

Conservation Area Series 15

**FAUNAL DIVERSITY
OF
GULF OF MANNAR
BIOSPHERE RESERVE**

**K. VENKATARAMAN
M. SRINIVASAN
CH. SATYANARAYANA
D. PRABAKAR**

ZOOLOGICAL SURVEY OF INDIA

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INTRODUCTION

The Gulf of Mannar is not only the first marine biosphere reserve in India, but also the first in south and Southeast Asia. The Gulf of Mannar Biosphere Reserve (GoMBR) encompasses 21 islands. These are uninhabited islands, ranging in size from 0.25 ha to 130 ha, spreading along the coast for 170 km, with the closest being 500 m and the furthest, over 4 km from shore. The islands and their shallow waters form the core of the reserve. This core area is in turn surrounded by a 10km wide buffer zone. It is deemed a priority area under the authoritative reference work published by the World Bank, the Great Barrier Reef Marine Park authority and the World Conservation Union. The IUCN commission on National Parks and Protected Areas, with the assistance of UNEP, UNESCO and WWF, identified the Reserve as being an area of "particular concern" given its diversity and special multiple-use management status. The Reserve is among six areas chosen on the basis of its threatened status and richness in biological wealth and it is included in the action programme to save India's protected areas for future generations.

The area falling from longitudes 78° 08'E to 79° 30'E and latitudes 08° 35' N to 09° 25' N has been declared as Marine Biosphere Reserve by the Government of India on February 18, 1989 to conserve this unique environment.

The faunistic studies on Gulf of Mannar before the declaration of this environment as a Biosphere Reserve are scanty. Notable among them are Foote, 1988; Thurston, 1890; 1895; Hornell, 1917; Graveley, 1927; Horst, 1931; Sewell, 1932, Burton, 1937; Satyamurthy, 1952, 1956; Apurba Ghosh, 1963; Jones, 1966; Anantanarayanan, 1967; Mahadevan and Nayar, 1968, 1969; Thomas, 1969; Pillai, 1969; Appukuttan, 1972; Pillai and Stoddart, 1972; Nair and Mahadevan, 1973; Pillai, 1973; Ameer Hamsa, 1974; Pillai, 1975; Jones, 1976; Pillai, 1977; Ameer Hamsa and Gandhi, 1978; James and Soundarrajan, 1979; Venkataramanujam *et al.*, 1981; Anderson, 1981; Ameer Hamsa, 1981; Bhatt, 1983; Agatheesapillai and Thiagarajan, 1984; James, 1985; Scheer, 1985; Wafar, 1986; Pillai, 1986; Thomas, 1985; Thomas and George, 1986; Bakus, 1994; Krishna pillai and Kasinathan, 1987; Krishnamurthy, 1987; Silas and Fernando, 1988; James *et al.*, 1988. The works after the declaration as Biosphere Reserve include Krishnamurthy, 1991; Marichamy *et al.*, 1993; Purvaja and Ramesh, 1993; Bakus, 1994; James, 1994; Deshmukh and Venkata Ramani, 1995; Jeyabaskaran. *et al.*, 1996. Pillai, 1996; Asir Ramesh, 1996; Appukuttan, 1996; Pillai, 1997; Devraj, 1998; and Dorairaj, 1998.

Keeping this in view, the Marine Biological Station of the Zoological Survey of India, Chennai, has taken up the task of studying the fauna of the Gulf of Mannar Biosphere Reserve Islands, as these are the most productive areas in the marine ecosystem and also the coral reefs of these areas are fast deteriorating, due to human interference.

The mangrove ecosystem, seaweed and seagrass ecosystem and coral reef ecosystem are the three important ecosystems in the coastal zone. All the three are highly productive, harbour many

organisms and are called as 'Nature's Natural Sanctuaries of Biological Diversity'. The Gulf of Mannar Biosphere Reserve consists of all these three unique ecosystems and has become significant because of the presence of unique coral reefs and its associated tropical fish, sponges, gorgonids, holothurians, pearl parrs, chank beds, rare balanoglossus, curious sea horse, endangered turtles and the unique endangered herbivorous, marine mammal, the *Dugong dugon*.

The floral component of Gulf of Mannar comprises of economically viable species of seaweeds such as *Gracilaria*, *Caulerpa*, *Gelidiella*, *Hypnea*, *Stichospermum*, *Hydroclathums*, *Clathratus* and *Padina*. The seagrass communities in this region top the list with the highest number of seagrass species. These provide suitable feeding grounds for the globally endangered herbivorous marine mammal, the *Dugong dugon*. They also harbour rich congregations of edible *Penaeus semisulcatus* and *Holothurian* spp., which are hunted for export to Japan and other Southeast Asian countries as a highly priced food item.

Survey parties of the Marine Biological Station studied all the 21 islands and the mainland coast bordering the Biosphere Reserve during 1988-96 (Table 1). The present study is aimed at collecting baseline information on biodiversity of marine fauna of the Biosphere Reserve and furnishing reference for further studies to monitor and manage this Reserve.

DESCRIPTION OF THE STUDY AREA

On the west the GoMBR is bordered by the southeast coast of India and on the east by the north west coast of Sri Lanka. It is situated within 8°35' N-9°29' N latitude and 78°8' E-79°30' E longitude. There are twentyone islands of coral-based origin, which are lying as a string of chain parallelly opposite to the mainland coast (Fig. 1).

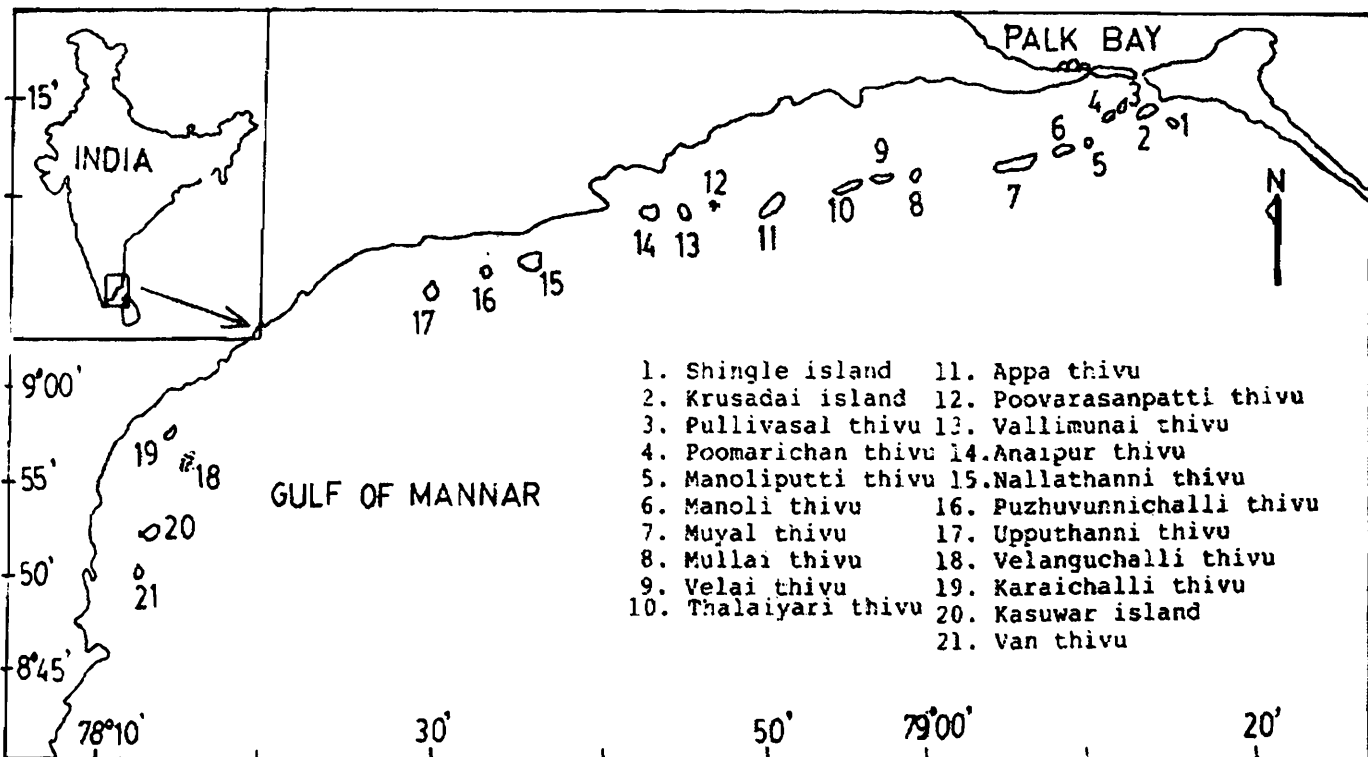


Fig. 1. Location of all the 21 islands of Gulf of Mannar Biosphere Reserve

1. Shingle Island : Its area is 12.69 ha with a circumference of 1736 m. It is 4 km from Pamban. This island is full of shingle and coral rubbles, heaped all along the shore to a height of 0.75 m, completely covered by bushes and trees. Fringing reefs are present on the eastern, northern and western side of the island. The corals are mostly of *Acropora* sp. present 300 m from the island shore. Patchy distribution of boulder (massive) corals are also found.

2. Krusadai Island : Its area is 65.80 ha and circumference is 5,193 m. It is 3 km from Pamban and the nearest land is Kundugal Point 500 m away. This island is completely covered with trees and bushes having many varieties of animal life. A continuous fringing reef is present on the southern side of the island at 500 m distance. The lagoon in this area also contains live coral patches. The northern and eastern side also have a few patches of *Acropora* sp.

3. Pullivasal Island : Its area is 29.95 ha and circumference is 5520 m. It is 5 km from Mandapam Camp. This island can be approached from Poomarichan island side by crossing the channel separating the two islands. This island appears as thickly wooded jungle. There are fringing reefs on the southern side at a distance of 200 m. A similar patchy reef distribution is also found in the muddy area on the northern side.

4. Poomarichan Island : Its area is 16.58 ha and circumference is 2500 m. It is about 5 km from Mandapam Camp. This is almost a horseshoe shaped island, with a scanty foreshore, surrounded by marshy area and broken coral stones. This island appears as a thickly wooded jungle. Extensive reefs are found on the western and eastern sides of the island at a distance of 150 m from island shore. On the southern side also a continuous reef exists close to the shore.

5. Manauliputti Island : Its area is 2.34 ha and circumference is 940 m. It is 6 km from Mandapam Camp. It is a very small island separated from the nearby Manauli Island by an extensive flat fully exposed during low tide. Through out this island a patchy distribution of massive coral is present at 500 m distance from shore.

6. Manauli Island : Its area is 25.90 ha and circumference is 2958 m. It is 6 km from Mandapam Camp. It is a small island surrounded by sand flats and mud flats exposed during low tide and well covered by trees and shrubs. There are extensive reefs on southern and northern sides at 250 m distance from the shore. Stony corals belonging to both *Acropora* and *Porites* are found in large numbers.

7. Hare Island : Its area is 129.04 ha and circumference is 11,520 m. It is 7 km from Mandapam Camp. This island is completely covered by thick vegetation of *Acacia* trees, palmyrah, coconut plantations and other trees. Massive corals are found on the southern lagoon in several places as well as in northern side. Fringing reefs are also present at 1.5 km distance on south side. This reef continues up to the northern tip of the island.

8. Mulli Island : Its area is 10.20 ha and circumference is 1712 m. It is 9 km from Keelakarai. This is a small, sandy island completely covered with tall shrubs and bushes with a swamp. The northern side of the island is thudded with massive corals. Eastern side with low fringing reef continues up to 3 m depth. The south reef is 1.25 km from shore and extends up to the western side.

9. Valai Island : Its area is 10.15 ha and circumference is 1889 m. It is 10 kms from Keelakarai. It is a small linear island lying parallel to mainland and it is connected to Talaiyari island by a channel which is submerged during high tide. The western side of northern shore has good cover of massive coral as well as branching coral types. The southern reef is far away from the shore at 3 m depth.

10. Talaiyari Island : Its area is 75.15 ha and circumference is 8338 m. It is 10 km from Keelakarai. It is an elongated island with linear axis parallel to the shore, the broadest portion of the island is on its western tip. Coral reef exists very close to the shore along the entire length of the island on northern shore except northwestern edge. Continuous fringing reefs are found at a distance of 0.75 km all along the southern side.

11. Poovarasampatti Island : This is a narrow sandy flat (100 m x 25 m) exposed during low tide and fully covered by high tide water. It lies midway between Appa Island and Vallimunai Island. Live coral reef surrounds this submerged island (it is misnomer to call this an island) up to a distance of 100 m. Apart from a few massive corals occurring on the eastern side, the rest are branching type, which lie at depth of 1-2 m.

12. Appa Island : Its area is 28.63 ha and circumference is 4840 m. It is 8 km from keelakarai. This island is traversed on the southern side by an intervening coral stone studded sandy flat which is flooded during high tide preventing easy accessibility from the ends. The southern portion of the island is highly elevated (6 m); standing on fossilized coral northern portion like other islands has an elevation of only 2.5 m from the spring tide level. The entire southern side of the island is fringed with live coral reef. A good number of dead coral stones and boulders are found on the northwest corner of the island that extends up to the distance of 1.5 km.

13. Palliyarmunai Island : Its area is 6.72 ha and the circumference is 1170 m. It is a sandy island strewn with coral rubbles; completely covered with *Acacia* trees and *Zizyphus jujuba* bushes. Coral reefs are present at the southwestern corner at a distance of 200 m from the shore. Dead coral stones are found in other regions of the shore.

14. Anaipar Island : Its area is 11.0 ha and circumference is 1605 m. It is 9 km from Keelakarai. This island is completely covered with tall shrubs and *Acacia* trees. Live coral reefs are seen near western shore of the island up to a maximum distance of 200 m from shore. Dead coral blocks are also found on the southern shore up to a distance of 200 m.

15. Nallathanni Island : Its area is 11.0 ha and circumference is 2700 m. It is 2 km from Mundal a place near Valinokkam. It is one of the larger islands containing about 4000 coconut trees, palmyrah and other woody trees. Coral reef and coral boulders are present all round the island at a distance of 0.5 km on the southern side and very near to northern shore.

16. Puluvinichalli Island : Its area is 6.12 ha and circumference is 1372 m. It is 18 km from Vembar. This island has a good sandy beach, and thick vegetation. This island is surrounded by live coral reef all round except for a small stretch on the eastern side.

17. Upputhanni Island : Its area is 29.94 ha and circumference is 2292 m. It is 8 km from Vembar. It is a big sandy island with plenty of coral rubbles all over. There are a few trees, tall

bushes and grasses present in this island. Fringing reefs are found in the mid-eastern portion rounding south up to the western middle portion at a distance of 150 to 300 m from the island.

18. Vilanguchalli Island : Its area is 0.95 ha and circumference is 614 m. It is 15 km from Tuticorin. This island is submerged underwater now. There are isolated patches of thin reef of corals along southeastern side of the island.

19. Karaichalli Island : Its area is 16.46 ha and circumference is 1610 m. Recently some portion of the island is eroded and the area becomes 12.70 ha. It is 15 km from Tuticorin. It is a sandy island, thickly set with tall bushes in the center and western side. The whole island is covered with grasses and small plants at a distance of 500 m to 1 km from the shore.

20. Kasuwar Island : Its area is 19.50 ha and circumference is 2160 m. Recently this island is eroded and the area becomes 15 ha only. It is 7km from Tuticorin. This island is having small sand mounds and bushes here and there. The whole island is covered with xerophytic vegetation. Coral reefs are found at the southwest corner of the island at a distance of 500 m.

21. Van Thivu : Its area is 16.0 ha and circumference is 2015 m. It is 6 km from Tuticorin. This island is covered with sparse vegetation of low bushes mostly grasses and xerophytic plants. Fringing reefs are present on the eastern side of the island at a distance of 500 m.

MATERIALS AND METHODS

The samples collected in the present study are mostly from the exposed regions during the low tide period. Echinoderms, crustaceans and molluscan samples were hand picked from the intertidal region both from the island and in the mainland coast. Fishing trawlers were also engaged to collect zooplankton samples; benthic fauna were collected with the help of dredges and catches from the fishing trawls were persuaded to collect some of the fauna. The period of survey conducted, area surveyed and the total numbers of examples studied were presented in Table 1 and summarised in Table 2.

SYSTEMATIC ACCOUNTS

List of faunistic groups reported from Gulf of Mannar islands (* not found in the present study)

1. Phylum **CHAETOGNATHA**
Genus ***Spadella***
 1. *Spadella cephaloptera* (Busch, 1851)
 2. *Spadella angulata* Tokioka, 1951
- Genus ***Krohnitta***
 3. *Krohnitta pacifica* (Aida, 1897)
 4. *Krohnitta subtilis* (Grassi, 1881)
- Genus ***Pterosagitta***
 5. *Pterosagitta draco* (Krohn, 1853)

Genus *Sagitta*

6. *Sagitta bedoti* Beraneck, 1895
7. *Sagitta bipunctata* Quoy & Gaimard, 1827
8. *Sagitta enflata* Grassi, 1881
9. *Sagitta ferox* Doncaster, 1902
10. *Sagitta hexaptera* d' Orbigny, 1836
11. *Sagitta minima* Grassi, 1881
12. *Sagitta neglecta* Aida, 1897
13. *Sagitta pacifica* Tokioka, 1940
14. *Sagitta pulchra* Doncaster, 1902
15. *Sagitta regularis* Aida, 1897
16. *Sagitta robusta* Doncaster, 1902

2. Phylum **CNIDARIA**A. **Corals**

Class ANTHOZOA

Subclass ZOANTHARIA

Order SCLERACTINIA

Suborder ASTROCOENIIA

Family THAMNASTERIIDAE

Genus *Psammocora* Dana, 1846

1. *Psammocora contigua* (Esper, 1797)

Family POCILLOPORIDAE

Genus *Pocillopora* Lamarck, 1816

2. *Pocillopora damicornis* (Linnaeus, 1758)
3. *Pocillopora verrucosa* (Ellis and Solander, 1786)
4. **Pocillopora eydouxi* Milne Edwards and Haime, 1860

Family ACROPORIDAE

Genus *Acropora* Oken, 1815

5. *Acropora formosa* (Dana, 1846)
6. **Acropora valenciennesi* (Milne Edwards and Haime, 1860)
7. *Acropora humilis* (Dana, 1846)
8. *Acropora cytherea* (Dana, 1846)
9. *Acropora hyacinthus* (Dana, 1846)
10. **Acropora indica* (Brook, 1893)
11. *Acropora millepora* (Ehrenberg, 1834)

12. *Acropora nobillis* (Dana, 1846)
13. **Acropora secale* (Studer, 1878)
14. *Acropora valida* (Dana, 1846)

Genus ***Astreopora*** de Blainville, 1830

15. *Astreopora myriophthalma* (Lamarck, 1816)

Genus ***Montipora*** de Blainville, 1830

16. *Montipora millepora* Crossland, 1952
17. *Montipora informis* Bernard, 1897
18. *Montipora explanata* Brueggeman, 1879
19. *Montipora exserta* Quelch, 1886
20. *Montipora digitata* (Dana, 1846)
21. *Montipora divaricata* Brueggeman, 1879
22. *Montipora turgescens* Bernard, 1897
23. *Montipora manauliensis* Pillai, 1969
24. *Montipora monasteriata* (Forskal, 1775)
25. *Montipora venosa* (Ehrenberg, 1834)
26. *Montipora spumosa* (Lamarck, 1816)
27. *Montipora tuberculosa* (Lamarck, 1816)
28. *Montipora verrucosa* (Lamarck, 1816)
29. *Montipora aequituberculata* Bernard, 1897
30. *Montipora hispida* (Dana, 1846)
31. *Montipora foliosa* (Pallas, 1766)

