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## **New Species Reports for Panama in Smithsonian Online Marine Plant Guide**

Marine Plants of Pacific Panama is a new, online identification guide to more than 120 marine algae. Developed by Smithsonian marine biologists Diane and Mark Littler in conjunction with the bioinformatics office at the Smithsonian Tropical Research Institute, the guide is designed to make it easy for non-specialists to accurately identify seaweed species around Panama's offshore islands from Las Perlas in the Bay of Panama to the Gulf of Chiriqui.

More than 158 stunning underwater photographs and 445 photomicrographs showcase the major seaweeds. The treatment also documents 87 new records of marine macroalgae for Panama and 32 new records for the Eastern Pacific Ocean.

"We have seen rapid degradation of reefs worldwide. It is of paramount importance for scientists--from geologists to chemists--and for school kids, tourist guides and conservationists to understand the local reef environment and its foundation species," say the Littlers. "Our guide celebrates the beauty of some of the most attractive inhabitants of Panama's undersea realm and provides an indispensable, easy-to-use tool for their identification."

Along with the coelenterate corals, the algae are the major primary producers and builders of Panamanian Eastern Pacific reef systems. Marine plants from four diverse evolutionary lines dominate. Now there is a way to accurately identify the marine plants that form the basis of this food web and maintain living reef structures.

Identification keys distinguish one species from another based on easily observed characters. This guide provides keys to genera and species within each phylum of macroalgae. The keys utilize a double numbering system that enables the user to work a key backwards as well as forwards. A specimen can be "picture-keyed" initially, then positively identified by using the dichotomous keys and the photomicrographs.

Diane Littler is adjunct senior research scientist at Harbor Branch Oceanographic Institute and research associate at the Smithsonian Institution's National Museum of Natural History, Department of Botany. Mark Littler is a senior scientist at the Museum. Each has over 30 years of experience diving on coral reefs throughout the Atlantic, Pacific, and Indian Oceans.

The Littlers have published more than 195 papers and books. Although based in Washington, DC, Diane and Mark spend at least four months a year conducting field research in Florida and the Florida Keys, and another two months in the Bahamas, Belize, and Panama.

The Smithsonian Tropical Research Institute, headquartered in Panama City, Panama is a unit of the Smithsonian Institution. The institute furthers the understanding of tropical nature and its importance to human welfare, trains students to conduct research in the tropics and promotes conservation by increasing public awareness of beauty and importance of tropical ecosystems.

[www.stri.org](http://www.stri.org)

Reference: Littler, D.S. & M.M. Littler. 2010. Marine Plants of Pacific Panama. Smithsonian Tropical Research Institute, Smithsonian Institution. <http://biogeodb.stri.si.edu/pacificalgae>

More information about the Littler's <http://www.littlersworks.net/>

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Images:

MML&DSL.jpg

Mark and Diane Littler, author of the new online guide, Marine Plants of Pacific Panama  
Photographer: Barrett L. Brooks

Plocamium\_violaceum\_68881-scan.jpg

Spectacular marine algae like this specimen of Plocamium violaceum, are easily identified using the new marine plant guide.

Dianne Littler

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Dictyota\_humifusa\_66115-situ.jpg

The new guide celebrates the beauty of some of the most beautiful algae in Panama's Eastern Pacific waters.

Dianne Littler

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