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OBSERVATORY

Some Fish Use UV Patterns to Recognize Species

By [HENRY FOUNTAIN](#)

If you've seen one damselfish, you've seen them all.

That may be true for people, who have a difficult time telling some damselfish species apart. But the fish themselves see it differently, according to a [study](#) in *Current Biology*. They can use ultraviolet facial patterns to tell one species from another.

Ulrike E. Siebeck of the University of Queensland in Australia and colleagues studied *Pomacentrus amboinensis* and *P. moluccensis*, two species of damselfish capable of seeing light at the ultraviolet end of the spectrum. They are also highly territorial: *P. amboinensis* males, for example, will chase off unfamiliar members of their species because they are seen as competitors, but go easier on *P. moluccensis* intruders.

To people, the two species of reef fish look practically identical. But under UV light they are revealed to have distinctly different patterns in the scales around the eyes. "These are really fine, intricate patterns that we can't see at all," Dr. Siebeck said.

The question for her and her colleagues was whether the patterns, and the ability to see them, had an effect on behavior. In a series of experiments in which, among other things, they placed fish inside a glass chamber equipped with UV filters, they showed that *P. amboinensis* used the patterns to discriminate between the two species.

The work provides support for the idea, suggested by others, that the ultraviolet part of the spectrum may serve as a way for some species to communicate secretly, in ways invisible to creatures that cannot see UV.

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