

**THE SPAWNING OF THE HOLOTHURIAN
ACTINOPYGA MAURITIANA (QUOY AND GAIMARD)
ON BOARD FORV SAGAR SAMPADA**

ABSTRACT

Four specimens of *Actinopyga mauritiana* collected on 27th September 1988 in Andaman waters south of Burmanalla near Port Blair, were left in the Aquarium on board FORV *Sagar Sampada* for observations. The surface temperature of the sea water was 25.0° C and the sea water in the Aquarium was 29.2° C. The higher temperature in the Aquarium triggered the male holothurians to spawn first followed by the female. The fertilized eggs developed only upto four-celled stage.

INFORMATION on the spawning of holothurians is sparse. Hyman (1955) summarised available information on the spawning of holothurian. Conard (1982) studied the reproductive cycle of closely allied species *Actinopyga echinites* from New Caledonia. James *et al.* (1988) succeeded for the first time to induce the commercially important holothurian *Holothuria (Metriatyla) scabra* to spawn in the laboratory by thermal stimulation. Lot of information is published in recent years on the spawning and rearing of the commercially important species *Apostichopus japonicus* from Japan and China.

Mortensen (1937) reported the spawning of *A. mauritiana* along with other species of holothurians on the Egyptian Coast of the Red Sea between April, 18 and June 27 in 1936. Conard (Per. comm.) informed that Dr. R. Richmond of the University of Guam succeeded in inducing *A. mauritiana* to spawn in the laboratory to study the development, but no other details are available.

During a cruise to Andamans on board FORV *Sagar Sampada* in September 1988 four specimens of *Actinopyga mauritiana* were collected from south of Burmanalla near Port Blair. Actually the specimens were collected

on 27th September 1988 between 1315 to 1445 hrs. At the time of collection it was heavily raining and the surface temperature of sea water was 25°C. The specimens were brought to the Aquarium on board FORV *Sagar Sampada* at 1830 hrs and stocked. The temperature of the sea water in the aquarium was 29.2°C. The specimens released were found to cling to the upper portion of the side wall of the aquarium tank. One male specimen began to spawn at 1915 hrs on the same day. The sperms were released as white streak from the gonopore situated on the dorsal side (Plate I). It soon mixed with sea water. The sperms in the sea water induced a female to spawn by 2200 hrs. The fertilized eggs proceeded in development only till the four-celled stage.

The obvious reason for spawning was that the sea water in the aquarium tank was 4.2°C higher than the sea water from which the specimens were collected. Hyman (1955) stated that holothurians brought in from nature and placed in the laboratory aquarium tend to spawn late afternoon or evening of the same day. The development could not proceed further than the four celled stage since the temperature in the aquarium tank was high.

Actinopyga mauritiana is highly priced species for *beche-de-mer* and it is distributed in the species can be sea ranched by inducing it to

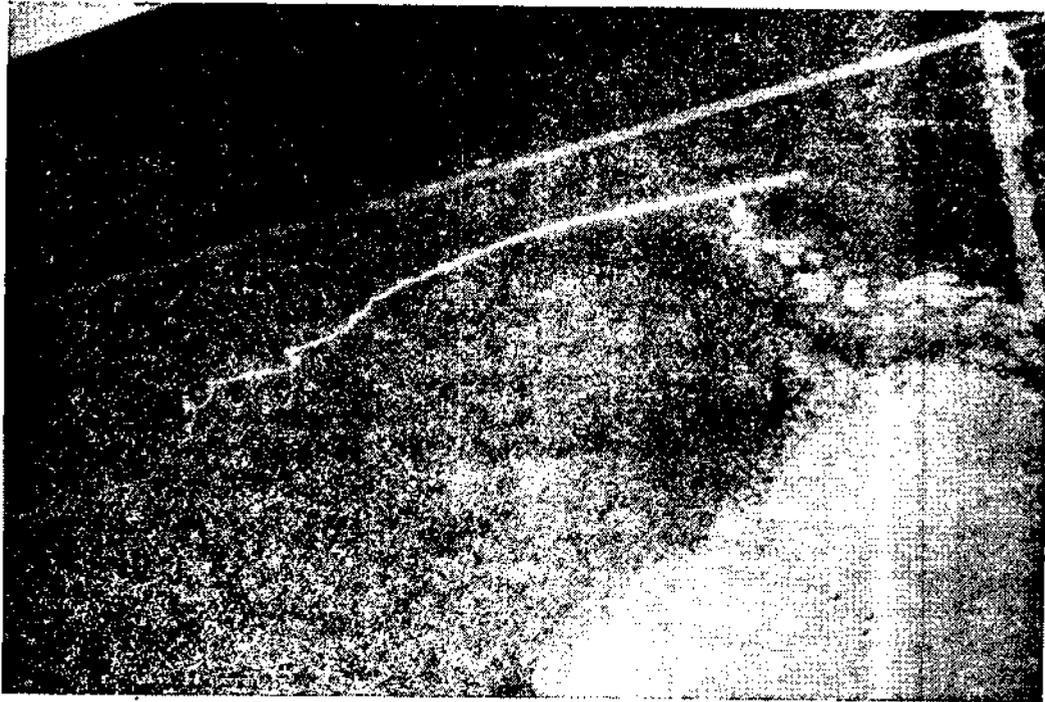


FIG. 1. A male *Actinopyga mauritiana* releasing the sperms in an aquarium tank.

Lakshadweep and the Andaman and Nicobar Islands in the Indian region (James 1989).

Central Marine Fisheries Research Institute,
Cochin 682 014.

D. B. JAMES*
M. KATHIRVEL
K. RAMDOSS
A. CHELLAM

* Present address: Tuticorin Research Centre of
CMFRI, Tuticorin 628 001, Tamil Nadu.

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