

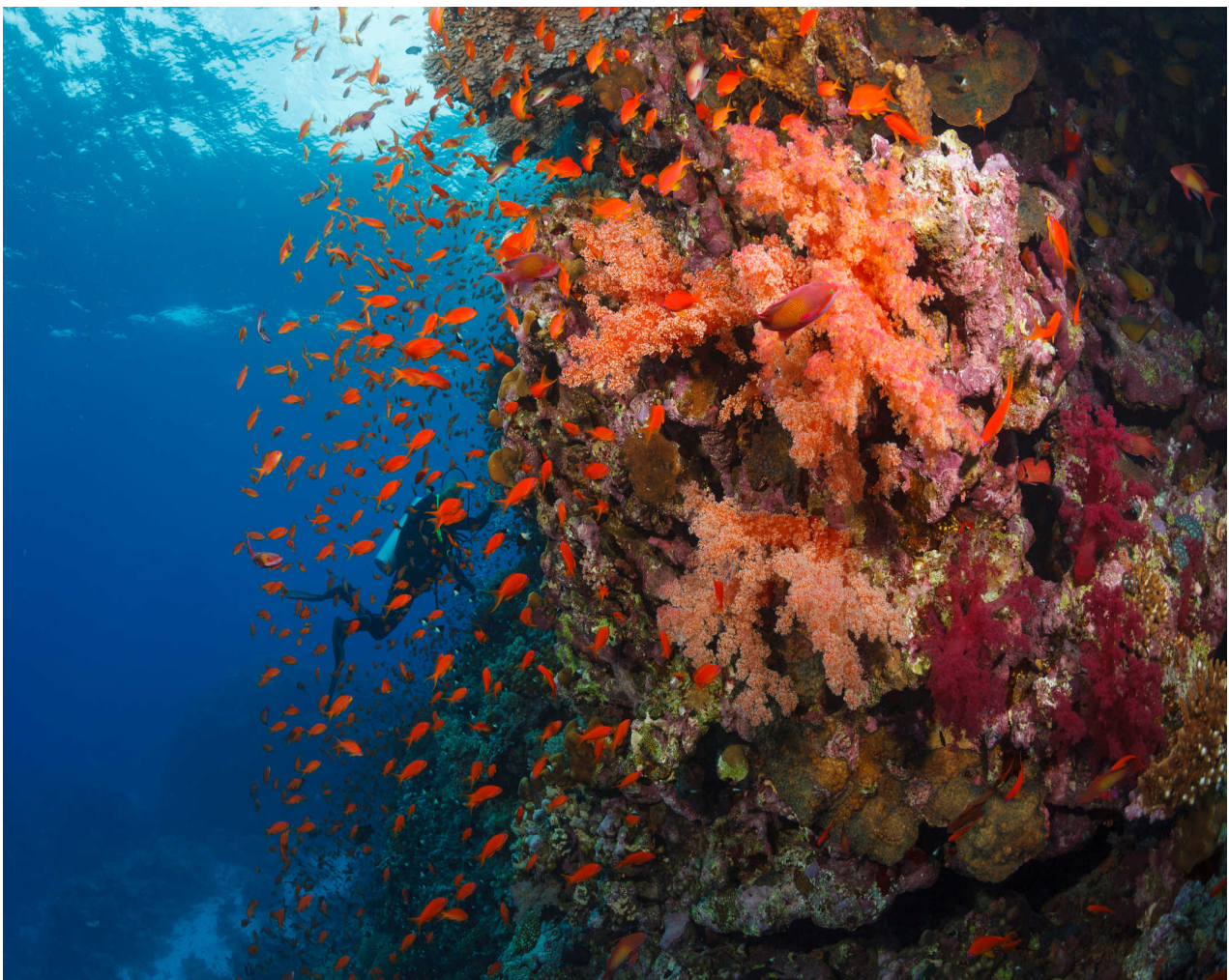
# The Virgin Islands Consortium

## Coral Reef in Caribbean Facing Previously Unknown Threat - Algal Crusts

**Underwater Crisis: Emerging threat to coral reefs beyond climate change**

Environment / **Published On November 14, 2023 06:14 AM /**

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While many people are now familiar to the threat posed to the planet's coral reefs due to warming seas that cause bleaching and eventual death of the coral polyps, scientists say there is a new, urgent threat being faced by the tiny creatures which contribute so heavily to the stability and security of life on shore.

A paper published this month in [Cell](#), a scholarly magazine devoted to biology, identifies peysssonnelid algal crusts, or PACs, as a deadly threat that scientists have been missing

for years. Authors Peter Edmunds, Thom Schils and Bryan Wilson described the seabed in the shallow waters off the coast of St. John USVI as being up to 64 percent covered in PACs as of 2019.

These PACs have eluded scrutiny for so long, the scientists say, because they are so nondescript and difficult to identify. "PAC may be confused for similar looking seaweeds," the paper notes. Biological classification has therefore proven difficult, with many PACs assigned to incorrect groupings, leading to even more confusion about their prevalence among ecologists.

The paper's authors note that while PACs are native to tropical reefs, their exponential rise in the ecosystem is proving problematic. "In the Caribbean, they can overgrow live corals and pre-empt vacant space created by disturbances such as frequently-occurring hurricanes," the scientists say, thereby choking out other competing life forms. Areas containing PAC are not hospitable to coral larvae, and thus reefs are unable to grow where PAC has already established a foothold.

PACs may also be unaffected by the acidification of oceans, giving them yet another advantage over coral polyps. The algal crusts do serve as food for one species of sea urchin, but the recent collapse of *Diadema antillarum* in Caribbean waters means that the growth of PAC may now be completely unchecked.

"PAC outbreaks appear to be a rapidly developing crisis on coral reefs worldwide, where they are exploiting the ecological legacies of decades of reef degradation," the paper's authors wrote. The scientists call for urgent study to be done on PACs, beginning with the ability to "quickly and accurately identify" which species of algae are responsible for the rapid rise of PAC. The fate of coral reefs in the region and beyond, they say, may depend on it.