

ACKNOWLEDGEMENTS

The author is grateful to Dr. B. K. Tikader, Director, Zoological Survey of India, Calcutta and the Officer-in-Charge, High Altitude Zoology Field Station, Zoological Survey of India, Solan, for providing the necessary facilities for the present investigation. Thanks are also due to the staff of the High Altitude Zoology Field Station, particularly Dr. J. M. Julka, Shri T. R. Sharma and Mr. Rathin Mukherjee for their help in the field and as well as in the laboratory.

REFERENCES

- BHATIA, M. L. 1939. On some leeches from Kashmir. *Bull. Punj. Univ. Zool.*, **2** : 1-17.
- BHATIA, M. L. 1934. Nouvelle sangsue rynchobdellide *Glossiphonia lobata* n. sp., de l'establishment de pisciculture d' Achabal, Kashmir. *Ann. Parasit. hum. comp.*, **12** ; 121-129.
- CHANDRA, M. 1983. A check-list of leeches of India. *Rec. zool. Surv. India*, **80** : 265-290.
- HARDING, W. A. AND MOORE, P. J. 1927. *Fauna of British India, Hirudinea*, Taylor and Francis, London.
- SOOTA, T. D. 1959 (1956). Fauna of the Kashmir Valley-Leeches. *Rec. Indian Mus.*, **54** (1-2) : 1-4.

ON A COLLECTION OF SHALLOW-WATER HOLOTHURIANS
FROM THE LAKSHADWEEP

By

S. K. MUKHOPADHYAY AND T. K. SAMANTA

Zoological Survey of India, Calcutta

(With 11 Text-figures)

INTRODUCTION

The taxonomic account of the echinoderms of the Lakshadweep excepting Holothuroidea was first published by Bell (1902), based on the collections made by Stanley Gardiner. The holothurian component was reported by Pearson (1913, 1914), but this did not contain any material from Lakshadweep. Koehler and Vaney (1905, 1908 and 1910) dealt with 18 deep sea, 8 littoral species and described one more species of holothuria from the deep water of Lakshadweep respectively. Later, James (1969) published a catalogue of 16 shallow-water species of the group, of which as many as 15 are known to occur from the Minicoy and 2 from the Chetlat Island, one species is however, common to both Minicoy and Chetlat islands. Nagabhusanam and Rao (1972) gave a list of 13 species collected from the various ecological niches of the Minicoy island and added 2 more species to the fauna. Recently, Daniel and Halder (1974), dealt with the distribution of 23 Indian ocean species on Lakshadweep, without making any further addition to the total number of species which until now totals to 41. Mary Bai (1980) dealt with the anatomy of *Holothuria (Metriatyla) scabra* Jaeger and provided keys for the common species occurring in the Seas around India without giving any details of their occurrence in the Lakshadweep.

Thus, except the Minicoy island, our knowledge of the littoral holothurians of the rest of the islands is meagre. The present paper is based on a small collection of holothurians made during 1979-80 by the Z. S. I. from Androth, Kavaratti, Kalpeni and Minicoy islands. The material contained 12 species, none of which are new to science but two of them (Marked with asterisks) proved to be new records to the fauna of Lakshadweep. References under each species is reduced to avoid repetition but includes the original description and authors responsible for major changes in nomenclature. Distribution of each species mainly in the Indo-West Pacific littoral waters is dealt with.

The paper also furnishes a list of holothurians hitherto known from Lakshadweep including the two newly recorded species dealt herein.

Order : ASPIDOCHIROTIDA Grube, 1840

Family : HOLOTHURIIDAE Ludwig, 1894

1. *Actinopyga mauritiana* (Quoy & Gaimard, 1833)

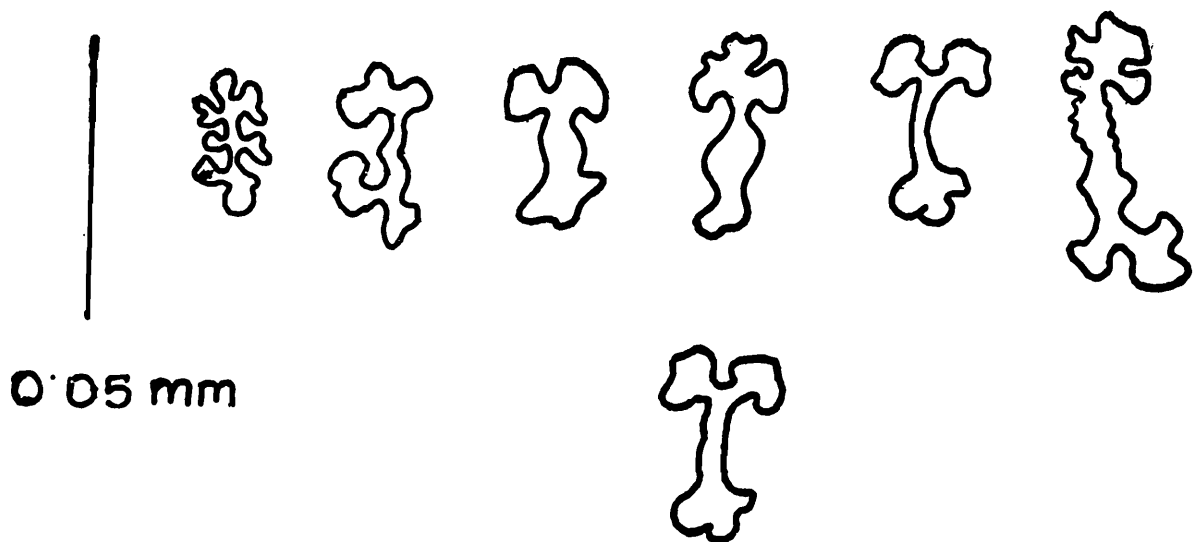
(Text-fig. 1.)

Holothuria mauritiana Quoy & Gaimard, 1833. *Voyage de decouvertes de '1' Astrolabe'*
Zoologie : Zoophytes. Paris : 138.

Holothuria guamensis Quoy & Gaimard, 1833. *Voyage de decouvertes de "1" Astrolabe"*.
Zoologie : Zoophytes. Paris : 137.

Actinopyga mauritiana : Panning, 1944. *Mitt. zool. Stinst. Hamb., 49 : 55, fig. 24 ;*
Rowe and Doty, 1977 *Micronesica 13 (2) : 228-229, fig. 2f, 6d.*

Material : 2 exs., Z. S. I. Reg. No. E 1387/1, North of Androth island, Lakshadweep, 19.xii.1979, Coll. B. P. Haldar ; 1 ex., Z. S. I. Reg. No. E 1423/1, exposed western reef edge, Kavaratti Island, Lakshadweep, 02.i.1980, Coll. B. P. Haldar.



