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TOPOGRAPHICAL FEATURES OF AREAS SURVEYED

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INTRODUCTION

Valuable information is available through the publications of Kloss (1902) and Parkinson (1938) on the general topographical features of many of the Andaman and Nicobar Islands. Elliot (1972) had added some precise details for a selected few islands with notes on land and shoreline reliefs. Rao's (1937, 1939) accounts deal with the nature of sea bottom of shallow areas inhabited by *Trochus* and *Turbo* species. Still our knowledge and understanding of the intertidal and subtidal zones of most of the islands is very meagre. The present survey provided an opportunity to visit many islands, bays and creeks and study these features from a particular angle of finding out their potential and suitability for mariculture operations. Observations were made on the disposition of coral reefs, back reef area, reef slope and the sea bottom in its vicinity with the help of SCUBA diving wherever needed. Due to limited facilities of transport from Island to island and short duration, only a rapid survey could be undertaken.

The details given in this report are by no means exhaustive but still the document is an addition to the existing knowledge and understanding of the nearshore ecosystem and topography of these islands. It has also enabled identification of many areas in the group where potentialities for mariculture exist. The calculations of area and positions of places are approximate. Nautical charts published by the Naval Hydrographic Office, Dehra Dun have been basically used, supplemented by the observations made during the present survey, in giving the topographical features of the islands. Some of the typical features are illustrated in Plates I and II.

ANDAMAN GROUP

NORTH ANDAMAN

1. *Delgarno*

   13°24′ N Lat ; 93°05′ E Long.

   This is the largest of the Table Island group which is a group of two islets and shallow reefs. The island is surrounded by live reefs. The southern side was surveyed. Beach sandy and intertidal area of 50 m length is of sand stone. Water clear and current strong. Larger algae are absent. Holothurians common and corals are in rich diversity.

2. *Turtle Island*

   13°21′ N Lat ; 93°04′ E Long.

   This is a group of two islets. The larger and the southern islet was surveyed. Beach and intertidal zone upto 1 m depth are sandy ; beyond is of sand stones and further out rocky. Majority of corals near to shore are dead. Herein gorgonids and *Trochus* were observed.

3. *Smith Island* (Fig. 1)

   13°18′-13°23′ N Lat ; 93°02′-93°50′ E Long.

   Maximum elevation of island 132 m. Mangrove luxurious along Minerva Bay; intertidal flat of coral stones exposed with low tide along south and south-eastern tip. The bottom is sandy close to Ross Island.

4. *Ross Island* (Fig. 1)

   13°17′-13°18′ N Lat ; 93°45′-93°49′ E Long.

   Area 0.8 sq. km ; maximum elevation of the Island 90 m. From north to south-east intertidal rocky area extends outwards. In the north-west side a sandy bar, exposed with low tide connects the island with the Smith Island.

5. *Blair Bay* (Fig. 1)

   13°20′-13°22′ N Lat ; 92°57′-92°59′ E Long.

   Extent of bay is approximately 4 sq. km with centrally located Ox Island. Marshy shore with quicksand regions. Mangrove lines the beach.

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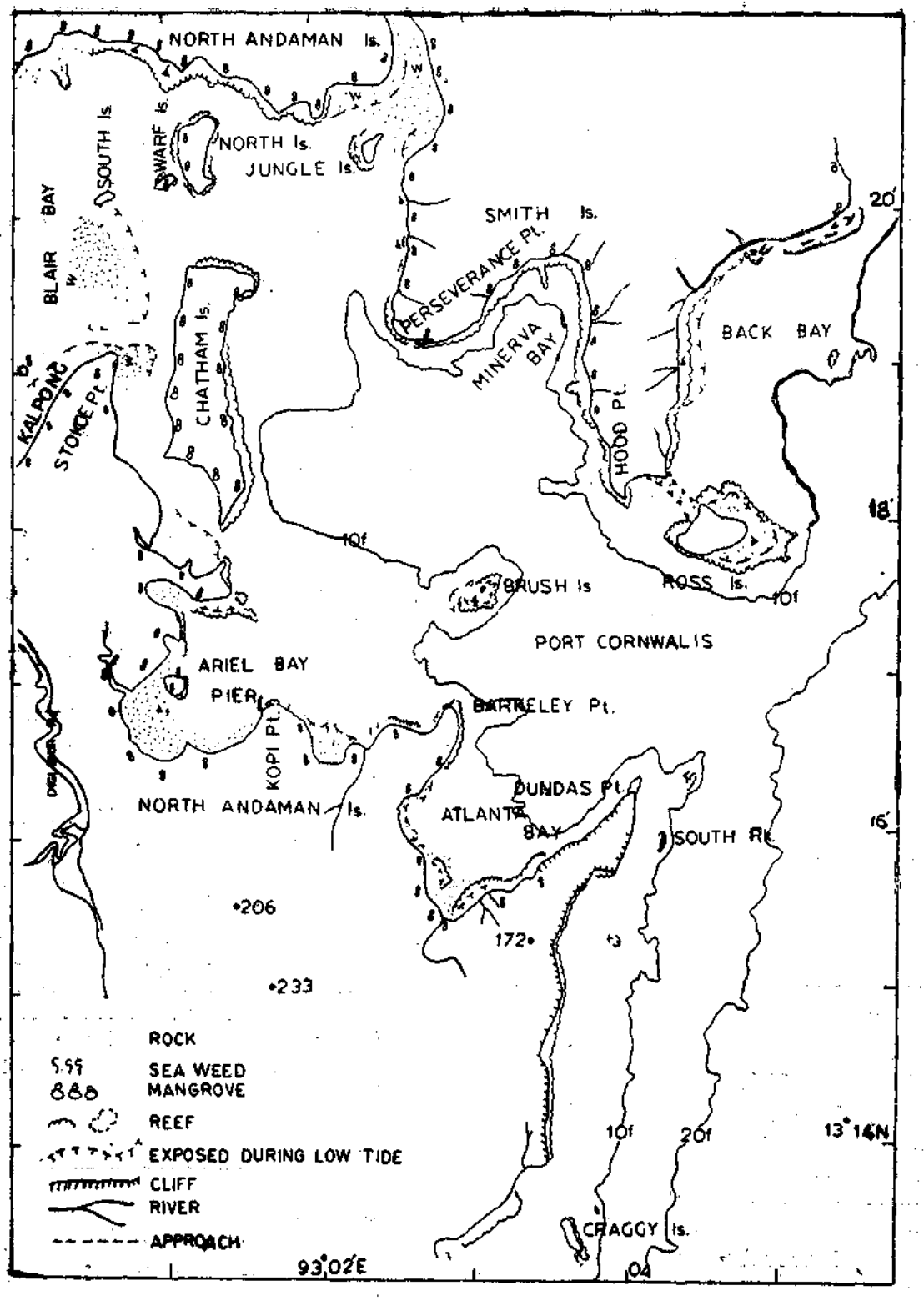

Fig. 1. Details of areas surveyed in Port Cornwallis-North Andaman Island (Note : In all figures elevation and distance are in metres. Depth is in fathoms in figures 1 and 5, while in others is in metres. In transects dominant fauna have been listed in first row and flora in the second. The sea bottom contour has been drawn as observed in the study site. Scattered and close dots stand for sand and mud respectively. f — fathom ; Hr — Harbour ; Pt — point ; Rk — rock ; W — mud).

6. *Ariel Bay* (Fig. 1)

13°16′-13°17′ N Lat ; 93°07′-93°10′ E Long.

Extent of the bay is about 1.5 sq. km. Bay area shallow (0.1-3.0 m deep). Western side lined by mangroves and muddy with coral stones. Southern stretch upto Kopi jetty is free of mangroves. Bottom of bay is of black sand and mud mingled with coral patches.

7. *Atalanta Bay* (Fig. 1)

13°15′-13°17′ N Lat ; 93°02′-93°04′ E Long. Bounded by Barkeley point in the west and in the east by Dundas point. Vast intertidal sandy flat gets exposed. Coral stone spread over the flat, especially in the eastern arm of bay. This flat area of sand and mud extends upto 2 m depth in the bay and reaches upto 13 m depth in the open sea.

8. *Durgapur*

Near shore area is sandy with sparsely scattered coral stones ; live coral reef observed beyond 8 m depth.

9. *Stewart Island*

12°59′-13°15′ N Lat ; 92°53′-92°55′ E Long.

Approximate area of island is 6 sq. km. Maximum elevation of island 76 m. Extensive live coral formation observed along shore line. Western side with patches of mangrove bushes and muddy bottom. South-eastern side of island rocky with live corals.

10. *Sound Island*

12°55′-13°00′ N Lat ; 92°58′-93°01′ E Long.

Extent of island is about 10 sq. km. Maximum elevation 114 m. Coast is much indented. Live corals abound. Reef starts from shore and extends to 3.6 m depth. The area near to shore itself is deep.

11. *Ray Hill area*

12°57′ N Lat ; 92°54′-92°55′ E Long.

Maximum height 107 m. South-eastern shore upto Brown Point is rocky and live coral near the shore. Sandy film covers the sea bottom to a short distance. Extensive live coral formation observed upto 10 m depth.

Middle Andaman

1. *Mayabunder*

12°55′ N Lat ; 92°54′ E Long.

Maximum elevation 67 m. The jetty area has a limited sandy beach. Otherwise shore muddy with luxurious mangrove vegetation. East of jetty heap of dead coral stones along the shore line extending to 50 m outwards at 1 m depth.

2. *Betapur*

12°31′ N Lat ; 92°58′ E Long.

Swamp with mangrove forest. Beach fully intersected by fallen tree trunks.

3. *Rangat Bay*

12°28′-12°29′ N Lat ; 92°56′-92°58′ E Long.

