

## *Gorgonia flabellum* (Venus Sea Fan)

Order: Alcyonacea (Sea Fans)

Class: Anthozoa (Corals and Sea Anemones)

Phylum: Cnidaria (Corals, Sea Anemones and Jellyfish)



**Fig. 1.** Venus sea fan, *Gorgonia flabellum*.

[<http://englishspanishnature.blogspot.com/2012/03/gorgonia-flabellum.html>, downloaded 28 April 2016]

**TRAITS.** *Gorgonia flabellum*, also known as the Venus sea fan or the West Indian sea fan, is sessile in nature, i.e. it is permanently attached to a surface. This species is a colonial soft coral, they do not produce a hard calcium carbonate skeleton, but instead contain very small spiny structures called sclerites. The branches are located in a single plane which develops from a very small base, forming a flattened framework (Fig. 1). The Venus sea fan can be yellowish, pale lavender or white in colour. The fan structure is often oriented perpendicular to the water current, and can reach a length of approximately 2m (Colin, 1978).

**DISTRIBUTION.** The Venus sea fan is widely distributed in the Caribbean Sea. It occurs abundantly in the Bahamas and can also be located over a wide geographical area, found in the

Lesser Antilles and Florida (Fig. 2). It can be located in the Bucco Reef in Tobago and on the coastlines of beaches such as Toco in Trinidad.

**HABITAT AND ACTIVITY.** The Venus sea fan is a soft coral which is primarily found in tropical waters. The coral favours locations with constant strong water currents and shallow water with a depth 10m or less (Colin, 1978). The sea fan can be found in inner reefs, and in parts of the ocean where sediment is present.

**FOOD AND FEEDING.** The Venus sea fan corals obtain their food from various sources. They have a symbiotic relationship where they obtain nutrients from a dinoflagellate alga, *Symbiodium*, which creates organic compound using sunlight energy which is then available for use by the coral. This fan coral also captures microscopic food particles and planktonic organisms from the water column, and they can also absorb dissolved organic matter. The fan has coral polyps embedded in it, which are filter feeders, they extend their eight tentacles to grasp plankton drifting past in the current (Colin, 1978).

**POPULATION ECOLOGY.** The Venus sea fan is widely distributed and abundant. This coral has a fairly long life span, and each new sea fan develops from a single base (Jackson, 1977).

**REPRODUCTION.** Asexual propagation is the mode of growth for the Venus sea fan. It is the main principal of forming new colonies. The Venus sea fan reproduce asexually by the process of colony fragmentation. In this process portions of the colony constantly become severed and drift away with the tidal current and settle down in different parts of the ocean to allow the expansion of new colonies. Colony fragmentation plays a major role in colonizing reefs. It was stated that a large percent of the colonies of photosynthetic gorgonians at a site in the Caribbean were the result of colony fragmentation. This fragmentation is sometimes facilitated by the formation of tissue networks in the branches, that increase the breakage of the Venus sea fan and hence the formation of new colonies (Lasker, 1984).

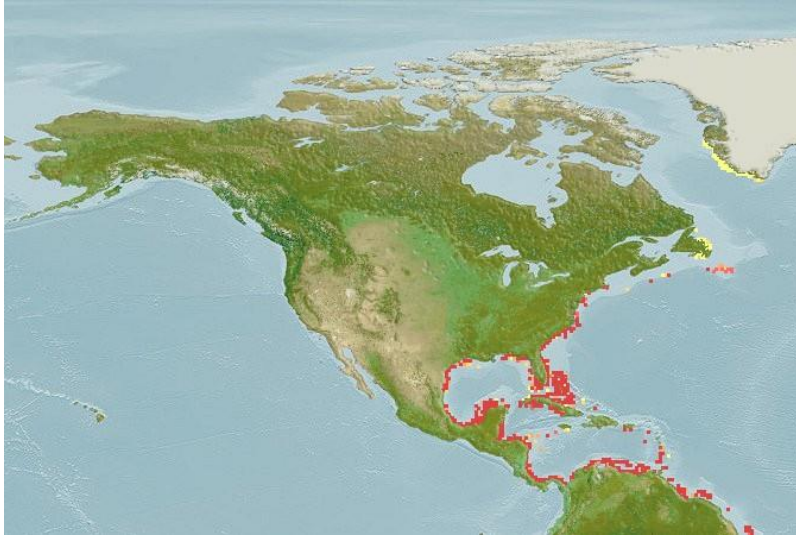
**APPLIED ECOLOGY.** *Gorgonia flabellum* is not listed by the IUCN. In the Caribbean, soft corals such as the Venus sea fan are threatened by human activities such as coastal development, marine transport and oil spills, diseases and rising sea temperatures. One of the major problems facing these coral is coral bleaching and degradation of the soft coral framework. In Tobago such corals are protected, and there are laws implemented to prevent the removal of the coral from its natural habitat (Fig. 3).

## REFERENCES

- Colin, P. L. (1978). Marine Invertebrates and Plants of the Living Reef. T.F.H. Publications. p. 174–175. [ISBN 0-86622-875-6](#).
- Jackson, J.B.C. (1977). Competition on Marine Hard Substrata: The Adaptive Significance of Solitary and Colonial Strategies. *The American Naturalist* **111** (980): 743–767.
- Marinespecies.org (2012). "[WoRMS - World Register of Marine Species - \*Gorgonia flabellum\* Linnaeus, 1758](#)".

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**Fig. 2.** Geographic distribution of *Gorgonia flabellum*.

[[http://www.aquamaps.org/receive.php?type\\_of\\_map=regular](http://www.aquamaps.org/receive.php?type_of_map=regular), downloaded 14 March 2016]



**Fig. 3.** A dry *Gorgonia flabellum*, removed from its environment.

[<http://www.bumblebee.org/invertebrates/Anthozoa.htm>, downloaded 14 March 2016]