

# INSTITUTE OF JAMAICA.

BULLETIN No. 1.

## A PROVISIONAL LIST OF THE FISHES OF JAMAICA

COMPILED BY

T. D. A. COCKERELL, F.Z.S., F.E.S.,

*Curator of the Museum of the Institute.*

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KINGSTON, JAMAICA:

GOVERNMENT PRINTING OFFICE, 79 DUKE STREET.

1892.



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COMPILED BY  
*theodore*  
*W. Alison*  
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## P R E F A C E.

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Now that material is being got together illustrating the economic products of Jamaica, to be exhibited at the Imperial Institute in London, the fishes naturally demand a share of attention. At the very outset we are met by the fact that no complete or approximately modern catalogue of Jamaica fishes exists, much less any detailed and trustworthy account. The present list has therefore been compiled, and imperfect as it necessarily is, it may suffice to indicate what is now known, and serve as a basis for future work. It is hoped that by the coöperation of all those in any way interested in our fisheries, from either the scientific or the economic point of view, we may at length be in a position to issue a really satisfactory guide to the subject, in illustration of an approximately complete collection.

All information or suggestions, and any specimens, will be gladly received. Especially, we need details about the food-fishes,—how and when they are caught, where they occur or are most abundant, where they are sold and what price they fetch, their flavour and even the methods of curing or cooking—nothing will come amiss. Local names for fishes are also of much interest, but alone they unfortunately do not always lead to identification: hence any information given about a species will be doubly valued if a specimen of the fish itself accompanies it.

The food of fishes is another matter well worthy of study: it is of great interest to learn what is to be found in the stomachs of various species—and sometimes rare little fishes are found in pretty good condition inside the stomachs of common big ones! Parasites found on fishes also deserve attention, and should be carefully preserved.

Fishes may be preserved in three parts of alcohol to one of water. Alcohol should be injected into the mouth and vent, and small incisions made in the belly and thick parts of the body, to allow the fluid to penetrate the tissues.

The colour of fishes when freshly caught should always be *noted down*, as they lose much of their colour in spirit.

T. D. A. C.



## INTRODUCTION.

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IN 1855 Richard Hill published a list of the fishes of Jamaica, enumerating therein 113 genera and 276 species. Four years later, Dr. Günther began his *Catalogue of the Fishes in the British Museum*, in which he recorded very many Jamaican species, and what is more important, introduced new systems of classification which were so widely accepted, that any list of fishes drawn up previously to this work became altogether out of date and sorely in need of revision. In 1881 Hill's list was reprinted in the *Handbook of Jamaica*, but at the same time endeavours were made to obtain a knowledge of our fishes more in accordance with the views of modern Ichthyologists, and collections were made by Mr. J. J. Bowrey and Mr. Musgrave, Jr. Mr. Bowrey sent from the Institute specimens of a hundred species to the United States National Museum, and these formed the subject of a paper by Messrs. Bean and Dresel in 1884. Duplicates of these are preserved in the Museum of the Institute.

The present list is simply a bringing-together of the various records, with the nomenclature amended so as to be as far as possible up to date. In dealing with Hill's list, considerable difficulty has been met, owing to the fact that it is little more than a catalogue of names, many of which are but doubtfully correct. Wherever I have been able to do so with certainty, I have placed obsolete names as synonyms under the more correct designations, and in other instances I have indicated probable synonymy and errors; but there remain many names in the list which will very probably have to be eventually struck out, but which in the absence of positive information must for the present remain. Thus for example when in a genus Hill appears to have found one species, and Günther similarly records only one, but that in a distinct though allied form, it becomes very probable that in reality the same fish was intended by both authors, and that Hill's identification was erroneous. It must not be supposed that Hill was careless or blameworthy in his work: all scientific works become out of date in time, and such actual errors as he may have made are to be attributed to the difficulties under which he laboured. Consequently, it would be unjust to ignore anything he wrote, and we can only keep the records, and trust that further investigations will clear up all difficulties.\*

In the classification of the species Dr. Günther's British Museum Catalogue has been mainly followed: but the order of the families and genera is with one or two exceptions that of his later book, *An Introduction to the Study of Fishes* (1880)—an invaluable work, which may be consulted in the Library of the Institute. The later volumes of the *Proceedings of the United States National Museum* have also been consulted, and much useful information found therein. It will be noticed that in several families the nomenclature is partly according to Günther, and partly after Gill, Jordan, and other American authors. This has resulted because I have endeavoured so far as possible to take advantage of the latest researches, but often have not felt at liberty to introduce such sweeping changes as seem logically necessary without further information. It matters little if in a list like this some species appear under *Mesoprion* that would, according to recent American authors, be more properly placed in *Lutjanus*; but it would matter very much if in the endeavour to be strictly up to date, a number of alterations were made on insufficient or mistaken grounds. On the other hand, when certain species have been definitely referred to new or different genera by recent writers, I have usually preferred to adopt these changes, without judging of their merits, on the assumption that the latest writer is most likely to be correct. Unfortunately, Vol. I. of Günther's catalogue is wanting in the Library, and consequently the classification of the *Percidae* and allied families has suffered.

The descriptive notes given merely indicate some of the more obvious external characters, taken mainly from Günther's works. It is hoped that they will prove useful, but before deciding on the name of any fish, it should be brought to the Institute and compared with the specimens in the Museum, and the descriptions and figures of Günther or Cuvier and Valenciennes. The definitions of the families are largely taken from Vol. II of Wallace's *Geographical Distribution of Animals*. The local names are nearly all from Bean and Dresel's paper: it does not appear in that work whence these names were obtained, but Mr. Bowrey informs me that they were given to him by Mr. Augustus Barrous, a fisherman of Kingston. Mr. Barrous has given me some interesting memoranda respecting the habits of some of the fishes, a few of which are noted here under the species they refer to.

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\* Mr. L. Hutchings informs me that he has copious MSS. of Hill's, and drawings of the fishes he examined. I hope to be able to examine these valuable records, and through them clear up at least the majority of obscure points referred to.





# LIST OF THE FISHES OF JAMAICA.

## VERTEBRATA.

### ICHTHYOPSIDA.

Class, PISCES.

Sub-class, PALÆICHTHYES.

Order, CHONDOPTERYGII. (Sharks and Rays).

Family, CARCHARIIDÆ.

Sharks with two dorsal fins and a nictitating membrane.

I. genus, CARCHARIAS, Cuvier.

For figure of teeth, see Stud. Fish., 317. Teeth triangular.

1. *Carcharias terre-nove* (Richards) Gill. Ground shark. Tiger shark. White shark. Caudal fin with a narrow blackish edge. The *Squalus carcharias* quoted by Hill is more likely to be this than Risso's species.
2. *C. prionodon*. Mentioned in Hill's list.

II. genus, SPHYRNA, Raf.

3. *Sphyrna zygena* (L.) Müll & Henle. Shovel-nose shark. Hammerhead shark. *Zygena vulgaris* of Hill's list.

III. genus, MUSTELUS, Cuv.

Teeth obtuse, arranged like pavement.

4. *Mustelus maculatus*. Mentioned in Hill's list. This cannot be the *M. maculatus* (Kner. & Steind., 1867), as that is of later date.

Family, LAMNIDÆ.

Sharks with two dorsal fins and no nictitating membrane.

IV. genus, ALOPECIAS.

5. *Alopias vulpes* (Gmel.) Bonap. *Squalus vulpes* of Hill's list.

Family, SCYLLIIDÆ.

Sharks with one dorsal fin and no nictitating membrane.

V. genus, SCYLLIUM.

6. *Scyllium canicula* (L.) Cuv. Larger spotted Dog-fish. Hill gives a *Squalus canicula*, which if rightly identified would be this. Günther says "the fishermen of some localities do not disdain to eat them."

VI. genus, GINGLYMOSTOMA, Müll & Henle.

7. *Ginglymostoma cirratum* (Gmel.) M. & H. Uniform brownish.

The *Scyllium cirratum* recorded by Gosse, Nat. Soj. Ja. pp. 241, 499, is presumably this.

Family, PRISTIDÆ.

VII. genus, PRISTIS, Latham.

8. *Pristis antiquorum*, Lath. The Saw-fish.

Family, RHINOBATIDÆ.

Rays with a long and strong tail, having a caudal and two dorsal fins.

VIII. genus, RHINOBATUS.

9. *Rhinobatus undulatus*, Olfers. Sea-Fiddler.

Family, TORPEDINIDÆ.

Rays with a broad smooth disc, and an electric organ

IX. genus, NARCINE, Henle.

10. *Narcine brasiliensis* (Olfers) Henle. Trembler. *Torpedo bancroftii* of Hill's list.

Family, RAIIDÆ.

Rays with a broad rhombic disc and no serrated caudal spine.

X. genus, RAJA, L.

11. *Raja batis* L. Quoted in Hill's list, but probably an error, as the species is European.

Family, TRYGONIDÆ.

Rays with the pectoral fins extending to end of snout.

XI. genus, TRYGON, Adams.

12. *Trygon pastinaca* (L.) Cuv. The sting-ray. Body smooth, coloration uniform, or sometimes with scattered whitish spots.

XII. genus, UROLOPHUS, Müll. & Henle.

13. *Urolophus torpedinus* (Desm.) M. & H. *Trygon jamaicensis* of Hill's list is probably this: Upper parts with numerous yellow, dark-edged ocelli; or more uniform. Figured by Sloane as *Pastinaca marina*, plate 246, fig. 1.

Family, MYLIOBATIDÆ.

Rays with very broad pectoral fins not extending to end of snout.

XIII. genus, DICEROBATIS.

14. 15. The species recorded by Hill as *Cephaloptera banksiana* and *C. manatis* should belong to this genus, but they require further investigation. A species of the genus is figured in Stud. Fish. p. 347.

