

Microhabitat preferences of the stone crayfish



The stone crayfish *Austropotamobius torrentium* (Schrank, 1803) is a species that usually prefers small and medium-sized streams. It is mainly dependent on coarse grained substrata, which it uses as shelter, but has also been observed on clay in which it creates burrows, similarly to other species of crayfish. In this study, the microhabitat preferences of the stone crayfish in day-time were evaluated. In 2008 (June–November) we collected data on stone crayfish abundances in 1263 patches, recording their position in streams (in five categories: 1. current, 2. lee, 3. shoreline, 4. backwater, 5. rapids), dominant substratum (in seven categories: 1. mud, 2. sand, 3. fine gravel, 4. gravel, 5. pebbles, 6. stones, 7. boulders) in eight streams in the West Bohemia region. This data was evaluated using an index of microhabitat electivity (calculated as the difference between the expected (calculated from all the samples) and actual frequency of occurrence in habitats within a given environmental parameter) and multivariate analysis (redundancy detrended analysis). Substratum type was the major determinant of microhabitat preference for all size classes (< 15 mm, 15–30 mm, 30–60 mm, 60–90 mm, > 90 mm). There was a generalised avoidance of fine-grained substrata and a

preference for coarser ones, which was more evident in larger size groups. The substrata character explained 8.7% of the variability in distribution. The parameter “depth” explained 1% of the overall crayfish variability distribution. Nevertheless, an avoidance of greater depths by small stone crayfish individuals was found, as well as an avoidance of shallows by the largest size categories. No major preference was noted for different stream positions (which explained only 0.7% of the microhabitat use variability), but crayfish avoided rapids with higher water velocities.

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