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**Gastropod predation on the sacred chank,  
*Xancus pyrum* in the Gulf of Mannar**

Gulf of Mannar, on the south-east coast of India, is rich in molluscan resources, chiefly the sacred chanks and pearl oysters. These populations in their natural habitat are subject to predation by gastropods, echinoderms and fishes. Serious damage was caused especially to bivalves in the natural habitat by the predatory gastropods like *Cymatium cingulatum* and *Murex virgineus*. Predation by *M. virgineus* on sacred chank is interesting and worth noting. The predatory habit of *M. virgineus* on the bivalve (pearl oyster) has already been reported where the

predator attaches on the right valve of the pearl oyster by extending its foot. When the foot of the predator is extended properly over target area and retracted in, the edge of the left valve of the prey is crushed against the spine of the shell of the predator thus causing a gap between the valves of the prey. Through the gap between the valves the proboscis of the predator is inserted and the soft tissues like hepatopancreas and gonad are sucked. The hard tissues of adductor muscle, foot and mantle are left uneaten. The predation of *M. virgineus* on edible



Fig. 1. Gastropod predator *M. virgineus*

oyster, *Crassostrea madrasensis* is different from that on pearl oyster because the shell of the edible oyster is hard and thick and therefore the method adopted for crushing pearl oyster shell is not applicable in this case. Here the predator sits patiently at the shell gap of edible oyster till the prey opens its shell valve for feeding and respiration. Once the shell is opened, the proboscis of the predator is slowly inserted through the shell gap and the predator start feeding on the soft tissues of the edible oyster leaving hard tissues like adductor muscle and mantle uneaten. It is interesting to note that predatory behaviour of *M. virgineus* is changed according to the nature of the prey.

In the absence of bivalve, *M. virgineus* resorted to a different type of predation on the sacred chank. It has been experimentally shown that when the predator is introduced in the tank containing the live chank, it easily locates the live chank and climb over it (Fig. 1.) The selection of site for boring on the live chank shell is really a wonder as it coincides with the site where soft tissues like hepatopancreas and gonad are located. Selection of site by two separate individual predators is also a notable feature. When the



Fig. 2. Holes made by *M. virgineus*

exact site is located by the predator it remains attached there continuously for three days. During the three days period, the predator makes a tiny hole on the shell (Fig. 2.) Once the 7-10 mm deep and 3-5 mm dia hole is made in the thick shell of the prey to reach the soft tissue inside, it inserts the proboscis and sucks the soft tissues. Hard muscles are uneaten and ultimately it causes the death of the chank.

The predation of *M. virgineus* on sacred chank is not a regular feature but in the absence of bivalve it resorts to predation on chanks. The round hole is made with the help of serrated radula and performs several types of radular movements and secretion of some juices for softening the spot during drilling. Some gastropods secrete narcotizing juices in the shell gaps and automatically the prey is fatigued. Some species have poisonous stings to kill the prey or enemies. Normally when the bivalves are present, *M. virgineus* prefers to feed on them as feeding is relatively easy.

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