XIV. genus, AETOBATIS Müll. & Henle.

16. *Aetobatis nairinari* (Euphr.) M. & H. *Myliobatis flagellum* and *M. nairinari* of Hill's list. Body smooth, disc generally with numerous round bluish-white spots.

XV. genus, CERATOPTERA, Müll. & Henle.

17. *Ceratoptera vampyrus* (Mitch.) Dum. Tail about as long as body; body and tail rough, covered with small protuberances. This species grows to an immense size, as much as 15 feet broad, and three or four feet thick.

Sub-class, TELEOSTEI.

Order, ACANTHOPTERYGII.

Family, PERCIDÆ.

Marine or freshwater carnivorous fishes, with oblong bodies usually covered with toothed scales. No barbels. American writers divide this large family into several, which are perhaps better regarded as sub-families.

XVI. genus, LABRAX, Cuvier.

According to Gill, there is a genus *Labrax* of prior date, comprising some North Pacific fishes. The American Labracinæ have been referred by Jordan to *Roccus* and *Morone*.

18. *Labrax lineatus* (Bl.) Cuv. & Val.
19. *L. phuvialis*, Hill. "Marked with bands like the *Perca fluviatilis* of Europe."
20. *L. mucronatus*, C. & V. Has no lines or black bands.

XVII. genus, CENTROPOMUS, C. & V.

21. *Centropomus undecimalis*. (Bl.) C. & V. Snook. According to Hill, there are two forms, the Sea Snook, long and silvery, and the River Snook, broad and brassy.

XVIII. genus, CENTROPRISTIS, Cuv.

22. *Centropristis tabacarius*, C. & V. Red-brown, darker above, paler beneath, with a whitish spot on each side.

23. *C. aurorubens*, C. & V. Back vermilion, flanks with irregular yellow spots.

24. *C. rufus*, C. & V. Uniformly dark red.

XIX. genus, TRISOTROPIS, Gill.

25. *Trisotropis bonaci*, Poey. Violet-brown, with obscure bluish-white blotches on the head and body

26. *T. guttatus* (Schn.) Gill. *Serranus cardinalis* and *S. rupestris* of Cuv. & Val.

XX. genus, ENNEACENTRUS, Gill.

27. *Enneacentrus punctatus* (L.) Poey. *Serranus guataviri* and *S. outalibi* of Cuv. & Val. Butter-Fish.

XXI. genus, SERRANUS, Cuvier.

This genus of Sea Perches formerly included *Trisotropis*, *Epinephelus* and *Enneacentrus*. The following species may in part at least have to be distributed in other genera, but I know nothing of them beyond what is given by Hill and Cuvier & Valenciennes.

28. *Serranus tigris*. — Given in Hill's list.

- 29. *S. lunulatus* (Bl., Schn.) C. & V. Dull white, with red lunulate spots, fins blackish, ventrals spotted like the body.
- 30. *S. inermis*.—Given in Hill's list.
- 31. *S. coronatus*, C. & V. Said to be the same as *Perca guttata*, Bl.
- 32. *S. catus*, C. & V. Brown, with purplish or rosy spots, pectorals yellowish at base and blackish at extremity. Probably the same species as No. 40.
- 33. *S. arara*, C. & V. Blackish-brown, with spots; fins bluish-black, without sp. ts.
- 34. *S. nigriculus*, C. & V. Pectorals and ventrals covered with brown points.
- 35. *S. morio*, C. & V. Grey, marbled with vinous brown, more or less dark. Caudal brown, anal orange-red, bordered with brown, pectorals orange, ventrals with red spots.
- 36. *S. oculatus*, C. & V. For a figure of this species, see C. & V., vol. II
- 37. *S. creolus*, C. & V. Red, darker above, more rosy below; dorsal fin spotted with green.
- 38. *S. bivittatus*, C. & V. With two brown longitudinal bands on each side.

XXII. genus, EPINEPHELUS, Bloch.

- 39. *Epinephelus striatus* (Bloch) Gill. *Serranus striatus* of C. & V. Rock Cod. Grouper.
- 40. *E. apua* (Bl.) Bean & Dresel. Rock Hind.

XXIII. genus, PLECTROPOMA.

- 41. *Plectropoma monacanthus*. Given in Hill's list.
- 42. *P. chlorurum*, C. & V. Entirely blackish-brown, with caudal and pectorals yellow.
- 43. *P. puella*, C. & V. Olive, with six violet-black bands. Figured in C. & V., vol. ii.

XXIV. genus, RHYPTICUS, C. & V.

- 44. *Rhypticus arenatus*, C. & V. Soap fish. For a figure, see C. & V., vol. iii.
- 45. *R. saponaceus* (Bl., Schn.) C. & V. Given in Hill's list, but very possibly his species was *R. arenatus*.

XXV. genus, MESOPRION.

The species of this genus are referred by American authors to *Lutjanus*, &c. As in the case of *Serranus*, I leave in the old genus those species of which I know nothing beyond what is given by Cuvier & Valenciennes and Hill.

- 46. *Mesoprion mahogoni*, C. & V. Reddish-brown above. Said to be rare and little esteemed.
- 47. *M. joci* (Bl., Schn.) C. & V. The general colour is rose. (see also No. 55.)
- 48. *M. pargus*, C. & V. See Hill's list, p. 142. (*M. pagrus*.)
- 49. *M. isodon*. Given in Hill's list.
- 50. *M. linea*, C. & V. Olivaceous brown, paler beneath, with 7 or 8 vertical yellow bands.
- 51. *M. flavescens*, C. & V. Of the same form as *M. griseus* with vertical bands.
- 52. *M. cynodon*, C. & V. Brown; or orange-tinted on back, white beneath, and greenish yellow at sides.
- 52a. *M. profundus*, Poey. Recorded by Hill in 1867 as occurring in deep water.

XXVI. genus, LUTJANUS, Bl., Schn.

- 53. *Lutjanus caxis*, (Schn.) Poey. *Mesoprion griseus* of Hill's list. According to Brown Goode, it is "one of the most delicious of food-fish."
- 54. *L. analis*, Poey. Pat Snapper. Rounder Snapper. Red Snapper. Mutton Snapper. *Mesoprion unnotatus* of Hill's list is probably this. Cuv. & Val. describe *M. unnotatus* as a very beautiful fish; the anal and ventral fins yellow, and the dorsal yellow and rose. They also figure it. In 1867 Hill suggested the identity of the Mutton Snapper with the *Mesoprion campecheanus* of Poey.
- 55. *L. jocu*, Poey. School-master Snapper. Black Snapper. Butt Snapper. Dogteeth Snapper. This seems not to be the *Mesoprion jocu* of C. & V.
- 56. *L. buccanella* (C. & V.) Bean & Dresel. Butt Snapper.
- 57. *L. stearnsii*, Goode & Bean. Black Snapper. Mr. Barrous says the Black Snapper lives between shoals, and is cunning, and very troublesome to catch.

XXVII. genus, OCYURUS, Gill.

- 58. *Ocyurus chrysurus*, (Bl.) Bean & Dresel. Yellow-tail. *Mesoprion chrysurus* of Hill's list. Cuv. & Val. give a figure of this species.

XXVIII. genus, TROPIDINIUS.

- 59. *Tropidinius dentatus* (Guich.) Bean & Dresel. Silk. Mr Barrous says they live in 120 to 150 fathoms of water.

XXIX. genus, ANISOTREMUS, Gill.

- 60. *Anisotremus virginicus*, (L.) Gill. Governor Bream. The *Pristipoma rodo* of Hill's list is probably identical with this.

XXX. genus, PRISTIPOMA, Cuv.

- 61. *Pristipoma bilineatum*, C. & V. Figured by Cuv. & Val., vol. v.
- 62. *P. serrula*, C. & V. A little more oblong than *bilineatum*; violet-tinged above, with 4 or 5 longitudinal yellow lines; below silvery.
- 63. *P. auratum*, C. & V. Very near *serrula*, but the coloration is uniform; probably not a distinct species.
- 64. *P. croce*, C. & V. Shining silvery and brown.
- 65. *P. coro* (Bl.) C. & V. Silvery, with 8 vertical brown bands.

XXXI. genus, POMADASYD, Lacep.

- 66. *Pomadasyd approximans*, Bean & Dresel. Olive-grey, with brownish shades. Jordan places this as a doubtful synonym of *P. caltrifer* (Poey.)

XXXII. genus, CONODON, C. & V.

- 67. *Conodon nobilis* (L.) Bean & Dresel. Coil Drummer.
- 68. *C. antillanus*. Given in Hill's list.

XXXIII. genus, HÆMULON, Cuvier.

- 69. *Hæmulon parre*, (Desm.) B. & D. Black Grunt.
- 70. *H. fremebundum*, Goode & Bean. Bow Grunt.
- 71. *H. rimator*, Jord. & Swain, M.S., Bean & Dresel. Cæsar. Possibly the same as *Perca striata*, L.
- 72. *H. arcuatum*, C. & V. Yellow Grunt.
- 73. *H. acutum*, Poey. Bastard Margaret. *H. chromis* of Hill's list is presumably identical with this. Jordan gives *H. acutum* as a synonym of *H. parra*.
- 74. *H. gibbosum* (Schn.) Jord. Margaret Grunt. *H. album* of Hill's list. A white species.
- 75. *H. canna*, C. & V. Silvery, with brown lines &c.
- 76. *H. xanthopteron*, C. & V.
- 77. *H. caudimacula*, C. & V. Allied to *heterodon*.
- 78. *H. heterodon*, C. & V. This species is figured in C. & V's work, vol. v.
- 79. *H. aurolineatum*, C. & V. Silvery; fins yellowish grey.
- 80. *H. elegans*, C. & V.
- 81. *H. jormosum* (L.) Cuvier.
- 82. *H. quadrilineatum*, C. & V. Dorsal fin grey-brown, caudal brown, the other fins whitish.

