Male Mexican mollies grow mustaches to attract mates

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Black Molly. Image: Wikimedia Commons.

(PhysOrg.com) -- Some male Mexican molly fish sport a structure like a mustache on their top lips, which scientists have now discovered are attractive to female mollies and may represent a sexually selected trait.

The Mexican molly fish (Poecilia sphenops) is a small live-bearing fish living in Mexico in freshwater lakes and ponds, creeks and rivers, and in brackish and even marine waters. The species is unusual in that their courtship behavior is complex and the females are fertilized internally rather than the males spreading sperm over eggs externally. The fish is reasonably common, but until recently had not been studied in detail, and the purpose of the mustache was unknown.

The "mustache" is a series of epidermal outgrowths from the edge of the

scales on the fish's top lip. The growths do not appear to have a sensory function, and their size is not linked to the body size of the fish.

Professor Ingo Schlupp, a zoologist at the University of Oklahoma in Norman, and colleagues in the US and Germany, decided to study the Mexican molly and determine the function of the mustache grown by some of the males. The researchers caught over 100 male and female Mexican mollies and measured the length of the mustaches when they existed. They then placed groups of males and females into tanks and observed them in the laboratory, noting the time the females spent with males with mustaches of various lengths and no mustaches at all. They also observed the responses of female fish to videos of different male fish.

The results showed the females had a definite preference for males with mustaches and the structure appears to be "a previously unrecognized sexually selected trait in poeciliid fishes," according to the paper, which is published in the journal Behavioral Ecology and Sociobiology.

The research only looked at whether or not the mustache is visually attractive to females, but Professor Schlupp suspects it may also be used physically to excite the female or pass on tactile information by rubbing it against the genitals, since a male will often "nip" the genital area with its mouth just before mating.

Professor Schlupp said other species of fish, including catfish, have similar structures, and their functions are mostly unknown. Some zoologists think the tentacles grown by male catfish may mimic larvae, which would enable them to catch more prey.

More information: A novel, sexually selected trait in poeciliid fishes: female preference for mustache-like, rostral filaments in male Poecilia sphenops, Ingo Schlupp et al., *Behavioral Ecology and Sociobiology*,

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