

AN IDENTIFICATION OF THE FIGURES OF FISHES IN CATESBY'S
NATURAL HISTORY OF CAROLINA, FLORIDA, AND THE BAHAMA
ISLANDS.

By DAVID S. JORDAN.

About one hundred and sixty years ago (1724-'25) Mark Catesby visited the Bahama Islands, and published a series of large-sized colored engravings, accompanied by a brief descriptive text, of various animals and plants observed there. Numerous editions (1731-'50) of his work have been issued, some in English and French, others in German and Latin, all with the same plates. In the English edition is given the vernacular names of the animals in use in the Bahamas. These are reprinted, so far as the fishes are concerned, by Goode (Bull. U. S. Nat. Mus., V, 1876, p. 16), and from his paper they have been copied into the present one. Catesby's figures are of every degree of merit, from good to the very worst. Some are very carefully executed; others are evidently, either wholly or in part, drawn from memory. Small details, as the numbers of the fin-rays, are rarely attended to. These drawings have a considerable importance in our nomenclature, as various species of Linnaeus and of other binomial writers have been based upon them.

The only coherent attempt at identification of the fishes described by Catesby has been made by Professor Goode in his valuable memoir on the fishes of the Bermudas (Bull. U. S. Nat. Mus., V, 1876, pp. 16, 17). Of the forty four species figured by Catesby, about twenty are positively identified, and several of the others doubtfully so. Most of these identifications are unquestionably correct. In this paper I attempt to increase the number of positive identifications. The fact that almost all of the English vernacular names given by Catesby are still in use for the same species among the fishermen of Key West (nearly all of whom have come from Nassau, in the Bahamas) is an important aid in their determination.

1. *Umbla minor, marina maxillis longioribus* (the BARRACUDA) = *Sphyrna picuda*, (Bloch & Schneider). (Tab. 1, f. 1.)

This is the basis of *Esox barracuda* Shaw. It is evidently intended for the common large *Barracuda* or *Picuda* of the West Indies, for which the name *picuda*, based on a figure of Parra, has priority.

2. *Vulpis bahamensis* = *Albula vulpes*, (L.). (Tab. 1, f. 2.)

This is the basis of *Esox vulpes* L., Syst. Nat., ed. X, 1758, 313. The figure is rather poor, but unmistakable. The name *vulpes* is the earliest binomial designation of this species.

3. *Perca marina gibbosa cinerea* (the MARGATE-FISH) = *Hamulon gibbosum*, (Bloch & Schneider). (Tab. 2, f. 1.)

This drawing represents fairly well the species still called Margate-fish at the Florida Keys and Bahamas, the "Margaret Grunt" of Jamaica, *Hamulon album* of Cuv. & Val.

In the twelfth edition of the *Systema Naturæ*, Linnæus described his *Perca chrysoptera* from a specimen of the fish called of late *Pristipoma fulvomaculatum*, sent him by Dr. Garden, from Charleston. To its synonymy he erroneously referred the present figure of Catesby: Still more erroneously, Cuvier & Valenciennes have identified both Catesby's figure and Linnæus's description with their *Hamulon chrysopterum*, a species very different from the fish either of Linnæus or Catesby.

In 1801, under the head of *Calliodon gibbosus* (p. 313) Bloch & Schneider have a description, taken for the most part from Catesby's figure, with a few phrases from the Linnæan diagnosis, those points in which the latter disagrees from the figure being omitted. Both Linnæus and Catesby are quoted in the synonymy, but it is evident both from the specific name and from the description that Catesby's figure only is regarded as the type of *Calliodon gibbosus*. I therefore adopt the name *gibbosum* instead of *album* for the Margate-fish. The name *chrysoptera* ean, of course, go only with the *Pomadusys*, where it will supersede *fulvomaculatus*.

4. *Saurus ex cinereo nigricans* (the SEA SPARROW-HAWK) = *Synodus fætens*, (L.).
(Tab. 2, f. 2.)

From Carolina. In the twelfth edition of the *Systema Naturæ* this is correctly referred by Linnæus to the synonymy of his *Salmo fætens*, described from a specimen sent from Carolina by Dr. Garden.

