

**NOTE ON THE DEVELOPMENT OF THE ASTEROID  
*ASTERINA BURTONI* GRAY**

ABSTRACT

Some observations made on the development of *Asterina burtoni* Gray are given with figures.

THE early development of *Asterina gibbosa* has been studied by Ludwig (1882) and MacBride (1896). The development in *Asterina* is direct and a free swimming bipinnaria larva is absent.

A few live specimens of *Asterina burtoni* Gray were maintained in the laboratory in a glass trough. On 28-6-63 a female specimen liberated a few hundreds of eggs which were light bluish-green in colour. The eggs (Fig. 1a) were more or less spherical in shape and their diameter varied from 0.45 to 0.50 mm. Soon after the liberation of the eggs, a male specimen kept in the same trough discharged the sperms as a white milky substance. All the eggs after liberation sank to the bottom

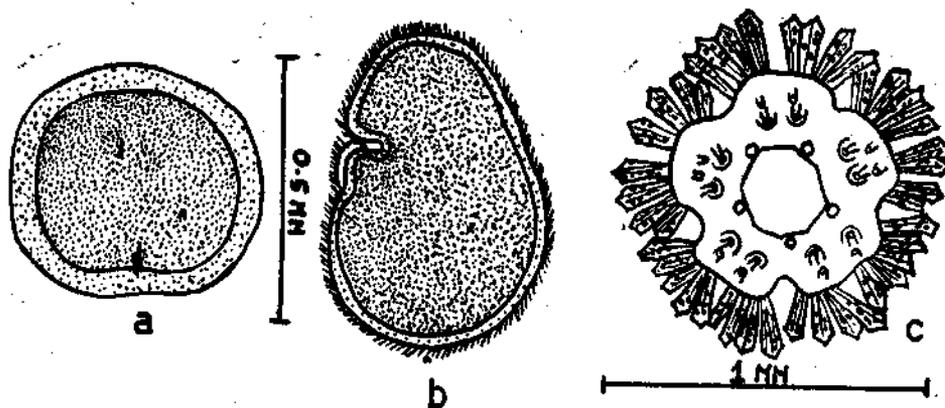


Fig. 1. *Asterina burtoni*. a. Egg; b. Three days old larva; and c. Newly metamorphosed starfish.

of the trough. The next day a number of small larvae were found swimming at the surface of the water. These larvae were oval in shape with cilia all over the body and with distinct blastopore at the anterior end. On the third day the larvae became elongated (Fig. 1b) with small brachiolar arms at the anterior end which became more and more prominent till the fourth day. At this stage the larvae measured 0.58 mm in length and 0.36 mm in breadth. When one of the larvae was gently pressed on a glass slide star-shaped plates were found at the anterior end. On the morning of the fifth day these larvae transformed into a miniature starfish (Fig. 1c) which sank to the bottom of the trough. The size of the miniature starfish was about 0.80 mm. The central plate and the primary interradial plates were separate. Each arm had eight or nine spines which were webbed in two groups.

As days advanced the space between the central plate and the genital plates disappeared due to the development of interpolated plates. By the twenty-first day the starfish measured 0.91 mm in size with ten well developed spines for each arm.

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#### REFERENCES

- LUDWIG, H. 1882. *Ztschr. Wiss. Zool.*, 37.  
MACBRIDE, E. W. 1896. *Quart. Jour. Micros. Sci.*, 38 : 339-411.