

AN ANNOTATED LIST OF THE FISHES KNOWN TO OCCUR IN THE ST. LAWRENCE RIVER.

By BARTON WARREN EVERMANN and WILLIAM CONVERSE KENDALL.

In June and July, 1894, the senior writer of this paper and Mr. Barton A. Bean, of the United States National Museum, made a considerable collection of fishes in the St. Lawrence River and certain of its tributaries in New York and Vermont. The principal stations where collecting was done were in the St. Lawrence River below Cape Vincent, near Clayton, near Alexander Bay, and below Ogdensburg; in the Racket River at Norfolk, and in Lake Memphremagog and Clyde River, Vermont. The collecting at Cape Vincent was done along the river shore on the New York side just above the town, and at Grass Bay, 4 miles below the town. The species seen at Clayton and Alexander Bay were either in the markets or live-boxes. The collecting at Ogdensburg was done on the Canadian shore of the St. Lawrence River, about 4 or 5 miles below the town, and around Spencer and Chimney islands, 24 species being obtained. The Racket River was examined one mile below Norfolk. Seining was done on a riffle with bed-rock bottom covered more or less by loose stones. Lake Memphremagog and Clyde River were seined near Newport, and we have already reported upon the collection in "Fishes of Vermont."

While at Axton, in the college forest of the New York State College of Forestry in the spring of 1900 and 1901, Professor Evermann obtained a few fishes from Follingsby, Rock, and Ampersand ponds, all of which are tributary to the Racket River.

Through the kindness of the late Hon. A. Nelson Cheney, of the New York State Fish Commission, the United States Fish Commission received in December, 1900, 8 specimens of the Labrador white-fish from Chateaugay Lake.

The present paper is a report upon these various collections; and that the paper may correctly and fully represent our present knowledge of the fish-fauna of the St. Lawrence River, we have included all previously published references, known to us, to fishes in that river or its tributary waters. For obvious reasons we have not included references to the Great Lakes nor to Lake Champlain. The exact

territory included may be stated as the St. Lawrence River proper from the outlet of Lake Ontario to its mouth in the Gulf of St. Lawrence, together with all its tributary streams and lakes between those two points, exclusive of Lake Champlain, upon whose fishes we have prepared a separate report.

That the paper may be more useful as a guide to the literature pertaining directly to the fishes of the St. Lawrence River basin, a bibliography of all papers of that character known to us is given. The titles are arranged chronologically, and under each is given a list of the species mentioned in it, and our identification of each in current nomenclature. In the formal list of species reference is made back to the authority for the record.

The total number of species now known from the St. Lawrence basin, as herein limited, is 71, only 63 of which are fresh-water species, a number surprisingly few and to be accounted for chiefly by the fact that so little collecting has really been done in the St. Lawrence or its tributaries. Very little has been done in the river itself or in any of its southern tributaries, while the vast territory lying north and west of the St. Lawrence and drained by it is, ichthyologically, almost a *terra incognita* so far as definite knowledge of its fishes is concerned. It has long been known to anglers as the fisherman's paradise, but the anglers are uncertain even as to the species of trout found therein, to say nothing of the species which are not game fishes. Explorations in this region are necessary to make out the geographic distribution of several species now little understood, notably the Canadian red trout, the ouananiche, and the other *Salmonidæ*. Even the relationships of a number of the *Salmonidæ* remain to be determined. Systematic collecting anywhere north of the St. Lawrence would add very materially to our knowledge of the relationships and distribution of the fishes of that vast territory; and careful collecting in the streams and lakes of northern New York would doubtless add many species to the fishes now known from that region. Localities of special interest are Chateaugay and Chazy lakes, the Racket River basin, and the Oswegatchie River. The lower St. Lawrence tributaries also deserve careful investigation.

BIBLIOGRAPHY.

1836. RICHARDSON, JOHN. Fauna Boreali-Americana, or the Zoology of the northern part of British America. Part Third. The Fish, 1836, 1-xv+1-327.

Nominal species.	Identification.
Labrax notatus*.....	Roccus lineatus.
Cyprinus (Abramis) Smithii*.....	Hiodon tergisus.
Salmo salar.....	Salmo salar.
Anguilla rostrata.....	Anguilla chryssypa.

*The species described as new in each paper are indicated by an asterisk.

1853. BAIRD, SPENCER F. A small collection of fishes made by Professor Baird in September, 1853, in the neighborhood of Montreal and Quebec, and recorded in the catalogues of the department of fishes, United States National Museum, is referred to in this paper as "Baird coll. 1853." No report on this collection has ever been published.

Cat. No.	Nominal species.	Identification.		
1256	} <i>Boleosoma olmstedii</i>	<i>Boleosoma nigrum olmstedii</i> .		
1260				
1257			<i>Percina caprodes</i>	<i>Percina caprodes</i> .
1258			<i>Catnotus flabellatus</i>	<i>Etheostoma flabellare</i> .
5442			<i>Perca flavescens</i>	<i>Perca flavescens</i> .
8965			<i>Semotilus corporalis</i>	<i>Semotilus corporalis</i> .
9191	<i>Hyborhynchus</i>	<i>Pimephales notatus</i> .		

1859. DAWSON, J. W. On a new species of stickleback (*Gasterosteus gymnetes*). <Canadian Naturalist and Geologist, iv, 1859, 321-324, 3 figures.

Nominal species.	Identification.
<i>Gasterosteus gymnetes</i> *.....	<i>Eucalia inconstans</i> .

1859. HERBERT, WILLIAM HENRY. Frank Forester's Fish and Fishing of the United States and British Provinces of North America, 1859, i-xv + 16-512.

Nominal species.	Identification.
<i>Huro nigricans</i> ; <i>Centrarchus fasciatus</i> ; <i>Gri-</i> <i>tes nigricans</i>	<i>Micropterus dolomieu</i> .
<i>Salmo salar</i>	<i>Salmo salar</i> .
<i>Salmo fontinalis</i>	<i>Salvelinus fontinalis</i> .