5. *Perca marina, pinna dorsi divisa* (the CROKER) = *Micropogon undulatus*, (L.).
(Tab. 3, f. 1.)

From Virginia and Chesapeake Bay. In the twelfth edition S. N. it is correctly referred to the synonymy of *Perca undulata*, sent from Carolina by Dr. Garden.

6. *Perca marina rubra* (the SQUIRREL) = *Holocentrum ascensione*, (Osbeck). (Tab. 3, f. 2.)

One of the best of Catesby's figures, but for some reason overlooked by Linnæus and Bloch. It is the basis of *Perca rufa* Walbaum. Later than Walbaum the names *matajuelo* and *longipinne* have been applied to this species, which is the common West Indian *Holocentrum*. Prior to Walbaum it had received the specific names *ascensione*, *pentacanthum*, and *sogo*. The name *ascensione* is the earliest and best of these, and it is probably as certainly identified, although Osbeck's description tells little more than that his fish was a *Holocentrum*. This species is the only one of the genus recorded from Ascension Island since the time of Osbeck's visit. (Günther, Shore Fishes Challenger Exp.)

7. *Perca marina rhomboidalis fasciata* (the PORK-FISH) = *Pomadusys virginicus*, (L.).
(Tab. 4, f. 1.)

In the tenth edition S. N., p. 294, made the type of a *Perca rhomboidalis*, in the synonymy of which the *Sparus striis longitudinalibus* of Brown (apparently *Diplodus unimaculatus*) is erroneously placed. In

the twelfth edition Catesby's fish and Brown's are both wrongly referred to the synonymy of *Sparus rhomboides*, a species sent by Garden from Charleston. The name *Sparus virginicus* L. (ed. X, p. 281) is prior to *Perca rhomboidalis*. Catesby's figure is poor, but the species is still called Pork-fish.

8. *Perca marina pinnis branchialibus carens* (the SCHOOLMASTER) = *Lutjanus caxis*, (Bloch & Schneider). (Tab. 4, f. 2.)

This figure is one of Catesby's worst. The fish, still called Schoolmaster at Key West and the Bahamas, is *Lutjanus caxis*, and the reddish coloration and yellow vertical fins of Catesby's figure suggest this species. The pectoral fins are, however, omitted, and the scales are unnaturally large. The figure seems to have been drawn from memory. Fortunately no binomial name appears to have been based on it.

9. *Perca marina venenosa punctata* (the ROCK-FISH) = *Epinephelus venenosus* (L.). (Tab. 5.)

Type of *Perca venenosa*, L., S. N., ed. X, p. 292.

This plate is a very satisfactory representation of the species still called Rock-fish or Yellow-finned Grouper. It is the *Trisotropis petrosus* of Poey. The Bonaci Cardinal (*Ep. cardinalis*) seems to be a deep-water variety of the same fish. The name *venenosa*, based on this figure, has priority over all others.

10. *Albula bahamensis* (the MULLET) = ? *Mugil curema*, Cuv. & Val. (Tab. 6, f. 2.)

A poor figure of some Mullet; probably *Mugil curema* (= *M. brasiliensis* auct. nec Ag.). This figure is referred by Linnæus (edition XII) to his *Mugil albula*, described from a specimen sent from Charleston by Dr. Garden. No specific name seems to rest on Catesby's figure.

11. *Perca marina capite striato* (the GRUNT) = *Hamulon plumieri*, (Lac.) (Tab. 6, f. 1.)

An unmistakable though inexact figure of the common Grunt. It is wrongly referred by Linnæus to the synonymy of his *Perca formosa*, received from Charleston through Dr. Garden. This latter is *Serranus formosus* (= *Diplectrum fasciculare*). From this mistake of Linnæus has come the improper transfer of the Linnæan name *formosum* from the *Serranus* to the present species.

12. *Perca marina puncticulata* (the NEGRO-FISH) = *Epinephelus fulvus* (L.), var. *punctatus* (L.). (Tab. 7, f. 1.)

Type of *Perca punctulata*, L., S. N., ed. X, p. 291, and of *Perca punctulata* Gmelin.

