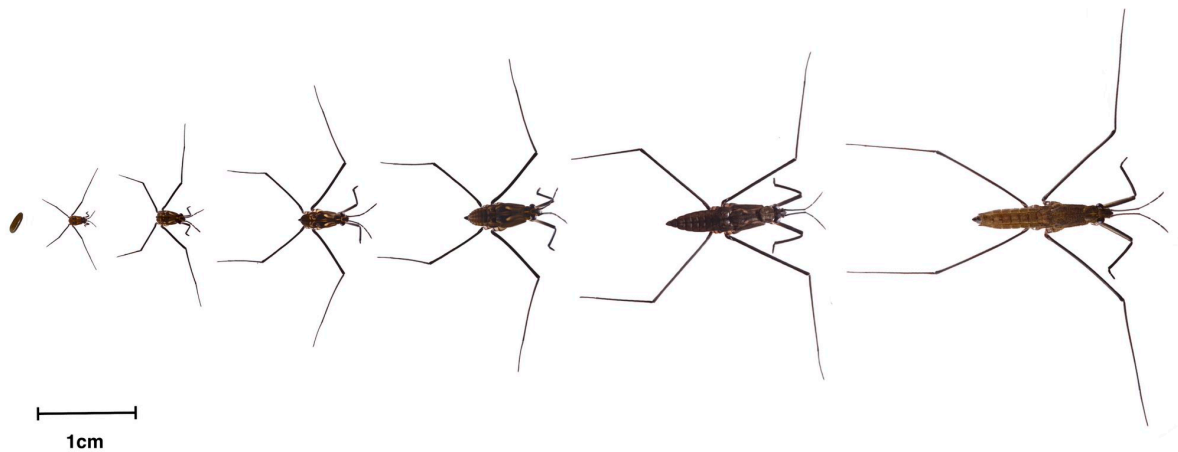


Degree project / research training offer:

Investigating the genetic basis of phenotypic plasticity

Phenotypic plasticity allows an organism to adjust its phenotype according to the prevailing environmental conditions and is thus one of the main mechanisms by which organisms adapt to changing environments. Many examples of plastic traits have been described to date, and classic examples include changes in morphology in response to the presence of a predator in water fleas, or changes in plant height in response to altitude.

Water striders (Gerridae) are a group of insects well-known for their plasticity in wing polymorphism. Environmental factors such as photoperiod, nymphal density and temperature can all influence if an individual produces wings or not. We are currently working on understanding the genetic basis of this plasticity in a comparative framework. Seven different species of water striders will be collected from the field and brought into the lab to study the genetic basis and environmental factors that influence wing development and we are now looking for motivated students with an interest in phenotypic plasticity to do a degree project or research training within the comparative framework on water striders. We are flexible and willing to plan the project according to the student's own research interest.



Possible projects include (but are not restricted to):

Quantitative genetic analysis to estimate heritability of wing polymorphism and plasticity of wing polymorphism.

Comparative approach to examine environmental factors that influence plasticity in wing development

Field work - collecting water striders in the field to bring into the lab

Molecular genetics - RNA-sequencing and analysis

Functional genomics - knocking down candidate genes with RNAi

Projects are available from spring or fall 2019 and the only requirements is an interest in evolutionary genetics and a high motivation for learning!

Contact Arild Husby or Erik Gudmunds for more information:

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