Sub-order FUNGIIA

Family AGARICIIDAE

Genus ***Pavona*** Lamarck, 1801

32. *Pavona varians* Verrill, 1864
33. *Pavona decussata* (Dana, 1846)
34. **Pavona cactus* (Forskal, 1775)
35. *Pavona clavus* (Dana, 1846)
36. *Pavona divaricata* (Lamarck, 1816)

Genus ***Pachyseris*** Milne Edwards and Haime, 1849

37. *Pachyseris rugosa* (Lamarck, 1801)

Family SIDERASTREIDAE

Genus ***Pseudosiderastrea*** Yabe and Sugiyama, 1935

38. *Pseudosiderastrea tayami* Yabe and Sugiyama, 1935

- Superfamily FUNGIICAE
 Family FUNGIIDAE
 Genus *Cycloseris* Milne Edwards and Haime, 1849
39. *Cycloseris cylolites* (Lamarck, 1801)
- Superfamily PORITICAE
 Family PORITIDAE
 Genus *Goniopora* de Blainville, 1830
40. *Goniopora stokesi* Milne Edwards and Haime, 1851
 41. *Goniopora stuchburyi* Wells, 1955
 42. *Goniopora planulata* (Ehrenberg, 1834)
- Genus *Porites* Link, 1807
43. *Porites solida* (Forsskal, 1775)
 44. *Porites lutea* Milne Edwards and Haime, 1860
 45. *Porites lichen* Dana, 1846
 46. **Porites exserta* Pillai, 1969
 47. *Porites compressa* Dana, 1846
 48. *Porites mannarensis* Pillai, 1969
- Sub-order FAVIA
 Family FAVIIDAE
 Genus *Favia* Oken, 1815
49. *Favia stelligera* (Dana, 1846)
 50. *Favia pallida* (Dana, 1846)
 51. *Favia speciosa* (Dana, 1846)
 52. *Favia fava* (Forskal, 1775)
- Genus *Favites* Link, 1807
53. *Favites abdita* (Ellis and Solander, 1786)
 54. *Favites halicora* (Ehrenberg, 1834)
 55. *Favites pentagona* (Esper, 1874)
 56. *Favites melicerum* (Ehrenberg, 1834)
- Genus *Goniastrea* Milne Edwards & Haime, 1848
57. *Goniastrea retiformis* (Lamarck, 1816)
 58. *Goniastrea pectinata* (Ehrenberg, 1834)
- Genus *Platygyra* Ehrenberg, 1834
59. *Platygyra daedalea* (Ellis and Solander, 1786)
 60. *Platygyra sinensis* (Milne Edwards and Haime, 1849)

- Genus ***Leptoria*** Milne Edwards and Haime, 1848
 61. *Leptoria phrygia* (Ellis and Solander, 1786)
- Genus ***Hydnophora*** Fisher de Waldheim, 1807
 62. *Hydnophora microconos* (Lamarck, 1816)
 63. *Hydnophora exesa* (Pallas, 1766)
- Genus ***Montastrea*** de Blainville, 1830
 64. *Montastrea valenciennesi* (Milne Edwards & Haime, 1848)
- Genus ***Leptastrea*** Milne Edwards & Haime, 1848
 65. *Leptastrea purpurea* (Dana, 1846)
 66. *Leptastrea tarnsversa* Klunzinger, 1879
- Genus ***Cyphastrea*** Milne Edwards and Haime, 1848
 67. *Cyphastrea serailia* (Forsk. al., 1775)
- Genus ***Echinopora*** Lamarck, 1816
 68. *Echinopora lamellosa* (Esper, 1797)
- Family RHIZANGIIDAE
 Genus ***Culicia*** Dana, 1846
 69. **Culicia rubeola* (Quoy and Gaimard, 1833)
- Family OCULINIDAE
 Genus ***Galaxea*** Oken, 1815
 70. *Galaxea fascicularis* (Linnaeus, 1767)
- Family MERULINIDAE
 Genus ***Merulina*** Ehrenberg, 1834
 71. *Merulina ampliata* (Ellis and Solander, 1786)
- Family MUSSIDAE
 Genus ***Symphyllia*** Milne Edwards and Haime, 1848
 72. *Symphyllia recta* (Dana, 1846)
- Family PECTINUDAE
 Genus ***Mycedium*** Oken, 1815
 73. *Mycedium elephantotus* (Pallas, 1766)
- Sub-order CARYOPHYLIINA
 Family CARYOPHYLIIDAE
 Genus ***Paracyathus*** Milne Edwards & Haime, 1848
 74. **Paracyathus profundus* Duncann, 1889

Genus *Polycythus* Duncan, 1889

75. **Polycyathus verrill* Duncan, 1889

Genus *Heterocyathus* Milne Edwards & Haime, 1848

76. *Heterocyathus aequicostatus* Milne Edwards and Haime, 1848

Sub-order DENDROPHYLLIINA

Family DENDROPHYLLIIDAE

Genus *Balanophyllia* S. Wood, 1844

77. *Balanophyllia affinis* (Semper, 1872)

Genus *Endopsammia* Milne Edwards and Haime, 1848

78. *Endopsammia philippinensis* Milne Edwards and Haime, 1848

Genus *Heteropsammia* Milne Edwards and Haime, 1848

79. **Heteropsammia michelini* Milne Edwards and Haime, 1848

Genus *Tubastrea* Lesson, 1829

80. *Tubastrea aurea* (Quoy and Gaimard, 1833)

Genus *Dendrophyllia* de Blainville, 1830

81. *Dendrophyllia coarctata* Duncan, 1889

82. *Dendrophyllia indica* Pillai, 1969

Genus *Turbinaria* Oken, 1815

83. *Turbinaria crater* (Pallas, 1766)

84. *Turbinaria undata* Bernard, 1896

85. *Turbinaria peltata* (Esper, 1794)

B. Gorgonids

Order GORGONACEA Lamouroux

Subclass ALCYONARIA

Sub-order SCLERAXONIA Studer

Family SUBERGORGIIIDAE Gray, 1857

Genus *Subergorgia* Gray, 1857

1. *Subergorgia suberosa* (Pallas, 1766)

2. *S. reticulata* (Ellis & Solander, 1786)

Sub-order HOLAXONIA Studer

Family PLEXAURIDAE Gray

Genus *Plexauroides* Wright and Studer

3. *Plexauroides praelonga* (Ridley)

Family PARAMURICEIDAE Bayer

Genus *Muricella* Verrill

4. *Muricella complanata* Wright and Studer

Genus *Thesea* Duchassaing and Michelotti, 1860

5. *Thesea flava* Nutting

Genus *Echinomuricea* Verrill

6. *Echinomuricea indica* Thomson and Simpson

Genus *Echinogorgia* Kolliker, 1865

7. *Echinogorgia reticulata* (Esper)

8. *E. complexa* Nutting

Genus *Heterogorgia* Verrill.

9. *Heterogorgia flabellum* Ridley

Family GORGONIIDAE Lamouroux, 1812

Genus *Leptogorgia* Milne Edwards and Haime

10. *Leptogorgia australiensis* Ridley

Family ELLISELLIDAE

Genus *Ellisella* Gray, 1858

11. *Ellisella andamanensis* (Simpson)

Genus *Nicella* Gra

12. *Nicella dichotoma* (Gray)

Genus *Juncella* Val.

13. *Juncella juncea* (Pallas, 1766)

Genus *Gorgonella* Val.

14. *Gorgonella umbraculum* (Ellis and Solander)

15. *Gorgonella rubra* (Thomson and Henderson)

C. Sea anemones

Subclass ZOANTHARIA

Order ACTINIARIA

Sub-order NYNANTHEAE

Family HALIACTIIDEAE

Genus *Phytocoetus*

1. *Phytocoetus exul* Annandale

2. *Phytocoetus gangaticua* Annandale

Sub-tribe **ENDOMYDARIA**

Family **ACTINIIDAE**

Genus ***Actinogeton***

3. *Actinogeton sessre* (Haddon & Schateleton, 1843)

Genus ***Anthopleura***

4. *Anthopleura annae* Carlingren, 1948

5. *Anthopleura annae michaelsern* (Pax, 1920)

6. *Anthopleura annae niglescens* (Verrill)

7. *Anthopleura annae thallia* (Gosse)

Genus ***Aulactina***

8. *Aulactinia strheides* (Mc Murrich, 1889)

9. *Aulactinia varidi* Garlgren, 1900

Genus ***Conodylactis***

10. *Conodylactis parvicornis* Kooietrieniski, 1898

Family **ISOPHELLIDAE**

Genus ***Telmactis***

11. *Telmactis decola* (Ehvenberg)

Family **HARMATHIIDAE**

Genus ***Adamisia***

12. *Adamisia miniata*

Genus ***Calliactis***

13. *Calliactis parasitica* (Couch)

Genus ***Hormathia***

14. *Hormathia coronata* (Gosse)

Genus ***Paracalliactis***

15. *Paracalliactis valdiviae*

Family **DIADUMENIDAE**

16. *Diadumane lencoleva* (Verrill, 1866)

3. Phylum **ARTHROPODA**

Class **CRUSTACEA**

A. **Prawns**

Order **DECAPODA**

Suborder (Macrura) NATANTIA

 Infraorder PENAEIDEA

Super family PENAEOIDEA

 Family SOLENOCERIDAE

 Genus ***Solenocera*** H. Lucas

1. *Solenocera crassicornis* (H.Milne-Edwards 1837)

 Family PENAEIDAE

 Genus ***Metapenaeopsis*** Bouvier

2. *Metapenaeopsis hilarula* (De Man 1971)

3. *Metapenaeopsis stridulans* (Alcock 1905)

 Genus ***Metapenaeus*** Wood-Mason & Alcock

4. *Metapenaeus affinis* (H. Milne Edwards 1837)

5. *Metapenaeus burkenroadi* Knso 1954

6. *Metapenaeus dobsoni* (Miers 1878)

7. *Metapenaeus lysianassa* (de Man 1888)

 Genus ***Parapenaeopsis*** Alcock

8. *Parapenaeopsis acclivirostris* Alcock 1905

9. *Parapenaeopsis cornuta* (Kishinouye 1905)

10. *Parapenaeopsis maxillipedo* Alcock 1906

11. *Parapenaeopsis stylifera* (H. Milne Edwards 1837)

12. *Parapenaeopsis tenella* (Bate, 1888)

13. *Parapenaeopsis uncta* (Alcock 1905)

 Genus ***Penaeus*** Fabricius

14. *Penaeus indicus* H. Milne Edwards 1837

15. *Penaeus japonicus* Bate 1888

16. *Penaeus latisulcatus* (Kishinouye)

17. *Penaeus merguensis* De Man 1888

18. *Penaeus monodon* Fabricius 1798

19. *Penaeus semisulcatus* De Haan 1850

 Genus ***Trachypenaeus*** Alcock

20. *Trachypenaeus curvirostris* (Stimpson 1860)

21. *Trachypenaeus pescadorensis* Schmitt 1931

22. *Trachypenaeus sedili* Hall 1961

Infra Order CARIDEA
 Super family ALPHEOIDEA
 Family ALPHEIDAE
 Genus *Alpheus*

23. *Alpheus crossimannus* Heller, 1865

 Family HIPPOLYTIDAE
 Genus *Exhippolysmata*

24. *Exhippolysmata ensirostris* (Kemp, 1914)

B. Lobsters

 Order DECAPODA
 Sub order (Macrura) REPTANTIA
 Infra order PALINURIDEA
 Super family PALINUROIDEA
 Family PALINURIDAE
 Genus *Panulirus* White, 1847

1. *Panulirus homarus* (Linnaeus, 1758)

2. *Panulirus ornatus* (Fabricius, 1798)

3. *Panulirus polyphagus* (Herbst, 1793)

C. Crabs (BRACHYURA)

 Family DROMIDAE
 Genus *Dromia* Weber, 1795

1. *Dromia dehani* Rathbun

 Family CALAPPIDAE
 Genus *Calappa* Weber, 1795

2. *Calappa lophos* (Herbst)

4. *Calappa philargius* (Linnaeus)

 Genus *Matuta* Weber, 1795

5. *Matuta lunaris* (Forskal, 1775)

6. *M. planipes* (Fabricius, 1798)

 Family LEUCOSIIDAE
 Genus *Leucosia* Weber, 1795

7. *Leucosia pubescens* Miers

 Genus *Philyra* Leach, 1817

8. *Philyra globosa* (Fabricius, 1798)

- Genus ***Arcania***
9. *Arcania septemspinosa* De Haan
- Family MAJIDAE
- Genus ***Doclea*** Leach, 1814
10. *Doclea gracilipes* Stimpson, 1857
- Family XANTHIDAE
- Genus ***Atergatis*** De Haan, 1835
11. *Atergatis integerrimus* Lamarck, 1801
- Genus ***Leptodius*** Milne Edwards, 1863
12. *Leptodius exaratus* (Milne Edwards, 1834)
- Genus ***Galene*** De Haan, 1833
13. *Galene bispinosa* (Herbst, 1783)
- Genus ***Ozius*** De Haan, 1833
14. *Ozius rugilosus* Stimpson
- Genus ***Pilumnus***
15. *Pilumnus longicornis* Hilgendori
- Family GONEPLACIDAE
- Genus ***Eucrate***
16. *Eucrate crenata* (Stimpson)
- Family OCYPODIDAE
- Genus ***Ocypoda***, Weber, 1795
17. *Ocypode ceratophthalma* (Pallas, 1772)
- Genus ***Gelarimus***
18. *Gelarimus annulipes* Latreille
- Genus ***Dotilla***
19. *Dotilla myctiroides* (Milne Edwards)
- Family GRAPSIDAE
- Genus ***Grapsidae***
20. *Grapsus strigosus* (Herbst)
- Genus ***Metopograpsus*** H. Milne Edwards, 1853
21. *Metopograpsus messor* (Forsk., 1775)

4. Phylum **MOLLUSCA**
- A. **Gastropods**
- Class GASTROPODA
- Subclass PROSOBRANCHIA
- Order ARCHAEOGASTROPODA
- Family PATELLIDAE (Limpets)
- Genus ***Cellana*** H. Adams, 1869
1. *Cellana radiata* (Born, 1778)
- Family TROCHIDAE (Top shells)
- Genus ***Trochus***, Linnaeus, 1758
2. *Trochus radiatus* (Gmelin, 1791)
- Family TURBINIDAE (Turban shells)
- Genus ***Turbo***, Linnaeus, 1758
3. *Turbo intercostalis* (Menke)
- Family NERITIDAE
- Genus ***Nerita*** Linnaeus, 1758
4. *Nerita albicilla* (Linnaeus, 1758)
5. *Nerita chameleon* (Linnaeus, 1758)
6. *Nerita maura* (Recluz)
7. *Nerita plicata*, Linnaeus, 1758
- Order MESOGASTROPODA
- Family TURRITELLIDAE (Screw shells)
- Genus ***Turritella***, Lamarck, 1799
8. *Turritella duplicata* (Linnaeus, 1758)
- Family STROMBIDAE (Wing shells)
- Genus ***Strombus***, Linnaeus, 1758
9. *Strombus rubbosa* (Sclandr)
- Genus ***Lambis*** Roeding, 1798
10. *Lambis lambis* (Linnaeus, 1758)
- Family NATICIDAE (Moon shells)
- Genus ***Natica*** Scopoli, 1777
11. *Natica albula* (Roeding)
12. *Natica didyma* (Roeding)
13. *Natica lamarckii* (Roeding)

- Genus ***Polinices*** Montfort, 1810
14. *Polinices mamilla* (Linnaeus)
- Family CYPRAEIDAE (Cowries)
- Genus ***Cypraea***, Linnaeus, 1758
15. *Cypraea arabica* (Linnaeus, 1758)
16. *Cypraea carputea* Pentis
17. *Cypraea histrio* (Mauschen, 1781)
18. *Cypraea moneta* (Linnaeus, 1758)
- Family CASSIDIDAE (Helmet shells)
- Genus ***Phalium***, Link, 1807
19. *Phalium areola* (Linnaeus, 1758)
20. *Phalium bisulacatum* (Schubert and Wagner, 1829)
21. *Phalium canaliculatum* (Brugiere)
22. *Phalium glaucum* (Linnaeus, 1758)
- Family FICIDAE (Fig shells)
- Genus ***Ficus*** Roeding, 1798
23. *Ficus ficus* (Linnaeus)
24. *Ficus* sp.
- Family TONNIDAE (Tun shells)
- Genus ***Tonna*** Brunnich, 1772
25. *Tonna dolium* (Linnaeus, 1758)
- Family BURSIDAE (Frog shells)
- Genus ***Bursa*** Roeding, 1798
26. *Bursa rana* (Linnaeus, 1758)
27. *Bursa rubeta* (Linnaeus)
- Order NEOGASTROPODA
- Family MURICIDAE
- Genus ***Murex*** Linnaeus, 1758
28. *Murex trapa* Roeding, 1798
29. *Murex tribulus* (Linnaeus, 1758)
30. *Murex virgineus* (Roeding)
- Genus ***Chicoreus***
31. *Chicoreus poderosa* Virgeneus

- Family THAIDIDAE (Rock shells)
 Genus ***Thais*** Roeding, 1798
32. *Thais carnifera* (Links)
 33. *Thais (Parpurea) rudolphi* (Links)
 34. *Thais tissoti* (Petit)
- Genus ***Nassa*** Adams, 1853
35. *Nassa thersites*
- Family BUCCINIDAE (Whelks)
 Genus ***Cantharus*** Roeding, 1798
36. *Cantharus tranquebaricus* (Gmelin)
 37. *Cantharus undosus* (Linnaeus, 1758)
- Genus ***Hemifusus*** (Lamarck, 1816)
38. *Hemifusus pugilinus* (Born)
- Genus ***Babylonia*** Schlueter, 1838
39. *Babylonia spirata* (Linnaeus, 1758)
 40. *Babylonia zeylanica* (Bruguiere)
- Family OLIVIDAE (Olives)
 Genus ***Olivancillaria*** d'orbigny, 1841
41. *Olivancillaria gibbosa* (Born, 1778)
- Family TURBINELLIDAE (Chanks)
 Genus ***Turbinella*** Lamarck, 1822
42. *Turbinella pyrum* (Linnaeus)
- Family HARPIDAE (Harp shells)
 Genus ***Harpa*** Roeding, 1798
43. *Harpa conoidalis* (Lamarck)
- Family MITRIDAE (Mitre shells)
 Genus ***Mitra*** Lamarck, 1798
44. *Mitra circula* (Kiener, 1838)
- Family VOLUTIDAE (Volutes)
 Genus ***Melo***
45. *Melo indica* (Solander)
- Genus ***Marginella*** Lamarck, 1801
46. *Marginella angustata* (Sowerby, 1846)

Family CONIDAE (Cones)

Genus ***Conus*** Linnaeus, 1758

47. *Conus amadis* (Gmelin, 1791)

48. *Conus betulinus* (Linnaeus)

