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14. RESOURCES STUDY OF THE CLAM *MESODESMA GLABRATUM* (LAMARCK) IN THE ISLANDS OF THE GULF OF MANNAR

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ABSTRACT

A survey of twenty Islands lying between Tuticorin and Pamban in the Gulf of Manner during 1977 indicated extensive beds ranging from 0.25 to I.SOsq.km of *Mesodesma glabratum* along the intartidal zones of these islands. The population density was very high in six islands nearer to Tuticorin and low In the Islands nearer to Pamban. It was estimated that the rich beds in Van Thivu and Upputhanni Thivu contained as much as 4,50,000 numbers each which is a seasonally renewable resource. At present this valuable resource remains unexploited.

INTRODUCTION

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Molluscan resources survey was undertaken in 1977 in the twenty islands of Gulf of Mannar as a part of programme carried out in connection with the setting up of a Marine National Park. The islands in the Gulf of Mannar had been subjected to intense human interference for the pastsevearal years. Exploitation in the islands had been concentrated on the live coral reef zone and associated fauna and flora. In the formulation of a conservation policy to put an end to the indiscriminate exploitation of the area it was felt essential to obtain qualitative and quantitative information on the existing marine Fauna and flora in this area. With this background a survey of these islands was undertaken by the Central Marine Fisheries Research Institute during 1977. During the course of this survey by CMFRI useful data and information have been collected. From available information it is known that a number of gastropod species populate in the coral reef zones in these islands but information about pelecypods is poor. During the course of this survey we came across a very interesting feature of the existence of large population of the clam *iVlesodesma giabratum* in the Intertidal areas of most of the islands. This clam is known for its edible meat Since the occurrence of this clam in the islands is not well known till now the population remains unexploited. The object of this paper is to highlight this aspect which it is hoped will be of value commercially Earlier Satyamurthi (1956) mentioned about the occurrence of live M *giabraturry* in the Krusadai ^"^ Shingle islands,

Survey

The islands in the Gulf of Mannar were surveyed during the period January to March '9^^, employing a 24 H P. motor launch M. L. Chippi for the sea trips. The survey covered Vanthivu in the south, near Tuticorin to Shingle Island in the north, near Pamban. The islands numbering 20 are grouped into I, II, III, and IV ^°*t* convenience: (I) comprising four islands (Van Tivu, Kasuwar Island, Karaichallai Island and Velanguchalli Island); (11) three islands. Upputanni Island, Puzhuvunnichalli Island and Nallatanni Island); (III) five islands (Anaipar island, Vallia munai Island, Appa Island, Thaliari Island, Valai Island and Mulli Island) and (IV) the rest viz. Musal Island, (Hare Island), Manoli Island, Manoliputti Island, Poomarichan Island, Pullivasal Island, Krusadi Island and Shingle Island (Fig. 1). Most of the islands are situated close to the main land. Sampling was carried out all along the intertidal zone in three areas viz. just below low water line, high water mark and between the low and high tide zones, Sampling was done at intervals of 10 m of the shore line in all islands. The results are as follows:

