



BSc Project

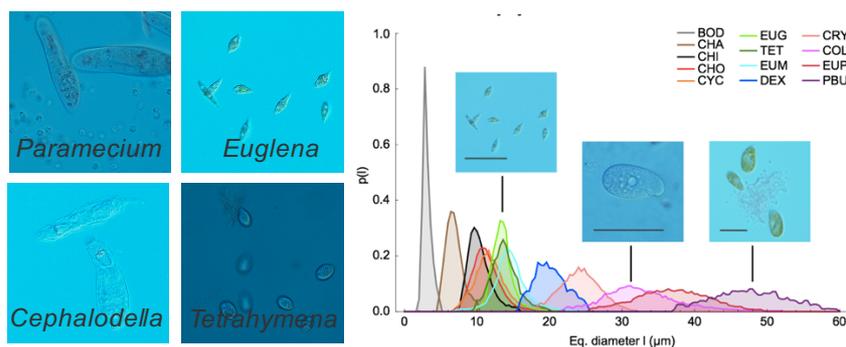
Species responses to environmental stress: how eutrophication alters size and biomass distributions.

We are looking for an enthusiastic BSc student who will be working on species responses (cell size, population growth and total biomass) to an environmental stressors, such as nutrient increase. The project involves laboratory work using microcosm experiments and is part of a larger research program (based at Eawag, Dübendorf).

Today, species experience strong selection pressures caused by anthropogenic-induced changes such as industrialization or intensified agriculture. Species can respond to these changes via phenotypic plasticity (environmental response) and/or genetic trait change. How relatively important these two processes are to observed trait changes is not always well-known, but is of increasing importance if we want to better understand how species can cope with environmental change. The recently developed reaction norm analysis can partition plasticity effects from genetic trait change and provide additional insights into this question.

In this BSc project, you would develop a microcosm experiment to obtain an understanding if and how species respond to nutrient increase, if this effect varies among different species and how it depends on the presence of another species. You will quantify the contributions of plasticity and genetic trait change by using the reaction norm analysis. We expect that different species will vary in their response via phenotypic plasticity as compared to genetic trait change, and that this response may strongly depend on the other species present.

Requirements: Interest in ecology and evolutionary biology, and willing to perform laboratory microcosm experiments with protist species using well-equipped facilities to perform video analysis. English language skills are required. The BSc project can start any time.



Contact/Supervision:

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We are looking forward to meeting you!