

# Sex role evolution, breeding ecology and conservation in shorebirds

## PhD studentship based in Debrecen, Hungary 2021–2025

Supervisors: Prof Tamás Székely and Dr Vojtěch Kubelka (Debrecen University/University of Bath)



Sex roles (i.e. courtship, competition for mates, pair bonding and parenting) are among the most diverse social behaviour. Recent research is uncovering key elements of sex role variation, but significant gaps remain. Appropriate sexual behaviour is essential for reproduction, and thus understanding the causes and implications of sex roles are at the core of evolutionary biology and fundamental for the study of life history evolution, physiology and population biology. Understanding sex roles and demography (reproduction and mortality rates) is also important for biodiversity conservation since disruptions to normal sexual behaviour due to environmental changes reduce the viability of wild populations.

Our group is running international project ÉLVONAL Shorebird Science: <https://elvonalsshorebirds.com/> with teams distribute worldwide to investigate sex role evolution in shorebirds. This PhD project will focus on sex role behaviour in shorebirds. Using behavioural observations in wild populations it will investigate causes of display behaviour, pair bonding and parenting. The PhD student will test whether (i) sex role behaviours are induced by ambient environment, demographic parameters or social environment, (ii) explore the relationship between different sex role components, and (iii) test the fitness implications of sex role variations. We are also interested in conservation implications of shorebird field biology.

The ideal candidate has a strong interest in evolutionary biology, behavioural ecology and field biology, and willing to work in remote areas, e.g. Arctic Russia, South Africa, South America, India or elsewhere. He/she needs to have a solid background in data analyses preferably in R, and statistical modelling. A condition of the application is a Master degree (or equivalent) in biology, zoology or similar subject. Experience in field ornithology and bird ringing is desirable but not essential. The studentship will start in September 2021. We are preferably seeking candidates willing to raise their own funding. Note that for students from eligible countries the Stipendium Hungaricum offers a scholarship programme [www.stipendiumhungaricum.hu](http://www.stipendiumhungaricum.hu)

Debrecen is the second largest city in Hungary and has a lively university community. The University of Debrecen was established in 1538, and it is one of the prestigious universities in Central Europe. The university has over 4000 students – many are from abroad. The Department of Evolutionary Zoology & Human Biology is one of the leading departments in natural sciences. Debrecen's surrounding has impressive wildlife that include Hortobágy National Park, a UNESCO-recognised protected area.

Interested candidates should contact Dr Vojtěch Kubelka [kubelkav@gmail.com](mailto:kubelkav@gmail.com). Applications that include a CV (max 3 pages) and a max 2 pages cover letter with personal motivation and the name and contact details of two references (both in English) should be sent to Dr Kubelka before deadline.

**Deadline of application:** 6 December 2020.

### References

- Carmona-Isunza, M C, C Küpper, M A Serrano-Meneses & T. Székely. 2015. Courtship behavior differs between monogamous and polygamous plovers. *Behavioral Ecology & Sociobiology* **69**: 2035–2042.
- Kubelka V., Šálek M., Tomkovich P., Végvári Z., Freckleton R. P. & Székely T. 2018: Global pattern of nest predation is disrupted by climate change in shorebirds. *Science* **362**: 680–683.
- Liker A., Freckleton R. P. & Székely T. 2015: The evolution of sex roles in birds is related to adult sex ratio. *Nature Communications* **4** (1587).
- Vincze, O., A. Kosztolányi, ... & T. Székely. 2016. Parental cooperation in a changing climate: fluctuating environments predict shifts in care division. *Global Ecology and Biogeography* **26**: 347–358.