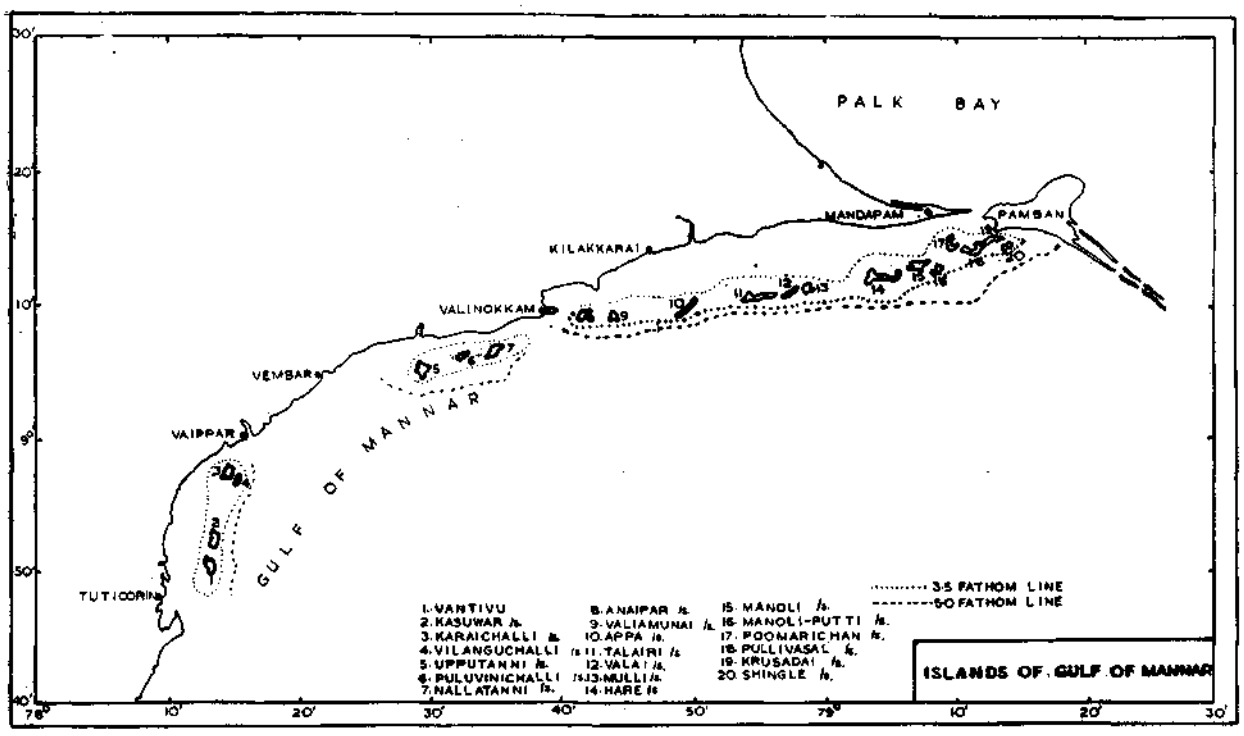

Fig. 1 Map showing the islands of Gulf of Mannar

Area of Availability of tlie clam Mesodesma galbratum *and density x)f population*

1. VanTivu : Available on the western side of the island for a length of 0.7 km. 300nos/m'.

2. Kasuwar Island Available on the western side of the island for a length of 0.7 km; 250 nos/m».

3. Karaichalii Island : Available on the western side of the Island for a length ICO nos'm^ .

4. Vilanguchalli Island : Clam abs«nt

5. Upputanni Island Sparsely populated on the western side of the Island covering a length of 0.5 km

6. Puluvinichalli Island Clam absent

7. Nallatanni Island : Sparsely populated

8. Anaipar Island Available on the western side of the island for a length of 0.6 km; 40 nos/mz.

9. Valiamunnai Island : Available all long the shore line i. e. 1170 m; 200 nos/m^.

10. Appa Island : Available all long the shore line i. e. 4840 m; 100 nos/m^.

11. Thalaiari Island : Clam absent

12.	Valai Island	Available all long the shoreline i. e 1889 m; concentration on the seaward side (east) of the island; 200 nos/m^.
13.	Mulli Island	Available on all along the shore line i. e. 1712 m. Thickly populated on the northern side of the island. Sparsely populated on rest of the shore line.
14.	Hare Island	: Available on all along the shore line i-e. 11520 m 100 nos/m^.
15.	Manoli Island	Sparsely populated; less than 5/m^
16.	Manoliputti Island	Sparsely populated; less than 5/mi.
17.	Poomarichan Island	Available on eastern, western and southern shore line. Absent on the northern side of the islard; 30 nos/m*.
18.	Pullivasan Island	Available on northern, southern and eastern shoreline of the island. lOOnos/m^.
19.	Krusadi island	: Available on all along the shore line i. e. 5193 m; 100 nos/m2.
20.	Shingle Island	'• Sparsely populated; less than 5/m^.

REMARKS

Judging from the above results it has been noticed that although the clam beds exist in many of the Islands, they are abundant only in the islands situated in between Tuticorin and Vembar It is interesting to note that the beds are situated in the islands where the sand has smaller proportion of comminuted shingles and reef fragments. The distribution pattern of the clams also shows variation in density in the three mtertidal zones. The area which is always bathed with sea water on the water front harbours greater density (165/m*). The zone within the high water mark is sparsely populated (9.5/m^) and the zone below the low water mark is less dense (nos. 48.5) than the middle zone.

The population consists predominantly of individuals in the size groups between 20-30 mm. The maximum size observed in the population was 50 mm in length. Small gj^ed dams are more in the middle zone, jf,^ ^^g^ ^^ ,he clam is found to be ^0% ^^ ^^e total weight (30-35 mm group), ^^ ^^^^^^^ ^^.^ ^ 1 ^ ^ .^ ^^^ ^^.^.^^^ ^^ j , ^ ^ j ^ ^ ^ ^ ^^^^^^^ estimated that there is a standing stock of nearly 3 million clams in all ^^^ .^^^^^^^ ^pa^j ^^^^ ,^,3 ;^„o^„ edible value ^, ^^^ ^^^^ ^^ ,^.^ ^,^^ ^j,^ ^j,^,, ^^^ ^^^ j , ^ ^^^^^^^ ^^ ^^^ j^^^^^^.^, ^^^^^^^^

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^....v,..., ,r,-r,i. *r^ -r* ,«,ro ~*r^.* „ • SATYAMURTHI, S. T. 1956. The mollusca of Krusadai Island (In the Gulf of Mannar), II. Scaphopoda, Pelecypoda and Cephalopoda. *BuJ/. Madras Govt. Mus. (New Ser.) Nat. Hist Sect.,* 1 (2), Part 7. pp. 135-137.