

ON THE POSSIBILITY OF MUSSEL CULTURE

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MUSSEL RESOURCE AT CHIPPIGHAT

Of all the areas visited in the Andaman and Nicobar Islands, only Chippighat, a narrow tidal creek near Port Blair (Fig. 1), was found to have a sizable population of green mussel, *Perna viridis*. Bumiltan creek, as it is known, meanders to the interior from Flat Bay to Chippighat.

Ecology of the area

There is a standing column of 1-2 m of water in the creek always, all along its length and breadth. Salinity of the water in the creek on the day of observation was 32.29‰ the same as that of Flat Bay. It is quite possible that during the rainy months run off water from the surrounding elevated ground would find its way into the creek at many points. But the tidal amplitude reaching the Chippighat area is so pronounced as to neutralise to a very great extent the effect of the fresh water influx and dilution. A good percentage of the stock might perish during this period, especially those which are near the banks where the rivulets join the creek.

The bottom of the creek is mostly slushy, firm in certain areas and loose elsewhere. The rocks lying scattered here and there in the creek offers a good substratum for the mussel settlement (Fig. 2). Majority of mussels thriving in the area were found attached to these submerged stones, particularly to those lying scattered among the roots of mangrove trees lining the creek at 0.5 m depth. Skin-diving was resorted to for collecting the mussels from the middle of the creek.

On an average 14 specimens were collected from 1 sq. m. area in clusters of 5 or 6 growing on stones. A total of 102 live specimens was taken ranging in size from 60 mm to 130 mm. It is estimated that at present

there is a population of about 12,000 mussels in the area surveyed. Appukuttan (1977) has recorded this species as *Perna viridis*. Due to paucity of time, the

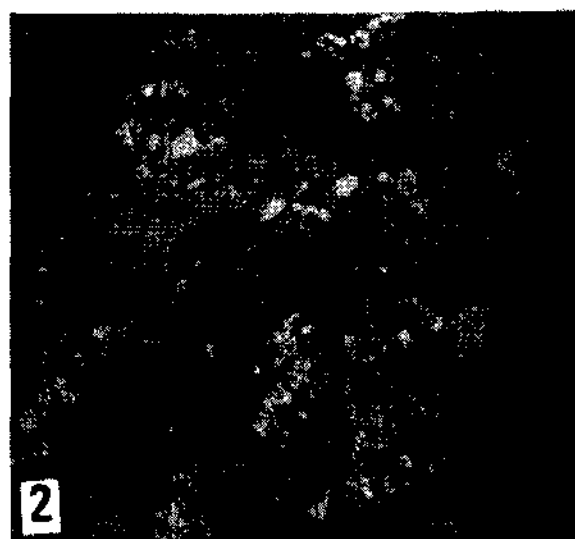
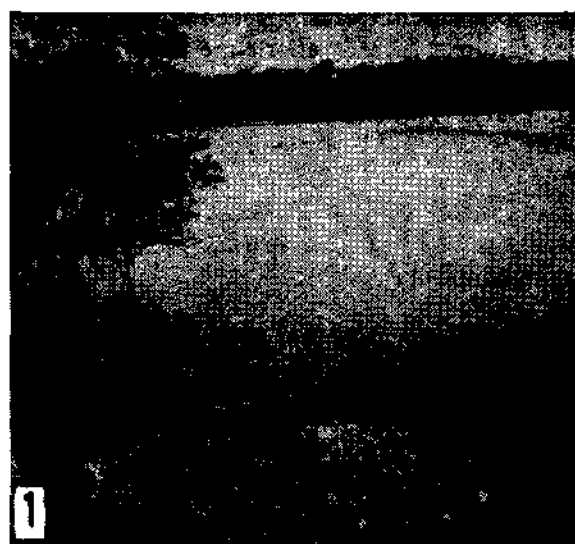


Fig. 1. The area at Chippighat where green mussel *Perna viridis* population occurs.

Fig. 2. Mussels found attached to rocks in the creek.

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survey could not be extended beyond to cover wider areas in the creek.

Culture possibilities

The area appears to be good for attempting mussel culture. The creek is easily accessible by road, and is sheltered from storms and surf action. Because of the shallow nature of the creek and the generally loose bottom it looks advisable to try erecting platforms on wooden poles, driven down the bottom. Mussels can be kept on trays positioned well below the water surface and grown to form the breeding stock. An alternate method would be to put them in nylon twine meshed bags suspended from the poles, keeping the mussel stock off bottom. During the spawning period, which is to be studied here, spat collection may be attempted by suspending loosely woven coir or nylon ropes of 10 mm diameter and 1 metre length. If spat collection is successful, these ropes can be spirally wound round 15-20 cm diameter 4 m long poles which can be driven for half their length into the sediment in the creek. These poles can be erected in rows perpendicular to the bank at sufficient intervals and an area of 1 ha can be initially cultivated. Based on the success of the experi-

ments more areas can be covered in this creek and in the adjacent areas of Minnie Bay and Navy Bay also.

REMARKS

It appears difficult to attempt mussel farming in the open sea coast areas of the eastern aspect of the island because of tidal and current force. However, Ariel Bay and Blair Bay of North Andaman and Bacon Bay in Mayabunder area of Middle Andaman are places where trials can be made. Although there are sheltered areas like Octavia Bay and Spiteful Bay in Camorta and Nancowry islands, the absence of natural mussel population and remoteness of these areas are factors against any effort to be made there at present.

It is well known that South Andaman receives copious amount of rain during May to December every year (280 cm). The seasonal streams emptying the rainwater into the tidal creek at Chippighat at various points have not completely destroyed the mussel population by the dilution of saline water. This shows encouraging signs and scope for starting culture work in this area. Once the attempts are successful in Chippighat, activities can be expanded to other areas with required local modifications in the growing technique.

REFERENCE

- APPUKUTTAN, K. K. 1977. On the occurrence of the green mussel *Perna viridis* (Linnaeus) in Andaman Island. *Indian J. Fish.*, 24 : 244-247.