



# CAN-151-Sponges sabotage coral reefs

Join WFCRC

The World Federation for Coral Reef Conservation  
Vic Ferguson Executive Director  
Reprinted 1/28/19

281.971.7703  
512.986.1902

642 S. Commerce  
[vic.ferguson@wfcrc.org](mailto:vic.ferguson@wfcrc.org)

Sebring, Florida 33870  
[info@wfcrc.org](mailto:info@wfcrc.org)

For a Diver  Every day is Ocean Day WFCRC Trademark



Sponges sabotage coral reefs from the inside

By [Brooks Hays](#)

The tubing of a bright yellow sponges can be seen protruding from a coral skeleton. Photo by Alice Webb

Jan. 28 (UPI) -- Corals face a variety of threats, and one of them is attacking from the inside.

In a new study, published [in the journal Scientific Reports](#), scientists detailed the strategies of sabotage deployed by coral-boring sponges. According to the analysis, invading **sponges can erode coral reefs faster than rising CO2 concentrations.**

IN PARTNERSHIP WITH



As numerous studies have detailed, coral reefs are essential to some of the planet's most biodiverse marine ecosystems, anchoring massive and complex ocean food chains. They also [offer a variety](#) of environmental services, protecting coasts from the eroding effects of waves.

Already threatened by rising ocean temperatures and ocean acidification, the latest research suggests sponges are accelerating the decline of many coral reefs.

RELATED [Deep reef survey reveals 195 coral species](#)

According to the latest research, sponges use a combination of chemical and mechanical techniques to hollow out and bore into coral's calcium carbonate skeleton. The sponges aren't looking for sustenance, they're in search of safety. By boring into coral, sponges can hide from predators lurking in the reef.

As the invading sponge sucks in and expels water, filtering out food for consumption, bits of coral are slowly chipped away.

Scientists found the invasion strategies deployed by sponges have benefited from ocean acidification. Sponges funnel protons from the sea water onto the coral-ocean interface, increasing local acidity and making it easier to dissolve the carbonate skeleton. Increasing ocean acidity, the results of global warming, makes this process easier.

RELATED [Current efforts to save coral reefs are insufficient, report finds](#)

Though scientists have been studying coral-sponge interactions for decades, only recently have technological advances made it possible to study minute changes in pH levels, revealing the ways sponges chisel away at coral skeletons.

"Using fluorescence microscopy, we show that intracellular pH is lower at etching sites compared to ambient seawater and the sponge's tissue," researchers wrote in their study.

As pH levels in the ocean continue to drop, researchers predict dissolution will become even easier for coral-boring sponges. But not every reef will be affected the same. The new research will make it easier to identify especially vulnerable reefs.

RELATED [85-mile-long coral reef discovered off the coast of South Carolina](#)

"These sponges are abundant on reefs of the Caribbean such as Curacao, Saba bank or Florida keys, but also on the Great Barrier Reef," Alice Webb, a scientist at the Royal Netherlands Institute for Sea Research, said in a news release. "Taking ocean acidification into account, our sponge findings make it possible to make better predictions of future coral reef conditions."

Follow us on [Facebook](#), [Twitter](#) and [Instagram](#) for more UPI news and photos.

IN PARTNERSHIP WITH



For additional reading see [The WFCRC Document Gallery](#) for articles about:

- Public Service Announcements (PSA)
- Coral Alert Network (CAN)
- Emergency Reporting Reports (ERR)
- Call to Action (CTA)
- Marine Protected Areas (MPA)
- Marine Life Alert (MLA)
- Seismic and Oil Production Threats
- Natural Science Reports (NSR)
- Oil Spill Alerts (OSA)
- And other pertinent documents

IN PARTNERSHIP WITH

