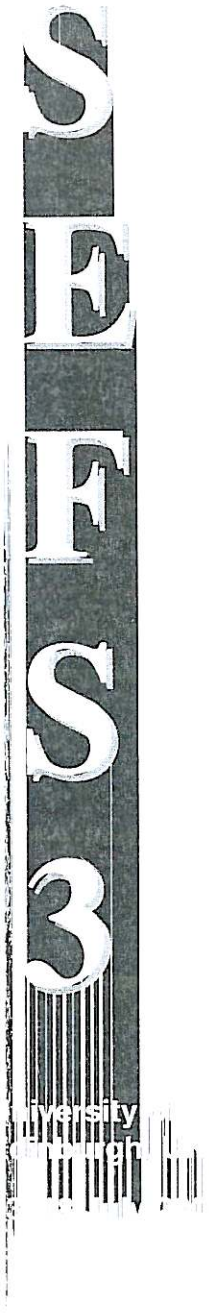

Third Symposium for European Freshwater Sciences

PROGRAMME & ABSTRACTS

65. How small-scale habitat filters shape the functional structure of stream invertebrate communities

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A major goal in community ecology is to understand how processes operating at small scale such as habitat selection can explain the variability in community structure observed at larger scale. We analysed the relationships between habitat variables and functional structure of stream invertebrate assemblages, at the microhabitat scale and at the stream-reach scale, using 264 samples collected in 38 French stream reaches. The habitat was described in terms of hydraulic conditions, substrate size and benthic particulate organic matter. The functional structure of invertebrate assemblages was described by 60 categories of 12 biological traits. At the microhabitat scale, 35 of the 60 trait categories were significantly correlated to habitat variables. Size, body flexibility and body form, attachment to the substrate, feeding habits, reproduction technique and strategies of dissemination were strongly related to microhabitat conditions. At the reach scale, 15 of the 60 trait categories were significantly correlated to habitat variables. Finally, we have compared the effect of habitat variables at the two scales and we show that the correlation between trait categories and microhabitat variables are strongly related to the correlation between trait categories and reach-scale habitat variables. These results are discussed in the context of community organization with reference to multiple-scale habitat filters.

66. Cladoceran assemblage patterns in a meso-eutrophic reservoir

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Cladoceran assemblage patterns were investigated in a meso-eutrophic reservoir from January 2000 till December 2002. Trends of environmental factors (water temperature, conductivity, pH, and nutrient concentrations), as well as of biotic factors (availability of potentially edible phytoplankton and densities of herbivorous and carnivorous copepods) were also assessed. Cladocera and Copepoda dominated the zooplankton community. Cluster analysis performed on the abundance data of higher abundance species (Daphnia longispina, Ceriodaphnia pulchella, Bosmina longirostris and Diaphanosoma brachyurum) helped to identify cladoceran assemblage patterns. In winter and early spring Daphnia was dominant. In early summer and end of autumn Ceriodaphnia and Daphnia coexisted. During summer Ceriodaphnia was dominant and coexisted with Diaphanosoma. Bosmina was almost always present, although in low densities. Peaks of abundance of the several populations were not synchronous, evidencing distinct ecological optima. Temperature seemed to be the main structuring factor of this assemblage. The way biotic interactions influenced cladoceran assemblages was not clear and needs further research.

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CERTIFICATE OF ATTENDANCE

ORAL PRESENTATION: CLADOCERAN ASSEMBLAGE PATTERNS IN A MESOEUTROPHIC RESERVOIR.

This is to certify that

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attended the Third Symposium for European Freshwater Sciences, held at the University of Edinburgh, UK, 13 – 18 July 2003.

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On behalf of SEFS3 Organising Committee