49. *Conus coronatus* Gmelin, 1791

Family TURRIDAE (Turtle shells)

Genus ***Turris*** Roeding, 1798

50. *Turris indica*

Family BULLIDAE

Genus ***Bulla*** Linnaeus, 1758

51. *Bulla ampulla* (Linnaeus, 1758)

B. Bivalves

Class BIVALVIA

Order ARCOIDA

Family ARCIDAE

Genus ***Acra*** Linnaeus, 1758

1. *Acra fusa* Bruguiere, 1789

2. *Acra symmetrica* Reeve, 1844

3. *Acra plicata* Chemnitz, 1795

Order MYTILOIDA

Family MYTILIDAE

Genus ***Modiolus*** Lamarck, 1799

4. *Modiolus metcalfei* (Hanley, 1843)

Genus ***Perna*** Philipsson 1788

5. *Perna viridis* Linnaeus, 1758

Order PTEROIDA

Family ISOGNOMONIDAE

Genus ***Isognomonon*** Lightfoot, 1786

6. *Isognomonon nucleus* (Lamarck, 1836)

Family PINNIDAE

Genus ***Pinna*** Linnaeus, 1786

7. *Pinna atropurpurea* Sowerby, 1825

Order OSTREOIDA

Family PECTINIDAE

- Genus ***Pecten***
8. *Pecten tranquebaricus* (Gmelin, 1790)
- Genus ***Spondylus*** Linnaeus, 1788
9. *Spondylus layardi* Reeve, 1836
- Family ANOMIIDAE
- Genus ***Placuna*** Linnaeus, 1758
10. *Placuna placenta* (Linnaeus, 1758)
- Family OSTERIDAE
- Genus ***Crassostrea*** Sacco, 1897
11. *Crassostrea cucullata*, (Born, 1778)
- Order VENEROIDA
- Family CARDITIDAE
- Genus ***Cardita*** Bruguiere, 1792
12. *Cardita bicolor* Lamarck, 1819
- Family LUCINIDAE
- Genus ***Lucina*** Bruguiere, 1797
13. *Lucina edentula* (Linnaeus, 1758)
- Family CARDIIDAE
- Genus ***Cardium*** Linnaeus, 1758
14. *Cardium flavum* Linnaeus, 1758
15. *Cardium asiaticum* Brachiere, 1792
- Family VENERIDAE
- Genus ***Circe*** Schumacher, 1817
16. *Mactra cuneata* Chemnitz, 1782
- Family MACTRIDAE
- Genus ***Mactra*** Deshayes, 1846
17. *Circe scripta* (Linnaeus, 1758)
- Genus ***Meretrix***
18. *Meretrix casta* (Gmelin, 1791)
- Genus ***Venus*** Lamarck, 1799
19. *Venus reticulata* Linnaeus, 1758
- Genus ***Paphia*** Roeding, 1798
20. *Paphia textile* (Gmelin, 1790)
21. *Paphia malabarica* (Chemnitz, 1782)

Family TELLINIDAE

Genus *Tellina* Linnaeus, 1754

22. *Tellina angulata* Linnaeus, 1767

Family DONACIDAE

Genus *Donax* Schumacher, 1817

23. *Donax cuneatus* Linnaeus, 1758

24. *Donax faba* Schroeter, 1788

Family SOLENIDAE

Genus *Siliqua* Megerle Von Muehlfeld, 1811

25. *Siliqua radiata* (Linnaeus, 1758)

C. Cephalopods

Class CEPHALOPODA

Order SEPOIDEA

Family SEPIIDAE

Genus *Sepia* Linnaeus, 1758

1. *Sepia aculeata* Orbigny, 1848

2. *Sepia pharaonis* Ehrenberg, 1831

3. *Sepia brevimana* Steenstrup, 1875

4. *Sepia prashadi* Winckworth, 1936

Genus *Sepiella* Grey, 1849

5. *Sepiella inermis* Orbigny, 1848

Order TEUTHOIDEA

Family LOLIGINIDAE

Genus *Loligo* Schneider, 1784

6. *Loligo duvauceli* Orbigny, 1848

Genus *Doryteuthis* Neaf, 1912

7. *Doryteuthis singhalensis* Ortmann, 1891

Genus *Sepioteuthis* Blainville, 1824

8. *Sepioteuthis lessoniana* Lesson, 1830

Genus *Loliolus* Steenstrup, 1856

9. *Loliolus investigatoris* Goodrich, 1896

Order OCTOPODA

Family OCTOPODIDAE

Genus ***Octopus*** Lamarck, 1798

10. *Octopus rugosus* Bose, 1792
11. *Octopus macropus* Risso, 1828
12. *Octopus fusiformes* Brock, 1887

Genus ***Cistopus*** Gray, 1849

13. *Cistopus indicus* Orbigny, 1840

5. Phylum **ECHINODERMATA**

Class CRINOIDEA

Order COMATULIDA

Family COMASTERIDAE

Genus ***Capillaster***

1. *Capillaster multiradiatus* (Linnaeus, 1758)

Genus ***Comanthina***

2. *Comanthina schlegeli* (P. H. Carpenter, 1881)

Genus ***Comanthus***

3. *Comanthus parvicirrus* (J. Müller, 1841)

Genus ***Comatella***

4. *Comatella stelligera* (P. H. Carpenter, 1880)

Family HIMEROMETRIDAE

Genus ***Heterometra***

5. *Heterometra reynaudi* (J. Müller, 1846)

Family MARIAMETRIDAE

Genus ***Lamprometra***

6. *Lamprometra palmata* (J. Müller, 1841)

Genus ***Stephanometra***

7. *Stephanometra indica* (Smith, 1876)

Family TROPIOMETRIDAE

Genus ***Tropiometra***

8. *Tropiometra carinata* (Lamarck, 1816)

Class ASTEROIDEA

Order VALVATIDA

Family LUIDIIDAE

Genus ***Luidia***

9. *Luidia hardwicki* (Gray, 1840)
 10. *Luidia maculata* Müller and Troschel, 1810

Order PAXILLOSIDA

Family ASTROPECTINIDAE

Genus ***Astropecten***

11. *Astropecten bengalensis* Döderlein, 1917
 12. *Astropecten indicus* Döderlein, 1889
 13. *Astropecten hemprichi* Müller and Troschel, 1842
 14. *Astropecten monacanthus* Sladen, 1883

Order VALVATIDA

Family GONIASTERIDAE

Genus ***Anthenea***

15. *Anthenea pentagonula* (Lamarck, 1816)

Genus ***Goniodiscaster***

16. *Goniodiscaster scaber* (Mobius, 1859)

Genus ***Siraster***

17. *Siraster tuberculatus* H.L.Clark, 1915

Genus ***Stellaster***

18. *Stellaster equestris* (Retzius, 1805)

Family OREASTERIIDAE

Genus ***Asterodiscides***

19. *Asterodiscides elegans* Gray, 1847

Genus ***Culcita*** Clark & Rowe, 1971

20. *Culcita schmideliana* (Retzius, 1806)

Genus ***Pentaceraster***

21. *Pentaceraster affinis* (Muller and Troschel, 1842)
 22. *Pentaceraster regulus* (Muller and Troschel, 1842)

Genus ***Proaster***

23. *Poroaster superbus* (Mobius, 1859)

Genus ***Protoreaster***

24. *Protoreaster lincki* (de Blainville, 1834)

Family ARCHASTERIIDAE

Genus *Archaster*

25. *Archaster typicus* Muller and Troschel, 1840

Order SPINULOSIDA

Family ASTERINIDAE

Genus *Asterina*

26. *Asterina burtoni* Gray, 1840

27. *Asterina cornata* V. Martens

28. *Asterina lorioli* Koehler, 1910

29. *Asterina sarsini* (de Loriol, 1897)

Family OPHIDIASTERIIDAE

Genus *Linckia*

30. *Linckia laevigata* (Linnaeus, 1816)

31. *Linckia multifora* (Lamarck, 1816)

Genus *Nardoa*

32. *Nardoa faouzii* Macan, 1938

33. *Nardoa mollis* de Loriol, 1891

Family PTERASTERIDAE

Genus *Euretaster*

34. *Euretaster cribrosus* (V. Mortens, 1867)

Family ECHINASTERIDAE

Genus *Echinaster*

35. *Echinaster purpureus* (Gray, 1840)

Class OPHIUROIDEA

Order PHRYNOPHIURIDA

Family OPHIOMYXIDAE

Genus *Ophiomyxa* Luetleen, 1869

36. *Ophiomyxa australis* Lutken, 1869

Order OPHIURIDA

Family AMPHIURIDAE

Genus *Amphioplus* Delle Chiaje, 1828

37. *Amphioplus (Amphioplus) gravelyi* James

38. *Amphioplus squamata* (D.Chiaje, 1829)

Genus ***Dougaloplus***

39. *Dougaloplus echinatus* (Liungman)

Family OPHIACTIDAE

Genus ***Ophiactis***, James, 1969

40. *Ophiactis savignyi* (Müller and Troschel, 1842)

41. *Ophiactis modesta* Brock, 1888

Family OPHIOTRICHIDAE

Genus ***Macrophiothrix*** Clark, 1968

42. *Macrophiothrix aspidota* (Muller and Troschel, 1842)

43. *Macrophiothrix longipeda* (Lamarck, 1816)

44. *Macrophiothrix variabilis* (Duncan, 1887)

Genus ***Ophiocnemis***

45. *Ophiocnemis marmorata* (Lamarck, 1816)

Genus ***Ophiothrix*** Lyman, 1874

46. *Ophiothrix exigua* Lyman, 1874

47. *Ophiothrix accedens* Koehler

48. *Ophiothrix (keystonea) nereidina* (Lamarck, 1816)

Genus ***Ophiogymna***

49. *Ophiogymna lineata* H. L. Clark, 1938

Genus ***Ophiothela***

50. *Ophiothela danae* Verrill, 1869

Family OPHIOCOMIDAE

Genus ***Ophiocoma***

51. *Ophiocoma scolopendrina* (Lamarck, 1826)

52. *Ophiocoma erinaceus* Müller and Troschel, 1842

Genus ***Ophiocomella***

53. *Ophiocomella sexradia* (Duncan, 1887)

Family OPHIONEREIDAE

Genus ***Ophinoereis***

54. *Ophinoereis dubia* (Muller and Troschel, 1842)

Family OPHIODERMATIDAE

Genus ***Ophiarchnella***

55. *Ophiarchnella gorgonia* (Muller and Troschel, 1842)

56. *Ophiarchnella infernalis* (Muller and Troschel, 1842)

Class ECHINOIDEA
 Order CIDAROIDA
 Family CIDARIDAE
 Genus ***Prionocidaris***

57. *Prionocidaris baculosa* (Lamarck, 1816)

Order DIADEMATOIDA
 Family DIADEMATIDAE
 Genus ***Astropyga***

58. *Astropyga radiata* (Leske, 1778)

Family STOMOPNEUSTIDAE
 Genus ***Stomopneustes***

59. *Stomopneustes variolaris* (Lamarck, 1816)

Order TEMNOPLEUROIDA
 Family TEMNOPLEURIDAE
 Genus ***Salmaciella***

60. *Salmaciella dussumieri* (L. Agassiz & Desor, 1846)

Genus ***Salmacis***

61. *Salmacis bicolor* (L. Agassiz & Desor, 1846)62. *Salmacis virgulata* (L. Agassiz & Desor, 1846)

Genus ***Temnopleurus***

63. *Temnopleurus toreumaticus* (Leske, 1778)

Family TOXOPNEUSTIDAE
 Genus ***Pseudoboletia***

64. *Pseudoboletia maculata* Troschel, 1869

Genus ***Toxopneustes***

65. *Toxopneustes pileolus* (Lamarck, 1816)

Genus ***Tripneustes***

66. *Tripneustes gratilla* (Linnaeus, 1758)

Order ECHINOIDA
 Family ECHINOMETERIDAE
 Genus ***Echinometra*** Bell, 1903

67. *Echinometra mathaei* (de Blainville, 1825)

- Genus ***Echinometra*** Bell, 1903
 67. *Echinometra mathaei* (de Blainville, 1825)
- Order CLYPASTERIDA
 Family CLYPEASTERIDAE
 Genus ***Clypeaster*** de meijere, 1903
 68. *Clypeaster humilis* (Leske, 1788)
- Family ARACHNODIIDAE
 Genus ***Fibularia***
 69. *Fibularia volva* L. Agassiz and Desor, 1846
- Order SCUTELLINA
 Family SCUTELLIDAE
 Genus ***Echinodiscus***
 70. *Echinodiscus depressum* Lesson, 1841
 71. *Echinodiscus auritus* Leske, 1778
 72. *Echinodiscus bisperforatus* Leske, 1778
- Order CASSIDULOIDA
 Family ECHINOLAMPADIDAE
 Genus ***Echinolampus***
 73. *Echinolampus alexandri* de Loriol, 1876
 74. *Echinolampus ovata* (Leske, 1778)
- Order SPATANGOIDA
 Family LOVENIIDAE
 Genus ***Lovenia***
 75. *Lovenia elongata* (Gray, 1845)
- Family BRISSIDAE
 Genus ***Metalia***
 76. *Metalia latissima* H. L. Clark, 1925
- Genus ***Rhynobrissus***
 77. *Rhynobrissus pyramidalis* A. Agassiz, 1872
- Class HOLOTHUROIDEA
 Order ASPIDOCHIROTIDA
 Family HOLOTHUROIDAE
 Genus ***Actinopyga*** Clark & Rowe, 1971
 78. *Actinopyga miliaris* (Quoy and Gaimard, 1833)

Genus ***Bohadschia*** Jaeger, 1833

79. *Bohadschia marmorata* Jaeger, 1833

Genus ***Holothuria*** Linnaeus, 1767

80. *Holothuria (Halodeima) atra* Jager, 1833

81. *Holothuria (Halodeima) edulis* Lesson, 1830

82. *Holothuria (Lessonothuria) pardalis* Selenka, 1867

83. *Holothuria (Mertensiothuria) leucospilota* (Brandt, 1835)

84. *Holothuria (Metriatyla) scabra* Jaeger, 1833

85. *Holothuria (Selenkothuria) moebii* Ludwig

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

87. *Holothuria (Semperothuria) imitans* Ludwig

88. *Holothuria (Theelothuria) spinifera* Theel, 1886

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

90. *Holothuria (Theelothuria) arenicola* Semper, 1868

91. *Holothuria (Thymiosycia) impatiens* (Forsskal, 1775)

Order ASPIDOCHIROTIDA

Family STICHOPODIDAE

Genus ***Stichopus*** Brandt, 1835

92. *Stichopus choloronotus* (Brandt, 1835)

93. *Stichopus variegatus* Semper, 1868

94. *Stichopus naso* Semper

Order DENDROCHIROTIDA

Family PSOLIDAE

Genus ***Psolus***, Oken, 1815

95. *Psolus complanatus* Semper, 1868

Family CUCUMARIIDAE

Genus ***Havelockia*** Pearson, 1903

96. *Havelockia versicolor* (Semper, 1868)

Genus ***Hemithyone*** Poeson, 1963

97. *Hemithyone semperi* (Bell, 1884)

Genus ***Pentacta*** Goldfuss, 1820

98. *Pentacta quadrangularis* (Lesson & Troschel, 1846)

Genus ***Pseudocolochirus*** Deichmann, 1930

99. *Pseudocolochirus violaceus* (Theel, 1882)

- Genus ***Stolus*** Selenka, 1867
 100. *Stolus buccalis* (Simpson, 1885)
 101. *Stolus conjugens* (Semper)
- Family PHYLLOPHORIDAE
 Genus ***Afrocucumis*** Ludwig, 1879
 102. *Afrocucumis typicus* Ludwig
- Genus ***Phyllophorus*** Headingpaws 1954
 103. *Phyllophorus (Phyllophorella) parvipedes* (H.L.Clark, 1938)
- Order MOLPADIIDA
 Family CAUDINIDAE
 Genus ***Acaudina*** H. L. Clarke, 1997
 104. *Acaudina molpadioides* (Semper, 1868)
- Order APODIDA
 Family SYNAPTIDAE
 Genus ***Synapta*** Persted, 1849
 105. *Synapta maculata* (Chamisso and Eysenhardt)
- Genus ***Synaptula*** Oster, 1849
 106. *Synaptula recta* (Semper, 1868)
 107. *Synaptula striata* (Sluiter, 1868)
- Family CHIRIDOTIDAE
 Genus ***Polychcira*** Clark, 1907
 108. *Polychcira rufescens* (Brandt)
6. Phylum **HEMICHORDATA**
 1. *Ptychordera flavva* (Escholtz, 1825)
 2. *Tornaria* Spp.
7. Phylum **CHORDATA**
 Sub-Phylum CEPHALOCHORDATA
 Family BRANCHIOSTOMIDAE
 Genus ***Branchiostoma***
 1. *Branchiostoma indica* (Willwy, 1901)
 2. *Branchiostoma lanceolatum* Palla, 1778
- Sub-Phylum TUNICATA
 Class **THALIACEA**

- Order SALPIDA
 Family SALPIDAE
 Sub family CYCLOSALPINAE Yount, 1954
 Genus *Cyclosalpa* de Blainville, 1827
1. *Cyclosalpa pinnata* (Forsk., 1775)
 2. *Cyclosalpa sewelli* Metcalf, 1927
 3. *Cyclosalpa polae* Sigl, 1912
 4. *Cyclosalpa affinis* (Chamisso, 1819)
 5. *Cyclosalpa floridana* (Apstein, 1894)
- Sub family SALPINAE Yount, 1954
 Genus *Salpa* Forskal, 1775
6. *Salpa maxima* Forskal, 1775
 7. *Salpa tuberculata* Metcalf
- Genus *Pegea* Savigny, 1816
8. *Pegea confoederata* (Forsk., 1775)
- Genus *Ritteriella* Metcalf, 1919
9. *Ritteriella amboiensis* (Apstein, 1904)
 10. *Ritteriella picteti* (Apstein, 1904)
- Genus *Thalia* Blumenbach, 1798
11. *Thalia democratica* (Forsk., 1775)
 12. *Thalia rhomboides* (Quoy & Gaimard, 1824)
 13. *Thalia orientalis* Tokioka, 1937
 14. *Thalia cicar* Van Soest, 1973
 15. *Thalia sibogae* Van Soest, 1973
 16. *Thalia longicauda* (Quoy & Gaimard, 1824)
- Genus *Brooksia* Metcalf, 1918
17. *Brooksia rostrata* Transtedt, 1893
- Genus *Metcalfina* Ihle, 1935
18. *Metcalfina hexagona* (Quoy & Gaimard, 1824)
- Genus *Iasis*
19. *Iasis zonaria* (Pallas, 1774)
- Genus *Thetys* Tilesius, 1802
20. *Thetys vagina* Tilesius, 1802

Genus ***Traustedtia***

- 21.
- Traustedtia multitentaculata*
- (Quoy & Gaimard, 1835)

Genus ***Wheelia***

- 22.
- Wheelia cylyndrica*

Order DOLIOLIDA

Family DOLIOLIDAE Bronn, 1861

Sub family DOLIOLINAE Dhandapani

Genus ***Doliolum*** Quoy & Gaimard (1835)

- 23.
- Doliolum denticulatum*
- Quoy & Gaimard, 1835

- 24.
- Doliolum nationalis*
- Borgert, 1894

- 25.
- Doliolum denticulatum*
- var.
- ehrenbergi*
- Krohn (1852)

