

VIII.—*On the Distribution of Fresh-Water Fishes of the United States.*

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Read, December 4, 1876.

THIS paper is designed solely as a contribution to our knowledge of the geographical distribution of our fresh-water fishes. It consists of a catalogue of (a) the fishes which have been collected by myself; (b) those sent me by correspondents; and (c) those *personally* examined by me in private collections, fish markets, and other places, *outside* of the great museums; accompanied by a list of the lakes and streams from which, or from tributaries of which, each species has been taken.

No species has been included which has not been personally identified, and no locality has been inserted from which I have not examined specimens, either in my own, or some other private collection.

It is, therefore, an original, and not a compiled record; and from such records the ichthyologists of the future must draw the material for generalizations concerning the problems of geographical distribution and variation. We know too little of our fish-fauna, as yet, for such generalizations to have much value, as is evinced by the errors which have thus far accompanied attempts at such work.

The material on which this paper is based is now chiefly deposited in the Museum of the Butler University, at Indianapolis, by the generous aid of which institution I have been enabled to explore several streams, of which the inhabitants are little known to science. It consists of collections made in Cayuga Lake, by Dr. B. G. Wilder and Instructor S. H. Gage; in Delaware River, by Prof. A. C. Apgar and Dr. C. C. Abbott; in Rock, Peckatonica, Baraboo, and Wisconsin Rivers, by Prof. H. E. Copeland, W. F. Bundy, and R. H. Struthers; in Northern Indiana, by the Indiana Geological Survey; in White River, Indiana, by Prof. Copeland, C. H. Gilbert, and myself; in Genesee River, by E. R. Beadle; in Lake Michi-

gan, by Dr. P. R. Hoy; in Illinois River, by Prof. S. A. Forbes; in various parts of Illinois and Maryland, by E. W. Nelson and A. W. Brayton; in Ohio River, in West Virginia, by Prof. John A. Myers; at the Falls of the Ohio, by Dr. John Sloan; in Salt River, Kentucky, by W. M. Linney; and my own collections in the Great Lakes, in the Genesee, Housatonic, Delaware, Youghiogheny, Potomac, and other Eastern rivers; in the Fox, Wolf, Suamico, Rock, and Peckatonica Rivers, Wisconsin; in White, Blue, Wabash, and other rivers, in Indiana; in the Ohio, at various points; in the Kentucky, Rock Castle, and Cumberland Rivers, in Kentucky; in the French Broad, and Powell Rivers, in Tennessee; in the Etowah, Oostanaula, and Coosa Rivers, in North-western Georgia; in the Chattahoochee River, near Atlanta, and in the South Fork of the Ocmulgee River, at Flat Rock, Georgia.

I have accompanied each species by a reference to one good description, usually in some generally accessible work. The nomenclature is that of Jordan's Manual of the Vertebrate Animals of the North-Eastern United States, Edition 2d, 1878.*

ETHEOSTOMATIDÆ.

1. AMMOCRYPTA BEANII, JORDAN.

Sand Diver.

JORDAN, Bull. U. S. Nat. Mus., 1877, 5.

Notalbany R., Louisiana.

2. PLEUROLEPIS PELLUCIDUS (BAIRD), AGASSIZ.

Sand Darter.

JORDAN, Man. Vert., 1876, 221.

White R., Mahoning R.

3. MICROPERCA PUNCTULATA, PUTNAM.

Least Darter.

JORDAN, Man. Vert., 1876, 218.

Fox R., Wolf R., Rock R., White R.

* This paper was originally written in 1876. In the winter of 1877 it was revised, and some additions made to the lists of localities. Since then, the nomenclature has been brought up to date, but no other additions of importance have been made.

4. *BOLEICHTHYS EOS*, JORDAN and COPELAND.

Red-Sided Darter.

JORDAN, Proc. Ac. Nat. Sci., Phila., 1877, 46.

Suamico R., Wolf R., Rock R., L. Mich., Wabash R., Kankakee R., St. Joseph's R., Maumee R.

5. *BOLEICHTHYS ELEGANS*, GIRARD.

Little Speck.

GIRARD, Proc. Phil. Ac. Sci., 1859, 103.

Etowah R.

6. *BOLEICHTHYS FUSIFORMIS* (GRD.), JOR.

Fusiform Darter.

GIRARD, Proc. Phil. Ac. Nat. Sci., 1854.

Charles R., Mass.

7. *ETHEOSTOMA FLABELLARE*, RAF.

Fan-tailed Darter.

Catnotus flabellatus, JORDAN, Man. Vert., 1876, 218.

Cumberland R., White R., Ohio R., Salt R., Rock Castle R.

8. *ETHEOSTOMA LINSLII*, H. R. STORER.

Brook Darter.

H. R. STORER, Proc. Bost. Soc. Nat. Hist., 1851, 37.

Cayuga L., Genesee R.

9. *ETHEOSTOMA LINEOLATUM* (AGASSIZ), JORDAN.

Lined Darter.

Catnotus lineolatus, JORDAN, Man. Vert., 1876, 218.

Rock R., Fox R., Wolf R., Baraboo R., Peckatonica R.

10. *PÆCILICHTHYS SPECTABILIS*, AGASSIZ.

Rainbow Darter.

JORDAN, Man. Vert., 1876, 220.

White R., L. Michigan, Rock R.

11. *PÆCILICHTHYS VARIATUS* (KIRTLAND), AG.

Blue Darter, Blue Johnny.

Pæcilichthys cæruleus, JORDAN, Man. Vert., 1876, 219.

Rock R., Baraboo R., White R., Mahoning R., Ohio R., Salt R.

12. *NOTHONOTUS CAMURUS* (COPE), JORDAN.

Trout Darter.

Nothonotus niger, JORDAN, Man. Vert., 1876, 219.

White R.

13. *NANOSTOMA ZONALE* (COPE), JORDAN.

Zoned Darter.

Pæcilichthys zonalis, COPE, Journ. Ac. Nat. Sci., Phil., 1868, 212.

Ohio R.

14. BOLEOSOMA OLMSTEDI (STORER), AGASSIZ.

Tesselated Darter.

Boleosoma tessellatum, DEKAY, Fishes N. Y., 1842, 20.

Delaware R., L. Michigan.

(b). VAR. ATROMACULATUM (GIRARD), JORDAN.

Scaly-necked Darter.

Estrella atromaculata, GIRARD, Proc. Phil. Ac. Sci., 1859, 64.

Cayuga L.

15. BOLEOSOMA MACULATUM, AGASSIZ.

Johnny, Slim Darter.

Boleosoma effulgens, JORDAN, Man. Vert., 1876, 222. (Not of Girard).

Suamico R., Fox R., Rock R., White R., Ohio R., Mahoning R., Illinois R., Salt R., Rock Castle R.

16. ULOCENTRA STIGMÆA, JORDAN.

Speck.

Boleosoma stigmæum, JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876, 311.

Etowah R., Alabama R., Notalbany R.

17. DIPLESIUM NEWMANI (AGASSIZ), JORDAN.

Crawl-a-bottom.

Hyostoma Newmani, AGASSIZ, Amer. Journ. Sci. & Arts, 1854, XVIII, 303.

Tennessee R.

18. DIPLESIUM SIMOTERUM (COPE), COPELAND.

Crawl-a-bottom.

Hyostoma simoterum, COPE, Journ. Phil. Ac. Sci., 1869, 215.

Rock Castle R., French Broad R.

19. DIPLESIUM BLENNIOIDES (RAFINESQUE), JORDAN.

Green-sided Darter.

Hyostoma cymatogrammum, COPE, Jour. Phil. Ac. Sci., 1869, 214.

White R., Ohio R., Salt R.

(b). RHEOCRYPTA COPELANDI, JORDAN.

Copeland's Darter.

JORDAN, Bull. U. S. Nat. Mus., x, 1877, 9.

20. IMOSTOMA SHUMARDII (GIRARD), JORDAN.

Big-headed Darter.

JORDAN, Proc. Ac. Nat. Sci., Phila., 1877, 49.

Wabash R., Illinois R.

21. ALVORDIUS MACULATUS, GIRARD.

Black-sided Darter.

