

# Consorting Convict Cichlids: Does Size Really Matter?

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When it comes to choosing a mate for life, ask a convict – cichlid, that is. *Archocentrus nigrofasciatus*, commonly known as the Convict Cichlid, is one of the most popular cichlids among aquarists. Why? They are an extremely hardy and thrive in almost any water condition; they are easy to breed, even in small tanks; and they are doting parents to their fry, or young. Convict cichlids also mate for life. Yes, these fish are monogamous. This fact, combined with their easily maintained laboratory habitats, has made them particularly interesting subjects for fish behavior studies.

One scientist from Pennsylvania considers the convict cichlid to be his subject of choice. Dr. Simon Beeching of Slippery Rock University has studied *A. nigrofasciatus* extensively for several years. His most recent research explored the mate selection process of female convict cichlids when presented with three males of varying body size. Dr. Beeching set up a three-way choice testing apparatus by placing three small aquariums, one for each test male, next to a larger aquarium containing the selective female. In essence, the female was allowed to “window-shop” for a mate. The time that she spent in front of, or “consorting” with, each male was an indication of her preference for that male as a possible mate. Think of it as “The Dating Game” for fish.

In one of his previous studies, Dr. Beeching allowed the males to do the “shopping.” The results showed that the convict cichlid males preferred to consort with the largest available female, even when that female was larger than the male himself. This was a surprising result since, most commonly, convict cichlids form male-larger pairs – that is, the male is, on average, 30% larger than the female in most *A. nigrofasciatus* couples. This result was explained by citing the correlation between body size and a female’s ability to produce offspring, thus providing a potential benefit to males for courting and securing the largest possible mate.

When it was the female’s turn to go “mate shopping”, Dr. Beeching found that the females most often consorted with males that were similar in body size to themselves, which was a result that was consistent with existing hypotheses on female mate-selection. In Dr. Beeching’s experiment, the similar-sized males also happened to be the smallest available males in most cases. This demonstrated a result that was nearly opposite his result from the male mate-selection experiment where the males preferred the largest available female.

Most romantic cichlid relationships, however, do not begin on the Aquarian Dating Game and mate-choice in the aquatic wild is assumed to be a bit more complex than selection between bachelors number 1, 2, and 3. Dr. Beeching suggests that, in nature, pair formation in cichlids may be a compromise between male and female mate choice strategies. For example, by choosing a larger male mate, the female convict cichlid

would ensure a distinct advantage over other spawning pairs when securing and defending a breeding territory. On the other hand, the smaller female may be at a greater risk of being deserted by her mate in favor of his preference for a larger female mate.

In conclusion, the role of female mate choice in the formation of cichlid pair is still unclear and questions remain as to why there seems to be a conflict between male and female strategies in pair formation. It can be assumed that the mate selection process far more dynamic in nature is than in the lab and that male and female mate-preference strategies are only part of the equation. Dr. Beeching suggested that the female preference for smaller or similarly sized males may mitigate male mate preference during convict cichlid pair formation. If there is one thing that we can learn from the convict cichlid, it is that perhaps the key to a successful relationship is compromise.