

Lambis lambis (Linnaeus, 1758)

Jasmin F.

IDENTIFICATION

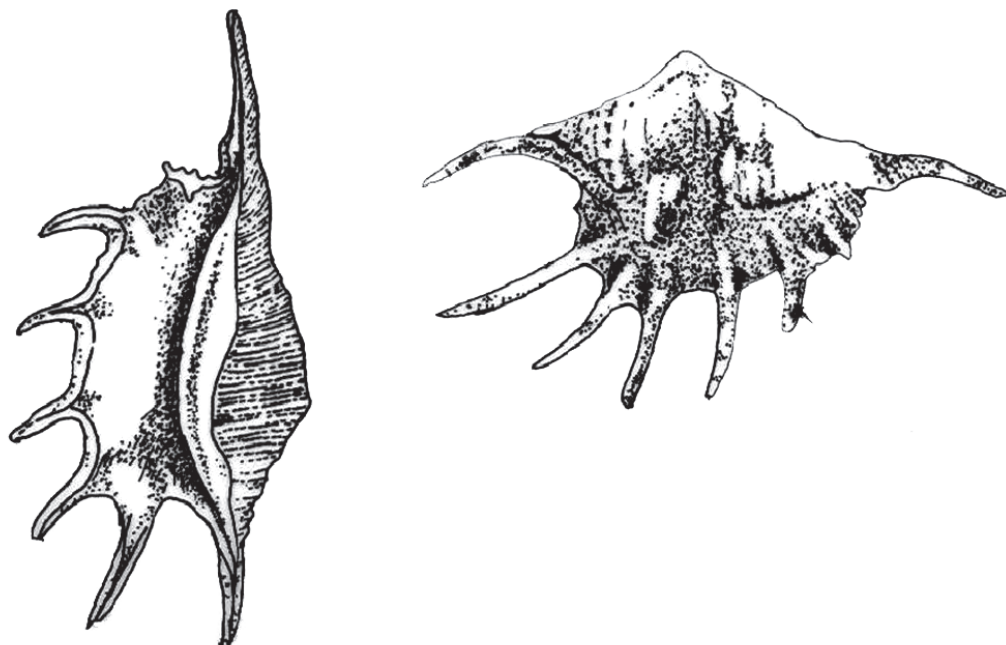
Order	: Littorinimorpha
Family	: Strombidae
Common/FAO Name (English)	: Common spider conch



Local names: Aiviral sangu (Tamil)

MORPHOLOGICAL DESCRIPTION

Lambis lambis or the common spider conch as the name typifies is easily identified by six extensions of the shell which resemble a spider's legs. The extensions of the shell are limited to flat lobes in juveniles and sub-adults. In males the anterior three extensions are short and bent backwards slightly. In females on the other hand, the anterior three extensions are long and dorsally recurved. The stromboid notch is present. The aperture of the shell is wide and often pink in colour. The anterior siphonal canal is long, through which water is drawn over the gills and into the mantle cavity. The colour of the shell is white or cream with brown, purplish or bluish black patches. The shell interior is glazed and either pink, orange or purple in colour.



PROFILE

GEOGRAPHICAL DISTRIBUTION

It is distributed in the Indo-West Pacific region along Aldabra, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Tanzania, Micronesia eastern Melanesia, Taiwan, southern Japan, northern Australia, the Persian Gulf and the Red Sea. It is reported along the south-east coast of India.

HABITAT AND BIOLOGY

It inhabits mangrove areas, as well as reef flats and coral-rubble bottoms in shallow waters from low tide levels up to the depths of 5 m. It is usually found in association with red algae. There is a significant size difference between males and females. Usually males grow more than females in size. Average length of the shell is about 18 cm. The peak spawning activity of the species is during October-December.