1862. FORTIN, PIERRE. List of the cetacea, fishes, crustacea, and mollusca, which now inhabit and have inhabited the Canadian shores of the Gulf of St. Lawrence and are objects of fishing operations, whether on a large or small scale, and which are used as bait, etc. <Annual Report of Pierre Fortin, esq., magistrate in command of the expedition for the protection of the fisheries in the Gulf of St. Lawrence, during the season of 1862; Appendix 109-124.

Nominal species.	Identification.
<i>Clupea alosa</i>	<i>Alosa sapidissima</i> .
<i>Clupea sardina</i>	<i>Clupea harengus</i> .
<i>Scombrus scombrus</i>	<i>Scomber scombrus</i> .
<i>Hippoglossus vulgaris</i>	<i>Hippoglossus hippoglossus</i> .
<i>Pleuronectes flesus</i>	<i>Pseudopleuronectes americanus</i> .
<i>Muraena anguilla</i>	<i>Anguilla chrysa</i> .
<i>Salmo fontinalis</i> ; <i>Salmo trutta</i> ; <i>Salmo albus</i> ..	<i>Salvelinus fontinalis</i> .
<i>Osmerus viridescens</i> ; <i>Osmerus eperlanus</i>	<i>Osmerus mordax</i> .
<i>Salmo salar</i>	<i>Salmo salar</i> .
<i>Cod</i>	<i>Gadus callarias</i> .

1863. FORTIN, PIERRE. Continuation of the list of fish of the Gulf and River St. Lawrence. <Annual Report of Pierre Fortin, esq., commanding the expedition for the protection of the fisheries in the Gulf of St. Lawrence during the season of 1863. Fisheries appendices from Annual Report for 1863, of the Hon. Wm. McDougal, commissioner of crown lands, for the year 1863 (1864), 60-72.

Nominal species.	Identification.
Perca flavescens.....	Perca flavescens.
Labrax lineatus; Perca saxatilis.....	Roccus lineatus.
Catostomus communis.....	Catostomus commersonii.
Alosa tyrannus; Alosa vernalis.....	Pomolobus pseudoharengus.
Esox reticulatus.....	Esox reticulatus.
Esox estor.....	Esox lucius.
Coregonus albus.....	Coregonus labradoricus.
Lota inornata; Lota vulgaris.....	Lota maculosa.
Cyclopterus lumpus; Lumpus vulgaris.....	Cyclopterus lumpus
Acipenser oxyrinchus.....	Acipenser sturio.
Petromyzon.....	Ichthyomyzon concolor.

1864. FORTIN, PIERRE. Continuation of the list of fishes found in the Gulf and River St. Lawrence. <Annual report of Pierre Fortin, esq., stipendiary magistrate, commander of the expedition for the protection of fisheries in the Gulf of St. Lawrence on board *La Canadienne* during the season of 1864 (1865), 61-69.

Nominal species.	Identification.
Lucioperca americana.....	Stizostedion vitreum.
Lucio-perca canadense.....	Stizostedion canadense.
Centrarchus teneus.....	Ambloplites rupestris.
Pomotis vulgaris.....	Eupomotis gibbosus.
Hiodon tergisus.....	Hiodon tergisus.
Lepisosteus osseus; Lepisosteus longirostris.....	Lepisosteus osseus.
Acipenser brevirostris.....	Acipenser sturio.
"Short-nosed Sturgeon (Le Sneur)".....	Acipenser brevirostris.

1865. FORTIN, PIERRE. Continuation of the list of fishes taken in the Gulf and River St. Lawrence. <Annual report of Pierre Fortin, esq., stipendiary magistrate in command of the expedition for the protection of the fisheries in the Gulf of St. Lawrence, on board *La Canadienne* during the season of 1865 (1866), 69-79.

Nominal species.	Identification.
Pimelodus nebulosus.....	Amelurus nebulosus.
Leuciscus canadensis*.....	Semotilus corporalis.
Leuciscus vitalis.....	Notropis cornutus.
Leuciscus atromaculatus.....	Semotilus atromaculatus.
Cyprinus catostomus; Catostomus forsterianus.....	Catostomus catostomus.
Catostomus tuberculatus.....	Erimyzon sucetta oblongus.
Catostomus macrolepidotus.....	Moxostoma aureolum?
Sclerognathus cyprinus.....	Carpiodes thompsoni?
Hydrargyra atricauda.....	Umbra limi.
Amia ocellicauda.....	Amia calva.

1868. GÜNTHER, ALBERT. Catalogue of the fishes in the British Museum, VII, I-XX+1-512, 1868.

Nominal species.	Identification.
Catostomus teres	Catostomus commersonii.
Catostomus carpio	Moxostoma aureolum.
Rhinichthys marmoratus	Rhinichthys cataractæ.

1873. WHITEAVES, J. F. Report on further deep-sea dredging operations in the Gulf of St. Lawrence, with notes on the present condition of the marine fisheries and oyster beds of part of that region. <Sixth Annual Report of the Department of Marine and Fisheries. Appendix U, 1873, 178-204.

Nominal species.	Identification.
Osmerus viridescens.....	Osmerus mordax.

1873. HALLOCK, CHARLES. The Fishing Tourist; Angler's Guide and Reference Book; I-XIV+15-239, 1873.

Nominal species.	Identification.
Salmo gloveri	Salmo ouananiche.
Salmo salar.....	Salmo salar.

1877. HALLOCK, CHARLES. The Sportsman's Gazetteer and General Guide * * * The Game Fishes of North America, 239-411, 1877.

Nominal species.	Identification.
Esox nobilior; Esox estor	Esox masquinongy.
Esox lucius	Esox lucius.
Salmo salar.....	Salmo salar.
Salmo sebago.....	Salmo sebago.
Coregonus labradoricus	Coregonus labradoricus.

1884. ROOSEVELT, ROBERT BARNWELL. The Game Fish of the Northern States and British Provinces, 1-324, 1884.

Nominal species.	Identification.
Salmo trutta marina.....	Salvelinus fontinalis.
Salmon.....	Salmo salar.
Trout.....	Salvelinus fontinalis.
Gristes nigricans	Micropterus dolomieu.