Text-fig. 1. *Actinopyga mauritiana* (Quoy & Gaimard) spicules from body wall and podia.

Habitat : Exposed on reef edge amongst coralline sand and dead corals.

Description : Tentacles 25 ; pedicels evenly distributed ventrally, papillae surrounded by yellowish ring dorsally ; anus with five distinct clacified teeth ; body wall highly muscular and thick ; colour chocolate brown dorsally, whitish ventrally ; Size 45-100 mm., spicules consisting of bluntly spinose slender rods and rosettes, no table or button.

Distribution : Andaman, Nicobar & Minicoy (In India) and throughout the tropical Indo-West Pacific area except Arabian coast, Persian Gulf and Hawaiian Islands.

2. **Bohadschia marmorata** Jaeger, 1833

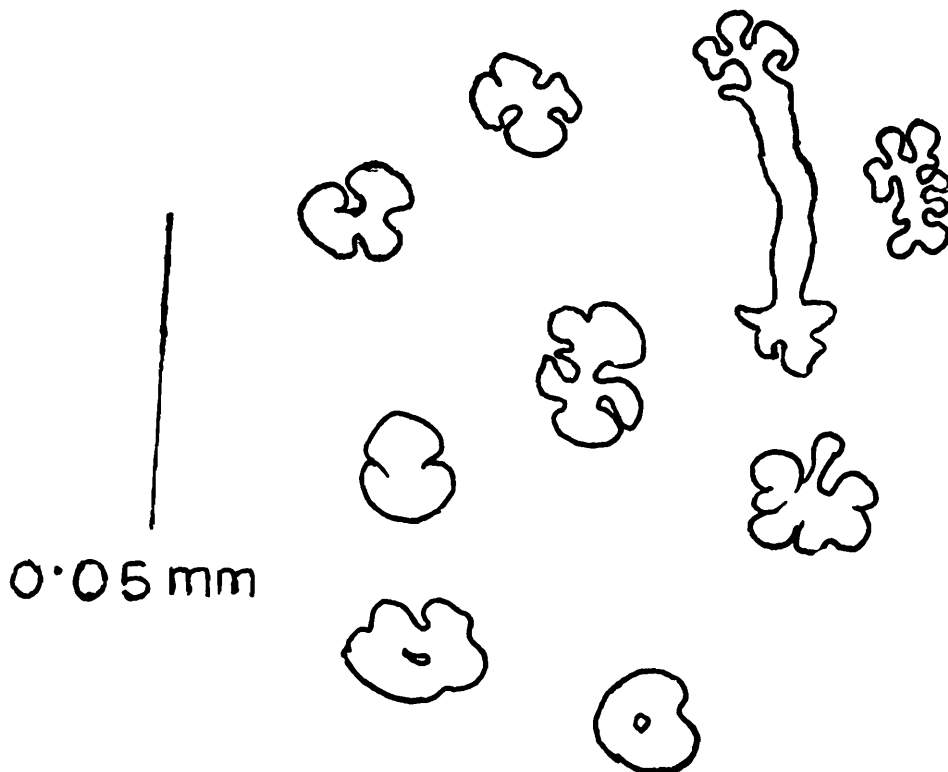
(Text-fig. 2)

Bohadschia marmorata Jaeger, 1833. *De Holothuris*. Turici : 18, pl. 3 fig. 9 ; Rowe and Doty, 1977. *Micronesica*, 13 (2) : 229-230. fig. 3a, 6g-h.

Holothuria (Bohadschia) vitiensis : Panning, 1929. *Mitt. zool. St. Inst. Hamb.*, 44 : 122, fig. 3.

Material : 1 ex., Z. S. I. Reg. No. 1388/1, exposed S. W. reef edge, Kavaratti Island, Lakshadweep, 04.i.1980, Coll. B. P. Haldar.

Habitat : Exposed on dead coral bed covered with green algae.



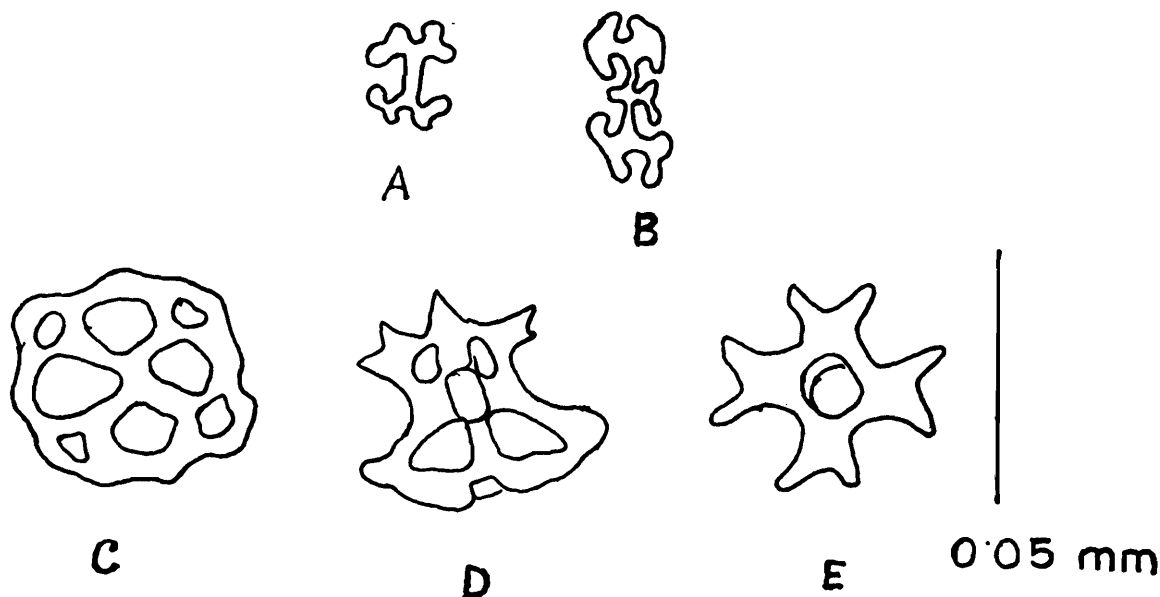
Text-fig. 2. *Bohadschia marmorata* Jaeger: Spicules from body wall and podia.

Description : Tentacles 18 ; Pedicels and papillae scattered ; mouth ventral ; no anal papillae, body cylindrical, dorsoventrally compressed with thin body wall ; colour cream yellow with blackish patches on the dorsal surface ; size 75 mm. ; spicules consisting of dichotomously branched rods and grains, no table or button.

Distribution : Andaman, Bay of Bengal, Minicoy, Tuticorin (In India) and tropical Indo-West Pacific area but not represented from islands of West Indian ocean, S. E. Arabia, Persian Gulf, West coast of India, Pakistan and Maldives.

