

We offer a fully funded PhD student position (4-years) in behavioural ecology "**Foraging in the landscape of peril**". The student will join the international team at the Department of Game Management and Wildlife Biology, Czech University of Life Sciences in Prague, Czech Republic, and will be supervised by the associate prof. Tomasz Podgórski.

Research topic: Pathogens and predators represent the ultimate and ubiquitous threats to fitness. One of the defense counter-strategies is behavioural avoidance of the cues of infection risk (disgust) and predation risk (fear). However, both pathogen and predator avoidance incur costs related to, among others, diminished foraging. Pathogen and predator avoidance strategies may align (e.g. when avoiding scats of predators) or conflict with each other (e.g. large groups protect against predators but increase disease transmission risk). The strength of the disgust response can also differ from the fear response due to the usually less severe and delayed costs of infection compared to predation. Thus, animals must balance avoidance costs against the benefits of other activities, such as foraging. There is abundant evidence of the foraging costs of cue-based predator avoidance but scarce evidence of the foraging costs of pathogen avoidance. Moreover, behavioural responses to cues of pathogen and predator risks have not yet been studied simultaneously. This project aims at understanding trade-offs associated with anti-pathogen and anti-predator behaviours which is of topical interest at the intersection of behavioural, sensory, and fear ecologies. The project combines three elements but there is flexibility in the overall contribution of each element to the PhD.

1. Testing and evaluating avoidance/aversion responses to olfactory cues of predator/pathogen in boar and deer. This experimental work will be done in a controlled environment of wildlife enclosures in the Czech Republic. Cues inducing the strongest response will be selected to be used in the second phase of the project. The student will be expected to conduct field work involving close contact with animal faeces, urine, and rotting flesh.
2. Trade-off experiments: 2a. Wild boar will be exposed to cues of predation and infection risk at natural feeding sites, i.e. oak and beech trees in autumn. Here, the project benefits from long-term monitoring plots of the tree crop and wild boar resource use established in the Czech Republic (Kostelec Forest) and Poland (Białowieża Forest). These plots will serve as an experimental setup for testing the effects of predator/pathogen avoidance on foraging; 2b. red deer will be exposed to cues of predation and infection risk in semi-wild conditions of wildlife enclosures (e.g. winter enclosures) and their foraging response will be evaluated using the giving-up densities approach.
3. Analysis of bio-logged behavioural data from wild populations. This part benefits from already collected bio-logging (acceleration and magnetometry) and GPS-telemetry data from wild boar and red deer. The data has been pre-processed to obtain time-stamped sequences of different behaviours. Available data allow, for example, to explore behavioural time budgets of wild boar navigating the heterogeneous landscape of human predation risk (recreational and hunting activity) and infection risk (wild boar carcasses).

Job description: The work will combine intensive field work (including travel within and outside of the Czech Republic) for data collection, video-analysis of behavioural reactions, and strong computational part involving analysis of bio-logging and GPS-telemetry data. The student will be expected to produce 3 high-quality peer-reviewed papers (a formal requirement to complete a PhD programme). There will be opportunities to present at conferences, get training through workshops and courses, and assist in teaching.

Candidate profile:

- A Masters degree in zoology, ecology, biology, forestry or similar
- Writing, reading, and communication proficiency in English
- Good understanding of ecological statistics and experience with R
- Experience of field work with wild or captive animals, ideally in animal behaviour
- Quantitative skills in the analysis of movement and/or bio-logging data are an asset
- Prior publication and research activity will be an asset
- Driving license class B (valid to drive in the EU)
- Creativity, self-motivation, independence, attention to detail, flexibility, resilience, troubleshooting skills

We offer

- **Starting gross scholarship of 25 000 CZK/month (ca 1000 EUR as of Jan 2024)**, which is a total of a basic scholarship (11000 CZK), additional faculty scholarship (8000 CZK) and an employment contract (6000 CZK)
- Living costs are generally lower than in Western Europe. For costs of accommodation, see <https://www.sreality.cz/en> and for dormitories see <https://www.kam.czu.cz/en>
- Possibility to obtain University grants for additional scholarship (+500 EUR/month) and research funds
- Motivational bonus payments for high-quality publications
- Medical insurance provided by the University
- Funds for travel to conferences and workshops abroad. Funds for additional training
- State-of-the-art scientific and computing equipment, software, and access to journals and scientific databases.
- Subsidized lunches at the university canteen (Menza).
- International working environment (the working language is English), green spacious campus in Suchdol in the outskirts of Prague, 30 min to Prague city center by public transportation or bike, 15 min walk to several natural protected areas. The campus has various sports facilities, including a swimming pool, gym, athletic track, and indoor and outdoor playfields. Prague is one of the safest cities in the world, with excellent public transportation, international accessibility, and healthcare.

Starting date: official date is the 1st October 2024.

Applications

To apply, please send by email (podgorski@fld.czu.cz), **in a single .pdf of less than 10 MB:**

- Motivation letter (1 page) describing your experience and research interests, stating why you see yourself as a good fit, and how you intend to develop the project.
- Your CV, including your education background, publications and any other relevant or interesting outputs or experiences.
- 2 academic letters of recommendation, e.g. from your former supervisor or collaborators.

Application deadline is the **23rd of February 2024**. Selected candidates will be contacted after this date.

The official date for enrollment to the PhD study programme "Forest Protection and Game Management" is 17.03.2024. Further details about the application procedure can be found here: <https://www.fld.czu.cz/en/r-9414-study/r-11075-admission-procedures/r-13202-admission-procedure-for-doctoral-study>