Genus ***Doliolina*** Borgert (1894)

- 26.
- Doliolina mulleri*
- (Krohn, 1852)

- 27.
- Doliolina krohni*
- (Herdman, 1888)

- 28.
- Doliolina mulleri*
- Var.
- Krohni*
- (Borgert, 1966)

- 29.
- Doliolina indica*
- (Neumann, 1906)

- 30.
- Doliolina intermedia*
- (Neumann, 1906)

- 31.
- Doliolina singmoides*
- Gargtang (1933)

- 32.
- Doliolina undulata*
- Tokioka & Berner (1958)

- 33.
- Doliolina obscura*
- Tokioka & Berner (1958)

- 34.
- Doliolina seperata*
- Tokioka & Berner (1958)

Genus ***Dolioletta*** Borgert (1894)

- 35.
- Dolioletta gegenbauri*
- (Uljanin, 1884)

- 36.
- Dolioletta gegenbauri*
- var.
- tritonis*
- Herdman, 1888

Genus ***Dolioloides*** Garstang (1933)

- 37.
- Dolioloides rarum*
- (Grobber, 1882)

Order PYROSOMIDA

Family PYROSOMATIDAE

Genus ***Pyrosoma*** Peron

- 38.
- Pyrosoma aherniosum*
- Seeliger

- 39.
- Pyrosoma ovatum*
- Neumann

- 40.
- Pyrosoma atlanticum*
- (Peron)

Genus ***Propyrosoma*** Ivanov Kazary

- 41.
- Propyrosoma spinosum*
- (Herdmann)

42. *Propyrosoma indicus* (Bonnier & Perey)

Class **LARVACEA**
 Family **OIKOPLEURIDAE**
 Genus ***Stegosoma***

43. *Stegosoma magnum* (Langerhans, 1880)

Genus ***Megalocercus***

44. *Megalocercus abyssorum* Chunn, 1888

Genus ***Oikopleura***

45. *Okopleura albicaus* (Leucant, 1854)46. *Okopleura cophocera* (Gegonbaur, 1855)47. *Okopleura dioica* Fol, 187248. *Okopleura fusiformis* Fol, 187249. *Okopleura fusiformis* form *cornutogastra* Aida, 190750. *Okopleura gracilis* Lohmann, 189651. *Okopleura graciolides* Lohmann et Buckmann, 192652. *Okopleura intermedia* Lohmann, 189653. *Okopleura labradoriensis* Lohmann, 189254. *Okopleura longicauda* (Vogt, 1854)55. *Okopleura mediterranea* Lohmann, 189956. *Okopleura parva* Lohmann, 189657. *Okopleura rufescens* Fol, 187258. *Okopleura valdiviae* Lohmann, 1896

Family **FRITILLARIDAE**

Genus ***Appendicularia***

59. *Appendicularia sicula* Fol, 1874

Genus ***Tectillaria***

60. *Tectillaria fertilis* (Lohmann, 1896)

Genus ***Fritillaria***

61. *Fritillaria abjorseni* Lohmann, 190962. *Fritillaria aequatorialis* Lohmann, 189663. *Fritillaria antarctica* Lohmann, 190564. *Fritillaria borealis* form *typica* (Lohmann, 1900)65. *Fritillaria borealis* f. *sargassi* (Lohmann, 1905)66. *Fritillaria borealis* f. *intermedia* (Lohmann, 1905)

67. *Fritillaria formica* f. *tuberculata* Lohmann & Buckman, 1926
68. *Fritillaria fraudax* Lohmann, 1896
69. *Fritillaria gracilis* Lohmann, 1896
70. *Fritillaria haplostoma* Fol, 1872
71. *Fritillaria megachile* Fol, 1872
72. *Fritillaria pacifica* Tokioka, 1957
73. *Fritillaria pellucida* (Busch, 1851)
74. *Fritillaria pellucida omani* Feneary
75. *Fritillaria polaris* Bernslein, 1934
76. *Fritillaria tenella* Lohmann, 1896
77. *Fritillaria venusta* Lohamann, 1896
78. *Fritillaria bicornis*

Grade **PISCES**
 Class **CHONDRICHTHYES**
 Order **ORECTOLOBIFORMES**
 Family **HEMISCYLIDAE**
 Genus *Chiloscyllium* Muller & Henle, 1837

1. *Chiloscyllium indicum*, (Gmelin, 1789)

Family **STEGOSTOMATIDAE**
 Genus *Stegostoma* Muller & Henle, 1837

2. *Stegostoma fasciatum* (Hermann, 1783)

Order **LAMNIFORMES**
 Family **LAMNIDAE**
 Genus *Isurus* Rafinesque, 1810

3. *Isurus oxyrinchus* Rafinesque, 1810

Order **CARCHARHINIFORMES**
 Family **CARCHARHINIDAE**
 Genus *Rhizopriodon* Whitley, 1929

4. *Rhizopriodon oligolinx* (Springer, 1964)

Genus *Scoliodon* Muller & Henle, 1837

5. *Scoliodon laticaudatus* Muller & Henle, 1838

Genus *Carcharhinus* Blainville, 1816

6. *Carcharhinus ellioti* (Day, 1958)

7. *Carcharhinus sorrah* (Muller & Henle, 1841)

8. *Carcharhinus melanopterus* (Quoy & Gaimard, 1824)

Genus ***Galeocerdo*** Muller & Henle, 1837

9. *Galeocerdo cuvieri* (Peron & LeSueur, 1822)

Family SPHYRNIDAE

Genus ***Sphyrna*** Refinesque, 1810

10. *Sphyrna zygaena* (Linnaeus, 1758)

Order PRISTIFORMES

Family PRISTIDAE

Genus ***Pristis*** Linck, 1790

11. *Pristis microdon* (Latham, 1794)12. *Pristis zijsron* Bleeker, 1851

Order TORPEDINIFORMES

Family NARCINIDAE

Genus ***Narcine*** Muller & Henle, 1837

13. *Narcine brunnea* Annandale, 190914. *Narcine maculata* (Shaw, 1804)15. *Narcine timlei* (Schneider, 1801)

Family NARKIDAE

Genus ***Narke*** Kaup, 1826

16. *Narke dipterygia* (Schneider, 1801)

Genus ***Bengalichthys*** Muller & Henle, 1837

17. *Bengalichthys impennis* Annandale, 1878

Order RAJIFORMES

Family RHINOBATIDAE

Genus ***Rhinobatus*** Linck, 1790

18. *Rhinobatus grannulatus* Cuvier, 182919. *Rhinobatus thouniana* (Shaw, 1804)20. *Rhinobatus djeddensis* (Forsskal, 1775)

Genus ***Rhina*** Schneider, 1801

21. *Rhina ancylostoma* Schneider, 1801

Genus ***Zonobatus*** Linck, 1790

22. *Zonobatus schoenleinii* (Muller & Henle, 1841)

- Order MYLIOBATIFORMES
 Family MYLIOBATIDAE
 Genus *Aetomylaeus* Garmen, 1908
 23. *Aetomylaeus maculatus* (Gray, 1834)
- Genus *Rhinoptera* Cuvier, 1829
 24. *Rhinoptera adpersa* Muller & Henle, 1841
- Family MOBULIDAE
 Genus *Mobula* Rafinesque, 1810
 25. *Mobula diabolus* (Shaw, 1804)
- Family DASYATIDAE
 Genus *Dasyatis* Rafinesque, 1810
 26. *Dasyatis Kuhlii* (Muller & Henle, 1841)
 27. *Dasyatis Bleekeri* (Blyth, 1861)
- Genus *Gymnura* Kuhl 1823
 28. *Gymnura micrura* (Schneider, 1801)
 29. *Gymnura poecilura* (Shaw, 1804)
- Genus *Himantura* Muller & Henle 1837
 30. *Himantura fava* (Annandale, 1801)
 31. *Himantura imbricata* (Bloch & Schneider, 1801)
 32. *Himantura uarnak* (Forsskal, 1775)
 33. *Himantura walga* (Muller & Henle, 1841)
- Genus *Hypolophus* Muller & Henle 1837
 34. *Hypolophus sephen* (Forsskal, 1775)
- Genus *Urogymnus* Muller & Henle 1837
 35. *Urogymnus asperrimus* (Bloch & Schneider, 1801)
- Class OSTEICHTHYES
 Order ELOPIFORMES
 Family ELOPIDAE
 Genus *Elops* Linnaeus, 1766
 36. *Elops machnata* (Forsskal, 1775)
- Family MEGALOPIDAE
 Genus *Megalops* Lacepede, 1802
 37. *Megalops Cyprinoides* (Broussonet, 1782)

- Family ALBULIDAE
Genus *Albula* Scopoli, 1777
38. *Albula vulpus* (Linnaeus, 1758)
- Order ANGUILIFORMES
Family ANGUILLIDAE
Genus *Anguilla* Shaw, 1813
39. *Anguilla bengalensis bengalensis* (Gray, 1834)
40. *Anguilla bicolor bicolor* McClelland, 1844
- Family MURAENIDAE
Genus *Thyrsoidea* Kaup, 1856
41. *Thyrsoidea macrura* (Bleeker, 1854)
- Family MORINGUIDAE
Genus *Moringua* Gray, 1831
42. *Moringua raitaborua* (Hamilton, 1822)
- Family CONGRIDAE
Genus *Ariosoma* Swainson, 1838
43. *Ariosoma anago* (Schlegel, 1846)
44. *Ariosoma gnanadossi* (Talwar & Mukerjee, 1977)
- Genus *Uroconger* Kaup, 1856
45. *Uroconger lepturus* (Richardson, 1845)
- Family MURAENESOCIDAE
Genus *Congresox* Gill, 1890
46. *Congresox talabon* (Cuvier, 1829)
47. *Congresox talabonoides* (Bleeker, 1853)
- Genus *Muraenesox* McClelland, 1843
48. *Muraenesox bagio* (Hamilton, 1822)
49. *Muraenesox cinereus* (Forsskal, 1775)
- Family OPHICHTHIDAE
Genus *Ophichthus* Ahl, 1789
50. *Ophichthus apicalis* (Bennett, 1830)
51. *Ophichthus microcephalus* Day, 1870
- Genus *Pisodonophis* Kaup, 1846
52. *Pisodonophis boro* (Hamilton, 1822)

53. *Pisodonophis cancrivorus* (Richardson, 1844)

Order CLUPEIFORMES
 Family CLUPEIDAE
 Genus *Anodontostoma* Bleeker, 1849

54. *Anodontostoma chacunda* (Hamilton, 1822)

55. *Anodontostoma melanura* (Cuvier, 1822)

Genus *Dussumieria* Valenciennes, 1849

56. *Dussumieria acuta* Valenciennes, 1841

57. *Dussumieria elopsoides* (Bleeker, 1849)

58. *Dussumieria hassetti* Bleeker, 1878

Genus *Escualosa* Whitley, 1940

59. *Escualosa thoracata* (Valenciennes, 1847)

Genus *Hilsa* Regan, 1917

60. *Hilsa ilisha* (Hamilton – Buchanan, 1822)

61. *Hilsa kelee* (Cuvier, 1829)

Genus *Nematalosa* Regan, 1917

62. *Nematalosa galathea* Nelson & Rothoverm, 1980

63. *Nematalosa nasus* (Bloch, 1795)

Genus *Sardinella* Valenciennes, 1847

64. *Sardinella albella* (Valenciennes, 1847)

65. *Sardinella brachysoma* (Bloch, 1852)

66. *Sardinella clupeioides* (Bleeker, 1849)

67. *Sardinella dayi* Regan, 1917

68. *Sardinella fimbriata* (Valenciennes, 1847)

69. *Sardinella gibbosa* (Valenciennes, 1849)

70. *Sardinella longiceps* Valenciennes, 1847

71. *Sardinella neglecta* Wongratana, 1983

Family PRISTIGASTERIDAE

Genus *Ilisha* Richardson, 1846

72. *Ilisha elongata* (Bennett, 1820)

73. *Ilisha kampeni* (Weber, 1913)

74. *Ilisha megaloptera* (Swainson, 1839)

75. *Ilisha melastoma* (Schneider, 1801)

76. *Ilisha sirishai* Seshagiri Rao, 1975

77. *Ilisha striatula* Wongratana, 1983
Genus ***Opisthopterus*** Gill, 1861
78. *Opisthopterus tardoore* (Cuvier, 1829)
Genus ***Pellona*** Valenciennes, 1847
79. *Pellona ditchella* Valenciennes, 1847
Genus ***Raconda*** Gray, 1881
80. *Raconda russeliana* Gray, 1831
Family ENGRAULIDAE
Genus ***Coilia*** Gray, 1831
81. *Coilia dussumieri* Valenciennes, 1848
82. *Coilia ramcarati* (Hamilton-Buchanan, 1822)
83. *Coilia reynaldii* Whitehead, 1848
Genus ***Encrasicholina***
84. *Encrasicholina heteroloba* Ruppell, 1837
Genus ***Setipinna*** Swainson, 1839
85. *Setipinna taty* (Valenciennes, 1848)
86. *Setipinna tenuifilis* Valenciennes, 1848
Genus ***Stolephorus*** Lacepede, 1803
87. *Stolephorus andhraensis* Babu Rao, 1966
88. *Stolephorus indicus* (Van Hasselt, 1823)
89. *Stolephorus bagensis* Hardenberg, 1933
90. *Stolephorus commersonii* Lacepede, 1803
91. *Stolephorus insularis* Hardenberg, 1933
92. *Stolephorus waitei* (Jordon and Seale, 1926)
Genus ***Thryssa*** Cuvier, 1829
93. *Thryssa dayi* Wongratana, 1983
94. *Thryssa dussumieri* Valenciennes, 1848
95. *Thryssa hamiltonii* (Gray, 1835)
96. *Thryssa kammalensis* (Bleeker, 1849)
97. *Thryssa kammalenoides* Wongratana, 1849
98. *Thryssa malabarica* Bloch, 1795
99. *Thryssa mystax* (Schneider, 1801)
100. *Thryssa polibranchialis* Wongratana, 1983
101. *Thryssa purava* (Hamilton, 1822)

102. *Thryssa setirostris* (Broussonet, 1782)
 103. *Thryssa vitrirostris* (Gillchrist & Thompson, 1908)

Family CHIROCENTRIDAE
 Genus ***Chirocentrus*** Cuvier, 1816

104. *Chirocentrus dorab* (Forsskal, 1775)
 105. *Chirocentrus nudus* Swainson, 1839

Order GONORHYNCHIFORMES
 Family CHANIDAE
 Genus ***Chanos*** Lacepede, 1803

106. *Chanos chanos* (Forsskal, 1775)

Order SILURIFORMES
 Family ARRIDAE
 Genus ***Arius*** Valenciennes, 1840

107. *Arius caelatus* Valenciennes, 1840
 108. *Arius jella* Day, 1877
 109. *Arius platystomus* Day, 1877
 110. *Arius sona* (Hamilton, 1822)
 111. *Arius tenuispinis* Day, 1877
 112. *Arius thalassinus* (Ruppell, 1837)
 113. *Arius maculatus* (Thunberg, 1792)
 114. *Arius arius* (Hamilton & Buchanan, 1822)
 115. *Arius dussumieri* Valenciennes, 1840

Genus ***Osteogeneiosus*** Bleeker, 1846

116. *Osteogeneiosus militaris* (Linnaeus, 1758)

Family PLOTOSIDAE
 Genus ***Plotosus*** Lacepede, 1803

117. *Plotosus canius* Hamilton, 1822
 118. *Plotosus limbatus* (Valenciennes, 1840)
 119. *Plotosus lineatus* (Thunberg, 1791)

Order GADIFORMES
 Family BREGMACEROTIDAE
 Genus ***Bregmaceros***

120. *Bregmaceros maccleliandi* Thompson, 1840

Order AULOPIFORMES

Family SYNODONTIDAE

Genus *Saurida* Valenciennes, 1846

121. *Saurida pseudotumbil* Dutt & Sagar, 1795
 122. *Saurida tumbil* (Bloch, 1795)
 123. *Saurida undosquamis* (Richardson, 1848)
 124. *Saurida micropectoralis* Shindo & Jamada, 1972
 125. *Saurida gracilis* (Quoy & Gaimard, 1824)

Genus *Synodus* Scopoli, 1777

126. *Synodus indicus* (Day, 1873)

Genus *Trachinocephalus* Gill, 1861

127. *Trachinocephalus myops* (Schneider, 1801)

Order OPHIDIIFORMES

Family OPHIDIDAE

Genus *Brotula* Cuvier, 1829

128. *Brotula multibarbata* (Temm & Schl., 1846)

Family CARAPIDAE

Genus *Carapus* Rafinesque, 1810

129. *Carapus homei* (Richardson, 1844)

Order CYPRINODONTIFORMES

Family EXOCOETIDAE

Genus *Cypselurus* Swainson, 1838

130. *Cypselurus bahiensis* (Ranzani, 1842)
 131. *Cypselurus furcatus* (Mitchell, 1815)
 132. *Cypselurus oxycephalus* (Bleeker, 1866)
 133. *Cypselurus spilopterus* (Valenciennes, 1846)

Genus *Exocoetus* Linnaeus, 1758

134. *Exocoetus volitans* Valenciennes, 1758

Genus *Parexocoetus* Bleeker, 1866

135. *Parexocoetus mento* (Cuvier, 1846)

Family HEMIRAMPHIDAE

Genus *Hyporhamphus* Gill, 1859

136. *Hyporhamphus xanthopterus* (Valenciennes, 1846)

137. *Hyporhamphus dussumieri* (Valenciennes, 1846)

138. *Hyporhamphus quoyi* (Valenciennes, 1846)

139. *Hyporhamphus lutkei* Valenciennes, 1846

Genus *Rhynchorhamphus* Fowler, 1928

140. *Rhynchorhamphus georgii* (Valenciennes, 1846)

141. *Rhynchoramphus malabaricus* Collette, 1976

Genus *Hemirhamphus* Cuvier, 1817

142. *Hemirhamphus far* (Forsskal, 1775)

Family BELONIDAE

Genus *Strongylura* Van Hasselt 1824

143. *Strongylura leiura* (Bleeker, 1850)

144. *Strongylura strongylura* (Van Hasselt, 1823)

Genus *Tylosurus* Cocco, 1833

145. *Tylosurus acusmelanotus* (Bleeker, 1850)

Genus *Ablennes* Jordon & Fordice, 1887

146. *Ablennes hians* (Valenciennes, 1846)

Order ATHERINIFORMES

Family ATHERINIDAE

Genus *Atherinomorus* Fowler, 1903

147. *Atherinomorus deodecimalis* (Valenciennes, 1835)

Order BERICYFORMES

Family HOLOCENTRIDAE

Genus *Myripristis* Cuvier, 1829

148. *Myripristis murdjan* (Forsskal, 1775)

