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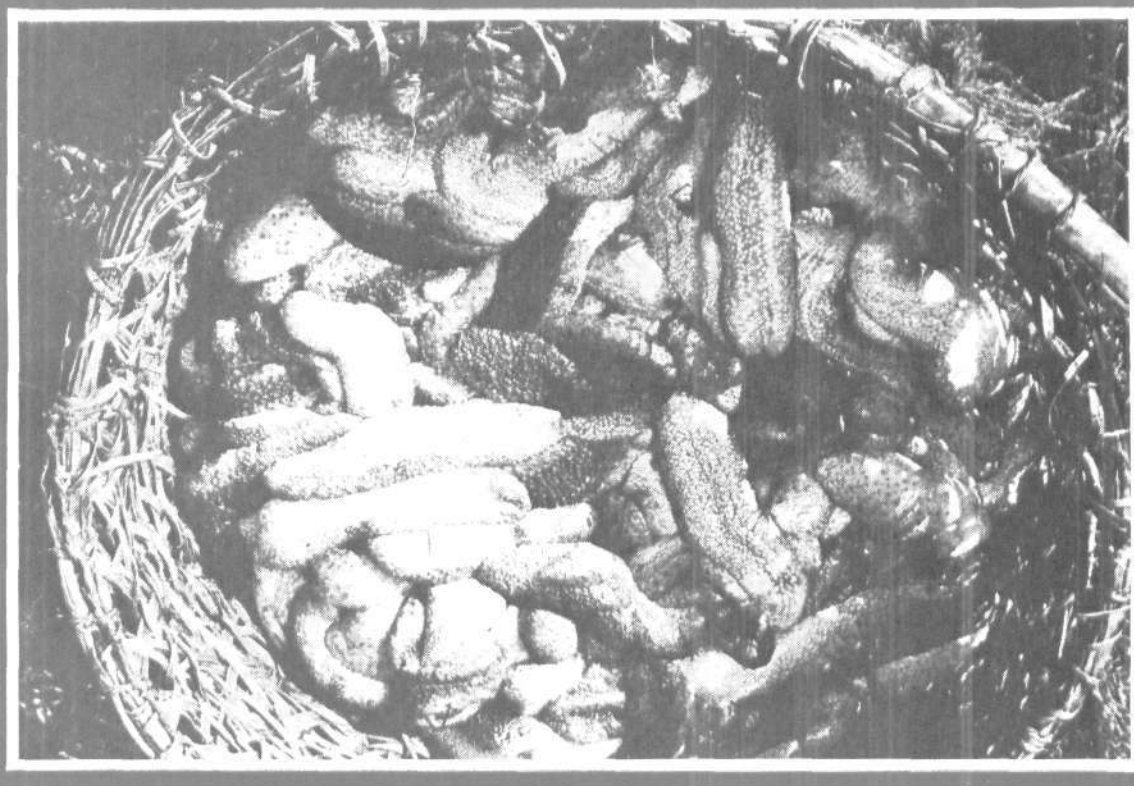

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OBSERVATIONS ON THE LANDINGS OF THE SEA CUCUMBER *HOLOTHURIA SPINIFERA* AT RAMESWARAM BY *CHANKU MADI*

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The seas around India are rich in sea cucumber resources. More than 650 species of sea cucumber are known from the various parts of the world and in India, nearly 200 species occur of which about a dozen species are of commercial importance.

Sea cucumber industry in India, was chiefly depending on one species *Holothuria scabra* locally known as *Vella attai*. In addition to this another species *H. spinifera* (Fig. 1) locally known as *Raja attai* or *Cheena attai* occurs in large quantities in some areas and are processed for export. This species was once rated high in the market. At present it is not much preferred by the buyers.

Sea cucumbers are collected by skin divers in shallow waters from 2 to 10 metres depth both in the Palk Bay and the Gulf of Mannar. The introduction of the trawling in the early sixties made increased landing of the sea cucumbers.

