



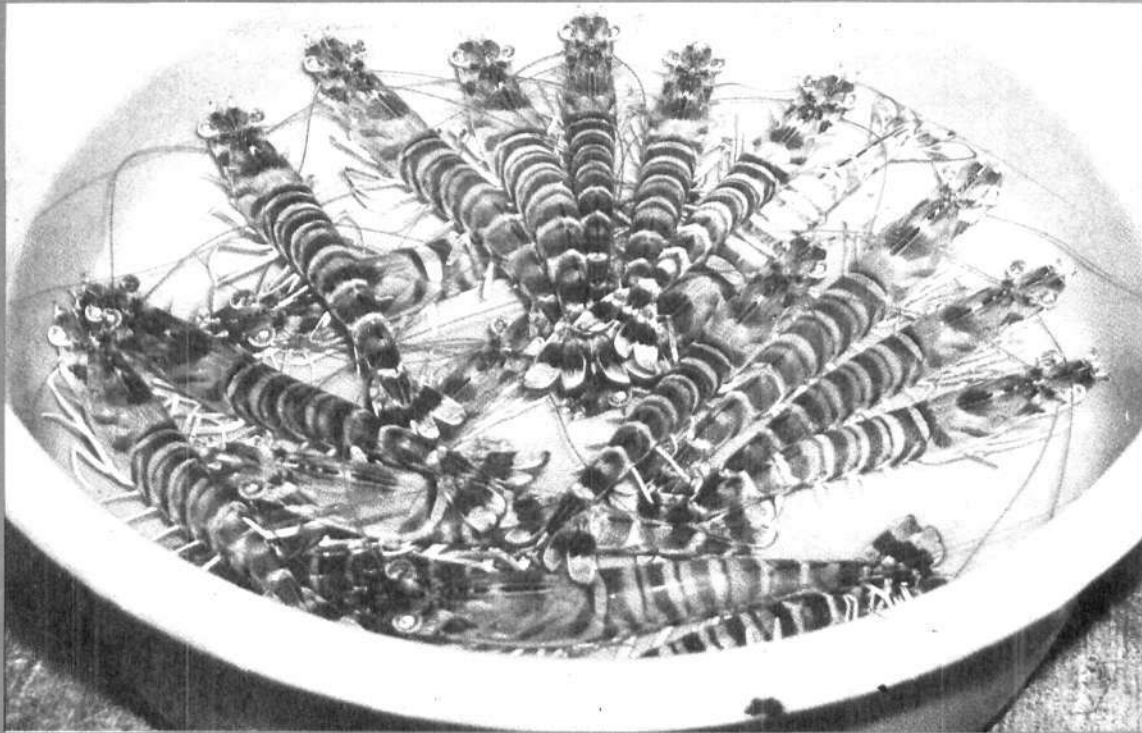
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**823 A NOTE ON SPAT SETTLEMENT AND GROWTH OF THE PEARL OYSTER
PINCTADA CHEMNITZII (PHILIPPI) IN KAKINADA BAY**

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Pearl oyster *Pinctada chemnitzii*, belonging to the family Pteridae has been reported from Kakinada Bay. They are found in the coarse sandy-mud bottom at 0.3 to 3.0 m depth range towards eastern side of the Bay near Hope Island, attached to dead windowpane oyster shells. The population biomass the species in the Bay has been estimated to be 314 tonnes. Detailed study on the biology including spat settlement of the species is lacking. In the present study the spat settlement and growth of *P. chemnitzii* in Kakinada Bay is dealt with.

Spat of *P. chemnitzii* was noticed accidentally in the velon screen bags, suspended in the Bay

from the fisheries harbour jetty for rearing *Pinctada fucata*. The spat settlement was observed in September 1996 and the spat measured 5 to 7 mm in DVM (Dorso ventral measurement). Spat were segregated and reared separately in velon screen bags, till they attained 20 to 25 mm size. At this stage they were transferred to cages for further rearing. The velon screen bags and cages were suspended in the Bay at a minimum depth of 75 cm.

The environmental features of the area during the study period are detailed in the article by the same authors elsewhere in this issue.

The shell of the species is very much like that

of *P. fucata* except that the convexity of the valve is much less. Externally the valve is reddish-brown with few cream yellow radial markings from the umbo to the margin of the shell. The inner nacreous lining of the valve is bright and lustrous.

Growth of the pearl oyster, *P. chemnitzii* was very rapid when compared to that of *P. fucata* reared at the same site (Fig. 1). *P. fucata* grew to an average size of 43.8 mm in DVM from 20.24 mm in 176 days, with a monthly growth rate ranging between 2.34 and 6.07 mm whereas *P. chemnitzii* attained an average size of 68.3 mm in DVM, ranging from 64.6 to 73.4 mm during the same

period. The monthly growth rate of the species ranged between 9.57 and 11.43 mm. They attained an average weight of 28.3 g and 18.0 mm thickness. Growth of the oyster was slow during November-December, due to low water temperature and salinity.

High survival of 84.6 % was obtained during the 176 day rearing. Mortality was observed only at the early spat stage during the first two months after settlement.

Barnacles (*Balanus* sp.), oysters (*Crassostrea* sp.) mussels (*Perna* sp.), *Modiolus* sp., boring polychaetes (*Polydora* sp.) and sponges were found settled over the oysters and cages throughout the rearing period. Peak settlement was observed during January-March period when the salinity was high.

Remarks

The pearl oyster *P. chemnitzii* has shown good growth rate when compared to that of *P. fucata*. But the species at present has little commercial importance, since it is not being used for pearl production. Detailed investigations on its biology and related aspects are needed to exploit the resource for commercial purpose. Since *P. chemnitzii* also have pearl production capacity, their suitability for commercial pearl production is to be investigated through further experiments.

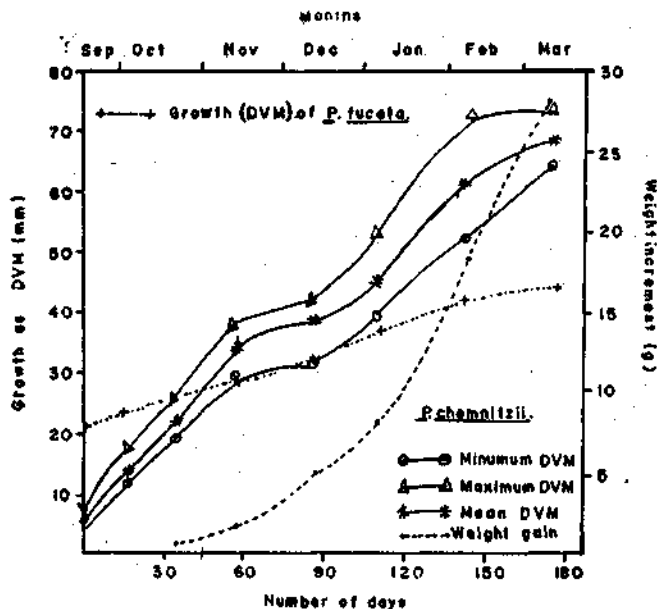


Fig. 1. Growth of the pearl oysters, *Pinctada chemnitzii* and *Pinctada fucata* in Kakinada Bay.