stretch were *Microspectra* sp., *Synorthocladius* sp., and *Tanytarsus* sp., while in lower stretches the most dominant species were *Microchironomus tener* and *Polydillum nubeculosum*. Further research is needed to explain the recorded community structure, to determine the extent of anthropogenic impact on the current state of communities, and/or impact on available habitats and hydromorphological conditions at investigated localities.