1884. JORDAN, DAVID S. Description of four new species of *Peciliichthys* in the United States National Museum. <Proc. U. S. Nat. Mus. 1884 (Sept. 27, 1885), 477-480.

Nominal species.	Identification.
Peciliichthys borealis.....	Etheostoma boreale.

1884. GOODE, GEORGE BROWN. Natural history of useful aquatic animals. <The fisheries and fishery industry of the United States, section I, text, 1-xxxiv + 1-895, 1884.

Nominal species.	Identification.
Roccus lineatus.....	Roccus lineatus.
Micropterus dolomieu.....	Micropterus dolomieu.
Micropterus salmoides.....	Micropterus salmoides.
Clupea vernalis.....	Pomolobus pseudoharengus.
Clupea sapidissima.....	Alosa sapidissima.
Salmo salar.....	Salmo salar.
Esox nobilior.....	Esox masquinongy.

1886. MATHER, FRED. Memoranda relating to Adirondaek fishes, with descriptions of new species, from researches made in 1882. Adirondack Survey, appendix, twelfth report (zoology), 1886, 1-56.

Nominal species.	Identification.
Micropterus dolomieu.....	Micropterus dolomieu.
Esox lucius.....	Esox lucius.
Eels.....	Anguilla chryssypa.
Semotilus bullaris.....	Semotilus corporalis.
Prosopium quadrilaterale.....	Coregonus quadrilateralis.
Amelurus catus.....	Amelurus nebulosus.
Uranidea gracilis.....	Uranidea gracilis.

1892. ROBERTS, CHARLES D. The Canadian Guide Book, 1-viii + 1-270, 1892.

Nominal species.	Identification.
Ouananiche.....	Salmo ouananiche.
Salmon.....	Salmo salar.

1892. CREIGHTON, J. G. Aylwin. The landlocked salmon, or Wananshe. <American Game Fishes. Their habits, habitat, and peculiarities; how, when, and where to angle for them. 81-110, 1892.

Nominal species.	Identification.
Salmo salar, variety Sebago.....	Salmo ouananiche.
Esox lucius.....	Esox lucius.
Stizostedion vitreum.....	Stizostedion vitreum.
Trout.....	Salvelinus fontinalis.

1893. GARMAN, S. The Lac de Marbre trout, a new species. <Science, July 14, 1893, 23.

Nominal species.	Identification.
Salmo (Salvelinus) Marstoni.....	Salvelinus marstoni.

1894. EVERMANN, BARTON W., AND SMITH, HUGH M. The Whitefishes of North America. <Report U. S. Fish Commission for 1894 (1896), 283-324, and pls. 11-27.

Nominal species.	Identification.
Coregonus labradoricus	Coregonus labradoricus.

1894. MCCARTHY, EUGENE. The Leaping Ouananiche; what it is; where, when, and how to catch it. 1894, 1-66. Forest and Stream Publishing Co.

Nominal species.	Identification.
Ouananiche	Salmo ouananiche.
S. fontinalis	Salvelinus fontinalis.
Pickrel (Brochet)	Esox lucius.
Pike (Doré)	Stizostedion vitreum.

1894. EVERMANN, B. W., and BEAN, B. A. A collection made at various points in the St. Lawrence River, in New York and vicinity, by the senior author and Mr. B. A. Bean in 1894, is referred to in this paper as "Evermann & Bean coll. 1894." It consists of 31 species, 10 of which have not to our knowledge been previously recorded from the St. Lawrence basin.

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| 1. Ichthyomyzon concolor. | 12. Notropis rubrifrons.* | 22. Eupomotis gibbosus. |
| 2. Aelpenser rubicundus. | 13. Rhinichthys atronasus. | 23. Micropterus dolomieu. |
| 3. Ameiurus lacustris. | 14. Coesius plumbeus. | 24. Micropterus salmoides. |
| 4. Catostomus commersonii. | 15. Exoglossum maxillingua.* | 25. Stizostedion vitreum. |
| 5. Moxostoma anisurum.* | 16. Pomolobus pseudoharengus. | 26. Perca flavescens. |
| 6. Pimephales notatus. | 17. Esox lucius. | 27. Percina caprodes. |
| 7. Semotilus corporalis. | 18. Esox masquinongy. | 28. Cottogaster chenevi. |
| 8. Notropis blennioides.* | 19. Fundulus diaphanus.* | 29. Boleosoma nigrum olmstedii. |
| 9. Notropis hudsonius.* | 20. Percopsis guttatus.* | 30. Cottus icetops.* |
| 10. Notropis whipplii.* | 21. Ambloplites rupestris. | 31. Lota maculosa. |
| 11. Notropis atherinoides.* | | |

1894. EVERMANN, BARTON W., AND KENDALL, WILLIAM C. An annotated catalogue of the fishes known from the State of Vermont. <Report U. S. Fish Commission for 1894 (1896), 579-604.

The following species are recorded in this paper from the St. Lawrence basin:

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| 1. Ameiurus nebulosus. | 6. Rhinichthys atronasus. | 11. Osmerus mordax. |
| 2. Catostomus commersonii. | 7. Coesius plumbeus. | 12. Esox lucius. |
| 3. Semotilus corporalis. | 8. Coregonus quadrilateralis. | 13. Micropterus dolomieu. |
| 4. Semotilus atromaculatus. | 9. Coregonus labradoricus. | 14. Perca flavescens. |
| 5. Notropis cornutus. | 10. Cristivomer namaycush. | |

1896. CHAMBERS, E. T. D. The Ouananiche and its Canadian environment. 1-XXII + 1-357, 1896.

Nominal species.	Identification.
Ouananiche	Salmo ouananiche.
Salvelinus namaycush	Cristivomer namaycush.
Salmo salvelinus marstonii	Salvelinus marstoni.
Ouitouche or chub	Semotilus corporalis.
Coregonus elupeiformis	Coregonus labradoricus.
Pickrel or Doré	Stizostedion vitreum.
Esox lucius	Esox lucius.
Lota americana; Lota maculosa	Lota maculosa.