This is a tolerable representation of the common "Nigger-fish" of the Bahamas, the brown variety of the species usually called *Epinephelus* or *Enneacentrus punctatus*—the *Serranus ouatalibi* and *guatirere* of Cuv. & Val. The oldest specific name of the species is, however, that of *fulvus*, applied by Linnæus to the yellow variety.

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13. *Perca marina cauda nigra* (the BLACK-TAIL)=*Hamulon melanurum* (L.).Type of *Perca melanura*, L., S. N., ed. X, 294.

This is a comparatively excellent figure of the species called *Hamulon dorsale* by Poey. Whether this species is now called *Black-tail* or not I do not know. There can, however, be no room for doubt that it is this species which is intended by Catesby, rather than *Lutjanus chrysurus* as Goode has supposed.

14. *Hirundo* (the FLYING-FISH)=*Exocoetus* sp. (Tab. 8, f. 1.)

This poor figure contains nothing by which the species can be guessed at. No binomial name has been based upon it.

15. *Perca Marina sectatrix* (the RUDDER-FISH)=? (Tab. 8, f. 2.)Type of *Perca sectatrix*, L., S. N., ed. XII, 486, and of *Perca saltatrix* (misprint for *sectatrix*), S. N., ed. X, 293.

Undoubtedly intended for the young of *Cyphosus bosqui*. *Cyphosus* is now called Chub, and never, so far as I know, Rudder-fish. The story told by Catesby of his fish following ships in large schools to feed on slime from the rudder has also been told of the *Cyphosus (Pimelepterus)*. This species may stand as *Cyphosus sectatrix*.

16. *Perca fluviatilis gibbosa ventre luteo* (the FRESH-WATER PEARCH)=*Lepomis gibbosus* (L.). (Tab. 8, f. 3.)Type of *Perca gibbosa*, L., S. N., ed. X, 1758, 292.

In the twelfth edition of the *Systema Naturæ* it is erroneously referred to the synonymy of *Labrus auritus*. Catesby's figure evidently represents the species called *Pomotis vulgaris* and *Pomotis catesbyi* by Cuv. & Val. The name *gibbosa*, as Mr. McKay has already shown, must supersede *aureus* (Walbaum), *vulgaris* (C. & V.), and other later names. The *Labrus auritus*, described from a specimen from Philadelphia, seems, as Dr. Gill has several times shown, to be the long-eared Sun-fish, *Ichthelis rubricauda* of Holbrook.

17. *Turdus pinnis, branchialibus carens* (the MANGROVE SNAPPER)=*Lutjanus griseus* (L.). (Tab. ix.)Type of *Labrus griseus*, L., S. N., ed. X, 283.

A very poor figure, evidently made from memory. Both the form and coloration, however, resemble the *Lutjanus caballerote* more than any other Bahama fish, slight as the likeness is. The name Mangrove Snapper gives us an important clew, as no species other than the *Caballerote* is known by this name to the Key West fishermen. The name Mangrove Snapper is very appropriate, as the young of this species swarm everywhere in the shelter of the mangrove bushes about the mangrove islands. I think, therefore, that, in view of the persistence

of these common names, the identification of *Labrus griseus* with *Lutjanus caballerote* is warranted.

The name *caballerote* (*Anthias caballerote* Bloch & Schneider) rests on a basis precisely similar, inasmuch as the *cabellerote* of Parra could not be certainly identified were it not that the same fish is still called *Caballerote* by all Spanish fishermen at Cuba and Key West. The species is, in Florida, also often known as Gray Snapper, a fact which tends to increase the propriety of the name *griseus*.

18. *Turdus Rhomboidalis* (the TANG) = *Acanthurus cœruleus*. (Tab. 10, f. 1.)

Basis in part of *Chatodon cœruleus* Bloch. Little exact as this figure is, there can be no question as to its identification.

19. *Turdus cauda convexa* (the YELLOW-FISH) = *Epinephelus fulvus* (L.), yellow variety. (Tab. 10, f. 2.)

Basis of *Labrus fulvus*, L., S. N., ed. X, 287.

There is no doubt that Goode is right in identifying this figure with the yellow variety of *Serranus ouatalibi* C. & V., or *Serranus guativere* C. & V. It is the Guativere Amarilla of the Cuban fishermen. Both as regards form and coloration, this drawing is more exact than is usual with Catesby.

