### BULLETIN

OF THE

## UNITED STATES FISH COMMISSION.

1883.

1.—LIST OF PAPERS RELATING TO THE WORK OF THE UNITED STATES FISH COMMISSION FROM ITS ORGANIZATION IN 1871 TO JULY 1, 1883, AND WHICH HAVE BEEN PUBLISHED UNDER THE DIRECTION OF THE UNITED STATES FISH COMMISSION, THE NATIONAL MUSEUM, AND THE TENTH CENSUS, TOGETHER WITH A TOPICAL SYNOPSIS OF THE TITLES.

#### By CHAS. W. SMILEY.

[Prepared by request of Prof. S. F. Baird for the London Exhibition, 1883.]

This list was designed primarily for office reference and to prevent the accidental republication of papers. But in order to show the extent of the work done in this field, it has been elaborated for the purpose already indicated. It is believed to contain titles of all the separate articles, pamphlets, and important circulars which have been published with the approval of the Commissioner.

Very many papers which regularly appeared in the reports, bulletins, or proceedings also appeared as separate tracts, and all in the two lastnamed publications have been available in signature. In many cases the fact of separate publication will be noted.

#### LIST OF THE PUBLICATIONS CITED.

Report of the Commissioner for 1871-72. pp. 900.

Report of the Commissioner for 1872-773. pp. 910.

Report of the Commissioner for 1873-74 and 1874-75. pp. 830.

Report of the Commissioner for 1875-76. pp. 1080.

Report of the Commissioner for 1876-77. pp. 1042.

Report of the Commissioner for 1878. pp. 1052.

Report of the Commissioner for 1879. pp. 898.

Report of the Commissioner for 1880. pp 1108.

Bulletin of the U.S. Fish Commission, 1881. pp. 474.

Bulletin of the U.S. Fish Commission, 1882. pp. 475.

Proceedings of the National Museum, 1878. pp. 524. S. I. pub. No. 332.

Bull. U. S. F. C., 83-1

August 3, 1883.

Proceedings of the National Museum, 1879. pp. 503. S. I. pub. No. 333. Proceedings of the National Museum, 1880. pp. 595. S. I. pub. No. 425.

Proceedings of the National Museum, 1881. pp. 678. S. I. pub. No. 467.

Proceedings of the National Museum, 1882. In press.

Bulletin of the National Museum, No. 5, 1876. pp. 84. S. I. No. 296.

Bulletin of the National Museum, No. 6, 1876. pp. 140. S. I. No. 297. Bulletin of the National Museum, No. 9, 1877. pp. 56. S. I. No. 305.

Bulletin of the National Museum, No. 10, 1877. pp. 124. S. I. No. 3061

Bulletin of the National Museum, No. 11, 1882. pp. 64. S. I. No. 463.

Bulletin of the National Museum, No. 12, 1878. pp. 237. S. I. No. 308.

Bulletin of the National Museum, No. 14, 1879. pp. 351. S. I. No. 326.

Bulletin of the National Museum, No. 16, 1883. pp. 1018.

Bulletin of the National Museum, No. 18, 1880. pp. 263. S. I. No. 413.

Census Bulletin, No. 176, 1881. pp. 6.

Census Bulletin, No. 261, 1881. pp. 8.

Census Bulletin, No. 278, 1881. pp. 47.

Census Bulletin, No. 281, 1881. pp. 8.

Census Bulletin, No. 291, 1882. pp. 7. Census Bulletin, No. 295, 1882.

pp. 35. Census Bulletin, No. 297, 1882. pp. 14.

Census Bulletin, No. 298, 1882. pp. 18. Census Bulletin, special, 1881. pp. 251.

Census Bulletin, special, 1882. pp. 176.

Questions of the Census relating to Fish Trade and Consumption, 1879.

Specifications for two Steamers, 1879 and 1881. pp. 97.

Five series of Questions upon Cod, Mackerel, Smelt, Alewife, &c. 1876 (?). pp. 20.

Hints for Emergencies. By Dr. J. H. Kidder. 1877 (?). pp. 7.