Etheostoma blennioides, JORDAN, Man. Vert., 1876, 222.

Wolf R., Peckatonica R., Baraboo R., White R., Rock Castle R., Cumberland R., French Broad R.

22. ERICOSMA EVIDES, JORDAN and COPELAND.

Orange-Barred Darter.

JORDAN, Bull. U. S. Nat. Mus., x, 1877, 8.

White R.

23. ALVORDIUS MACROCEPHALUS, COPE.

Long-headed Darter.

Etheostoma macrocephalum, COPE, Trans. Am. Phil. Soc., 1866.

Upper Ohio R.

24. ALVORDIUS PHOXOCEPHALUS (NELSON), COPE and JORDAN.

Taper-headed Darter.

JORDAN, Proc. Ac. Nat. Sci., Phila., 1877.

Wabash R., Illinois R., Kansas R.

25. HADROPTERUS NIGROFASCIATUS, AGASSIZ.

Crawl-a-bottom.

AGASSIZ, Amer. Journ. Sci. & Arts, 1854, XVII, 303.

Etowah R., Ocmulgee R., Tangipahoa R.

26. HADROPTERUS TESSELATUS, JORDAN.

JORDAN, Bull. U. S. Nat. Mus., H, 1877.

Foxburg, Pa. (Spec. in S. I. Mus.)

27. PERCINA CAPRODES (RAFINESQUE), GIRARD.

Hog Molly.

Pileoma semifasciatum, DEKAY, Fishes N. Y., 1842, 16.

L. Michigan, White R., Ohio R., Rock Castle R., Cumberland R., Etowah R.

28. PERCINA MANITOU, JORDAN.

Manitou Darter.

JORDAN, Proc. Ac. Nat. Sci., Phila., 1877.

Wabash R., Wisconsin R.

PERCID Æ.

29. PERCA AMERICANA, SCHRANCK.

Yellow Perch.

Perca flavescens, STORER, Fishes of Mass., 1855, 4.

L. Ontario, L. Erie, L. Michigan, Connecticut R., Genesee R., Cayuga L., Fox R., Rock R.

30. STIZOSTETHIUM VITREUM (MITCH.), JORDAN.

Pike Perch, Yellow Pike (Lakes); Black Salmon (Ohio R.); Dory (Green Bay); Wall-Eyed Pike, Glass Eye, Pickerel (L. Champlain); Blue Pike (L. Erie); Okaw or Horn Fish (British America).

Lucioperca americana, DEKAY, Fishes N. Y., 1842, 17.

L. Erie, L. Michigan, Fox R., Ohio R.

31. STIZOSTETHIUM SALMONEUM, RAFINESQUE.

White Salmon (Ohio R.); Salmon Trout (Georgia).

Perca salmonea, RAFIN., Ich. Oh., 1820, 21.

Ohio R., Rock Castle R., Tennessee R., Etowah R.

32. STIZOSTETHIUM CANADENSE (SMITH), JORDAN.

Sauger, Sand Pike.

Lucioperca grisea, DEKAY, Fishes N. Y., 1842, 18.

L. Michigan, L. Erie, Scioto R., Ohio R., St. Lawrence R., Missouri R.

LABRACIDÆ.

33. ROCCUS LINEATUS (BLOCH and SCHNEIDER), GILL.

Striped Bass, Rock Fish.

Labrax lineatus, STORER., Fishes Mass., 1855.

Delaware R., Potomac R., etc.

34. ROCCUS CHRYSOPS (RAF.), GILL.

White Bass, Cisco Bass (L. Winnebago).

Labrax albidus, DEKAY, Fishes N. Y., 13, 1842.

L. Erie, L. Michigan, Fox R., Mississippi R.

35. MORONE INTERRUPTA, GILL.

Short Striped Bass, Brassy Bass.

GILL, Ichthyology Simpson's Expedition, 1876.

Mississippi R.

36. MORONE AMERICANA (GMELIN), GILL.

White Perch.

Labrax rufus, STORER, Fishes Mass., 1855.

All East Coast streams examined.

CENTRARCHIDÆ.

37. POMOXYS ANNULARIS, RAFINESQUE.

Crappie, Bachelor, New Light, Campbellite, Bank Lick Bass.

Pomoxys storerius, GILL, Proc. Ac. Nat. Sci., Phil., 1865, 64.

White R., Ohio R., Illinois R., Mississippi R., Rock Castle R., Cumberland R.

38. POMOXYS NIGROMACULATUS (LE SUEUR), GIRARD.

Calico Bass, Grass Bass, Bar-fish.

Pomoxys hexacanthus, HOLBROOK, Ichthyology S. Car., 36, 1860.

Lake Erie, L. Michigan, Fox R., White R.

39. CENTRARCHUS IRIDEUS (LAC.), C. and V.

Shining Bass.

HOLBROOK, Ich. S. Car., 1860.

Mississippi R. (S. Ills.), Wabash R.

40. COPELANDIA ERIARCHA, JORDAN.

Large-finned Sunfish.

JORDAN, Proc. Phila. Ac. Nat. Sci., 1877.

Menomonee R. (near Milwaukee).

41. ENNEACANTHUS OBESUS (GRD.), GILL.

Nine-spined Sunfish.

JORDAN, Man. Vert., 1876.

Delaware R.

42. ENNEACANTHUS MARGAROTIS, GILL and JORDAN.

Blue-spotted Sunfish.

JORDAN, Bull. U. S. Nat. Mus., X, 1877.

Delaware R.

43. MESOGONISTIUS CHÆTODON (BAIRD), GILL.

Black-barred Sunfish.

Pomotis chætodon, BAIRD, Ninth Smithsonian Report, 1855, 324.

Delaware R.

44. XENOTIS PELTASTES (COPE), JORDAN.

Large-scaled Sunfish.

Lepomis peltastes, COPE, Proc. Am. Phila. Soc., 1870.

Illinois R.

45. XENOTIS INSCRIPTUS (AG.), JOR.

Inscribed Sunfish.

Ichthelis inscriptus, JORDAN, Man. Vert., 1876, 237.

White R., Mississippi R. (Ills.), Etowah R.

46. XENOTIS SANGUINOLENTUS (AG.), JOR

Bloody Sunfish, Brim, Sun Peach.

Pomotis sanguinolentus, AG., Am. Jour. Sci. and Arts, 1854.

Savannah R., Etowah R., Alabama R., Mississippi R. (La.)

47. XENOTIS MEGALOTIS (RAF.), JOR.

Long-eared Sunfish.

Ichthelis sanguinolentus, JORDAN, Man. Vert., 1876.

White R., Illinois R., Ohio R., Salt R., Wabash R., Kentucky R.

48. XENOTIS LYTHROCHLORIS, JORDAN.

Black-eared Sunfish.

Lepomis auritus, COPE, Journ. Phil. Ac. Nat. Sci., 1868.

White R.

49. EUPOMOTIS AUREUS (WALBAUM), GILL and JORDAN.

Common Sunfish.

Pomotis vulgaris, HOLBROOK, Ichthyology S. Car., 1860, 8.

Housatonic R., Genesee R., Cayuga L., Lake Ontario, L. Erie, L. Michigan, Fox R., Rock R., Wisconsin R., Illinois R., Delaware R., headwaters of Wabash R., Maumee R., Potomac R., etc.

50. EUPOMOTIS PALLIDUS (AG.), JORDAN.

White Sunfish.

Pomotis pallidus, AG., Am. Journ. Sci. Arts, 1854.

Mississippi R., Ohio R., Tennessee R., Alabama R.

51. XYSTROPLITES NOTATUS (AG.), JOR.

Spotted Sunfish.

Pomotis notatus, AG., Am. Journ. Sci. Arts, 1854.

Tennessee R.

52. XYSTROPLITES GILLI, JORDAN.

Gill's Sunfish.

JORDAN, Proc. Acad. Nat. Sci., Phila., 1877.

Garden Key, Fla. (Mus. S. I.)

53. LEPIOPOMUS ISCHYRUS, JORDAN and NELSON.

Stout Sunfish.

Ichthelis aquilensis, NELSON, Bull. Ills. Mus. Nat. Hist., 1876.

Illinois R.