XXXIV. genus, LOBOTES, Cuvier.

- 83. *Lobotes somnolentus*, C. & V. Grey-brown, shining silvery. Said to be much esteemed in San Domingo.

XXXV. genus, GERRES, Cuvier.

- 84. *Gerres rhombeus*, C. & V. Macca Back. Silver Fish. Silvery, dorsal fin with a blackish margin. *G. brasiliensis* of Hill's list is probably identical with this.
- 85. *G. plumieri*, C. & V. Stone Bar.
- 86. *G. squamipinnis*, Günther. Uniform silvery, margin of dorsal blackish.
- 87. *G. gula*, C. & V. Silvery, dorsal fin dotted with brown.
- 88. *G. aprion* C. & V. Spanish Shad. Silvery, a deep black spot at top of dorsal fin: upper part of snout blackish-brown. Jordan refers this to *G. cinereus* (Walb.)
- 89. *G. zebra*, Müll. & Trosch. Silver-fish. Shad. A synonym of *G. cinereus*, according to Jordan.
- 90. *G. havengulus* (Goode & Bean) J. & G. Shad.

XXXVI. genus, SMARIS.

- 91. *Smaris martinicus*. Given in Hill's list; probably belongs to some other genus, as *Smaris* is quoted in Stud. Fish. only from the Mediterranean.

XXXVII. genus, PRIACANTHUS, Cuvier.

- 92. *Priacanthus macrophthalmus*, Cuvier.
- 93. *P. boops* (Forst.) C. & V. Reddish silvery-grey.

Family, SQUAMIPINNES.

Carnivorous marine fishes, with compressed and elevated bodies, and scaly vertical fins.

## XXXVIII. genus CHÆTODON, (Artedi) Cuvier.

94. *Chaetodon ocellatus*, Bl. Butterfly. *C. bimaculatus* of Hill's list and of Günther. Body with indistinct oblique streaks; a blackish blotch in base of soft dorsal fin, and another small black blotch at the top of its angle.
95. *C. striatus*, L. Butterfly. Has five blackish-brown cross-bars; ventral fins black.
96. *C. capistratus*, L. Butterfly. Has blackish oblique streaks along the series of scales: ventral fins whitish.

Mr. Barrous says the Butterfly-fish live among great big stones.

## XXXIX. genus HOLACANTHUS, Lacép.

97. *Holacanthus tricolor* (Bl.) Lacép. Rock Beauty. Head, anterior part of the trunk, caudal and margins of the soft dorsal and anal fins yellow: the remainder brownish-black.
98. *H. ciliaris* (L.) Lacép. Horizontal Angel-Fish. Soft dorsal and anal much produced; various bluish marks on the body; dorsal and anal fins with bluish margins, caudal yellow.

## XL. genus POMACANTHUS, Lacép.

99. *Pomacanthus aureus* (Bl.) C. & V. This is an extremely variable fish, specimens of varying age and colour being included in Hill's list under the names *P. aureus*, *P. quinquecinctus*, *P. arcuatus*, *P. parvi*, *P. balteatus*, and *P. cingulatus*. The local name is Angel-Fish.

Regarding these as varieties (or more correctly forms) of *P. aureus*, they may be distinguished as follows:

- (1.) var. *parvi* (Bl.) Adult, ground-colour dark, body with many small white or yellow crescents, base of the pectoral yellow.
- (2.) var. *aureus* (Bl.) Ground-colour yellowish, body with many irregular brown or black spots.
- (3.) var. *balteatus* (Cuv.) Half-grown, ground-colour brownish yellow, body with many brown spots, and with one, two or three more or less indistinct lighter vertical bands.
- (4.) var. *cingulatus* (C. & V.) Half-grown, ground-colour dark, body with many small white or yellow crescents, and one, two, or three rather indistinct lighter vertical bands.
- (5.) var. *quinquecinctus* (Cuv.) Young, scales fully developed, sometimes smaller scales between the larger ones; body with five distinct yellow cross-bands, and sometimes with white crescents or brown spots; caudal yellow, with a large brown crescent.
- (6.) var. *arcuatus* ("L.," C. & V.)\* Young: scales small, sometimes with larger scales between the smaller ones; colour like form *quinquecinctus*.

The *Pomacanthus planifrons* recorded by Hill in 1868 was no doubt intended for *Pomacanthus*

## XLI. genus CHÆTODIPTERUS.

100. *Chaetodipterus faber* (Brouss.) Jord. and Gilb. Portuguese. *Ephippus faber* of Günther and of Hill's list. *Faber marinus* of Sloane, plate 251, fig. 4. Has six rather indistinct brownish cross-bands, or uniformly coloured in adult. Third dorsal spine elongate. Jordan places this in a separate family, *Ephippidae*.

## Family, MULLIDÆ.

Marine fishes, with elongate slightly compressed bodies covered with large scales, and two dorsal fins at a distance from each other.

## XLII. genus UPENEUS.

101. *Upeneus maculatus* (Bl.) C. & V. Goat-fish.
102. *U. martinicus*, C. & V. Brown on back, silvery on sides and beneath.
103. *U. balteatus*, C. & V. Back clear violet, below white with a lateral yellow band.
104. *U. punctatus*, C. & V. Back red, a yellow tint along the sides, beneath white; fins yellow. There is a small spot on each scale.

Jordan gives *balteatus* as a synonym of *martinicus*, and refers *punctatus* to *maculatus*.

## Family, SPARIDÆ. (Sea-Breams.)

Herbivorous or carnivorous marine fishes, with oblong compressed bodies covered with minutely serrated scales, and with one dorsal fin.

## XLIII. genus CALAMUS.

105. *Calamus bajonado* (Bl. & Schn.) Poey. Mucco Paragy.
- XLIV. genus PAGELLUS.
106. 107. The *Pagellus calamus* and *P. penna* recorded by Hill are perhaps not really of this genus.

## XLV. genus ARCHOSARGUS, Gill.

108. *Archosargus unimaculatus* (Bl.) Eigm & Hughes. Pilot-fish. Bream. *Sargus unimaculatus* and *S. flavolineatus* of Hill's list. *Diplodus unimaculatus* of Bean & Dresel. It has two forms:—
- (1.) var. *unimaculatus* (Bl.) Eigm. & Hughes.
  - (2.) var. *flavolineatus* (C. & V.) Eigm. & Hughes. A "deeper" form than *unimaculatus*, with the ventral outline rounded.

## Family SCORPÆNIDÆ. (Mail-cheeked Fishes.)

## XLVI. genus SCORPENA, Artedi.

109. *Scorpena plumieri*, Bloch. Lion-fish. *S. bufo* of Hill's list. *Apistes exul* of Gosse. Marbled with brown, greyish, rose-colour, and violet: spinous dorsal with a black blotch: axil black, with large white spots.
110. *S. grandicornis*, C. & V. Lion-fish. Reddish, marbled with brown; head and body minutely dotted with white; caudal and anal fins with with brown bands.
111. *S. brasiliensis*, C. & V. Nearly uniform blackish, with some obscure black clouds or dots.
112. *S. stearnsii*, Goode & Bean. Poison Grouper. Caudal fin without brown bands. Jordan places this as a synonym of *S. brasiliensis*.

## Family BERYCIDÆ.

Body short, with ctenoid scales, which are rarely absent. Cleft of the mouth lateral, oblique. Opercular bones more or less armed.

## XLVII. genus MYRIPRISTIS, Cuv.

113. Hill records a *Myripristes jacobus*, which is presumably the species described by Cuvier and Valenciennes.

## XLVIII. genus HOLOCENTRUM, Bloch.

114. *Holocentrum ascensione* (Osbeck) Jord. Welshman. *H. longipinne* of Hill's list.
115. *H. marianum*, C. & V. Given in Hill's list.

## Family POLYNEMIDÆ.

Marine or freshwater fishes, with compressed oblong bodies and entire or ciliated scales.

## XLIX. genus POLYNEMUS, L.

116. *Polynemus plumieri*, (Lacép.) Günth.\* *P. americanus* of Hill's list. Pectoral black.
117. *P. oligodon*, Günther. Distinguished from *P. plumieri* by the greater number of anal rays and the narrow bands of teeth on palate. Pectoral and top of first dorsal fin black.

## Family, SOLÆNIDÆ.

Marine or freshwater fishes, with compressed and rather elongate bodies, covered with toothed scales.

## L. genus UMBRINA, Cuvier.

118. *Umbрина arenata*, C. & V. All the parts with minute brown dots. Barbel short.
119. *U. broussonetii*, C. & V. Barbel very short. The first dorsal fin blackish; body with nine dark cross-bands.
120. *U. martinicensis*, C. & V. Barbel short. Preoperculum very distinctly denticulated. Uniform brownish.

## LI. genus SCIENA, L.

121. *Sciena xanthurus*, (Lacép.) Günth. *Leiostomus xanthurus* of Hill's list. Coloration uniform. Preoperculum finely denticulated. Height of body  $3\frac{1}{2}$  in total length.

## LII. genus CORVINA, Cuvier.

Dr. Günther, in his "Introduction to the study of Fishes", refers the species of *Corvina* to *Sciena*. In *Corvina* the second anal ray is very strong.

\* *P. arcuatus* L. is considered by Jordan a valid species. (Proc. U. S. N. Mus. 1886, p. 594.)

\* Jordan refers *P. plumieri* to *P. virginicus*.

122. *Corvina ronchus*, C. & V. Silvery, first dorsal brownish, the other vertical fins with the margins minutely dotted with black.

LIII. genus BAIRDELLA, Gill.

123. *Bairdella armata*, Gill Long-teeth Günther in 1868 referred this species to *Corvina*, and so I suppose would now place it in *Sciæna*. Jordan places both *C. ronchus* and *B. armata* in *Sciæna*.

