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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1892.
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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 Jamaican 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 cooperation 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.

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 Notoptrum 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 misapplied 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 Ouvier 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 Barrows, a fisherman of Kingston. Mr. Barrows 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.

* 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, PALÆEICHTHYES.

Order, CHONDROPTERYGII. (Sharks and Rays).
Family, CARCHARHIDÆ.

Sharks with two dorsal fins and a nictitating membrane.
1. genus, CARCHARHUS, Cuvier.

For figure of teeth, see Stud. Fish, XIX. Teeth triangular.
2. Carcharias tenuro-nose (Richards) Gill. Ground shark. Tiger shark. White shark. Caudal fin with a narrow blackish edge. The Squalus carcharius quoted by Hill is more likely to be this than Rissó's species.
3. C. prionodon, Mentioned in Hill's list.

Family, LAMNIDÆ.

Sharks with two dorsal fins and no nictitating membrane.
5. genus, ALOGENUS, Cuvier.

6. ALOGENUS vulpes (Gmel.) Bonap. Squalus vulpes of Hill's list.

Family, SCYLLIDÆ.

Sharks with one dorsal fin and no nictitating membrane.
7. genus, SCYLLA, Cuvier.

8. SCYLLA batoidea (L.) Cuv. Larger spotted Dog-fish. Hill gives a Scylla batoidea, which if rightly identified would be this. Günther says "the fishermen of some localities do not disdain to eat them."

Family, RHINOBATIDÆ.

9. genus, RHINOBATUS, Cuvier.

10. genus, RHINOBATIDÆ.

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

Family, RAYIDÆ.

11. genus, RHINOBATIDÆ.

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

Family, TRYGONIDÆ.

12. genus, TRYGONIDÆ.

Rays with the pectoral fins extending to end of snout.

13. genus, UROLOPHUS, Müller & Henle.

14. genus, TRYPONUS, Cuvier. The 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, MYLILOBATIDÆ.

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

15. genus, DICEROBATIDÆ.


17. genus, CERATOPHYSUS, Müller & Henle. Ceratophterus vulgaris (Mitch.) Dun. 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.

18. genus, Labrax, Cuvier.

According to Gill, there is a genus Labrax of prior date, comprising some North Pacific fishes. The American Labrines have been referred by Jordan to Genera and Moreni.

19. genus, Lepisosteus, Müller & Henle.

Lepisosteus longissimus (Br.) Cuv. & Val. L. pluriatom, Hill. "Marked with bands like the Perca fluviatilis of Europe."

20. genus, Morone, C. & V. Has no lines or black bands.


22. genus, Centropomus, C. & V. Centropomus undecimalis, C. & V. Red-brown, darker above, paler beneath, with a whitish spot on each side.


25. genus, Trygonidae, Gill.

26. genus, Echeneidae, Gill.

27. genus, Enneacanthus, Poey.

28. genus, Scirrurus, Cuvier.

This genus of two species formerly included Trisurus, Euphraxis and Eucarceopus. 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 and Valentianian.

29. genus, Scorpaena, Cuvier.

- Given in Hill's list.
29. S. lustrauda (Bl., Schm.) C. & V. Dull white, with 
red luminous spots, fins blackish, ventrals spotted
like the body.
30. S. incinus ——- Given in Hill's list.
31. S. ocellatus, C. & V. Said to be the same as Perca
guttata apl.
32. S. ocellatus, C. & V. Brown, with purplish or gray
spots, pectorals yellowish at base and blackish at
extremity. Probably the same species as No. 40.
33. S. aureus, C. & V. Blackish-brown, with spots; fins
bluish-black, without spot.
34. S. nigra, C. & V. Pectorals and ventrals covered
with brown points.
35. S. orata, C. & V. Grey, marked with vinous brown,
more or less dark. Caudal band, anal and orange-
red, bordered with brown, pectorals orange, ventrals
with red spots.
36. S. ocellatus, C. & V. For a figure of this species,
see C. & V., vol. II
37. S. erosa, C. & V. Red, darker above, more rosy
below; dorsal fin spotted with green.
38. S. hemimosus, C. & V. With two brown longitudinal
bands on each side.