Order PEGASIFORMES

Family PEGASIDAE

Genus *Pegasus* Linnaeus, 1753

149. *Pegasus volitans* Linnaeus, 1753

Order SYNGNATHIFORMES

Family FISTULARIIDAE

- Genus ***Fistularia*** Linnaeus, 1758
 150. *Fistularia petimba* Lacepede, 1803
- Family CENTRISCIDAE
 Genus ***Centriscus*** Linnaeus, 1758
 151. *Centriscus scutatus* Linnaeus, 1753
- Family SYNGNATHIDAE
 Genus ***Microphis*** Duncker, 1910
 152. *Microphis cuncalus* (Hamilton, 1822)
 153. *Microphis brachyurus* (Bleeker, 1853)
- Genus ***Syngnathus*** Linnaeus, 1758
 154. *Syngnathus cyanospilus* Bleeker, 1854
- Genus ***Trachyrhamphus*** Kaup, 1856
 155. *Trachyrhamphus serratus* (Schlegel, 1847)
- Order SCORPAENIFORMES
 Family SCORPAENIDAE
 Genus ***Choridactylus***
 156. *Choridactylus multibarbus* Richardson, 1848
- Genus ***Minous*** Cuvier & Valenciennes, 1829
 157. *Minous monodactylus* (Bloch & Schneider, 1801)
- Genus ***Paracentropogon*** Bleeker, 1876
 158. *Paracentropogon indicus* (Day, 1829)
- Genus ***Pterois*** Oken, 1817
 159. *Pterois miles* (Bennett, 1828)
 160. *Pterois russellii* (Bennett, 1831)
 161. *Pterois volitans* (Linnaeus, 1758)
- Genus ***Scorpaenopsis*** Heckel, 1837
 162. *Scorpaenopsis rosea* (Day, 1867)
- Genus ***Sebastapistes*** Streets, 1878
 163. *Sebastapistes strongia* (Cuvier, 1829)
- Genus ***Trachicephalus*** De Vis, 1883
 164. *Trachicephalus uranoscopus* (Bloch & Schneider, 1801)
- Family TETRAROGIDAE
 Genus ***Tetraroge*** Gunther, 1860
 165. *Tetraroge niger* (Cuvier & Valenciennes, 1829)

- Family APLOACTINIDAE
Genus *Cocotropus* Steindachner, 1896
166. *Cocotropus roseus* Day, 1878
- Family TRIGLIDAE
Genus *Lepidotrigla* Gunther, 1860
167. *Lepidotrigla omanensis* Regan, 1905
168. *Lepidotrigla spiloptera* Day, 1880
- Family PLATYCEPHALIDAE
Genus *Cocella* Whitley, 1940
169. *Cociella crocodila* (Tilesius, 1812)
- Genus *Grammoplites* Munro, 1955
170. *Grammoplites scaber* (Linnaeus, 1758)
171. *Grammoplites suppositus* (Trochen, 1840)
- Genus *Inegocia* Jordan & Thompson, 1913
172. *Inegocia japonica* (Tilesius, 1812)
- Genus *Platycephalus* Bloch, 1795
173. *Platycephalus indicus* (Linnaeus, 1758)
174. *Platycephalus scaber* (Linnaeus, 1758)
- Genus *Sorsogona* Herre, 1934
175. *Sorsogona tuberculata* (Cuvier, 1829)
176. *Sorsogona melanoptera* Kaup & Wongratana, 1977
- Genus *Suggrundus* Whitley, 1932
177. *Suggrundus bengalensis* (Rao, 1976)
178. *Suggrundus rodericensis* (Cuvier, 1829)
- Order PERCIFORMES
Family CENTROPOMIDAE
Genus *Lates* Cuvier, 1828
179. *Lates calcarifer* (Bloch, 1790)
- Family AMBASIDAE
Genus *Ambassis* Cuvier, 1828
180. *Ambassis gymnocephalus* Lacepede, 1801
181. *Ambassis interruptus* Bleeker, 1822

182. *Ambassis commersoni* Cuvier, 1828

183. *Ambassis dayi* Bleeker, 1822

184. *Ambassis miops* Gunther, 1866

185. *Ambassis urotaenia* Bleeker, 1875

Family SERRANIDAE

Genus *Cephalopholis* Schneider, 1801

186. *Cephalopholis boenack* (Bloch, 1775)

187. *Cephalopholis miniatus* (Forsskal, 1828)

188. *Cephalopholis pachycentron* (Valenciennes, 1828)

Genus *Epinephelus* Bloch, 1793

189. *Epinephelus areolatus* (Forsskal, 1828)

190. *Epinephelus bleekeri* (Vaillant & Bocourt, 1877)

191. *Epinephelus diacanthus* (Valenciennes, 1828)

192. *Epinephelus flavocaeruleus* (Lacepede, 1802)

193. *Epinephelus latifasciatus* (Temminck & Schl., 1842)

194. *Epinephelus malabaricus* (Schneider, 1801)

195. *Epinephelus morrhua* (Valenciennes, 1833)

196. *Epinephelus tauvina* (Forsk., 1775)

197. *Epinephelus undulosus* (Quoy & Gaimard, 1824)

Genus *Promicrops* Bloch, 1793

198. *Promicrops lanceolatus* (Bloch, 1790)

Family TERAPONIDAE

Genus *Pelates* Cuvier, 1829

199. *Pelates quadrilineatus* (Bloch, 1790)

Genus *Terapon* Cuvier, 1817

200. *Terapon jarbua* (Forsskal, 1775)

201. *Terapon puta* (Cuvier, 1829)

202. *Terapon theraps* (Cuvier, 1829)

Family PRIACANTHIDAE

Genus *Priacanthus* Oken, 1817

203. *Priacanthus hamrur* (Forsskal, 1775)

204. *Priacanthus tayenus* (Richardson, 1846)

Family APOGONIDAE

Genus *Apogon* Lacepede, 1802

205. *Apogon ellioti* (Day, 1877)
 206. *Apogon bandanensis* Bleeker, 1822
 207. *Apogon nigripinnis* Cuvier, 1822
 208. *Apogon quadrifasciatus* Cuvier, 1829
 209. *Apogon aureus* (Lacepede, 1803)
 210. *Apogon kalosoma* Bleeker, 1822
 211. *Apogon multitaeniatus* (Ehrenberg, 1980)
 212. *Apogon taeniatus* Cuvier & Valenciennes, 1828

Genus *Apogonichthys* Bleeker, 1854

213. *Apogonichthys poecilopterus* (Kaup & Van Hasselt, 1977)

Genus *Archamia* Gill, 1863

214. *Archamia macropterus* (Kaup & Van Hasselt, 1977)
 215. *Archamia lineolata* (Ehrenberg, 1980)

Family SILLAGINIDAE

Genus *Sillaginopsis* Gill, 1861

216. *Sillaginopsis panijus* (Hamilton, 1822)

Genus *Sillago* Cuvier, 1817

217. *Sillago chondropus* Bleeker, 1849
 218. *Sillago lutea* Meckay, 1980
 219. *Sillago sihama* (Forsskal, 1775)
 220. *Sillago vincenti* Meckay, 1980

Family MALACANTHIIDAE

Genus *Hoplolatilus* Cuvier & Valenciennes, 1829

221. *Hoplolatilus fronticinctus* (Gunther, 1887)

Family ECHENEIDAE

Genus *Remora* Forster, 1771

222. *Remora brachyptera* (Lowe, 1843)

Family LACTARIIDAE

Genus *Lactarius* Valenciennes, 1833

223. *Lactarius lactarius* (Bloch & Schneider, 1801)

Family RACHYCENTRIDAE

Genus *Rachycentrus* Kaup, 1826

224. *Rachycentrus canadus* (Linnaeus, 1766)

Family CARANGIDAE

Genus *Alectis* Rafinesque, 1815

225. *Alectis indicus* (Ruppell, 1830)

Genus *Alepes* Swainson, 1839

226. *Alepes djedaba* (Forsskal, 1775)

227. *Alepes para* (Cuvier, 1833)

228. *Alepes vari* (Cuvier, 1833)

Genus *Atule* Jordon & Jordon, 1922

229. *Atule mate* (Cuvier, 1833)

Genus *Atropus* Oken, 1817

230. *Atropus atropus* (Schneider, 1801)

Genus *Carangoides* Bleeker, 1851

231. *Carangoides armatus* (Ruppel, 1830)

232. *Carangoides ferdau* (Forsskal, 1775)

233. *Carangoides headlandensis* (Bloch & Schn., 1933)

234. *Carangoides thalamparoides* Bleeker, 1852

235. *Carangoides chrysophrys* (Cuvier, 1833)

236. *Carangoides gymnostethus* (Cuvier, 1833)

237. *Carangoides malabaricus* (Bloch & Schneider, 1801)

238. *Carangoides oblongus* (Cuvier, 1833)

239. *Carangoides praeustus* (Bennett, 1830)

Genus *Caranx* Lacepede, 1801

240. *Caranx ignobilis* Forsskal, 1775

241. *Caranx para* Cuvier, 1833

242. *Caranx sexfasciatus* Quoy & Gaimard, 1824

243. *Caranx carangus* (Bloch, 1793)

Genus *Decapterus* Bleeker, 1851

244. *Decapterus russellii* (Ruppell, 1828)

Genus *Megalaspis* Bleeker, 1851

245. *Megalaspis cordyla* (Linnaeus, 1758)

Genus ***Parastromataeus*** Lacepede, 1802

246. *Parastromataeus niger* (Bloch, 1795)

Genus ***Scomberoides*** Lacepede, 1802

247. *Scomberoides commersonianus* (Lacepede, 1801)

248. *Scomberoides tala* (Cuvier, 1832)

Genus ***Alectis*** Rafinesque, 1815

249. *Alectis ciliaris* (Bloch, 1788)

Genus ***Alepis*** Swainson, 1839

250. *Alepis melanoptera* Swainson, 1839

Genus ***Elagatis*** Bennett, 1840

251. *Elagatis bipinnulata* (Quoy & Gaimard, 1824)

Genus ***Parastromateus*** Lacepede, 1802

252. *Parastromateus niger* (Bloch, 1793)

Genus ***Scombroides*** Lacepede, 1802

253. *Scombroides lysan* (Forsskal, 1775)

254. *Scombroides tol* (Cuvier, 1832)

Genus ***Selar*** Bleeker, 1851

255. *Selar crumenophthalmus* (Bloch, 1793)

Genus ***Selaroides*** Bleeker, 1851

256. *Selaroides leptolepis* (Cuvier, 1833)

Genus ***Seriolina*** Wakiya, 1924

257. *Seriolina nigrofasciata* (Ruppell, 1829)

Family CORYPHAENIDAE

Genus ***Coryphaena*** Linnaeus, 1758

258. *Coryphaena hippurus* Linnaeus, 1758

Family MENIDAE

Genus ***Mene*** Lacepede, 1803

259. *Mene maculata* (Bloch, 1801)

Family LEIOGATHIDAE

Genus ***Gazza*** Ruppell, 1835

260. *Gazza minuta* (Bloch, 1797)

Genus ***Leiognathus*** Valenciennes, 1835

261. *Leiognathus berbis* (Valenciennes, 1835)
 262. *Leiognathus bindus* (Valenciennes, 1835)
 263. *Leiognathus longispinis* (Valenciennes, 1835)
 264. *Leiognathus brevirostris* (Valenciennes, 1835)
 265. *Leiognathus dussumieri* (Valenciennes, 1835)
 266. *Leiognathus equulus* (Forsskal, 1775)
 267. *Leiognathus fasciatus* (Lacepede, 1803)
 268. *Leiognathus jonesi* James, 1971
 269. *Leiognathus leuciscus* (Gunther, 1860)
 270. *Leiognathus lineolatus* (Valenciennes, 1835)
 271. *Leiognathus splendens* (Cuvier, 1829)
 272. *Leiognathus daura* (Cuvier, 1829)

Genus ***Secutor*** Gistel, 1848

273. *Secutor insidiator* (Bloch, 1787)
 274. *Secutor ruconius* (Hamilton, 1822)

Family LUTJANIDAE

Genus ***Lutjanus*** Bloch, 1790

275. *Lutjanus fulviflammus* (Forsskal, 1775)
 276. *Lutjanus johnii* (Bloch, 1792)
 277. *Lutjanus decussatus* (Cuvier, 1828)
 278. *Lutjanus malabaricus* (Schneider, 1801)
 279. *Lutjanus russelli* (Bleeker, 1849)
 280. *Lutjanus vaigiensis* (Quoy & Gaimard, 1824)
 281. *Lutjanus argentimaculatus* (Forsskal, 1775)
 282. *Lutjanus fulvus* (Schneider, 1801)
 283. *Lutjanus bohar* (Forsskal, 1775)
 284. *Lutjanus lutjanus* (Valenciennes, 1790)
 285. *Lutjanus sanguineus* (Cuvier, 1828)
 286. *Lutjanus sebae* (Cuvier, 1828)

Family LOBOTIDAE

Genus ***Lobotes*** Cuvier, 1829

287. *Lobotes surinamensis* (Bloch, 1790)

Family DATNIOIDAE

Genus ***Datnioides*** Bleeker, 1858

288. *Datnioides quadri fasciatus* (Sevistrivanov, 1809)

Family GERREIDAE

Genus ***Gerres*** Cuvier, 1824

289. *Gerres abbreviatus* (Bleeker, 1850)
290. *Gerres acinaces* Bleeker, 1854
291. *Gerres filamentosus* (Cuvier, 1829).
292. *Gerres lucidus* Cuvier, 1830
293. *Gerres macracanthus* Bleeker, 1854
294. *Gerres limbatus* Cuvier, 1830
295. *Gerres oblongus* Cuvier, 1830
296. *Gerres oyena* (Forsskal, 1775)
297. *Gerres setifer* Cuvier, 1822

Genus ***Pentaprion*** Bleeker, 1850

298. *Pentaprion longimanus* (Cantor, 1850)

Family HAEMULIDAE

Genus ***Pomadasys*** Lacepede, 1803

299. *Pomadasys argyreus* (Valenciennes, 1775)
300. *Pomadasys hasta* (Bloch, 1790)
301. *Pomadasys nigrus* (Cuvier, 1830)
302. *Pomadasys maculatum* (Bloch, 1797)
303. *Pomadasys schotaf* (Forsskal, 1775)
304. *Pomadasys furcatum* (Schneider, 1801)

Genus ***Plectorhinchus*** Lacepede, 1802

305. *Plectorhinchus cuvieri* (Linnaeus, 1758)
306. *Plectorhinchus gibbosus* (Lacepede, 1802)
307. *Plectorhinchus orientalis* (Bloch, 1793)
308. *Plectorhinchus pictus* (Tortonese, 1935)

Family SPARIDAE

Genus ***Acanthopargus*** Peters, 1855

309. *Acanthopargus berda* (Forsskal, 1775)
310. *Acanthopargus latus* (Houttayn, 1782)

Genus ***Argyrops*** Swainson, 1839

311. *Argyrops spinifer* (Forsskal, 1775)

Genus ***Chrysophrys*** Day, 1875

312. *Chrysophrys cuvieri* (Cuvier & Valen. 1835)

Genus ***Crenidens*** Valenciennes, 1830

313. *Crenidens indicus* Day, 1775

Genus ***Rabdasargus*** Fowler, 1933

314. *Rabdasargus sarba* (Forsskal, 1775)

Family LETHRINIDAE

Genus ***Lethrinus*** Valenciennes, 1830

315. *Lethrinus kallopterus* (Bleeker, 1856)

316. *Lethrinus lentjan* (Lacepede, 1802)

317. *Lethrinus nebulosus* Forsskal, 1775

318. *Lethrinus varieagatus* Valenciennes, 1830

Family NEMIPTERIDAE

Genus ***Nemipterus*** Swainson, 1839

319. *Nemipterus bipunctatus* (Ehrenberg)

320. *Nemipterus mesoprion* (Bleeker, 1853)

321. *Nemipterus japonicus* (Bloch, 1781)

322. *Nemipterus tolu* (Valenciennes, 1830)

323. *Nemipterus randalli* (Ruppell, 1828)

Genus ***Scolopsis*** Cuvier, 1817

324. *Scolopsis bimaculatus* Ruppell, 1828

325. *Scolopsis vosmeri* (Bloch, 1792)

Family SCIAENIDAE

Genus ***Chrysochir*** Trewavas & Yazdani, 1966

326. *Chrysochir aureus* (Richardson, 1846)

Genus ***Daysciaena*** Talwar, 1970

327. *Daysciaena albida* (Cuvier, 1830)

Genus ***Dendrophysa*** Trewavas, 1964

328. *Dendrophysa russelli* (Cuvier, 1830)

Genus ***Johnius*** Bloch, 1793

329. *Johnius dussumieri* (Cuvier, 1830)

330. *Johnius macrorhynchus* (Mohan, 1976)

331. *Johnius sina* (Cuvier, 1830)

332. *Johnius vogleri* (Bleeker, 1853)

333. *Johnius belangeri* (Cuvier, 1830)

334. *Johnius carouna* (Cuvier, 1830)

335. *Johnius caruta* Bloch, 1793
 336. *Johnius elongatus* (Mohan, 1976)
 337. *Johnius glaucus* (Day, 1876)
 338. *Johnius macropterus* (Bleeker, 1853)
 339. *Johnius coitor* (Hamilton, 1830)
 Genus ***Kathala*** Mohan, 1969
 340. *Kathala axillaris* (Cuvier, 1830)
 Genus ***Nibea*** Jordon & Thompson, 1911
 341. *Nibea chui* (Trewaves, 1971)
 Genus ***Otolithes*** Oken, 1817
 342. *Otolithes cuvieri* Trewaves, 1974
 343. *Otolithes ruber* (Schneider, 1803)
 Genus ***Otolithoides*** Fowler, 1926
 344. *Otolithoides biauratus* Gunther, 1850
 Genus ***Panna*** Mohan, 1969
 345. *Panna microdon* (Cuvier, 1840)
 Genus ***Paranibea*** Trewavas, 1977
 346. *Paranibea semiluctuosa* Cuvier, 1830
 Genus ***Pennahia*** Fowler, 1926
 347. *Pennahia macrophthalmus* (Bleeker, 1850)
 Genus ***Protonibea*** Trewavas, 1971
 348. *Protonibea diacanthus* Lacepede, 1802
 Family MULLIDAE
 Genus ***Parupeneus*** Bleeker, 1863
 349. *Parupeneus indicus* (Schn., 1803)
 Genus ***Mulloides*** Bleeker, 1849
 350. *Mulloides vanicolensis* (Valenciennes, 1831)
 Genus ***Upeneus*** Cuvier, 1829
 351. *Upeneus sulphureus* Cuvier, 1829
 352. *Upeneus vittatus* (Forsskal, 1775)
 353. *Upeneus bensasi* (Temminck & Schlegel, 1842)
 354. *Upeneus luzonius* (Bleeker, 1907)

355. *Upeneus moluccensis* (Bleeker, 1855)

356. *Upeneus tragula* Richardson, 1845

Family MONODACTYLIDAE

Genus *Monodactylus* Lacepede, 1802

357. *Monodactylus argenteus* (Linnaeus, 1758)

Family PEMPHERIDIDAE

Genus *Pempheris* Cuvier, 1829

358. *Pempheris vanicolensis* Cuvier, 1831

Family KYPHOSIDAE

Genus *Kyphosus*

359. *Kyphosus cinerascens* (Forsk., 1775)

360. *Kyphosus vaigiensis* (Quoy & Gaimard, 1824)

Family EPHIPPIDAE

Genus *Ephippus* Cuvier, 1817

361. *Ephippus orbis* (Bloch, 1787)

Family PLATACIDAE

Genus *Platax* Cuvier, 1817

362. *Platax pinnatus* (Linnaeus, 1758)

Family DREPANIDAE

Genus *Drepane* Cuvier, 1831

363. *Drepane longimanus* (Bloch & Schneider, 1801)

