

Population genetics of groundwater copepod *Diacyclops cohabitatus*

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Diacyclops is one of the largest copepod taxa and occurs in a great variability of habitats around the world. Next to freshwater habitats like temporary pools and moss, several species inhabit alluvial groundwater. One of them, *Diacyclops cohabitatus*, is described from groundwater near Vienna, especially in the Lobau wetland. Although copepods are well studied, there is hardly anything known about their life below surface. Until now the distribution of *Diacyclops cohabitatus* in the groundwater near the Danube was never studied. It is not known if this species forms separate populations or if it is evenly distributed by underground water flows. *Diacyclops cohabitatus* was found in benthos of freshwater pools too. Since life in groundwater puts some constraints on organisms, it can be assumed that *Diacyclops cohabitatus* shows some adaptations. They might differ between populations from groundwater and from surface water bodies. To test those assumptions, samples are taken from groundwater and benthos at the riverside of the Danube and at the Lobau wetland. To see whether the individuals differ genetically, DNA sequences of the 18s and CO1 gene regions will be compared. A non destructive DNA extraction method is used to preserve the cuticle for further species determination. Additionally the morphology of the copepods will be studied under the microscope to detect any differences between individuals from groundwater and surface water. As a result this study might give some insight in the distribution of groundwater populations of *Diacyclops cohabitatus* and their relationship with surface water.