1897. MONTPETIT, A. N. Les poissons d'eau douce du Canada, 1-552, 1897.

Nominal species.	Identification.
<i>Perca flavescens</i>	<i>Perca flavescens</i> .
<i>Lucioperca americana</i> ; <i>Stizostedion vitreum</i>	<i>Stizostedion vitreum</i> .
<i>S. Canadense</i>	<i>Stizostedion canadense</i> .
Esox Estor; <i>Esox Lucius</i>	<i>Esox lucius</i> .
<i>Esox nobilior</i>	<i>Esox masquinongy</i> and <i>Esox lucius</i> , in part.
<i>Pomoxys sparoides</i> ; <i>Labrus sparoides</i>	<i>Pomoxis sparoides</i> .
<i>Ambloplites</i>	<i>Ambloplites rupestris</i> .
<i>Lepomis gibbosus</i>	<i>Eupomotis gibbosus</i> .
<i>Micropterus dolomieu</i>	<i>Micropterus dolomieu</i> .
<i>Micropterus salmoides</i>	<i>Micropterus salmoides</i> .
<i>Labrax lupus</i> ; <i>Labrax lineatus</i> ; <i>Sciema lineata</i> ; <i>Centropome raje</i> ; <i>Roccus striatus</i>	<i>Roccus lineatus</i> .
<i>Aspro vulgaris</i> ; <i>Alvordius aspro</i>	<i>Etheostoma boreale</i> ?
Le Chabot.....	<i>Uranidea gracilis</i> , in part?
<i>Microgadus morrhua</i>	<i>Microgadus tomcod</i> ?
<i>Gadus lota</i>	<i>Lota maculosa</i> .
<i>Acipenser sturio</i>	<i>Acipenser sturio</i> ; <i>Acipenser rubicundus</i> .
<i>Acipenser brevirostris</i>	<i>Acipenser brevirostris</i> .
<i>Lepisosteus osseus</i>	<i>Lepisosteus osseus</i> .
Le Poisson-castor.....	<i>Amlia calva</i> .
<i>Clupea sapidissima</i>	<i>Alosa sapidissima</i> .
Le Gasparot.....	<i>Pomolobus pseudoharengus</i> .
<i>Hiodon tergisus</i>	<i>Hiodon tergisus</i> .
<i>Ictalurus nigricans</i>	<i>Amelurus lacustris</i> .
<i>Ameiurus</i>	<i>Ameiurus nebulosus</i> .
<i>Anguilla vulgaris</i> ; <i>Anguilla Murena</i>	<i>Anguilla chrysypa</i> .
<i>Salmo salar</i>	<i>Salmo salar</i> .
<i>Salmo fontinalis</i>	<i>Salvelinus fontinalis</i> .
<i>Trutta argentea</i>	<i>Salvelinus fontinalis</i> .
Otsego Bass.....	<i>Coregonus clupeiformis</i> .
La Truite des Lacs; Touladi.....	<i>Cristivomer namaycush</i> .
<i>Osmerus viridescens</i>	<i>Osmerus mordax</i> .
Le Huananiche.....	<i>Salmo ouananiche</i> .
<i>Moxostoma aureolum</i>	<i>Moxostoma aureolum</i> .
<i>Catostoma-Bostoniensis</i>	<i>Catostomus commersonii</i> .
<i>Cyprinus</i> or <i>Abramns Brama</i>	<i>Hiodon tergisus</i> .
<i>Abramns Abramis rutilus</i>	<i>Abramns crysoleucas</i> or <i>Notropis cornutus</i> .
<i>Semotilus bullaris</i>	<i>Semotilus corporalis</i> .

1897. EVERMANN, BARTON W., AND KENDALL, WILLIAM C. Descriptions of new or little-known genera and species of fishes from the United States. < Bull. U. S. Fish Comm. for 1897 (February 9, 1898), 125-133, plates 6-9.

Nominal species.	Identification.
<i>Cottogaster cheneyi</i> *.....	<i>Cottogaster cheneyi</i> .

1897. RATHBUN, RICHARD, AND WAKEHAM, WILLIAM. Report of the joint commission relative to the preservation of the fisheries in waters contiguous to Canada and the United States. < House Doc. No. 315, Fifty-fourth Congress, second session, 1897, 14-178.

Nominal species.	Identification.
<i>Micropterus dolomieu</i>	<i>Micropterus dolomieu</i> .
<i>Cristivomer namaycush</i>	<i>Cristivomer namaycush</i> .
<i>Perca flavescens</i>	<i>Perca flavescens</i> .
<i>Coregonus labradoricus</i>	<i>Coregonus labradoricus</i> .
Pike.....	<i>Esox lucius</i> .
Bullheads.....	<i>Ameiurus nebulosus</i> .
Suckers.....	<i>Catostomus commersonii</i> .
Smelt.....	<i>Osmerus mordax</i> .
Ling.....	<i>Lota maculosa</i> .
Eels.....	<i>Anguilla chrysypa</i> .
Wall-eyed pike.....	<i>Stizostedion vitreum</i> .
Sturgeon.....	<i>Acipenser rubicundus</i> ?
Maskinonge.....	<i>Esox masquinongy</i> .
Grass pike.....	<i>Esox reticulatus</i> .
Channel cat.....	<i>Amelurus lacustris</i> ?
Sunfish.....	<i>Eupomotis gibbosus</i> .

1900-1901. EVERMANN, B. W. Small collections made in New York, near Axton, by Professor Evermann in 1900 and 1901 represent eight species, one of which *C. erythrogaster* is apparently recorded from the St. Lawrence Basin for the first time, are referred to in this paper as "Evermann coll. 1900-1901."

