

Male sex ornaments are fishing lures, literally

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Talk about a bait-and-switch. Male representatives of the tropical fish known as swordtail characins have flag-like sex ornaments that catch mates just like the bait on a fishing rod would. What's more, a study reported online on July 12 in *Current Biology*, a Cell Press publication, shows just what any good fly-fisherman would know: Lures work best if they mimic the foods that fish most often eat. For some characins in the study, that means males are waving pretend ants around in hopes of getting a bite. This image shows the courtship ritual (female (fish to the left) moving in to bite at the ornament that the male displays (fish to the right)). Credit: Kolm et al. *Current Biology*

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"This is a natural example of a fishing lure designed to maximize the chance to catch a [fish](#)," said Niclas Kolm of Uppsala University. "In this case, it is not just any fish, however—it is a fish of the opposite sex that the lure is designed to catch."

The findings also lend support to the notion that sensory drive can encourage fish and other animals to diversify and ultimately to become separate species. Sensory drive is the idea that communication signals will work best when they are a good match for their surroundings and that they will diversify when those surroundings vary.

The characins living in Trinidad show considerable variation in the shape of male sex ornaments, and the researchers suspected that those differences might have something to do with what they eat. The fish mainly eat bugs, including [ants](#), beetles, springtails, and fly larvae, which fall onto the water surface. In some populations, characins eat mostly ants, while in others they eat few.

Kolm's team now confirms that characins that mainly eat ants also carry sex ornaments that look more like ants. Studies in the lab also show that females who have been fed on ants prefer to bite at the ornaments of males from populations that mainly eat ants. That's presumably because those females rapidly develop a search image for ants.

The findings show that sensory drive can promote differences among populations based entirely on other species in the community, even when all other environmental factors are the same. They also blur the distinction between food and mate preferences, the researchers say.

In this case, it seems, the best mate is also the one that looks most like dinner.

More information: Kolm et al.: "Diversification of a food-mimicking male ornament via sensory drive." *Current Biology*,
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