54. LEPIOPOMUS OBSCURUS (AGASSIZ), JOR.

Dusky Sunfish, Brim, Coppery Bream (Ga.)

Pomotis obscurus, AGASSIZ, Am. Journ. Sci. Arts, 1854.

Etowah R.

55. LEPIOPOMUS PALLIDUS (MITCHILL), GILL and JORDAN.

Blue Sunfish, Copper-nose Sunfish.

Ichthelis incisor, HOLBROOK, Ichthyology S. Car., 1860, 12.

L. Erie, L. Michigan, Peckatonica R., White R., Illinois R., Mississippi R., Missouri R., Arkansas R., Tennessee R., Etowah R.

56. LEPIOPOMUS MACROCHIRUS, RAFINESQUE.

Chain Sunfish.

Lepomis nephelus, COPE, Journ. Ac. Nat. Sci., Phila., 1868, 222.

White R., Illinois R., Ohio R.

57. LEPIOPOMUS OCULATUS, COPE.

Bright-eared Sunfish.

Bryttus oculatus, COPE, Proc. Phil. Ac. Nat. Sci., 1864.

L. Michigan.

58. LEPIOPOMUS ANAGALLINUS, COPE.

Orange-spotted Sunfish.

COPE, Journ. Ac. Nat. Sci. Phila., 1868, 221.

Salt R. (Ky.)

59. LEPIOPOMUS MINIATUS, JOR.

Scarlet Sunfish.

JORDAN, Proc. Phil. Ac. Nat. Sci., 1877.

Tangipahoa R. (La.)

60. LEPIOPOMUS AURITUS (L.), RAF.

Long-eared Pondfish, Red-tailed Bream.

Ichthelis rubricauda, HOLBROOK, Ich. S. Car., 1860, 15.

Ocmulgee R., Susquehanna R., Merrimac R., Delaware R., Potomac R.

61. APOMOTIS PHENAX, COPE and JORDAN.

New Jersey Sunfish.

JORDAN, Bull. U. S. Nat. Mus., 1877.

Beaseley's Point, New Jersey.

62. APOMOTIS CYANELLUS, RAF.

Blue-spotted Sunfish.

Lepomis microlophus, COPE, Journ. Ac. Nat. Sci., Phila., 1869, 224.

Illinois R., Ohio R., Kentucky R., Salt R., Rock R., Wisconsin R., White R., Mississippi R., Missouri R., Arkansas R., and all streams S. W.

63. ACANTHARCHUS POMOTIS (BAIRD), GILL.

Mud Sunfish.

Centrarchus pomotis, BAIRD, Ninth Smithsonian Report, 1855, 325.

Delaware R.

64. AMBLOPLITES RUPESTRIS (RAFINESQUE), GILL.

Rock Bass, Goggle-eye, Red-eye, Perch (Ga.)

Ambloplites aeneus, GIRARD, Pac. R. R. Rep., 1859, 8.

L. Erie, L. Michigan, Fox R., Peckatonica R., Wisconsin R., Rock R., White R., Ohio R., Rock Castle R., Cumberland R., Powell's R., French Broad R., Etowah R., Red R. of the North (Mus. S. I.), Red R. (La.), Arkansas R., L. Champlain, etc.

65. CHÆNOBRYTTUS GULOSUS (C. and V.), JORDAN.

Toothed-tongue Sunfish.

Glossoplites melanops, JORDAN, Man. Vert., 1876, 317.

Alabama R., Illinois R., L. Michigan.

66. CHÆNOBRYTTUS VIRIDIS (C. and V.), JORDAN.

War-mouth.

Calliurus floridensis, HOLBROOK, Jour. Acad. Sci., Phil., 1855, 63.

Ocmulgee R.

67. MICROPTERUS PALLIDUS (RAF.), GILL and JORDAN.

Large-mouthed Black Bass, Oswego Bass (Lakes), Jumper (Ky.), Peach (Tenn.), Trout (Georgia), Moss Bass (Ind.).

Micropterus nigricans, GILL, Proc. Am. Ass. Adv. Sci., 1873.

L. Erie, L. Michigan, Rock R., Wisconsin R., White R., Illinois R., Ohio R., Rock Castle R., Etowah R., St. John's R. (Fla.)

68. MICROPTERUS SALMOIDES (LACEPEDE), GILL.

Small-mouthed Black Bass, Jumper (Ky.), Peach (Tenn.), Trout (Ga.), Mountain Trout (Ala.)

GILL, Proc. Am. Ass. Adv. Sci., 1873.

L. Ontario, L. Erie, L. Michigan, Fox R., Rock R., Illinois R., White R., Ohio R., Kentucky R., Rock Castle R., Cumberland R., Powell's R., French Broad R., Etowah R., Chattahoochee R., Ocmulgee R.

SCIÆNIDÆ.

69. HAPLOIDONOTUS GRUNNIENS (RAFINESQUE), GILL.
Sheepshead (Lakes), White Perch (Ohio R.), Grunting Perch, Drum.
(Southern States).
Corvina oscula, DEKAY, Fishes N. Y., 1842, 73.
Fox R., L. Michigan, Rock R., Ohio R., Cumberland R. ("lineatus"),
French Broad R., Etowah R.

ELASSOMIDÆ.

70. ELASSOMA ZONATUM, JORDAN.
Least Perch.
JORDAN, Bull. U. S. Nat. Mus., X, 1877.
Arkansas R., Streams of S. Ills.

APHODODERIDÆ.

71. APHODODERUS SAYANUS (GILLIAMS), DEKAY.
Pirate Perch.
DEKAY, Fishes N. Y., 1842, 35.
Delaware R., Neuse R., Mississippi R. in Louisiana, Flint R. (Ga.)
72. APHODODERUS ISOLEPIS (NELSON), JORDAN.
Nelson's Pirate Perch.
Sternotremia isolepis, NELSON, Bull. Ill. Mus. Nat. Hist., 1876.
Wabash R., Maumee R., Calumet R., Streams of S. Ill., Arkansas R.

COTTIDÆ.

73. URANIDEA GRACILIS (HECKEL), PUTNAM.
Miller's-thumb.
Cottus gracilis, GIRARD, Monograph Cottoids, 1850, 49.
Cayuga L., Susquehanna R. (W. N. Y.)
74. URANIDEA VISCOSA (HALDEMAN), COPE.
Slippery Miller's-thumb.
Cottus viscosus, GIRARD, Mon. Cott., 1850, 51.
Susquehanna R.
75. URANIDEA KUMLIENI, HOY.
JORDAN, Proc. Ac. Nat. Sci., Phil., 1877.
L. Michigan.
76. URANIDEA HOYI, PUTNAM.
Hoy's Bullhead.
JORDAN, Proc. Ac. Nat. Sci., Phil., 1877.
L. Michigan.

77. POTAMOCOTTUS CAROLINÆ, GILL.

Cave Bullhead, Goblin.

GILL, Proc. Bost. Soc. Nat. Hist., 1861, 41.

Near Wyandotte Cave, Lost R. (Ind.), Ohio R. (?), Powell's R.

78. POTAMOCOTTUS MERIDIONALIS, GILL.

Southern Bullhead.

Cottus meridionalis, GIRARD, Mon. Cott., 1850.

Youghiogheny R.

79. POTAMOCOTTUS ZOPHERUS, JORDAN.

Blob, Muffle-Jaw.

JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Etowah R.

80. POTAMOCOTTUS ALVORDI (GRD.), GILL.

Alvord's Bullhead.

Cottus alvordii, GIRARD, Mon. Cott., 1850.

L. Michigan, Baraboo R., Wisconsin R.

81. POTAMOCOTTUS WILSONI (GRD.), GILL.

Wilson's Goblin.

Cottus wilsoni, GIRARD, Mon. Cott., 1850.

White R.

82. TAURIDEA SPILOTA (COPE), JORDAN and RICE.

Cow-faced Sculpin.

Cottopsis ricei, JORDAN, Proc. Phil. Ac. Nat. Sci., 1877.

L. Michigan.

GADIDÆ.

83. LOTA LACUSTRIS (WALBAUM), GILL.

Lake Lawyer, Ling, Burbot.

