

Cichlid fish view unfamiliar faces longer, from further distance than familiar faces

November 25 2015

Neolamprologus pulcher



Variations in facial coloration in four individuals:



N. pulcher: Variations in facial coloration in four individuals. Credit: Kohda et al.

Fish viewed digital models with unfamiliar fish faces longer and from a further distance than models with familiar faces, according to a study published November 25, 2015 in the open-access journal *PLOS ONE* by Masanori Kohda from the Osaka City University, Japan and colleagues.

The theoretical underpinnings of sociality, like territoriality, hierarchy, and reciprocity, are based on assumptions of individual recognition. While behavioral evidence suggests individual recognition is widespread, research on the cues that animals use to recognize individuals are limited. In two experiments, the authors use digital models to test if facial features are a visual cue used for individual recognition in the social fish, the daffodil cichlid. Eight Focal fish were exposed to digital images showing four different combinations of familiar and unfamiliar faces and body colorations.

Focal fish attended to [digital models](#) with unfamiliar [faces](#) longer and from a further distance to the model than to models with [familiar faces](#). These results suggest that fish may be able to distinguish individuals accurately using facial color patterns. The authors also observed the fish rapidly (? 0.5 sec) discriminate between familiar and unfamiliar individuals; however, the timing of recognition needs further explicit study to investigate how rapidly fish can discriminate familiar and unfamiliar [fish](#) in detail.

More information: Kohda M, Jordan LA, Hotta T, Kosaka N, Karino K, Tanaka H, et al. (2015) Facial Recognition in a Group-Living Cichlid Fish. PLoS ONE 10(11): e0142552 [DOI: 10.1371/journal.pone.0142552](https://doi.org/10.1371/journal.pone.0142552)

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