



Eawag's experimental pond facility

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Topics: Biodiversity | Ecosystems

A facility with experimental ponds for field trials is located on the Eawag site in Dübendorf. The current experiment is investigating how the water lily aphid - a herbivore that lives both on land and on water - influences the development of the biocoenosis in water bodies.

“In the laboratory, you have very controlled conditions, but the results cannot always be transferred 1:1 to the outside world because our world is much more complex,” explains Christoph Walcher from Eawag’s Aquatic Ecology Department. He is responsible for the facility as the interdepartmental Pond Manager. “Such experimental ponds facilities are therefore an important link between laboratory and field trials.” Because researchers can carry out experiments in 36 ponds under natural weather conditions, but at the same time specifically control and monitor the experiments.

The experiments in the ponds revolve around the question of how biotic communities in water bodies change due to the influence of environmental factors. For example, how does a change in nutrient content affect the small ecosystems? Or how does the interaction between different organisms affect the biocoenosis at the interface of water and land?

An experiment is currently under way involving Eawag, the University of Münster and the University of Basel. The researchers are investigating the influence of the water lily aphid, a herbivore living both on land and on water bodies, on the development of the biocoenosis. The aphids infest the duckweed growing on the ponds. This gives the algae, as competitors for the duckweed, more light and nutrients. The researchers are interested in how this affects the water fleas that feed on the algae. In particular, they want to test whether their genetic expressions change and thus whether the aphids indirectly influence the evolution of the water fleas.

You can find out more about the current experiment and the special features of the experimental pond

facility in the current video.

[Watch the video on Youtube.](#)

Cover picture: The experimental ponds at Eawag are an important link between lab and field tests. (Photo: Paul Donahue, Eawag)

Related Links

Experimental ponds

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<https://www.eawag.ch/en/info/portal/news/news-archive/archive-detail/eawags-experimental-pond-facility>