Master Thesis Topic:

Respiration under different environmental salinities in the euryhaline snail *Theodoxus fluviatilis*

Theodoxus fluviatilis (Gastropoda: Neritidae) occurs in limnic, as well as brackish water habitats. Freshwater animals show different physiological responses in experiments with different medium salinities than those from brackish water. Experiments showed that reaction norms of freshwater- and brackish water-ecotypes of *Theodoxus fluviatilis* cannot be made to match by stepwise acclimation of the animals to alien salinities. Our hypothesis is that this is due to genetic differences between the ecotypes. Future studies are planned to identify factors limiting or allowing survival under unfavourable medium salinities and enable us to estimate which of them may be determined genetically or may respond plastically to changes in environmental conditions. Measurement of respiration rate under different salinities is a non-invasive method that allows repeated testing of the same animal under different conditions and to correlate the results to genetic markers in genome wide associations studies (GWAS).

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