LIV. genus OTOLITHUS, Cuv.

In this genus the lower jaw is longest, which is never the case in *Sciæna*.

124. *Otolithus regalis* (Bl. Schn.) C. & V. Back with darker oblique streaks, following the transverse series of scales. Preoperculum with small denticulations.

125. *O. nothus*, Holbr. Coloration uniform, back with indistinct oblique streaks.

LV. genus LARIMUS, C. & V.

126. *Larimus breviceps*, C. & V. Jew Harp Drummer, First dorsal blackish, with a triangular white spot before the base of each spine.

127. *L. dentex*, (C. & V.) Günth. *Corvina dentex* of Hill's list. The scales speckled with minute brown dots.

LVI. genus MICROPOGON, C. & V.

128. *Micropogon furnierii*, (Desm.) Jord. Mongalar Drummer. *M. lineatus* of Hill's list, and recorded by Günther as *M. undulatus*.

LVII. genus EQUES, Bl., Schn.

129. *Eques punctatus*, Bl., Schn. Brown, sides of head with two vertical bands: sides of body with curved bands: vertical fins with bluish-white spots.

130. *E. lanccolatus*, (Gmel.) Günth. *E. balteatus* of Hill's list. Greyish-yellow, with three broad blackish-brown bands, edged with whitish.

#### Family NIPHIIDÆ.

Marine fishes, with elongate compressed body and a produced sword-shaped upper jaw.

LVIII. genus XIPHIAS, Artedi.

131. *Xiphias gladius*, L. Sword-fish. Ventral fins none.

LIX. genus HISTIOPHORUS, (Lacép.) Cuv.

132. *Histiophorus gladius*, (Brouss.) Lacép. *H. americanus* of Hill's list. Ventral fins present.

#### Family TRICHIURIDÆ.

Marine fishes, with elongate compressed band-like bodies covered with minute scales or naked.

LX. genus TRICHIURUS, L.

133. *Trichiurus lepturus*, L. Cutlass-Fish. Dorsal extending the whole length of the back, no caudal or ventral fins. Silvery. It is the gymnogaster of Brown, plate 45, fig. 4

LXI. genus GEMPYLUS, C. & V.

134. *Gempylus serpens* (Solander) C. & V. Figured by Sloane, pl. 1, fig. 2. Coloration uniform, upper part of dorsal fin black. No scales.

#### Family ACRONURIDÆ.

Marine herbivorous fishes, with compressed minutely-scaled bodies. One dorsal fin.

LXII. genus TEUTHIS.

135. *Teuthis hepatus*, L. Doctor-Fish. *Acanthurus chironurgus* of Hill's list and of Günther. Ground-colour brown, sometimes a whitish ring round the base of the caudal fin. Operculum with a black margin.

*Acanthurus phlebotomus* of Cuv. & Val. is a synonym.

136. *Teuthis cœrules* (Bl. & Schn.) Bean & Dresel. Doctor-Fish. *Acanthurus cœrules* of Hill's list. Brownish, with bluish longitudinal lines, undulating on the body. Jordan places this and the last species in *Acanthurus*.

#### Family CARANGIDÆ.

Marine fishes, with compressed oblong or elevated bodies covered with small scales or naked. Teeth, if present, conical.

LXIII. genus CARANX C. & V. (Horse-Mackerel.)

137. *Caranx bartholomœi*, C. & V. Green Jack.

138. *C. crumenophthalmus* (Bl.) Lacép. First dorsal developed, none of the rays elongate. Opercular spot more or less distinct. *C. plumieri* of C. & V. is a synonym.

139. *C. macarellus*, C. & V. Belongs to subg. *Decapterus*, Bleeker. Opercular spot small. A single posterior ray detached from dorsal or anal.

140. *C. chrysos* (Mitch.) Dekay. *C. pisquetus* of Hill's list. Has a black spot on the operculum.

141. *C. hippos* (L.) Günth. Covally Jack. *C. carangus* of Hill's list. Opercular spot generally distinct.

142. *C. latus* Agass. Horse-eye Jack. *C. fallax* of Hill's list is probably this. According to Bean & Dresel, Günther confused this with *C. hippos*, and referred the true *C. hippos* to *carangus*.

LXIV. genus VOMER, Cuvier.

143. *Vomer setipinnis* (Mitch.) Gill. Bessy Cockburn. High Forehead. *Vomer brownii* of Hill's list. Uniform silvery, without sales, spinous dorsal and ventrals short. It is the Rhomboida of Browne, p. 455. Günther refers it to *Argyreosus*.

LXV. genus SELENE, Lacép.

144. *Selene argentea*, Lac. Bessy Cockburn. High Forehead. *Argyreosus vomer* of Günther. Uniform silvery, the prolonged fin-rays blackish.

LXVI. genus CHLOROSCOMBRUS, iraid.

145. *Chloroscombrus chrysurus* (L.) Gill. Whiting. *Micropteryx chrysurus* of Günther. Coloration uniform; a blackish, squarish blotch on back of tail; ventrals white. *Seriola cosmopolita* of Hill's list is a synonym.

LXVII. genus SERIOLA, Cuvier.

146. *Seriola falcata*, C. & V. Coloration uniform, scales small. A synonym of *S. rivoliiana* C. & V., according to Jordan.

147. *S. lalandii*, C. & V. Coloration uniform. Scales very small. Snout elongate, conical, twice the length of diameter of eye. At St. Helena it is called the Yellow-Tail.

LXVIII. genus NAUCRATES (Rafin.) Cuvier.

148. *Naucrates ductor* (L.) C. & V. Pilot-Fish. Bluish, with 5 to 7 dark vertical bars.

LXIX. genus CHORINEMUS, C. & V.

149. *Chorinemus saliens* (Bl.) C. & V. Coloration uniform; height of body  $4\frac{1}{2}$  in total length.

LXX. genus OLIGOPLITES, Gill.

150. *Oligoplites saurus* (Bl. & Schn.) Jord. Sea Policeman. *Chorinemus quiebra* of Hill, and *C. occidentalis* of Günther. Coloration uniform.

LXXI. genus TRACHYNOTUS (Lacép.) C. & V.

Originally spelled *Trachinotus*. *Trichinotus* of Hill's list.

151. *Trachynotus falcatus* (L.) Jord. & Eigenm. Cobbler-fish. *T. rhomboides* (Bl.) C. & V. *T. ovatus* (L.) var., Günth. Jaws Toothed.

152. *T. goreensis*, C. & V. Dorsal, caudal, and anal lobes black. Height of body  $2\frac{3}{4}$  in total length.

153. *T. glaucus*, (Bl.) C. & V. Height of body nearly 3 in total length. Silvery, with 4 blackish vertical streaks on side of back.

154. *T. pampinus*, C. & V. Coloration uniform; height of body  $2\frac{3}{4}$  to 3 in total length. *T. cupreus*, C. & V. is a synonym.

#### Family CORYPHENIDÆ.

Pelagic fishes with a single, long dorsal fin. Teeth small, conical: or absent.

LXXII. genus CORYPHENA (Artedi) C. & V.

155. *Coryphæna hippurus*, L. The only evidence of the occurrence of this fish is Hill's doubtful record under the name *C. dorado*. This is the fish commonly, but erroneously, called the Dolphin. The colours change rapidly while the fish is dying.

#### Family SCOMBRIDÆ.

Marine fishes, with elongate compressed bodies, scaled or naked. Two dorsal fins.

LXXIII. genus SCOMBER, Artedi. (Mackerel.)

156. *Scomber pneumatophorus*, De la Roche. *S. grec* of Hill's list. Greenish-black with about 30 waving black transverse streaks. This species has an air-bladder, whereas *S. scomber* (the common English mackerel) has none.

LXXIV. genus ALBICORA, Jordan.

The name *Thynnus* has been generally used for these fishes, but is preoccupied by a similarly-named genus of insects. "*Orycnus*" of Gill, a mere slip

for *Oreynus*, Cuvier, was suggested by Cooper as available, and afterwards taken up as a name for the present genus by Gill himself (Proc. U.S. National Museum, 1888, p. 319.). It seems to me, however, that a name thus originating ought to be neglected, as being at best but a synonym of *Oreynus*; and Jordan's title therefore remains valid, unless with Günther we merge the species with long and moderate pectoral fins in a single genus.

157. *Albicora alliterata* (Raf.) Bonito. *Thynnus thunnina* of Günther.  
 158. *A. pelamys* (L.) Bonito. Back bluish; 4 brownish longitudinal bands on each side of the belly.  
 159. *A. coretta* (C. & V.) Uniform lead-colour above, silvery beneath.  
 160. *A. sloanei* (C. & V.) *Auxis sloanei* of Hill's list. Günther gives this as doubtfully identical with *Thynnus albacora*, Lowe, but Sloane's figure has the pectorals much too short for that, although it agrees in the falcate second dorsal and anal fins.

LXXV. genus *AUXIS*, C. & V.

161. *Auxis rochei* (Risso) Günth. Back blue, variegated with darker,—uniform in old age. Belly silvery. A keel on each side of tail.

LXXVI. genus *CYBIUM*, Cuvier,

Has a keel on each side of tail.

162. *Cybiium regale* (Bl.) C. & V. Pectoral scaly. Anterior part of dorsal black.  
 163. *C. caballa*, C. & V. Pectoral scaly at base only. First dorsal blackish above.  
 164. *C. maculatum* (Mitch.) Agass. Anterior part of first dorsal black; sides with rounded blackish spots. Teeth rather conical.  
 165. *C. solandri*, C. & V.  
 166. *C. immaculatum*, C. & V.  
 167. *C. acerrum*, C. & V. This and the last two are given by Günther as insufficiently known species.