XXII. genus, Epinephelus, Bleck.
39. Epinephelus striatus (Blanch.) Gill. Serreina striates
of C. & V. Rock Cod. Grouper.
40. E. apus (Bl.) Bean & Dresel. Rock Hind.

XXIII. genus, Plectropomus.
41. Plectropomus maculatus. Given in Hill's list.
42. P. chloropus, C. & V. Entirely blackish-brown,
with caudal and pectorals yellow.
43. P. veneta, C. & V. Olive, with six violet-black

XXIV. genus, Heliuricus, C. & V.
44. Heliurus acanthalus, C. & V. Soap fish. For a
figure, see C. & V., vol. III.
45. K. serpaeus (Bl., Schm.) C. & V. Given in Hill's
list, but very possibly his species was E. arenatus.

XXV. genus, Messoperon.
The species of this genus are referred by American
authors to Lutjanus, &c. As in the case of Serreina, I
leave in the old genus these species of which I know
nothing beyond what is given by Cuvier & Valenciennes
and Hill.
46. Messoperon subspinosus, C. & V. Reddish-brown above.

47. M. jenii (Bl., Schm.) C. & V. The general colour is
rose. (see also No. 55.)
49. M. woodi. Given in Hill's list.
50. M. luteus, C. & V. Olive-green with brown, paler beneath,
with 7 or 8 vertical yellow bands.
51. M. serresius, C. & V. Of the same form as M. griseus
with vertical bands.
52. M. cyanopus, C. & V. Brown; or orange-tinted on
black, white-banded, and greenish-yellow at sides.
53. M. profundus, Poey. Recorded by Hill in 1885 as
occurring in deep water.

XXVI. genus, Lutjanus, Bl., Schm.
54. Lutjanus exaus, (Schm.) Poey. Messoperon griseus
of Hill's list. According to Brown, it is "one of the
most delicious of food-fish."
Red Snapper. Munton Snapper. Messoperon unicolor
of Hill's list is probably this. Cuv. & Val. describe M. unicolor as a very beautiful fish; the anal and ventral fins yellow, and the dorsal yellow and red. They also figure it. In 1857 Hill suggested the identity of the Munton
Snapper with the Messoperon quadrilineatus of Poey.
56. L. jenii, Poey. School master Snapper. Black
Snapper. Butt Snapper. Vogt's Snapper. This
fish occurs in the Messoperon pois of C. & V.
58. L. stearni, Goode & Bean. Black Snapper. Mr.
Barrans says the Black Snapper lives between shoals,
and is cunning, and very troublesome to catch.

XXVII. genus, Oeuthrus, Gill.
Messoperon chrysourus of Hill's list. Cuv. & Val.
give a figure of this species.

XXVIII. genus, Tropistoma.
60. Tropistoma dentatus (Günther.) Bean & Dresel. Silk.
Mr Barrans says they live in 120 to 150 fathoms of
water.

XXIX. genus, Anisotremus, Gill.
61. Anisotremus virginians, (L,) Gill. Governor Bream.
The Pristipoma rede of Hill's list is probably identical
with this.

XXX. genus, Pristipoma, Cuv.
62. Pristipoma bilineatum, C. & V. Figured by Cuv. &
Val, vol. v.
63. P. orbiculas, C. & V. Very near serrata, but the
coloration is uniform; probably not a distinct
species.
64. P. crocea, C. & V. Shining silvery and brown.
65. P. orbiculatus (Bl.) C. & V. Silvery, with 8 vertical
bands.

XXXI. genus, Pomadasy, Licep.
66. Pomadasy pyroxyximus, Bean & Dresel. Olive-grey,
with brownish shades. Jordan places this as a
doubtful synonym of P. coltifer (Poey.)

