

GIANT CLAM (*TRIDACNA*) RESOURCESK. RAMADOSS¹

INTRODUCTION

Tridacna spp. which are known as giant clams are highly specialized bivalves. They live exclusively in shallow waters of the coral reef formations. They are sessile, found attached to or buried in corals and are tightly fastened to the substrate with byssus. The family Tridacnidae are protandrous hermaphrodites (Wada, 1952). The growth is slow which is about 5 cm/year (Rosewater, 1965). The lifespan is presumed to be long but no precise information is available. Tridacnids are not entirely dependent on the ciliary mechanism for food. They are able to 'farm' their food in their own tissues due to an unusual association with large numbers of unicellular symbiotic algae—Zooxanthellae (Yonge, 1963). In addition to that, the Tridacnidae serve as hosts to a number of other organisms such as shrimps as commensals. The giant clams are a common resource in many parts of the Andaman and Nicobar Islands and the paper presents their distribution as observed at the centres surveyed.

DISTRIBUTION OF TRIDACNIDS IN THE STUDY AREA

Rosewater (1965) has reviewed the family Tridacnidae in the Indo-Pacific region. Of the six known living species, four have been reported from Andaman and Nicobar Islands (Rosewater, 1965). Among them, *Tridacna crocea*, *T. maxima* and *T. squamosa* were recorded during the present survey. The fourth species *Hippopus hippopus* was not observed.

Table 1 shows the distribution of the 3 species in the areas surveyed. *Tridacna crocea* was more abundant in Andamans than in Nicobars. Havelock Island is rich in this species. Next in importance is *T. maxima* which was again more abundant in the Andamans. In Nicobars, Trinkat region appears to be rich for this species. *Tridacna squamosa* was sparsely distributed in Andaman and Nicobar Islands.

In the North Andaman (Diglipur area), survey was carried out in Ariel and Durgapur bays and Table and

TABLE 1. Distribution of Tridacnidae in intertidal and deeper areas in the Andaman and Nicobar Islands

Area	Density of population in no./sq. m of <i>Tridacna</i> in the areas surveyed					
	<i>T. crocea</i>		<i>T. maxima</i>		<i>T. squamosa</i>	
	Intertidal	Subtidal	Intertidal	Subtidal	Intertidal	Subtidal
Diglipur	10	3	0	1	0	1
Mayabunder	2	1	0	2	0	0.5
Havelock Island	15	5	1	2	0	0.1
Neill Island	2	0	0	1	0	0.5
Rangat	1	—	0.5	—	0	—
Long Island	2	0.5	0	2	—	0.5
Port Blair	1	2	0	1	0	1
Ross Island	—	3	0	1	0	1
Chiriyatapu	3	1	1	2	1	1
Little Andaman	—	2	—	1	—	0.5
Car Nicobar (Malacca)	1	1	0	0.5	0	0.5
East Bay (Katchall)	1	1	0	0	—	—
Camorta area	1	0	1	1	—	—
Campbell Bay	1	1	0	1	—	—

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Turtle islands. The average density of population of *Tridacna crocea* in the intertidal area in the above places was 10/sq.m. In deeper waters *Tridacna maxima* was observed sparsely (1/sq.m.). At Mayabunder the shore line and intertidal areas were mostly sandy and very few corals were observed. The population of *T. crocea* was also few. In areas of 2-6 m depth *T. maxima* (Pl. I, A) was observed at a density of 2/sq.m. The tridacnid population in Rangat area was poor, but in the Long Island area *T. maxima* was found to be about 2/sq.m. at 2-6 m depth.

The most prominent centre for the collection of *Tridacna* was Havelock Island, where vast areas of intertidal coral reefs exist (Pl. I, B) and on this habitat *Tridacna* grows abundantly (Pl. I, C). The density of *T. crocea*, in the length range of 10-91 mm, was 15/sq.m. in the intertidal area. *T. maxima* of 40 to 50 cm was 2/sq. m., at depth of 2-6 m. *T. squamosa* (Pl. I, D) was collected from Neill Island.

