

[NYTimes.com](#) Welcome, [beroe](#) - [Member Center](#) - [Log Out](#) - [Help](#)Site Search: NYT Since 1996 [Science Home](#)[Environment](#)[Space & Cosmos](#)[Columns](#)

Cousin of the Jellyfish Spurs Fresh Theories on Seeing Red

By [WILLIAM J. BROAD](#)

Published: July 12, 2005

Hungry predators of the sunless depths have long used the ghostly lights of bioluminescence to attract the unsuspecting. Anglerfish, accomplished hunters with daggerlike teeth, wave lines tipped with glowing lures. Viper fish dangle long rods with luminous tips that can draw prey into their needlelike fangs.



Such feeding strategies appear to be rare among the gelatinous creatures of the deep. But now, off California, scientists have found a cousin of the jellyfish that boasts twitching, glowing red appendages that seem designed as lures. It is the first time researchers have found marine invertebrates that wield such red luminescence.

"It's changing the way I see interactions in the ocean," said Steven H. D. Haddock, a marine biologist at the Monterey Bay Aquarium Research Institute in Moss Landing, Calif., and one of four scientists who discovered the new creature and its glow. The finding, Dr. Haddock added in an interview, is all the more surprising because scientists generally believe that deep-sea creatures cannot see red light - a belief

[E-Mail This](#)[Printer-Friendly](#)[Reprints](#)ARTICLE TOOLS
SPONSORED BY

Advertisement

[nytimes.com/realestate](#)[Check out these dream homes in the Hamptons](#)

Also in Real Estate:

- [Find a beach house on the Jersey Shore](#)
- [Find your dream home in New England](#)

Most E-Mailed Articles The New York Times

[Past 24 Hours](#) | [Past 7 Days](#)

1. [Bob Herbert: It Just Gets Worse](#)
2. [At White House, a Day of Silence on Rove's Role in C.I.A. Leak](#)
3. [A Passage From India](#)
4. [Neuron Network Goes Awry, and Brain Becomes an iPod](#)
5. [Frank Rich: We're Not in Watergate Anymore](#)

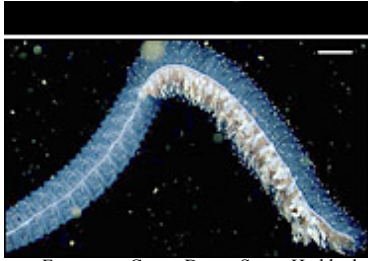
[Go to Complete List](#)[nytimes.com/business](#)[Now 10 years old, what's next for Amazon?](#)

Also in Business:

- [Economically speaking, who bears the risks of terror?](#)
- [Special Report: Mutual Funds](#)
- [Pocket rockets - skateboards of the new millennium](#)

ADVERTISEMENTS

[TIAA-CREF](#)Financial Services For the Greater Good.
[www.tiaa-cref.org](#)



From top: Casey Dunn; Steve Haddock; Richard Ellis/Photo Researchers, Inc.; Steve Haddock

Top, a newly identified creature found last year in the underwater darkness of the Monterey Canyon, off California, that has red lures at the ends of its tentacles. An illustration of the anglerfish, an accomplished hunter with daggerlike teeth. Above, another specimen of the genus Erenna.

Readers' Opinions

[Forum: Wildlife](#)

now under review. Of three examples of the new species that the team discovered, two had remnants of fish in their stomachs.

"Our findings," the scientists wrote in the current issue of the journal *Science*, suggest that the role of red and other long-wavelength lights "in marine visual ecology merits a closer look."

In addition to Dr. Haddock, the scientists are Casey W. Dunn of Yale, Philip R. Pugh of the National Oceanography Center in Britain and Christine E. Schnitzler of the Monterey institute.

The deep ocean is home to swarms of gelatinous creatures, many boasting dazzling displays of bioluminescence, usually blue or green - wavelengths that can travel long distances in water. Scientists have long theorized that the light is purely defensive in nature. For instance, startling brilliance is often seen among siphonophores, gelatinous colonial animals whose different members work in unison. Some species found in areas teeming with life eat voraciously and grow up to 130 feet long, longer than blue whales. Such large siphonophores work passively like living drift nets, moving slowly along and reeling in krill and tiny fish.

Each animal has a cluster of swimming bells serving as a "head" and long elastic tentacles for fishing and drawing prey to waiting stomachs. From slender bodies, the animals can drag thousands of tentacles, stingers ready, and dozens of stomachs, each with fingerlike arms ready to grab captured prey.

Such creatures, with no eyes, light up brightly when touched, and scientists believe that the strong illuminations may be intended to blind or frighten off predators.

The newly identified creature is a relatively small siphonophore, just a bit more than a foot long, of the genus *Erenna*. The scientists found it last year while using a tethered robot to explore the darkness of the Monterey Canyon off Monterey, Calif. The canyon plunges two miles deep. Its upper waters have yielded many very long siphonophores that can light up like a carnival at night.

Dr. Haddock said the team found the animal in much deeper waters, down a mile or more, where food is scarce, a fact that seems to explain the need for the lures. "Maybe casting a big net and hoping something runs into it is not an effective strategy," he

[Dell™ Home TV sale!](#)

\$2999 Dell™ Home 42" HD Plasma TV. Details here.
www.dell4me.com

The New York Times STORE

Collection: The Angry Sea

[Price: \\$700. Learn More.](#)

said. "So they have to get active."

The red lures lie at the ends of tentacles, Dr. Haddock said, near dense groups of stinger cells, their position reinforcing the idea that the glows act as visual bait. So too, he added, the animal, like a skilled angler, flicks the glowing filaments in a way that tends to attract attention.

Why the lure is red is a mystery the scientists hope to explain.

The hunch that the scarcity of prey in the canyon depths may encourage the development of glowing lures among gelatinous creatures has gained strength.

"We've found some other examples," Dr. Haddock said. "Two others for sure, and maybe three very suspicious candidates." The team, he added, intends to publish its findings on the bioluminescent anglers.

[Next Article in Science \(2 of 9\) >](#)

[For a limited time, get The Times delivered free for 2 weeks.](#)

RELATED ARTICLES

[British Scientists Say Carbon Dioxide Is Turning the Oceans Acidic](#) (July 1, 2005) \$

[Groundbreaking Gene Scientist Is Taking His Craft to the Oceans](#) (March 5, 2004) \$

[Taking the Oceans' Pulse, With Help From Robot Subs](#) (September 30, 2003) \$

[Deep Under the Sea, Boiling Founts of Life Itself](#) (September 9, 2003) \$

RELATED SEARCHES

[Oceans](#) | [Fish and Other Marine Life](#) | [Biology and Biochemistry](#)

INSIDE NYTIMES.COM



['Primo,' Auschwitz Survivor](#)



[Werenot afraid.com](#)



[Jellyfish Kin Make Scientists See Red](#)



[Outrage on Gas Prices?](#)



[London Mayor is Low-Key](#)