

# Researcher finds Laysan albatross employs 'dual mommies'

28 May 2008

What's a girl to do if there's a shortage of males and she needs help raising a family? The Laysan albatross employs a strategy called reciprocity, where unrelated females pair together and take turns raising offspring.

On the island of Oahu, in Hawaii, 31% of nests are female-female pairs. Female pairs raise fewer chicks than male-female pairs, but given the shortage of males, fewer chicks are better than none. Since albatross can only raise one chick each year, females stay together for multiple years for each to reproduce. This unusual strategy may explain why Laysan Albatross are successfully re-colonizing islands.

The findings by University of Hawai'i at Mānoa zoology doctoral candidate Lindsay Young, and her co-authors are published today in the Royal Society journal *Biology Letters* in a paper entitled, "Successful same-sex pairing in Laysan albatross."

Unrelated same-sex individuals pairing together and cooperating to raise offspring over many years is a rare occurrence in the animal kingdom. Cooperative breeding, in which animals help raise offspring that are not their own, is often attributed to kin selection when individuals are related, or altruism when individuals are unrelated.

The study documents long-term pairing of unrelated female Laysan albatross (*Phoebastria immutabilis*) and shows how cooperation may have arisen as a result of a skewed sex ratio in this species. Thirty-one percent of Laysan albatross pairs on Oahu were female-female, and the overall sex ratio was 59% females as a result of female-biased immigration.

Female-female pairs fledged fewer offspring than male-female pairs, but this was a better alternative than not breeding. In most female-female pairs that raised a chick in more than 1 year, at least one

offspring was genetically related to each female, indicating that both females had opportunities to reproduce. These results demonstrate how changes in the sex ratio of a population can shift the social structure and cause cooperative behavior to arise in a monogamous species, and they also underscore the importance of genetically sexing monomorphic species.

Citation: Young LC, Zaun BJ, VanderWerf EA (2008) Successful same sex pairing in Laysan Albatross. *Biology Letters*. In press. doi:10.1098/rsbl.2008.0191

Source: University of Hawaii at Manoa

APA citation: Researcher finds Laysan albatross employs 'dual mommies' (2008, May 28) retrieved 10 August 2022 from <https://phys.org/news/2008-05-laysan-albatross-dual-mommies.html>

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