S3.3- Dolman, G. and Burbidge, A.H.

Molecular Systematics Unit, Western Australian Museum, Perth, WA, Australia.

Gaynor.Dolman@museum.wa.gov.au

Using phylogenetics of fieldwrens and heathwrens to inform conservation management in Western Australia.

The Dirk Hartog Rufous Fieldwren (Calamanthus campestris hartogi) is one of three threatened bird subspecies endemic to Dirk Hartog Island. To improve our understanding of the genetic relationships between these island birds and their mainland relatives, a collaboration was forged between a conservation manager from Department of Parks and Wildlife and a geneticist from the Western Australian Museum. The outcome of this collaboration aims to resolve taxonomic confusion in the fieldwrens, so that the Dirk Hartog subspecies can be placed in broader phylogenetic context. Here we present the first stage of the project: a clarification of the broad taxonomic relationships using mitochondrial DNA analyses. We will demonstrate how we plan to use genomic data to improve understanding of diversification processes in this group of birds. Information on evolutionary processes, gene flow and future evolutionary potential will directly inform priorities for conservation management.

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