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| 1. <i>Ameiurus nebulosus</i> . | 4. <i>Micropterus salmoides</i> . | 7. <i>Cristivomer namaycush</i> |
| 2. <i>Chrosomus erythrogaster</i> . | 5. <i>Esox lucius</i> . | 8. <i>Salvelinus fontinalis</i> . |
| 3. <i>Micropterus dolomieu</i> . | 6. <i>Notropis cornutus</i> . | |

LIST OF SPECIES.

1. *Ichthyomyzon concolor* (Kirtland). *Silvery Lamprey*. St. Lawrence River below Quebec (Fortin 1863) and at Cape Vincent (Evermann & Bean coll. 1894).
2. *Acipenser sturio* Linnæus. *Common Sturgeon*; "*Le Maille*." St. Lawrence River and tributaries (Fortin 1863 and 1864) and River St. Lawrence (Montpetit 1897).
3. *Acipenser rubicundus* Le Sueur. *Lake Sturgeon*; "*Le Maille*." River St. Lawrence between New York and Ontario (Rathbun & Wakeham 1897); the Ottawa River and Lake Temiscamingue, basin of River St. Lawrence between its mouth and Quebec (Montpetit 1897); the St. Lawrence River below Ogdensburg (Evermann & Bean coll. 1894). At this place 6 sturgeons were seen, each weighing about 15 pounds. They were caught on set lines, pieces of perch and small suckers being used as bait. The lines were set on mud or clay bottom in 60 to 80 feet of water and about 75 hooks were used to each line.
4. *Acipenser brevirostris* Le Sueur. *Short-nosed Sturgeon*; "*Camus*." River St. Lawrence and streams flowing into it (Fortin 1864); St. Lawrence River, and lacs St. Pierre, St. Louis, and St. Froid (Montpetit 1897).
5. *Lepisosteus osseus* (Linnæus). *Gar Pike*; "*Poisson Armé*." Lake St. Peter near Sorel, and River St. Lawrence below Quebec (Fortin 1864); basin of the River St. Lawrence (Montpetit 1897).
6. *Amia calva* Linnæus. *Mud-fish*; "*Le Poisson-castor*." Near Sorel in St. Lawrence River (Fortin 1865); Lake St. Peter (Montpetit 1897).
7. *Ameiurus lacustris* (Walbaum). *Channel Cut*; "*Barbue*." St. Lawrence River between New York and Ontario (Rathbun & Wakeham 1897); basin of River St. Lawrence, sources of the St. Leon, and the Ottawa (Montpetit 1897); St. Lawrence River at Chippewa Bay (Evermann & Bean coll. 1894).
8. *Ameiurus nebulosus* (Le Sueur). *Hornpout*; "*Le Barbotte*." River St. Lawrence (Fortin 1865); most waters of St. Lawrence County and Piseco Lake (Mather 1886); St. Lawrence River near Cape Vincent and below Ogdensburg, and Racket River at Norfolk (Evermann & Bean coll. 1894); Clyde River and Lake Memphremagog, Vt. (Evermann & Kendall 1894); River St. Lawrence between New York and Ontario, and Lake Memphremagog (Rathbun & Wakeham 1897); and basins of the Ottawa and St. Lawrence (Montpetit 1897). Specimens obtained near Cape Vincent June 28 were ripe with spawn. The species was quite common there, as it is also in the Racket River and in Follingsby Pond near Axton (Evermann coll. 1900).
9. *Carpiodes thompsoni* Agassiz. *Lake Carp Sucker*. Near Lapraire, River St. Lawrence, and some of its tributaries (Fortin 1865).
10. *Catostomus catostomus* (Forster). *Long-nose Sucker*. St. Lawrence and its tributaries (Fortin 1865).
11. *Catostomus commersonii* (Lacépède). *Common Sucker*. River St. Lawrence and all its tributaries (Fortin 1863); St. Lawrence River below Cape Vincent, at Clayton, and near Ogdensburg, and Racket River at Norfolk (Evermann & Bean coll. 1894); Lake Memphremagog (Evermann & Kendall 1894); River St. Lawrence between New York and Ontario, and Lake Memphremagog (Rathbun & Wakeham 1897); Cape St. Ignace to Quebec (Montpetit 1897).

