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Study: Batfish Protect Reef in Australia

By THE ASSOCIATED PRESS

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BANGKOK, Thailand (AP) -- When it comes to protecting Australia's Great Barrier Reef, it is hard to beat the batfish. A study by researchers at the Australian Research Council Center of Excellence for Coral Reef Studies found that the rare pancake-like white fish with brown stripes was the only one of 27 species that successfully removed the forest of algae that can otherwise overwhelm and kill off the reef.

The study, which appeared in this week's edition of the journal *Current Biology*, not only raised the profile of the largely overlooked batfish but also showed the importance of protecting key algae-eating fish on reefs across the Pacific that are subject to overfishing, researchers said Wednesday.

"We were stunned because we expected the parrotfish or some other fishes to be feeding on the algae," said David R. Bellwood, one of the study's authors and a chief investigator at the reef study center at James Cook University in Townsville, Australia.

Bellwood said he didn't expect to find the batfish playing such a significant role in containing algae growth.

"What was really interesting for us is that there was a huge difference between the species that prevent the outbreak of algae and those that were able to remove the algae," he said.

By fencing off sections of the Great Barrier Reef over three years, researchers were able to simulate the growth of towering, weed-like algae on an otherwise healthy reef. Then, they introduced scores of different fish species and filmed the results.

What they found was that some fish, such as the parrotfish and surgeonfish, were able to control growth of some algae but only the batfish could remove the most problematic algae blooms -- which can overrun and kill a reef.

"It's like a garden. You use a lawn mower to keep grass under control," Bellwood said of the parrotfish and surgeonfish.

"But if you neglect it for too long, trees will grow and then you need a chain saw," he said of the batfish. "This fish was an underwater version of a chain saw. It could go in and take out the big algae."

However, Tony Larkum, a University of Sydney professor who also studies algae growth on the Great Barrier Reef, disputed the significance of the role played by the batfish. He said the batfish, found throughout the western Pacific Ocean, is just one of scores of fish that help limit algae growth.

"When you tell me the batfish does this, it may be that it is stronger and more aggressive than the other fish," Larkum said. "But I don't find that finding of great scientific interest because there are so many fish out there which are eating algae. It's not world shattering."

Still, Bellwood said the finding shows the important role fish play in maintaining the health of the reef, which in turn could help promote efforts to protect reefs through fishing limits or outright bans.

Coral reefs around the world are being destroyed by commercial fishing, development, and warming waters from [climate change](#), prompting scientists to predict that up to half of these marine ecosystems could disappear by 2045 if more protective measures are not put into place.

Some countries such as Australia have established marine parks around reefs that limit fishing and other activities. Indonesia and others have worked with local communities to promote sustainable fishing and the elimination of destructive practices such as the use of dynamite and cyanide for fishing.

Bellwood called for further research, saying the finding shows there is much more to be learned about the role that scores of different fish play on the reef.

"This study shows that fishes can have unexpected roles," Bellwood said. "Just because we don't know their roles at the moment doesn't mean it is safe to remove them."

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