lök375 - Ornithology in Practice

Module label Modulkürzel Credit points Workload Verwendbarkeit des Moduls

Zuständige Personen

Prerequisites Skills to be acquired in this module

Ornithology in Practice lök375 6.0 KP 180 h

- Master's Programme Landscape Ecology (Master) > Wahlpflichtmodule
- Liedvogel, Miriam (module responsibility)
- Liedvogel, Miriam (Module counselling)
- Liedvogel, Miriam (Prüfungsberechtigt)
- Bouwhuis, Sandra (Prüfungsberechtigt)
- Langemann, Ulrike (Prüfungsberechtigt)
- Schmaljohann, Heiko (Pr
 üfungsberechtigt)
- Vedder, Oscar Herman (Prüfungsberechtigt)
- ++ broad and in depths biological expertise
- ++ in depths knowledge of biological working methods
- ++ data analysis skills
- + interdisciplinary thinking
- + critical and analytical thinking
- ++ independent searching and knowledge of scientific literature

++ data presentation and discussion in German and English (written and spoken)

- + teamwork
- + project and time management
- + statistics and scientific programming

The aim of the module is to consolidate various aspects of ornithology as well as to impart up to date methods applied in ornithological research.

Module contents

The module comprises four required elective courses (6 CP each), one of which needs to be chosen.

Required elective course 1: Laboratory course and seminar "Ecology of Colonial Seabirds" (6 CP) The Institute of Avian Research safeguards a long-term individual-based study on common terns: colonially breeding, migratory, piscivorous seabirds. Students spend a week at the colony (located at the Banter See in Wilhelmshaven) to ask a scientific question (e.g. about foraging behaviour, coloniality or courtship behaviour) and collect data to answer it, then spend a week analysing the data statistically, writing a short report in Biology Letters format and presenting their results to their peers. Students receive one mark for the report and one for the presentation and the final mark for the course will be the average of these two marks.

Required elective course 2: Laboratory course and seminar

"Communication in Birds" (6 CP). Original recordings from bird songs will be used to generate new data sets for the practical. From these recordings we will prepare spectrograms and analyze the waveforms and frequency spectra. Techniques and statistical method that allow to classify song types from individuals or from populations will be introduced and applied. For example, cluster analysis and discriminant analysis are statistical methods to assess the dissimilarity between "objects" or song type characteristics. The theoretical background for the practical is provided by the seminar using a standard text book on bird song Catchpole & Slater 2008).

Required elective course 3: Laboratory course and seminar "Japanese Quail" (6 CP). Observations and investigations of behaviour in relation to reproductive activity of male and female Japanese quail, at the Institute of Avian Research. Students will learn about theory regarding pace of life and exploration behaviour and develop predictions for interindividual differences in exploration behaviour in relation to sex and reproductive activity. These predictions will be tested with standardized behavioural observations and measurements of food intake in the quail. The data will be analysed and discussed in the broader context of life-history theory.

Required elective course 4: Laboratory course and seminar "Scientific research in field ornithology, incl. identification of birds" (6 CP) This course has three teaching objectives. Firstly, to impart knowledge of the local bird community. This is conveyed through practical courses, work on bird specimens, and lectures. Secondly, learning and getting to know some standard methods of field ornithology, e.g. breeding survey, waterbird counts, radio telemetry, mist netting. Both teaching objectives form the basis for the third teaching objective. In this, the students independently conduct a scientific ornithological study. The data are analysed in the course under supervision. The results are summarised in a two-page scientific publication. At the end of the course, a kind of scientific conference takes place, in which all scientific projects are presented and discussed. The final grade is made up of the grades for the presentations and the scientific publication.

Required elective course 1:

Becker PH, Frank D, Südman SR (1993) Temporal and spatial pattern of common tern (Sterna Hirundo) foraging in the Wadden Sea. Oecologia 93: 389-393.

González-Solís J, Sokolov E, Becker PH (2001) Courtship feedings, copulations and paternity in common terns Sterna hirundo. Animal Behaviour 61: 1125-1132

Required elective course 2:

Catchpole CK & Slater PJB (2008), "Bird Song, Biological themes and variations", Cambridge University Press, 2nd Edition

Required elective course 3:

Reale, D., Garant, D., Humphries, M.M., Bergeron, P., Careau, V., Montiglio, P.O. (2010) Personality and the emergence of the pace-of-life syndrome concept at the population level. Phil. Trans. R. Soc. B, 365, 4051–4063.

Literaturempfehlungen

Required elective course 4: Bibby, Burgess, Hill (1995) Methoden der Feldonrithologie Jonsson (1999) Die Vögel Europas und des Mittelmeerraumes Südbeck, Andretzke, Fischer, Gedeon, Schiko-re, Schröder, Sudfeld (2012) Methodenstandards zur Erfassung der Brutvögel Deutschlands Sutherland, Newton, Green (2004) Bird Ecology and Conservation: A Handbook of Techniques Svensson, Mullarney, Zetterström (2011) Der Kosmos Vogelführer: Alle Arten Europas, Nord-afrikas und Vorderasiens Links Languages of instruction German, English Duration (semesters) 1 Semester Module frequency jährlich Module capacity . 12 Type of module Wahlpflicht / Elective Module level MM (Mastermodul / Master module) Teaching/Learning method Übung Type of examination Examination Prüfungszeiten Final exam of module PT Exercises Lehrveranstaltungsform sws 4 SoSe Frequency Workload Präsenzzeit 56 h