

Are male Hihi firing blanks?

Threatened species that have experienced extreme population bottlenecks often exhibit low genetic diversity and an elevated risk of inbreeding and inbreeding depression, all of which contribute to extinction risk. In New Zealand, multiple species have experienced population bottlenecks as a result of invasive predators and habitat loss, but also via founding new populations using conservation translocations.

Hihi or Stitchbird (*Notiomystis cincta*) are an excellent example of this paradigm, having been translocated to Tiritiri Matangi Island in 1995-96, at which point they experienced a population bottleneck, with only 16 of the 51 birds translocated (including just four females) actually contributing to the current population of ~150.

Recent research suggests that inbreeding in Hihi is linked to poor hatching success, but it is not yet clear exactly how much of this hatching failure is due to male infertility. We collected sperm motility (swimming speed) and morphology data for 82 male Hihi on Tiritiri Matangi Island using a mobile laboratory designed especially for this project.

We have combined this data with pedigree and genetic data to seek out links between inbreeding and male fertility in this species. We will discuss the implications of our findings for species management and explain how the techniques implemented here could be extended to provide data for a wide range of bird species.

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Hihi (male). Photo by Tony Whitehead, New Zealand Birds Online.



Dr Helen Taylor working at her mobile lab.