The name *fulvus* has priority over *punctatus* L., above noticed, and over all others, for this species, which must therefore stand as *Epinephelus* (or *Inneacentrus*) *fulvus*, the scarlet form being var. *ouatalibi* C. & V., and the brown form var. *punctatus* L.

20. *Turdus flavus* (the HOG-FISH) = *Bodianus rufus* (L.). (Tab. 11, f. 1.)

Type of *Labrus rufus*. L., S. N., ed. X, 284.

The name *rufus* has been long since adopted for this species, which is now generally known as the Spanish Hog-fish. Catesby's figure is not a bad one, although not doing justice to the bright coloration of the species.

21. *Turdeus cinereus peltatus* (the SHAD) = *Gerres cinereus* (Walb.). (Tab. 11, f. 2.)

Type of *Mugil cinereus*, Walbaum, Artedi Piscium, 1792, 228.

This picture is a fair representation of the common "Broad Shad" of the Florida Keys and Bahamas (= *Gerres aprion* C. & B.; = *Gerres zebra* M. & T.; = *Gerres squamipinnis* Günther). No other species of "Shad" (*Gerres*) with a low dorsal fin reaches anything like the dimensions of Catesby's figure. The latter cannot, then, be identified with *G. gula*, *G. gracilis*, or *G. lefroyi*.

22. *Turdus Oculo radiato* (the PUDDING-WIFE) = *PlatyGLOSSUS radiatus*, (L.). (Tab. 12, f. 1.)

Basis of *Labrus radiatus*, L., S. N., ed. X, 288.

In the twelfth edition of the *Systema Naturæ* it is erroneously referred by Linnæus to the synonymy of his *Sparus radiatus*, there described

from a specimen sent by Dr. Garden from Charleston. This *Sparus radiatus* is *PlatyGLOSSUS bivittatus*. The name *Labrus radiatus* has priority, and must be retained for Catesby's species, which is the species called by many writers *PlatyGLOSSUS cyanostigma*. Catesby's figure is not a bad one, and the name "Pudding-wife" is still in use for the species.

23. Alburnus americanus (the CAROLINA WHITING)=*Menticirrus alburnus*, (L.), or *Menticirrus littoralis*, (Holbrook). (Tab. 12, f. 2.)

Type of *Cyprinus americanus* L., S. N., ed. X, 321 afterwards, in the twelfth edition, referred to the synonymy of *Perca alburnus*, L., described from a specimen sent by Dr. Garden from Charleston.

Catesby's figure evidently represents a *Menticirrus*, although the second dorsal is omitted and several barbels (instead of one) are placed on the chin. I find nothing by which we may decide whether *M. alburnus* or *M. littoralis* is intended. The large mouth suggests the former, the plain coloration and pale pectorals the latter. Both are common at Charleston and both are called Whiting. Under the circumstances, I do not feel authorized to substitute the earlier name *americanus* for either *alburnus* or *littoralis*; but if we must choose, Catesby's figure is most like the latter.

24. Mormyrus ex cinereo nigricans (the BONE-FISH)=? (Tab. 13.)

I am unable to identify this figure, nor does it appear to have been made the type of any specific name. The name "Bone-fish" is now universally applied to *Albula*, but Catesby leaves *Albula* without vernacular name, while he says of the present species that "it is common on the shores of the Bahama Islands, and, so well as I remember, is called Bone-fish." It is probable that his memory was at fault, and it is possible that the entire drawing was made from memory. It may possibly have been a *Gerres* (possibly *G. lefroyi*) which he had in mind.

25. Cugupuguacu Brasil (the HIND)=*Epinephelus apua*, (Bloch). (Tab. 14, f. 1.)

Referred by Linnæus to the synonymy of his *Perca guttata* L., S. N., ed. X, 292. This appears to be based especially on Willoughby's figure of Maregrave's Cugupugnaen. Maregrave's fish is *Epinephelus itaiara*, Willoughby's probably the *Epinephelus cruentatus*, (*coronatus*), while Catesby's is *E. apua*. I have thought best to retain the name *guttatus* with Bloch for Willoughby's fish, although the propriety of so doing is not free from question.