XXXII. genus, Codonos, C. & V.
67. Codonos subtilis (Bl.) Bean & Dresel. Coal Drum
mer.

XXXIII. genus, Canthius. Given in Hill's list.
68. C. antennus. Hill's list.

XXXIV. genus, Helostomus, Cuvier.
69. Helostomus parryi, (Desm.) B. & D. Black Gurn.
70. H. fremundanus, Goode & Bean. Bow Gurn.
71. H. cimator, Jord. & Swan, M.S., Bean & Dresel.
Conditionally the same as Perci striata, L.
72. H. arenatus, C. & V. Yellow Gurn.
73. H. superbus, Poey. Bastard Margaret. H. chromis
of Hill's list is presumably identical with this.
Jordan gives H. arenatus as a synonym of H. parvum.
74. H. elongatus (Schl.) Jord. & Margaret Grant. H.
album of Hill's list. A white species.
75. H. cinnam, C. & V. Silvery, with brown lines &c.
76. H. saupleri, C. & V.
77. H. crococephalus, C. & V. Allied to heterodon.
78. H. heterodon, C. & V. This species is figured in C.
& V., vol. II.

79. H. auriculatus, C. & V. Silvery; fins yellowish
grey.
80. H. elegans, C. & V.
81. H. formosus, (L.) Cuvier.
82. H. psalticophalus, C. & V. Dorsal fin grey-brown,
caudal brown, the other fins whitish.

XXXV. genus, Lobotes, Cuvier.
83. Lobotes zumoletus, C. & V. Grey-brown, shining
silvery. Said to be much esteemed in San Domingo.

XXXVI. genus, Gerris, Cuvier.
Silvery, dorsal fin with a blackish margin. G.
brasiliensis of Hill's list is probably identical
with this.
86. G. marina, C. & V. Uniform silvery, margin
of dorsal blackish.
87. G. guttus, C. & V. Silvery, dorsal fin dotted with
brown.
88. G. spinosus C. & V. Spanish Shad. Silvery, a deep
bluish-grey, with top of dorsal fin; upper part of
back blackish-brown. Jordan refers this to G.
cinereus (Wal.)
89. G. zebrus, Mull. & Trosch. Silver-fish. Shad. A
synonym of G. cinereus, according to Jordan.
90. G. barbatus (Goode & Bean) J. & G. Shad.

XXXVII. genus, Serranid, Gill.
91. Serranid species, Given in Hill's list; probably
belongs to some other genus, as Serran is quoted in
Stud. Fish. only from the Mediterranean.

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

Family, SQUAMIPINXES.

Carnivorous marine fishes, with compressed and elevated
bodies, and scaly vertical fins.
Ghcetockin, Calamus C. spinous HolaeatUhvs Scorpcenaplumierii, moll. synonym dorsal caudal Diplodus S. Butterfly. Eigem body ventral S. Butterfly C. Uriibrii M colour tlie various S.brasilieiisis, varying C Jordan Adult, caudal Faber Has MR. Jordan bodies XLII. XLI. XL. of XL. XXXVIII. and Portuguese. Barrous whitish. of Soft a (3.) (1.) striatns, piuudatus, a martinicus, stones. distance Hill's L, jjarii, genus 4. considered a (3.) (1.) List. pre-ductive (or 4.) consider-ative, with the greater number of anal rays and the narrow bands of teeth on palate. Pectoral and top of first dorsal fin black.

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

xlix genus POLYNEMID.E. Marine or freshwater fishes, with compressed dj and rather elongate bodies, covered with toothed scales. L. Family CORVINA, Cuvier.

118. Ubritis arretis, C.V. All the parts with minute brown dots. Barbel short.
119. U. broussaneti, C.V. Barbel very short. The first dorsal fin blackish; body with nine dark cross-bands.

li genus SCLENA, L.

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

* Jordan refers P. plumieri to P. versipennis.

Family, SPARID.E. (Sea-Breams). Herbivorous or carnivorous marine fishes, with oblong compressed bodies covered with minutely serrated scales, and with one dorsal fin.

xliii genus CALANUS.

xliv genus FAGELLUS.
106. X. The Pagellus calamus and P. pensa recorded by Hill are perhaps not really of this genus.

xlv genus ARCHARCHID.E.

Family SCORP.-ENID.E. (Mail-cheeked Fishes.)