Directions for Collecting and Preserving Fish. 1881. pp. 6. S. I. pub. No. 464.

Circular in Reference to Shipping fresh Fish and other Animals. 1831. pp. 4. S. I. No. 384.

Directory of Employés of the Smithsonian Institution, Fish Commission, &c. 1882. pp. 8. S. I. pub. No. 466.

Memoranda for the Construction of a Harbor of Refuge at Wood's Holl, Mass. 1882. pp. 6.

Laws and Regulations of the U.S. Fish Commission. 1882. pp. 32. Classification of Exhibits at the London Exhibition. 1882.

An account of the work of the Fish Commission has been published annually since 1872 in the Report of the Smithsonian Institution, but as it was not in papers separate from other matter, this is the only reference to be made to the fact.

The Fish Commission was also interested in the preparation of the material for the American case as recorded in "Award of the Fishery

Commission. Documents and Proceedings of the Halifax Commission, 1877, under the Treaty of Washington of May 8, 1871. In three volumes. Washington: Government Printing Office. 1878." (Forty fifth Congress, second session, House of Representatives, Ex. Doc. No. 89.) pp. 1090, 1237, 1168.

The arrangement being by authors, it has been deemed best in the case of translations to insert the paper twice, once under the author's name and once under the translator's name.

A topical synopsis of the papers will be found at the close of the list.

# I.—ARTICLES BY KNOWN AUTHORS ALPHABETICALLY ARRANGED.

- 1. Abbott, Chas. C. Notes on some fishes of the Delaware River.

  [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 525-845.]
- 2. Adams, A. Leith. The lake trouts.

[ In REPORT of the Commissioner for 1872-773, Part II, 1874, pp. 357-362.]

3. Akekio, Sekizawa. Memorandum on fish-culture in Japan, with a notice of experiments in breeding the California trout.

[In Report of the Commissioner for 1879, Part VII, 1882, pp. 645-648.]

4. Albro, Samuel. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In REPORT of the Commissioner for 1871-'72, Part I, 1873, p. 8.]

- 5. Allen, William S. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 413-414.]
- 6. Allport, Morton. Present state of the salmon experiment in Tasmania.

[ In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 819-823.]

- 7. Ameln, Johan. Society for promoting the Norwegian fisheries.

  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 241-243.]
- 8. Anderson, G. A. Report on shad-hatching in New Jersey in 1874.

  [In Report of the Commissioner for 1873-'74 and 1874-'75, Part III, 1876, pp. 327-328.]
- 9. Anderson, R. B., TRANSLATOR. Report on the Norwegian deep-sea expedition of 1878. By G. O. Sars.

[ In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 257-281.]

10. Anderssen, Joakim. Report on the department of fisheries in the world's exposition in Philadelphia, 1876.

[In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 47-71.]

11. Anderton, J. L. Statement concerning the menhaden fishery.

[In Report of the Commissioner for 1877, Part V, 1879, pp. 460-461.]

4	BULLETIN OF THE UNITED STATES FISH COMMISSION.
12.	Armistead, A. Wilson. A transfer of leather carp (Cyprinus carpio) from the Government ponds at Washington, U. S. A., to Scotland.
	[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 341-342.]
13.	Arnold, jr., Isaac. Successful propagation of black bass.
	[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 113-115.]
14.	Atkins, Charles G. On the salmon of Eastern North America, and its artificial culture.
	[ In Report of the Commissioner for 1872-73, Part II, 1874, pp. 226-335.]
15.	On fish-ways.
	[In Report of the Commissioner for 1872-'73, Part II, 1874, pp. 591-616.]
16.	
	[In Report of the Commissioner for 1873-'74 and 1874-'75, Part III, 1876, pp. 485-530.]
17.	On the collection of eggs of Schoodic salmon in 1875 and 1876.
	[In Report of the Commissioner for 1875-'76, Part IV, 1878, pp. 910-919.]
18.	Report on the collection and distribution of Schoodic salmon eggs in 1877-78.
	[In Report of the Commissioner for 1877, Part V, 1879, pp. 817-846.]
19.	Report on an attempt to collect eggs of Sebago salmon in 1878.
	[In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 775-787.]
20.	Report on the collection and distribution of Schoodic
	salmon eggs in 1878-779.
	[In Report of the Commissioner for 1878, Part VI, 1880, pp. 789-814.]
21.	Cheap fixtures for the hatching of salmon.
	[In Report of the Commissioner for 1878, Part VI, 1880, pp. 944-965; also separately.]
22.	Report on the propagation of Schoodic salmon in 1879-
	<sup>180</sup> .
00	[In Report of the Commissioner for 1879, Part VII, 1882, pp. 733-766.]
23.	Report on the propagation of Penobscot salmon in 1879-780.
	[In Report of the Commissioner for 1879, Part VII, 1882, pp. 721-731.]
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-----. Sketch of the Schoodic salmon breeding establishment.