Goode's statement (l. c., p. 58) that the *Perca guttata* of Gmelin is based on this figure of Catesby is evidently a slip of the memory. The description given by Gmelin is copied exactly from Linnæus, who quotes in his synonymy Maregrave, Sloan, Willoughby, Ray, and Catesby, thus including at least three different species, *itaiara*, *apua*, and *guttatus* (*cruentatus*). All these writers appear to have (erroneously) identified their specimens with Maregrave's "Cugupugnaen."

26. *Saltatrix* (SKIPPJACK) = *Pomatomus saltatrix*, (L.). (Tab. 14, fig. 2.)

Type of *Gasterosteus saltatrix*, L., S. N., ed. XII.

A tolerable figure of the well known Blue-fish, with which all writers have identified it.

27. *Suillus* (the GREAT HOG-FISH) = *Lachnolæmus suillus* Cuvier. (Tab. 15.)

Type of *Lachnolæmus suillus*, Cuvier, Règne Animal, ed. II, 1829.

A fair figure of the head of the male "Hog-fish." The oldest tenable name of this species seems, as already stated by Poey, to be *L. suillus*, Cuvier. *Labrus falcatus*, L. was probably a *Trachymotus*, certainly not a *Lachnolæmus*.

28. *Aurata bahamensis* (the PORGY) = *Calamus calamus*, (Cuv. & Val.). (Tab 16.)

Erroneously referred by Linnaeus (S. N., ed. XII) to the synonymy of his *Sparus chrysops*, which is a *Stenotomus*, sent from Charleston by Dr. Garden. The brown spots on the preorbital region in Catesby's figure leave no doubt as to the species of *Calamus* intended by him.

29. *Salpa purpurascens variegata* (the LANE SNAPPER) = *Lutjanus synagris* (L.). (Tab. 17, f. 1.)

Type of *Sparus synagris*, L., S. N., ed. X, 280.

A good figure of the fish still known to the fishermen as Lane Snapper (*Mesoprion unimaculatus* Cuv. & Val.). The name of Linnaeus has priority.

30. *Petimbuabo Brasil* (the TOBACCOPIPE-FISH) = *Fistularia tabacaria*, L. (Tab. 17, f. 2.)

Referred by Linnaeus to the synonymy of his *Fistularia tabacaria*. Evidently the common West Indian species of *Fistularia*, usually identified as *F. tabacaria*, although as yet the synonymy of the species has not been critically studied.

31. *Novacula Cærulea* (the BLUE FISH) = *Scarus cæruleus*, Bloch. (Tab. 18.)

Referred by Bloch & Schneider to the synonymy of *Scarus cæruleus*. The latter seems to have been originally confused with other species, but has been properly restricted to the present one. This is one of the best of Catesby's figures. It does not appear to have been noticed by Linnaeus, however.

32. *Unicornis, Piscis Bahamensis* (the BAHAMA UNICORN FISH) = *Alutera scripta*, (Osbeck). (Tab. 19.)

Referred by Linnaeus to the synonymy of *Balistes monoceros*, S. N., ed. X, 327.

Not having studied this fish, I follow other authors in identifying the American fish with *A. scripta*.

33. *Muræna maculata, nigra et viridis* (the MURAY) = *Sidera* sp. (Tab. 20.)

Erroneously regarded by Linnaeus as a variety of *Muræna helena*.

This figure may have been intended for *S. moringa*, but if so it is very poorly colored. Possibly *Sidera funebris* was intended, but that species is immaculate. No binomial name seems to rest upon it.

34. *Muraena maculata nigra* (the BLACK MUREY) = *Sidera moringa*, (Cuvier). (Tab. 21.)

Type of *Muraena moringa*, Cuvier, Règne Animal, ed. II, 1829.

This is, without much doubt, the common Moray (*M. moringa* auct., = *Gymnothorax rostratus*, Agassiz), although the spots are represented too small.

35. *Turdus oculo radiato* (the OLD WIFE) = *Balistes vetula*, L. (Tab. 22.)

Correctly referred by Linnæus to the synonymy of his *Balistes vetula*, brought by Osbeck from the island of Ascension. There is possibly some confusion in the Linnæan synonymy.

