

Fantastic photographs of fluorescent fish

September 16 2008



Image: BMC

Scientists have discovered that certain fish are capable of glowing red. Research published today in *BMC Ecology* includes striking images of fish fluorescing vivid red light.

Due to absorption of ‘red’ wavelengths of sunlight by sea-water, objects which look red under normal conditions appear grey or black at depths below 10m. This has contributed to the belief among marine biologists that red colours are of no importance to fish.

Nico Michiels, from the University of Tübingen, Germany, led a team of researchers who captured the striking images in the article which, as he describes, “Shows that red fluorescence is widespread among marine fish. Our findings challenge the notion that red light is of no importance to marine fish, calling for a reassessment of its role in fish visual ecology”.

The authors identified at least 32 reef fish species belonging to 16

genera in 5 families that fluoresced visibly in red. Because the light is coming from the fish themselves and not filtering down from the surface, the red glow remains visible at depth and is easily seen at close distances. The authors speculate that red fluorescence may function as a communication or attraction signal, as proposed for other fluorescent animals, “We believe red fluorescence may be part of a private communication system in fish. Red fluorescence is at the borderline of what is visible to many marine fish, and due to rapid attenuation of red light by water, even those that can see red will be able to see it over short distances only. Fluorescent eye rings may function as an indicator of presence or reveal the direction of gaze.”

Citation: Red fluorescence in reef fish: a novel signaling mechanism?
Nico K. Michiels, Nils Anthes, Nathan S. Hart, Juergen Herler, Alfred J. Meixner, Frank Schleifenbaum, Gregor Schulte, Ulrike E. Siebeck, Dennis Sprenger and Matthias F. Wucherer; *BMC Ecology* (in press)

Source: BioMed Central

Citation: Fantastic photographs of fluorescent fish (2008, September 16) retrieved 19 April 2024 from <https://phys.org/news/2008-09-fantastic-fluorescent-fish.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.