Jordan calls this genus by Lacépède's name *Scomberomorus*.

LXXVII. genus *ECHENEIS*, Artedi.

168. *Echeneis naucrates*, L. Sucking-Fish. *E. albicauda* of Hill's list.

Suctorial disc with 22 to 23 laminae.

169. *E. holbrookii*, Günther. Brown; generally a black band, edged with white, along the side. Very similar to *E. naucrates*, but disc longer compared to length of fish, and composed of only 21 laminae. Jordan places this genus in a distinct family, *Echeneididae*.

Family *STROMATEIDÆ*.

Dorsal fin single, long, without distinct spinous divisions. *Stromateus* was formerly placed in *Scombridae*.

LXXVIII. genus *STROMATEUS*, Artedi.

170. *Stromateus alepidotus* (L.) Jord. & Gilb. Puppy-Fish. *S. gardenii* of Günther.  
 Coloration uniform. Height of body  $1\frac{1}{2}$  in total length. Jordan refers this to *S. parvi*, Linn. in Proc. U. S. N. Mus. 1886.

Family *ELACATIDÆ*.

Formerly referred to *Scombridae*, but separated by Gill as a distinct family.

LXXIX. genus *ELACATE*, C. & V.

171. *Elacate canada* (L.) Gill. Shark-Waiting-Boy. *E. nigra* of Günther.  
*E. falcipinnis* of Gosse. Back and upper half of sides brownish or bluish-black, with a light longitudinal band.

Family *TRACHINIDÆ*.

Carnivorous marine fishes, with elongate bodies, living at the bottom, near the shore.

LXXX. genus *OPISTHOGNATHUS*, Cuvier & Val.

172. *Opisthognathus cuvieri*, C. & V. (non Cuv., Règne Anim.). Has a black ovate spot between the 4th and 8th dorsal spines.

Jordan puts this genus in a family *Opisthognathidae*.

Family *MALACANTHIDÆ*.

Marine fishes, with elongate bodies covered with very small scales, and with very long dorsal and anal fins.

LXXXI. genus *MALACANTHUS*, Cuvier.

173. *Malacanthus plumieri* (Bl.) C. & V. Sunshine. Scales minutely ciliated.

Operculum with a spine. Lobes of caudal fin elongate.

Family *PEDICULATI*.

Marine carnivorous fishes, with very large heads and without scales.

LXXXII. genus *ANTENNARIUS*, Commers.

174. *Antennarius tigris* (Poey) Günth. Sea Toad.  
 175. *A. multiocellatus* (C. & V.) Günth. *Chironectes multiocellatus* of Hill's list.  
 Red, with several small ocelli on body, and violet dots chiefly conspicuous on the membranes of the vertical fins. Cutaneous fringes none.  
 176. *A. ocellatus* (Bl. & Schn.) Günth. *Chironectes ocellatus* of Hill's list.

Whitish, with a black ocellus on the middle of the base of the dorsal, and another on the body, opposite the vent. This species was founded on a figure by Parra, and when Günther wrote in 1861, was otherwise unknown to ichthyologists.

177. *A. histrio* (L.) Günth. *Chironectes scaber* of Hill's list. Lophius of Browne.

Skin very rough, covered with small spines. Ground-colour yellowish or reddish, with numerous brown spots. Sometimes uniform brown. Jordan calls this species *A. scaber*, Cuv.

LXXXIII. genus *MALTHE* (Cuv.) Günth.

178. *Malthe vespertilio* (L.) C. & V. *Guaperva* of Browne.

Forehead produced into a subconical process.

There are two forms:—

- (1.) *vespertilio*, type. Snout 1/9th or 1/10th of total length.  
 (2.) var. *nasuta* (C. & V.) *Malthea nasuta* of Hill's list. Snout 1/13th of total length.

Family *TRIGLIDÆ*.

Carnivorous, mostly Marine fishes, with oblong compressed or subcylindrical bodies, and wide cleft mouths. They live at the bottom of the water. Included in *Cottidae* by Günther in his later work.

LXXXIV. genus *PRIONOTUS* (Lacép.) Cuv.

179. *Prionotus punctatus* (Bl.) C. & V. Cooke. Dorsal and caudal fins spotted with brown, first dorsal with a black blotch; pectoral with brownish-black spots, and margined with blue.

Family *DACTYLOPTERIDÆ*.

*Dactylopterus* is in the "Cat. Fish. Brit. Mus." Vol. II, placed in *Triglidae*, but in the "Introduction to the Study of Fishes" it appears under *Cataphracti*. Finally, in 1885, it is referred by Gill to a separate family, as above. It has the pectoral very long, adapted for flying, with the lower portion detached and shorter.

LXXXV. genus *DACTYLOPTERUS*, Lacép.

180. *Dactylopterus volitans* (L.) Günth. Cooke. Flying Gurnard.  
 Pectorals spotted with light blue; each ray of the second dorsal with 4 or 5 brown spots.

Family *GOBIIDÆ*.

Carnivorous fishes, with elongate low, naked, or scaly bodies, living at the bottom of the shallow seas or freshwaters of temperate or tropical regions. Individuals of the same species often differ in inhabiting exclusively fresh or salt water.

LXXXVI. genus *GOBIUS*, Artedi.

181. *Gobius cyprinoides*, Pall. Yellowish-brown, first dorsal black, the other greyish. Caudal with numerous brown dots. This species is the type of Gill's genus *Lophogobius*.  
 182. *G. saporator*, C. & V. Dark brownish-olive, marbled with darker, and with lighter dots along the series of scales. Ventrals blackish. A very widely distributed species, also found in the Mediterranean.  
 183. *G. barana*, C. & V. Ventrals and anal white. Brownish-olive, spotted with dark brown, &c. Enters freshwater. Jordan and Eigenmann place this as a synonym of *Chonophorus taiasia* (Licht.) Jord.  
 184. *G. lanceolatus*, Bl.\* Brownish-grey, caudal fin elongated, pointed. No tentacle above the orbit. A freshwater fish. *G. bacalensis*, C. & V., is a synonym.  
 185. *G. smaragdus*, C. & V. Apparently allied to *lanceolatus*, but given by Günther as an insufficiently-known species.

\* Jordan and Eigenmann regard this as a synonym of *G. oceanicus* Pallas

## LXXXVII. genus ELEOTRIS, Gronov.

A genus of freshwater fishes.

186. *Eleotris dormitatrix* (Bl. & Schn.) Cuv. *Philypnus dormitator* of Hill's list.  
Body brownish, marbled with darker: head with two brown stripes. Fins rose-coloured, with series of brown spots.
187. *E. smaragdus*, C. & V. Brown, dorsal fins brown-spotted. Scales very small. Caudal pointed.
188. *E. gyrinus*, C. & V. Palate entirely smooth. Brown, verticals with brown dots; temple with two darker stripes. Jordan and Eigenmann place this as a synonym of *E. pisonis* (Gmel.) J. & E.
189. *E. guavina*, C. & V. Blackish-brown, fins black.  
Jordan and Eigenmann refer this to a distinct genus, *Guavina* Bleeker, the name of the species becoming *Guavina guavina* (C. & V.) J. & E.

## Family BLENNIIDÆ.

Carnivorous fishes, with long subcylindrical naked bodies, living at the bottom of shallow water in seas, or tidal rivers.

## LXXXVIII. genus SALARIAS, Cuvier.

190. *Salarias atlanticus*, C. & V. No crest on head. Uniform brown, or with dark vertical bands; dorsal and parts of caudal margined with whitish. Sometimes a black spot behind the eye.

## LXXXIX. genus CLINUS, Cuvier.

191. *Clinus nuchipinnis*, Quoy & Gaim. *C. capillatus* and *C. pectinifer* of Hill's list. Brown or brownish, with more or less distinct darker vertical bands; generally a black (sometimes white-edged) spot on operculum. Viviparous.

## Family SPHYRÆNIDÆ.

Elongate, subcylindrical marine fishes, covered with small cycloid scales.

## XC. genus SPHYRÆNA, Artedi.

192. *Sphyræna picuda*, Bl. & Schn. Barracouta or Barracuda. *S. barracuda* and *S. picuda* of Hill's list. Above uniform greenish lead-colour, beneath silvery, sometimes with dark blotches on the sides.
193. *S. sphyræna* (L.) Bl. snit. *S. guaguanche* of Bean and Dresel. *S. vulgaris* of Günther.

## Family ATHERINIDÆ.

Carnivorous marine fishes, many entering fresh-water; with more or less elongate, subcylindrical bodies, covered with scales of moderate size.

## XCI. genus ATHERINA, Artedi.

194. *Atherina stipes*, Müll. & Trosch. Has two series of small black dots along the side of the tail.
195. *A. martinica*, C. & V. Scales with the margin crenulated.

## Family MUGILIDÆ.

Freshwater and marine fishes, with oblong compressed bodies, cycloid scales, and small mouths, often without teeth.

## XCII. genus MUGIL, Artedi

196. *Mugil curema*, C. & V. Mullet. *M. brasiliensis* of Günther. Anal fin with 9 soft rays. Shining stripes along the series of scales, often a blackish spot superiorly at the base of the pectoral. The soft dorsal and the caudal with blackish margins. *Mugil petrosus* of Hill's list is perhaps not specifically distinct.
197. *M. lineatus*, Mitch, Cuv. & Val. Has dark stripes along the series of scales.
198. *M. tiza*, C. & V. Anal fin with 8 soft rays. Eye hidden behind an adipose membrane. Jordan places this as a synonym of *M. brasiliensis*, Agass. (non Günth.)
199. *M. albula*, L. Given by Günther on an insufficiently-known species.
200. *M. plumieri*, Bl. A doubtful species allied to *M. cephalus*.
201. *M. equinoculus*.
202. *M. capitulinus*.
- The last six are given solely on Hill's authority. It is evident that our mullets need further study.
- XCIII. genus AGONOSTOMA, (Benn.) Günth.  
A genus of freshwater fishes.
203. *Agonostoma monticola*, (Bancr.) Günth. *Mugil irretitus* of Gosse. *Dajaus monticola* of Hill's list. Interorbital space convex.