Sketch of the Penobscot salmon-breeding establish-

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 379-382.]

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 373-378.]

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	BULLETIN OF THE UNITED STATES FISH COMMISSION. 5
26.	Atkins, Charles G. Report on the propagation of Schoodic salmon in 1880-'81.
	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 623-631.]
27.	Report on the propagation of Penobscot salmon in 1880-'81.
	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 633-651.] (See also under Stilwell and Atkins.)
28.	Arthur, W. Shipment of white fish eggs to New Zealand in 1878.
	[In Report of the Commissioner for 1878, Part VI, 1880, pp. 857, 859, 864, 879.]
29.	Atwater, W. 0. Menhaden and other fish and their products as related to agriculture.
,	[In Report of the Commissioner for 1877, Part V, 1879, pp. 194-267.]
30.	
	composition and economic values of the fish and invertebrates used for food. Undertaken for the United States Fish Commission.
	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 231-283.]
01	
31.	Atwood, Nathaniel E. Fisheries on the coast of Massachusetts.  [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 117-124.]
90	————. Abstract of an address in opposition to legislation con-
UZ,	cerning traps and pounds.
	[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 223-227.]
33.	Atwood, William. Statement concerning the menhaden fishery.
	[In Report of the Commissioner for 1877, Part V, 1879, p. 404.]
34,	Babson, F. J. Statement concerning the menhaden fishery.
	[In Report of the Commissioner for 1877, Part V, 1879, pp. 395-399.]
35.	Baird, Spencer F. Report on the condition of the sea fisheries of the south coast of New England in 1871 and 1872.
	[In Report of the Commissioner for 1871-'72, Part I, 1873, pp. i-xli.]
<b>36</b> .	———. Memoranda of inquiry relative to the food-fishes of the United States.
	[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 1-3; also by Smithsonian Institution No. 231, in Misc. Coll. X; also separately.]
37.	Questions relative to the food-fishes of the United
	States. [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 3-6; also by
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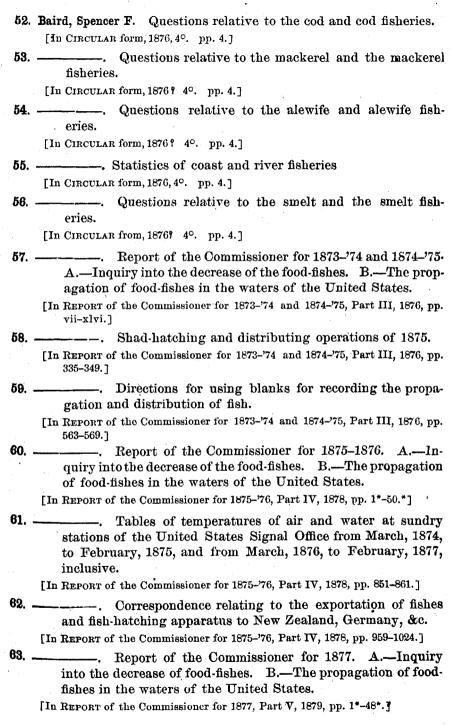
Smithsonian Institution No. 234, in Misc. Coll. X; also separately.]