107. Scorpena plumieri, Bloch Lion-fish. S. info of Hill's list. Apistus canal of Gosse. Marbled with brown, greyish, rose-colour, and violet; spinous dorsal with a black blotch; sail black, with large white spots.
108. S. gracilicornis, C.V. Lion-fish. Reddish, marbled with brown; head and body minutely dotted with white, caudal and anal fins with brown bands that may be black.
109. S. brasiliensis, C. & V. Nearly uniform blackish, with some obscure black clouds or dots.

Family BERYCID.E.

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

xlvii genus MYERBRISIS, Cuv.
113. Hill records a Myripristis jacobus, which is presumably the species described by Cuvier and Valenciennes.

xlviii genus HOLOCENTRUM, Bloch.
115. H. marianense, C. & V. Given in Hill's list.

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

xlix genus POLYNEMUS, L.
117. P. oligodon, Gunth. 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.

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

lxxi. genus Bairdella, Gill.

123. Eversilia armata, G. Long-teeth Gunther in 1865 referred this species to Corvina, and so I suppose would now place it in Scenius. Jordan places both C. rovius and E. armata in Scenius.

lxxiv. genus Oppolitzius, Cuv.

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

124. Oolithus ronius (Bl. Schm.) C. & V. Back with darker oblique streaks, following the transverse series of scales. Prepercuinam with small denticleations.

lxxv. genus Aethinops, C. & V.

125. O. rotundus, Forster. Coloration uniform, back with indistinct oblique streaks.

lxxvi. genus Alutus, C. & V.

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


lxxviii. genus Micropogon, C. & V.

128. Micropogon fourneri, (Desm.) Jord. Mongolar Drummer. M.近く is of Hill's list, and recorded by Günther as M. melpomene.

lxxix. genus Equis, Bl. Schm.


lxxx. genus Histophorus, (Gmel.) Cuv.


Family XIPHIID.E.

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

lxxx. genus Xiphus, Arctei.


lxxxi. genus Histiotherus, (Lacép.) Cuv.

132. Histiotherus australis, (Broun.) L. American of Hill's list. Ventral fins present.

Family TRICHURID.E.

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

lxxii. genus Trichurus, L.

133. Trichurus berdmorei, L. Cutslass-Fish. Dorsal extending the whole length of the back, no caudal or ventral fins. Silvery. It is the gymnogaster of Brown, plate 42.

lxxiii. genus Gymnurus, C. & V.

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

Family ACRONURID.E.

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

lxxiv. genus Truthis.


Ancistrurus phlegmaticus of Cuv. & Val. is a synonym.


Family CARANGID.E.

Marine fishes, with compressed oblong or elevated bodies covered with small scales or naked. Teeth, if present, small, conical or compressed, central wavy black transverse streaks. This species has an air-bladder, whereas S. somner (the common English mackerel) has none.

lxxxv. genus Abricora, Jord.

The name Thunnus has been generally used for these fishes, but is now proscribed by a similarly-named genus of insects. "Ourgenus" of Gill, a mere slip
for *Orectias*, 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 *Orectias*; and Jordan's title thereof—remains valid, unless with Günther we merge the species with long and moderate pectoral fins in a single genus.


158. *A. pelagica* (L.)—Bonito. Back bluish; 4 brownish longitudinal bands on each side of the belly.

159. *A. corrugata* (C. & V.)—Uniform lead-colour above, silvery beneath.

160. *A. sotonae* (C. & V.)—*Atherina sotonae* of Hill's list. Günther gives this as doubtfully identical with *Thynnus atherina*, Lowe, but Sotonae's figure has the pectorals much too short for that, although it appears to differ from the scales of dorsal and anal fins.


163. *A. obliquus* (C. & V.)—Pectoral scales at base only. First dorsal blackish above.


166. *A. lecane* (G. & C. V.)—This and the last two are given by Günther as insufficiently known species.

Jordan calls this genus by Lacépede's name *Somebrorni-*

167. *Atherina francisci* (G. & C. V.)—Ventral disc with 22 to 25 laminae.

168. *A. gilchristi* (G. & C. V.)—Brown; generally a black band, edged with white, along the side. Very similar to *A. nanorota*, but disc longer compared to length of fish, and composed of only 21 laminae. Jordan places this genus in a distinct family, *Eche- neididae*.