Lota maculosa, DEKAY, Fishes of N. Y., 1842, 284.

L. Michigan, Fox R., Rock R., Ohio R.

GASTEROSTEIDÆ.

84. EUCALIA INCONSTANS (KIRTLAND), JORDAN, 1840.

Brook Stickleback, Black Stickleback.

Gasterosteus inconstans, KIRTLAND, Bost. Journ. Nat. Hist., 1840, 273.

Suamico R., Fox R., Winnebago R., Wisconsin R., Rock R., Cuyahoga R.

(b.) VAR. CAYUGA, JORDAN, 1876.

JORDAN, Man. Vert., 1876.

Cayuga L.

ATHERINIDÆ.

85. LABIDESTHES SICCOLUS, COPE, 1865.

Brook Silver-sides, Jack-fish, Skip-Jack.

Chirostoma siccolum, COPE, Proc. Am. Phil. Soc., 1870, 455.

L. Erie, Wisconsin R., White R., Illinois R., Ohio R., Cumberland R.

CYPRINODONTIDÆ.

86. FUNDULUS DIAPHANUS (LE SUEUR), AGASSIZ.

Mummichog, Spring Minnow.

Fundulus multifasciatus, STORER, Fishes of Mass., 1855, 296.

Cayuga L., Rock R., Illinois R.

87. FUNDULUS MENONA, JORDAN.

Hoy's Mummichog.

JORDAN, Proc. Phil. Ac. Nat. Sci., 1877.

Catfish R. (Wisconsin).

88. XENISMA STELLIFERUM, JORDAN.

Large-finned Stud-fish.

JORDAN, Ann. N. Y. Lye. Nat. Hist., 1876.

Etowah R.

89. XENISMA CATENATUM (STORER), JORDAN.

Stud-fish, Studdy Pearch.

Fundulus catenatus, GUNTHER, Cat. of Fishes, VI, 322, 1866.

Powell's R., Clinch R.

90. ZYGONECTES NOTATUS (RAFINESQUE), JORDAN.

Top Minnow.

Haplochilus pulchellus, GUNTHER, Cat. of Fishes, VI, 314, 1866.

Rock R., White R., Ohio R., Mississippi R.

91. ZYGONECTES DISPAR, AGASSIZ.

Striped Top Minnow.

JORDAN, Proc. Phil. Ac. Nat. Sci., 1877.

Maumee R., Wabash R., Illinois R.

92. ZYGONECTES NOTTI, AGASSIZ.

Nott's Top Minnow.

AGASSIZ, Am. Journ. Sci. and Arts., 1854.

Mobile R.

UMBRIDÆ.

93. MELANURA LIMI (KIRTLAND), AGASSIZ.

Mud Dace, Mud Minnow, Dogfish, Black Chub.

Umbra limi, GUNTHER, Cat. of Fishes, VI, 232, 1866.

Suamico R., Fox R., Rock R., Wisconsin R., White R.

94. MELANURA PYGMÆA (DEKAY), BAIRD.

Eastern Mud Minnow.

JORDAN, Proc. Phil. Ac. Nat. Sci., 1877.

Delaware R.

ESOCIDÆ.

95. ESOX NOBILIOR, THOMPSON.

Muskallunge, Masquallonge.

Esox nobilior, COPE, Proc. Phil. Ac. Nat. Sci., 1865, 80.

L. Michigan, L. Huron, L. Erie.

96. ESOX LUCIUS, LINNÆUS.

Lake Pike, Pickerel (Wisconsin).

Esox lucius, COPE, Proc. Phil. Ac. Sci., 1865, 80.

L. Ontario, L. Erie, L. Michigan, Fox R., Rock R., Illinois R., Mississippi R.

97. ESOX RETICULATUS, LE SUEUR.

Pickerel.

STORER, Fishes of Mass., 1855, 311.

Westfield R., Delaware R., Ocmulgee R., Etowah R., Potomac R.

98. ESOX CYPHO, COPE.

Pickerel, Jack, Buffalo Pike.

COPE, Proc. Phil. Ac. Sci., 1865, 78.

Fox R. (Ill.)

99. ESOX AMERICANUS, GMELIN.

Trout Pickerel.

Esox ornatus, STORER, Fishes of Mass., 1855, 313.

Delaware R., Long Island.

100. ESOX SALMONEUS, RAFINESQUE.

Trout Pickerel.

Esox umbrosus, COPE, Trans. Am. Philos. Soc., 1866.

White R., Ohio R., L. Erie, Illinois R., Wabash R., Maumee R.

AMBLYOPSIDÆ.

101. AMBLYOPSIS SPELÆUS, DEKAY, 1842.

Larger Blind Fish.

PUTNAM, Mammoth Cave and its Inhabitants.

Mammoth Cave, Caves of S. Indiana.

102. TYPHLICHTHYS SUBTERRANEUS, GIRARD, 1859.

Smaller Blind Fish.

PUTNAM, Mammoth Cave, etc.

Mammoth Cave, Caves of S. Indiana.

PERCOPSIDÆ.

103. PERCOPSIS GUTTATUS, AGASSIZ, 1850.

Trout Perch.

AGASSIZ, Lake Superior, 1850, 286.

L. Erie, Fox R., L. Michigan, Ohio R. (Coll. Dr. Sloan), L. Superior.

SALMONIDÆ.

104. CRISTIVOMER NAMAYCUSH (WALBAUM), GILL and JORDAN.

Great Lake Trout, Mackinaw Trout.

Salmo namaycush, AGASSIZ, Lake Superior, 1850, 331.

L. Ontario, L. Erie, L. Huron, L. Superior, L. Michigan, Lakes of N. N. Y., Lake Champlain.

105. CRISTIVOMER SISCOWET (AGASSIZ), GILL and JORDAN.

Siscowet, Lake Superior Trout.

Salmo siscowet, AGASSIZ, Lake Superior, 1850, 333.

L. Superior.

106. SALVELINUS FONTINALIS (MITCHILL), GILL and JORDAN.

Brook Trout, Speckled Trout.

Salmo fontinalis, STORER, Fishes of Mass., 1855, 322.

Westfield R., Housatonic R., Hudson R., Genesee R., Wisconsin R., Youghiogeny R., Susquehanna R.

107. SALVELINUS OQUASSA (GIRARD), GILL and JORDAN.

JORDAN, Man. Vert., Ed. 2, 1878.

Rangeley Lake, Maine.

108. THYMALLUS TRICOLOR, COPE, 1865.

MILNER, Rept. U. S. Fish Comm. for 1872-3, 739, 1874.

Jordan R. (N. Mich.)

109. COREGONUS ARTEDI, LE SUEUR.

Lake Herring, Michigan Herring.

Coregonus clupeiformis, DEKAY, Fishes N. Y., 1842, 248.

L. Ontario, Cayuga L., L. Erie, L. Huron, L. Michigan.

(b) VAR. SISCO, JORDAN.

Sisco of Lake Tippecanoe.

Argyrosomus sisco, JORDAN, Am. Naturalist, March, 1875, 135.

L. Tippecanoe and other lakes of N. Indiana, L. Geneva, L. Labelle, L. Oconomowoc, L. Kauchee, L. Nemahbin (Wis.)

110. COREGONUS NIGRIPINNIS (GILL), JORDAN.

Black-fin.

Argyrosomus nigripinnis, MILNER, Rept. Fish Commission, 1872-3 (pub. 1875), 87.

Lake Michigan.

111. COREGONUS HOYI (GILL), JORDAN.

Sisco of Lake Michigan, Lake Moon-eye.

Argyrosomus hoyi, MILNER, Rept. U. S. Fish Comm., 1872-3, 86.
Lake Michigan.

112. COREGONUS QUADRILATERALIS, RICHARDSON.

Menomonee White Fish.

GUNTHER, Cat. Fishes, VI, 176, 1866.

L. Michigan.

113. COREGONUS CLUPEIFORMIS (MITCHILL), MILNER.

White Fish of the Lakes.

Coregonus sapidissimus, AGASSIZ, Lake Superior, 1850, 344.

L. Ontario, L. Erie, L. Huron, L. Michigan, Cayuga L., Silver L.

HYODONTIDÆ.

