

Gouldian Finch females maximize mating opportunities

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“If the female cheats on her male partner and he discovers it, there is a kind of divorce—he abandons her.” —Dr Pryke. Credit: flickr Tom Tarrant

The endangered Gouldian Finch (*Erythrura gouldiae*) has peculiar mating habits that allow the species’ females to maximise fertility.

Macquarie University evolutionary ecologist Dr. Sarah Pryke says there were as few as 2,500 Gouldian Finches in the wild, although it remains a popular cage bird.

“In the wild they are incredibly promiscuous and really adaptive,” she says.

Dr. Pryke says the two morphs of Gouldian Finches—which either has red or black head plumage—are interbreeding whenever they could as a

consequence of reduced numbers in the wild.

“The genes [of the morphs] have diverged to some extent so when inbreeding occurs, over 80 per cent of daughters and about 40 per cent of sons will not continue to sexual maturity,” she says.

Experiments performed by Dr. Pryke and her colleagues have shown an evolutionary adaptation to the high female mortality rate among offspring of mixed partnerships.

“More than 80 per cent of the brood will be males when the mother has a partner who is incompatible,” she says.

She said females tried to improve these odds by casual couplings with other males who had the same head colour as themselves.

Dr. Pryke says her research team confirmed this in an experiment that involved painting the heads of opposite morph.

“If a female can cheat on her [opposite morph] partner with a partner who is compatible [same colour morph], that male can father most of the offspring,” she says.

“It only takes one copulation with a compatible partner during the fertile period to achieve this.

“[It appears] females can store sperm and display sperm competition within the reproductive tract.”

However the females had to be cautious in their conjugal infidelity.

“If the female cheats on her male partner and he discovers it, there is a kind of divorce—he abandons her,” she says.

“A Gouldian Finch can’t raise a brood alone—it’s equal share.”

She says the Gouldian Finch, endemic to northern Australia’s tropical savannah, now mostly occurred in the Kimberley and western Northern Territory, with several breeding populations near the planned new Ord River irrigation works.

Ord River irrigation scheme CEO Peter Stubbs said federal environmental approval was contingent on an approved environmental management plan for the bird’s habitat.

“It was one of about seven listed species which we had to look for in the area,” he said.

“The only terrestrial species we could find was the Gouldian Finch.”

Dr. Pryke said she had formulated a management plan which will be available online after it goes through final approval.

Provided by Macquarie University

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