

Fairy wrens: Accountants of the animal kingdom

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Image credit: Australian Wildlife.

A puzzling example of altruism in nature has been debunked with researchers showing that purple-crowned fairy wrens are in reality cunningly planning for their own future when they assist in raising other birds' young by balancing the amount of assistance they give with the benefits they expect to receive in the future.

Dr Anne Peters, of the Monash University School of Biological Sciences, together with co-authors Sjouke Kingma from the Max Planck

Institute for [Ornithology](#) and Michelle L. Hall of the Australian National University, have conducted a long term study of the cooperative breeding behaviour of fairy-wrens in tropical Australia.

The results, published in the prestigious journal *The [American Naturalist](#)*, show that helpers are not motivated by kindness.

"The study showed that the seemingly selfless little helpers are in fact carefully calculating accountants" said Dr Peters, senior author of the study.

Cooperative breeding, where birds apparently selflessly raise others' offspring, has long perplexed biologists as this behaviour runs counter to Darwin's theory of natural selection, which predicts that individuals invest only in their own reproduction.

Fairy-wrens are habitual cooperative breeders. The helpers are generally older siblings or half-siblings of the current nestlings, and their behaviour is likely explained by an instinctive desire to see more of their shared genes entering the [gene pool](#).

Purple-crowned fairy-wrens extend this assistance to unrelated nestlings.

Dr Peters' study shows that these apparently altruistic helpers are actually playing a selfish game: they help when their chances of inheriting the current breeding territory are greater, and they are thus helping to raise their own future assistants.

"Ours is the first study to show that helpers at the nest adjust their behaviour precisely according to multiple potential rewards: they provide food to kin, and to unrelated nestlings to produce future helpers of their own," Dr Peters said.

"However, we suspect once more researchers look at their study species in this dual light, more cases will be found of helpers that can do their sums so precisely."

Provided by Monash University

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