In the Port Blair area, where survey was undertaken in the intertidal area of Corbyn's cove, Chatham Island, Blair reef and Atalanta point, *T. crocea* was very few. *T. maxima* was present in the slightly deeper areas of Ross Island and North point and the population was 1/sq. m. At Chiriyatapu the intertidal zone was extensive with coral formation and the population of *T. crocea* was assessed at 10/sq.m. in the size range of 30 to 90 mm. Since the bottom at 2-6 m depth was sandy *Tridacna* was absent. *Tridacna* was not observed in Hut and Butler bays of Little Andaman.

Although the Nicobar group is rich in coral reefs, perhaps due to constant exploitation by local tribal

population, *Tridacna* are in less numbers. In Campbell Bay area, the deeper waters contained *T. maxima* (1/sq.m). At Camorta (Kakana area) the intertidal zone had a good *Tridacna* population. Since the bottom was muddy in Spiteful Bay (Nancowry Island) *Tridacna* was absent. Amongst the Nancowry group of islands *Tridacna* was dense in Trinkat where *T. crocea* was 10/sq.m in the size range of 20-70 mm. *T. maxima* was observed in the depth of 4-6 m at 1/sq.m in the size range of 30-40 mm among the Katchall reefs. At Car Nicobar *T. crocea* was found at 1/sq.m in the intertidal area and *T. maxima* was present in the depths beyond 2 m.

REMARKS

Tridacnids are slow growing and long living animals, and their colonization and production resemble those of forestry (Yamaguchi, 1977). They are exploited for their meat and shells in several parts of the Indo-Pacific (Rosewater, 1965). The Nicobarese relish the meat of giant clams wherefore *Tridacna* are nearly absent around the Nicobari settlements. Banner (1952) reports that in Gilbert Islands these animals are collected from their natural habitat and are impounded in pen enclosures, giving suitable substratum and natural environment. In Papua New Guinea, studies have indicated that *Tridacna gigas* is suitable for mariculture and weights of 29 kg can be attained in six years (Lock, 1982). There is scope for adopting mariculture practices in the Andaman and Nicobar Islands for enhancing production of giant clams both for their meat and for their shells.