204. *A. choirorynchus*, (Hill.) *Dajaus choirorynchus* of Hill's list. "Double the size of the *monticola*, and found in the same waters." May this be the same as *A. percoïdes*, Günth., which is quoted with a query from Jamaica? (Cat. Fish. Br. Mus. vol. iii. p. 465.) *A. percoïdes* has the interorbital space flat.

## Family FISTULARIIDÆ.

Marine fishes, very elongate, with long tubular mouth and small teeth. Scales none, or small.

## XCIV. genus FISTULARIA, Linn.

205. *Fistularia tabaccaria*, L. Scaleless. Greenish olive, with blue spots and stripes along the upper parts of head and body.

## XCV. genus AULOSTOMA, Lacép.

206. *Aulostoma coloratum*, Müll. & Trosch. With small scales. Anterior rays of soft dorsal and anal fins with a black cross-band, parallel to, and somewhat remote from, the base of the fins. Ventrals immaculate. Jordan regards this as a synonym of *A. maculatum*, Val.

## Order ACANTHOPTERYGII PHARYNGOGNATHI.

## Family POMACENTRIDÆ.

Marine fishes, with short compressed bodies covered with toothed scales, and with feeble dentition.

## XCVI. genus POMACENTRUS, (Lacép.) C. &amp; V.

207. *Pomacentrus leucostictus*, Müll. & Trosch. Height of body more than one-third of total length. Forehead without longitudinal lines. Nearly uniform brown; or brownish-black above, yellowish-green on sides and belly, and yellow on the posterior part of the tail and the caudal fin. Bluish-white dots on head, back, etc.

208. *P. planifrons*, C. & V. Brown, a black spot superiorly in the axil of the pectoral, and a blackish spot on the back of the tail. Interorbital space flat.

## XCVII. genus GLYPHIDODON, (Lacép.) Günth.

209. *Glyphidodon chrysurus*, C. & V. Teeth in upper jaw movable. Brown; dorsal, anal, and ventral fins black, caudal yellow. Blue dots round the eyes and on back.

210. *G. saxatilis*, (L.) C. & V. Teeth fixed. Body with five black cross bands.

## XCVIII. genus HELIASTES, (C. &amp; V.) Günth.

211. *Heliastes insolatus*, C. & V. Brownish, with metallic reflections; the scales on upper side of head and anterior part of back each with a blue dot. The young have blue lines on the forehead, and a black spot behind the dorsal fin. In 1868 Hill records a species *H. insolens*—doubtless intended for *insolatus*.

## Family LABRIDÆ. (Wrasses.)

Herbivorous or carnivorous marine fishes' with oblong or elongate bodies covered with cycloid scales. Teeth adapted for crushing the shells of Mollusca. One dorsal fin. Ventral fins thoracic, with one spine and five soft rays. Lips often thick. Gosse (Nat. Soj. Ja. p. 65) recorded a species of *Labrus*, but no doubt it belonged to one of the genera mentioned below.

## XCIX. genus LACHNOLEMUS, C &amp; V.

212. *Lachnolemus suillus*, C. & V. Boar-fish. Hog-fish, Pig-fish. *L. falcatus* of Günther. *L. suillus*, *L. aioula*, *L. dux*, *L. caninus*, and *L. psittacus* of Hill's list. Anterior dorsal spines and caudal lobes produced into more or less long filaments. Generally a black spot at the base of the posterior dorsal rays.

## C. genus COSSYPHUS, C. &amp; V.

213. *Cossyphus rufus*, (L.) Günth. *C. bodianus* of Hill's list. Yellowish, the upper parts backwards to the origin of the soft dorsal fin reddish-brown; sometimes more uniform.

## CI. genus NOVACULA, C. &amp; V.

214. *Novacula lineata* ("Gm.", C. & V.) Günth. Rose-coloured, a large oblong pearly blotch on side of belly, &c. *Xyrichthys lineatus* of Hill's list.

215. *N. martinicensis*, (C. & V.) Günth. Rose-coloured, each scale with a vertical streak. Head immaculate, *Xyrichthys martinicensis* of Hill's list.

CII. genus *PLATYGLOSSUS*, Klein.

This includes several species which appear under *Julis* in Hill's list. As now restricted, *PlatyGLOSSUS* has a posterior canine tooth, and nine dorsal spines, while *Julis* has no posterior canine, and ten dorsal spines.

- 216. *PlatyGLOSSUS bivittatus*, (Bl.) Günth. Rainbow. Base of dorsal fin violet, two or three narrow lines along its upper half. Base of pectorals whitish, without black spot. A brown band runs from snout through eye, &c. *Julis psittaculus* of Hill's list is a synonymy.
- 217. *P. cyanostigma*, (C. & V.) Günth. Reddish-olive, each scale on the tail and along the lateral line with a blue spot. Two indistinct light bands along the body. Back with 3 blackish blotches. Dorsal fin with blue spots, &c.
- 218. *P. ruptus*, (Poey.) Günth. Upper parts greenish, the soft dorsal with oblique brown streaks. Caudal with 5 blue bands, &c.
- 219. *P. patatus*, (C. & V.) Günth. A doubtful species, which seems to have been confused with *cyanostigma* and *ruptus*.
- 220. *P. crotaphus*, (C. & V.) Günth. Green, head and caudal with red streaks. Dorsal red; anal with a band along the middle.
- 221. *P. dimidiatus*, (Agass.) *Julis dimidiatus* of Hill's list. Perhaps the same species as *P. internasalis* (Poey.) Günth., but the streak on the temple seems to be wanting.
- 222. *P. garnoti*, (C. & V.) Günth. Bluish or greenish; back red. Spinous dorsal bluish black, the soft lighter, with red spots along base. Anal with a series of blue dots near base, caudal with ten cross-bands.
- 223. *P. principis*, (C. & V.) Günth. Caudal truncate. Body without apparent markings; head with blue bands, dorsal and anal fins blue edged, the latter with two violet bands.
- 224. *P. opalinus*, (C. & V.) Günth. Caudal truncate. Bluish iridescent, head with blue lines; dorsal blue, anal with two violet streaks; caudal striped with violet.

CIII. genus *JULIS*, C. & V.

- 225. *Julis bifasciata*, (Bloch.) Günth. Head bluish; body green; trunk behind the head black, with a broad whitish cross-band. The spinous dorsal nearly all black, the soft light violet, the margin of the entire fin white.
- 226. *J. nitida*, Günther. Dorsal brownish, margin white; anal white. A violet band runs through the eye.
- 227. *J. detersor*, C. & V. Head, thorax, anterior portion of dorsal, extremity of pectoral and caudal lobes blackish-violet; the remainder greenish.

CIV. genus *CLEPTICUS*, C. & V.

- 228. *Clepticus genizarra*, C. & V. The 4th and 5th rays of the dorsal, and the 7th and 8th of the anal produced. Caudal forked.

CV. genus *SCARUS*, Forsk.

Fishes formerly referred to *Scarus* are now in part referred to *PseudoscARUS* and *Sparisoma*. *Callyodon* is also closely allied.

*Scarus* proper has the lower jaw projecting beyond the upper, and only a single series of scales on the cheek.

- 229. *Scarus frondosus*, "C. & V." Günth. Olive, with three indistinct light longitudinal bands. Fins punctulated with white, except spinous dorsal, which is marbled with brownish.
- 230. *S. rubripinnis*, C. & V. Violet-olive; fins, except the spinous dorsal, orange. Caudal truncated. Perhaps only the adult state of *S. frondosus*.
- 231. *S. aracanga*, Günth. Uniform dark purplish-violet. 10 inches long.
- 232. *S. chrysopterus*, Bl., Schn. Blue, fins yellowish, caudal with a green band. A black spot in axil of pectoral.
- 233. *S. aurofrenatus*, C. & V. A yellow band from upper lip to lower orbital margin, &c. Anal with a violet margin. Caudal with a broad whitish posterior margin, and with black corners.

CVI. genus *SPARISOMA*.

- 234. *Sparisoma catesbyi* (LaC.) Bean. Parrot-Fish. Green, a large white blotch at root of caudal; gill-membrane red; caudal with a narrow red crescent, &c.

- 235. *S. radians* (C. & V.) Bean. Grassy Ground Parrot. Reddish-olive, lower parts of anal fin rose-colour, anal with 4 oblique dark spots, &c.

CVII. genus *PSEUDOSCARUS*, Bleeker.

The upper jaw projecting beyond the lower; two or more series of scales on the cheek.

- 236. *PseudoscARUS gnacamaia*, (C. & V.) Günth. Parrot-Fish. Brownish, with jaws and naked parts of head green. Fins dark, margins of dorsal, anal, and ventral green.
- 237. *P. psittacus* (L.) Günth. *Scarus vetula* of Hill's list. Green, upper part of head and nape reddish. A broad yellow band from above pectoral nearly to middle of tail. Caudal green, with the upper and lower margins yellow.
- 238. *P. croicensis* (Bl.) *P. sanctoecroensis* of Günther. Silvery, with three red longitudinal bands. *Scarus alternans* of Hill's list is a synonym.
- 239. *P. chloris* (Bl. & Schn.) Günth. There are two forms of this fish:—  
(1.) *chloris*, type. Nearly uniform green.  
(2.) var. *quadriscopinosus* (C. & V.) Uniform brownish. *Scarus quadriscopinosus* of Hill's list.
- 240. *P. virens* (C. & V.) Perhaps only a synonym of *P. chloris*.
- 241. *P. cœruleus* (Bl.) Günth. Uniform blue, jaws whitish. Perhaps only the old state of *P. chloris*.
- 242. *P. aracanga*, Günther. Uniform violet-purple. Jaws rosy. Has the same coloration as *Scarus aracanga* "with which it may be easily confounded."
- 243. *P. tenuipterus* (Desm.) Günth. Olive, a yellow band laterally; two green streaks on each side of snout; upper and lower margins of caudal green, &c., *Scarus diadema* of Hill's list is perhaps not specifically distinct from this.
- 244. *P. flavomarginatus* (C. & V.) Günth.
- 245. *P. turchesius* (C. & V.) Günth.
- 246. *P. celestinus* (C. & V.) Günth.
- 247. *P. punctulatus* (C. & V.) Günth.