Western side beach sandy, beyond muddy with coral stones, exposed during low tide ; jetty to Coxon Point is sandy. Current swift. Live corals observed in deep water. Western side of jetty is also rocky. Sand bottomed shallow areas upto 1 m deep get exposed. The deeper areas are studded with live coral reef.

4. *Bakultala*

12°30′ N Lat ; 92°52′ E Long.

Brackish water area with hilly terrain.

5. *Yerrata*

12°27′ N Lat ; 22°54′ E Long.

Creek is meandrous, swampy and densely lined with mangrove vegetation. Water is brackish. Adjacent Yol and Boroin creeks are also similar in nature but longer and narrow.

6. *Long Island*

12°21′-12°26′ N Lat ; 92°55′-92°58′ E Long.

Area of island is 12 sq. km (approx.). Maximum elevation is about 133 m. Thickly wooded. Raman Point to Cape Smith on south side is rocky. Shallow intertidal expanse with abundant coral boulders slowly merging into deeper live coral zone on the eastern side. North-western side is free of corals and bottom muddy. There is a mud flat of vast area exposed during low tide on western side. Live coral reef observed upto 12 m depth in Lalaji Bay.

Ritchie's Archipelago

1. *Outram Island* (Fig. 2)

12°12′-12°16′ N Lat ; 93°04′-93°07′ E Long.

Area is about 10 sq. km. Maximum elevation 70 m. Limited sandy beach, otherwise mangrove. Steep rocks characterise the nearby sea bed upto about 3 m depth. Live coral reef beyond 8 m depth. Outram harbour deep, water calm.

2. *Henry Lawrence Island* (Fig. 2)

12°05′-12°12′ N Lat ; 93°03′-93°06′ E Long.

Maximum elevation 138 m. Narrow sandy beach. Expansive inter-tidal zone in the south-east (50 m broad). Live corals up to 10 m depth. Mangrove bushes here and there along shore. Steep rocks occur in intertidal zone. Water deep close to island, current swift.

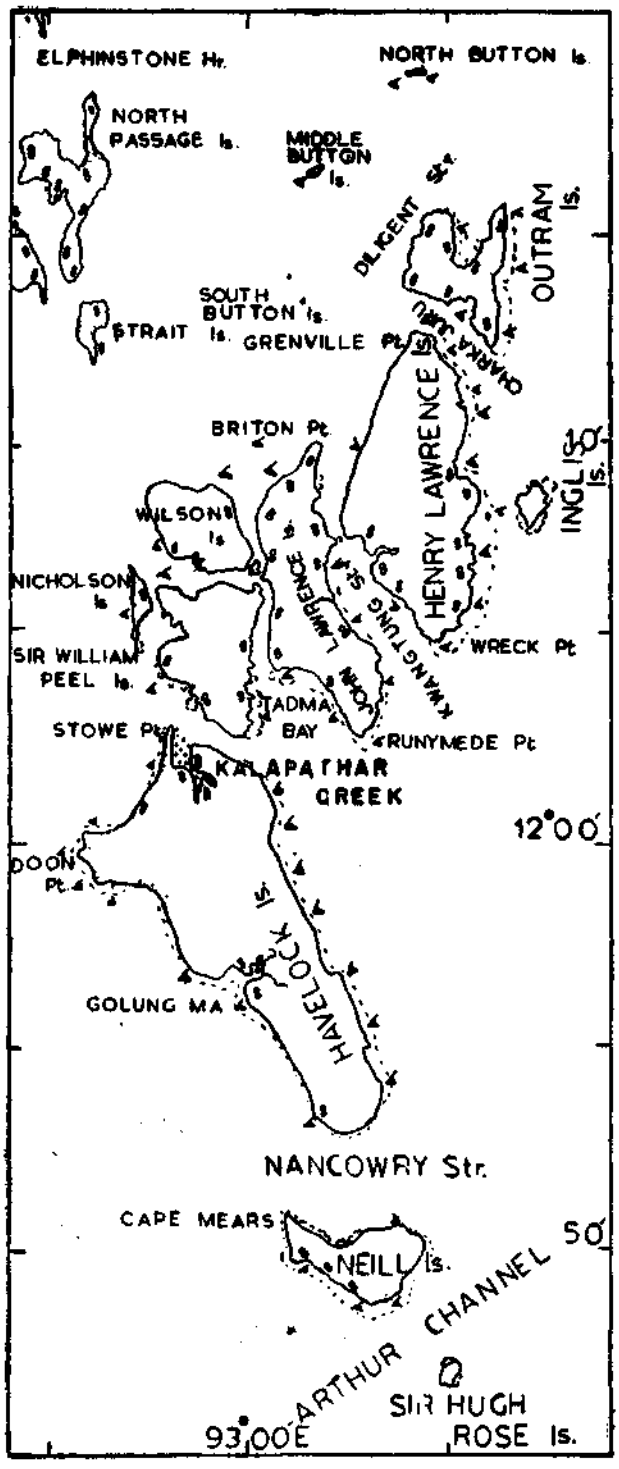

Fig. 2. Ritchie's Archipelago showing areas surveyed.

3. *Inglis Island* (Fig. 2)

12°08′-12°09′ N Lat ; 93°07′-93°08′ E Long.

Very small island of less than 1 sq. km area. Maximum elevation 31 m. Beach sandy and rocky, nearby submerged areas also sandy but with dead corals in abundance. Beyond 2 m depth live corals were noticed. Water very deep close to shore.

4. *John Lawrence Island* (Fig. 2)

12°03′-12°10′ N Lat ; 93°00′-93°01′ E Long.

Area of island is about 9 sq. km. Maximum elevation 172 m. Shore packed with coral rocks. Thin strip of sandy beach in places devoid of rocks. Live coral patches even in shallow areas. Water very deep close by. North-west swampy with mangroves and rocks.

5. *Sir William Peel Island* (Fig. 2)

12°03′-12°06′ N Lat ; 92°58′-93°00′ E Long.

Area is about 22 sq. km. Elevation 68 m. Mangrove thick, narrow sandy beach with occasional coral stones. Intertidal area restricted to few places getting exposed in patches only during extreme low tides. In eastern side of island dead coral stones abound upto a depth of 1 m ; live corals observed beyond.

6. *Havelock Island* (Fig. 2)

11°53′-12°03′ N Lat ; 92°55′-93°04′ E Long.

Large hilly island of nearly 55 sq. km area. Maximum elevation 168 m. Island has a fairly broad sandy beach except in the vicinity of Kalapathar Creek and Golung ma. In the jetty area water front is lined with scattered coral stones on sand. Large area west of jetty, about 2 sq. km, gets exposed during low tide. Coral stones and boulders common at 1-2 m depth.

Kalapathar Creek (12°02′ N Lat ; 92°58′ E Long) is muddy, mangrove lined with hilly environment. Creek mouth gets closed with sand during summer. Another backwater system in Havelock is Golung ma (11°57′ N Lat ; 93°00′ E Long) which is deep, water clear, saline to brackish, with riverine systems and bordered with extensive thick mangrove forest, mouth broad partly coralline and shore sandy.

7. *Neill Island* (Fig. 2)

11°49'-11°51' N Lat ; 93°01'-93°04' E Long.

Maximum elevation 102 m. Shore side mangrove covered. Live coral formation is very dense all around the island.

8. *Sir Hugh Rose Island* (Fig. 2)

11°47' N Lat ; 93°05' E Long.

Small island of very low elevation of 25 m. Southern shore rocky with live corals observed beyond 1.5 m depth. There is a lighthouse in this island.

9. *Kyd Island* (Fig. 3)

11°57'-11°58' N Lat ; 92°44'-92°47' E Long.

Area is 10 sq. km approximately. Maximum elevation 239 m. Shore line on the south rugged with coral boulders. The 1 m depth line muddy.

11. *Shoal Bay* (Fig. 3)

11°57' N Lat ; 92°45' E Long.

The narrow bay extends far interior with muddy bottom ; depth 8-9 m in the interior ; exterior very deep, above 30 m. Bay lined with mangrove bushes. Bottom muddy. Along with the adjacent open sea area, one of the good fishing grounds in the Island group.

SOUTH ANDAMAN

1. *North Bay* (Fig. 4)

11°42' N Lat ; 92°46' E Long.

Area of bay 1 sq. km approx. Bottom muddy with seaweed grown on sandy patches ; west bank coral fringed all along upto 0.5 m depth, which gets exposed during low tide ; northern region was observed to be muddy upto 0.5 m.

