

Mysterious illness killing off starfish on both US coasts

May 2 2014, by Bob Yirka



Magnificent star, a member of Paxillosida. Credit: Dr. Dwayne Meadows, NOAA/NMFS/OPR

(Phys.org) —A mysterious illness is killing starfish, or sea stars, on both U.S. coasts in unprecedented numbers, and marine scientists have no idea what it is or how to help the creatures survive. In a News Focus article published in the journal *Science*, Erik Stokstad describes the

symptoms of the illness and the efforts that are underway to learn more about what is causing it, and more importantly, to figure out if there is something we humans can do to help starfish survive.

Popularly known in the United States as starfish, the sea creatures are familiar to anyone who has visited a beach bordering either the Atlantic or Pacific Oceans. They're not actually fish, which is why scientists have been trying to get people to call them [sea stars](#) instead—they're echinoderms, more closely related to sand dollars. They survive by using suckers to latch onto prey, then extend a stomach organ that dissolves what they've caught. But all that is not important right now as ocean scientists fear that the mystery illness could very well wipe out the creatures altogether.

The illness first reveals itself as a white lesion on the animal's body (similar to the white "ick" seen on some fish in fish tanks). As the illness progresses, the star becomes more limp and oftentimes loses one or more of its arms—at some point its external organs spill out. Eventually the star succumbs leaving behind a ghostly ash-white visage. The disease was first noticed in the summer of 2013, and since then has spread quickly along both coasts. Thus far, researchers have ruled out most fungi, a few parasites and some types of bacteria. The current concern is that it's a virus which would mean that very little could be done about it.

Another worry is what will happen in the absence of [starfish](#)—animals that are normally eaten will possibly flourish, leading to a glut, or the rise of another predator. Also, what might happen if the mystery illness spreads to other [sea creatures](#)?

Perhaps just as concerning is why the illness suddenly cropped up. Did something from somewhere else make its way into the waters off North America? Did something already present grow stronger? Or, possibly the worst scenario, has some threshold been reached in a man-made

pollutant? Scientists don't know but a growing team of scientists with a wide variety of backgrounds is working on the problem, hoping the answer can be discovered before all the star fish are gone.

More information: Death of the Stars, Erik Stokstad, *Science* 2 May 2014: Vol. 344 no. 6183 pp. 464-467. [DOI: 10.1126/science.344.6183.464](https://doi.org/10.1126/science.344.6183.464)

Abstract

This past summer, a mysterious disease began to spread among sea stars on the west coast of North America, reaching farther and striking more species than ever before. Something similar seems to be happening on the east coast as well. To identify the pathogen, researchers are conducting experiments and searching for genetic clues. They are also watching for ecological impacts from the loss of these top predators.

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