364. *Drepane punctata* (Linnaeus, 1758)

Family SCATOPHAGIDAE

Genus *Scatophagus* Cuvier, 1831

365. *Scatophagus argus* (Linnaeus, 1766)

Family CHAETODONTIDAE

Genus *Chaetodon* Linnaeus, 1758

366. *Chaetodon vagabundus* Linnaeus, 1758

367. *Chaetodon collare* Bloch, 1787

368. *Chaetodon decussatus* (Cuvier, 1831)

369. *Chaetodon octofasciatus* Bloch, 1787

Genus *Heniochus* Cuvier, 1817

370. *Heniochus acuminatus* (Linnaeus, 1758)

- Family POMACANTHIDAE
Genus *Apolemichthys* Jordan & Evermann, 1896
371. *Apolemichthys xanthurus* (Bennett, 1832)
- Family CICHLIDAE
Genus *Etroplus* Cuvier, 1830
372. *Etroplus maculatus* (Bloch, 1787)
373. *Etroplus suratensis* (Bloch, 1787)
- Family CEPOLIDAE
Genus *Acanthocepola* Bleeker, 1874
374. *Acanthocepola abbreviata* (Cuvier & Valenciennes, 1835)
375. *Acanthocepola limbata* (Valenciennes, 1835)
- Family POMACENTRIDAE
Genus *Pristotis* Day, 1873
376. *Pristotis jerdoni* (Day, 1873)
- Family CIRRHITIDAE
Genus *Cirrhitichthys* Bleeker, 1857
377. *Cirrhitichthys aureus* (Schlegel, 1877)
- Family MUGILIDAE
Genus *Liza* Jordan & Swainson, 1884
378. *Liza macrolepis* (Smith, 1849)
379. *Liza melinoptera* (Valenciennes., 1836)
380. *Liza tada* (Forsskal, 1775)
381. *Liza parsia* (Hamilton, 1822)
382. *Liza waigiensis* (Quoy & Gaimard, 1824)
- Genus *Mugil* Linnaeus, 1758
383. *Mugil cephalus* (Linnaeus, 1758)
- Genus *Valamugil* Smith, 1948
384. *Valamugil buchanani* (Bleeker, 1853)
385. *Valamugil cunnesius* (Lacepede, 1836)
386. *Valamugil seheli* (Forsskal, 1775)
387. *Valamugil speigleri* (Bleeker, 1858)
- Family SPHIYRAENIDAE
Genus *Sphyraena* Rose, 1793
388. *Sphyraena bleekeri* (Linnaeus, 1959)

389. *Sphyraena flavicauda* (Ruppell, 1835)
 390. *Sphyraena jello* Cuvier, 1829
 391. *Sphyraena lewini* (Greff & Smith, 1957)
 392. *Sphyraena obtusata* Cuvier, 1829
 393. *Sphyraena putnamiae* Jordan & Seale, 1905

Family POLYNEMIDAE

Genus *Eleutheronema* Bleeker, 1862

394. *Eleutheronema tetradactyla* (Shaw, 1804)

Genus *Polydactylus* Lacepede, 1803

395. *Polydactylus heptadactylus* (Cuvier, 1829)
 396. *Polydactylus indicus* Shaw, 1804
 397. *Polydactylus plebeius* (Broussonet, 1782)
 398. *Polydactylus sexfilis* (Valenciennes, 1831)
 399. *Polydactylus sextarius* (Schniider, 1801)

Genus *Polynemus* Linnaeus, 1758

400. *Polynemus paradiseus* Linnaeus, 1758

Family LABRIDAE

Genus *Halichoeres* Ruppel, 1835

401. *Halichoeres nebulosus* (Valenciennes, 1839)

Genus *Cheilinus* Lacepede, 1802

402. *Cheilinus bimaculatus* (Valenciennes, 1840)

Genus *Xyrichtys* Cuvier, 1815

403. *Xyrichtys pavo* (Valenciennes, 1840)
 404. *Xyrichtys pentadactylus* (Linnaeus, 1758)

Family SCARIDAE

Genus *Scarus* Forsskal, 1775

405. *Scarus blcohi* (Valenciennes, 1877)
 406. *Scarus dubius* (Bennett, 1877)
 407. *Scarus ghobban* Forsskal, 1775

Family OPISTOGNATHIDAE

Genus *Opistognathus* Cuvier, 1829

408. *Opistognathus rosenbergii* (Bleeker, 1856)

Family URANOSCOPIDAE

Genus *Uranoscopus* Linnaeus, 1758

409. *Uranoscopus cogatus* Cantor, 1850

410. *Uranoscopus guttatus* (Cuvier, 1829)

Family MUGILLOIDIDAE

Genus *Parapercis* Bleeker, 1863

411. *Parapercis pulchella* (Temminck & Schlegel, 1843)

412. *Parapercis punctulata* (Cuvier, 1829)

Family TRICHONOTIDAE

Genus *Trichonotus* Bloch & Schneider, 1801

413. *Trichonotus setiger* Bloch & Schneider, 1803

Family BLENNIIDAE

Genus *Xiphasia* Swainson, 1839

414. *Xiphasia setifer* Swainson, 1838

Genus *Petroscirtes* Ruppell, 1828

415. *Petroscirtes bhattacharyae* Choudhary, 1980

416. *Petroscirtes kallosoma* (Bleeker, 1858)

Family AMMODYTIDAE

Genus *Ammodytes* Barnard, 1927

417. *Ammodytes kallolepis* (Gunther, 1802)

Family CALLIONYMIDAE

Genus *Callionymus* Linnaeus, 1758

418. *Callionymus filamentosus* (Valenciennes, 1837)

419. *Callionymus japonicus* Houttuyn, 1782

420. *Callionymus longicaudatus* (Temminck & Schneider, 1845)

421. *Callionymus sagitta* (Nonpallas, 1770)

Genus *Eleutherochir* Bleeker, 1879

422. *Eleutherochir opercularis* (Valenciennes, 1837)

Genus *Synchiropus* Gill, 1860

423. *Synchiropus lineolatus* (Valenciennes, 1837)

Family ELEOTRIDAE

Genus *Eleotris* Bloch & Schneider, 1801

424. *Eleotris melanosoma* Bleeker, 1822

425. *Eleotris fusca* (Bloch & Schneider, 1801)
Genus ***Prionobutis*** Bleeker, 1874
426. *Prionobutis koilomatodon* (Bleeker, 1822)
Family GOBIIDAE
Genus ***Amblygobius*** Bleeker, 1874
427. *Amblygobius albomaculatus* (Ruppell, 1828)
Genus ***Acentrogobius*** Bleeker, 1874
428. *Acentrogobius viridipunctatus* (Valenciennes, 1837)
Genus ***Apocryptodon***
429. *Apocryptodon madurensis* (Bleeker, 1849)
Genus ***Ctenogobius*** Gill, 1862
430. *Ctenogobius criniger* (Valenciennes, 1941)
Genus ***Glossogobius*** Gill, 1862
431. *Glossogobius giuris* (Hamilton, 1822)
Genus ***Oplopomus*** Cuvier and Valenciennes, 1837
432. *Oplopomus caninoides* (Bleeker, 1852)
Genus ***Parachaeturichthys*** Bleeker, 1874
433. *Parachaeturichthys polynema* (Bleeker, 1853)
Genus ***Pseudocrypus*** Bleeker, 1874
434. *Pseudocrypus lanceolatus* (Schneider, 1801)
Genus ***Acentrogobius*** Bleeker, 1874
435. *Acentrogobius cyanomos* (Bleeker, 1849)
436. *Acentrogobius globiceps* (Hora, 1923)
437. *Acentrogobius ornatus* (Ruppell, 1828)
438. *Acentrogobius reichei* (Bleeker, 1853)
439. *Acentrogobius viridipunctatus* (Valenciennes, 1842)
Genus ***Apocryptes*** Bleeker, 1849
440. *Apocryptes bato* (Hamilton, 1852)
Genus ***Apocryptichthys*** Day, 1878
441. *Apocryptichthys cantoris* (Day, 1870)
Genus ***Awaous*** Cuvier and Valenciennes, 1837
442. *Awaous stamineus* (Valenciennes, 1842)

Genus ***Boleophthalmus*** Valenciennes, 1837

443. *Boleophthalmus boddaerti* (Pallas, 1770)

Genus ***Brachygobius*** Bleeker, 1874

444. *Brachygobius nunus* (Hamilton, 1822)

Genus ***Cryptocentrus*** Cuvier and Valenciennes, 1837

445. *Cryptocentrus gymnocephalus* (Bleeker, 1853)

Genus ***Gobiopterus*** Bleeker, 1874

446. *Gobiopterus chuno* (Hamilton, 1822)

Genus ***Oligolepis*** Bleeker, 1874

447. *Oligolepis cylindricus* (Hora, 1875)

448. *Oligolepis auctipennis* (Valenciennes, 1837)

Genus ***Oxyurichthys*** Bleeker, 1860

449. *Oxyurichthys tentacularis* (Valenciennes, 1837)

450. *Oxyurichthys formosanus* Nichols, 1849

451. *Oxyurichthys macrolepis* (Bleeker, 1849)

Genus ***Parapocryptes*** Bleeker, 1874

452. *Parapocryptes rictuosus* (Valenciennes, 1837)

453. *Parapocryptes serperaster* (Richardson, 1845)

Genus ***Periophthalmus*** Bloch & Schneider, 1801

454. *Periophthalmus koelreuteri* (Pallas, 1770)

455. *Periophthalmus variabilis* Eggert, 1935

Genus ***Sicyopterus*** Gill, 1860

456. *Sicyopterus griseus* (Day, 1870)

Genus ***Stigmatogobius*** Bleeker, 1874

457. *Stigmatogobius malabaricus* (Day, 1870)

Genus ***Stenogobius*** Bleeker, 1874

458. *Stenogobius javanicus* (Bleeker, 1822)

Genus ***Waitea*** Jordon & Seale, 1906

459. *Waitea mystacina* (Valenciennes, 1837)

Family GOBIOIDIDAE

Genus ***Taenioides*** Laecephede, 1798

460. *Taenioides anguillaris* (Linnaeus, 1758)

- Genus ***Brachyamblyopus*** Bleeker, 1874
 461. *Brachyamblyopus urolepis* (Linnaeus, 1758)
- Family TRYPAUCHENIDAE
 Genus ***Trypauchen*** Lacepede, 1798
 462. *Trypauchen vagina* (Bloch & Schneider, 1801)
- Family ACANTHURIDAE
 Genus ***Acanthurus*** Forsskal, 1775
 463. *Acanthurus bleekeri* Gunther, 1802
 464. *Acanthurus celebicus* Bleeker, 1822
 465. *Acanthurus nigrofuscus* Forsskal, 1889
 466. *Acanthurus triostegus* (Linnaeus, 1758)
 467. *Acanthurus xanthopterus* (Valenciennes, 1876)
- Family KURTIDAE
 Genus ***Kurtus*** Bloch, 1786
 468. *Kurtus indicus* Bloch, 1786
- Family SIGANIDAE
 Genus ***Siganus*** Forskal, 1775
 469. *Siganus canaliculatus* (Park, 1797)
 470. *Siganus javus* (Linnaeus, 1766)
 471. *Siganus guttatus* (Bloch, 1802)
 472. *Siganus spinus* (Linnaeus, 1758)
- Family SCOMBRIDAE
 Genus ***Euthynnus*** Lutken, 1882
 473. *Euthynnus affinis* (Cantor, 1849)
- Genus ***Rastrelliger*** Jordan & Starks, 1908
 474. *Rastrelliger kanagurta* (Cuvier, 1817)
 475. *Rastrelliger faughni* (Matsui, 1967)
- Genus ***Scomberomorus*** Lacepede, 1802
 476. *Scomberomorus lineolatus* (Cuvier, 1831)
 477. *Scomberomorus commersonians* (Lacepede, 1800)
 478. *Scomberomorus guttatus* (Bloch & Schneider, 1801)
 479. *Scomberomorus koreanus* (Kishinouye, 1915)
- Genus ***Thunnus*** South, 1845
 480. *Thunnus tonggol* (Bleeker, 1851)

- Family ISTIOPHORIDAE
 Genus *Istiophorus* Lacepede, 1802
 481. *Istiophorus platypterus* (Shaw & Nodder, 1876)
- Genus *Makaira* Lacepede, 1803
 482. *Makaira indica* (Cuvier, 1876)
- Family NOMEIDAE
 Genus *Psenes* Cuvier & Valenciennes, 1833
 483. *Psenes cyanophrys* (Cuvier, 1876)
- Family ARIOMMATIDAE
 Genus *Ariomma* Jordan & Snyder, 1904
 484. *Ariomma indica* (Day, 1876)
- Family CYNOGLOSSIDAE
 Genus *Cynoglossus* Hamilton-Buchanan, 1822
 485. *Cynoglossus arel* (Schneider, 1801)
 486. *Cynoglossus bilineatus* (Lacepede, 1802)
 487. *Cynoglossus cynoglossus* (Hamilton, 1822)
 488. *Cynoglossus lida* (Bleeker, 1851)
 489. *Cynoglossus dubius* (Day, 1873)
 490. *Cynoglossus dispar* Day, 1877
 491. *Cynoglossus lingua* (Hamilton, 1822)
 492. *Cynoglossus semifasciatus* Day, 1877
 493. *Cynoglossus macrostomus* Norman, 1928
 494. *Cynoglossus monopus* (Bleeker, 1822)
 495. *Cynoglossus punticeps* (Richardson, 1846)
- Genus *Paraplagusia* Bleeker, 1865
 496. *Paraplagusia bilinenata* (Bloch, 1784)
 497. *Paraplagusia blochii* (Bleeker, 1851)
- Family SOLEIDAE
 Genus *Synaptura* Canter, 1850
 498. *Synaptura albomaculata* Kaup, 1858
 499. *Synaptura commersoniana* (Lacepede, 1802)
- Genus *Zebrias* Jordan & Snyder, 1900
 500. *Zebrias quagga* (Kaup, 1858)
 501. *Zebrias altipinnis* Alcock, 1889

502. *Zebrias synapturoides* (Jenkins, 1910)
 Genus *Aesopia* Kaup, 1858
503. *Aesopia cornuta* Kaup, 1858
 Genus *Brachirus* Hamilton-Buchanan, 1822
504. *Brachirus pan* (Hamilton, 1822)
 Genus *Solea* Quensei, 1806
505. *Solea elongata* Day, 1877
506. *Solea ovata* Richardson, 1849
 Genus *Euryglossa* Kaup, 1858
507. *Euryglossa orientalis* (Bloch, 1801)
 Order TETRADONTIFORMES
 Family TRIACANTHIDAE
 Genus *Pseudotriacanthus* Fraser-Brunner, 1941
508. *Pseudotriacanthus strigifer* (Cantor, 1849)
 Genus *Triacanthus* Oken, 1817
509. *Triacanthus biaculeatus* (Bloch, 1782)
510. *Triacanthus brevirostris* Schlegel, 1844
511. *Triacanthus indicus* Ma Buura, 1982
 Family BALISTIDAE
 Genus *Abalistes* Jordan & Seale, 1906
512. *Abalistes stellatus* (Lacepede, 1798)
 Genus *Aluterus* Oken, 1817
513. *Aluterus scirpta* (Osbeck, 1771)
 Genus *Balistes* Linnaeus, 1758
514. *Balistes vetula* Linnaeus, 1758
 Family MONOCANTHIDAE
 Genus *Monocanthus* Cuvier, 1817
515. *Monocanthus choirocephalus* Bleeker, 1822
 Genus *Psilocephalus* Swainson, 1839
516. *Psilocephalus barbatus* (Gray, 1831)
 Family OSTRACIIDAE
 Genus *Ostracion* Linnaeus, 1758
517. *Ostracion nasus* Bloch, 1785

518. *Ostracion gibbosus* Munro, 1955
 Family TETRAODONTIDAE
 Genus *Arothron* Smith, 1950
519. *Arothron immaculatus* (Bloch & Schneider, 1801)
 520. *Arothron hispidus* (Linnaeus, 1802)
 521. *Arothron leopardus* (Day, 1878)
 522. *Arothron nigropunctatus* (Bloch & Schneider, 1801)
 523. *Arothron reticularis* (Bloch, 1801)
 524. *Arothron stellatus* (Bloch & Schneider, 1801)
 Genus *Canthigaster* Swainson, 1829
525. *Canthigaster margaritatus* (Ruppell, 1828)
 Genus *Chelonodon* Muller, 1839
526. *Chelonodon fluviatilis* (Hamilton, 1822)
 527. *Chelonodon patoca* (Hamilton, 1822)
 Genus *Lagocephalus* Fowler, 1935
528. *Lagocephalus inermis* (Schlegel, 1844)
 529. *Lagocephalus lunaris* (Bloch & Schneider, 1801)
 530. *Lagocephalus spadiceus* (Richardson, 1844)
 Genus *Takifagu* Whitley, 1953
531. *Takifagu oblongus* (Bloch, 1786)
 Genus *Torquigener* Cope, 1871
532. *Torquigener florealis* (Cope, 1871)
 Family TRICHIURIDAE
 Genus *Eupleurogrammus* Gill, 1860
533. *Eupleurogrammus muticus* (Gray, 1831)
 Genus *Lepturacanthus* Fowler, 1905
534. *Lepturacanthus pantuli* (Gupta, 1966)
 535. *Lepturacanthus savala* (Cuvier, 1829)
 Genus *Trichiurus* Linnaeus, 1758
536. *Trichiurus gangeticus* Gupta, 1966
 537. *Trichiurus lepturus* (Linnaeus, 1758)
 Family STROMATEIDAE
 Genus *Pampus* Bonaparte, 1837
538. *Pampus argenteus* (Euphrasen, 1788)

539. *Pampus chinensis* (Euphrasen, 1788)
- Order PLEURONECTIFORMES
 Family PSETTODIDAE
 Genus *Psettodes* Bennett, 1831
540. *Psettodes erumei* (Schneider, 1801)
- Family CITHARIDAE
 Genus *Brachypleura* Cuvier, 1822
541. *Brachypleura novae zeelandiac* Gunther, 1862
- Family BOTHIDAE
 Genus *Arnoglossus* Bleeker, 1862
542. *Arnoglossus intermedius* (Bleeker, 1866)
- Genus *Bothus* Rafinesque, 1810
543. *Bothus pantherinus* (Ruppell, 1828)
- Genus *Crossorhombus* Regan, 1920
544. *Crossorhombus azureas* (Alcock, 1889)
545. *Crossorhombus valderostratus* (Alcock, 1890)
- Genus *Engyprosopon* Gunther, 1862
546. *Engyprosopon grandisquamis* (Schlegel, 1846)
- Genus *Laeops* Gunther, 1880
547. *Laeops guntheri* Alcock, 1890
548. *Laeops kithrae* (Smith & Pope, 1967)
- Genus *Pseudorhombus* Bleeker, 1862
549. *Pseudorhombus arsius* (Hamilton, 1822)
550. *Pseudorhombus elevatus* Ogibly, 1912
551. *Pseudorhombus javanicus* Bleeker, 1853
552. *Pseudorhombus malayanus* Bleeker, 1866
553. *Pseudorhombus triocellatus* (Bloch, 1801)
- Class REPTILIA
- A. Snakes
- Family HYDROPHIIDAE
 Genus *Enhydrina*
1. *Enhydrina schistosa* (Daudin)
- Genus *Hydrophis*
2. *Hydrophis cyanocinctus* (Daudin)