3. *Holothuria (Halodeima) atra* Jaeger, 1833

(Text-fig. 3A-E)

Holothuria atra Jaeger, 1833. *De Holothuris*. Turici : 22.*Holothuria (Halodeima) atra* : Pearson, 1914. *Spolia zeylan.*, 9 (35) : 170. pl. 9, fig. 11. ; Rowe and Doty, 1977. *Micronesica*, 13 (2) : 230. fig. 3d, 7a.**Material** : 7 exs., Z. S. I. Reg. No. E1371/1, From Lagoon, Kavaratti Island, Lakshadweep, 1.i.1980, Coll. B. P. Haldar.**Habitat** : Shallow water lagoon bed, 4m., freely exposed.Text-fig. 3. *Holothuria (Halodeima) atra* Jaeger A & B resettes ; C. table disc, D. table disc, E. top of spire.

Description : Tentacles 20 ; Pedicels in crowded rows to form a 'sole' like surface ventrally ; papillae few and scattered dorsally ; body wall quite thick and soft ; colour dark brown to almost deep black ; size varying from 45 to 170 mm. ; spicules consisting of tables and numerous rosettes, tables with disc reduced, spire of moderate height, no button or rod present.

Distribution : Andaman, Nicobar, Mandapam, Krusadai. Is., Minicoy, Tuticorin (In India) and Indo-West Pacific area except Mascarene Is. ; also found in a few places in the West-Indian area of the Atlantic.

4. *Holothuria (Semperothuria) cinerascens* (Brandt, 1835)

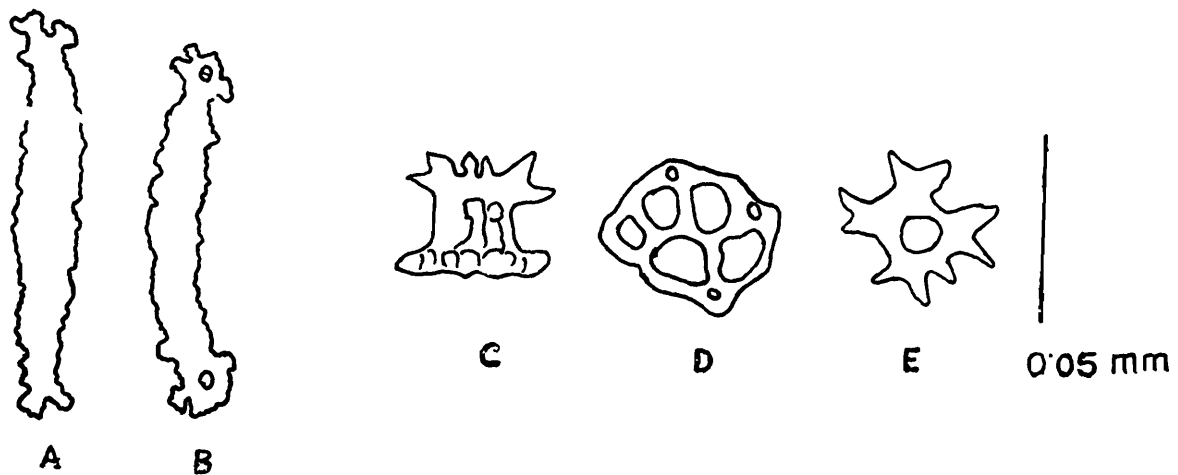
(Text-fig. 4 A-E)

Stichopus (Gymnochirota) cinerascens Brandt, 1835. *Prodromus descriptionis animalium ab H. Mertensio in orbis terrarum circumnavigatione observatorum*. Petropoli 1 : 51.*Holothuria cinerascens* Panning, 1934. *Mitt. zool. St. Inst. Hamb.*, 45 : 37, fig. 37.

Holothuria (Semperothuria) cinerascens, Rowe, 1969, *Bull. Br. Mus. nat. Hist. (Zool.)*, 18 (4) : 195 ; Clark and Rowe, 1971. *Monograph of the shallow water Indo-West Pacific Echinoderms*, London : 238, Rowe and Doty, 1977. *Micronesica*, 13 (2) : 230, fig. 3c, 7h.

Material : 4 exs., Z.S.I. Reg. No. E 1373/1, North of Androth Island, Lakshadweep, 19.xi.1979, Coll. B. P. Haldar ; 1 ex., Z.S.I. Reg. No. E 1575/1, Coral bed, W. of Kalpeni Island, 9.xii.1979, Coll. B. P. Haldar.

Habitat : Under dead coral rocks in mid-littoral zone.



Text-fig. 4. *Holothuria (Semperothuria) cinerascens* (Brandt) A & B. Spinose rods ; C. table ; D. table disc. E. top of spire.

Description : Tentacles 18 ; pedicels arranged closely on the ventral side leaving a small bare area in the middle, papillae few and scattered on the dorsal side ; body cylindrical with tapering posterior end ; colour dark brown ventrally but lighter dorsally, the papillae being lighter yellow in colour, the specimens appear to be spotted ; size 90 to 100 mm. ; spicules consisting of spiny rods and small tables, table disc small, spire low and top spiny, rods are slightly curved and highly spinous so that their borders appear to be serrated.

Distribution : Mandapam, Vizhingam, Andaman (In India) and throughout the Indo-West Pacific area except Persian Gulf.

5. *Holothuria (Platyperona) difficilis* Semper, 1868

(Text-fig. 5 A-C)

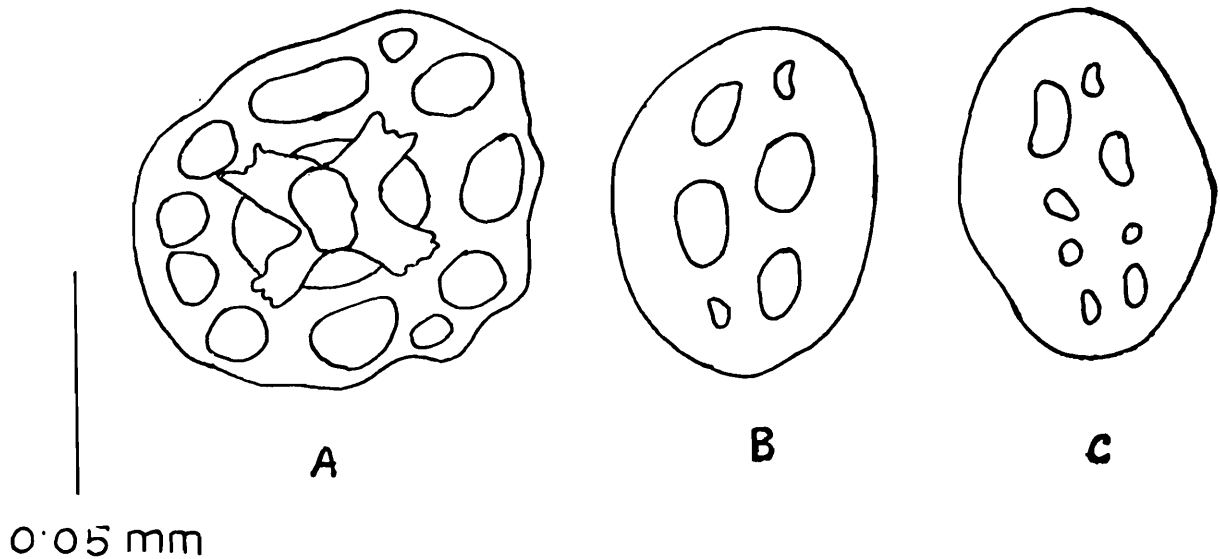
Holothuria difficilis Semper, 1868. *Reisen im Archipel der Philippinen 2. wissenschaftliche Resultate. Weisbaden Leipzig* 2 (1) : 92, pl. 30, fig. 21.