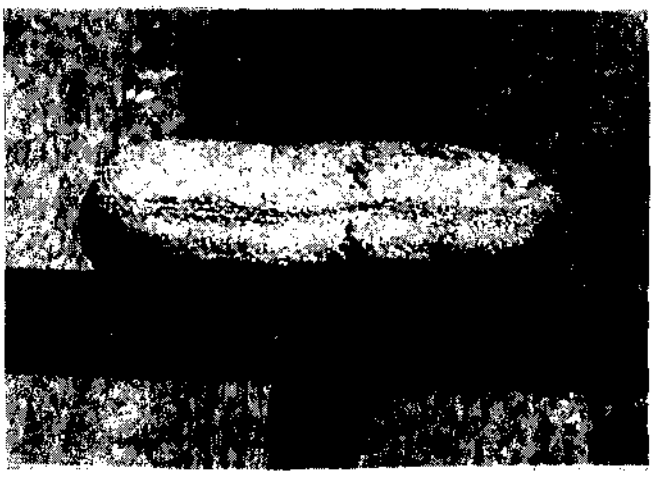

Fig. 1 *Holothuria spinifera*, ventral view.

Trawlers operating from Rameswaram fish landing centre occasionally land sea cucumbers but recently a few boats have made some modifications in the trawl nets to collect chanks which bring higher prices. The modified net is called *Chanku madi*. The name itself implies that this is meant for the collection of chanks *(Turbinella pyrum)*. During the course of observations good catches of chanks and sea cucumbers were landed by *Chanku madi*. A comparison of the different aspects of *Chanku madi* and shrimp trawl net is given below.

Sinkers : In the shrimp trawl net 110-150 sinkers are attached while in the *Chanku madi* the number of sinkers range from 300-500 per net and weighs about 60-70 kg.

Mesh size : In the shrimp trawl the mesh size is 25 mm while in the case of *Chanku madi* the mesh size is increased to 40 mm. The mesh increase is required to clear the mud and other debris caught in the net.

Trawling speed : As the load of the sinkers is increased the trawling speed of the *Chanku madi* is kept half at 2.5 km per hour while the fish trawling speed is kept at 4 km per hour.

Hauling : The shrimp trawl makes two hauls of four hours duration during a trip. In the case of *Chanku madi* the nets are hauled in every half an hour and 10-12 hauls are made per trip.

Fishery : The trawlers going for fishing usually do *thangal* fishing (one day and one night) using shrimp trawl and fish trawl for prawns and fishes respectively but sometimes when the above catches are poor they operate *Chanku madi* for collecting

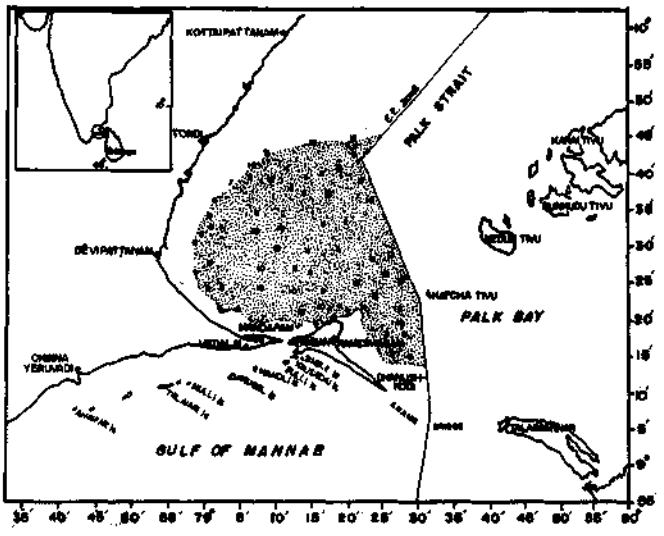

Fig. 2. Trawl fishing grounds in the Palk Bay off Mandapam.

chanks which bring good prices. About 10-20 trawlers usually operate *Chanku madi* but it is not a regular operation. The fishing grounds are off Rameswaram coast from Neduntivu to the adjacent place of Thalai Mannar at a depth of 12-16 metres (Fig. 2).