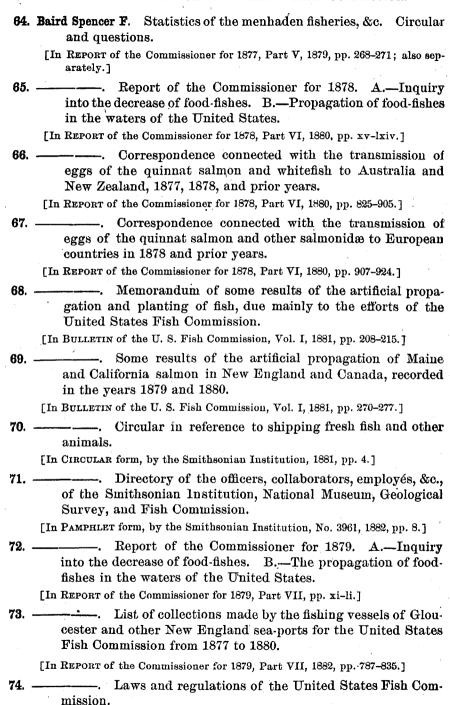
[In REPORT of the Commissioner for 1871-'72, Part I, 1873, pp. 7-72.]

fisheries, taken in 1871.

Testimony in regard to the present condition of the

6 BULLETIN OF THE UNITED STATES FISH COMMISSION. 39. Baird, Spencer F. Report of State commissions in regard to regulating the sea isheries by law. [In REPort of the Commissioner for 1871-72, Part I, 1873, pp. 104-124.] 40. \_\_\_\_\_. Report of conference of United States Commissioner with commissioners of Rhode Island and Massachusetts. [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 125-132.] -. Draught of law proposed for the consideration of and 41. enactment by the legislatures of Massachusetts, Rhode Island, and Connecticut. [In REPORT of the Commissioner for 1871-'72, Part I, 1873, pp. 132-134.] ---. Statistics of fish and fisheries on the south shore of 42. -New England. [In REPORT of the Commissioner for 1871-'72, Part I, 1873, p. 173.] 43. -Supplementary testimony and information relative to the condition of the fisheries of the south side of New England, taken in 1872. [In REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 182-195.] ———. Pleadings before the senate committee on fisheries, of the Rhode Island legislature at its January session of 1872. [In Report of the Commissioner for 1871-'72, Part I, 1873, pp. 196-227.] Natural history of some of the more important food-45. -fishes of the south shore of New England. [In REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 228-252.] 46. \_\_\_\_\_ Description of apparatus used in capturing fish on the seacoast and lakes of the United States. [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 253-274.] 47. --. List of fishes collected at Wood's Holl. [In Report of the Commissioner for 1871-'72, Part I, 1873, pp. 823-827.] Report of the Commissioner for 1872 and 1873. A .-Inquiry into the decrease of the food fishes. B.—The propagation of food-fishes in the waters of the United States. [In REPORT of the Commissioner for 1872'-73, Part II, 1874, pp. i-xcii.] 49. ———. Note on Dr. Luckley's article on the North American species of salmon and trout. [In Report of the Commissioner for 1872-'73, Part II, 1874, p. 91.] 50. -Correspondence with railroad companies in reference to facilities for transfer of shad and other fish. [In REPORT of the Commissioner for 1872-73, Part II, 1874, pp. 749-756.] Reports of special conferences with the American fish. 51. ———. culturists' association and State commissions of fisheries. A .-At Boston, June 13, 1872. B.—At New York, October 19, 1872. [In Report of the Commissioner for 1872-'73, Part II, 1874, pp. 757-773.]





[In Pamphlet form. 1882, 8°. pp. 32.]

75. Baird, Spencer F. Classification of exhibits at London Fishery Exhibition.

[In CIRCULAR form, 1882, 4°. pp. 3.]

76. ———. Memoranda for the construction of a harbor of refuge at Wood's Holl, Mass.

[In Circular form, type-written and lithographed. 1882, 4°. pp. 6.]

77. ———. Inducements offered fishermen to furnish shad eggs for the U. S. Commission of Fish and Fisheries.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 389-391.]