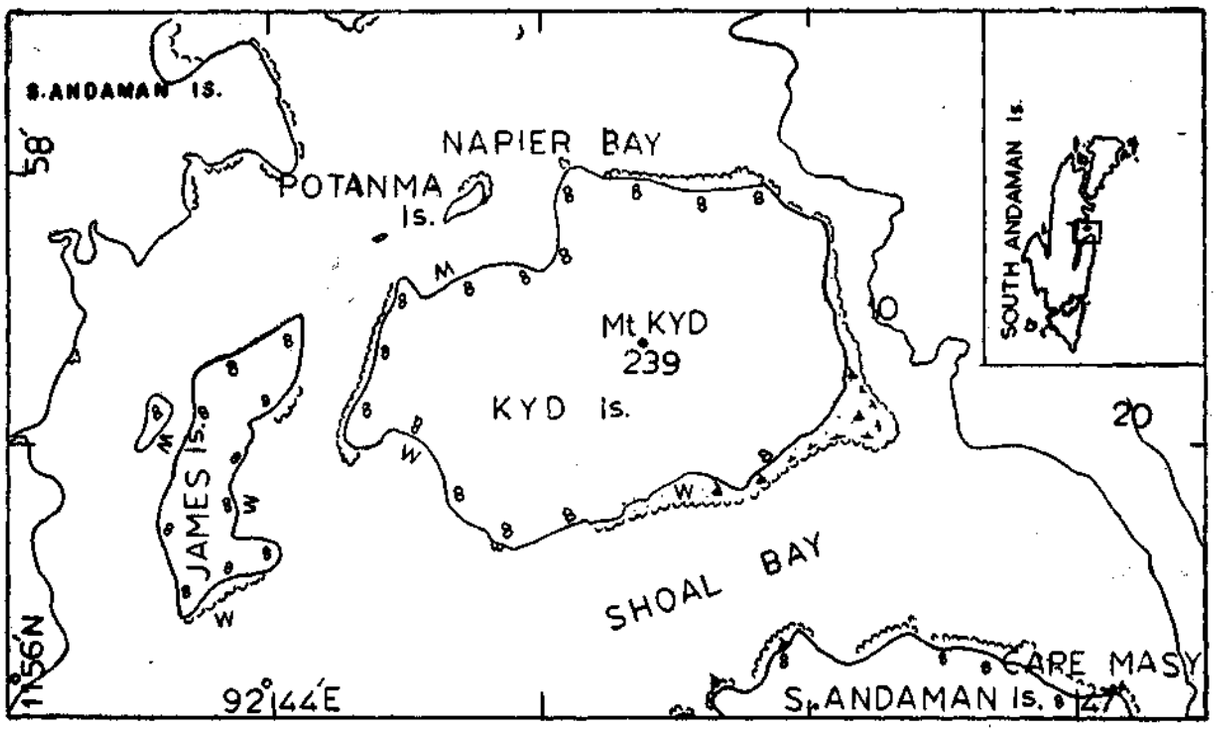

Fig. 3. Shoal Bay and the adjacent study areas—South Andaman.

The eastern side of island is shallow with sand and coral stones.

10. *James Island* (Fig. 3)

11°57' N Lat ; 92°44' E Long.

Situated closely west of Kyd Island. Difficult to approach due to thick mangroves. Mud covers the beach. The surrounding shallow areas muddy and coralline upto 2 m depth.

2. *Command Bay* (Fig. 4)

11°41' 70" N Lat ; 92°43' 60" E Long.

Narrow bay between Semiramis Bay and Bamboo flat Bay area, bottom muddy ; live corals observed in patches upto 0.6 m depth.

3. *Bamboo Flat Bay* (Fig. 4)

11°42' N Lat ; 92°43' E Long.

The bay area is lined by thick mangrove bushes

which extend about 10 km. Bottom is muddy and exposed with low tide. Northern side is an admixture of mud and sand, while the western side is coral fringed.

4. *Dundas Point* (Fig. 4)

   11°40′ N Lat ; 92°42′ E Long.

   Area characterised by black sand and mud upto 8 m depth. Shoreward area full of coral stones.

5. *Viper Island* (Fig. 4)

   11°39′ N Lat ; 92°41′ E Long.

   Small island of 0.5 sq. km. South, middle and south-west portions rocky up to 1.5 m; floor muddy ; north-east rocky upto 1 m depth.

6. *Minnie Bay* (Fig. 4)

   11°39′ 00″ N Lat ; 92°42′ 60″ E Long.

   Area 0.8 sq. km roughly. Deeply curved shallow bay of muddy bottom, maximum depth 4 m.

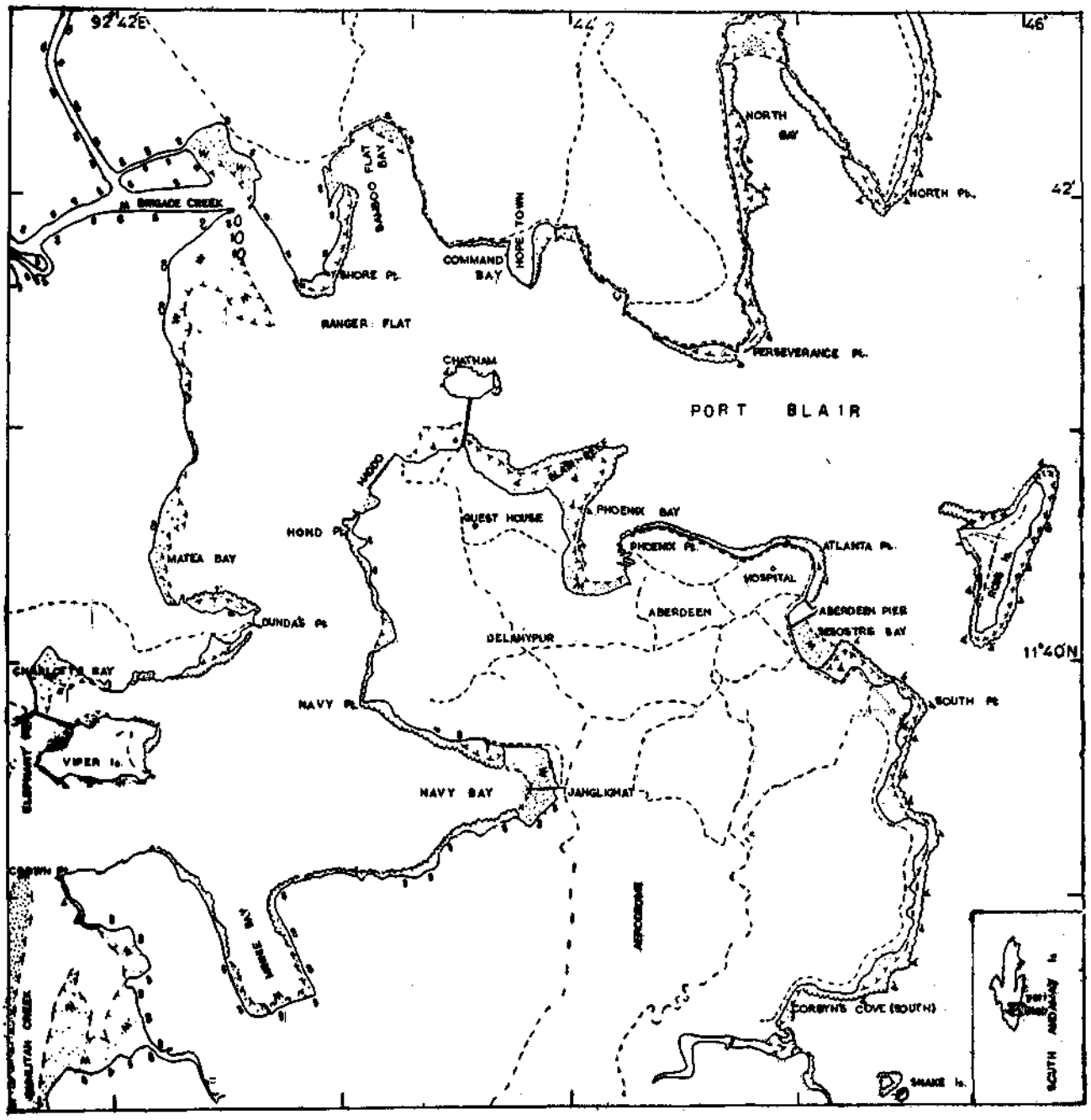

Fig. 4. Areas surveyed around Port Blair—South Andaman.

Mangrove in isolated patches ; eastern entrance and western side with coral stones in shallow areas partially getting exposed with tide.

7. *Navy Bay* (Fig. 4)

11°39′ 50″ N Lat ; 92°43′ 00″ E Long.

Sheltered bay 6-7 m deep. Northern and southern shores characterised by mangrove dotted waterline with corals on muddy sand. Live coral patches upto 1.5 m depth. Eastern side is also muddy but devoid of corals.

8. *Chatham Island* (Fig. 4)

11°41′ 20″ N Lat ; 92°43′ 50″ E Long.

Small island connected to Port Blair by a bridge. North side of island deep close to shore, shore muddy all round ; eastern side coral rocks upto 2-3 m depth. West of island deep with sand and mud ; boulders present shoreward. Due to the timber factory located herein the coastal region is polluted with saw dust and timber waste.

9. *Semiramis Bay* (Fig. 4)

11°41′ 70″ N Lat ; 92°44′ 00″ E Long.

Bay is 17 m deep at maximum. Northern shore is sandy up to about 1 m depth ; muddy beyond. Western side rocky. Eastern shore is strewn with boulders. Live corals were observed from 1.5 m and beyond.

10. *Blair Reef* (Fig. 4)

11°41′ N Lat ; 92°44′ E Long.

This is at the entrance to Phoenix Bay. Rocky and muddy flat exposed fully on western side for a distance of 0.5 km with tide ; outside this area live coral formation extends to 3 m depth. Shore and upto 10 m depth, is of fine mud-like sand and beyond the bottom is muddy.

11. *Phoenix Bay* (Fig. 4)

11°40′ 50″ N Lat ; 92°44′ 10″ E Long.

Area 0.3 sq. km roughly. Maximum depth is about 15 m. Deeply curved bay with muddy bottom. Sand-stone formation of considerable extent is seen.

12. *Atalanta Point* (Fig. 4)

11°40′ 40″ N Lat ; 92°45′ 10″ E Long.

The area has an intertidal reef of about 50 m extent up to 0.6 m depth and sand-stone flat generally characterises the area. Isolated live corals were observed with sandy patches. Beyond 0.6 m depth bottom is muddy and after 9 m depth sea floor falls abruptly deeper.

13. *Ross Island* (Fig. 4)

11°40′ N Lat ; 92°45′ E Long.

Approximate area 7 sq. km, situated at entrance to Port Blair Harbour. Densely wooded reserve area. Heavy current close to shore. Sandy strip beach. Entire east shore is coral reef studded upto 1.5 m depth. West side free of coral blocks. In the south and southwest of island big boulders observed in deeper regions. Reported to be sinking.

