

Invitation to the Seminar series in Evolutionary Biology

Tuesday, 14.05.2024

Prof. Daniel Franks

(University of York, UK)

Title: The evolution of menopause in toothed whales

Abstract:

Understanding how and why menopause has evolved is a long-standing challenge across disciplines. Females can typically maximize their reproductive success by reproducing for the whole of their adult life. In humans, however, women cease reproduction several decades before the end of their natural lifespan. Although progress has been made in understanding the adaptive value of menopause in humans, the generality of these findings remains unclear. Toothed whales are the only mammal taxon in which menopause has evolved several times, providing a unique opportunity to test the theories of how and why menopause evolves in a comparative context. Here, we assemble and analyse a comparative database to test competing evolutionary hypotheses. We find that menopause evolved in toothed whales by females extending their lifespan without increasing their reproductive lifespan, as predicted by the 'live-long' hypotheses. We further show that menopause results in females increasing their opportunity for intergenerational help by increasing their lifespan overlap with their grandoffspring and offspring without increasing their reproductive overlap with their daughters. Our results provide an informative comparison for the evolution of human life history and demonstrate that the same pathway that led to menopause in humans can also explain the evolution of menopause in toothed whales.

Host: Prof. Hanna Kokko

The colloquium takes place on Tuesdays at 12:15 pm until approx. 1:15 pm in the BZ 1 lecture hall (HS 00.187). Talks are given in English. Everyone interested is welcome!