

The mating system of New Zealand's largest gecko: *Hoplodactylus duvaucelii*

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Once abundant on the mainland, the Duvaucel's gecko can now only be found on a small number of off-shore islands due to habitat loss and predation by introduced predators. In recent years attempts have been made to re-establish populations of this species in their former range by translocating them to predator controlled habitats. Captive breeding for release has also been initiated as part of the conservation management of this species. However little is known about the reproductive behaviours and mating system of these New Zealand's largest geckos. Such information is needed for a successful breeding program and is also important for understanding the establishment of a new population after a translocation.

This study aims to 1) identify and quantify key behaviours of *H. duvaucelii* that are directly linked to its reproduction biology such as mating and courtship behaviour. 2) investigate the effects of environmental factors (e.g. temperature, population density, sex ratio) on reproductive success; 3) monitor the variation of stress and reproductive hormone levels of individual captive Duvaucel's geckos in relation to mating and breeding season and compare it to the hormone concentrations of wild individuals. The study will be carried out on a captive breeding population at Massey University over a 24-month period.

The results of this study will provide essential information that is needed to improve future breeding and translocation programs and guarantee the long-term survival of *H. duvaucelii*.