



# What makes a high ‘quality’ partnership?

In birds, an overwhelming majority of species are socially monogamous, where individuals reproduce in pairs and often associate with one another to a lesser or greater extent. This can have important implications for natural and sexual selection, as well as population dynamics. Historically, it has been extremely challenging to characterize how closely partners associate through time and space, limiting our understanding of avian ecology. Cutting edge radiotracking technology now allows for high-resolution measurements of pair-bond associations using spatial activity, meaning we can precisely estimate pairbond strength in wild populations.

In this project, you will use solar-powered radiotrackers (LifeTags) to study pair associations in chirruping wedgebills (*Psophodes cristatus*) at Fowler’s Gap research station in the Australian outback. Additionally, you will record the song of chirruping wedgebills to characterise duetting within pairs. You will study how strongly pairs are associated with each other using their behavioural movement data and song recordings. These behavioural and acoustic pair associations will be linked to measures of individual physiological condition, breeding success, and territory quality to test for the benefits of strong partnerships. To date, very little work has quantified partnership associations using high resolution data and multiple facets of pair-bond behaviour. The results will be important for understanding what defines a high ‘quality’ partnership, how pairs associate, and how pairs use and communicate within their environment.

## Methods:

This project will include:

- 2-3 months of fieldwork at Fowler’s Gap, Australian outback
- Catching and equipping wedgebills with Lifetags & recording their song
- Statistical analyses in R using highly detailed song records and data of individual movement every 5 seconds
- Writing up the results to a journal manuscript level

Ideal candidates have experience with bird handling, are familiar with fieldwork in harsh environments, and have skills in performing mixed model analyses in R. Supervision will be provided.

This project is a collaboration between RUG, Wageningen University, and Macquarie University (AUS).

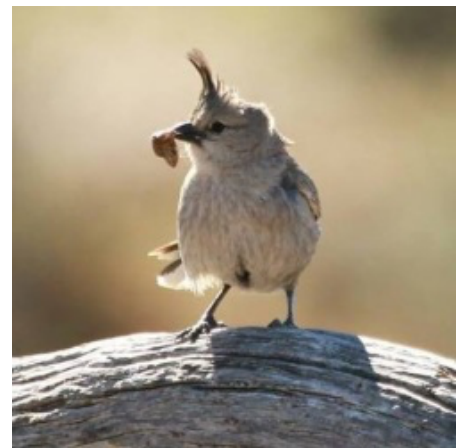
During this project, you will gain: (1) experience catching and monitoring birds in the wild, (2) skills in using advanced statistics in R, (3) a conceptual understanding of behavioural ecology, (3) valuable skills in scientific writing, and (4) a high likelihood of getting your research published in a scientific journal.

## Further reading:

Austin *et al.*, 2019. <https://doi.org/10.1080/01584197.2018.1561193>

Griffith, 2019. <https://doi.org/10.3389/fevo.2019.00455>

Loning *et al.*, 2023. <https://doi.org/10.1016/j.cub.2022.11.047>



<b>Staff member:</b>	Hannah Dugdale (RUG), Marc Naguib (WUR), Simon Griffith (MQ)	<b>Contact:</b>	h.l.dugdale@rug.nl		
<b>Daily supervisor:</b>	Frigg Speelman (RUG & MQ)	<b>Contact:</b>	f.j.d.speelman@rug.nl		
<b>Expertise group:</b>	Behavioural and Physiological Ecology				
<b>Type of project:</b>	<input type="checkbox"/> Bioinformatics	<input checked="" type="checkbox"/> Fieldwork	<input type="checkbox"/> Laboratory	<input type="checkbox"/> Theoretical	<input checked="" type="checkbox"/> Data analysis
<b>MSc program:</b>	<input checked="" type="checkbox"/> Biology	<input checked="" type="checkbox"/> Ecology and Evolution	<input type="checkbox"/> Marine Biology		
	<input type="checkbox"/> Biomedical Sciences	<input type="checkbox"/> Behavioural and Cognitive Neurosciences			
<b>ECTS:</b>	<input checked="" type="checkbox"/> 30	<input checked="" type="checkbox"/> 40	<b>Language:</b>	<input type="checkbox"/> Dutch	<input checked="" type="checkbox"/> English
<b>Start date:</b>	Jul/Aug/Sept 2023		<b>Location:</b>	Australian outback, RUG, Wageningen	