PhD Studentship - The lost biodiversity of paradise: understanding avian extinctions on Lord Howe Island

Supervisors: Dr Alex Bond, Natural History Museum & Dr Frank Hailer, University of Cardiff

Lord Howe Island, Australia, is a UNESCO World Heritage Site, and has been inhabited since 1788. Despite its remoteness in the Tasman Sea, the islands' ecosystem has been severely altered. Nine putatively endemic species or subspecies of bird have been confirmed extinct, with many more species now restricted to offshore islets. Species that persist on the main island are declining, and suffer considerable pressure from human-wildlife conflict, disturbance, and development. Despite this long history, the circumstances around these extinctions are mostly anecdotal, and the taxonomic status of the lost populations is largely unknown.

This project aims to:

- Develop laboratory methods for reliably and successfully producing high-quality genomic data from museum specimens 100-200 years old.
- Place the extinct Lord Howe taxa in a phylogenetic and biogeographic context through genomic analysis of museum specimens.
- Inform the management of Lord Howe Island, a UNESCO World Heritage Site which may seek to reintroduce surrogate taxa following a planned rodent eradication.
- Understand the extinctions and historic pressures on the avian community through historical research and extinction date modelling.

The supervisory team will work with the PhD candidate to determine the precise nature of the questions, depending on their scientific interests. While field work on Lord Howe is not guaranteed, it could form part of a funding bid once the candidate is in place. Participation in some collection-based work is expected, and there will be ample opportunities for conducting outreach/science communication activities with the NHM.

Training

The Vertebrates Division at the Natural History Museum comprises 15 curators, 6 research scientists, and 10 PhD students. The candidate will split their time between a world-class molecular facility at NHM, using state-of-the-art techniques and actively engaging in methods development, and one of the largest avian museum collections in the world, home to >1 million specimens at the NHM's Tring site. Further, visits to the co-supervisor (Dr Frank Hailer) at Cardiff University will provide ample opportunity for a broader training in evolutionary genetics, and engagement with the molecular ecology and genomics group there.

Candidate Requirements

We are looking for an enthusiastic and motivated candidate who is keen to develop expertise in bioinformatics and population genomics with an interest in applied conservation and management, birds, extinctions, restoration ecology, and island ecosystems. A background in evolutionary genetics and/or applied conservation is desired, and relevant training in statistics and/or programming, and science communication will be highly beneficial.

Eligibility

Applications are primarily open to UK residents only (minimum residence of 3 years excluding time in further education), however, a limited number of full studentships are also available to EU residents. All applicants need to comply with the registered university's English-language requirements.

Applicants should have obtained or be about to obtain a First or Upper Second Class UK Honours degree, or equivalent qualifications gained outside the UK. Applicants with a Lower Second Class degree will be considered if they also have a master's degree. Applicants with a minimum Upper Second Class degree and significant relevant non-academic experience are encouraged to apply.

To apply please send the following documents to the Postgraduate Office at **postgradoffice@nhm.ac.uk**:

- Curriculum vitae.
- Covering letter outlining your interest in the PhD position, relevant skills training, experience and qualifications for the research, and a statement of how this PhD project fits your career development plans.
- Names of two academic referees.

The deadline for applications is **7 January 2019**.