114. HYODON TERGISUS, LE SUEUR.

Moon-eye, Toothed Herring, Spring Herring.

Coregonus quadrilateralis, GUNTHER, Catalogue of Fishes, VII, 375, 1868.

L. Erie, L. Michigan, Fox R., Rock R., Wisconsin R., Ohio R., Mississippi R.

DORYSOMATIDÆ.

115. DORYSOMA CEPEDIANUM (LE S.); VAR. HETERURUM (RAF.),

JORDAN.

Gizzard Shad.

Chatoessus ellipticus, KIRTLAND, Bost. Journ. Nat. Hist., IV, 235, 1844.

L. Erie, L. Michigan, Illinois R., Ohio R., Mississippi R., Alabama R.

CLUPEIDÆ.

116. POMOLOBUS CHRYSOCHLORIS, RAFINESQUE.

Skip-Jack.

JORDAN, Manual Vertebrates, 1876, 266.

Ohio R.

117. POMOLOBUS PSEUDOHARENGUS (WILSON); VAR. LACUSTRIS,

JORDAN.

Cayuga Lake Herring.

JORDAN, Man. Vertebrates, 1876, 265.

Cayuga L.

CYPRINIDÆ.

118. EXOGLOSSUM MAXILLILINGUA (LE SUEUR), HALDEMAN.

Day Chub, Nigger Chub.

COPE, Cyprinidæ of Penn., 1866, 360.

Susquehanna R. (Tioga Co., N. Y.)

119. CAMPOSTOMA ANOMALUM (RAFINESQUE), AGASSIZ.

Stone-roller, Steely-back Minnow.

JORDAN, Man. Vert., 1876, 275.

Rock R., Peckatonica R., White R., Ohio R., Kentucky R., Salt R., Rock Castle R., Cumberland R., Powell's R., French Broad R., Etowah R.

120. PIMEPHALES PROMELAS, RAFINESQUE.

Fat-head, Black-head.

GUNTHER, Catalogue of Fishes, VII, 181, 1868.

Wisconsin R. ("milesii"), Peckatonica R., Ohio R. ("promelas and agassizii"), Kentucky R.

121. HYBORHYNCHUS NOTATUS (RAFINESQUE), AGASSIZ.

JORDAN, Man. Vert., 1876, 276.

L. Michigan, Fox R., Rock R., Wisconsin R., White R., Ohio R., Salt R., Rock Castle R.

122. HYBOGNATHUS NUCHALIS, AGASSIZ.

Blunt-jawed Chub.

AGASSIZ, Amer. Journ. Sci. and Arts, 1855, 224.

Wabash R., Illinois R.

123. HYBOGNATHUS ARGYRITIS, GIRARD.

Silvery Chub.

Hybognathus osmerinus, COPE, Proc. Am. Phil. Soc., 1870, 466.

Delaware R. ("osmerinus"), Ohio R., White R.

124. HYBOGNATHUS REGIUS, GIRARD.

Smelt (Potomac R.)

GIRARD, Proc. Phil. Ac. Nat. Sci., 1856, 209.

Potomac R.

125. ERICYMBA BUCCATA, COPE.

Silver-mouthed Chub.

COPE, Cyprinidæ Penn., 1866, 361.

White R., Kentucky R., Ohio R.

126. SEMOTILUS CORPORALIS (MITCHILL), PUTNAM.

Creek Chub, Horned Dace.

COPE, Cyprinidæ of Penn., 1866, 363.

Housatonic R., Hudson R., Cayuga L., Genesee R., Delaware R., L. Erie, L. Michigan, Fox R., Rock R., Peckatonica R., Wisconsin R., Suamico R., White R., Illinois R., Ohio R., Kentucky R., Rock Castle R., Cumberland R., Salt R., Powell's R., French Broad R., Etowah R., Ocmulgee R.

127. SEMOTILUS BULLARIS (RAF.), JORDAN.

Roach Dace, Fall Fish.

Cyprinus bullaris, RAF., Am. Monthly Mag., 1818.*Cheilonemus pulchellus*, STORER, Hist. Fishes Mass., 1856.*Semotilus rhotheus*, COPE, Cyprinidæ of Penn., 1866, 362.

Connecticut R., Delaware R., Susquehanna R.

128. CERATICHTHYS BIGUTTATUS (KIRTLAND), COPE.

Red-spotted Chub, River Chub.

COPE, Cyp. Penn., 1866, 366.

L. Michigan, Rock R., White R., Ohio R., Rock Castle R., Powell's R., Chattahoochee R.

129. CERATICHTHYS MILNERI, JORDAN.

Milner's Chub.

Nocomis milneri, JORDAN, Bull. U. S. Nat. Mus., X, 1878.

L. Superior (Milner Coll., S. I.)

130. CERATICHTHYS PROSTHEMIUS, COPE.

COPE, Cyp. Penn., 1866.

L. Michigan (S. I.)

131. CERATICHTHYS DISSIMILIS (KIRTLAND), COPE.

Long-nosed Chub.

COPE, Cyp. Penn., 1866, 368.

White R., Ohio R.

132. CERATICHTHYS AMBLOPS (RAF.), GIRARD.

Big-eyed Chub.

Ceratichtys hyalinus, JORDAN, Man. Vert., 1876, 279 (*nec* COPE).

Kentucky R., Mahoning R., Ohio R., White R., Salt R.

133. CERATICHTHYS GRACILIS (AGASSIZ), JORDAN.

White Chub.

Ceratichtys hyalinus, COPE, Journ. Phil. Ac. Sci., 1869, 226.

Powell's R., Etowah R.

134. CERATICHTHYS RUBRIFRONS, JORDAN.

Red-faced Chub.

JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Ocmulgee R.

135. RHINICHTHYS CATARACTÆ (VALENCIENNES), JORDAN.

Long-nosed Dace.

Argyreus nasutus, STORER, Fishes of Mass., 1855, 289.

St. Lawrence R., Fox R., Susquehanna R.

136. RHINICHTHYS ATRONASUS (MITCHILL), AGASSIZ.

Black-nosed Dace.

Argyreus atronasmus, STORER, Fishes of Mass., 1855, 288.

Westfield R., Housatonic R., Genesee R., Cayuga L., Delaware R.

137. RHINICHTHYS OBTUSUS, AGASSIZ.

Blunt-nosed Dace.

Rhinichthys lunatus, COPE, Proc. Ac. Nat. Sci., Phil., 1864, 278.

L. Michigan, Etowah R., Rock R., Wisconsin R., Ohio R.

138. RHINICHTHYS MELEAGRIS, AGASSIZ.

Small Black-nosed Dace.

NELSON, Bull. Ills. Mus. Nat. Hist., 1876.

Illinois R.

139. PHENACOBIUS URANOPS, COPE.

Star-gazing Chub.

COPE, Proc. Phil. Ac. Sci., 1867, 96.

Rock Castle R., French Broad R.

140. PHENACOBIUS CATOSTOMUS, JORDAN.

Sucker-mouthed Chub.

JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Etowah R.

141. ALBURNOPS HUDSONIUS (DEWITT CLINTON), JORDAN

Spawn-eater.

Hybopsis hudsonius, COPE, Cyp. Penn., 1866, 286.

Delaware R.

142. ALBURNOPS AMARUS (GIRARD), JORDAN.

White Minnow.

Hybopsis phaëna, COPE, Proc. Phil. Ac. Sci., 1864, 279.

Ocmulgee R., Potomac R.

143. ALBURNOPS VOLUCELLUS, COPE.

Large-finned Minnow.

Alburnops volucellus, COPE, Proc. Phil. Ac. Sci., 1864, 283.

Wisconsin R.

144. ALBURNOPS STRAMINEUS (COPE), JORDAN.

Insignificant Minnow.

Hybognathus stramineus, COPE, Proc. Phil. Ac. Sci., 1864, 283.

White R., Ohio R.

145. ALBURNOPS MICROSTOMUS (RAFINESQUE), JORDAN.

Small-mouthed Minnow.

Hybopsis microstomus, JORDAN, Man. Vert., 1876, 282.

Salt R.

146. ALBURNOPS HÆMATURUS (COPE), JORDAN.

Red-tailed Minnow.

