

## NOTES

### A NOTE ON A HEAVY SETTLEMENT OF *PINCTADA* SP. (LAMELLIBRANCHIATA) SPAT ON OCEAN ROAD BEACH, DAR ES SALAAM

#### ABSTRACT

A heavy settlement of *Pinctada* sp. spat appeared suddenly on leaves of *Cymodacea rotundata* on Ocean Road Beach in Dar es Salaam, Tanzania. The settlement lasted for six weeks only and then disappeared. It was the first such heavy recruitment of bivalve spat seen in the area since regular visits to the beach started in 1971.

DURING the last week of February 1979 a heavy settlement of *Pinctada vulgaris* (Schumacher) was observed on the leaves of *Cymodacea rotundata* (Aschers & Schweinf), on Ocean Road sandy/muddy shore. This beach is regularly visited by staff of Kunduchi Marine Biological Station of the University of Dar es Salaam. Preliminary results of some aspects of the ecology of this beach have been reported before (Mwaiseje, 1973).

A few leaves of *Cymodacea* on which the spat had settled were collected during every spring tide, about once a fortnight, and taken to the laboratory for counting the number of spat. The area of the leaves available to the spat was determined by measuring the breadth and total length of the leaves. No spat was found on other grasses such as *Halophila ovalis* (R.Br.) Hook. f., *Cymodacea serrulata* (R.Br.) Aschers & Magnus and *Halodule wrightii*? which occupy the same area as *Cymodacea rotundata*. Also, no spat was found on *Cymodacea* from other shores such as Oyster Bay, Msasani, Kunduchi and Mjimwema which were visited during the period.

The recruitment of the spat was sudden, then declined over time. It disappeared completely by the fourth week of April (Table 1). The spat found on *Cymodacea rotundata* during this study represent the primary settlement of early plantigrades of *Pinctada vulgaris*, the common pearl oyster of Dar es Salaam area. The settling behaviour of bivalve spat is well known in mussels. For example De Blok and Geelan (1958) and Bayne (1964) have explained the primary and secondary settlement in *Mytilus edulis* L.

TABLE 1. Fortnightly sample results of average plantigrade density per cm<sup>2</sup> of *Cymodacea rotundata* leaf surface

Period	February Week 4	March Week 2	March Week 4	April Week 3	April Week 4
Total plantigrade population (Nos.)	717	763	227	187	None
Total length of leaves (cms)	423.6	269.8	437.2	670.5	—
Average area of leaves surface (cm <sup>2</sup> )	120.73	94.3	153.0	268.2	—
Average density of plantigrades/cm <sup>2</sup>	6	8	2	1	—

In mussels, primary settlement is directed on to filamentous substrates such as *Cladophora* sp. and *Corallina* sp. and settlement on relatively broad algae such as *Gigartina* sp. may also occur (Seed, 1969). *Pinctada* sp. primary settlement, as observed during this study, is limited to *Cymodacea rotundata* which has relatively broad leaves. The average width of the leaves sampled was 0.4 cm. The difference between *Mytilus edulis* and *Pinctada* in the choice of substrate for primary settlement may be attributed to the differences in the size of the plantigrades themselves. Bayne (1964) found that the majority of the mussel seeds found in algae measure between 0.9 mm and 1.5 mm, while the size of *Pinctada* spat found on *Cymodacea* during this study measure between 1.0 mm and 0.6 mm in length.

The results reported here may indirectly indicate the breeding time for *Pinctada vulgaris* and also the period of maximum recruitment of the species to the benthos in areas where the adults are found.

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