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CULTURE OF EDIBLE MOLLUSCS

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FISHERY AND BIOLOGY OF MUSSELS

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Two species of mussels occur in India, the green mussel, Perna viridis and the brown mussel, Perna indica.

The green mussel fishery is important in Malabar coast. This mussel locally known as "Kallummelkai" (Rock fruit) or "Kadukkai" is eaten by the poorer section of the population. Since last two decades it has become a preferred delicacy even among the upper class people. Recently some factories are engaged in canning and freezing mussel meat for internal and export market.

FISHERY

The important mussel fishing centres in the Malabar area are Kasaragod, Cannanore, Dharmadom, Thalai, Mahe, Chombala, Badagara, Thikkodi, Cadaloor, Kollam, Moodadi, Kappad, Elathur, Puthiappa, Calicut, Chalium and Beypore. In these areas there are extensive mussel beds extending in an area of 2 to 3 kilometres from coast. About 800 people are regularly engaged in the fishery from Cannanore to Beypore. When the beds are exposed during low tide women and children collect large numbers of mussels by hand. The important fishing method is collection of mussels by diving. Two or three divers go in a canoe to the submerged rocks away from the shore and dive to collectthe mussels from the rocks. These mussels are stored in a coir net bag tied to their waist. Diving goes on till sufficient quantity is collected. Often a single person goes for this type of fishing on a floating log locally known as "Mutti". He suspends a big coir bag called "Mal" from the mutti for storing his collection. The method of collection is the same as above. When the bag tied to the mutti gets filled up, he comes ashore, unloads his catch and goes again for fishing on the same day depending on the market demand.

The important factor in the mussel fishery is that the mussels are sold in live condition. The catch is sold to the merchants in the

landing place itself. Formerly the mussels were reaching the market and consumers by head load only but recently trucks are engaged for transporting to internal markets also. Mussel meat alone neatly packed in plastic bags is available in the market. No reliable statistics are available regarding the mussel production in India. On a rough estimate the annual mussel production may amount to 15,00 tonnes.

BIOLOGY

Food: Microscopic algae and diatoms constitute the food of mussels. Large quantities of detritus also form the food of mussels.

Growth: Spat settlement along the Indian coasts takes place during the months of August, September and October. Thick carpet like growth of young mussels can be seen all over the inter tidal and submerged rocks during this period. It takes twelve months to attain the harvestable size in natural beds. Due to overcrowding of mussels, population the growth is comparatively slow. Moreover some of the beds are subjected to tidal exposure and constant surf action. This is also a limiting factor. It is observed that early growth is rapid. During the first year the mussel attains a length of 77 mm and in the next 6 months it grows to 97 mm. The mussel attains a length of 110 mm in 2 years.

Spawning: The sexes are separate. The gonad maturity commences in May and fully ripe condition is reached during June. Along the Indian coasts mussels spawn from July to October with a peak spawning period in August and September. The female are known to release up to 10 million eggs in a single spawning. The males simultaneously release their spawn and fertilization takes place in sea water.

After fertilization the developmental stages are extremely rapid. The trochophore stage is reached in about 12 to 14 hours and and the 'D' shaped larva or the early straight hinge larval stage is reached within three days, the hinged veliger stage on the 7th day while the late veliger is reached on the 10 th day of development. The larva prefers rough surface to smooth ones for settlement.