

Msc or Bsc project
Is egg morphology related to female condition?
A longitudinal study in a long-lived seabird

Starting date: April 2020 (the exact date is flexible)
Duration: 6 months (also flexible)

The size, volume, shape, colouration and patterning of avian eggs are highly variable, both within and between species. Although several hypotheses have been proposed (and tested), factors explaining intra-specific variation in egg morphology are still not well understood.



Banter See colony

We study common terns (*Sterna hirundo*) from a long-term study population located in the Banter See at Wilhelmshaven on the German North Sea coast. Since 1992, all locally hatched birds have been marked with a transponder shortly prior to fledging. We use antennae at resting places and around nests to identify both breeding and non-breeding individuals. Combined with 3-times-weekly checks of nests to record reproductive parameters and to mark offspring, our methods enable the systematic and remote documentation of individual presence and reproductive performance at the colony. Once birds have established themselves as Banter See breeders, their re-sighting probability is almost 100% and their return rate is 90%, such that we can collect data over long individual life cycles.

In addition, since 2017, all eggs from all clutches produced by known parents have been photographed, such that, at present, photos of 1500 eggs are available for analysis to describe egg morphology (size, shape, colour and spottiness). In addition, blood samples have been collected from a subset of mothers, and analysed for e.g. hormone levels and immune parameters. The student will benefit from these available data, while continuing data collection.

For the proposed project, we are searching for a dedicated student who can start in April 2020 and is enthusiastic about spending lots of time in a large colony of seabirds to (i) take egg pictures in a standardized way, (ii) collect blood samples, as well as (iii) participate in the other research projects and the general monitoring of the breeding population. The student is expected to continue the image analysis and to conduct statistical analyses. Prior experience with birds or fieldwork is appreciated, but not required. Knowledge of statistics and R, however, would be useful. The student needs to enjoy working in an international team, and be happy to use English as the main working language.



Common tern eggs



Common tern nest

For more information and/or application, please contact **Dr. Coraline Bichet** (coraline.bichet@ifv-vogelwarte.de), Institute of Avian Research, Wilhelmshaven, Germany.