The species composition of the *Chanku madi* catch is as follows: *Turbinella pyrum* (61.22%), sea cucumbers (20.4%), rays *(Amphotistius kuhlii)* (16.33%) and starfish, sea shells and small fishes (2.04%). Among the sea cucumbers *Holothuria spinifera* comprised of 65% and *H. scabra* 35%. The sea cucumbers are brought in gunny bags (Fig. 3). As soon as the catches are brought to the shore, they are sorted out species-wise and size-wise. On an average 200-300 numbers of sea cucumbers are landed per boat during June - September which is the good fishing season. The estimated landings of sea cucumbers during 1994 - '95 are given in Table 1. There was no operation of *Chanku madi* during 1996.

TABLE 1. *Estimated landings of sea cucumbers in tonnes by* Chanku madi *during 1994 and 1995 at Rameswaram*

Year	Months	*Holothuria spinifera*	*Holothuria scabra*
1994	June-September	200	100
1995	July-September	260	50
Total		460	150

Mode of disposal : The sea cucumbers are sold to processors from Kilakarai, Rameswaram and Mandapam. *Holothuria spinifera* is priced at Rs. 4-7 per piece in fresh condition. Sea cucumbers trawled by *Chanku madi* command lesser price when compared to those collected by skin-diving due to spoilage in the sea itself. *H. spinifera* varies in length from 160 to 350 mm.

Fig. 3. Holothurians loaded in gunny bags at Rameswaram.

Fig. 4. *Holothuria spinifera* after degutting.

Fig. 5. *Holothuria spinifera* ready for boiling.

Processing : After sorting they are degutted and kept ready for boiling in a vessel (Fig. 4 & 5). They are boiled in ordinary oil drums (Fig. 6). The correct type of boiling pan is flat and saucer-shaped and made of cast iron (Fig. 7). The animals are usually boiled for one hour. Then they are taken

Fig. 6. *Holothuria spinifera* buried in sand.

Fig. 7. Country type pan for boiling sea cucumbers.

out of the drum and buried (F. 8) in wet sand near the sea shore to allow the bacteria to act on the outer surface of the skin. The next day they are taken out of the pit and thoroughly washed till the

Fig. 8. Ideal type of pan for boiling sea cucumbers.

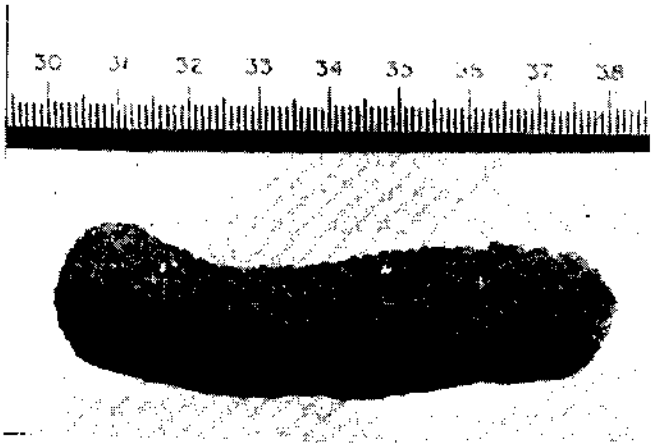

Fig. 9. Processed *H. spinifera.*

white material is removed. The product is again boiled for a few minutes to kill the bacteria sticking to the body.

Major catch of the sea cucumber landed at Rameswaram is processed there itself and a small portion at Mandapam. Processed *H. spinifera* (Fig. 9) fetches a price of Rs. 500 to 600 per kg depending on its count. The major portion of the processed material is sent to Kilakarai and some to Madras for export.