

Whitefish Genomics

Reconstructing the genome of the extinct whitefish species of Lake Constance and characterising the genetic basis of adaptation to the profundal habitat

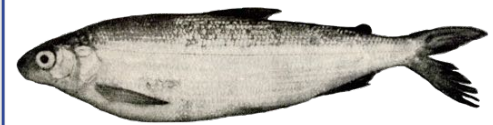


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Leben im Bodensee –
gestern, heute und morgen

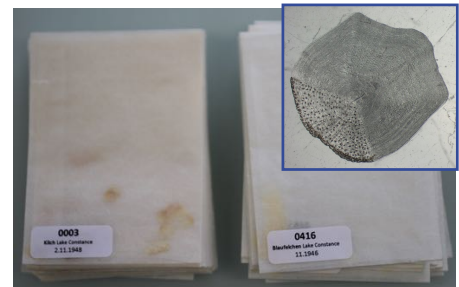
Project description

- Whitefish (*Coregonus* spp) are dominating the fish communities in large pre-alpine lakes, in respect to their biomass, biodiversity, and importance for the ecosystem.
- Eutrophication due to the increased intake of phosphate during the early twenty century caused particular dramatic consequences for habitats in the profundal zone.
- Hence, the Kilch (*C. gutturosus*) lost its habitat, leading to increased hybridisation with other species and extinction.
- We aim to characterise the genome of the extinct Kilch using historical samples and identify remains of the Kilch genome in contemporary whitefish of Lake Constance.



Picture: Steinmann (1950), Monographie der schweizerischen Koregonen

Kilch (*C. gutturosus*):
extinct endemic whitefish species
of the profundal zone



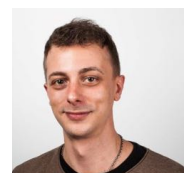
Historical collection:
fish scale sampled since 1929

Project aims

- A detailed characterisation of the Kilch genome, its uniqueness and any potential genetic basis of adaptation to its specific habitat.
- An evaluation of the extent and relevance of introgression (exchange of genetic material via hybridisation) and of the results in the context of a potential re-population of the profundal zone.
- Comparative genomic characterisation of the adaption to deep lake zones with whitefish of lakes Walen and Zurich.

People

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