# *Stichodactyla gigantea* (Forsskål, 1775)

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## IDENTIFICATION

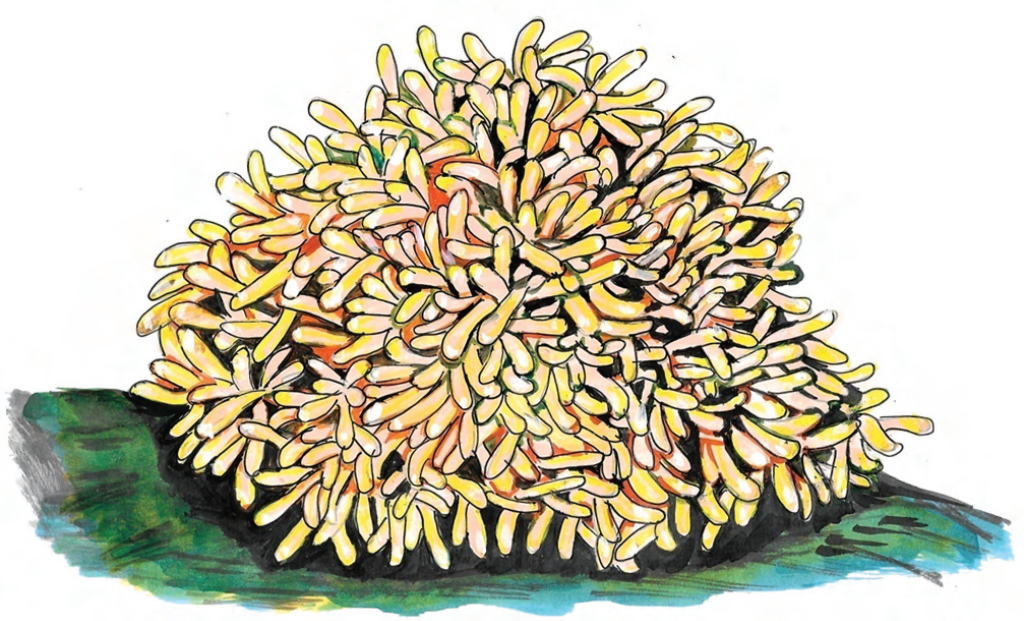
| | | |
|---|---|---|
| Order | : | **Actiniaria** |
| Family | : | **Stichodactylidae** |
| Common/FAO Name (English) | : | **Gigantic sea anemone** |

**Local names**: Not available

## MORPHOLOGICAL DESCRIPTION

Deeply-folded oral disc (more pronounced with size), covered with short, stubby and slightly tapering tentacles (average 8-10 mm) that move constantly, making it look like its vibrating. The oral disc lies at the surface of sand and the presence of many tentacles gives it a carpet-like appearance, thus the name carpet anemone. Tentacles are extremely sticky but do not cause stinging sensation. The colour of the base of each tentacle is similar to the colour of the oral disc. The deeply folded disc differentiates it from other *Stichodactyla* species. The pedal column has a sticky foot to attach to a solid substrate. The individual changes location in case of unsuitable conditions by using the foot.

Source of image : Mariculture Division , CMFRI , Kochi



PROFILE

## GEOGRAPHICAL DISTRIBUTION

*Stichodactyla gigantea* is found in the tropical regions of the Indo-Pacific region; Red Sea to Samoa, south-east Asia, northern Australia, western Pacific regions; from Australia to Ryukyu Islands. In India it is found in the Andaman and Nicobar Islands.

## HABITAT AND BIOLOGY

It is typical in shallow water areas exposed at low tides at depths of 2 to 20 m. They are solitary and are hosts to clownfish and several other marine animals. It has been known to associate with 8 species of clownfish. Protection from predators like other anemones, nudibranchs, sea stars, some angelfishes, triggers and large wrasses is enabled through nematocysts. It is a carnivore, which uses its nematocysts to capture prey like urchins, snails, crabs, shrimps, as well as small fishes. It also derives nutrition from zooxanthellae that dwells within their tissues. They also absorb nutrients from the wastes produced by the symbiotic clownfish.

Anemones multiply by sexual and asexual means. Asexually they reproduce by fission, which is when they split in half from the foot or mouth to form a clone. They will also reproduce using male and female sex glands or find another anemone of the opposite sex. During sexual reproduction, fertilization is internal and embryos are brooded internally. The juveniles or the planula larvae are given out into the water. The ciliated planula larvae then settle to the sea floor, develop a pedal disk and grow into a new anemone.

## PRODUCTION SY STEMS

### BREEDING IN CAPTIVE CONDITIONS

Information not available

### LARVAL REARING

Information not available

### FOOD AND FEEDING

When in the aquarium, supplemental feeding of raw table shrimps, clams, mussels, silversides, cods, squids and other marine based meats need to be done every few days. Pieces should be chopped or cut roughly to the size of the anemone's mouth.

### GROWTH RATE

Juveniles of this species grew from 4 cm to 30 cm in three years in Palau when grown in floating baskets in outdoor tanks in direct sunlight without any direct feeding.

### DISEASES AND CONTROL MEASURES

Information not available

## PRODUCTION, MARKET AND TRADE

### PRODUCTION

Information not available

## MARKET AND TRADE

*Stichodactyla* spp. is a popular marine ornamental invertebrate, falling in the top ten traded marine invertebrates in the world. As per estimates, during 1998-2002, nearly 27,341 numbers of this genus were traded in the world. Price of a brown carpet anemone is about ₹ 2,000 and that of a red carpet anemone can be as high as ₹ 25,000 per individual.

## CHALLENGES TO MARICULTURE

Captive breeding for the propagation of *Stichodactyla gigantea* is the major challenge for mariculture.

## FUTURE PROSPECTS

*Stichodactyla gigantea* have not been bred in captivity so far, and the development of captive breeding technology will help to reduce the dependency on wild. Sea anemone aquaculture is a prioritized solution for reducing the harvesting pressure on natural sources. Being a highly valuable ornamental species, it can form a good source of alternate income to fishermen and women.

## SUGGESTED READING


Aubert, R. G. 2014. Fine-scale population structure of two anemones (*Stichodactyla gigantea* and *Heteractis magnifica*) in Kimbe Bay, Papua New Guinea. Ph. D. Thesis King Abdullah University of Science and Technology, Thuwal, Kingdom of Saudi Arabia, 58 pp.

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Mitchell, J. S. 2003. Mobility of *Stichodactyla gigantea* sea anemones and implications for resident false clown anemonefish, *Amphiprion ocellaris*. Environ. Biol. Fish., 66: 85-90.

Wabnitz, C., Taylor, M., Green, E. and Razak, T. 2003. From Ocean to Aquarium. UNEP - WCMC, Cambridge, UK, 66 pp.