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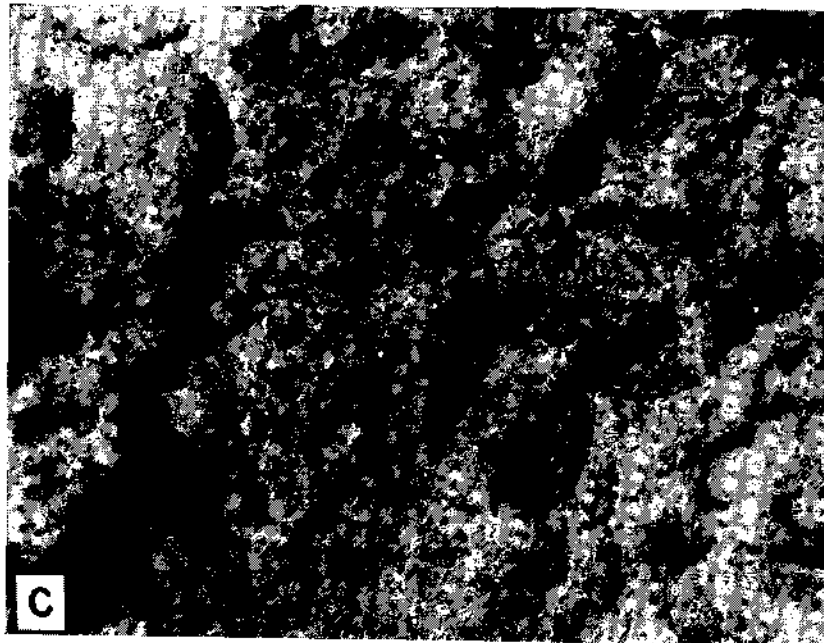
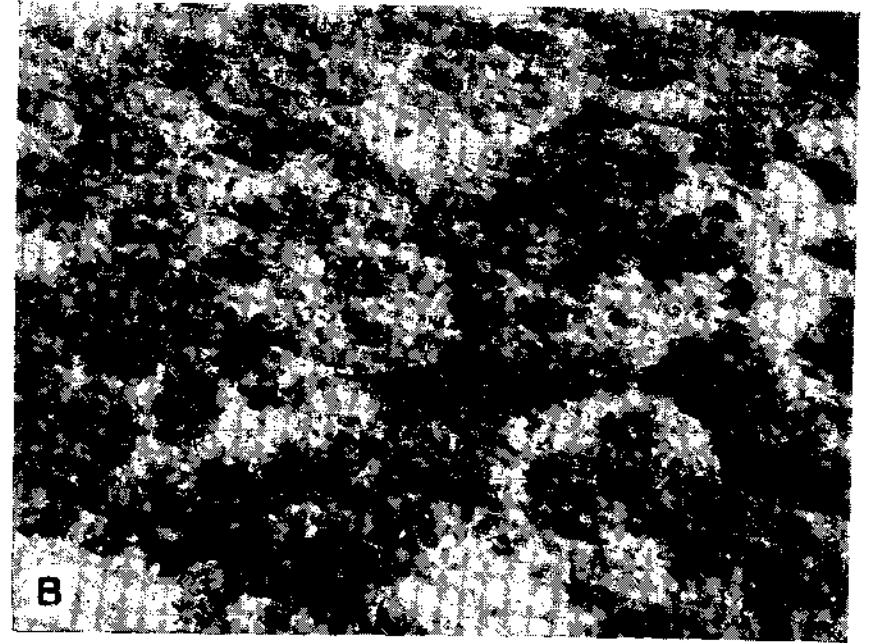
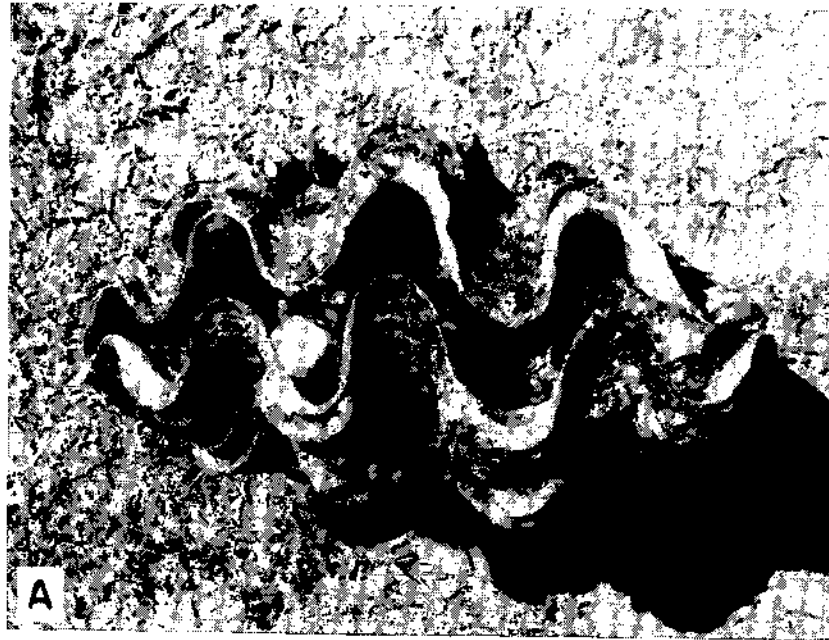


PLATE I. A. *Tridacna maxima* at Mayabunder. B. Exposed intertidal area during low tide at Havelock Island. C. *Tridacna crocea* population at Havelock Island. D. *Tridacna squamosa* at Neill Island.