

## 5) QUANTITATIVE SAMPLING OF BEDSEDIMENTS (RITRODAT-LUNZ STUDY AREA, AUSTRIA)

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The limnology of gravel streams is based on processes located in the topmost sediment layers (bedsediments, defined by the dominance of epigeic faunal elements). Quantitative sampling of gravel sediments is therefore obligatory, but methodically difficult. A combination of the well known "freezing-core" method with in situ electro-positioning gives satisfying results. The latter is necessary to avoid fast and strong escape reactions of the sedimentfauna. The combined method achieves good estimates of abundance and distribution of the entire biocoenoses (micro, meio and macro) but also from abiotic parameters, like grain size distributions, pore volume or organic matter. Set backs are the high costs and the great and relatively long lasting disturbances on the spot of sampling.

Permanently installed stand-pipe traps sample without any disturbance and monitor the vagil fauna but do not achieve abundance estimates. A modified cage-pipe trap allows simultaneous sampling in different sediment layers on the same spot and the measurement of the horizontal migratory behaviour of the sedimentfauna. The methodology is shown as well as their possibilities and limitations in the study of the limnology of gravel streams.

## 6) DISTRIBUTION OF HARPACTICOIDS IN A SECOND ORDER MOUNTAIN STREAM (RITRODAT-LUNZ study area, Austria)

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Most studies dealing with benthic invertebrates of running waters describe only macrozoobenthos. Only few data exist about the meiobentic part of running water animals although especially harpacticoid copepods and nematods occur in high abundances in such water bodies. As a part of the long term project Ritrodat-Lunz the temporal and spatial distribution of harpacticoid copepods is investigated. The study area (Ritrodat area) is a 100m long part of the unpolluted second order stream "Oberer Seebach" about 500m upstream its inflow into Lunzer Unter See. This mountain stream is dominated by chiromomids but harpacticoid copepods form 11% of the whole river fauna. All data base on freezing core samples with electrostationing collected during an annual cycle. As possible abiotic parameter influencing and causing distribution temperature, surface current acting down to 20cm into bed sediments and gouch are taken into account. In this connection distribution of a pool and a riffle zone and a gravel bank, wich falls periodically dry, is compared.

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Zoologisch-Botanische Datenbank/Zoological-Botanical Database

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