

YIMEN ARAYA-AJOY, PhD PATHWAYS TO SOCIAL EVOLUTION AND THEIR ECO-EVOLUTIONARY FEEDBACKS

Monday, 18.11.2019, 13:15 at Lecture Hall 3, UZA II, UniVie



YIMEN ARAYA-AJOY, PhD

PATHWAYS TO SOCIAL EVOLUTION AND THEIR ECO-EVOLUTIONARY FEEDBACKS

Different branches of evolutionary biology have traditionally focused on different aspects of the eco-evolutionary dynamics of social evolution. In this talk, I will discuss behavioural ecology theory concerning evolutionarily stable social strategies when fitness is frequency dependent with quantitative genetic models aimed at predicting evolutionary responses to social selection per generation. Using path analytical tools, I will review how social responsiveness, social impact and genetic relatedness affect evolutionary responses to social selection and then discuss the links between the frequency-dependent nature of social interactions and the evolution of traits mediating social responsiveness, social impact and the non-random genetic assortment of interacting individuals. A central idea of frequency dependence is that the fitness effects of traits in social partners interact, and this will generate selection on the ability to assort, respond to and manipulate the social environment, further affecting the eco-evolutionary dynamics of social traits.

Yimen G. Araya-Ajoy is a postdoctoral researcher at the Centre for Biodiversity Dynamics (CBD) in the Norwegian University of Science and Technology (NTNU).

Yimen is a behavioural ecologist interested in social behaviour working at the interface between quantitative genetics and population dynamics. My previous work used a combination of behavioural ecology and quantitative genetics approaches and was focused on the study of genetic and environmental influences on phenotypic plasticity and how social interactions affect the reproductive success of individuals. In my current position, I am working on linking behavioural ecology theory with population dynamics to study how social behaviour may affect eco-evolutionary dynamics.