78. ———. Report of the Commissioner for 1880. A.—Inquiry into the decrease of food-fishes. B.—Propagation of food-fishes in the waters of the United States.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. xvii-xlvi.]

79. \_\_\_\_\_. Statistics of the propagation and distribution of shad in the spring of 1880.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 653-671.]

80. Baird, Spencer F., Francis A. Walker, and G. Brown Goode: Returns of circular relating to fish trade and consumption of fish.

[In CIRCULAR form, Census, No. 7-032, 2 eds. 1879, 4°. pp. 3.]

- 81. Ball, H. D. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, p. 425.]
- 82. Banditten, Eben. On carp culture, chiefly in its relation to agriculture.

[In Report of the Commissioner for 1878, Part VI, 1880, pp. 667-670.]

- 83. \_\_\_\_\_. Recent contributions to pond cultivation.

  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 385-387.]
- 84. Barfurth, D. The food and mode of living of the salmon, the trout, and the shad.
  - [In Report of the Commissioner for 1873-74, and 1874-75, Part III, 1876, pp. 735-759.]
- 85. Barnes, A. G. Growth and spawning of German carp in Alabama. [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 424-425.]
- 86. Barnston, George. The whitefish of the Great Lakes—Lake Superior.
  [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 79-80.]
- 87. Bartels, H. Shipment of salmon over to Germany in 1878.

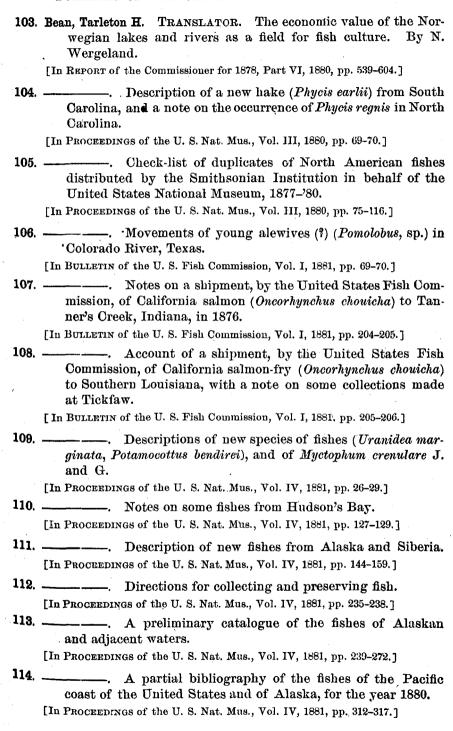
  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 907-908.]
- 88. Bean, Tarleton H. Description of a new sparoid fish, Sargus Holbrookii, from Savannah Bank.

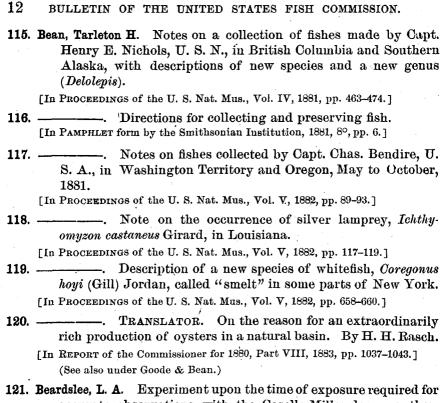
[In Proceedings of the U. S. Nat. Mus., Vol. I, 1878, pp. 198-200.]

89. \_\_\_\_\_. On the occurrence of Stichæna punctatus (Fabr.) Kröyer, at St. Michael's, Alaska.

[In Proceedings of the U. S. Nat. Mus., Vol. I, 1878, pp. 279-281.]