Family STROMATEIDÆ.


170. *Sordidus albopictus* (L.)—*Sordidus albopictus* of Hill's list. Pectoral disc with 22 to 23 laminae.

171. *E. holbrooki*, Günther. Brown; generally a black band, edged with white, along the side. Very similar to *E. nanorota*, but disc longer compared to length of fish, and composed of only 21 laminae. Jordan places this genus in a distinct family, *Eche- nemidae*.

Family STROMATEIDÆ.

172. *E. holbrooki* (G. & C. V.)—Brown; generally a black band, edged with white, along the side. Very similar to *E. nanorota*, but disc longer compared to length of fish, and composed of only 21 laminae. Jordan places this genus in a distinct family, *Eche- nemidae*.

173. *E. holbrooki* (G. & C. V.)—Brown; generally a black band, edged with white, along the side. Very similar to *E. nanorota*, but disc longer compared to length of fish, and composed of only 21 laminae. Jordan places this genus in a distinct family, *Eche- nemidae*.

Family DACTOLOPTERIDÆ.


175. *D. volitans* (L.)—Pectoral disc with 22 to 23 laminae.

176. *D. volitans* (L.)—Pectoral disc with 22 to 23 laminae.

177. *D. volitans* (L.)—Pectoral disc with 22 to 23 laminae.

Family Gobiidæ.


Family PTEROCLIDIÆ.


Family PTEROCLIDIÆ.


Family PTEROCLIDIÆ.

182. *Pterococele leucostoma* (L.)—P. leucostoma of Hill's list. Pectoral disc with 22 to 23 laminae. Günther places this genus in a distinct family, *Gobiidae*.

Family PTEROCLIDIÆ.

183. *Pterococele leucostoma* (L.)—P. leucostoma of Hill's list. Pectoral disc with 22 to 23 laminae. Günther places this genus in a distinct family, *Gobiidae*.

Family PTEROCLIDIÆ.


Family PTEROCLIDIÆ.

185. *Pterococele leucostoma* (L.)—P. leucostoma of Hill's list. Pectoral disc with 22 to 23 laminae. Günther places this genus in a distinct family, *Gobiidae*.

Family PTEROCLIDIÆ.

186. *Pterococele leucostoma* (L.)—P. leucostoma of Hill's list. Pectoral disc with 22 to 23 laminae. Günther places this genus in a distinct family, *Gobiidae*.

Family PTEROCLIDIÆ.


Family PTEROCLIDIÆ.

188. *Pterococele leucostoma* (L.)—P. leucostoma of Hill's list. Pectoral disc with 22 to 23 laminae. Günther places this genus in a distinct family, *Gobiidae*.

Family PTEROCLIDIÆ.

189. *Pterococele leucostoma* (L.)—P. leucostoma of Hill's list. Pectoral disc with 22 to 23 laminae. Günther places this genus in a distinct family, *Gobiidae*.

Family PTEROCLIDIÆ.

190. *Pterococele leucostoma* (L.)—P. leucostoma of Hill's list. Pectoral disc with 22 to 23 laminae. Günther places this genus in a distinct family, *Gobiidae*.

Family PTEROCLIDIÆ.


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Family PTEROCLIDIÆ.

197. *Pterococele leucostoma* (L.)—P. leucostoma of Hill's list. Pectoral disc with 22 to 23 laminae. Günther places this genus in a distinct family, *Gobiidae*.

Family PTEROCLIDIÆ.


Family PTEROCLIDIÆ.

199. *Pterococele leucostoma* (L.)—P. leucostoma of Hill's list. Pectoral disc with 22 to 23 laminae. Günther places this genus in a distinct family, *Gobiidae*.

Family PTEROCLIDIÆ.
A genus of freshwater fishes.

**185. Electio.** Groun. Dorsal, tail, and anal fins brown-spotted. Heads brown, with a row of black spots along the sides.


**188. E. gyrosia.** C. & V. Pale belly entirely smooth. Brown, verticals with brown dots; eyespots with two darker stripes. Jordan and Eigenmann place this as a synonym of *E. pisiosa* (Gmel.) J. & E. F.