36. *Bagre secundæ Speciei Marggr. affinis* (the CAT FISH) = *Amiurus* sp. (Tab. 23.)

Referred by Linnæus to the synonymy of his *Silurus catus*, S. N., ed. X, 305.

Both figure and description are made from memory and are very inexact. The eight barbels, dark color, and forked tail make it probable that the species dimly intended was *Amiurus niveiventris*, but of this there is no possible certainty. The *Amiurus catus* of Linnæus rests on this figure, on a figure by Maregrave of some Brazilian species, and on a specimen from Asia. Nothing, apparently, can be made of it, and the name *catus* ought never to have been used for any American species.

37. *Harengus minor, bahamensis* (the PILCHARD) = probably *Clupea sardina*, (Poey). (Tab. 24.)

Erroneously referred by Linnæus to the synonymy of his *Argentina carolina*, Syst. Nat., ed. XII, 519, which is identical with the prior *Elops saurus*, L. Catesby's figure is very poor, but it most resembles the common *Clupea sardina*, which, with *Clupea pensacola*, *Clupea clupeola*, and other small species, goes by the name of Pilchard among the English-speaking fishermen.

38. *Anthea quartus Rondeletii* (the MUTTON FISH) = *Lutjanus analis*, (Cuv. & Val.) (Tab. 25.)

Erroneously referred by Linnæus to the synonymy of *Labrus anthias*, L.

A tolerable figure of the species still called Mutton-fish at Key West and the Bahamas and Mutton Snapper at Aspinwall. No binomial name seems to have been given to this figure.

39. *Remora* (the SUCKING FISH) = ? *Echeneis naucrates*, L. (Tab. 26.)

Referred by Linnæus in the tenth edition of the Systema to the synonymy of *Echeneis remora*, and in the twelfth to that of *Echeneis naucrates*. The short disk and thickish body resemble more *Remora remora* than *Echeneis naucrates*, but the latter species is by far the more common about the Bahamas, and the figure is evidently inexact.

40. *Solea lunata et punctata* (the SOLE) = *Platophrys lunatus*, (L.). (Tab. 27.)

Type of *Pleuronectes lunatus*, L., S. N., Ed. X., 269.

A tolerable figure.

41. *Orbis lævis variegatus* (the GLOBE FISH)=? *Tetrodon testudineus*, L. (Tab. 23.)

The figure most resembles *T. testudineus*, but in the description reference is made to its occurrence in Virginia, which must allude to *T. turgidus*. No binomial name seems to have been given to this fish.

42. *Psittacus piscis viridis, Bahamensis*, (the PARROT FISH)=*Sparisoma catesbyi* (Lac.). (Tab. 29.)

Type of *Labrus catesbæi*, Lacépède.

A tolerable figure.

43. *Acus maxima, squamosa, viridis* (the GREEN GAR FISH)=*Lepidosteus osseus*, (L.). (Tab. 30.)

Referred by Linnæus, with some doubt, to the synonymy of *Esox osseus*, L. Referred by Gmelin to *Esox viridis*, the latter name being given by Gmelin to specimens sent from Charleston by Dr. Garden to Linnæus.

Catesby's fish seems to have been *L. osseus* rather than *L. spatula*. This is shown not only by the poor figure, but in the description, which speaks of the long mouth, or rather beak, of the total length as three feet, and the habitat, Virginia.

The specimen sent by Garden to Linnæus, and which is identified by Linnæus with Catesby's figure, seems to be also *L. osseus*. It is this, rather than Catesby's figure, which is the proper type of *Esox viridis*, Gmelin. Neither seems, however, to be identical with the Alligator Gar, which should not, therefore, retain the name *Lepidosteus viridis*, used for it by Dr. Günther.

44. An *Acarauna major pinnis cornutis, au Paru Brasiliensibus?* (the ANGEL-FISH) =*Holacanthus ciliaris*, (L.). (Pl. 31.)

Type of *Chatodon squamulosus*, Shaw (Nat. Misc., p. 275).

A rough but unmistakable figure. Linnæus seems to have left it unnoticed.

RECAPITULATION.