14. *Burmanalla*

A very expansive intertidal sandy flat upto 0.5 km from shore. Tidal pools and algal growth common. Boulders at 1 m continues upto 2 m depth with live and dead corals. Healthy reefs at 4 m and extends to 10 m. Bottom sandy beyond. *Tridacna* common in reef.

15. *Wandoor*

Shore of firm mud mixed with sand. Indentations of the shore lined by mangroves. Many areas in vicinity of the shore deep upto 5 m. Living coral patches in muddy bottom.

16. *Chiriyatapu*

11°31′ N Lat ; 92°41′ E Long.

Area very rocky with intertidal expanse of flat coral stones with crevices and thin film of sand spread over the bottom. Coral reef formation observed upto 10 m depth.

17. *Macpherson Strait*

11°30′ N Lat ; 92°40′ E Long.

Strong current, sandy bottom with occasional live corals at 3 m depth and more so at 8 m. Bottom sandy beyond in the channel which is 20 m deep out in the middle. A good population of chank *Xancus pyrum* was observed.

18. *North Cinque Island*

11°19′ N Lat ; 92°43′ E Long.

Area opposite the lighthouse possesses a fine sandy beach, opposite to it. a distance of 50 m exposed during low tide with sand and stony bottom ; similar bottom continues upto 8 m depth after which starts a live coral reef belt which becomes dense at 10 m depth. South shore of North Cinque is a sandy flat which at low tide gets exposed and bridges South and North Cinque Islands.

LITTLE ANDAMAN

10°13′-10°25′ N Lat ; 92°50′ E Long.

Maximum elevation 210 m. Inhabited, local tribe Onges.

Hut Bay—The jetty area was investigated. Tall trees with thick growth of vegetation line the beach. The sea shore is narrow, about 3 m with many fallen trees. The intertidal region extends for about 50 m which is sandy with plenty of shingle. Herein holothurians are common. Then comes the narrow shallow area which is about 30 m wide and 3-5 m deep. Thereafter the sea is very deep. In the shallows corals are common. With low tide, water is seen steadily percolating from the land into the sea.

Butler Bay—Here the beach is sandy while the bottom of the bay muddy.

NICOBAR GROUP

CAR NICOBAR ISLAND (Fig. 5)

09°08′-09°15′ N Lat ; 93°43′-93°50′ E Long.

Area 128 sq. km. Maximum elevation 72 m. Terrain not hilly ; dense mixed jungle in the centre ; coconut palms and *Pandanus* bushes abound. Good motorable road round about. Air strip, Keating Point lighthouse are the important landmarks. Nicobarese fish with traps, spear, bow and arrows and handpick molluscs. Torch fishing is also practised. Therefore the intertidal areas are almost devoid of shellfishes.

1. *Sawai Bay* (Fig. 5)

09°13′ N Lat ; 92°45′ E Long.

Located in the north-west direction between Hog Point in the west and Keating Point in the north.

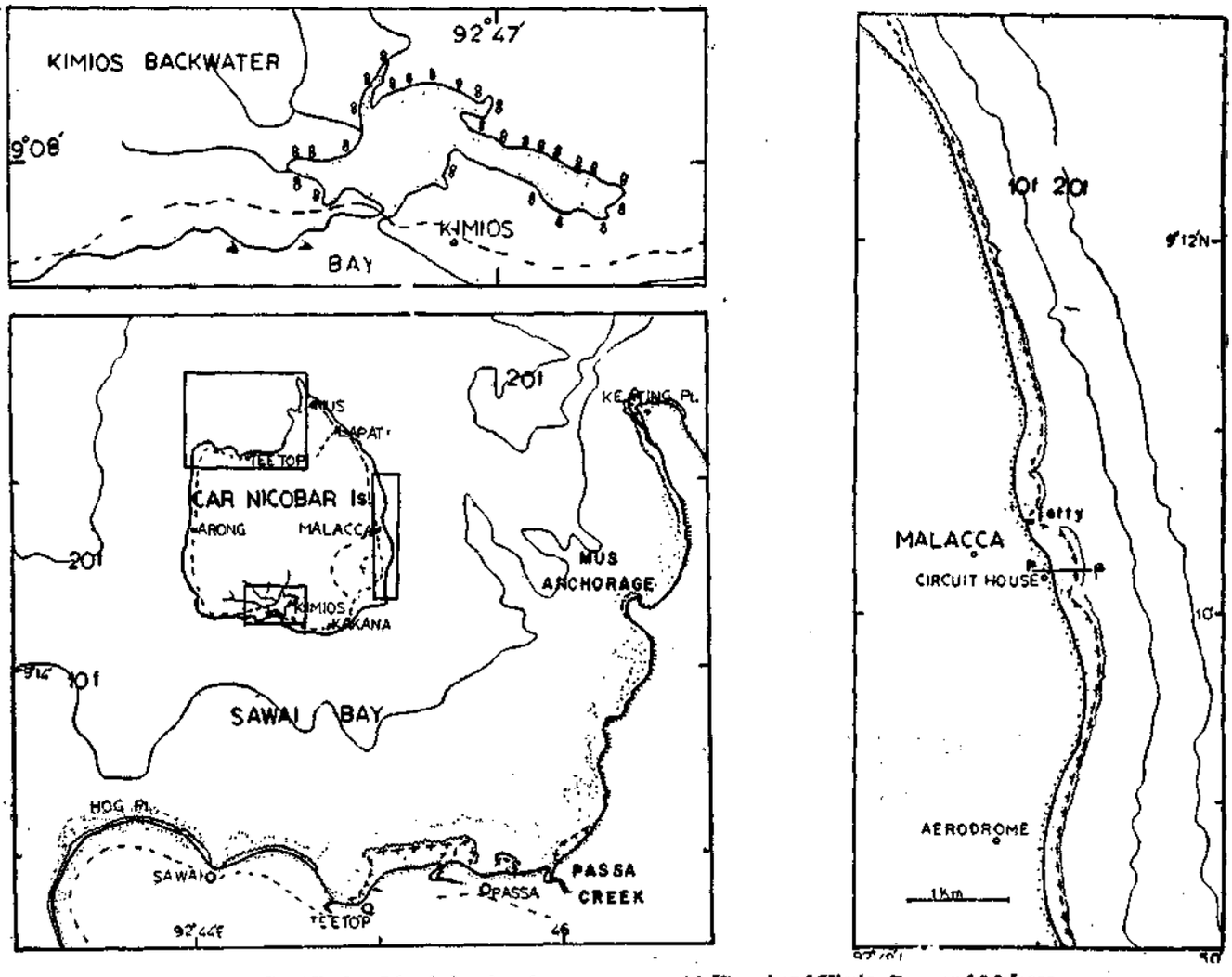

Fig. 5. Car Nicobar Island showing the areas surveyed in Sawai and Kimios Bays and Malacca.

Prominent fringing reef close to shore on the rocks at Hog Point, Sawai, Mus and Keating Point. At Teetop and Passa dead reef exposed to about 50-250 m from shore at low tide. Herein molluscs are rare due to overfishing. Live corals below low tide. Eastern sector with cliffs 20-40 m high. Beach sandy. Near shore sandy and shingle. No mangrove ; coconut palms extensive. Bay calm during summer.

2. *Malacca* (Figs. 5 and 6)

09°10′ N Lat ; 92°49′ E Long.

In the east coast between Keating Point to Lapati the beach is sandy and rocky with corals. Very deep with currents very close. Intertidal flat devoid of shellfishes due to overfishing; torch-fishing is practised in pools at low tide during early nights. Honey-comb like *Tubipora musica* was observed on the walls of tidal creeks, wherein wave driven currents are moderately strong. Coconut palms, *Pandanus* and mixed jungle on beach ; no mangrove. Malacca anchorage used during south-west monsoon. Details of fauna and flora by traverse study conducted opposite to the guest house given in Fig. 6 (β-β in Fig. 5).

South and west coasts from north of Kakana to Hog Point is rocky with strong waves and breakers ; very deep close to shore with currents making

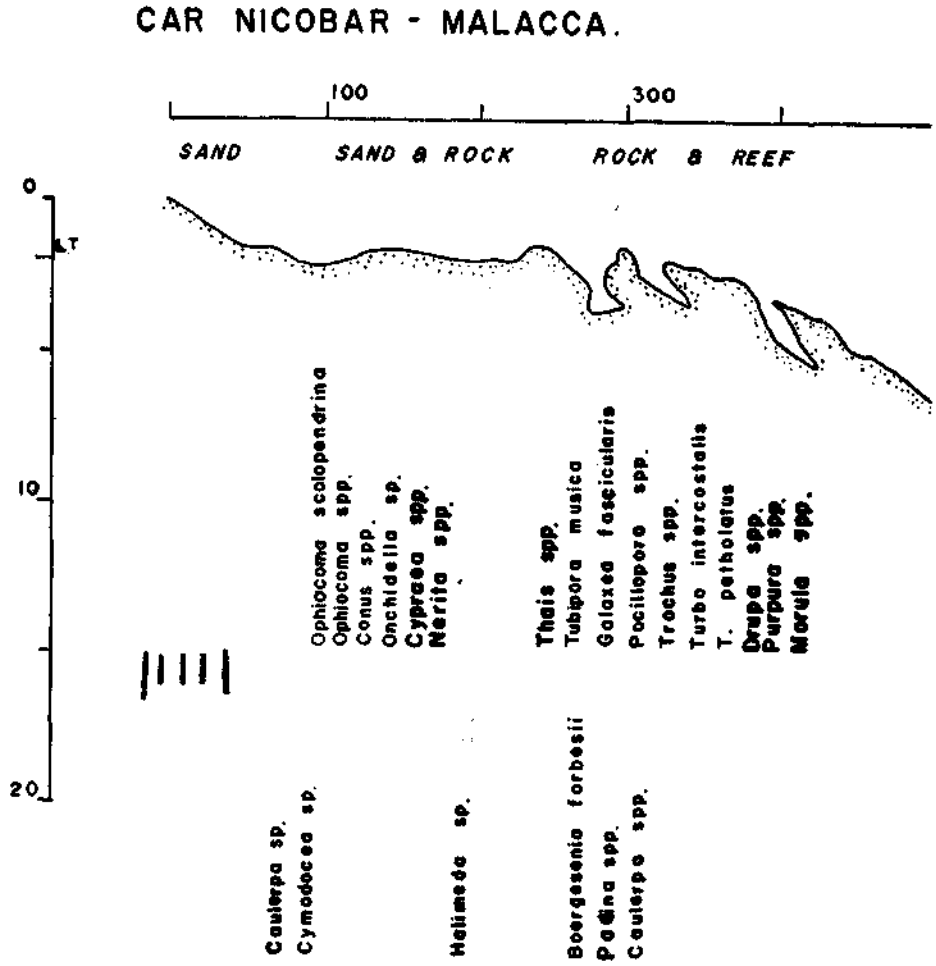

Fig. 6. Distribution pattern of fauna and flora observed by traverse studies made in Malacca (LT—Low tide level).