Holothuria (Platyperona) difficilis : Rowe, 1969. *Bull. Br. Mus. nat. Hist., (Zool.)* 18 (4) : 43, fig. 12 ; Rowe and Doty, 1977, *Micronesica*, 13 (2) : 232, fig. 3h.

Material : 1 ex., Z.S.I. Reg. No. E 1384/1, North of Androth Island, Lakshadweep, 19.xii.1979, Coll. B. P. Haldar ; 3 exs., Z.S.I. Reg. No. E

1426/1, Mid-littoral area, Western side of Kavaratti Island, Lakshadweep, 18.xii.1979, Coll. B. P. Haldar.

Habitat : Lie in rock pools, under dead coral rocks individually during bright light but in aggregation during twilight and also found exposed on dead coral beds with green algal growth.



Text-fig. 5. *Holothuria (platyperona) difficilis* Semper A. table disc ; B & C. buttons.

Description : Tentacles 18-20 ; pedicels scattered ventrally but in one example from Kavaratti they are arranged in rows, papillae few irregularly arranged ; tentacular collar present ; colour deep brown to almost blackish ; size small 15-50 mm ; spicules comprise of tables and buttons, tables well developed with smooth disc. peripheral holes vary from 6-15, buttons thin, oval, flat with prominent edge and 3-6 pairs of linear holes and an apparent longitudinal ridge in the middle.

Distribution : Andaman, Minicoy (In India) and throughout the tropical Indo-Pacific area.

6. *Holothuria (Mertensiothuria) fusco-cinerea* Jaeger, 1833

(Text-fig. 6 A-E)

Holothuria fuscocinerea Jaeger : 1833. *De Holothuris*, Turici : 22.

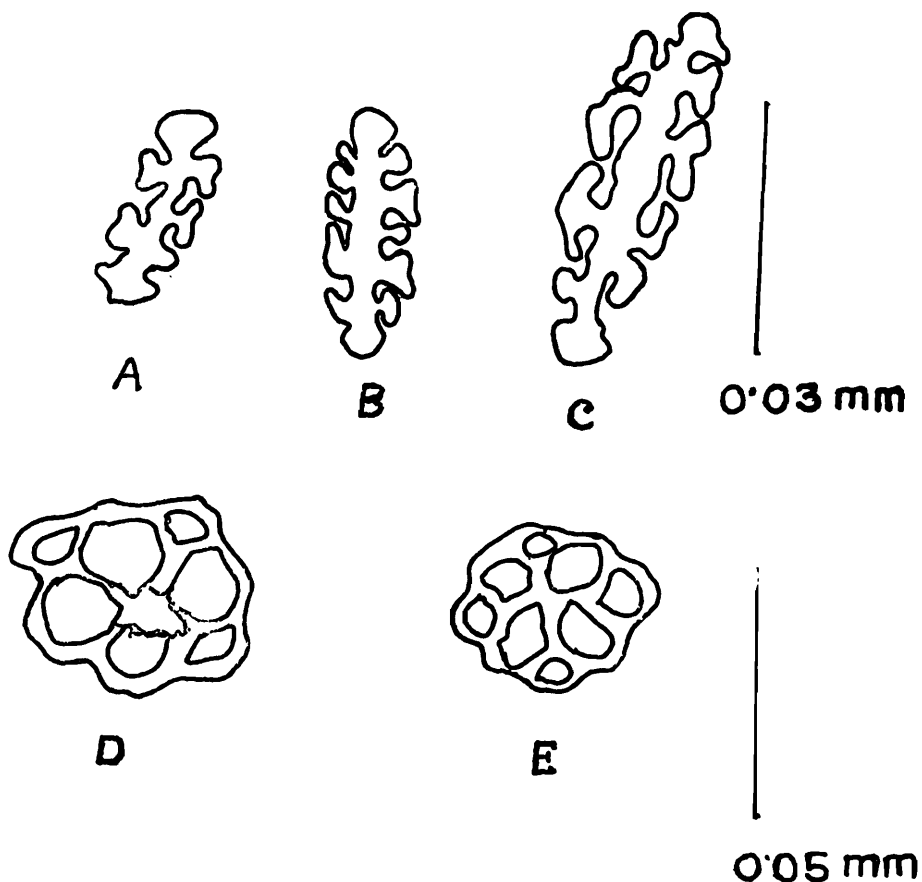
Mertensiothuria fuscocinerea : Deichmann, 1958. *Allan Hancock Pacif. Exped.*, 11 (2) : 300, pl. 3, fig. 13-23.

Holothuria (Mertensiothuria) fusco-cinerea : Rowe, 1969. *Bull. Br. Mus. nat. Hist. (zool.)*, 18 (4) : 149. Clark and Rowe, 1971. *Monograph of the shallow water Indo-west Pacific Echinoderms*, London : 178.

Material : 1 ex., Z.S.I. Reg. No. E 1385/1, North of Androth Island, Lakshadweep, 19.xii.1979, Coll. B. P. Haldar.

Habitat : Rock pool with coralline bottom.

Description : Tentacles 20 ; pedicels do not show any definite arrangement, each is surrounded by a white rim, papillae are situated on warty prominences, each row is surrounded by a broad blackish area which by joining with the dark area of the other papillae form a transverse band, thus the bivium appears to have blackish patches ; ground colour is creamy yellow ; body wall thick ; size 35 mm., spicules consisting of tables and buttons, tables with smooth disc and four larger central holes and four smaller holes alternately arranged, buttons are having a central axis from which are given off on each side three to six outgrowths and each button appears to have lost its outer wall, no complete button was found.



Text-fig. 6. *Holothuria (Mertensiothuria) fuscocinerea* Jaeger A. B. & C. buttons ; D. E. table disc.

Distribution : Ranges from Sri Lanka, Australia, Navigator Island, Philippine Island to Panamic region.

