

1st year master Internship project description

Supervision : Jocelyn Champagnon – Researcher at Tour du Valat

Funding for student:

yes to be discussed no

Title of the research project:

Behaviour of Eurasian spoonbill from data loggers

Key words (up to 5):

Tracking; Movement Ecology

Summary (10 lines maximum) :

Since 2008, 2064 chicks of Eurasian spoonbill have been individually colour-ringed in Camargue. Resightings of these rings gave insights on the migration routes used by this population as well as information about dispersal and survival. Since 2016, four GPS/GSM loggers (including two with accelerometers) were deployed on two juveniles and two adults. While one juvenile died after two weeks, the three others are giving indications on the characteristics of the areas used by spoonbills in the Camargue (area protected, managed for hunting or fishing, habitats). In particular the remaining logger with accelerometer can infer the behaviour of spoonbill (resting, flying, foraging, preening, incubating) associated with coordinates.

The internship proposes to two or three M1 BEWM students to analyse the 5 sec-sequences obtained each 10min from accelerometers since deployment of the logger (3 may 2017). It is planned to fit two more individuals in spring 2018. They will contribute to field data by focal sampling of the individuals fitted with logger with accelerometer if visible from hides. They could also participate to a ringing operation of chicks in May.

Literature (2 references):

Gilbert N.I., Correia R.A., Silva J.P., Pacheco C., Catry I., Atkinson P.W., Gill J.A., Franco A.A.M. 2016. *Are white storks addicted to junk food? Impacts of landfill use on the movement and behaviour of resident white storks (Ciconia ciconia) from a partially migratory population.* Movement Ecology 4:1–13. doi: 10.1186/s40462-016-0070-0

Blanchon T., Kayser Y., Arnaud, Antoine, Gauthier-Clerc, Michel. 2010. *La Spatule blanche Platalea leucorodia en Camargue : nidification et hivernage.* Ornithos 4:217–222.

Technical aspects of the research project :

The students will work together to find a methodology to assign automatically each behaviour (resting, flying, foraging, preening and incubating) with a pattern obtained from the accelerometer axes X (surge), Y (sway) and Z (heave in gravity). Uncertainty and validity of the methods will also

be evaluated.

Essential skills and abilities desired :

Rigorous, Autonomous, Computation skills with R program, Management of big dataset with R, Excel and Access.