

New Caledonian crow cognition and culture

About the project

Positions available and funding:

The Crow Cognition Group (CrowCoG) is seeking qualified applicants for two 3-year doctoral project positions, funded through a collaboration agreement between the University of Auckland and the Max Planck Institute for Evolutionary Anthropology. The funding covers research costs, tuition fees, and a tax-free stipend of \$35K (NZD) per year. The positions will be based at the University of Auckland in New Zealand, with 3 to 4-month stints in New Caledonia per year.

Background:

From hammers and chisels to cars and computers—the technological behaviour of humans is unsurpassed by any other organism. Nevertheless, we are not alone in the technological realm. Since Jane Goodall's pioneering discovery of chimpanzees' tool manufacturing half a century ago, many other primate and non-primate species are now known to exhibit tool-related behaviour, and to perform comparably on a wide variety of cognitive tasks. One species in particular, the New Caledonian crow, expresses tool manufacture skills that eclipse those seen in chimpanzees, including the production of hook tools—an ability shared only with humans. New Caledonian crows' pandanus leaf tool designs vary across populations in different geographical areas in a pattern that suggests they have cumulatively evolved. In aviary experiments, wild-caught New Caledonian crows have successfully solved cognitive tasks that probe abilities such as reasoning by exclusion, causal inference, meta-tool use, agency detection, and short-term planning. The New Caledonian crow is thus an ideal model species to test hypotheses about what makes humans unique, and, in the process, to study the more general links between tool manufacture, cognition, and cultural evolution.

About us:

Alexis Breen, James St Clair, and Russell Gray established CrowCoG in February 2023 to expand our understanding of New Caledonian crow tool-making, culture, and cognition. Quentin Atkinson leads the University of Auckland's Language, Cognition and Culture Lab. Together, this team will combine observational studies of crow behaviour in the field with non-invasive experiments on temporarily-captive wild subjects in its large purpose-built aviaries. Experiments will test the crows' abilities for high-fidelity social learning, memory, physical cognition, and planning.

Requirements:

Essential

- A deep interest in the natural world
- A BSc (1st Class or equivalent) or Masters degree in a relevant field (e.g., biological sciences, psychology) at the start of the position
- Experience collecting and analysing behavioural data
- Excellent written and spoken English language skills
- Willingness to work in remote field conditions for prolonged time periods
- Demonstrated ability to work as part of a team
- Demonstrated ability to learn new skills
- Good physical fitness

- A valid driving licence

Desirable

- Good spoken French
- Familiarity in R (data handling and statistical analyses)
- Field work experience
- Experience in animal husbandry
- A valid bird banding permit

How to apply:

Please send the following documents to crowcog@eva.mpg.de by 14 July 2023:

1. *Cover letter* describing how you meet the essential and/or desired requirements, including details of past research projects and relevant experience (not more than 2 pages).
2. *Curriculum vitae*, including the names and contact details of three professional referees.
3. Digital copies of 1-2 writing samples (e.g. first-author publications, manuscripts, thesis, essays).