Hybopsis hæmaturus, COPE, Cyp. Penn., 1866, 382.

Fox R.

147. ALBURNOPS XÆNOCEPHALUS, JORDAN.
Prickly-headed Minnow.

Hybopsis xænocephalus, JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.
Etowah R.

148. ALBURNOPS CHROSOMUS, JORDAN.
Red-lined Minnow,

Hybopsis chrosomus, JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.
Etowah R.

149. ALBURNOPS ROSEUS, JORDAN.
Rosy Shiner.

Luxilus roseus, JORDAN, Bull. U. S. Nat. Mus., X, 1877.
Louisiana (Bean Coll., S. I.)

150. LUXILUS SELENE, JORDAN.
Moon-eyed Shiner.

JORDAN, Bull. U. S. Nat. Mus., X, 1877.
L. Superior (Milner Coll., S. I.).

151. LUXILUS CORNUTUS (MITCHILL), JORDAN.
Shiner, Red-fin.

Hypsilepis cornutus, STORER, Fishes of Mass., 1855.

Connecticut R., Cayuga L., Genesee R., L. Erie, L. Ontario, L. Superior,
L. Michigan, Fox R., Rock R., White R., Ohio R., Illinois R., Delaware R.,
Youghiogheny R., Kentucky R., Salt R., Powell's R., Rock Castle R., Cum-
berland R., French Broad R., Etowah R. (and in every other stream ex-
plored, except the Ocmulgee).

152. LUXILUS COCCOGENIS (COPE), JORDAN.
Red-cheeked Shiner.

Hypsilepis coccogenis, COPE, Proc. Phil. Ac. Sci., 1867, 160.
Powell's R.

153. LUXILUS GALACTURUS (COPE), JORDAN.
Milky-tailed Shiner.

Hypsilepis galacturus, COPE, Proc. Phil. Ac. Sci., 1867, 160.

White R., Ohio R., Rock Castle R., Cumberland R., Powell's R., French
Broad R.

154. LUXILUS ANALOSTANUS (GIRARD), JORDAN.
Silver-fin.

Hypsilepis kentuckiensis, COPE, Cyp. Penn., 1866, 371.
Cayuga L., L. Michigan, White R., Ohio R.

155. LUXILUS CALLIURUS, JORDAN.
Black-tailed Silver-fin.

Cyprinella calliura, JORDAN, Bull. U. S. Nat. Mus., 1877.
Alabama R., Tangipahoa R. (La.), (S. I.).

156. CODOMA EURYSTOMA, JORDAN.

Wide-mouthed Silver-fin.

Photogenis eurytomus, JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Chattahoochee R.

157. CODOMA TRICHOISTIA, JORDAN and GILBERT.

Tri-colored Shiner.

JORDAN, Bull. U. S. Nat. Mus., XII, 1878.

Etowah R.

158. CODOMA STIGMATURA, JORDAN.

Spotted-tail.

Photogenis stigmaturus, JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Etowah R.

159. CODOMA CALLISTIA, JORDAN.

Red Silver-fin.

Photogenis callistius, JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Etowah R.

160. CODOMA CÆRULEA, JORDAN.

Blue Silver-fin.

Photogenis cæruleus, JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Etowah R.

161. CODOMA XÆNURA, JORDAN.

Rough-tailed Silver-fin.

Minnilus xænurus, JORDAN, Proc. Ac. Nat. Sci., Phil., 1877.

Ocmulgee R.

162. CODOMA PYRRHOMELAS (COPE), JORDAN.

Crimson and Black Shiner.

Photogenis pyrrhomelas, COPE, Proc. Amer. Phil. Soc., 1870.

Neuse R. (Cope Coll).

163. CODOMA CALLISEMA, JORDAN.

Beautiful Silver-fin.

Episema callisema, JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Ocmulgee R.

164. CODOMA GRANDIPINNIS, JORDAN.

Great-finned Shiner.

Photogenis grandipinnis, JORDAN, Bull. U. S. Nat. Mus., X, 1877.

Flint R., Ga.

b. CODOMA CHLORISTIA, JORDAN and BRAYTON.

Green-finned Shiner.

JORDAN and BRAYTON, Bull. U. S. Nat. Mus., XII, 1878.

Saluda R.

165. CLIOLA LEUCIODA (COPE), JORDAN.

Pearly Shiner.

Photogenis leuciodus, COPE, Proc. Phil. Ac. Sci., 1867, 164.

French Broad R.

166. CLIOLA ARIOMMA (COPE), JORDAN.

Big-eyed Shiner.

Photogenis ariommus, JORDAN, Man. Vert., 1876, 288.

White R., Green R. (Ky.) (S. I.)

167. CLIOLA SCABRICEPS (COPE), JORDAN.

Rough-headed Shiner.

Photogenis scabriceps, COPE, Proc. Phil. Ac. Sci., 1867, 166.

White R.

168. NOTROPIS PHOTOGENIS (COPE), JORDAN.

White-eyed Shiner.

Photogenis leucops, COPE, Proc. Ac. Nat. Sci., Phil., 1867, 167.

Ohio R.

169. NOTROPIS DINEMUS (RAFINESQUE), JORDAN.

Emerald Minnow.

Alburnellus jaculus, COPE, Cyp. Penn., 1866.

White R., Rock Castle R.

170. NOTROPIS ATHERINOIDES, RAFINESQUE.

Rosy Minnow.

Alburnus rubellus, AGASSIZ, Lake Superior, 1850, 364.

Fox R., Lake Michigan, White R.

171. NOTROPIS DILECTUS (GIRARD), JORDAN.

Delectable Minnow.

Alburnellus dilectus, GIRARD, Pac. R. R. Survey, 1859.

Ohio R.

172. NOTROPIS STILBIUS, JORDAN.

Shiny Minnow.

JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Etowah R.

173. NOTROPIS RUBRIFRONS (COPE), JORDAN.

Rosy-faced Minnow.

Alburnellus rubrifrons, COPE, Cyp. Penn., 1866, 388.

White R.

174. NOTROPIS MICROPTERYX (COPE), JORDAN.

Small-finned Minnow.

Alburnellus micropteryx, COPE, Journ. Ac. Sci., Phil., 1869.

Rock Castle R., French Broad R.

175. NOTROPIS LIRUS, JORDAN.

Pale Red-fin.

Minnilus lirus, JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Etowah R.

176. HEMITREMIA HETERODON, COPE.

Wisconsin Minnow.

Alburnops heterodon, COPE, Proc. Phil. Ac. Sci., 1864, 81.

Fox R., Rock R.

177. HEMITREMIA BIFRENATA, COPE.

Black-banded Minnow.

Hybopsis bifrenatus, COPE, Cyp. Penn., 1866, 384.

Connecticut R., Delaware R.

178. HEMITREMIA VITTATA, COPE.

Striped Minnow.

COPE, Proc. Am. Phil. Soc., 1870, 462.

Big Laurel R., Ky. (Rock Castle), Big Yellow Creek (Cumberland), Ky.

179. CHROSOMUS ERYTHROGASTER, RAFINESQUE.

Red-bellied Shiner.

Chrosomus erythrogaster, *pyrrhogaster*, and *eos*, JORDAN, Man. Vert., 1876, 284.

Peckatonica R. ("oreas"), Rock R., Wisconsin R., White R., Ohio R., Cumberland R., Rock Castle R.

180. PHOXINUS NEOGÆUS, COPE.

New World Minnow.

COPE, Cyprinidæ of Penn., 1866, 375.

Baraboo R.

181. GILA ELONGATA (KIRTLAND), JORDAN.

Long-jawed Shiner.

Clinostomus proriger, COPE, Cyprinidæ of Penn., 1866, 375.

Fox R., Rock R., Wisconsin R., Ohio R. (W. Va.)

182. GILA MARGARITA, COPE.

Pearly Shiner.

Clinostomus margarita, COPE, Cyp. Penn., 1866, 375.

Susquehanna R.

183. LYTHRURUS CYANOCEPHALUS, COPELAND.

Blue-headed Shiner.

JORDAN, Proc. Ac. Nat. Sci., Phila., 1877.