**189. E. guirina.** C. & V. Blackish-brown, fins black. Jordan and Eigenmann refer this to a distinct genus, *Guirinus*, but the name of the species becoming *Guirinus guirina* (C. & V.) J. & E. F.

**Family BLENNIIDAE.**

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

**190. Salaria dubia.** Cuvier.

**191. Salaria atricornis.** 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.

**192. Salaria verrucosa.** Cuvier.

**193. Chrinosaccion.** Quoy & Gaim. *C. gaimardi* and *C. percutius*. Brown or brownish, with more or less distinct darker vertical bands; generally a black or sometimes white-edged spot on operculum. Viviparous.

**Family SPHYNXIDAE.**

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

**194. Sphyrne.** Artedi. *S. bataurus* and *S. bataurica* is a species of Hill's list. Above uniform brownish lead-colour, beneath silvery, sometimes with dark blotches on the sides.

**195. S. mokruna.** (L.) Bl. & Schn. Barracouta or Barracuda. Scales of *S. mokruna* and *S. pisiosa* of Hill's list. Above uniform brownish lead-colour, beneath silvery, sometimes with dark blotches on the sides.

**Family ATEMNIDAE.**

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

**196. Atemia.** Artedi.

**197. Archierina.* L. & M. Hill.** Has two series of small black dots along the side of the tail.

**198. A. martinius.** C. & V. Scales with the margin crenulated.

**Family MUGILIDAE.**

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


**200. M. lena.** Mitch. & Cuv. & Val. This dark stripes along the series of scales.

**201. M. nila.** C. & V. Anal fin with 8 soft rays. Eye hidden behind an adipose membrane. Jordan places this as a synonym of *M. brevisocia*, Agass. (non Gunther.)

**202. M. albata.** L. Given by Gunther on an insufficiently-known species.

**203. M. plana.** Bl. A doubtful species allied to *M. cephalus*.

**204. M. spinosus.** Bl. A doubtfully known species.

**205. M. cephalus.** Bl. The last six are given solely on Hill's authority. It is evident that our mullets need further study.

**XCI. genus AGONOSTOMA.** (Bonn.) Gunth. A genus of freshwater fishes.


**207. A. choiropterus.** (Hill.) *Dujas choiropterus* of Hill's list. "Double the size of the monntcola, and found in the same waters." May this be the same as *A. peronius*, Gunth, which is quoted with a second one (more than the size of *C. monstrolis*). Br. Mus. (1885, p. 465.) A. peronius has the interororial space spurious.

**Family FISTULARIDAE.**

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

**XCV. genus FISTULARIA.** Linn.

**208. Fistularia balearica.** L. Scaleless. Greenish olive, with a pair of large and small pectoral fins along the upper parts of head and body.

**XCV. genus ANOSTOMA.** L. & M. Hill.

**209. Anostoma coloratum.** Mull. & 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. Ventral ins duelacuate. Jordan regards this as a synonym of *A. maculatum*, Val.

**ORDER ACANTHOPTERYGII.**

**PHARYNGOGNATHI.**

Family POMACENTRIDE.**

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

**XCVII. genus POMACENTRUS.** (Lacép.) C. & V.

**210. Pomacentrus leucostictus.** Mull. & Trosch. Height of head, or from mouth to tail, of half total length. Forehead without horizontal lines. Nearly uniform brown; or brownish-black above, yellowish-white on sides and belly, and yellow on the posterior part of the tail and the caudal fin. Blush-white spots on head, neck, etc.

**211. P. phaleus.** C. & V. Brown, a black spot posteriorly in the axil of the pectoral, and a blackish spot on the back of the interoral flat. Interororial space flat.

**XCVIII. genus GYPSIDUNES.** (Lacép.) Gunth.


**XCVIII. genus SMALTIO.** (L.) C. & V. Teeth fixed. Body with five black cross bands.

**213. Halosurus squamosus.** 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. insularen*—doubtless intended for *squamuis*.

