

Master in Biology orientation

Biodiversity & Systematics

Phylogeography and evolution of the threatened hygrophilous beetle *Carabus variolosus* in western Europe

Invertebrates section

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Topics: Phylogeography

Among the hyperdiverse genus *Carabus* (>1000 species), one species is particularly remarkable because it is the only hygrophilous lineage in the group. This beetle is found along pristine streams and rivers where it hunts, reproduces and hide, and its habitat is currently under considerable threat due to anthropogenic activities. The ecological niche modelling and spatial genetic structure of this species across its distribution range in Europe (France to Ukraine) are of prime interest to understand the evolutionary history of this species but also establish a conservation policy to ensure the survival of genetically diverse populations across Europe. The goal of this study is to produce maps of distribution, use niche modelling to understand past, current and future available habitats for this species in Europe, and investigate the level of genetic structure among populations using capture methods allowing to produce genomic data from museum collection specimens.