12. *Erimyzon sucetta oblongus* (Mitchill). *Chub Sucker*. River St. Lawrence and its tributaries (Fortin 1865).
13. *Moxostoma anisurum* (Rafinesque). *White-nosed Sucker*. St. Lawrence River below Ogdensburg (Evermann & Bean coll. 1894).
14. *Moxostoma aureolum* (Le Sueur). *Redhorse*. St. Lawrence and other rivers (Fortin 1865); Montreal (Günther 1868); River St. Lawrence (Montpetit 1897).
15. *Chrosomus erythrogaster* Rafinesque. *Red-bellied Dace*. The only specimens of this species known from the St. Lawrence basin were obtained in the outlet of Rock Pond, near Axton, N. Y., by Professor Evermann May 9, 1901.
16. *Pimephales notatus* (Rafinesque). "*Rock Chub*." Montreal (Baird coll. 1853); St. Lawrence River at Clayton, Cape Vincent, and near Ogdensburg (Evermann & Bean coll. 1894). Very abundant near Cape Vincent June 28, and full of ripe spawn.
17. *Semotilus corporalis* (Mitchill). *Fall-fish*; "*Le Mulet; Chevesne; Huitouche; Gardon*." Small streams in Quebec (Baird coll. 1853); River St. Lawrence, Montreal, Quebec (Fortin 1865); Piseco Lake (Mather 1886); Racket River at Norfolk and St. Lawrence River near Ogdensburg (Evermann & Bean coll. 1894); "to as high up as Batiscan, Kiskisink Lakes and Peribonca River" (Chambers 1896); Clyde River at Newport, Vt. (Evermann & Kendall 1894); districts of Quebec and Montreal, from St. Maurice to Lake St. John, to Peribonca, tributaries of the Batiscan, and in Lake St. John (Montpetit 1897).
18. *Semotilus atromaculatus* (Mitchill). River St. Lawrence and nearly all the rivers and streams running into it (Fortin 1865); Lake Memphremagog (Evermann & Kendall 1894).
19. *Abramis crysoleucas* (Mitchill). "*Brême*." Lake St. Peter and island of Sorel (Montpetit 1897).
20. *Notropis blennius* (Girard). St. Lawrence River at Clayton and near Ogdensburg (Evermann & Bean coll. 1894). Our specimens have been misplaced and this identification is uncertain.
21. *Notropis hudsonius* (Clinton). "*Shiner*." The most abundant minnow about Cape Vincent, where numerous specimens were obtained by Evermann & Bean. This is there the most popular of all the bait minnows. Examples taken June 28 were in spawning condition. Specimens obtained also at Ogdensburg.
22. *Notropis whipplii* (Girard). St. Lawrence near Cape Vincent (Evermann & Bean coll. 1894).
23. *Notropis cornutus* (Mitchill). *Redfin*; "*Rose Bream*." River St. Lawrence and nearly all the rivers and streams running into it (Fortin 1865); St. Lawrence River near Ogdensburg (Evermann & Bean coll. 1894); Clyde River, Vt. (Evermann & Kendall 1894); River St. Charles; Bras-Saint-Nicolas; outlet of Lake Megantic, and lakes of canton of Montminy (Montpetit 1897). Specimens also obtained by Professor Evermann May 9, 1901, in the outlet of Rock Pond, near Axton, N. Y.
24. *Notropis atherinoides* Rafinesque. *Slender Minnow*. St. Lawrence River near Cape Vincent and near Ogdensburg (Evermann & Bean coll. 1894). Not common at either place.
25. *Notropis rubrifrons* (Cope). *Red-nosed Minnow*. Racket River at Norfolk and St. Lawrence River below Ogdensburg (Evermann & Bean coll. 1894).
26. *Rhinichthys cataractæ* (Cuvier & Valenciennes). *Long-nosed Dace*. Montreal (Günther 1868).
27. *Rhinichthys atronasus* (Mitchill). *Black-nosed Dace*. St. Lawrence River at Cape Vincent and near Ogdensburg (Evermann & Bean coll. 1894); Clyde River at Newport and Lake Memphremagog, Vt. (Evermann & Kendall 1894).

28. *Coesius plumbeus* (Agassiz). St. Lawrence River at Clayton (Evermann & Bean coll. 1894) and Clyde River at Newport, Vt. (Evermann & Kendall 1894).
29. *Exoglossum maxillingua* (Le Sueur). *Cut-lip Minnow*. St. Lawrence River at Clayton and near Ogdensburg (Evermann & Bean coll. 1894).
30. *Anguilla chrysypa* Rafinesque. "*Eel; L'anguille*." St. Lawrence River (Richardson 1836); River St. Lawrence and several of its tributaries (Fortin 1862); Racket and Piseco lakes (Mather 1886); Lake Memphremagog (Rathbun & Wakeham 1897); basin of the River St. Lawrence, Quebec, Montreal (Montpetit 1897).
31. *Hiodon tergisus* Le Sueur. *Moon-eye; "La Laquaiche*." Richelieu River at its confluence with the St. Lawrence (Richardson 1836); River St. Lawrence (Fortin 1864); River St. Lawrence, Lake St. Peter, and in the Ottawa (Montpetit 1897).
32. *Clupea harengus* Linnæus. South shore of River St. Lawrence (Fortin 1862).
33. *Pomolobus pseudoharengus* (Wilson). *Alwif; "Gasperot*." Lower part of River St. Lawrence (Fortin 1863); St. Lawrence (Goode 1884); St. Lawrence River near Cape Vincent and below Ogdensburg (Evermann & Bean coll. 1894).
34. *Alosa sapidissima* (Wilson). *Shad; "L'Alose*." River St. Lawrence (Fortin 1862); St. Lawrence River (Goode 1884); River St. Lawrence to Montreal (Montpetit 1897).
35. *Coregonus quadrilateralis* Richardson. *Round White-fish*. Racket and Piseco lakes (Mather 1886); Lake Memphremagog (Evermann & Kendall 1894).
36. *Coregonus labradoricus* Richardson. *Labrador White-fish*. River St. Lawrence and some rivers flowing into it (Fortin 1863); River St. Lawrence (Hallock 1877); Lake Memphremagog (Evermann & Kendall 1894 and Evermann & Smith 1894); Grand Décharge (Chambers 1896); Lake St. John (Chambers 1896), and Lake Memphremagog (Rathbun & Wakeham 1897). Abundant in Chateaugay Lake, from which eight specimens were received December 24, 1900, through the kindness of the late Hon. A. Nelson Cheney and Mr. Grant E. Winchester, of the New York State fish commission. These specimens were each 8 to 9.12 inches long, and all seemed entirely mature. Two are females with apparently ripe eggs.
- These specimens are very interesting, and make it increasingly difficult to state clearly the differences between the Labrador and the common white-fishes. The technical characters of these little fish agree in the main with those assigned to the Labrador white-fish. The number of gillrakers (11+17 to 13+20) varies, however, all the way from the correct number for *C. labradoricus* to that of *C. chupeiformis*, thus eliminating that character so far as its specific value is concerned. The well-developed teeth on the tongue, the dark color, the shape of the body, and the small size at which these fish reach maturity are characters indicating their distinctness from *C. chupeiformis*.
37. *Argyrosomus artedi* (Le Sueur). *Lake Herring*. Thirty-one Mile Lake, Quebec, 60 miles north of Ottawa (D. Dwyllie coll. 1897).
38. *Salmo salar* Linnæus. *Salmon. "Le Saumon Commune*." St. Lawrence River to Lake Ontario (Richardson 1836); mouth of St. Lawrence, Saguenay, Mont Florence, Chaudière, and Jacques Cartier (Herbert 1859); Lower St. Lawrence, Rimouski, Grand Metis, etc. (Hallock 1873); St. Lawrence Basin (Hallock 1877); Saguenay River (Roosevelt 1884); St. Lawrence River (Goode 1884); Trinity and Chicoutimi rivers (Roberts 1892); Saguenay, Petit Saguenay, Sainte Marguerite, Eternité, Chicoutimi, Tadousac, Laval, Moisie, Natashquan, La Grande and Petit-Trinity (Montpetit 1897).