deep within few metres with swift current. From Lapati towards the southern end of east coast upto a kilometre north of Kakana, beach is sandy. An expanse of 150-300 m rocky flat intertidal area with sandy bottomed pools exposed during low tide. Strong waves with heavy breakers on flat rocks at low tide high, from thereon sea abruptly observation difficult. No mangroves ; dense jungle with *Pandanus* bushes throughout with coconut plantations around tribal dwellings.

3. *Kimios backwater* (Fig. 5)

09°08′ N Lat ; 92°46′ E Long.

An ideal backwater expanse of good tidal ampli-

tude, lined by mixed jungle, mangrove and coconut palms. Bottom muddy, with coarse sand, shore sandy with rotting palm leaves. There is a permanent narrow opening with sea; water clear, brackish to saline. Tribal village closeby. Has bright culture possibilities. Fishing by trap, harpoon, cast net and hand picking practised.

CAMORTA ISLAND (Fig. 7)

08°00′-08°14′ N Lat ; 93°27′-93°33′ E Long.

Area about 408 sq. km. Maximum elevation 210 m. Inhabited by local Nicobarese tribes.

Fungia and *Tridacna*. Beyond, the depth increases to 3 m for a stretch of 50 m from shore and then falls sharply to 15 m with yellow muddy bottom. This ledge is very rich in animal community and fishes. Details of distribution pattern of fauna and flora are given in Fig. 9 (α-α' in Fig. 8)

2. *Kakana* (In Camorta) (Fig. 7)

08°11′ N Lat ; 93°31′ E Long.

Kakana is in north-east coast of Camorta. Extensive sandy beach of 3 m width interrupted in places by mangroves and coconut palms. Near-shore shallow for about 1 km. The 1 m depth

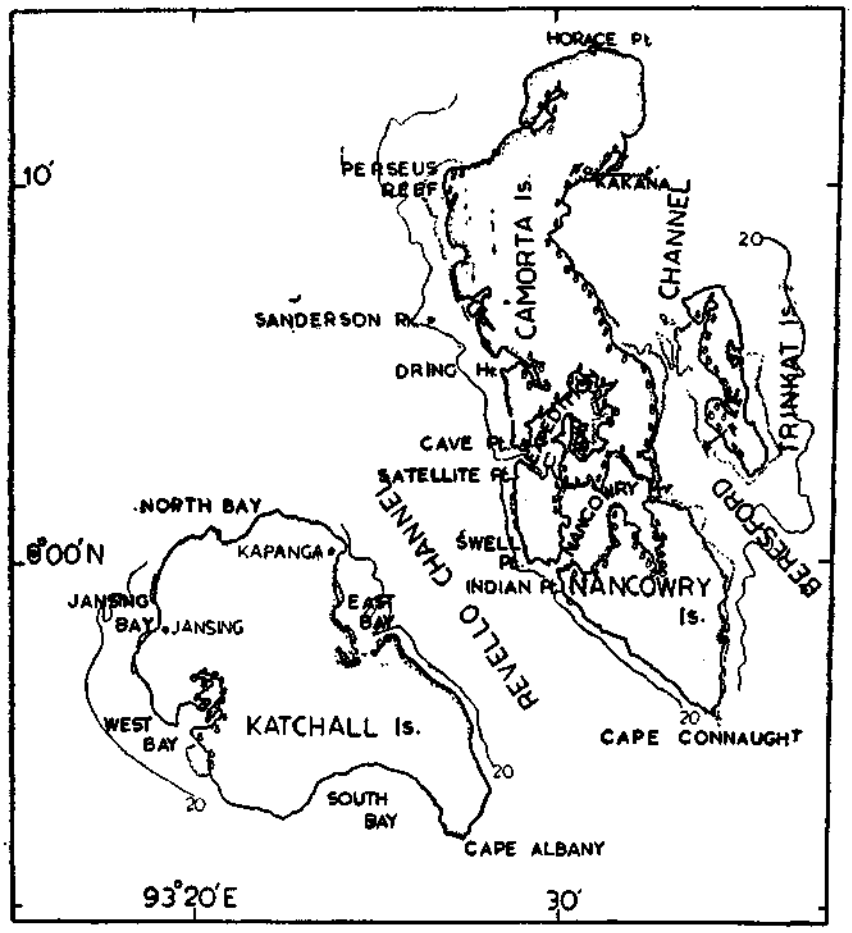

Fig. 7. Katchall—Camorta—Nancowry—Trinkat group of Islands.

1. *Cross Harbour* (Fig. 8)

08°02′ N Lat ; 93°31′ E Long.

Shore line with thick mangrove vegetation leaving no beach formation as the raised land mass slopes and abruptly drops into the sea. From jetty to Alfred Point, the nearshore is shallow with a depth of 1 m for a distance of 20-30 m with growth of

zone is of white sandy floor. Herein *Pterois* and *Trochus* young ones common ; corals not common. At 2 m depth corals abundant, increasing in extent and density up to 15 m, a distance of nearly 2 km from shore. Deeper areas are characterised by coral boulders and *Tridacna* beds and occasionally sandbanks are met with. Traverse study is given in Fig. 10 (β'-β' in Fig. 7).

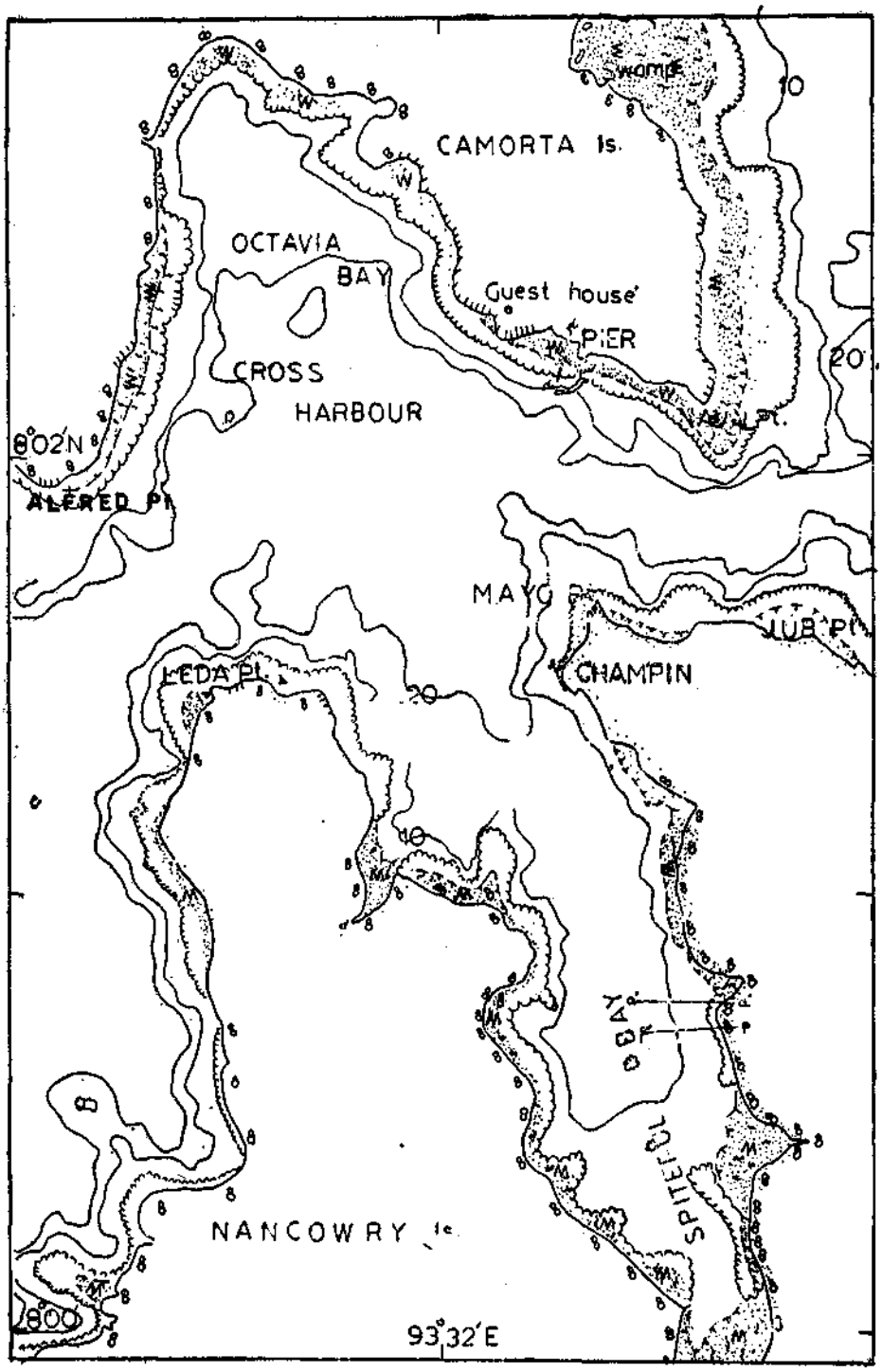

Fig. 8. Areas studied in Nancowry—Camorta Islands complex, showing the locations of Octavia Bay, Spiteful Bay and Cross Harbour (Nancowry Harbour).

