

## Fish

🕒 This article is more than **7 months old**

# The reef fish people find ugly more likely to be endangered, study finds

**Discrepancy between aesthetic value and extinction vulnerability could have repercussions**

---

---

---

**Sofia Quaglia**

Tue 7 Jun 2022 19.00 BST

There are plenty of fish in the sea, but “ugly” fish deserve love too, according to a study.


The reef fish people rate as most aesthetically pleasing are also the ones that seem to need the least conservation support, while the fish most likely to rank as “ugly” are the most endangered species, the research has found.

“There is a need for us to make sure that our ‘natural’ aesthetic biases do not turn into a bias of conservation effort,” said [Nicolas Mouquet](#) a community ecologist at the University of Montpellier, and one of the lead authors of the study. This discrepancy between aesthetic value and extinction vulnerability could have repercussions in the long run, he said.

Mouquet’s team first conducted an online survey in which 13,000 members of the public rated the aesthetic attractiveness of 481 [photographs of ray-finned reef fish](#). The scientists fed the data into an artificial intelligence system, enabling them to generate predictions for how people would probably have rated a total of 2,417 of the most commonly known reef fish species from 4,400 different photographs.

The combined results suggested that bright, colourful and round-bodied fish species - such as the queen angelfish and the striped cowfish - were most often rated as more “beautiful”. But they were also the less “evolutionarily distinct” species - meaning they are more similar, genetically, to other fish.





The queen angelfish was rated as more aesthetically pleasing. 'Our study highlights likely important mismatches between potential public support for conservation and the species most in need of this support,' said Mouquet. Photograph: Georgette Douwma/Getty Images

Fish species that were lower in the aesthetic rankings and were deemed “uglier” by the public - usually “drab” fish, Mouquet notes, with elongated body shape and no clearly delineated colour patterns, like the telescopefish or the round herring - were also more ecologically distinct, at greater ecological risk, and listed as “threatened” on the [International Union for Conservation of Nature Red List](#).

The more “unattractive” species have adapted to look this way because they often live in the water column and have to hide within a more homogeneous habitat, but this also makes them of greater commercial interest and [more likely to be overfished](#), according to the study, [published](#) in PLOS Biology.

“Our study highlights likely important mismatches between potential public support for conservation and the species most in need of this support,” said Mouquet. He noted that biases in conservation efforts [have been documented](#) for many different types of animal species - for example vertebrates are much more represented in research than invertebrates - and aesthetic value is often an important underlying factor in these preferences.

“Species such as clownfish and colourful parrotfishes are definitely the easiest for people to connect with ... and it makes sense why they are often used as the figurehead of conservation efforts,” said [Chloe Nash](#), a researcher of biogeography of marine fish at University of Chicago, who was not involved in the study. “But the majority of fish biodiversity is actually composed of species that would not be considered to be ‘aesthetically beautiful’.”

While aesthetics are recognised as a fundamental ecosystem service, they’re often underestimated for their effect on policy and conservation decisions, said [Joan Iverson Nassauer](#), a scholar of landscape ecology at the University of Michigan, who was not involved in the study. “This research vividly quantifies the power of aesthetic experience to affect science and management,” said Nassauer. In future research, to avoid simplification, it would be helpful to consider how test participants would rank fish in their landscape context out in the wild, and at their natural size, she said.

According to Mouquet, findings such as these can help researchers understand “non-material aspects of biodiversity” which make up what scholars call “nature’s

non-material aspects of biodiversity , which make up what scientists call “nature’s contribution to people” - the [harmful and beneficial effects](#) of the natural world on people’s quality of life. Further research in this field could help scientists better anticipate consequences of species loss, he said, and flesh out appropriate communication strategies to tackle this subject with the public, policymakers, conservation NGOs and even other researchers.

This article was amended on 9 June 2022. An earlier version referred to “telescope fish” and carried a picture of a telescope goldfish, which was not the species referred to by researchers. Telescopefish, which have an elongated body shape and no clearly delineated colour patterns, are small, deep-sea aulopiform fish comprising the small family *Giganturidae*.

---

... as you’re joining us today from France, we have a small favour to ask. Tens of millions have placed their trust in the Guardian’s fearless journalism since we started publishing 200 years ago, turning to us in moments of crisis, uncertainty, solidarity and hope. More than 1.5 million supporters, from 180 countries, now power us financially - keeping us open to all, and fiercely independent. [Will you make a difference and support us too?](#)

Unlike many others, the Guardian has no shareholders and no billionaire owner. Just the determination and passion to deliver high-impact global reporting, always free from commercial or political influence. Reporting like this is vital for democracy, for fairness and to demand better from the powerful.

And we provide all this for free, for everyone to read. We do this because we believe in information equality. Greater numbers of people can keep track of the events shaping our world, understand their impact on people and communities, and become inspired to take meaningful action. Millions can benefit from open access to quality, truthful news, regardless of their ability to pay for it.

Whether you give a little or a lot, your funding will power our reporting for the years to come. **If you can, please support us on a monthly basis from just €2. It takes less than a minute to set up, and you can rest assured that you’re making a big impact every single month in support of open, independent journalism.**  
**Thank you.**

Single

Monthly

Annual