Genus *Kerilia*

3. *Kerilia jerdoni* Gray

B. Turtles

Order TESTUDINES

Family CHELONIIDAE

Genus *Chelonia* Brongniart, 1800

1. *Chelonia mydas* (Linnaeus, 1758)

Genus *Erytmochelis* Fitzinger, 1843

2. *Erytmochelis imbricata* (Linnaeus, 1757)

Genus *Lepidochelys* Fitzinger, 1843

3. *Lepidochelys olivacea* (Eschscholtz, 1829)

13. Class AVES (Common names in parentheses)

Order CICONIFORMES

Family ARDEIDAE (Herons, Egrets, Bitterens)

1. *Egretta garzetta* (Little Egret) Foster, 1817

2. *Bubulcus ibis* (Cattle Egret) Bonaparte, 1855

3. *Ardea alba* (Large Egret) Linnaeus, 1758

4. *Ardea cinerea* (Grey Heron) Linnaeus, 1758

5. *Ardeagraysii* (Pond Heron) Linnaeus, 1758

6. *Egretta gularis* (Reef Heron) Forster, 1817

7. *Ardeola striatus* (Little Green Heron) Boie, 1822

Family PHONEICOPTERIDAE (Flamingos)

8. *Phoenicopterus rosens* (Flamingo)

Order ANSERIFORMES

Family ANATIDAE (Ducks, Teals and Geese)

9. *Anas acuta* (Pintail duck) Linnaeus, 1758

10. *Anas penelope* (Wigeon duck) Linnaeus, 1758

11. *Anas clypeata* (Shoveller duck) Linnaeus, 1758

12. *Anas crecca* (Common Teal) Linnaeus, 1758

13. *Anas querquedula* (Garaney Teal) Linnaeus, 1758

14. *Anser indicus* (Barheaded goose) Brisson, 1760

Order CHARADRIIFORMES

Family HAEMATOPODIDAE (Oystercatchers)

15. *Haematopus ostralegus* (Oystercatcher)

Family CHARADRIIDAE

16. *Pluvialis squatarola* (Grey plover) Brisson, 1760
17. *Pluvialis dominica* (Eastern golden plover) Brisson, 1760
18. *Charadrius leschenaultii* (Large sand plover) Linnaeus, 1758
19. *Charadrius dubius* (Little ringed plover) Linnaeus, 1758
20. *Charadrius alexandrinus* (Kentish plover) Linnaeus, 1758
21. *Charadrius hiaticula* (Ringed plover) Linnaeus, 1758
22. *Charadrius mongolus* (Lesser sand plover) Linnaeus, 1758
23. *Vanelleus indicus* Redwattled Lapwing Brisson, 1760
24. *Vanelleus malabaricus* (Yellow wattled lapwing) Brisson, 1760

Subfamily SCOLOPACINAE (Curlews, Whimbred, Godwits, Sand Pipers etc.)

25. *Numenius phaeopus* (Whimbrel) Brisson, 1760
26. *Numenius arquata* (Curlew) Brisson, 1760
27. *Limosa lapponia* (Bartailed godwit)
28. *Tringa totanus* (Red shank) Linnaeus, 1758
29. *Tringa stagnatilis* (Marsh sandpiper) Linnaeus, 1758
30. *Tringa reularia* (Greenshank) Linnaeus, 1758
31. *Tringa glareola* (Wood or Spotted Sandpiper) Linnaeus, 1758
32. *Tringa terek* (Terek sandpiper) Linnaeus, 1758
33. *Tringa hypoleucos* (Common sandpiper) Linnaeus, 1758
34. *Tringa erythropus* (Spotted Redshank) Linnaeus, 1758
35. *Arenaria interpres* (Turnstone) Brisson, 1760
36. *Calidris canuta* (Knot) Merrem, 1804
37. *Calidris tenuirostris* (Eastern knot) Merrem, 1804
38. *Calidris alba* (Sanderling) Merrem, 1804
39. *Calidris minuta* (Little Stint) Merrem, 1804
40. *Calidris testacea* (Curlew Sandpiper) Merrem, 1804
41. *Calidris alpina* (Dunlin) Merrem, 1804
42. *Calidris ruficollis* (Rednecked stint) Merrem, 1804
43. *Calidris temminckii* (Temminck's stint) Merrem, 1804
44. *Calidris subminuta* (Longtoed stint) Merrem, 1804
45. *Limicola falcinellus* (Brod billed sandpiper) Koch, 1816
46. *Phalaropus lobatus* (Rednecked phalarope)
47. *Gallinago stenura* (Pintail snipe) Brisson, 1760
48. *Tringa ochropus* (Green sandpiper) Linnaeus, 1758

Family RECURVIROSTRIDAE (Stilts)

49. *Himantopus himantopus* (Blackwinged stilt) Brisson, 1760

Family BURHINIDAE (Stone curlers)

50. *Esacus magnirostris* (Great stone plover)

51. *Burhinus oediconemus* (Stone curlew) Illinger, 1811

Family DROMADIDAE (Crab plover)

52. *Dromas ardeola* (Crab plover)

Family LARIDAE (Gulls, Terns)

53. *Larus argentatus* (Herring gull) Linnaeus, 1758

54. *Larus ichthyaetus* (Great Blackheaded gull) Linnaeus, 1758

55. *Larus fuscus* (Great Blackbacked gull) Linnaeus, 1758

56. *Larus brunnicephalus* (Brownheaded gull) Linnaeus, 1758

57. *Larus ridibundus* (Blackheaded gull) Linnaeus, 1758

58. *Chlidonias hybrida* (Whiskered tern) Rafinesque, 1822

59. *Gelochelidon nilotica* (Gullbilled tern) C.L. Brehm, 1830

60. *Hydroprogne caspia* (Caspian tern)

61. *Sterna hirundo* (Common tern) Linnaeus, 1758

62. *Sterna albifrons* (Little tern) Linnaeus, 1758

63. *Sterna bengalensis* (Lesse crested tern) Linnaeus, 1758

Class **MAMMALIA**

Order SIRENIA

Family DUGONGIDAE

Genus *Dugong* Lacepede, 1799

1. *Dugong dugon* (Sea cow) P.L.S. Muller, 1776

Order MYSTICETI

Family BALAENIDAE

Genus *Balanoptera* Linnaeus, 1758

2. *Balanoptera edeni* (Bryde Whale) Anderson, 1878

Genus *Pseudorca*

3. *Pseudorca crassidens* (False Killer Whale) Owen, 1846

Order ODONTOCETI

Family PLATANISTIDAE

Genus *Tursiops* Gerrais, 1855

4. *Tursiops truncatus* (Bottlenose dolphin) Montagu, 1821

Genus *Grampus* Gray, 1828

5. *Grampus griseus* (Risso's Dolphin) Gray, 1828

Genus *Sausa* Grey, 1866

6. *Sausa chinensis* (Chinese white dolphin) Osbeck, 1765

DISCUSSION

The Gulf of Mannar situated on the southeast coast of India falls in the world's biologically richest Indo-Pacific realm. The 21 islands that composes this biological reserve is formed and surrounded by corals. Coral reefs are the most biologically diverse ecosystems, occupying less than 0.2% of the ocean floor, but containing perhaps 25% of the ocean's species. Coral reefs along with the mangrove and seaweed/sea grass ecosystems support nearly 3,600 biological species in this reserve. A total of 1097 species of fauna belonging to 254 families and 567 genera reported in this account collected during the present survey as well as other reports stands as a proof to the rich biological diversity of this region.

The Gulf of Mannar, which is supposed to become globally significant because of its unique biological diversity, came to lime light primarily due to the constant exploitation being carried out on the fauna and flora of the region. Each and every unique fauna mentioned above is commercially threatened and vanishing fast due to unabated human greed. Nearly 47 fishing villages dot the 180 km long reserve coastline. Most of the 50,000 people inhabiting these villages depend on the biological wealth of reserve by means of fishing, seaweed collection or other related activities. More than 650 mechanised vessels and nearly 2500 non-mechanised vessels are being operated from 47 fishing villages. Trawl nets, gillnets, long lines, traps and shore seines are used to plunder the biological wealth. Annually, on an average, 45,000 tonnes of demersals and 33,000 pelagics are fished out from the national park area.

Destructive methods used to overexploit the natural resources such as corals and seaweeds and sea grasses cause irreparable damage. The change in the climatic and topographic conditions due to human interferences wipe-off the rich ecological diversity within no time. Rapid industrialization around the reserve, usage of destructive fishing methods, poaching and commercial aquaculture are other major threats in these areas.

Even though, Gulf of Mannar is globally recognised as a priority area and designated as one of the protected areas in India, the deterioration of the reserve has not slackened even a bit in spite of many management plans and projects. This is evident from the decline in the fish catches and disappearance of gorgonian species and dwindling in the numbers of corals, dugongs, sea horse, chanks, holothurians, pearl, seaweed and many gastropod populations even after its declaration as biosphere reserve during 1980.

Recent GIS based ground truthing studies carried out on the coral reefs of all the islands by Zoological Survey of India revealed the presence of only 25% of live cover, exposing the rampage of human activity. The following is an account on the composition of GoMBR reefs and the over exploitation carried out on them and some of their associates.

The reefs of GoMBR are mostly fringing type around the islands and stretches to a distance of about 140 km along the Indian coast between Rameswaram and Tuticorin on the south east coast of India. As per recent estimate by Remote Sensing the reef area in GoMBR is 64.9 sq.km (Bahuguna and Nayak 1994). The main constituent of the coral reefs, the Scleractinian fauna, is represented by 96 species belonging to 28 hermatypic and 9 ahermatypic genera (Pillai, 1996). The dominant genera include *Acropora*, *Montipora* and *Pocillopora* among the ramose forms and *Porites*, *Favia*, *Favites*, *Goniastrea*, *Platygyra* and *Symphyllia* among the massive forms. *Cyphastrea* and *Lepastrea* are also seen in almost all the reefs. Foliaceous forms such as *Montipora foliosa* and *Echinopora lamellosa*, once very well represented are struggling to show their presence.

The Scleractinian fauna of GoMBR can be distinguished not by the presence of an endemic species but by the absence of few species, which are found predominantly in other coral reef areas of India. The genera like *Stylophora* and *Seriatopora* that are common in Andamans and other parts of Central Indian Ocean are absent in GoMBR. The common hermatypic corals of Lakshadweep and Andamans *Diploastrea*, *Lobophyllia* and *Euphyllia* are totally absent from GoMBR. The branching *Porites* sp., a conspicuous element in reef habitats; is absent here. The paucity of solitary and colonial fungids and total absence of hydro coral *Millepora* and blue coral *Heliopora* are some of the distinguished characters of the reefs of GoMBR.

The recent GIS based under water biophysical ground truthing surveys by the Marine Biological Station, Zoological Survey of India (ZSI) revealed many results (Venkataraman 2000). During 1998-1999, surveys had been conducted to estimate the present status of the coral reefs of this region. Line Intercept Transect surveys were conducted in three different seasons from June 1998 to May 1999 in all the 21 islands divided into three island groups such as Mandapam, Keelakarai and Tuticorin, each group consisting of seven islands. The overall percentage of coral life forms amounted to 24.67% and dead coral, rubble and sand amounted to 75.04%.

Among the three groups of islands, Mandapam had a higher percentage of live coral cover (37.03%) than the other two groups (17.29% Keelakarai and 18.69% Tuticorin group). Among the life form categories, massive corals (CM) dominated the GoMBR (7.67 ± 2.23%). Next to massive corals *Acropora* Branching forms (ACB) dominated in two groups of islands (Keelakarai 6.81 ± 13.37%, 8.5 ± 13.10% in Mandapam group). The order of dominance of live form in GoMBR is as follows : coral massive (CM) > *Acropora* branching (ACB) > coral submassive (CS) > coral foliose (CF) > coral encrusting (CE) > coral branching (CB). The reason for the dominance of massive corals over the other groups in GoMBR may be explained by the recent 1998-bleaching event. The fragile and sensitive branching was the most affected life form group as a result of bleaching in this region (Venkataraman 2000). The vast expanses of *Acropora* were seen in only one place on the eastern side of Palliyarmunai Island in the whole of GoMBR. Among ramose forms *Montipora digitata* alone is waging solitary war against destructive forces. The destruction of reefs started in early sixties to a tune of 80,000 tons per year at Tuticorin and 250 m³/day at Mandapam (Pillai, 1996). It resulted in the submergence of two islands (Poovarasampatti and Villangu Challi Islands, Venkataraman 2000) and the vanishing of a reef that existed in Manauli Island. Many species of massive and ramose corals belonging to *Porites*, *Favia*, *Favites*, *Goniastrea* and *Acropora* were destroyed and the removal of sea weeds and destruction of sea grasses had resulted in the alteration of the natural physiographic features of GoMBR and the

operation of shore seines, gill nets, modified trawl nets and *Pari kudus* to catch reef fish, anchoring of boats in the reef areas and stampeding of live corals in the process of picking seaweeds, siltation, microbial contamination, are not allowing the corals to regenerate even though they are struggling hard to survive. The dwindled numbers of the reported species of the corals in GoMBR clearly ring warning bells for immediate effective measures for conservation. The destruction of the reef forming corals has affected its associates too to a great extent and has resulted in the drastic reduction in the biodiversity.

The various types of disturbances to which some of the representatives of Cnidarians, Arthropods, Molluscs, Echinoderms, Hemichordates, Pisces, Reptiles and Mammals are subjected to with the existing legislations, conservation efforts taken along are reviewed briefly in this paper and fresh strategies and suggestions for the effective conservation of the fauna of the Gulf of Mannar are proposed.

Gorgonids : The diversity of gorgonid resources of Gulf of Mannar received a jolt during 1975 to 1992 due to indiscriminate fishing and export because of biomedical value of these curious fanlike organisms for the extraction of prostaglandins. 106 tons of sea fans were exported during this period. At Tuticorin the fishery started with a bank and within a short span of time have thrown most of the species into endangered status especially the black and red types when compared to less commercially important flower and monkey tail type gorgonids. Finally even the undersized ones were exploited and the sight of gorgonids have become a rarity to a diver's eye in Gulf of Mannar.

Sea anemones : The giant size of these curious anemones and its associated fishes created demand in the aquarium industry resulting in the depletion in their numbers.

Brachyurans : Annually 2,600 tons of penaeid prawns were fished out from the waters of Gulf of Mannar. *Penaeus semisulcatus* the major contributor is facing over exploitation due to the operation of various gears to catch this lucrative bioresource. Even two ends of a boat are used as trawling ends in the shallow areas to catch this category. In the process many echinoids, brachyuran crabs, sponges, stomatopods etc., have been deprived of their life and were seen rotten and thrown on the shores indicating a colossal waste of life.

Lobsters and *Scylla serrata* are being exported live to Singapore and Hong Kong from the Mandapam and Tuticorin fish landing centres of Gulf of Mannar. The crowbars used to break the reefs to catch crabs and the nets cast on the reefs cause irreparable damage to live coral colonies of the reef. The Manauli island where the mean density of the brachyuran crabs per m² fluctuated 31 to 42.5 (Jeyabaskaran and Ajmal Khan, 1998) five years back has reduced to below 10 per m² today.

Molluscs : Molluscs of Gulf of Mannar form a valuable resource to the local population as a source of food, lime, pearl, decorative shells for Shell handicraft trade, raw material from calcium carbide industry and also as a constituent for medical preparations.

Gastropods : Among gastropods the sacred chank, *Turbinella pyrum* occupy a special status culturally. The sinistral shell commonly called as *Valampuri chank* are highly priced for its rarity depending on its size. The chanks are graded and sent to Calcutta for manufacture of shell

bangles, Annually chank landings in this region varies from 1 million to 1.5 million drastically reducing the numbers of this species in the wild. *Lambis lambis*, many *Murex* and *Cypraea* species are fished out indiscriminately for ornamental and decorative purposes. In Calcutta there are several shell processing units which manufacture a variety of shell articles like key chain, curtains, bangles, earrings etc., with these shells and most of them are exported to France and USA. Gastropods such as *Cerethids*, *Turbo*, *Murex* etc., are being exploited for lime.

Bivalves : Once Gulf of Mannar was very well known for its pearl fishery. *Pinctada fucata*, which contributed to the natural pearl fishery in Gulf of Mannar, has been threatened to extinction not only because of their exploitation but also because of the destruction to their natural environment by the trawlers, which shave the bottom regularly causing continuous disturbance to the settling spat. Now the fishery has been reduced to a culture fishery in some pockets of GoMBR.

The common Indian edible oyster *Crassostrea madrasensis* is also being cultured at Tuticorin through sea ranching techniques. The green mussel *Perna viridis* and the clams *Metrix* sps. are also being over exploited for food in this region causing damage to their populations. *Pinna bicolor* and *Atrina pectinata* occurring in coastal waters of GoMBR are also being exploited for edible purpose.

Cephalopods : The cephalopods of the GoMBR are trawled out by the huge trawlers off Tuticorin, sorted out and are being auctioned in special auction halls meant for them. The over exploitation of this resource especially for export is clearly visible from the ever increasing landings at decreasing intervals. Even the cuttle fish bone is exported. The trawlers cause great threat to the spawning grounds of both squid and cuttle fishes.

Echinoderms : The diversity of stenohaline spiny skinned animals of GoMBR is threatened due to their demand for export either as delicacy or for ornamental purpose. The ugly looking holothurians are hunted for their flesh which is highly proteinaceous with less fat contents. The processing of sea cucumbers, *beche-de-mer* is a lucrative and flourishing industry of Gulf of Mannar. It is fetching foreign currency through export to Singapore and Saudi Arabia. *Holothuria scabra* and *H. spinifera* were over exploited and have become endangered long back in this region (Silas *et al.* 1988). Another group of echinoderms used, as a delicacy is, the Echinoidea. The sea urchin's ripe gonads are taken raw especially in Japan, Philippines and Fiji islands. Fortunately this does not exist, but even small sea urchins caught as by-catch in prawn fishing trawlers are killed in large numbers without purpose. Many sealillies and brittle stars caught by trawlers and gill nets are being wasted in the same way.

The beautiful starfishes, *Protoreaster lincki* and *Pentaceraster regulus* are sold in dried and preserved conditions as curios. Attempts are being made to extract bioactive compounds from *Pentaceraster regulus*. These two species along with curious looking sea urchin's, brittle stars and sea lillies are being traded as aquarium animals in large numbers.

Hemichordata : Their rare enteropneust worm *Ptychodera flauva* is collected in large numbers as a scientific exhibit and the poaching fishermen and tourists destroy its habitat.

Chordata :

Pisces : The two big landing centres on both the ends of Gulf of Mannar, Mandapam and

Tuticorin are draining the faunal diversity of GoMBR through their fishing activities. Nearly 20% of fish production of Tamil Nadu is being caught from GoMBR. The most hunted among them are, the species of *Syngnathids*, *Hippocampus kuda* commonly called as sea horse and pipe fish which are being hunted and exported to Singapore and China for a good price because of their said Aphrodisic qualities. These species are also placed under endangered animal list. About 60 ornamental fish species available under the families Pomacanthidae, Scaridae, Scorpaenidae and Balistidae are being exploited for aquarium fish trade (Dorairaj, 1998).