7. ***Holothuria (Mertensiothuria) leucospilota*** (Brandt, 1835)
(Text-fig. 7 A-G)

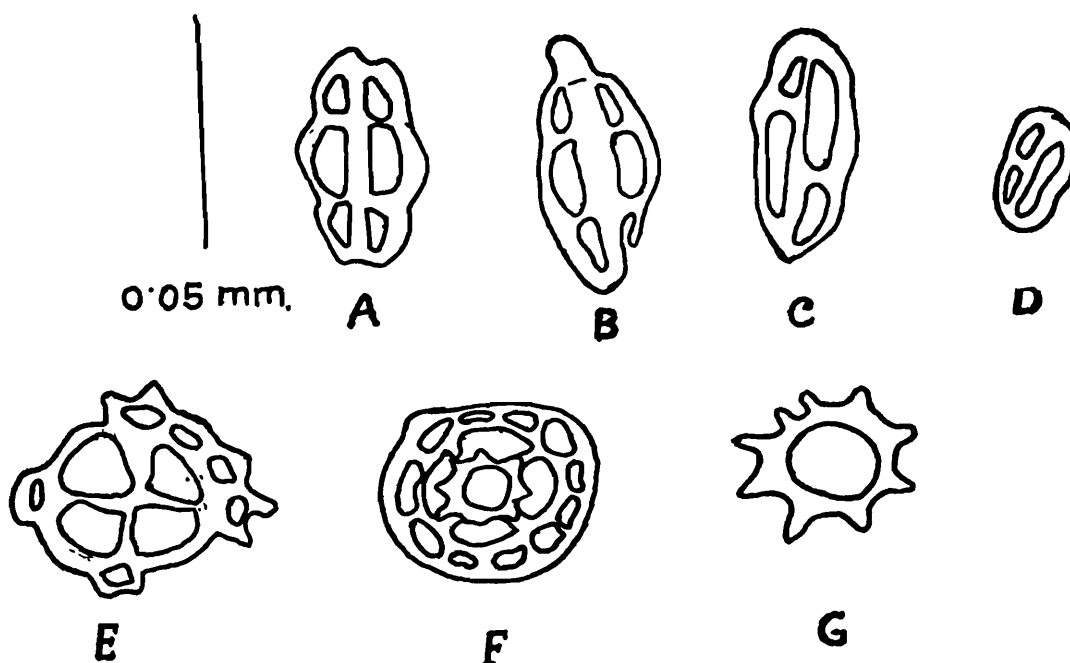
Stichopus (Gymnochirota) leucospilota Brandt, 1835. *Prodromus descriptions animalium ab H. Mertensio in orbis terrarum Circumnavigation observationum*. Petropoli : 1 : 51.

Mertensiothuria leucospilota : Deichmann, 1958. *Allan Hancock Pacif. Exped.*, **11** (2) : 297, pl. 3, fig. 1-9.

Holothuria (*Mertensiothuria*) *leucospilota* : Rowe, 1969. *Bull. Br. Mus. nat. Hist. (Zool.)*, **18** (4) : 148, fig. 14 ; Rowe and Doty, 1977. *Micronesica*, **13** (2) : 233-234, fig. 4 f, 7g.

Material : 1 ex., Z. S. I. Reg. No. E 1386/1, North of Androth Island, Lakshadweep, 19.xii.1979, Coll. *B. P. Haldar* ; 1 ex., Z. S. I. Reg. No. E 1574/1, Coral bed, W. of Kalpeni Island, Lakshadweep, 9.xii.1979, Coll. *B. P. Haldar*.

Habitat : Exposed on mid-littoral zone amongst dead corals.



Text-fig. 7. *Holothuria* (*Mertensiothuria*) *leucospilota* (Brandt) A. B. C. D. buttons ; E. F. table disc ; G. top of spire.

Description : Tentacles 20 ; Pedicels form a sole like surface ventrally, papillae irregularly arranged dorsally, body cylindrical with dark brown colour, body wall thin ; size 40 mm. and 150 mm., cuverian organs found in the larger individual from Kalpeni Is ; spicules consisting of tables and buttons, tables with spinous disc, and with a number of peripheral holes, in the matured specimen only four holes at four corners, spine low, ending in a ring of spines, buttons usually have three pairs of holes, a number of these are incomplete and irregular.

Distribution : Andaman, Kilakarai, Tuticorin, Vizhingam, Karwar, Kiltan, Minicoy Is. (In India) and a very common species of the Indo-Pacific littoral waters.

8. *Holothuria (Thymiosycia) hilla* Lesson, 1830

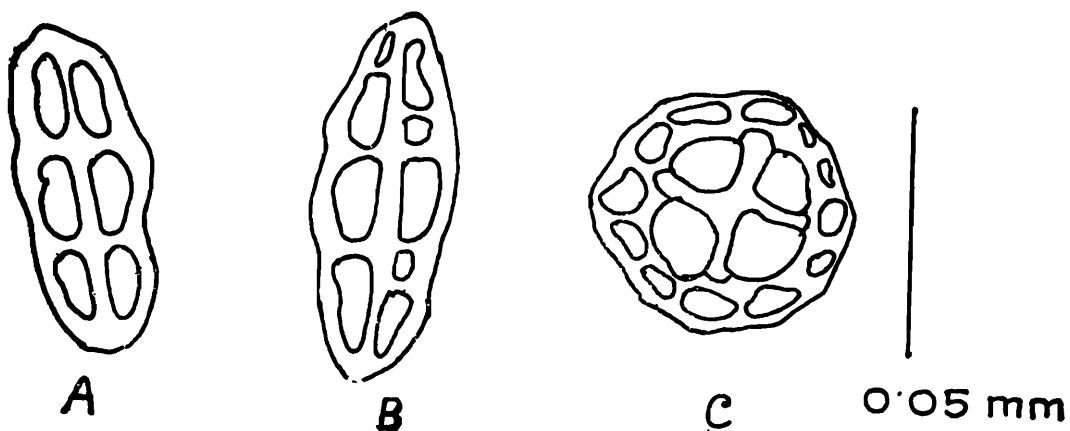
(Text-fig. 8 A-C)

Holothuria hilla Lesson, 1830. *Centurie Zoologique ou Choix d' Animaux rares, nouveaux ou imparfaitement connus*. Paris : 226, pl. 79.

Holothuria (Thymiosycia) hilla : Rowe, 1969. *Bull. Br. Mus. nat. Hist. (zool.)*, 18 (4) : 147 ; Rowe and Doty, 1977, *Micronesica*, 13 (2) : 232-233, fig. 4b, 9b.

Material : 3 exs., Z. S. I. Reg. No. E 1390/1, exposed SW reef edge, Kavaratti Island, Lakshadweep, 4.i.1980, Coll. B. P. Haldar.