PLATE I. A. Gorgonids from Mayabunder, Middle Andaman. B—D. 5—15m depth showing alcyonarian dominated niche, Hoinipoh, Katchall Island. E. Mangrove bordered creek, Kalighat, North Andaman. F. Rock oysters in the intertidal flat, Burmanalla, South Andaman. G. Sea eroded beach, Hut Bay, Little Andaman. H. Uprooted trees and rocky shore, Vijaynagar, Great Nicobar.

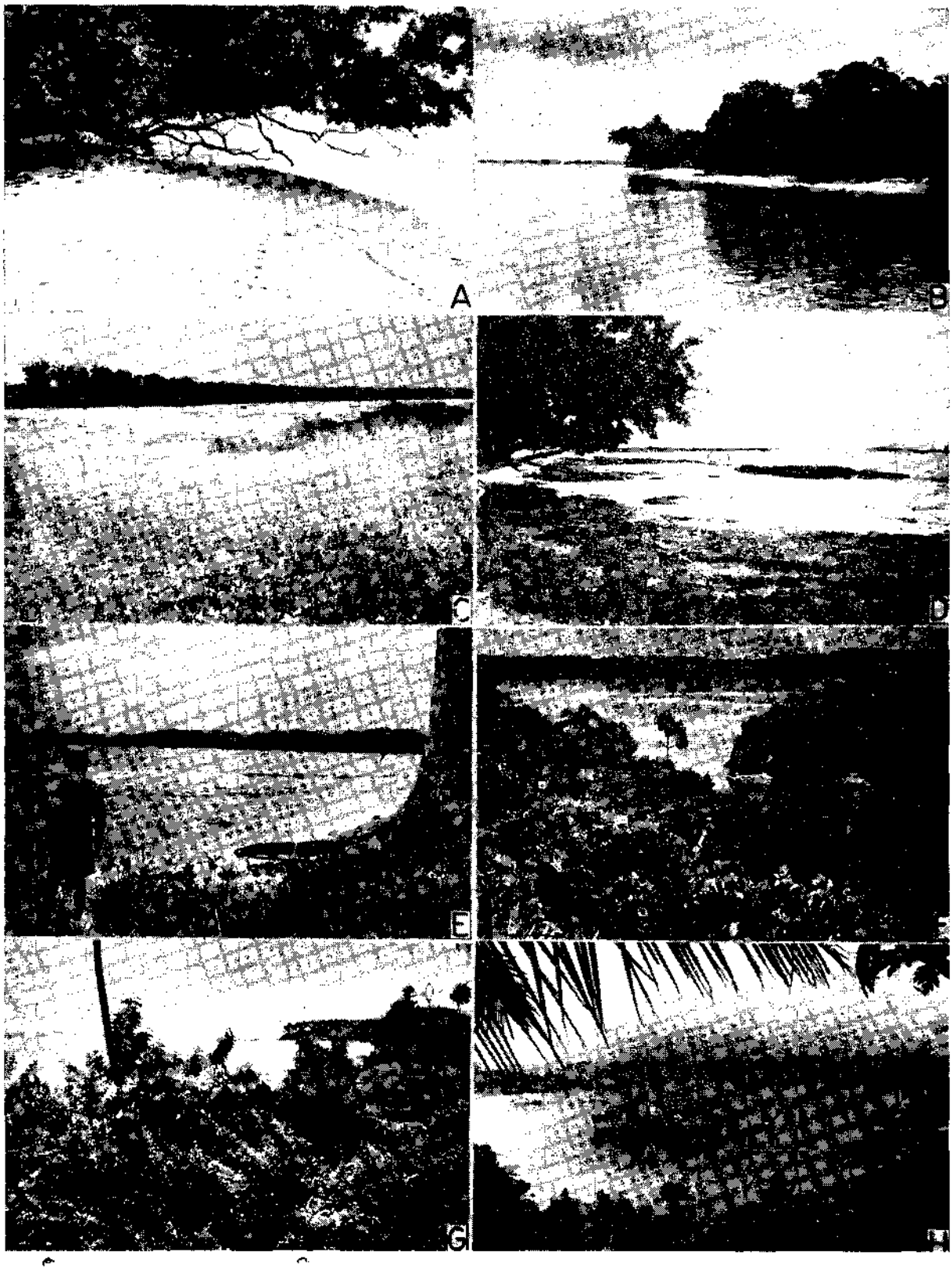

PLATE II. A. Sandy mangrove lined beach, East Bay, Katchall Island. B. Sawai Bay, Car Nicobar Island. C. Weed infested marshy area in the foreground, Butler Bay, Little Andaman. D. Pitted rocky bottomed shallow area and the wave beaten stony ledge, North of East Bay, Katchall Island. E. Mayo point, Nancowry Island. F. A typical topography of Andaman and Nicobar group of islands, Octavia Bay, Camorta Island. G. South point, Port Blair, South Andaman. H. Nancowry harbour, Camorta Island.

NANCOWRY ISLAND (Fig. 7)

1. *Spiteful Bay* (Fig. 8)

08°01′ N Lat ; 93°32′ E Long.

Lies between Leda and Mayo Points in Nancowry Island ; elongate and extensive in area but narrow. The shore is lined with mangroves which grow thickly along water front. All along eastern side the bay is shallow and muddy of yellow colour. Sunken vessel remains were observed at the eastern entrance. At 1.5 m depth a coral girdle is seen becoming more dense in middle at 2 m depth. This belt becomes broader approaching Leda Point. Bay 13-18 m deep, of mud and shingle bottom. Transition from live coralline area to deep area is sudden as in Octavia Bay. Details of observations made in traverse are given in Fig. 11.

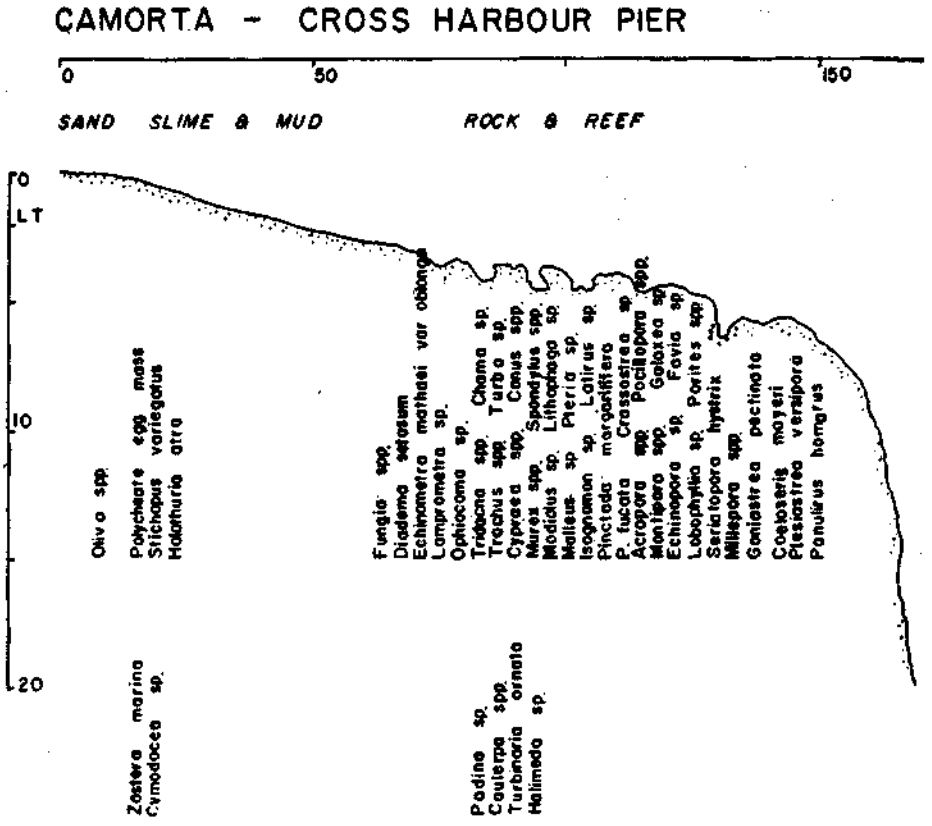

Fig. 9. Cross Harbour, Camorta Island showing a rich assemblage of communities.

2. *Mayo Point to Reid Point* (Fig. 8)

08°01′ N Lat ; 93°33′ E Long.

Shore line on northern extremity of Nancowry consists of sand with a narrow beach progressively becoming more steep towards Reid Point. Near shore water is full with submerged coral stones and live branching corals upto 3 m depth. A similar feature seen on opposite side of Camorta jetty to Naval Point towards east.

KATCHALL ISLAND (Figs. 7 and 12)

07°52′-08°02′ N Lat ; 93°19′-92°28′ E Long.

