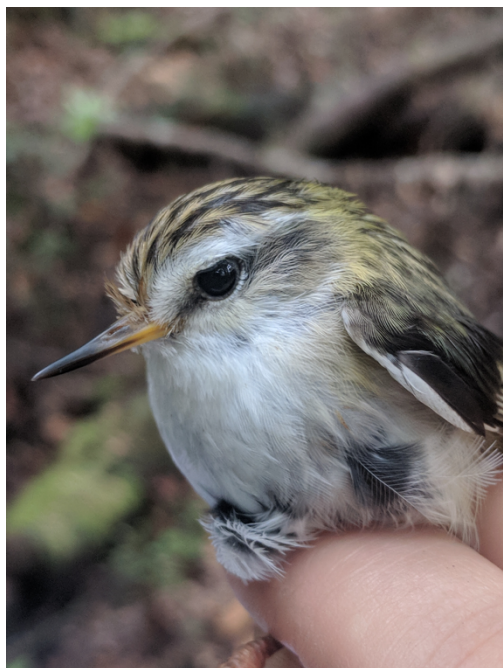


Do New Zealand wrens have accents and what can this teach us about the evolution of vocal learning in birds?

Vocal learning (vocal imitation of social peers) is a rare trait, and the origins of vocal learning – when and how vocal learning evolved – is a question that has received considerable attention, but remains unclear. New Zealand wrens may help researchers to answer this question. The vocal learning abilities of the New Zealand wrens have never been studied and it is assumed that they are not vocal learners. However, they are closely related to the songbirds and parrots, both vocal learners. Their unique position in the avian evolutionary tree gives us the opportunity to answer a fundamental question about the evolution of vocal learning in birds: Do New Zealand wrens show any evidence of vocal learning? If so, this would change our understanding of when and why vocal learning evolved in birds.



For my PhD, I am investigating vocal learning in one of the two New Zealand wrens, rifleman (tītipounamou; *Acanthisitta chloris*). I am using bioacoustics and genetics to test whether translocated populations differ vocally from founder populations – do vocal dialects exist? I am also examining the relationship between genetic and vocal rates of change in rifleman populations. Do populations that are closely related sound more similar to each other than populations that have been apart for a long time? A mismatch would indicate that rifleman are vocal learners.

NZ Birds Research Funds will be used to address the genetic part of my project – trying to understand how closely related different populations are, using methods that are sensitive to small genetic changes and have high resolution, such as dd-RAD seq and SNP genotyping.

If you would be interested in getting involved with our research in the Cain Lab (<http://kecain.weebly.com>) on the origin and evolution of vocal learning in birds, or have any questions, please contact Ines G. Moran (imor384@aucklanduni.ac.nz).