
Fitness consequences of personality convergence between partners of convict cichlid

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Abstract

Behavioural similarity between partners in monogamous species has been reported to promote within-pair compatibility and to increase reproductive success. Therefore, individuals are expected to choose a partner that is alike for personality. However, mate searching is very costly and does not guarantee finding a matching partner. There is an alternative strategy in order to cope with low availability of matching partners. Mismatched pair may benefit from behavioural convergence after pairing. In a monogamous fish species, the convict cichlid, we have formed either mismatched pairs with partners that differ for personality (defined by individuals scores for aggressiveness, exploration, territory maintenance and food neophobia), or matched pairs with very similar partners. The nest defense behaviour was recorded for each individual before and after pair formation. We showed that behavioural similarity between mismatched partners can increase after pairing. This convergence resulted from asymmetrical convergence because only the reactive individual became more alike its proactive partner, whereas the latter did not change its behaviour. The mismatched pairs that increased their similarity not only improved their reproductive success but also raised it up to the level of matched pairs. While most studies assume that assortative mating results from mate choice, our study suggests that postpairing convergence could be an alternative explanation for the high behavioural similarity between partners observed in the field.

Keywords: assortative mating, personality, behavioural convergence, fish

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