Root R. (Wis.), Rock R.

184. LYTHRURUS DIPLÆMIUS (RAFINESQUE), JORDAN.

Red-finned Shiner.

Hypsilepis diplæmius, COPE, Proc. Phil. Ac. Sci., 1867, 16.

Ohio R., Wabash R., White R., Illinois R.

1877.

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185. *LYTHRURUS ARDENS* (COPE) JORDAN.

Crimson Shiner.

Hypsilepis ardens, COPE, Proc. Ac. Nat. Sci., Phil., 1867, 16.

Cumberland R., Rock Castle R., French Broad R.

186. *NOTEMIGONUS CHRYSOLEUCUS* (MITCHILL), JORDAN.

Yellow Shiner, American Bream.

Stilbe americana, COPE, Cyp. Penn., 1866, 389.

Fox R., Rock R., Wisconsin R., White R., Illinois R., Ohio R., Delaware R., Potomac R., Etowah R.

187. *NOTEMIGONUS AMERICANUS* (LINNÆUS), JORDAN.

Thin-bodied Bream.

Notemigonus ischanus, JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Ocmulgee R.

CATOSTOMIDÆ.

188. *CATOSTOMUS LONGIROSTRIS*, LE SUEUR.

Long-nosed Sucker.

Catostomus hudsonius, LE SUEUR, Journ. Phil. Ac. Nat. Sci., 1818.

L. Champlain, Illinois R., L. Michigan, Mississippi R.

189. *CATOSTOMUS COMMERSONI* (LACEPEDE), JORDAN.

Common Sucker, Brook Sucker.

Catostomus bostoniensis, STORER, Fishes of Mass., 1855, 290.

Housatonic R., Delaware R., Potomac R., Cayuga L., Genesee R., L. Ontario, L. Erie, L. Michigan, Fox R., Rock R., Wisconsin R., White R., Ohio R., Mississippi R., Youghiogheny R., Salt R., Kentucky R., Rock Castle R., Cumberland R.

190. *CATOSTOMUS NIGRICANS*, LE SUEUR.

Hog Molly, Stone Roller, Stone Lugger, Crawl-a-Bottom, Hog Sucker.

Hylomyzon nigricans, AGASSIZ, Amer. Journ. Sci. and Arts, 1854, 90.

Susquehanna R., Fox R., Rock R., White R., Powell's R., Rock Castle R., Cumberland R.

VAR. *ETOWANUS*, JORDAN.

JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Etowah R.

191. *ERIMYZON SUCETTA* (LACEPEDE), JORDAN.

Creek Fish, Chub Sucker.

Moxostoma oblongum, AGASSIZ, Amer. Journ. Sci. and Arts, 1855, 86.

Delaware R., Potomac R., L. Michigan, Fox R., White R., Ohio R., Salt R., Cumberland R., Rock Castle R., French Broad R., Etowah R., Chattahoochee R., Ocmulgee R.

192. MINYTREMA MELANOPS (RAFINESQUE), JORDAN.

Spotted Sucker.

Moxostoma victoriae, GIRARD, U. S. and Mexican Bound. Surv., 35.

Erimyzon melanops, JORDAN, Man. Vert., 1876.

L. Erie, L. Michigan, L. Huron, Illinois R., Wabash R., White R., Ohio R., Etowah R.

193. MYXOSTOMA MACROLEPIDOTUM (LE SUEUR), JORDAN.

Long-scaled Sucker.

Ptychostomus macrolepidotus, COPE, Proc. Am. Phil. Soc., 1870.

Delaware R., Potomac R.

194. MYXOSTOMA DUQUESNII (LE SUEUR), JORDAN.

Red Horse.

Ptychostomus erythrurus, COPE, Proc. Am. Philos. Soc., 1870, 475.

White R., Ohio R., Wabash R., Kentucky R., Rock Castle R., French Broad R., Etowah R.

VAR. LACHRYMALE (COPE), JORDAN.

Southern Red Horse.

Ptychostomus lachrymalis, COPE, Proc. Am. Philos. Soc., 1870.

Etowah R.

195. MYXOSTOMA AUREOLUM (LE SUEUR), JORDAN.

Lake Red Horse, Great Mullet.

Ptychostomus aureolus, AGASSIZ, Amer. Journ. Sci. and Arts, 1855, 89.

L. Erie, L. Michigan, Fox R.

196. MYXOSTOMA EURYOPS, JORDAN.

Round-headed Mullet.

JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Etowah R.

197. MYXOSTOMA ANISURUM (RAFINESQUE), JORDAN.

Short-headed Mullet.

Ptychostomus breviceps, COPE, Proc. Am. Philos. Soc., 1870.

Ohio R.

198. MYXOSTOMA CARPIO (CUVIER and VAL.), JORDAN.

Carp Mullet.

Moxostoma carpio, JORDAN, Man. of Vert., 1876, 296.

Fox R., Ohio R.

199. MYXOSTOMA VELATUM (COPE), JORDAN.

Small-mouthed Mullet.

Ptychostomus collapsus, COPE, Proc. Am. Philos. Soc., 1870.

L. Erie, L. Michigan, Ohio R., Illinois R.

200. MYXOSTOMA CERVINUM (COPE), JORDAN.

Slender Mullet.

Teretulus cervinus, COPE, Jour. Ac. Sci., Phil., 1868.

Ocmulgee R.

201. MYXOSTOMA PAPILLOSUM (COPE), JORDAN.

Papillose Mullet.

Ptychostomus papillosus, COPE, Proc. Am. Philos. Soc., 1870.

Ocmulgee R.

202. PLACOPHARYNX CARINATUS, COPE.

Cope's Sucker.

COPE, Proc. Am. Philos. Soc., 1870.

Detroit R. (S. I.), Ohio R., Wabash R., Scioto R., Illinois R.

203. QUASSILABIA LACERA, JORDAN and BRAYTON.

Hare-lip Sucker, Split-mouth Sucker.

Lagochila lacera, JORDAN and BRAYTON, Proc. Ac. Nat. Sci., Phila., 1877.

(Lagochila is preoccupied in conchology).

Chickamauga R., Elk R. (Tenn.)

204. CARPIODES VELIFER (RAFINESQUE), AGASSIZ.

Sailing Sucker, Quill-back, Skim-back, Carp.

COPE, Proc. Am. Philos. Soc., 1870, 482.

Ohio R.

205. CARPIODES CUTIS-ANSERINUS, COPE.

Carp, Quill-back.

COPE, Proc. Am. Philos. Soc., 1870, 483.

Ohio R.

206. CARPIODES DIFFORMIS, COPE.

Blunt-nosed Carp.

COPE, Proc. Am. Philos. Soc., 1870, 482.

Wabash R.

207. CARPIODES CYPRINUS (LE S.), AG.

Eastern Carp Sucker.

COPE, Proc. Am. Philos. Soc., 1870.

Susquehanna P.

208. CARPIODES THOMPSONI, AGASSIZ.

Thompson's Carp.

COPE, Proc. Am. Phil. Soc., 483, 1870.

L. Erie, L. Michigan.

209. ICHTHYOBUS BUBALUS (RAFINESQUE), AGASSIZ.

Red-mouth Buffalo.

JORDAN, Man. Vert., 1876, 298.

Wabash R., Ohio R., Mississippi R., Illinois R.

210. BUBALICHTHYS URUS, AGASSIZ.

Large-mouthed Buffalo.

AGASSIZ, Am. Journ. Sci. and Arts, 1855.

Mississippi R. (Quincy, Ill.)

211. BUBALICHTHYS CYANELLUS, JORDAN.

Small-mouthed Buffalo.

Ichthyobus cyanellus, NELSON, Bull. Ills. Mus. Nat. Hist., 1876.

Catostomus bubalus, KIRTLAND, Bost. Journ. Nat. Hist., V, 266 (not of RAF.
= *Ichthyobus*).

Wabash R., Ohio R., Mississippi R. (Quincy), Illinois R.

212. CYCLEPTUS ELONGATUS (LE S.), AGASSIZ.

Gourd-seed Sucker, Suckerel.

JORDAN, Man. Vert., 1876.

Ohio R., Mississippi R.

