Senescence and Sexual Conflict:

A snake's tale and the painted dragon

THE CENTER FOR SUSTAINABLE ECOSYSTEM SOLUTIONS PRESENTS:

Dr Chris Friesen, VC Postdoctoral Fellow, UOW, Australia

Date: Monday 16th April

Time: 16:00 – 17:00

Venue: Building 20 Theatre 5 (20.5)

Refreshments will be provided

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ABSTRACT

Trade-offs are a central theme in evolutionary biology. Organisms have limited resources that must be partitioned among different organs, functions and/or stages of life. With the evolution of sexual reproduction in the eukaryotic lineage, a fundamental trade-off between gamete size and number leads almost inexorably to the evolution of two very different reproductive strategies, those of males and females. At the heart of the divergence between the sexes is differential energy allocation where females tend to invest more in egg production than males do in sperm production. However, competition for mates also comes with costs. The sex-specific routes of optimizing reproductive fitness often lead to sexual conflict. Within males, trade-offs between pre- and post-mating episodes of sexual selection can generate selection of different reproductive tactics. At a basic level energy expenditure and the generation of reactive oxygen species may play a role in mediating these trade-offs. I will present data on two separate model systems: North American garter snakes and Australian painted dragon lizards. In garter snakes, I will show data supporting sex-specific differences in ageing. In painted dragons, I will present data on different male morphs with different mating strategies which may lead to different ageing rates in the wild.

BIOGRAPHY

Dr Friesen received his PhD from Oregon State University working on postcopulatory sexual selection and sexual conflict in garter snakes. He is also very interested in the energetics of courtship and mating and during my first postdoc started to think more holistically about how energy allocation toward sexual competition and reproduction more generally might affect reproductive tactics and other life history traits such as life span. In his previous postdoc at the University of Sydney working on sperm-egg interactions in cane toads, he came to appreciate how geographic variation across a species' range can be harnessed for intraspecific comparative studies. These experiences have led to his current fascination with environmental drivers of geographic variation in, and the physiological underpinnings of sexual selected and life history traits, which forms the basis of his Vice Chancellor's Postdoctoral Fellowship research here at UOW.