Reptiles : *Chelonia mydas* (Green Turtle) along with *Lepidochelys olivacea*, *Erythemochelis imbricata* that occurred in large numbers during 1960's are seen rarely now due to unabated clandestine capture even after including them in CITES and Indian Wildlife Production Act 1972.

Mammals : Gulf of Mannar is an abode for the most endangered herbivorous marine mammal *Dugong dugon*. This species was hunted for flesh at the rate of 200 killings/year during 1983-84 and now is seen very very rarely. Dolphins and Whales get stranded in this region quite often.

The conservation of any ecosystem is possible only when the local people - the real stakeholders, realise the importance of that area. It is not difficult in the Gulf of Mannar Biosphere Reserve since the major hurdle for conservation; the poverty is in the back seat only next to human greed in this region. Effective implementation of existing rules with the cooperation of the local people is sufficient to bring back the past glory of this fast deteriorating ecosystem.

These 21 islands were surveyed by seven ZSI parties and reported 1075 species of fauna belonging to 254 families and 567 genera have been reported on this account (Table-1). As the coral reefs are the most important fauna of these islands, which are being destroyed by human beings, an attempt is made here to compare the coral fauna of these islands with those of Andaman and Nicobar Islands and Laccadive islands, located on the east and west coast of India.

In the GoMBR islands 85 species of corals belonging to 34 genera in 15 families have been reported in this account. Among these 15 families, the family Acroporidae tops the list in the order of abundance and 28 species have been reported from this area under this family followed by the family Faviidae that is represented by 21 species. These two families constitute more than 56% of the corals known from these islands.

In the seas around Andaman and Nicobar Islands, 135 species of corals belonging to 16 families have been reported (Pillai, 1983). In Andaman and Nicobar Islands seas also, the families Acroporidae (25 sps) and Faviidae (24 sps) occupy the first and second place in the order of abundance.

In the Laccadive Sea, 104 species of corals (Pillai, 1996) have been reported. As in the case of GoMBR and Andaman and Nicobar, Laccadive also has the same species composition (Acroporidae (26 sps) and Faviidae (26 sps) form 50% of the known species). So it is evident that the species of the families Acroporidae are the most dominant forms among the corals of the GoMBR islands, Andaman and Nicobar Islands and Laccadive Islands.

Among the Penaeid Prawns, 22 species have been reported from the GoMBR, whereas 19 species are known from Andaman and Nicobar Islands (Silas *et al.*, 1988) and 5 species from Laccadive seas (Sudhakara Rao *et al.*, 1989).

GoMBR is rich in sea grass and posses unique Mangrove vegetation belonging to *Rhizophora*, *Avicinia* etc. The eastern side of the GoMBR islands has greater expanse of living corals, as the human exploitation of the coralline stone is concentrated on the northern and western sides. The normal growth of the corals is affected by several factors such as silt laden water with heavy suspended matter during monsoon season, wind blow, sand deposition, cyclone, quarrying for lime stone, effect of current etc.

It is a known fact that the coral reefs act as breakers and their removal will change the current pattern along the coastline. They act as barriers and save the coast from sea erosion. So, every effort should be taken for the conservation of the coral reefs that also form the shelter for several fishes.

SUMMARY

The Marine Biological Station of the Zoological Survey of India carried out three faunistic surveys between November 1988 to April 1989 and 6 faunistic surveys from March 1994 to January 1996 in the Gulf of Mannar Biosphere Reserve (GoMBR). In this paper a list of the important faunistic groups collected during those surveys, such as, Cnidarians (Sclerartinia, Gorgonacea and Actinaria); Arthropods (Natantia, Reptantia and Brachyura); Molluscs (Gastropoda, Lamellibranches) Echinoderms (Asteroidea, Crinoidea, Ophiroidea, Echinoidea and Holothuroidea), Chaetognatha, Protochordata (Hemichordata, Cephalochordata and Tunicata), Pisces, Reptiles, Aves and Mammals are presented. A total of 1089 species of fauna belonging to 254 families and 567 genera are reported in this communication with a brief description of the study area.

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Table 1 : Survey of Gulf of Mannar Biosphere Reserve by different party members of the Zoological Survey of India and the samples collected.

| Sl. No. | Areas Surveyed | Name of the Party | Year | Total No. of Samples / Examples |
|---------|---|------------------------------------|--|-------------------------------------|
| 1. | Rameswaram to Sethukarai Sethukarai to Valinokkam (Pulli to Hare Island) Valinokkam to Tuticorin (Palliarmunai to Kosowari) | Shri P. Dhandapani & Party | 19.11.88 To 30.11.88 18.12.88 To 31.12.88 05.04.89 To 20.04.89 | |
| 2. | Mandapam Group : 8 (Islands) [Pampan, Shingle, Krusadai, Poomarichan, Pullivasal, Manauli, Manauliputti and Hare Islands] | Dr. S. Krishnan & Party | 17.03.94 To 30.03.94 | 519 |
| 3. | Mandapam Group : (7 Islands) [Mulli, Valai, Talaiyari, Poovarasampatti, Appa, Palliarmunai, Anaipar Islands] | Dr. M. Srinivasan & Party | 17.04.94 To 30.04.94 | 852 |
| 4. | Tuticorin Group : (7 Islands) [Nallathanni, Puluvinugulli, Upputhanni, Vilangudulli, Kasuvar and Van Islands] | Shri. Ch. Satyanarayana & Party | 21.09.94 To 03.10.94 | 863 |
| 5. | Mandapam Group : (4 Islands) [Muyal Thivu, Manauli, Manauliputti and Poomarichan Islands] | Shri. Ch. Satyanarayana & Party | 05.03.95 To 15.03.95 | 9984 |
| 6. | Tuticorin Group | Shri. P. Dhandapani & Party | 15.04.95 To 25.04.95 | |
| 7. | Mandapam Group : (8 Islands) [Krusadai, Poomarichan, Shingle, Talayari, Mulli, Valai, Appa and Anaipar Islands] | Dr. M. Srinivasan & Party | 18.01.96 To 27.01.96 | 24 Plankton 24 Dredge 24 Grab |

Table 2 : Faunal Diversity in Gulf of Mannar Biosphere Reserve

| Sl. No. | List of the Fauna Group | No. of Family | No. of Genus | No. of Species |
|---------|--|----------------|----------------|----------------|
| 1. | Chaetognatha | | 4 | 16 |
| 2. | Cnidaria : Corals Gorgonids Seaanemones | 15 05 05 | 35 12 11 | 85 15 16 |
| 3. | Arthropoda : Prawns Lobster Brachyura | 04 01 08 | 08 01 18 | 24 03 20 |
| 4. | Mollusca : Gastropods Lamellibranchs Cephalopods | 23 15 03 | 30 20 08 | 51 25 13 |
| 5. | Echinodermata | 41 | 72 | 108 |
| 6. | Hemichordata | | 01 | 02 |
| 7. | Cephalochordata : Tunicata | 05 | 01 23 | 02 78 |
| 8. | Pisces | 116 | 290 | 553 |
| 9. | Reptilia | 02 | 06 | 06 |
| 10. | Aves | 09 | 28 | 63 |
| 11. | Mammalia | 02 | 06 | 06 |
| | Total | 254 | 563 | 1089 |

PLATES

PLATE - I



Fig. 1. Indira Gandhi Bridge—The gate way for Gulf of Mannar.



Fig. 2. A view of Shingle Island.

PLATE - II



Fig. 3. A view of Keelakarai Coast.



Fig. 4. Sea weed harvest by local women at Krusadai Island.

PLATE - III



Fig. 5. A view of fishing harbour at Rameswaram.



Fig. 6. Travlers at Rameswaram fishing harbour.

PLATE - IV



Fig. 7. Bleached *Porites* sp., during 1998.

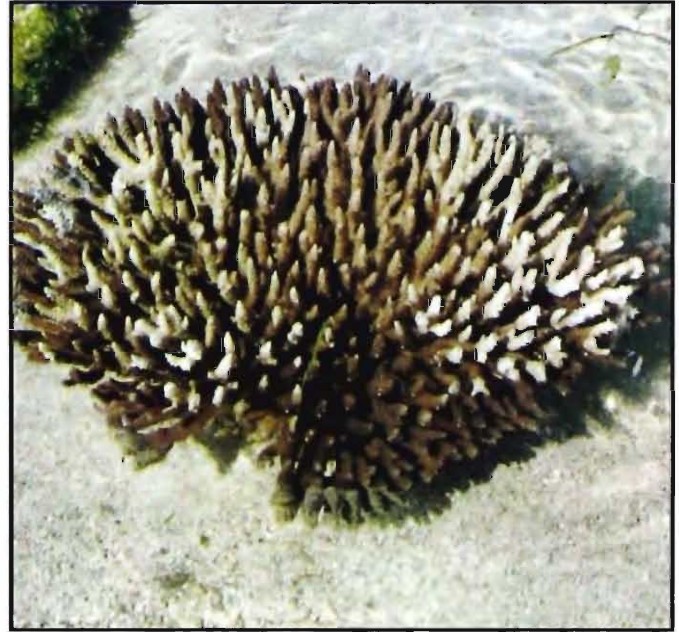


Fig. 8. *Acropora* the branching coral in the shallow regions of Gulf of Mannar.

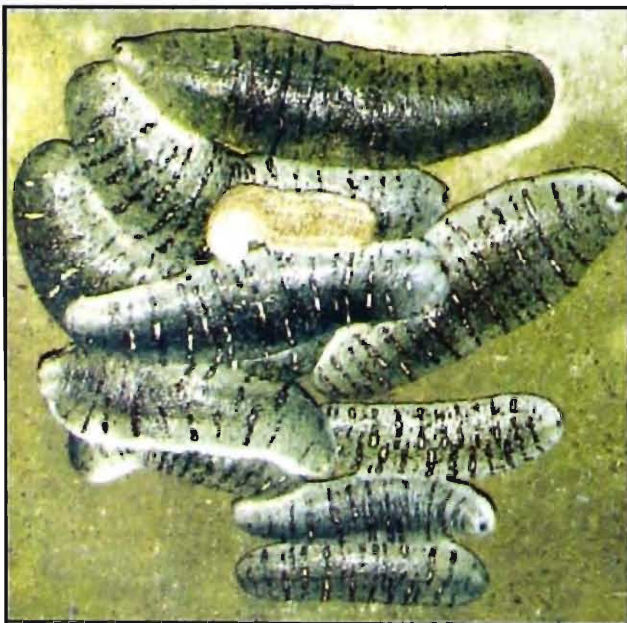


Fig. 9. *Holothuria scabra* and *Holothuria spinifera*.



Fig. 10. Dorsal view of *Liagore rubromaculata*.

PLATE - V

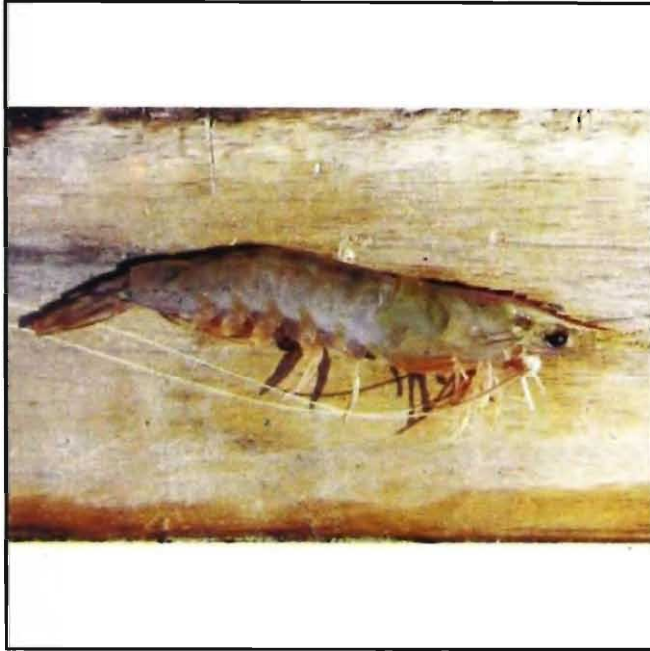


Fig. 11. Lateral view of *Metapenaeus dobsoni*.



Fig. 12. Dorsal view of *Portunas pelagicus*.



Fig. 13. Dorsal view of *Matuta lunaris*.



Fig. 14. Dorsal view of *Panulirus versicolor*.

PLATE - VI

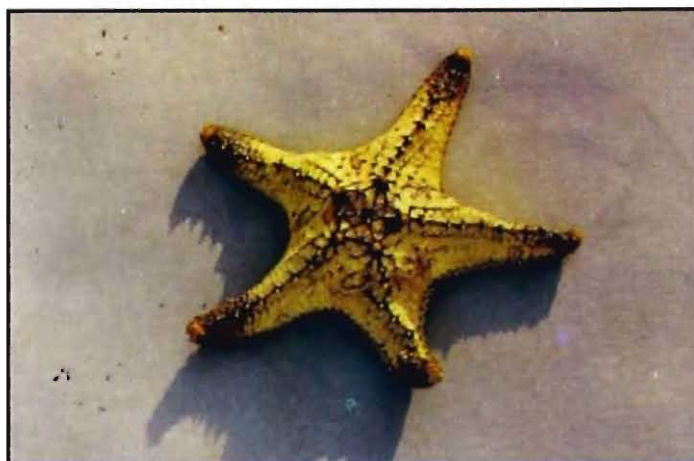


Fig. 15. Dorsal view of *Pentaceraster regulus*.

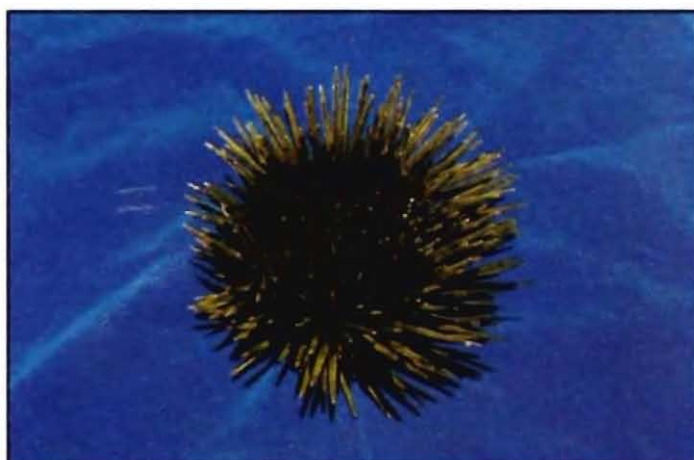


Fig. 16. *Stomopneutes variolaris* the common sea urchin.



Fig. 17. *Astomopecten indicus* the common star fish.

PLATE - VII



Fig. 18. *Melo indica* commonly called as Paper shell.



Fig. 19. *Chicoreus ramosus* showing the opercular region.



Fig. 20. Dorsal view of *Sepioteuthis lessoniana*.

PLATE - VIII

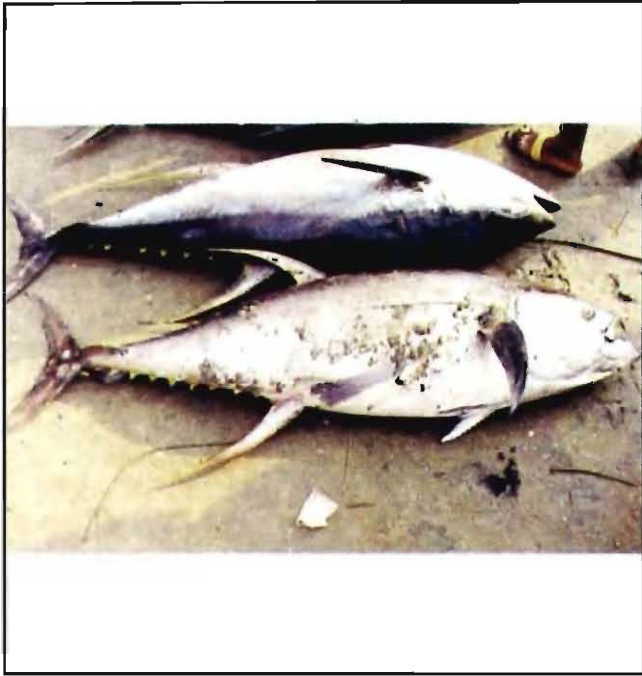


Fig. 21. Lateral view of *Euthynnus affinis*.



Fig. 22. Lateral view of *Pampus argenteus*.

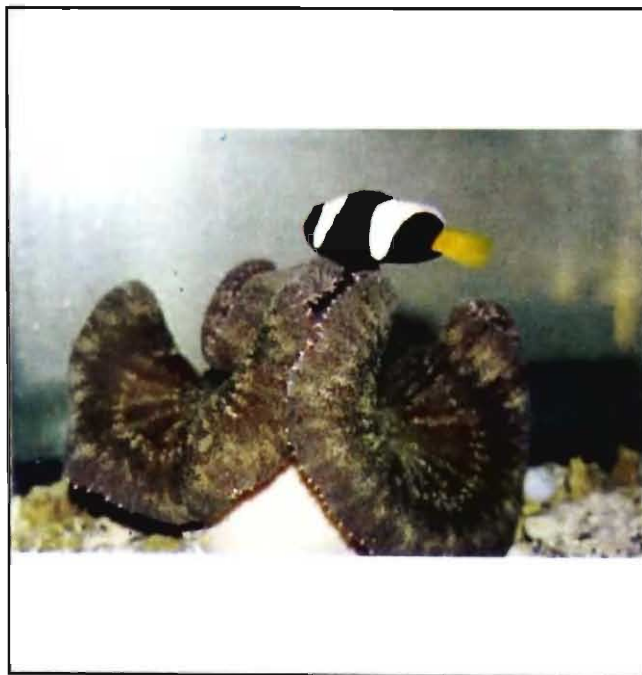


Fig. 23. *Stochactis giganteusi* the giant sea anemone.

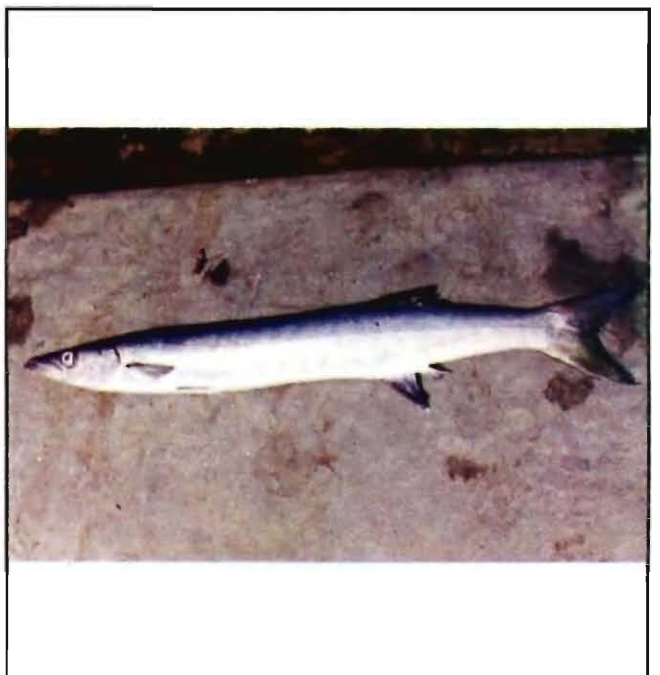


Fig. 24. Lateral view of *Sphyraena obtusata*.