

# Natural History Snippets

Brief reports by members based on their observations of nature

## Feather stars in Sri Lanka ECHINODERMATA, CRINOIDEA



A crinoid feeding, perched on a sea whip off Colombo  
Photo: *Malik Fernando*



Crinoids at rest, Uppuveli, Trincomalee  
Photo: *Malik Fernando*

Feather stars, or crinoids after the scientific class name, are some of the most colourful invertebrates in the sea. They have not been formally studied in this country in recent years. Twenty-six species in seven families from shallow water (shoreline to 20 metres) have been listed by Clark & Rowe in their 1971 monograph, from the “Ceylon area”. A few have been collected by us and identified using the key in Clark & Rowe—but not verified or confirmed. They are collected for the aquarium trade.

Crinoids are often seen while diving. In shallow water near the shore they are usually inside crevices



A drawing of a crinoid copied from George & George showing the claw-like attaching structures below called *cirri*. The tiny body is hidden by the bases of the many feather-like arms.

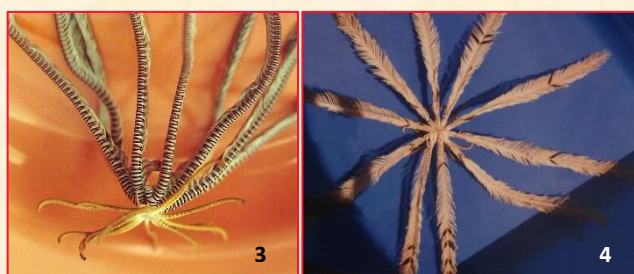
with their arms curled in the daytime (photo top right), coming out at night to feed. It is

difficult to extract these animals without damage. In deeper water they may be out in the open enabling collection, as we found at Black Coral Point, Hikkaduwa, at depths between 20 and 30 m in January of 1996.



*Capillaster macrobrachius*, Pahala Gala, off Boossa, 20 m, from a crevice

Crinoids have very small bodies with a twisted ‘U’-shaped gut, both openings being on the dorsal surface. Below are the *cirri*, by which they attach themselves to the substrate. Some species, such as *C. macrobrachius*, are without *cirri* (Fig. 1). *A. tessellata* has strong *cirri*, characteristically straight proximally and curved distally (Fig. 3).



*Amphimetra tessellata*, Black Coral Point, 20+ m

From the central ‘body’ project 5 arms that soon fork—once, giving rise to 10 arms (Fig. 4) or repeatedly (Fig. 1) to result in many arms (Fig. 2). Branching to either side are numerous flexible pinnules, giving the feathery look. The proximal pinnules arch over the centre, protecting the mouth and other structures (Fig. 5).

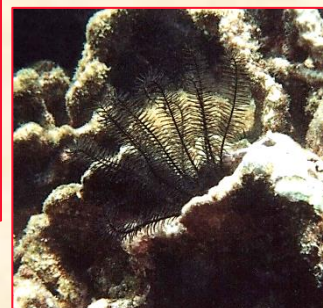


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The pinnules are part of the feeding strategy. They possess grooves on the upper surface that trap detritus raining down from above. These trapped particles pass to grooves lined by tube-feet on the upper surface of the arms

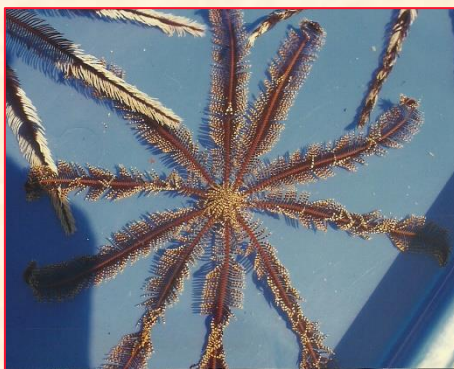
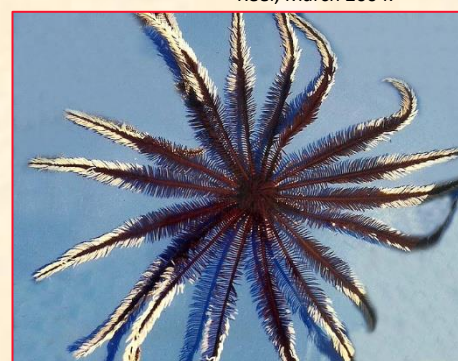
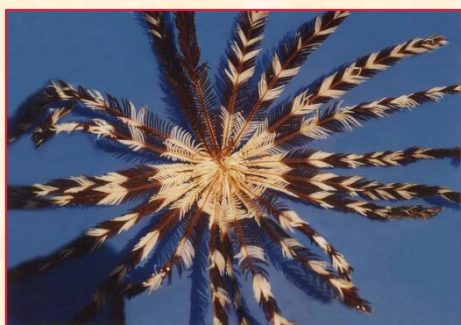
and are thence directed to the mouth at the centre of the body, the anus being to one side. (Nichols, 1969)

Figures 2 and 4 (previous page) are dorsal views, 1 is a ventral view and 3 lateral. Collected specimens tend to curl into balls but relax and spread their arms when placed in trays of unaerated seawater, enabling photography and examination of the anatomy.



Unidentified crinoid in-situ, Uppuveli, Sept. 2006 (left). The dorsal view in an aquarium, collected for the trade (centre). In-situ, Kattankudy, June 2005, showing the cirri gripping the rock (right).

Unidentified crinoid in-situ, Bar Reef, March 2004.



Displayed above are six images of unidentified crinoids collected by SCUBA diving at Black Coral Point, Hikkaduwa in 1996, during a taxonomy workshop. Besides such obvious differences such as number of arms, identification depends on anatomical details of the skeletal elements, requiring close examination.

All photography by Malik Fernando, underwater with SCUBA equipment, or ex-situ in aquaria.

Darrel Fryer is thanked for making specimens available to me.

Arjan Rajasuriya is thanked for making me a part of his diving team, enabling me to reach many sites unknown to me.

The *March for Conservation* organised taxonomy workshop of 1996 made the Black Coral Point crinoids available.

Malik Fernando – 17.8.2023

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