SILURIDÆ.

213. ICHTHÆLURUS PUNCTATUS (RAFINESQUE), JORDAN.

Channel Cat, Silver Cat, Blue Cat.

Ictalurus cærulescens, GILL, Proc. Bost. Soc. Nat. Hist., 1862, 42.

Illinois R., Wabash R., White R., Ohio R., French Broad R., Fox R., L.
Michigan, St. Lawrence R., Etowah R., Chattahoochee R., Ocmulgee R.

214. ICHTHÆLURUS ROBUSTUS, JORDAN.

Robust Channel Cat.

JORDAN, Bull. X, U. S. Nat. Mus., 1876.

Illinois R.

215. ICHTHÆLURUS FURCATUS (CUV. and VAL.), GILL.

Fork-tailed Cat.

Amiurus furcatus, GUNTHER, Cat. Fishes, 1864, V, 103.

Mississippi R., Ohio R.

216. AMIURUS NIGRICANS (LE SUEUR), GILL.

Great fork-tailed Cat, Mississippi Cat.

JORDAN, Man. Vert., 1876, 318.

Ohio R., Mississippi R., L. Michigan, Fox R. (Florida).

b. AMIURUS EREBENNUS, JORDAN.

Goode's Cat.

JORDAN, Bull. X, U. S. Nat. Mus.

St. John's R. (Fla.)

217. AMIURUS ALBIDUS, LE SUEUR.

Eastern fork-tailed Cat.

Pimelodus lynx, GIRARD, Proc. Phil. Ac. Sci., 1859, 160.

Potomac R.

218. AMIURUS LOPHIUS, COPE.

Big-mouthed Cat.

COPE, Proc. Am. Philos. Soc., 1870.

Potomac R.

219. AMIURUS NATALIS (LE SUEUR), GILL.

Coppery Cat.

JORDAN, Bull. U. S. Nat. Mus., X, 1877.

Illinois R., Ohio R., Mississippi R., Etowah R., L. Michigan

220. AMIURUS PULLUS (DEKAY), GILL.

Bull-head.

Pimelodus pullus, DEKAY, Fishes of N. Y., 1842, 184.

Genesee R., Cayuga L.

221. AMIURUS XANTHOCEPHALUS, RAFINESQUE.

Big-headed Cat.

Amiurus albidus, JORDAN, Man. Vert., 1876, 302 (not of GILL).

White R., Ohio R.

222. AMIURUS CATUS (LINNÆUS), GILL.

Bull-head, Cat Fish.

Pimelodus atrarius, STORER, Fishes of Mass., 1855.

L. Erie, L. Michigan, Westfield R., Delaware R., Potomac R.

223. AMIURUS MELAS, RAFINESQUE.

Chubby Cat.

Amiurus obesus, GILL, Ich. Capt. Simpson's Exploration, 1876.

Illinois R., Miami R., Ohio R.

224. AMIURUS VULGARIS (THOMPSON), NELSON.

Long-jawed Cat.

Pimelodus dekayi, GRD., Proc. Phil. Ac. Nat. Sci., 1859.

L. Erie, L. Michigan, Illinois R.

225. AMIURUS BRUNNEUS, JORDAN.

Brown Cat.

JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Ocmulgee R.

226. PELODICHTHYS OLIVARIS (RAF.), GILL and JORDAN.

Mud Cat.

Hopladelus olivaris, GILL, Proc. Bost. Soc. Nat. Hist., 1862, 51.

Rock Castle R., French Broad R., Ohio R., Wabash R.

227. NOTURUS FLAVUS, RAFINESQUE.

Yellow Stone Cat.

Noturus occidentalis, GILL, Ich. Capt. Simpson's Explor., 1876.

Potomac R., Ohio R., St. Lawrence R., Missouri R. (S. I.)

228. NOTURUS INSIGNIS (RICHARDSON), GILL and JORDAN.

Margined Stone Cat.

Noturus occidentalis, GTHR., Cat. Fishes, Vol. V, 1834, 105 (not of GILL).

Susquehanna R.

229. NOTURUS EXILIS, NELSON.

Slender Stone Cat.

NELSON, Bull. Ills. Mus. Nat. Hist., 1876.

Wabash R., Illinois R., L. Michigan.

230. NOTURUS MIURUS, JORDAN.

Variegated Stone Cat.

JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

White R., Wabash R., Ohio R., Tangipahoa R. (S. I.).

231. NOTURUS SIALIS, JORDAN.

Chubby Stone Cat.

JORDAN, Man. Vert., ed. 2d, 1878.

Ohio R., White R., Wabash R., L. Michigan.

232. NOTURUS LEPTACANTHUS, JORDAN.

Small-spined Stone Cat.

JORDAN, Ann. N. Y. Lyc. Nat. Hist., 1876.

Etowah R.

ANGUILLIDÆ.

233. ANGUILLA VULGARIS, FLEMING.

Common Eel.

Anguilla bostoniensis, STORER, Fishes of Mass., 1855.

Cayuga L., Ohio R., Wabash R., Delaware R., Rock Castle R., Etowah R. and various coastwise streams.

AMIIDÆ.

234. AMIA CALVA, LINNÆUS.

Dog Fish, Lawyer.

JORDAN, Man. Vert., 1876, 306.

Cayuga L., L. Michigan, Fox R., Rock R., Illinois R., Maumee R., rivers in S. Carolina.

LEPIDOSTEIDÆ.

235. LEPIDOSTEUS OSSEUS (LINNÆUS), AGASSIZ.

Long-nosed Gar-pike.

JORDAN, Man. Vert., 1876, 308.

Fox R., Lake Michigan, Rock R., Illinois R., Mississippi R., Wabash R., White R., Ohio R., Etowah R., St. John's R. (Fla.)

236. LEPIDOSTEUS PLATYSTOMUS, RAFINESQUE.

Short-nosed Gar.

Cylindrostesus platystomus, JORDAN, Man. Vert., 1876, 308.

Fox R., Arkansas R.

237. LITHOLEPIS SPATULA (LAC.), JORDAN.

Alligator Gar.

Lepidosteus viridis, GUNTHER, Cat. Fishes, VIII, 1870, 329.

Mississippi R.

POLYODONTIDÆ.

238. POLYODON FOLIUM, LACEPEDE.

Paddle-fish, Spoonbill Cat, Duckbill Cat.

GUNTHER, Cat. Fishes, 1870, VIII, 346.

White R., Illinois R., Ohio R., Mississippi R., Arkansas R.

ACIPENSERIDÆ.

239. ACIPENSER RUBICUNDUS, LE SUEUR.

Red Sturgeon.

DEKAY, Fishes of N. Y., 1842.

Wolf R., Fox R., L. Michigan.

240. ACIPENSER MACULOSUS, LE SUEUR.

Rock Sturgeon.

GUNTHER, Cat. Fishes, VIII, 1870, 339.

Ohio R.

241. SCAPHIRHYNCHOPS PLATYRHYNCHUS (RAFINESQUE), GILL.

Shovel-nose Sturgeon.

Scaphirhynchus cataphractus, GUNTHER, Cat. Fishes, VIII, 1870, 345.

Ohio R.

PETROMYZONTIDÆ.

242. AMMOCETES FLUVIATILIS (LINNÆUS), JORDAN.

Small Eastern Lamprey.

Petromyzon nigricans, STORER, Fishes of Mass., 1855.

Cayuga L.

243. AMMOCETES NIGER (RAFINESQUE), JORDAN.

Black Lamprey.

Petromyzon niger, JORDAN, Man. Vert., 1876, 315.

Fox R., Peckatonia R., White R., Rock R., Wabash R.

244. AMMOCETEUS ARGENTEUS (KIRTLAND), JORDAN.

Silvery Lamprey.

Ichthyomyzon argentatus, Man. Vert., 1876, 315.

L. Erie, White R., Ohio R.

245. AMMOCETES HIRUDO (GRD.), JORDAN.

Leech Lamprey.

Ichthyomyzon hirudo, GRD., Pac. R. R. Survey, 1858.

L. Erie, L. Michigan, Mississippi R.



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<https://doi.org/10.1111/j.1749-6632.1879.tb55113.x>.

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