Habitat : Exposed freely on dead coral bed with green algae.



Text-fig. 8. *Holothuria (Thymiosycia) hilla* Lesson A. B. buttons ; C. table disc.

Description : Tentacles 18 ; pedicels and papillae scattered ; varmi-form, body wall moderately thick ; anus surrounded by a ring of papillae ; size 25 to 45 mm., ground colour is brown with canary yellow spots of papillae and pedicels which sometimes coalesce to give a striped appearance ; spicules consisting of tables and buttons ; tables with smooth oval disc, a central and 8-12 peripheral holes, buttons with 3-6 pairs of large holes of various sizes.

Distribution : Andaman, Kilakarai, Krusadai Is., Minicoy, Tuticorin (In India) and common throughout the Indo-Pacific area.

9. *Holothuria (Thymiosycia) impatiens* (Forsk., 1775)

(Text-fig. 9 A-D)

Fistularia impatiens Forskal, 1775. *Descriptiones animalium quae in itinere orientali observavit P. Forskal*. Hauniae : 121, pl. 39, fig. 3.

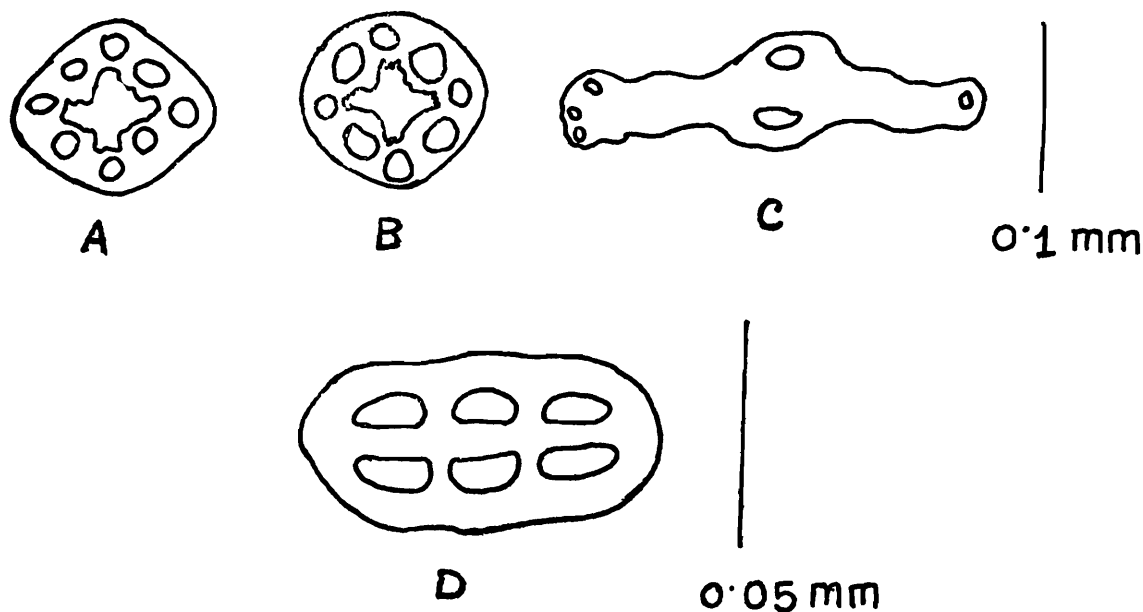
Holothuria impatiens : Panning, 1935. *Mitt. zool. St. Inst. Hamb.*, 45 (1935) : 83, fig. 72.

Holothuria (Thymiosycia) impatiens : Pearson, 1914. *Spolia zeylan*, 9 (35) : 171, pl. 8, fig. 21 ; Rowe & Doty, 1977. *Micronesica*, 13 (2) : 233, fig. 4c, 7c.

Material : 1 ex., Z. S. I. Reg. No. E 1383/1, North of Androth Island, Lakshadweep, 19.xii.1979, Coll. B. P. Haldar.

Habitat : Shallow rock pool, concealed under coral rocks covered with algal growth.

Description : Tentacles 20 ; pedicels and papillae irregularly scattered over the ventral and dorsal surface respectively without forming any row, tentacular collar of papillae apparent ; anus guarded by a circle of anal papillae ; colour creamy white with a few violet coloured bands



Text-fig. 9. *Holothuria (Thymiosycia) impatiens* (Forskal) A. B. table disc ; C. rod ; D. button.

especially prominent on the ventral side ; size 124 mm. ; spicules consisting of tables, buttons and rods, table disc squarish with eight smooth and large peripheral holes, spire moderately high ending in a cluster of spines, buttons with 3 pairs of large, smooth holes, rods bilobed and perforated at ends, spicule surface appears polished.

Distribution : Andaman, Minicoy (in India) and Circum tropical, Indo-Pacific, Atlantic ocean and Mediterranean.

10. *Labidodemas rugosum* (Ludwig, 1875)

(Text-fig. 10 A-E)

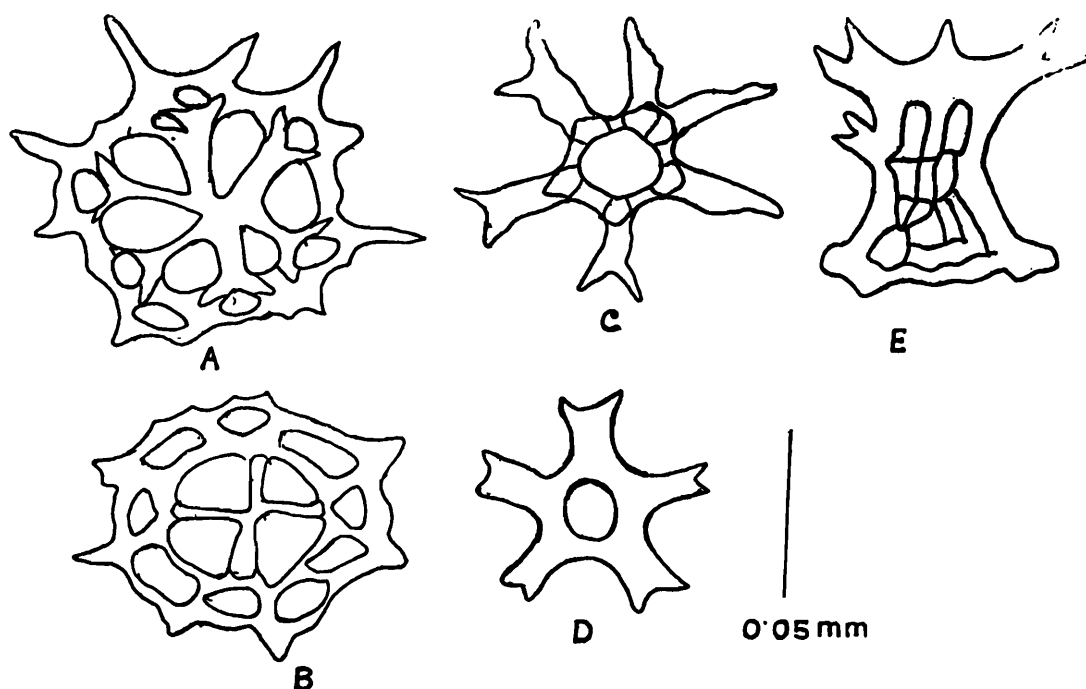
Holothuria rugosa Ludwig, 1875. *Arb. zool. Inst. Wurzburg*, 2 (2) : 85.

