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# WELLINGTON GECKOS MEET WAIRARAPA

## GECKOS:

Hybridisation between two genetically and morphologically distinct populations of the New Zealand common gecko complex (*Hoplodactylus maculatus*)

A thesis presented in partial fulfilment of the requirements for the degree of

Masters of Science in

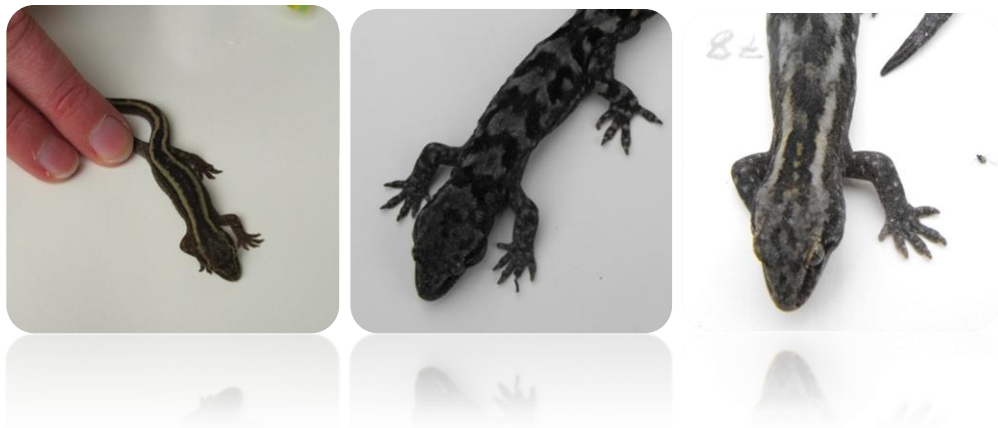
Zoology

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## **Abstract**

The purpose of this study was to use molecular techniques and morphological measurements to set out to find whether a hybrid zone exists between two coastal populations of the common gecko (*Hoplodactylus maculatus*), on the Wellington south coast. I collected geckos from five sites in a coastal transect from the population of small geckos to the large geckos. Using four genetic loci, one mitochondrial (16S) and three nuclear (Rag-1, Rag-2, C-mos), I was able to determine that the coastal populations do have geneflow, however each population maintains some unique alleles. Morphological evidence reveals a significant difference in gecko sizes from Turakirae Head and those caught at Ocean Beach, separated by just 15 km. Adult geckos at Turakirae Head are on average 10mm smaller (snout-to-vent) than adult geckos at Ocean Beach, representing almost a doubling in average weight. The centre of the steep frequency clines of four characters is coincident and the widths are concordant. The narrower morphological clines indicate stronger selection on the size of the gecko, than on genetic loci.

**DEDICATION**

Dedicated to my fiancé

Adam Sullivan

For his wonderful support and encouragement

## **Acknowledgements**

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