The following binomial names are based directly on figures of Catesby. Those specific names which appear to be tenable by right of priority for the species to which they refer are printed in heavy type. The name of the modern genus to which each species belongs is placed after it in parenthesis. The order is that of Catesby:

<i>Esox barracuda</i> Shaw, 1503	(<i>Sphyræna</i>)
<i>Esox VULPES</i> L., 1758	(<i>Albula</i>)
<i>Calliodon GIBBOSUS</i> Bloch & Schneider, 1801	(<i>Hæmulon</i>)
<i>Perca rufa</i> Walbaum, 1792	(<i>Holocentrum</i>)
<i>Perca rhomboidalis</i> L., 1758	(<i>Pomadasyx</i> § <i>Anisotremus</i>)
<i>Perca VENENOSA</i> L., 1758	(<i>Epinephelus</i> § <i>Myeteropceæ</i>)
<i>Perca punctata</i> L., 1758	(<i>Epinephelus</i> § <i>Enneacentrus</i>)
<i>Perca punctulata</i> Gmelin, 1759	(<i>Epinephelus</i> § <i>Enneacentrus</i>)
<i>Perca MELANURA</i> L., 1758	(<i>Hæmulon</i>)
<i>Perca SECTATRIX</i> L., 1758	(<i>Cyphosus</i> .)

<i>Perca GIBBOSA</i> L., 1758.....	(<i>Lepomis</i> § <i>Eupomotis</i>)
<i>Labrus GRISEUS</i> L., 1758	(<i>Lutjanus</i>)
<i>Chatodon CERULEUS</i> Bloch, 1790 (about).....	(<i>Acanthurus</i>)
<i>Labrus FULVUS</i> L., 1758.....	(<i>Epinephelus</i> § <i>Enneacentrus</i>)
<i>Labrus RUFUS</i> L., 1758.....	(<i>Bodianus</i>)
<i>Mugil CINEREUS</i> Walbaum, 1792	(<i>Gerres</i>)
<i>Labrus RADIATUS</i> L., 1758.....	(<i>Platyglossus</i>)
<i>Cyprinus AMERICANUS</i> L., 1758	(<i>Menticirrus</i>)
<i>Gasterosteus SALTATRIX</i> L., 1766	(<i>Pomatomus</i>)
<i>Lachnolaimus SUILLUS</i> Cuvier, 1829.....	(<i>Lachnolaimus</i>)
<i>Sparus SYNAGRIS</i> L., 1758	(<i>Lutjanus</i>)
<i>Muraena MORINGA</i> Cuvier, 1829	(<i>Sidera</i>)
<i>Pleuronectes LUNATUS</i> L., 1758	(<i>Platophrys</i>)
<i>Labrus CATESBÆI</i> Lacépède, 1803	(<i>Sparisoma</i>)

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A LIST OF FISHES COLLECTED IN THE EAST FORK OF WHITE RIVER, INDIANA, WITH DESCRIPTIONS OF TWO NEW SPECIES.

By CHARLES H. GILBERT.

The material on which the following list is based, was obtained by a day's seining with a fine-meshed net in the East Fork of White River, near Bedford, Lawrence County, Indiana, and by work in its tributary, Salt Creek, at various points, in Brown and Monroe Counties. White River is at that point a rather rapid, clear, shallow, stream, flowing over rock, gravel, and fine sand. Salt Creek is nearly everywhere sluggish, and flows between high steep clay banks.

The only list of the fishes of any Indiana stream which is even approximately complete, is that based on the collections of Professors Jordan and Copeland, in the West Fork of White River, at Indianapolis. Some differences will be noticed between that list and the present one, but these are possibly due to differences in the nature of the streams at the points examined.

1. *Noturus miurus* Jordan.

Exceedingly abundant in Salt Creek, where it was taken in great numbers at every haul of the seine. Also found in the channel of White River.

2. *Noturus flavus* Raf.

Almost equally common with the preceding

3. *Amiurus xanthocephalus* Raf.

Specimens of a small yellow cat-fish, apparently belonging to this species, were taken in Salt Creek, at Nashville, Brown County, Indiana.

The color is light bright yellow, with the membranes of the fins, especially the anal and caudal, blackish, thus contrasting strongly with the rays. Head rather narrow, its greatest width $1\frac{2}{7}$ in its length; anterior