The last four are solely on Hill's authority as Jamaican. Günther, Cat. Fish. Br. Mus., vol. iv, p. xv. places them in *PseudoscARUS*, but treats them as doubtful or insufficiently known.

CVIII. genus *CALLYODON*, (Gronov.) C. & V.

Resembles *Scarus*, but the dorsal spines are flexible, and the upper lip is double posteriorly only.

- 248. *Callyodon auro-punctatus*, C. & V. Greenish, verticals with small rosy spots; a reddish streak from angle of mouth to eye, another on cheek, and a third on temple.
- 249. *C. ustus*, C. & V. Brownish, marbled with darker.

Order ANACANTHINI.

Vertical and ventral fins without spinous rays.

Family OPHIDIIDÆ.

Vertical fins generally united; no separate anterior dorsal or anal; ventrals rudimentary or absent.

CIX. genus *BROTULA*, Cuvier.

- 250. *Brotula barbata* (Schn.) Cuv. Browed Nose or Deepwater Cod. Snout with barbels. Fins enveloped in thick skin.

It is worth noticing, that in the subterranean caves of Cuba there is a most remarkable blind genus of this family, *Lucifuga*. Is it not possible that a careful search might reveal a similar form in the caves of Jamaica?

Family PLEURONECTIDÆ (Flat-Fishes).

CX. genus *RHOMBUS*.

Eyes on the left side; scales none or small.

- 251. *Rhombus xanthurus*.
- 252. *R. marmoratus*. These two fishes are given in Hill's list: very probably they belong to some other genus.

CXI. genus *RHOMBOIDICHTHYS*, Bleeker.

Eyes on the left side; scales ciliated.

- 253. *Rhomboidichthys lunatus* (L.) Günth. *Rhombus argus* of Gosse and Hill.

Brown, with large, rounded, light spots, surrounded by a blue ring. Two blackish blotches on the lateral line. Fins and head with small blue spots.

CXII. genus *CITHARICHTHYS*, Bleeker

Eyes on the left side.

254. *Citharichthys spilopterus*, Günther. Greyish-olive, with a series of distant blackish spots along the basal portions of the anal and dorsal fins. Seven inches long.

CXIII. genus HEMIRHOMBUS, Bleeker.

Eyes on the left side.

255. *Hemirhombus aramaca* (Cuv.) Günth. Brown, marbled with darker, and with numerous round light spots.

CXIV. genus BÆOSTOMA.

256. *Bæostoma reticulatum* (Poey) Bean. Flounder. *Solea reticulata* of Günther.

CXV. genus SOLEA, Cuvier.

Eyes on the right side.

257. *Solea inscripta* (Gosse) Günth. *Monochirus inscriptus* of Gosse. Yellowish olive, head, body, &c. covered with a network of black lines. Caudal yellowish, with a few brownish dots.

258. *S. maculipinnis* (Agass.) Günth. Brownish, verticals with brown spots, body with rather scattered spots, and about 8 vertical black lines. The young have some whitish spots.

259. *S. brownii*, Günther. Brownish, with about 8 black vertical lines and scattered brown spots. Pectorals none. Dr. Günther does not give this as Jamaican, but it is the *Passer* of Sloane, ii, p. 277; and the *Pleuronectes* of Browne, p. 448, No. I.

CXVI. genus APHORISTA, Kaup.

Eyes on the left side.

260. *Aphorista ornata* (Lacép.) Kaup. Pectorals none. Brownish, uniform or with irregular dark cross-bands.

#### Order PHYSOSTOMI.

Fin-rays articulated.

##### Family SCOPELIDÆ.

Marine fishes, somewhat resembling freshwater Siluridæ. Barbels none. Air-bladder none.

CXVII. genus SYNODUS, Gronov.

Dr. Günther refers these species to *Saurus*, Cuv., but *Synodus* seems to have priority.

261. *Synodus fetens* (L.) Gill. Mucco Robin. Dorsal fin higher than long.

262. *S. intermedius* (Spix). Dorsal and caudal fins with brownish transverse bands. A black blotch on the scapular part of the gill-opening.

263. *S. myops* (Forst., Bl. Schn.). Scapula black; tail compressed. Dorsal fin as high as long.

##### Family CYPRINIDÆ.

Freshwater fishes, generally scaly, with no adipose fin, and pharyngeal teeth only, the mouth being toothless.

CXVIII. genus CARASSIUS, Nilsson.

264. *Carassius auratus* (L.) Bleeker. Gold-Fish. Barbels none. Of course an introduced species.

##### Family CYPRINODONTIDÆ.

Freshwater fishes, covered with scales, the sexes frequently differing, mostly viviparous. Barbels none.

CXIX. genus HAPLOCHILUS (McClell) Günth.

265. *Haplochilus melanopleurus* (Gosse) Günth. *Pecilia melapleura* of Gosse.

Sides of abdomen silvery, the portion above the silvery being black.

CXX. genus PECILIA, Bl., Schn.

266. *Pecilia vivipara*, Bl. Schn. *P. surinamensis* of Hill's list. Greenish, each scale with the margin brownish, dorsal fin with a blackish spot in the middle. Caudal with a black spot. Apparently an imported species.

267. *P. dominicensis*, C. & V. 2½ inches long; caudal two with light brownish cross-bands.

268. *P. melanogaster*, Günther. 2 to 2½ inches long. Belly silvery in anterior half, and deep black posteriorly, the two colours sharply separated from each other. Only doubtfully Jamaican.

##### Family SCOMBRESOCIDÆ.

Marine or freshwater fishes, with scaly bodies and a series of keeled scales along each side of the belly. Air-bladder generally present.

CXXI. genus EXOCÆTUS. (Flying-fish.)

269. *Exocætus hillianus*, Gosse. Pectoral uniform blackish; ventral fins blackish; the upper anterior half of dorsal black. Recorded from Bluefield's Bay by Gosse, Nat. Soj. Ja. p. 12. Hill quotes the genus but does not state the species.

CXXII. genus HEMIRHAMPHUS, Cuvier.

270. *Hemirhamphus balao*, Le Sueur. Piper. *H. brasiliensis* of Hill's list. Sides without silvery band.

271. *H. unifasciatus*, Ranzani. Back dark greenish, sides with a well defined silvery band as broad as a scale.

272. *H. pleii*, C. & V. Back dark greenish, sides without well-defined silvery band.

273. *H. apicalis*. Given in Hill's list.

CXXIII. genus TYLOSURUS.

This would apparently be included under *Belone* as understood by Günther. In Bean and Dresel's list three species are placed in *Tylosurus*, as below. The rest I leave in *Belone* as they appear in the records.

274. *Tylosurus notatus* (Poey) Jord. & Gilb. Long-Jaw. *Belone notata* of Günther. Caudal fin slightly emarginate. Scales of moderate size.

275. *T. gladius*, Bean. Guard-Fish.

276. *T. eurypops*, Bean & Dresel. Long-Jaw. Eye large, otherwise very similar to *T. depressus* (for which see under *Belone*).

CXXIV. genus BELONE, Cuvier.

277. *Belone depressa*, "Poey," Günth. Green above, silvery below: caudal fin forked.

278. *B. truncata*, Les. Scales very thin and small: the superciliary region generally faintly striated.

279. *B. gerania* Cuv. & Val. Beak very thick and short. Eye large.

280. *B. caribbæa*, Les., Günth. Scales minute: caudal fin forked. posterior anal rays not produced.

281. *B. hiaris*, C. & V. No teeth on the palate: scales small, adherent: caudal fin deeply forked.

282. *B. crocodilus* (Les.) Given by Hill, but according to Günther, it is a synonym of *B. choram* (Fork.) Günth., an East African species.

283. *B. argalus*, C. & V.

284. *B. ciconella*, C. & V. This and the last are given by Günther as doubtful or insufficiently known species.

##### Family ESOCIDÆ. (Pikes.)

CXXV. genus ESOX (Artedi) Cuvier.

285. *Esox niger*, Lesueur. Given in Hill's list as *E. americanus*; it must have been introduced. Has a very distinct black suborbital band.

##### Family CLUPEIDÆ. (Herrings.)

Marine scaly fishes, without barbels, and with the abdomen often compressed and serrated.

CXXVI. genus ENGRAULIS Cuvier.

286. *Engraulis brownii* (L.) Günth. Menidia of Browne. Has a well-defined intensely silvery band along the side. *E. tricolor*, Ag., is a synonym.

CXXVII. genus STOLEPHORUS.

This and the next genus are hardly to be separated from *Engraulis*.

287. *Stolephorus productus*, (Poey) Bean & Dresel. Grubber Broad-Head. *Engraulis productus* of Günther. Teeth in upper jaw only, and minute: coloration uniform.

CXXVIII. genus CETENGRAULIS, Günther.

288. *Cetengraulis edentulus* (Cuv.) Günth. Trapong Fry. Sprat of Sloane. Teeth none: coloration uniform.