39. *Salmo ouananiche* McCarthy. *Ouananiche*. Upper Saguenay (Hallock 1873); Lake St. John, headwaters of the Saguenay, Province of Quebec (Hallock 1877); Saguenay (Roberts 1892); Upper Saguenay River system and Lake St. John (Creighton 1892); Lake St. John, the various rivers flowing into it, and the Grand Discharge: Ouatichouan, Ouatichouaniche, and Metabetchuan rivers; also Ashuapmouchouan, Mistassini, and Peribonca rivers and lakes; also Lake Tshotagama and Lake a-Jim (McCarthy 1894); Grand Décharge, Saguenay, Lake St. John, and principal tributaries (Chambers 1896); Lake St. John, Grand Décharge, Chute du Diable, L'Ashuap, and Metabetchuan (Montpetit 1897).
40. *Cristivomer namaycush* (Walbaum). *Lake Trout*; "*Touladi*." Lake St. John and Lake Metis (Chambers 1896); Lake Memphremagog (Evermann & Kendall 1894, and Rathbun & Wakeham 1897); Lake Champlain, tributaries of Lake St. John to Quebec, Peribonca River, and Province of Quebec to Lake Temiscamingue (Montpetit 1897); Follingsby Pond, near Axton, N. Y. (Evermann coll. 1900).
41. *Salvelinus fontinalis* (Mitchill). *Trout*; *Le Truite Commune*. Mouth of the St. Lawrence (Herbert 1859); "all of our rivers which flow into the St. Lawrence as far as Lake Ontario, and mouths of a great number of rivers which flow into the Lower St. Lawrence" (Fortin 1862); lakes in the upper Saguenay region and the upper parts of the river tributaries (Creighton 1892); Lake a-Jim and Lac de Belle Riviere (McCarthy 1894); Grand Décharge (Chambers 1896); Ampersand Pond, near Axton, N. Y. (Evermann coll. 1900).
42. *Salvelinus marstoni* Garman. Lac de Marbre, Ottawa County, province of Quebec (Garman 1893); lake near Ottawa, Lac des Isles and Lac à Cassette, Rimouski County (Chambers 1896); Lake Saccacomi and Red Lakes, township of St. Alexis des Monts, Maskinonge County, Quebec (specimens collected by J. W. Titcomb, 1901); Decalones township (township of St. Alexis des Monts) Quebec (specimen received by U. S. National Museum in 1886, from Eugene Blackford); Lake Tourille, headwaters of St. Anne River, province of Quebec (specimen received in 1899 by U. S. National Museum from Graham H. Harris); lake in Chernier township, Rimouski County, province of Quebec (2 specimens received in 1896 by U. S. National Museum, from Department of Crown Lands). This trout is probably of wide distribution in the region north of the St. Lawrence River, but definite records are wanting.
43. *Osmerus mordax* (Mitchill). *Smelt*; "*L'Epelan*." River St. Lawrence as far as Quebec (Fortin 1862); St. Lawrence at least to Quebec (Whiteaves 1873); Lake Memphremagog (Evermann & Kendall 1894); Quebec and Trois Rivières (Montpetit 1897); Lake Memphremagog (Rathbun & Wakeham 1897).
44. *Umbra limi* (Kirtland). Streams and little rivers of Canada (Fortin 1865).
45. *Esox reticulatus* Le Sueur. *Grass Pike*; "*Brochet Maille*." River St. Lawrence (Fortin 1863); Racket Lake (Mather 1886); St. Lawrence River between New York and Ontario (Rathbun & Wakeham 1897); River St. Lawrence (Montpetit 1897).
46. *Esox lucius* Linnæus. *Pike*; "*Le Brochet*." Basin of the St. Lawrence (Herbert 1859); River St. Lawrence (Fortin 1863); St. Lawrence River (Hallock 1877); Grand Chute, Lake St. John, and Peribonca (Creighton 1892); St. Lawrence River near Ogdensburg (Evermann & Bean coll. 1894); Lake Memphremagog (Evermann & Kendall 1894); Lake St. John, Grand Discharge and many tributary waters (McCarthy 1894); Lake St. John, Grand Décharge, and Peribonca (Chambers 1896); River St. Lawrence between New York and Ontario, and Lake Memphremagog (Rathbun & Wakeham 1897); basin of River St. Lawrence (Montpetit 1897); Follingsby Pond, near Axton, N. Y. (Evermann coll. 1900).

