

TITLE **Ecomorphological analysis of the pharyngeal jaw apparatus of cyprinid fish in relation to aquatic food types**

RESEARCH QUESTION To what extent can an ecomorphological approach of the pharyngeal jaws explain the feeding differentiation among Dutch cyprinids

SUPERVISOR Leo Nagelkerke 0317-483910, leo.nagelkerke@wur.nl

LOCATION Wageningen / Zodiac

PERIOD Anytime

SHORT DESCRIPTION

Food web interactions are traditionally investigated by diet studies, or by more advanced biochemical studies such as through the analysis of stable isotopes. All these approaches show the past feeding activity of an organism, which is not only dependent on its capacities, but also on the abundance of prey organisms. If we want to know what organisms would eat in other circumstances, we need to know more of their abilities to feed on particular prey items. Ecomorphology is a way in which the interactions between predator and prey are studied using their functional traits. By studying the functional traits of predators that they need to tackle the functional traits of prey, interactions between predators and prey can be predicted. This approach is still under development.

One case study in which we try to further develop the ecomorphological approach is by comparing the pharyngeal bones of Dutch cyprinid fishes, which form the main group of freshwater fishes in the Netherlands.

RESEARCH AIM/ SCOPE

- Identify the functional feeding traits of the pharyngeal jaws in Dutch cyprinids
- Measure these traits
- Optimise the algorithm to predict feeding capacities from feeding traits
- Test the predictions

REQUIREMENTS

- Affinity with organismal biology / anatomy
- Quantitative interest
- Precise worker