**Family LAMPIDIOIDEA.** (Wrasses.)

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

**XCVIII. genus LABRODEUS.** C. & V.


**215. Labrodes fasciatus.** Gunth.

**216. Labrodes steinitzi.** L. & D. "White-lip." Length of head, or from mouth to tail, of half total length. Anterior ray of dorsal and anal fins produced into more or less long filaments. Generally a black spot at the base of the posterior dorsal rays.

**217. genus CLOSTRIDUS.** C. & V. Rose-coloured, a large, oblong pearly blotch on side of belly, etc.

**218. Apriphyes laticaudalis.** (Jam.) C. & V. Gunth. Rose-coloured, each scale with a vertical streak. Head immaculate. *Apriphyes monticola* of Hill's list.
This includes several species which appear under Julis in Hill's list. As now restricted, Platymylossus has a posterior canine tooth, and nine dorsal spines, while Julis has no posterior canine, and ten dorsal spines.

138. Platymylossus viviparus, (Bl.) Günther. 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 eyes. &c. Julis psittacus of Hill's list is a synonym.

139. P. cyamnostigma, (G. & V.) Günther. Reddish-olive, each scale on the tail and along the lateral line with a dark olivaceous spot. Two indistinct light bands along the body. Back with 3 blackish blotches. Dorsal fin with blue spots, &c.

140. P. ruptus, (Poe.) Günther. Upper parts greenish, the soft dorsal with oblique brown streaks. Caudal with red bands, &c.

141. P. potatus, (C. & V.) Günther. A doubtful species, which seems to have been confused with cyamnosta and ruptus.

142. P. crotophyus, (C. & V.) Günther. Green, head and caudal with red streaks. Dorsal red; anal with a band along the middle.

143. P. Limitus, (Agass.) Julis Limitus of Hill's list. Perhaps the same species as P. intermedius (Poe.) Günther, but the streak on the temple seems to be wanting.


146. P. opitilis, (C. & V.) Günther. Caudal trunkate. Bluish iridescent, head with blue lines; dorsal blue, anal with two violet streaks; caudal striped with violet.

147. P. pleasanti, (C. & V.) Günther. Head without any surface markings; with black spots, anal and dorsal fins yellow, the latter with two violet bands.


201. P. ariwawa, Günther. Uniform violet-purple. Jaws rosy. Has the same coloration as Scarus ariwawa, with which it may be easily confused.

202. P. luteipunctus (Desm.) Günther. Olive, a yellow band laterally; two green streaks on each side of snout; upper and lower margins of caudal green, &c. Scarus aluminium of Hill's list is perhaps not specifically distinct from this.


204. P. torquatus (C. & V.) Günther.


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

206. P. viridescens, (Gmel.) C. & V.

207. S. viridescens bluus, (Gmel.) C. & V.

208. S. viridescens viridescens, (Gmel.) C. & V.

209. S. viridescens viridescens, (Gmel.) C. & V.

210. S. viridescens viridescens, (Gmel.) C. & V.

211. S. viridescens viridescens, (Gmel.) C. & V.

212. S. viridescens viridescens, (Gmel.) C. & V.

213. S. viridescens viridescens, (Gmel.) C. & V.

214. S. viridescens viridescens, (Gmel.) C. & V.

215. S. viridescens viridescens, (Gmel.) C. & V.

216. S. viridescens viridescens, (Gmel.) C. & V.

217. S. viridescens viridescens, (Gmel.) C. & V.

218. S. viridescens viridescens, (Gmel.) C. & V.

219. S. viridescens viridescens, (Gmel.) C. & V.

220. S. viridescens viridescens, (Gmel.) C. & V.

221. S. viridescens viridescens, (Gmel.) C. & V.

222. S. viridescens viridescens, (Gmel.) C. & V.

223. S. viridescens viridescens, (Gmel.) C. & V.

224. S. viridescens viridescens, (Gmel.) C. & V.

225. S. viridescens viridescens, (Gmel.) C. & V.

226. S. viridescens viridescens, (Gmel.) C. & V.

227. S. viridescens viridescens, (Gmel.) C. & V.

228. S. viridescens viridescens, (Gmel.) C. & V.

229. S. viridescens viridescens, (Gmel.) C. & V.

230. S. viridescens viridescens, (Gmel.) C. & V.


259. *S. maculipinnis* (Agassiz) Günther. Brownish, vertically with brown spots, body with rather scattered spots, and about 8 vertical black lines. The young have some whitish spots.

