



IRIDESCENT SCALES IN *Xenotocavariata* MALES INDICATE FIGHTING ABILITY OVER ACCESS TO FEMALES

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ABSTRACT

Males of some animal species use their conspicuous ornaments for attracting females and also as badges of status. Therefore, both contests and mate choice may favour the same trait. *Xenotocavariata*—a goodeid species, which is a freshwater fish native to Central Mexico—shows iridescent scales on the flanks with the males presenting more of them per square centimetre than females. Previous studies demonstrated that when given a choice of two males, *X. variata* females approach more frequently the male from a pair with more iridescent scales. Similarly, the aquatic snakes *Thannophis melanogaster*, which prey on *X. variata*, preferentially approach the male from a pair with more iridescent scales. In the present study we assess whether *X. variata* males use their iridescent scales as a badge of status in the presence of females. A replicate of the experiment consisted in placing three males and three females in a tank and in observing and recording their agonistic and courtship displays. We defined a dominance index for each male from the number of given and received aggressions during interactions with the other two males. We found that the dominance index increased with the number of iridescent scales on each fish, after controlling for body size. Similarly, males with the highest dominance index courted more frequently the females than the males with the lowest dominance index. These findings suggest that the iridescent scales on *X. variata* males may function as visual badges of status that might signal fighting ability or resource holding power.