

PROFESSOR MATS OLSSON

BEHAVIOUR, GENETICS & ECOLOGY

Mats Olsson's interest in biology is driven by a passion for animals, their behaviour, genetics, ecology, and the change in these characteristics through time and space (evolution). As research models, he usually studies reptiles and amphibians in the laboratory and in the field.

Reptiles and amphibians are excellent models for laboratory studies of costs and benefits of behaviours, and their inheritance, and to what degree genes and environment dictate their expression. This information can be seamlessly integrated with analysis of selection in the wild, assessed by molecular and morphometrical techniques, in order to study the mechanisms of ongoing evolution.

Current research questions include:

- ◆ Can females actively select the sex of their offspring? If so, when do they produce sons versus daughters?
- ◆ Can females (or eggs) influence which sperm fertilizes the eggs, especially when females mate with many different males, with genes that in different ways can complement her own?
- ◆ How does maternal stress influence the growth, development, and behaviour of her offspring?
- ◆ How fast can evolution proceed in the wild (are new species evolving while we are watching)?
- ◆ Do females use immunological cues for selecting partners that increase the disease resistance and viability of their offspring?
- ◆ Why do animals age when the currency of evolution is reproducing offspring, which are only produced before reproductive senescence?

EVOLUTIONARY ECOLOGY