260. *S. brownii*, Günther. Brownish, with about 8 black vertical lines and scattered brown spots. Pectoral none. Dr. Günther does not give this as *C. indica*, but it is the Passer of Solano, ii, p. 277; and the Pleuronectes of Browne, p. 448, No. 1.


Order PHYSOSTOMI.

Family SCOPELIDÆ.


264. *Dr. Günther refers these species to Solanius, Cuv., but Synogus seems to have priority.*


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


Family CYPRINIDÆ.

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


Family CYPRINODONTIDÆ.

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


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


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

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

Family SCOMBREGOCIDÆ.

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

277. *cvx. genus Exococtus*. (Flying-fish.)


281. *H. mummichog*, Ramann. Back dark greenish, sides with a well defined silvery band as broad as a scale.


283. *H. opalinus*, C. & V. Back dark greenish, sides with well-defined silvery band in Hill's list.

284. *cvx. genus Tylosurus*. This would apparently be included under *Belone* as understood by Günther. In Beaum & Dresd's list three species are placed in Tylosurus, as below. The rest I leave in *Belone* as they appear in the records.


287. *T. oxygnathus*, Bean & Dresd. Long-Jaw. Eye large, otherwise very similar to *T. depressus* (for which see under *Belone*).


294. *B. cromileptes* (Les.) Given by Hill, but according to Günther, it is a synonym of *B. chorun* (Fork.) Günther, an East African species.

295. *B. argus*, C. & V.

296. *B. scabrosus*, &c. &c. This and the last are given by Günther as doubtful or insufficiently known species.

Family ESOCIDÆ. (Pikes.)


298. *Esox nigricans*, 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.


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


306. *Chatoeces trachurus*, (Forst.) Given by Hill in Hill's list: may it be *Ctenoglaucus?* "Trapon" is perhaps not intended as part of a scientific name. Compare the original list with the reprint of 1881.

307. *cvx. genus Opisthonema*.


294. *C. apicalis* (Müll. & Trosch.) Günther. *Abalospirula* 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.) Günther. Adult *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.


Family MURENIDÆ. (Eds.)

302. *Sidera marina* (Cuv.) Jor. Murray Eel, *Gymnotherax nudibasis* of Hill. Brownish-black with the white (which is really the ground-colour) appearing as a fine network.

303. *S. fuscata* (Kang) Jor. Conger Eel, (so called), but the true Conger Eel is *Conger conger*.) *Muraena afros* of Günther. Dorsal fin not elevated. Brownish-black; fins without light edge.


305. *H. Records* a *Gymnotherax imamensis*, which must be *Muraena* or *Sidera*. May it be *S. fuscata*?


Order, LOPHOBRANCHII.

Family, SYNGNATHIDÆ.

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

310. *Hippocampus tail prehensile; caudal fin present.

311. *H. longirostris*, Cuv. Dr. Günther records Japanese 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. tail recorded *Hippocampus longirostris*, but probably intended the present species. Dr. Günther gives *H. longirostris*, Cuv. as doubtfully identical with *H. longirostris*, Schlegel, 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 SCLENDERERI.

Jaws toothed.


313. *B. exsul*, L. Tail with raised spiny lines. Black: a white line along the base of the dorsal and anal fins.


(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.

316. *M. hispida*, L. Tail (so-called). *M. cirrata* 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.

317. *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.

318. *U. auriculatus*, 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.

319. *U. auriculatus*, Cuvier. 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.

319. *U. auriculatus*, Cuvier. 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.

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

321. *O. trigramia*, L. Cockle Fish. Each scale of carapace with a blunt spot or ring, or with a light, brown-edged ovalus. Caudal fin long.

322. *O. trigramia*, 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.


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

330. *Chilomycterus aureatus,* (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.) Günther, a species of the Indian Ocean and Archipelago.

331. *Orthagoriscus,* (Bl., Schm.) Nardo. (Sun-Fishes.)

An unidentified species of this genus is recorded by Hill.

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