

Xenia elongata Dana, 1846

K. Madhu and Rema Madhu

IDENTIFICATION

Order : **Alcyonacea**

Family : **Xeniidae**

Common/FAO
Name (English) : **Pulse corals**



Local names: Not available

MORPHOLOGICAL DESCRIPTION

Xenia elongata has unbranched stalks that are long, thick and smooth, from which the polyps arise. The stalks of this species can grow up to 3 inches in length. The stalk has a group of feathery polyps at the end, with each polyp situated on a 1 inch to 2 inch long stem. The polyps open and close in a pulsing motion, hence the common name of pulse corals. The corals growing in good lighted conditions are lighter coloured and stockier compared to ones growing in less lighted conditions.



PROFILE

GEOGRAPHICAL DISTRIBUTION

They are found in the Indo-Pacific region and the Red Sea.

HABITAT AND BIOLOGY

Xenia elongata are generally found growing in clear and bright, shallow areas of up to 10 m depths. They usually inhabit protected, fairly shallow nutrient rich back reef areas in the wild where gentle currents exist. The species does not possess any stinging ability and will not bother other corals. *Xenia* polyps pulse (opens and closes) every one to five seconds and this is thought to be a mechanism to increase photosynthesis by increasing exchange of oxygen with the water. The species is also considered to be a good bioindicator since it absorbs nutrients from the water directly. Hence any change in nutrient levels in the water is expected to be visible in this species. *Xenia* is photosynthetic and does not accept any known foods. It absorbs dissolved organic matter directly from the water as mentioned above. It also derives nutrition from the symbiotic association with marine algae zooxanthellae.

They reach sexual maturity within one year, and can reproduce by several methods. It can reproduce naturally by longitudinal fission, once the colony is mature. It also uses budding for reproduction, or pinnitomy, where the pinnules fall from the main coral onto various substrates and grow into new corals.

PRODUCTION SYSTEMS

BREEDING IN CAPTIVE CONDITIONS

It is easy to propagate *Xenia elongata* in captivity. An easy but slow way of propagating it is to place a rock next to the new growth shoot. Within a few days, the new growth will attach itself to the piece of rock and separate out. For getting larger quantities, an easy method is to submerge a bowl with coral chipping (5-10 mm pieces) in the aquarium tank and placing individual polyps in the bowl. Within a few days the polyps will be attached to the substrate and can be harvested in large quantities.

LARVAL REARING

Information not available

FOOD AND FEEDING

As *Xenia elongata* possesses zooxanthella, with which it shares a symbiotic relation, it does not require plankton or special feeds.

GROWTH RATE

Information not available

DISEASES AND CONTROL MEASURES

Information not available

PRODUCTION, MARKET AND TRADE

PRODUCTION

Information not available

MARKET AND TRADE

Pulse corals are one of the most popular marine invertebrates traded globally. Individual pieces of this species are priced around ₹ 2,000.

CHALLENGES TO MARICULTURE

Standardized propagation systems for *Xenia elongata* needs to be developed. Being a sensitive species, water conditions also needs to be standardized. Moreover an efficient system of transportation with minimal stress to the species should be explored.

FUTURE PROSPECTS

Xenia elongata being a very popular ornamental species can be a suitable candidate for culture by small-scale fish farmers and fisherwomen groups. Several diterpenes (potential anti-cancer agents) have been isolated from this species. Hence mariculture of this species will provide a good source of corals for research purposes without harming wild populations.

SUGGESTED READING

Arvedlund, M., Craggs, J. and Pecorelli, J. 2003. Coral culture - possible future trends and directions. In Cato, J. C. and Brown, C. L. (Eds.), *Marine ornamental species: collection, culture, and conservation*, p. 233- 248.

<http://animal-world.com/Aquarium-Coral-Reefs/Pulse-Coral>

<http://www.reefkeeping.com/issues/2004-02/ac/feature/>

<https://reefcorner.com/reef-database-index/soft-coral-index/xenia-elongata/>

<https://reefcorner.com/reef-database-index/soft-coral-index/xenia-elongata/>

Janes, M. P. and Mary, A. G. 2012. Synopsis of the Family Xenidiidae (Cnidaria: Octocorallia): Status and Trends. Proceedings of the 12th International Coral Reef Symposium, Cairns, Australia, 9-13 July 2012, 5 pp.

Studivan, M. S., Hatch, W. and Mitchelmore, C. L. 2015. Responses of the soft coral *Xenia elongata* following acute exposure to a chemical dispersant. Springer Plus, 4: 80-90.

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