CXXIX. genus CHATOËSSUS, Cuvier.

289. *Chatoessus trapong*. Mentioned in Hill's list: may it be *Cetengraulis*? "Trapong" is perhaps not intended as part of a scientific name. Compare the original list with the reprint of 1881.

CXXX. genus OPISTHONEMA.

290. *Opisthonema oglina* (LeSueur) Goode & Bean. Sprat. *Clupea thrissa* of Günther. No teeth in the palate. An indistinct bluish spot on the shoulder. Each scale on the back with a dark spot, the spots forming longitudinal series. The *Chatoessus eumorphus* of Gosse is perhaps a synonym.



CXXXI. genus CLUPEA, Artedi.

291. *Clupea humeralis* (C. & V.) Günther. *C. clupeiola* (C & V.) White Bill. Pincers. *Harengula clupeiola* of Gosse and Hill's list. Teeth forming ovate patches. Silvery, back with some darker greenish longitudinal streaks, a dark spot superiorly in the gill-opening. Apparently *clupeiola* is the prior name, having been proposed on an earlier page of the work in which it and *humeralis* appeared.
292. *C. pseudohispanica* (Poey) Günth. Bang.
293. *C. macrophthalma*, Ranzani. Teeth distinct, forming ovate patches. Silvery, back with some dark longitudinal streaks.
294. *C. apicalis* (Müll. & Trosch.) Günth. *Alosa apicalis* of Hill's list. Scales silvery, each scale on belly marked with a copper-coloured spot. Point of snout above and beneath black: a black spot over each eye. Point of dorsal fin black, and also the posterior edge of the forked caudal.
295. *C. bishopi* (Müll. & Trosch.) Günth. *Alosa bishopi* of Hill's list. Has a black spot behind the operculum, which is wanting in *C. apicalis*, and the dorsal fin is without the black mark. It has indistinct longitudinal lines.

CXXVII. genus SPRATELLOIDES, Blkr.

296. *Spratelloides lamprotenia* (Gosse) Günth. *Clupea lamprotenia* of Gosse. Belongs perhaps to a different genus. Sides with a well-defined silvery band. Some minute teeth in the jaws. Length 2½ inches.

CXXXIII. genus ALBULA, Gronov.

297. *Albula conorhynchus*, Bl., Schn. *Amia* of Brown. Uniform silvery.

CXXXIV. genus ELOPS, L.

298. *Elops saurus*, L. John Mariggle. Bony-Fish. Upper jaw shorter than lower. Uniform silvery. There is a figure of this fish in Dr Günther's "Introd. Stud. Fish." p. 661.

CXXXV. genus MEGALOPS (Commers.) Lacép.

Scales large. Pseudobranchiæ none.

299. *Megalops thrissoides* (Bl., Schn.) Günth. Ventral fin conspicuously in advance of the origin of the dorsal. Enters fresh waters.

CXXXVI. genus CHIROCENTRODON, Günther.

300. *Chirocentrodon tæniatus*, Günther. Length 3½ inches. A pair of strong canine teeth anteriorly in lower jaw. A narrow silvery band along the side of the body.

Family MURÆNIDÆ. (Eels.)

Marine or freshwater fishes, with cylindrical or band-like bodies and no ventral fins.

CXXXVII. genus ANGUILLA (Thunb.) Cuv.

301. An unidentified species is recorded by Hill.

CXXXVIII. genus CONGER, Cuvier

302. *Conger conger* (L.) Günth. Deep-water eel. *Conger niger* of Bean and Dresel.

CXXXIX. genus OPHICHTRYS, Ahl.

303. An unidentified species is recorded by Hill under *Ophisurus*.

CXL. genus SIDERA, Kaup.

Dr. Günther leaves this as part of *Muræna*.

304. *Sidera moringa* (Cuv.) Jor. Murray Eel. *Gymnothorax rostratus* of Hill. Brownish-black with the white (which is really the ground-colour) appearing as a fine network.

305. *S. funebris* (Ranz) Jor. Conger Eel, (so called, but the true Conger Eel is *Conger conger*.) *Muræna afra* of Günther. Dorsal fin not elevated. Brownish-black; fins without light edge.

CXLI. genus MURÆNA, Artedi.

306. *Muræna ocellata* (Agass.) Jenyns. Brownish grey. with white spots.

307. Hill records a *Gymnothorax immaculatus*, which must be a *Muræna* or *Sidera*. May it be *S. funebris*?

CXLII. genus MURÆNESOX, McClell.

Tail longer or not much shorter than the trunk. End of tail surrounded by fin. Nostrils superior or lateral. Tongue not free. Pectorals present. Jaws with canine teeth in front. No scales.

308. *Murænesox savanna* (Cuv.) Kaup. Snout not much elongate.

Order, LOPHOBRANCHII.

Family. SYNGNATHIDÆ.

Small marine fishes, with a very small gill opening, and one soft dorsal fin.

CXLIII. genus SYNGNATHUS, Artedi.

Tail not prehensile; caudal fin present.

309. 310. 311. Hill records three unidentified species. The compiler of this list has seen a large species caught at Kingston.

CXLIV. genus HIPPOCAMPUS, Leach, (Sea-Horse.)

312. *Hippocampus guttulatus*, Cuv. Dr. Günther records Jamaican specimens of the nearly uniform dark brown variety: and there are specimens of this species in the Museum of the Institute which were caught at Kingston. Hill recorded *Hippocampus longirostris*, but probably intended the present species. Dr. Günther gives *H. longirostris*, Cuv. as doubtfully identical with *H. longirostris*, Schleg., a species of China and Japan.

Order PLECTOGNATHI.

Fishes covered with rough scales or shields, having a narrow mouth, and soft posterior dorsal fin. Ventral fin none, or reduced to spines.

Family SCLERODERMI.

Jaws toothed.

CXLV. genus, BALISTES, Artedi. (File Fishes.)

313. *Balistes vetula*, L. Old Wench. Old Wife. Tail without spines or tubercles. Caudal fin with an upper and lower bluish margin, and with an intramarginal posterior bluish band.

314. *B. maculatus*, Gm. Brown, with round or ovate whitish spots.

315. *B. ringens*, L. Each scale with a blackish spot at the base: tail without spines or tubercles.

316. *B. buniva*, Lacép. Tail with raised spiny lines. Black: a white line along the base of the dorsal and anal fins.

CXLVI. genus, MONACANTHUS, Cuvier

Only one dorsal spine present.

317. *Monacanthus pardalis*, Rüpp. Bessy Corca. Two varieties occur:—

(1.) Uniform brown or brownish-black.

(2.) Several more or less distinct light longitudinal bands along the tail. Head with undulated bluish streaks. Body sometimes with scattered light round spots, each with a dark speck in the centre.

318. *M. hispidus*, L. Turbot (so-called). *M. setifer* of Günther. The variety recorded by Dr. Günther is brown, with obscure blackish spots or streaks: dorsal spine strong, more than half the length of head.

319. *M. occidentalis*, Günther. This has not been recorded from Jamaica as such, but I suppose the *M. tomentosus* of Hill's list to be identical with it. *M. occidentalis* has the ventral spine movable tapering, rough, very small, brownish, marbled with darker.

CXLVII. genus, ALUTERA.

Dr. Günther does not separate this from *Monacanthus*.

320. *Alutera scripta* (Osbeck) Bleeker. Mingo. Dorsal spine very feeble. Head and body with irregular blue spots and lines, and small round black spots.

CXLVIII. genus, OSTRACION, Artedi. (Coffer Fishes.)

321. *Ostracion triquetrum*, L. Trunk Fish. *O. triquetrum* of Hill's list. Body and tail covered with small white spots nearly as large as the pupil of the eye. Lips, roots of the fins, root of the tail, and margin of the caudal black. Abdomen whitish, immaculate.

322. *O. bicaudale*, L. Trunk Fish. Carapace, tail, and caudal fin with numerous small, round, brown spots. *O. bicantilis* of Hill's list is no doubt the same.

323. *O. quadricorne*, L. Cockle Fish. Each scute of carapace with a bluish spot or ring, or with a light, brown-edged ocellus. Caudal fin long.

324. *O. trigonus*, L. Carapace and tail with some scattered small whitish spots.

325. *O. cornutus*. Recorded by Hill, but it appears to be wrongly identified.

*O. cornutus*, L., is a species of the Indian Ocean, in which the carapace and tail have round bluish and blackish spots, and the interorbital space is deeply concave.

Family GYMNODONTES.

Jaws modified into a beak.

CXLIX. genus TETRODON, (L.) Günth.

326. *Tetrodon testudineus*, L. Porpoise (so-called). *T. ammocryptus* of Gosse. Brownish-black above, with whitish lines: sides yellowish with brown spots: abdomen and fins immaculate.

327. *T. psittacus*, Bl. Schn. Brownish, with six dark brown bands across the back. Very doubtfully Jamaican.

cf. genus DIODON, L.

328. *Diodon liturosus*, Shaw. Sour-sop Fish. Our form has the spines long: and two bands, and three spots, which generally have a light edge, also scattered round small black spots. It is the *D. maculatus* of Günther.

329. *D. hystrix*, L. *D. atinga* of Hill's list. All the upper and lateral parts of the fins with numerous small round black or brown spots.

CLI. genus CHILOMYCTERUS, Bibron.

330. *Chilomycterus antennatus*, (Cuv.) Kaup. Upper and lateral parts with numerous black dots, some with a bluish pupil. Abdomen brown: fins unspotted. The *Diodon orbicularis* of Hill's list is probably this. It can hardly be *D. orbicularis*, Bl., as that is equivalent to *Chilomycterus orbicularis*, (Bl.) Günth., a species of the Indian Ocean and Archipelago.

CLII. genus ORTHAGORISCUS, (Bl., Schn.) Nardo. (Sun-Fishes.)

331. An unidentified species of this genus is recorded by Hill.

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