Maximum elevation 228 m. East, North and West Bays were visited. *East Bay :* The beach and the near shore areas were sandy and intersected by creeks. The creek mouths were slushy with rich organic detritus. The sea bottom is sandy upto a depth of 15 m from the jetty. The intertidal region is very narrow and is limited to 1-2 m. At a distance of about 500 m from shore the sea bed becomes precipitous. In 10 m depth massive boulder-like live coral colonies and large alcyonarians are common. Branching corals are present but not extensive.

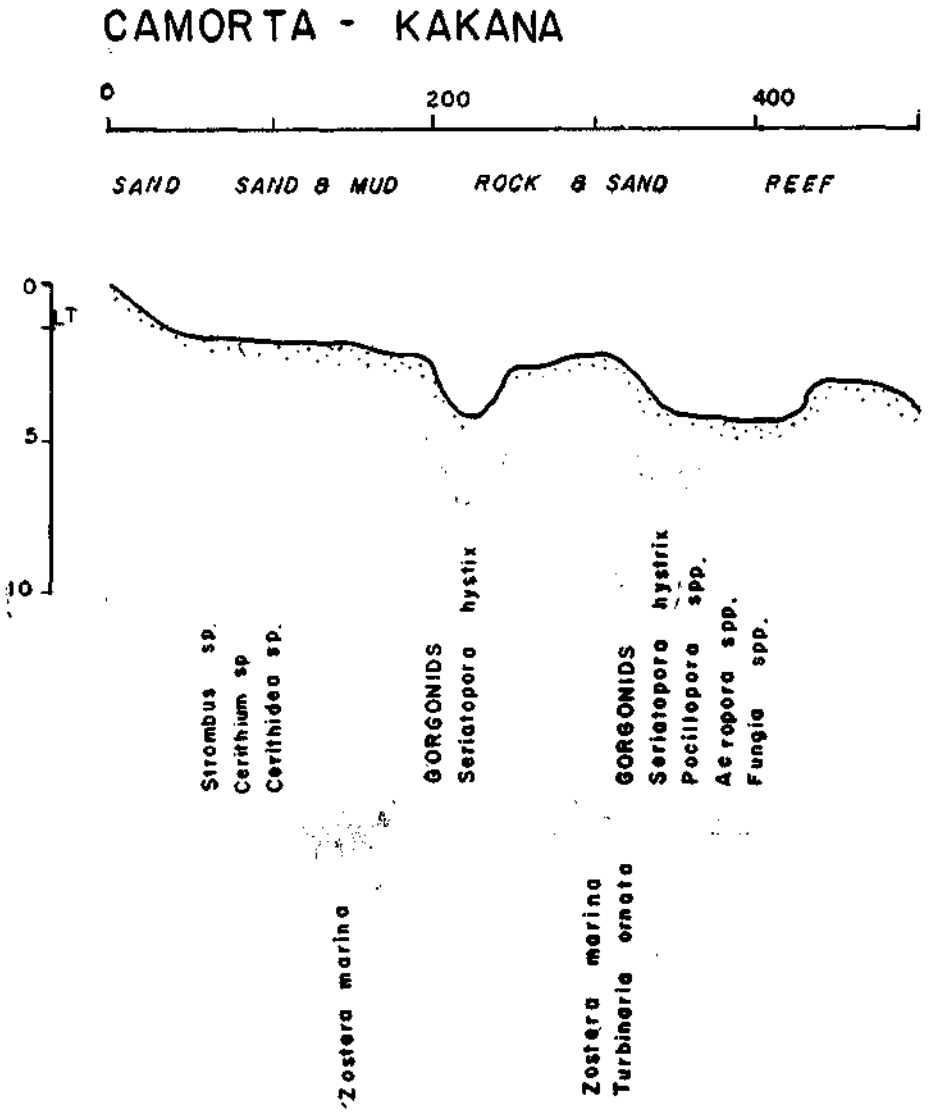

Fig. 10. Traverse study at Kakana, Camorta Island.

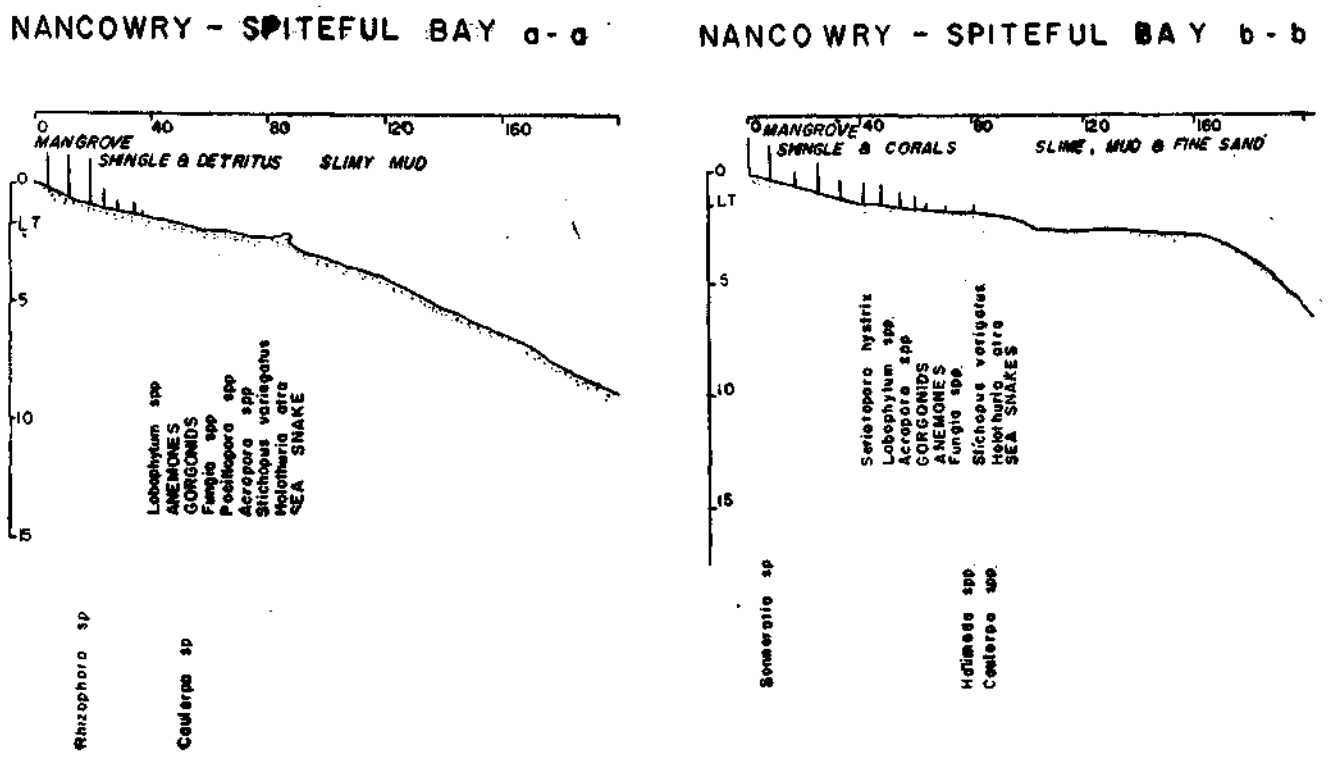

Fig. 11. Faunistic and algal distribution in Spiteful Bay, Nancowry Island.

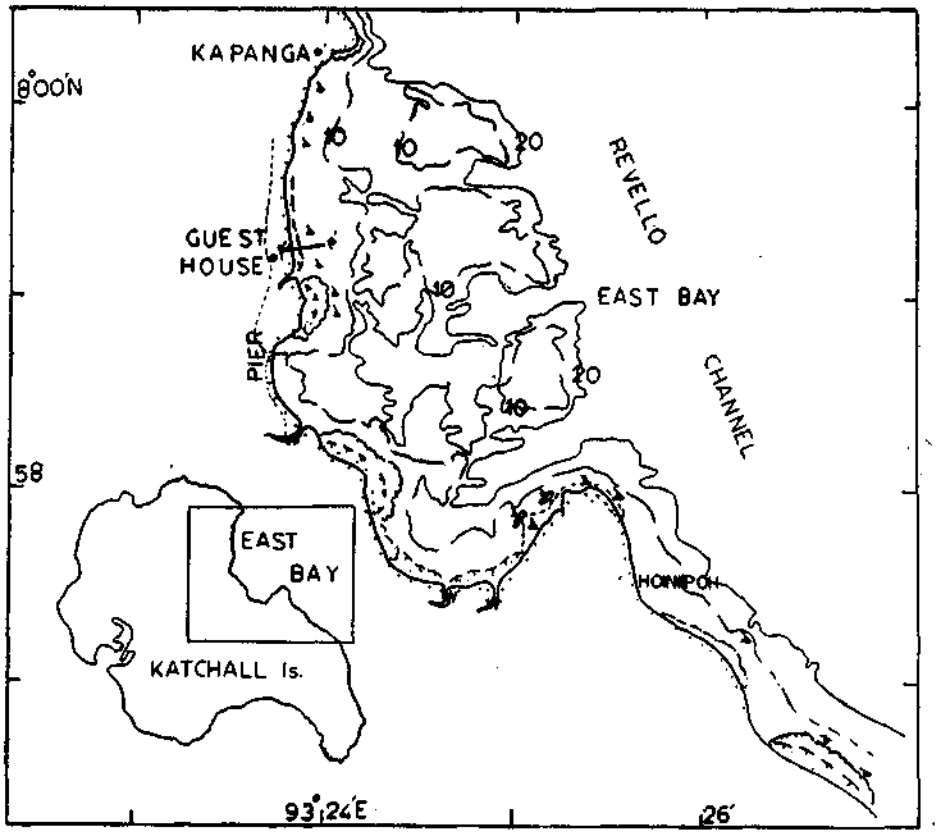

Fig. 12. Features of East Bay, Katchall Island.