47. *Esox masquinongy* Mitchill. *Muskallunge*; "*Muskalonge*"; "*Le Maskinonge*." St. Lawrence River at Thousand Isles (Hallock 1877); St. Lawrence River (Goode 1884); St. Lawrence River between New York and Ontario (Rathbun & Wakeham 1897); basin of the River St. Lawrence (Montpetit 1897); St. Lawrence River near Ogdensburg (Evermann & Bean coll. 1894).
48. *Fundulus diaphanus* (Lé Sueur). St. Lawrence River near Cape Vincent and near Ogdensburg (Evermann & Bean coll. 1894). Specimens obtained at Cape Vincent June 28 were full of ripe eggs.
49. *Eucalia inconstans* (Kirtland). Near Montreal (Dawson 1859).
50. *Percopsis guttatus* Agassiz. *Trout Perch*. St. Lawrence River at Cape Vincent (Evermann & Bean coll. 1894).
51. *Scomber scombrus* Linnæus. *Mackerel*. North shore of River St. Lawrence (Fortin 1862).
52. *Pomoxis sparoides* (Lacépède). *Calico Bass*; "*Le Crapet Calicot*." Waters of Quebec, "*Deep-cut*," and the Ottawa (Montpetit 1897).
53. *Ambloplites rupestris* (Rafinesque). *Rock Bass*; "*Le Crapet Vert*"; "*Crapet Mondoux*"; "*Brême*." River St. Lawrence (Fortin 1894); waters of Quebec (Montpetit 1897). Common in the St. Lawrence River near Cape Vincent (Evermann & Bean coll. 1894).
54. *Eupomotis gibbosus* (Linneus). *Common Sun-fish*; "*Le Crapet Jaune*." Montreal (Fortin 1864); St. Lawrence River between New York and Quebec (Rathbun & Wakeham 1897); Canada (Montpetit 1897). A good many examples in spawning condition were obtained June 28, 1894, by Evermann & Bean near Cape Vincent, and others obtained by them at Ogdensburg.
55. *Micropterus dolomieu* Lacépède. *Small-mouth Black Bass*; "*L'Achigan Petit Bouche*." St. Lawrence basin (Herbert 1859); Thousand Isles (Roosevelt 1884); Upper St. Lawrence River (Goode 1884); Racket Lake and Partelo Pond, in St. Lawrence County, N. Y. (Mather 1886); St. Lawrence River near Cape Vincent and near Ogdensburg (Evermann & Bean coll. 1894); Lake Memphremagog (Evermann & Kendall 1894); River St. Lawrence between New York and Ontario, and in Lake Memphremagog (Rathbun & Wakeham 1897); basin of the St. Lawrence River and Long Pond, N. Y. (Montpetit 1897); Follingsby Pond near Axton, N. Y. (Evermann coll. 1900). Young black bass, 3 to 12 inches long, were exceedingly abundant at Cape Vincent in June.
56. *Micropterus salmoides* (Lacépède). *Large-mouth Black Bass*; "*L'Achigan Grand Bouche*." Upper St. Lawrence River (Goode 1884); basin of St. Lawrence (Montpetit 1897); French Creek near Clayton (Evermann & Bean coll. 1894); Follingsby Pond near Axton, N. Y. (Evermann coll. 1900).
57. *Stizostedion vitreum* (Mitchill). *Wall-eyed Pike*; "*Le Grand Doré*." Montreal and Lower St. Lawrence (Fortin 1864); Lake St. John waters (Creighton 1892); Lake St. John, Grand Décharge, and Peribonca (Chambers 1896); St. Lawrence River between New York and Quebec (Rathbun & Wakeham 1897); basin of the St. Lawrence (Montpetit 1897).
58. *Stizostedion canadense* (Smith). *Sauger*; "*Le petit Doré*." River St. Lawrence (Fortin 1864); basin of the River St. Lawrence (Montpetit 1897); St. Lawrence River near Ogdensburg (Evermann & Bean coll. 1894).
59. *Perca flavescens* (Mitchill). *Yellow Perch*; "*La Perchaude*." Quebec (Baird coll. 1853); River St. Lawrence (Fortin 1863); Lake St. John, Grand Discharge, and many tributary rivers (McCarthy 1894); St. Lawrence River at Cape Vincent and near Ogdensburg (Evermann & Bean coll. 1894); Lake Memphremagog (Evermann & Kendall 1894); Lake Memphremagog and River St. Lawrence between New York and Ontario (Rathbun & Wakeham 1897); basin of River St. Lawrence (Montpetit 1897); Follingsby Pond near Axton, N. Y. (Evermann coll. 1900). Very abundant about Cape Vincent.

60. *Percina caprodes* (Rafinesque). *Log Perch*. Small streams in Quebec (Baird coll. 1853); Racket River at Norfolk and St. Lawrence River near Ogdensburg (Evermann & Bean coll. 1894).
61. *Cottogaster cheneyi* Evermann & Kendall. *Cheney's Darter*. Racket River at Norfolk, N. Y. (Evermann & Kendall 1897).
62. *Boleosoma nigrum olmstedii* (Storer). *Johnny Darter*. Small streams of Quebec and at Montreal (Baird coll. 1853); Racket River at Norfolk and St. Lawrence River near Cape Vincent and Ogdensburg (Evermann & Bean coll. 1894). Rather common at Cape Vincent.
63. *Etheostoma boreale* (Jordan). *Northern Darter*; "*L'Apron*." Montreal (Jordan 1884); basin of River St. Lawrence from Montreal to the Great Lakes (Montpetit 1897).
64. *Etheostoma flabellare* Rafinesque. *Fun-tailed Darter*. Small streams in Quebec (Baird coll. 1853).
65. *Roccus lineatus* (Bloch). *Striped Bass*; "*Bars*." St. Lawrence as far as Quebec (Richardson 1836); River St. Lawrence and some of its tributaries, Sorel and Crane islands (Fortin 1863); River St. Lawrence to Quebec (Goode 1884); River St. Lawrence up to Sorel (Montpetit 1897).
66. *Cyclopterus lumpus* Linnæus. *Lump-fish*. Shores of the River and Gulf of St. Lawrence (Fortin 1863).
67. *Cottus ictalops* (Rafinesque). *Blob*; "*Le Chabot*." St. Lawrence River near Cape Vincent and Ogdensburg (Evermann & Bean coll. 1894). Only four specimens obtained, one at Cape Vincent and three at Ogdensburg.
68. *Uranidea gracilis* (Heckel). *Blob*; "*Le Chabot*." River St. Charles (Montpetit 1897) and Racket River (Mather 1886).
69. *Microgadus tomcod* (Walbaum). *Tomcod*; "*La petite Morue*"; "*La Loche*." Basin of the River St. Lawrence (Montpetit 1897).
70. *Lota maculosa* (Le Sueur). *Ling*; "*La Loche*." River St. Lawrence (Fortin 1863); St. Lawrence River near Ogdensburg (Evermann & Bean coll. 1894); Lake St. John (Chambers 1896); Lake Memphremagog (Rathbun & Wakeham 1897); basin of the aqueduct of Montreal and rivers flowing into Lake St. John (Montpetit 1897).
71. *Pseudopleuronectes americanus* (Walbaum). *Winter Flounder*. River St. Lawrence and several tributaries (Fortin 1862).