Labidodemas rugosum : Rowe, 1969. *Bull. Br. Mus. nat. Hist. (Zool.)* 18 (4) : 183 ;
Clark and Rowe, 1971. *Monograph of the shallow water Indo-West Pacific echinoderms*, London : 176, pl. 28, fig. 12.

Material : 2 exs., Z.S.I. Reg. No. E 1389/1, exposed SW Reef edge, Kavaratti Island, Lakshadweep, 4.i.1980, Coll. B. P. Haldar.

Habitat : Exposed on dead coral bed covered with green algae.

Description : Tentacles 20, in the larger specimen but totally absent in the smaller one ; pedicels are in three rows ventrally, the middle row being clearly double, papillae are in six rows dorsally, sometimes invisible to the naked eye ; vermiform with soft and leathery body wall ; colour creamy yellowish white ; size 130 mm and 80 mm ; spicules consisting of tables only having a central hole and a dozen peripheral holes in the disc, both the disc and top of the spire is highly spinous, spines on the top are bifid ; buttons absent.



Text-fig. 10. *Labidodemas rugosum* (Ludwig) A. B. table disc ; C. D. top of spire ; E. table.

Distribution : Andaman, Bay of Bengal (In India) and littoral region of Maldive, East Indies, N. Australia, Philippines and S. Pacific Islands of the Indo-West Pacific area.

Family : STICHOPODIDÆ Haeckel, 1896

11. *Thelenota ananas* (Jaeger, 1833)

Trepang ananas Jaeger, 1833. *De Holothuris*. Turici : 24, pl. 3, fig. 1.

Thelenota ananas Clark, 1921. *Pap, Dep. Mar. Biol. Carnegie Inst. Wash.*, 10 : 184 ;
Rowe and Dotty, 1977. *Micronesica*, 13 (2) : 227, fig. 2b, 5e.

Material : One example of this huge specimen was collected at Minicoy Lagoon but could not be brought to the laboratory. It was identified provisionally by the collector *B. P Haldar* in the field and confirmed later.

Habitat : Shallow water of lagoon bed.

Description : Tentacles 20, body sub-rectangular and elongated ; dorsally papillae large united at their bases making star like appendages, ventrally pedicels arranged irregularly ; body wall very thick and shaggy ; colour chocolate brown ; size 625 mm. ; spicules consisting of simple and branched rods, the latter sometimes look like 'X' but many take the form of complex rosette.

Distribution : Minicoy Is. (in India). Maldive and Mascarene Is., East Indies, North Australia, China, S. Japan and Is. of Western Pacific.

Order : APODIDA Brandt, 1835

Family : SYNAPTIDAE Burmeister, 1837

12. *Synapta maculata* (Chamisso & Eysenhardt, 1821)

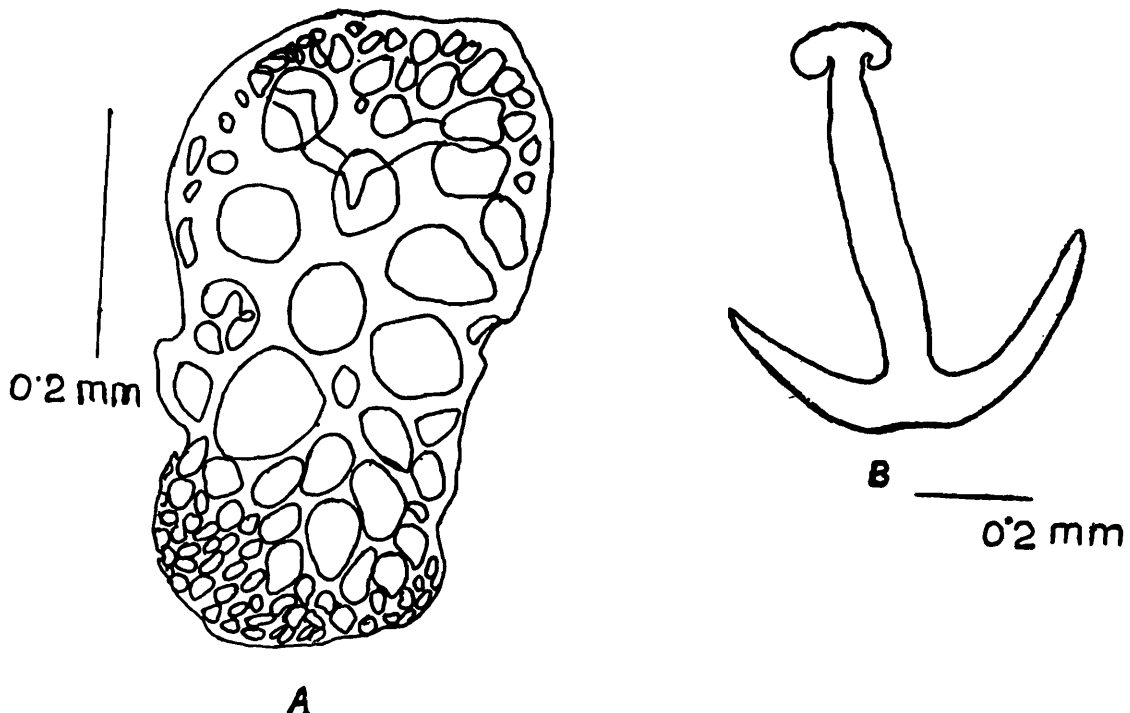
(Text-fig. 11 A, B)

Holothuria maculata Chamisso and Eysenhardt, 1821. *Nova Acta Acad. Caesar. Leop. Carol.*, 10 : 352, pl. 25.

Synapta maculata : Heding, 1928. *Vidensk. Meddr. dansk natur. Foren.*, 85 : 113, fig. 2 (1-10) ; Rowe and Doty, 1977, *Micronesica*, 13 (2) : 234-235, fig. 5a, 8e.

Material : 1 ex., Z. S. I. Reg. No. E 1372/1, from Lagoon, Kavarratti Island, Lakshadweep, 1.i.1980, Coll. B. P. Haldar.

Habitat : Shallow water of Lagoon bed, 4 m., under weed.



