

My RISE scholarship at Konstanz University

Caitlin Lyman

This summer, I was lucky enough to receive a scholarship from the DZG through the DAAD program called Research Internships in Science and Engineering (RISE). I am an American student and study both Biology and Music at Emory University in Atlanta, Georgia. For ten weeks, I have been in Konstanz to conduct fish ecology research under the supervision of Reiner Eckmann and Wolfgang N. Probst at the Limnology Institute, University of Konstanz.

For our research, we have assessed the juvenile fish population of the Bodensee using hydroacoustic surveys, pelagic larvae nets, and littoral beach seine nets. The pelagic catches were mostly Eurasian perch (*Perca fluviatilis*) and burbot (*Lota lota*). On a few occasions we also found three-spined stickleback (*Gasterosteus aculeatus*), ruffe (*Gymnocephalus cernuus*), and bleak (*Alburnus alburnus*). With echo-sounding, it has been observed that larval burbot engage in a daily vertical migration from a depth of approximately 40 meters during the day up towards the surface at night. To understand this, our team has used a 1600 micrometer net at several depths for day and night catches. In addition, we used a 250 micrometer zooplankton net to characterize the zooplankton population at different depths during night and day. In the lab, I conducted zooplankton counts and stomach analyses of the larvae in order to find a correlation between the two. Some pre-

liminary results suggest that the burbot larvae migrate vertically in order to follow their preferred prey, copepods of the order Cyclopoida. Another observation of our fishing campaigns was that the perch larvae stayed in the pelagic zone of the lake longer than usual, rather than migrating to the littoral zone. We hypothesize that this may be a result of the long period of hot weather or the effect of recent re-oligotrophication of the Bodensee, but further studies on the density and growth of the larvae must be done.

Konstanz is a beautiful city, and through my internship I have had a wonderful time becoming familiar with the culture of Germany, while also gaining priceless research experience. This sum-



mer has been a great supplement to my biology studies at Emory University, and the lab and fieldwork has been valuable insight for my future endeavours. Thank

you again to the DZG for the funding of my student exchange and research internship!

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