PhD Opportunity at Monash University

*Genetic Rescue of Australian wildlife*  
*(the Helmeted Honeyeater)*

Field and laboratory work combining excellent science with innovative conservation management

**Supervisors:** Prof Paul Sunnucks, Dr Alexandra (Sasha) Pavlova (Persistence and Adaptation Research Team: [https://sites.google.com/site/sunnucksresearchgroup/home](https://sites.google.com/site/sunnucksresearchgroup/home)), and species management experts Dr Michael Magath and Dr Dan Harley (Zoos Victoria)

**The overarching project: Genetic rescue of Australian Wildlife**

**Genetic rescue** is a powerful yet under-utilized approach to bolstering the fitness and evolutionary potential of populations of conservation concern.

The PhD candidates will work in a **multidisciplinary team investigating the genetic rescue of the Helmeted Honeyeater, a critically endangered Australian bird.** The projects will involve wildlife biology, genomic analysis and conservation planning. The candidates will conduct excellent science publishable in top journals while engaging with hands-on conservation actions with leading institutions. There will be opportunity to develop independent questions within the major goals of the program - to conduct and monitor experimental genetic rescue and develop protocols for it within a framework of long-term species management. The project is expected to yield improved potential of threatened populations to persist and adapt to changing environments, and will provide novel insights into how genetic rescue works in populations and the genomes of individuals.

**Eligibility & application**

Applicants for consideration for the PhD position will have a Masters or 1st class Honours degree in a relevant field. They will work well in a team, have enthusiasm for conservation biology and publishing strong science, a good work ethic, relevant research experience, high academic achievement and excellent English. Applicants chosen to go forward in the process to fill the PhD position must secure Monash PhD scholarship support, for which there are several options open. The successful scholarship applicant can commence the project as soon as possible. More details on p2.

To apply, please contact Paul Sunnucks: paul.sunnucks@monash.edu, +61 (0) 3 99059593

**Monash University** is in the top 1% of world universities. It is located in Melbourne, Australia, which offers inclusive and multicultural environment with opportunities to enjoy music, great sporting events, world-class exhibitions and shows, cultural and culinary festivals, as well as beautiful natural scenery and wildlife. Melbourne commonly ranks in the top five of the most liveable cities on many criteria.
The application process has two stages:

(1) Send an initial application to Paul Sunnucks (paul.sunnucks@monash.edu), consisting of:
   - a letter of motivation
   - a CV
   - overview of your academic results, and translation if required, preferably indicating cohort rank or percentiles
   - English test results if available
   - the names and contact details of 3 academic references.

(2) If you are selected, you will be sent an invitation to submit a formal application through the Monash University web portal. There is assistance for this process.

Successful applicants for scholarship support will be offered a Monash PhD stipend scholarship (and fee-waiver in the case of international students) of approximately AU$26,000 AUD, tax-free for 3.5 years, for full time research. Expenses for research, coursework, and conference attendance are covered, although students are encouraged to apply for some funding to build track-record and experience.

Some more information on the postgraduate experience in the School of Biological Sciences at Monash University, Melbourne can be found at: http://www.monash.edu/science/schools/biological-sciences/postgrad

More about the project:

The project will be conducted under the umbrella of an Australian Research Council Linkage project for 2017-20 Genetic rescue of Australian wildlife (LP160100482 by Sunnucks P, Morgan J, Lintermans M, Magrath M, Sinclair S, Coates D, Young A, Kilian A, Beitzel M). Three universities (Monash, La Trobe and Canberra) have teamed up with nationwide partners with a wide range of skills and responsibilities for wildlife, including Victorian Department of Environment, Land, Water and Planning (DELWP), Diversity Arrays Technology, Zoos Victoria, Environment and Planning Directorate (ACT Government), Department of Parks and Wildlife (WA) and CSIRO.

The overarching project will test genetic rescue as an efficient recovery technique for threatened plants and animals. The project will convert management actions on five Endangered/Critically Endangered species into rigorous experiments that measure the fitness benefits of genetic rescue, and demonstrate genome-wide consequences. Anticipated outcomes include innovative genetic rescue protocols and a framework for genetic rescue, with excellent science and leading-edge conservation training. The expected benefits will be increased persistence of species that are otherwise unresponsive to management, and aims to provide a new path to saving endangered species

See https://sites.google.com/site/sunnucksresearchgroup/home for additional information on the activities of the Persistence and Adaptation Research Team

Relevant background reading:

Harrisson KA, Pavlova A, Telonis-Scott M, Sunnucks P (2014) Using genomics to characterize evolutionary potential for conservation of wild populations. Evolutionary Applications 7, 1008–1025