

Successful Larval Rearing of Winged Pearl Oyster *Pteria breviaalata*

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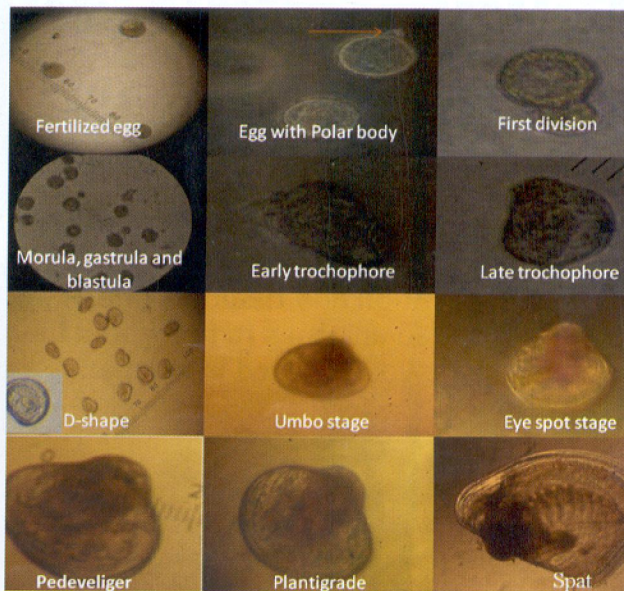
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The genus *Pteria* which is commonly known as winged pearl oyster is traditionally known for its use in mabe pearl industry due to the lustrous nature of its pearls. Vaitheeswaran *et al.* (2013) first reported a natural pearl from *Pteria breviaalata* which has increased the importance of this species in pearl research. Winged pearl oysters, *Pteria breviaalata* were collected from Kayalpattinam coastal area, Gulf of Mannar. The oysters spawned naturally after 24hrs of collection. The fertilised eggs were transformed to morula after 4hrs and turned to D shape or veliger with a size of 50µm after 24hrs. Due to mild spawning, the total larvae were 120,000 and these were kept in plastic troughs with a stocking density of 2 larvae/ml. A nutritional diet of marine microalgae, *Isochrysis galbana*, was given as feed throughout the period with the ratio of 5,000 cells/larvae for D-shape to umbo, 10,000 cells/larvae for umbo to eye spot, 15,000 cells/larvae for eye spot to pediveliger, and 20,000 cells for plantigrade and spat. Early umbo stage with a size of 90µm was observed on day 7, eye spot stage (150µm) on 17th day, pediveliger (190µm) on 19th day, plantigrade (250µm) on 21st day and spat (270µm) on 23rd day, respectively. Survival rate was 1% at spat stage and spats were maintained with *C. calcitrans* and *I. galbana* as feed for upto 50 days. The average size of spat is 1.2mm and the average shell height/hinge length ratio was 0.54. Due to the dwindling population of pearl oysters *Pinctada fucata*, the *Pteria* sp. is an important substitute in the pearl producing industry and more knowledge of the hatchery techniques of this species will surely help to sustain it as

an alternate species for pearl production.

References

VAITHEESWARAN T, JAYAKUMAR N, VENKATARAMANI VK (2013) A record of natural pearl oyster *Pteria breviaalata* (Dunker, 1873) (family: pteriidae) with natural pearl from Kayalpattinam coast of Gulf of Mannar, South East Coast of India. Tamil Nadu J. Veterinary & Animal Sciences 9 (5) 320 – 324.



Larval stages of *Pteria breviaalata*