2023 Master internship at University of Gdańsk

TITLE : Daily activity and time budget of wintering long-tailed ducks *Clangula hyemalis*

LAB & PEOPLE

- Name of the hosting lab: Ornithology Unit, Department of Vertebrate Ecology and Zoology, University of Gdańsk
- General activities of the lab: ecology and ecophysiology of waders and waterbirds, avian migration strategies, ecology of avian wintering species, ecology of avian urban species
- Website: https://kezk.bio.ug.edu.pl/index.php
- Number of staff / PhD: 15 reasearchers and technicans; 10 PhD candidates
- Supervisor name and contact: prof. Włodzimierz Meissner (wlodzimierz.meissner@ug.edu.pl), dr Agnieszka Ożarowska (agnieszka.ozarowska@ug.edu.pl)

TOPIC OF THE INTERNSHIP

- Scientific context of the internship (max 20 lines)

Seaducks, including the Long-tailed Duck, winter in numerous flocks far from the coast. For that reason data on their behaviour at wintering quarters are sparse and our knowledge on different aspects of the time budget (courtship, aggression, competition, flocking ect.) is extremely limited. The Long-tailed Duck is the most numerous seaduck wintering in the Baltic and has suffered a severe decline in its numbers on the wintering grounds. Nowadays this species has been listed as Vulnerable on the Red List, yet in near future its status may become uplisted to Endangered. Complementing our knowledge of ethology of this species will allow us to better plan future conservation efforts. The estuarial section of the Vistula near Gdańsk is an exceptional site, as long-tailed ducks gather here in large numbers and can be observed from a short distance by telescopes. A preliminary study revealed that these ducks regularly arrived at this riverine site at dawn and left it before dusk. This unique behaviour, not described so far in seaducks, is probably related to their sexual behaviour. The planned research project aims to describe the daily time budget of wintering males and females of the Long-tailed Duck and the factors that may influence its variability.

Keywords : southern Baltic, wildfowl, behaviour, daily time budget

Bibliography :

Alexander W.C. 1987. Aggressive behavior of wintering diving ducks (Aythyini). Wilson Bulletin 99: 38-49

Crook S.L., Conway W.C., Mason C.D., Kraai K.J. 2009. Winter Time-Activity Budgets of Diving Ducks on Eastern Texas Reservoirs. Waterbirds 32: 548-558.

Johnsgard P.A. 1960. A quantitative study of sexual behavior of mallards and black ducks. Wilson Bulletin 72: 133-155.

Perry M.C. 2012. Foraging Behavior of Long-tailed Ducks in a Ferry Wake. Northeastern Naturalist 19: 135-139.

Stempniewicz L. 1995. Feeding ecology of Long-tailed Duck *Clangula hyemalis* wintering in the Gulf of Gdańsk (southern Baltic). Ornis Svecica 5: 133-142.

Tasks and duties entrusted to the student:

The student will observe long-tailed nucks in the estuary section of the Vistula river near Gdańsk and collect data on different aspects of their behaviour. This task will be conducted with help of our students. Then the student will input the results of the observations into a database and perform the statistical data analyses. The frame of the analyses and their results will be discussed with the supervisors of the internship. The final result of the project will be a publication in a scientific journal.

Skills to be acquired or developed:

The student should acquire expertise in the different steps of collecting data on wild animal behaviour, processing obtained data, a good knowledge of behavioural ecology of wildfowl, a good understanding of the statistical tools to be applied to correctly analyse the data. A critical approach to the subject of this study will allow him/her to understand the underlying scientific issues. In addition, the student will have the opportunity to learn about the methods of counting waterbirds at their wintering quarters as a part of the monitoring of their numbers conducted by our team in the Gulf of Gdansk.

PROFILE OF THE DESIRED STUDENT

- Minimum level of study required: Master of Science

- Field(s) of study: Vertebrate biology and ecology

- Scientific skills: We strongly suggest a basic knowledge of statistical tools for data analysis and basic experience with statistical software (R or Statistica). Basic birdwatching skills in the field are desirable, though may be improved during the project.

- Language skills required: The student must have a good knowledge of written and spoken English for daily communication with the supervisors, as well as written and spoken English for literature searches and discussions.

THE INTERNSHIP ASSIGNMENT:

Desired duration of the internship (in months): 5 months

Desired Starting date of the mission: *(please indicate the level of flexibility)* between 10 November and 10 of April ; this schedule is based on the wintering time of the species, then the time-flexibility is low

Indicative weekly schedule: *35h / week*

Remuneration *?*

Erasmus grant: could be asked to your own university

Internship agreement: *an internship agreement will be signed.*

To SEA-EU students:

If you're interested please send your CV and letter of motivation to the scientist in charge, email before the date / / 203.