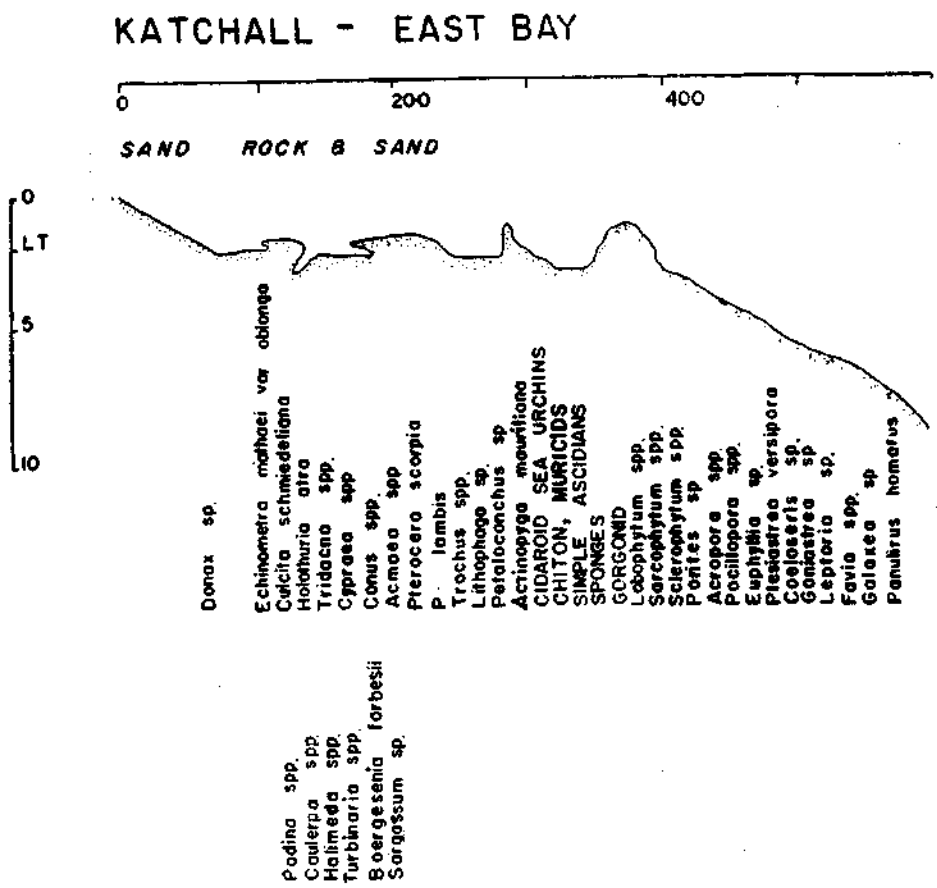

Fig. 13. Distribution pattern of near shore fauna and flora studied in the East Bay, Katchall Island.

Large sponges are observed. Coral grazing fishes, holothurians, echinoids and starfishes are common. A few rock lobsters are also observed. The results of the traverse study undertaken at a site close to the guest house, marked β-β' in Fig. 12 are given in Fig. 13. A notable shore feature is the occurrence of thick bushes of cycads in the East Bay area and the terrain was rocky, a feature distinct from that of nearby Camorta and Nancowry. *North Bay :* The area between Jhula and Jansing is unapproachable due to heavy breakers pounding the stony ledge about 100 m away from high tide mark. The area towards the shore is stony, flat and gets exposed with low tide. *West Bay :* It is calm, shallow and slushy. Thick mangroves were observed along the shore line. Inhabited by Nicobarese and settlers from mainland.

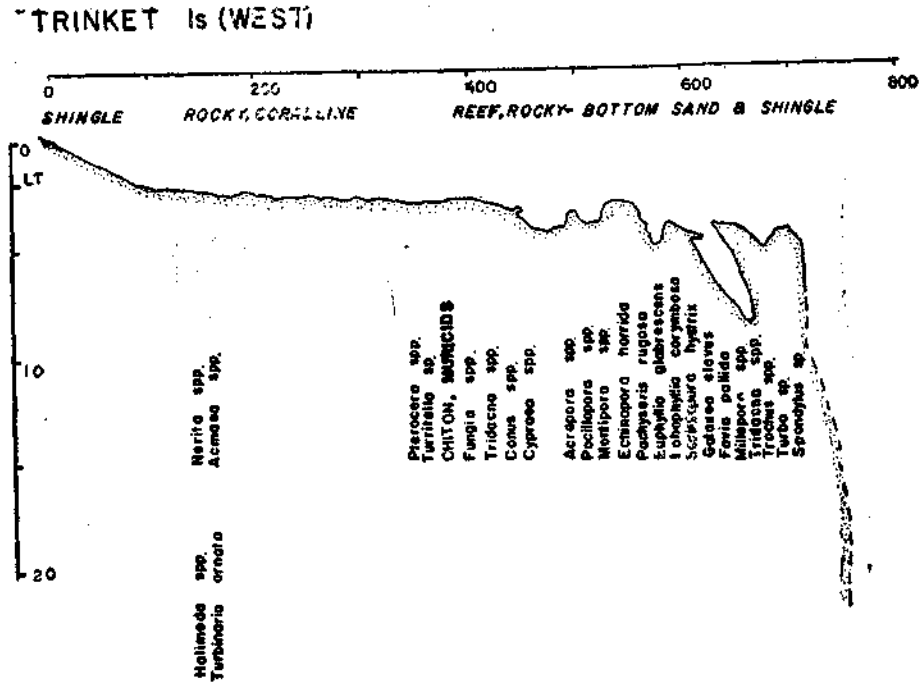

Fig. 14. Distribution pattern of fauna and flora in the West coast of Trinket Island.

TRINKAT ISLAND (Fig. 7)

08°02'-08°07' N Lat ; 93°33'-93°36' E Long.

Maximum elevation 30 m. Southwestern shore of the island was studied (β-β' in Fig. 7). Beresford Channel is deep, water clear and current very fast. The beach is lined by coconut palms, bushes and mangrove vegetation. The shore is of shingle and sand. The intertidal area extending about 100 m is of shingles with algal growth, slippery and free from major biota. An area of roughly 650-700 m wide is within 3 m depth from low tide mark ; beyond, the land falls sharply. Study was conducted within this 3 m depth zone. The site is rich in variety of species. Corals are much diversified. *Fungia, Cypraea, Conus, Tridacna,* muricids and echinoids were abundant. Major sea weeds were limited to calcareous forms and *Turbinaria.* Tidal current is fast and water clear. At places are crevices of over 5 m deep with rich fauna and the darker areas have a rich assemblage of coloured sponges. Details of observation made in a traverse are given in Fig. 14.

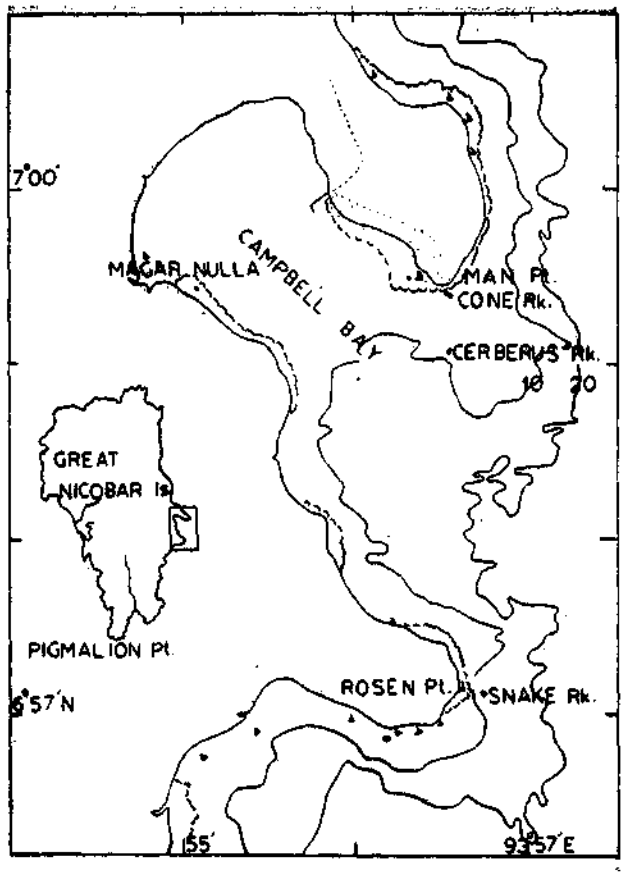

Fig. 15. Campbell Bay area in Great Nicobar Island.

Great Nicobar Island (Fig. 15)

06°45′-07°15′ N Lat ; 93°39′-93°58′ E Long.

Maximum elevation 568 m (Mt. Thuillier). The rivers Galathea (Dak Kea), Dagmar and Alexandra are navigable. Inhabited by local tribe Shompen and settlers from mainland.

Campbell Bay : 07°00′ N Lat ; 93°55′ E Long.

The Campbell bay is 1.5 km wide and 2 km long. Entrance of bay is 7 m deep. Interior is 4 m deep with muddy bottom and sand. Beach wavy from Snake Point to 20th km. Coarse sand of 4 m breadth cut up by small creeks here and there. Shore lined by forest vegetation and mangroves, encroaching into the water front in many places. Large tree trunks fallen across the beach indicating tidal erosion. Near shore sea bottom is of sand and pebbles ; calcretes, small and large, found here. Huge boulders at 1.5 m depth. This feature becomes more pronounced southwards and extends upto 3 m depth zone; beyond the depth drops to 9 m and more. Live coral formation rare shorewards, occurring in patches.

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