Text-fig. 11. *Synapta maculata* (Chamisso and Eysenhardt) A. anchor plate ; B. anchor.

Description : Tentacles 15 ; body cylindrical, snake like with terminal mouth and anus ; body wall thin, fragile, rough, sticks to finger ; colour dark with 5 distinct longitudinal dark bands of two or three different colours crossed by incomplete dark bands ; size 900 mm. ;

spicules consisting of anchors and anchorplates, anchors with smooth arms and base, anchor plates quadrangular with a number of large, smooth holes at the centre and smaller openings at the periphery.

General distribution : Andaman, Minicoy (In India) and throughout the Indo-West Pacific area except Persian Gulf and the Hawaiian Islands.

List of littoral holothurians hitherto known from Lakshadweep

- Class : HOLOTHUROIDEA de Blainville, 1834
 Order : ASPIDOCHIROTIDA Grube, 1840
 Family : HOLOTHURIIDAE Ludwig, 1894
 Genus : **Actinopyga** Bronn, 1860
Actinopyga mauritiana (Quoy and Gaimard, 1833)
A. miliaris (Quoy and Gaimard, 1833)
 Genus : **Bohadschia** Jaeger, 1833
Bohadschia marmorata Jaeger, 1833
 Genus : **Holothuria** Linnaeus, 1767
 Subgenus : **Halodeima** Pearson, 1914
Holothuria (Halodeima) atra Jaeger, 1833
 Subgenus : **Lessonothuria** Deichmann, 1958
Holothuria (Lessonothuria) pardalis Selenka, 1867
 Subgenus : **Mertensiothuria** Deichmann, 1958
 * *Holothuria (Mertensiothuria) fusco-cinerea* Jaeger, 1833
H. (M.) leucospilota (Brandt, 1835)
H. (M.) pervicax Selenka, 1867
 Subgenus : **Metriatyla** Rowe, 1969
Holothuria (Metriatyla) ocellata Jaeger, 1833
 Subgenus : **Microthele** Brandt, 1835
Holothuria (Microthele) nobilis (Selenka, 1867)
 Subgenus : **Platyperona** Rowe, 1969
Holothuria (Platyperona) difficilis Semper, 1868
 Subgenus : **Semperothuria** Daichmann, 1958
Holothuria (Semperothuria) cinerascens (Brandt, 1835)
 Subgenus : **Thymiosycia** Pearson, 1914
Holothuria (Thymiosycia) hilla Lesson, 1830
H. (T.) impatiens (Forsk., 1775)

- Subgenus : **Vaneyothuria** Deichmann, 1958
Holothuria (Vaneyothuria) integra Koehler & Vaney, 1908
- Genus : **Labidodemas** Selenka, 1867
 * *Labidodemas rugosum* Ludwig, 1875
- Family : STICHOPODIDAE Haeckel, 1836
 Genus : **Stichopus** Brandt, 1835
Stichopus chloronotus (Brandt, 1835)
S. variegatus Semper, 1868
- Genus : **Thelenota** Hal-Clark, 1921
Thelenota ananus (Jaeger, 1833)
- Order : DENDROCHIROTIDA Grube, 1840
 Family : CUCUMARIIDAE Ludwig, 1894
 Genus : *Cucumaria* de Blainville, 1884
Cucumaria ariana Koehler & Vaney, 1908
- Family : PHYLLOPHORIDAE Ostergren, 1907
 Genus : **Phyllophorus** Grube, 1840
Phyllophorus intermedius Koehler & Vaney, 1908
- Genus : **Afrocucumis** Deichmann, 1944
Afrocucumis africans (Semper, 1868)
- Order : APODIDA Brandt, 1835
 Family : SYNAPTIDAE Burmeister, 1837
 Genus : **Synapta** Eschscholtz, 1829
Synapta maculata (Chamisso & Eysenhardt, 1821)
- Genus : **Euapta** Ostergren, 1898
Euapta godeffroyi (Semper, 1868)

Remarks on general observation :

The Lakshadweep is a chain of coral islands running roughly from north to south between 12°31' N. Lat. and 71° and 74°E. Long. in the Arabian Sea, consisting of 27 irregularly scattered reefs having a ring shaped disposition, nine of which are atolls and a total geographical area of 32 sq. km. Out of these only 10 islands are inhabited and the rest exist as satellites of them. The islands, being well within the tropics and extended to the equatorial belt, have a tropical, humid, warm and generally pleasant and equable climate, the chief rainy season being from late May to early October, the relative humidity being over 70-75%.

The following is a short account of the general observation on the holothurians made by the collector. The most conspicuous and abundant holothurians of the Lakshadweep coral reef are the thickwalled aspidochirotidids : The Holothuriidae and Stichopodidae *H. (Halodeima) atra* and *H. (Thymiosycia) impatiens* are found in all the islands visited. On the other hand, population density of *H. (Platyperona) difficilis* occurs individually during bright light but in aggregation during twilight. *H. (Halodeima) atra*, *H. (Mertensiothuria) leucospilota*, *H. (Platyperona) difficilis* and *Actinopyga mauritiana* occur in abundance in the mid-littoral zone of the coral rocky bed at Androth and Kavaratti Islands. At Minicoy lagoon the giant sized stichopodian of shaggy appearance *Thelenotia ananas* was found lying freely exposed. Less common forms are *H. (Semperothuria) cinerascens*, *H. (Thymiosycia) hilla*, *H. (Mertensiothuria) fuscocinerea*, *Bohadschia marmorata*, *Labidodemas rugosum* & *Synapta maculata*. The time and equipment being limited, extensive survey could not be made and as a result a small collection was brought to the laboratory.

SUMMARY

Twelve species of littoral holothurians under six genera and three families collected from Androth, Kavaratti, Kalpeni and Minicoy islands of the Lakshadweep are dealt with in this paper. Out of these, two species are new records from the area. An upto-date list of littoral holothurians known to occur from the island is also included.

ACKNOWLEDGEMENTS

Our sincere thanks are due to Dr. B. K. Tikader, Director, Zoological Survey of India, Calcutta for providing the necessary facilities. Thanks are also due to Shri B. P. Haldar, Assistant Zoologist for his whole hearted support and encouragements and Dr. G. C. Rao, Zoologist, Zoological Survey of India, for kindly going through the manuscript.

REFERENCES

- BELL, F. J. 1902. The actinogonidiate echinoderms of the Maldive and Laccadive islands. (In) Gardiner, J. S., (Ed.). *The Fauna and geography of the Maldive and Laccadive Archipelagoes* Cambridge University Press, Cambridge : 1 : 223-233.
- CLARK, A. M. AND ROWE F. W. E., 1971. *Monograph of the shallow water Indo-West Pacific echinoderms*. Trustees of the British Museum (Natural History), London. 238 pp., 100 figs. 31 pls.