BREEDING IN CAPTIVE CONDITIONS

The broodstock development, breeding and larval rearing of *Lambis lambis* was carried out on an experimental basis at Tuticorin R. C. of CMFRI. Brooders ranging from 152-184 mm and 80-400 g in size and weight were collected from wild and stocked in 1 t capacity tank with 750 l water. Sand was provided in bottom of the tank to a height of 10 cm. The tank was provided with re-circulatory facility with 300 % water re-circulation. The stocking density was 10 nos./750 l. Macroalgae collected from the sublittoral area (*Sargassum* spp., *Padina* spp. and *Ulva* spp.) were supplied as feed in the brooder tanks *ad libitum*. The male and female mating happened during late evening/night. Several cylindrical white to pale brown coloured egg filaments were released during spawning. These egg filaments get attached to the seaweeds/boulders provided in the tanks. The diameter of the egg filament was 1,652-1,822 μm . There was about 22-25 eggs in one cm of egg filament strip. Spherical embryos measured 535-559 μm in diameter and were found enclosed within a transparent globular membrane. On 5th or 6th day, embryos developed as free veliger larvae.

LARVAL REARING

Larval rearing was carried out in 5 l glass beaker as well as 75 l FRP tank at density of 100 larvae/l. The size of the veliger larvae ranged from 617-637 μm . The larvae were fed once in the morning with pure culture of *Isochrysis galbana* at a concentration of 35,000 cells/ml for up to 5 days and then onwards at a concentration of 50,000 cells/ml for upto 21 days. Larvae took about 3 weeks to reach competency and metamorphose into post-larvae. 100 % post-larval mortality occurred during day 21 to 35 of larval rearing.

FOOD AND FEEDING

It is herbivorous, feeding on fine red algae. It exhibits a preference for *Ulva* spp. and grazes on it extensively without any mortality for more than a year. Brooders are fed on macroalgal diet including *Sargassum* spp., *Padina* spp. and *Ulva* spp.

GROWTH RATE

Information not available

DISEASES AND CONTROL MEASURES

Major problem in larval rearing is ciliate infection. Larvae shell severely infested with *Vorticella* sp. becomes inactive and rest on the tank bottom.

PRODUCTION

Information not available

MARKET AND TRADE

The rate of the shell depends on the size and quality with processed shells fetching upwards of ₹ 50/shell.

CHALLENGES TO MARICULTURE

Currently culture of spider conch is on an experimental basis in the country. Though successful broodstock development, breeding and larval rearing has been achieved, nursery rearing has failed. Hence research on carrying out successful nursery rearing of spider conch needs to be carried out.

FUTURE PROSPECTS

Of the eleven known species of *Lambis* from Indian waters, six are listed under Schedule IV of the Indian Wildlife Protection Act, 1972, banning commercial exploitation. Mariculture practice of gastropods needs to be developed and should be used to conserve and replenish the depleted stocks.

SUGGESTED READING

<http://eol.org/pages/4872807/details>

<http://www.marinespecies.org/aphia.php?p=taxdetails&id=211096>

<http://www.sealifebase.org/summary/Lambis-lambis.html>

https://www.gbri.org.au/Species/Lambis_lambis.aspx?PageContentID=1962

Jagadis, I., Kavitha, M., Padmanathan, J., Ashok, M. and Varadarajkumar, A. 2016. Lessons on broodstock maintenance, spawning, larval rearing and juvenile production of marine gastropods of ornamental. *Aquacult. Res.*, p. 1-12.

Jagadis, I., Shanmugasundaram, K. and Padmanathan, J. 2012. Observations on broodstock maintenance, breeding and early larval development of the common spider conch *Lambis lambis* (Linnaeus, 1758) in captivity. *Indian J. Fish.*, 59: 165-169.

Nair, R. V. 1974. The commercial molluscs of India. *CMFRI Bulletin*, 25: 1-168.

Poutiers, J. M. 1998. Gastropods. In: Carpenter, K. E. and Niem, V. H. (Eds.), *FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific, volume 1, Seaweeds, corals, bivalves, and gastropods.* Rome, FAO, p. 363-648.