

Nest incest targets males

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Fewer males than females are surviving the negative effects of inbreeding in a reintroduced population of a rare New Zealand bird, reports new research published in *Proceedings of the Royal Society B*.

Studying a population of the endangered New Zealand Hihi, researchers from the Zoological Society of London found that male survival rate was 24 per cent lower than their female siblings during early development, and as chicks.

The researchers analysed 98 clutches on Tiritiri Matangi Island, a predator free island off the East coast of New Zealand, where a population of 51 Hihi was reintroduced between 1995 and 1996. They also found that for both males and females, 35 per cent of eggs laid failed to hatch compared to an average of only 10 per cent hatching failure in outbred species.

Lead author Dr Patricia Brekke from the Zoological Society of London says, "Our results show that inbreeding can have serious implications for the long-term survival of reintroduced species."

She adds: "The major problem we face today is finding suitable habitats to support big enough populations that mean inbreeding is no longer a problem. In the case of the Hihi, options are limited."

The researchers believe that the greater sensitivity of male Hihi is due to the stress they undergo during early development. Hihi males are heavier than their sisters from a young age and grow to be larger and heavier by

the time they fledge the nest. This fast growth rate, combined with [hormonal changes](#), may be contributing to their low survival rate.

Co-author, Dr John Ewen says, "Reintroduction of [rare species](#) is an increasingly common conservation strategy, but we need to consider the longer-term ramifications of our management. One option is to initiate gene-flow between isolated small populations of Hihi by translocating individual [birds](#), but this is labour intensive and requires considerable commitment."

He adds: "The situation we're facing with the Hihi highlights the need for a long-term perspective when using reintroduction as a strategy for ensuring the survival of endangered species."

New Zealand's Little Barrier Island currently holds the only self-sustaining and remnant population of Hihi. The researchers will continue to work with the local Department of Conservation and NGOs to manage relocated populations.

More information: 'Sensitive males: inbreeding depression in an endangered bird' is published online in Proceedings of the Royal Society B. A full copy of the research paper can be accessed [here](#).

Provided by Zoological Society of London

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