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90.	Bean, Tarleton H. On the identity of Euchalarodus putnami Gill, with Pleuronectes glaber (Storer) Gill, with notes on the habits of the species.
	[In Proceedings of the U. S. Nat. Mus., Vol. I, 1878, pp. 345-348.]
91.	————. Description of a species of Lycodes (L. turneri), from Alaska, believed to be undescribed.
	[In Proceedings of the U. S. Nat. Mus., Vol. I, 1878, pp. 463-466.]
92.	———. A list of European fishes in the collection of the United States National Museum.
	[In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 10-44.]
93.	. On the species of Astroscopus of the Eastern United
	States.
	[In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 57-63.]
<b>94</b> .	On the occurrence of <i>Hippoglossus vulgaris</i> Flem., at Unalashka and St. Michael's, Alaska.
	[In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 63-66.]
	teus (G. atkinsii) from the Schoodic Lakes, Maine.
	[In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 67-69.]
96.	Description of a new fish from Alaska (Anarrhichas
1 ,	lepturus), with notes upon other species of the genus Anarrhichas.
	[In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp, 212-218.]
97.	Notes on a collection of fishes from Eastern Georgia.  [In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 284-286.]
98.	Description of a new species of Amiurus (A. ponderosus) from the Mississippi River.
	[In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 286-290.]
99.	A. Dugès in Central Mexico.
	[In PROCEEDINGS of the U. S. Nat. Mus., Vol. II, 1879, pp. 302-305.]
100.	———. Descriptions of some genera and species of Alaskan fishes.
	[In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 353-359.]
101.	By Fredrik M. Wallem.
	[In Report of the Commissioner for 1878, Part VI, 1880, pp. 75-115.]
102.	
	the ascent of salmon in our rivers as is generally maintained?
	By H. Rasch. [In Report of the Commissioner for 1878, Part VI, 1880, pp. 517-518.]





accurate observations with the Casella-Miller deep-sea thermometer.

[In Report of the Commissioner for 1877, Part V, 1879, pp. 887-900.]

- 122. Beebe, Samuel C. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 432-433.]
- 123. Behr. von. Shipments of apparatus to Germany. [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 1004-1006.]
- Address made at the meeting of the German Fishery 124. -Association, at Berlin, March 16, 1877, by Herr von Behr, of Schmoldow, president of the association, member of the German Parliament.

[In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 1014-1024.]

- -----. Shipment of salmon ova to Germany in 1878. [In Report of the Commissioner for 1878, Part VI, 1880, pp. 911-912.]
- -. Treatment of fish eggs at sea. [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 346-347.]
- 127. ———. Five American salmonidæ in Germany. [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 237-246.]
- 128. Bell, James H. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 454-457.]

- 129. Bendire, Charles. Notes on Salmonidæ of the Upper Columbia.
  [In Proceedings of the U.S. Nat. Mus., Vol. IV, 1881, pp. 81-87.]
- 130. Benson, Joseph B. Statement concerning the menhaden fishery.
  - [In Report of the Commissioner for 1877, Part V, 1879, pp. 457-458.]

    31 Reversal James G. On the possibility of exhausting the sea-fisl
- 131. Bertram, James G. On the possibility of exhausting the sea-fisheries.
  - [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 141-144.]
- 132. Boeck, A. J. and A. Feddersen. The Norwegian herring-fisheries.

  [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 97-122.]
- 133. Boeck, Axel. The Norwegian lobster fishery and its history.

  [In Report of the Commissioner for 1873-'74 and 1874-'75, Part III, 1876, pp. 223-258.]
- 134. Bolliston, Wm. Exportation of salmon ova to New Zealand in 1876.
  - [In REPORT of the Commissioner for 1875-76, Part IV, 1878, p. 964.]
- 135. Bon, M. de. Report on the condition of oyster culture in 1875, preceded by a report to the minister of marine and of the colonies.
  - [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 885-906, index.]
- 136. Borne, Max von dem. How can our lakes and rivers be again stocked with fish in the shortest possible time?
  - [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 681-693.]
- 137. Dry transmission of fish eggs.

  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 345-346.]
- 138. On pond fisheries.

  [In Report of the Commissioner for 1879, Part VII, 1882, pp. 649-650.]
- [In Report of the Commissioner for 1879, Part VII, 1882, pp. 649-650.]

  139. \_\_\_\_\_\_\_. Raise carp.
- [In REPORT of the Commissioner for 1880, Part VIII, 1883, pp. 673-680.]
- 140. Bottemanne, C. J. Shipment of salmon ova to the Netherlands in 1877.
  - [In Report of the Commissioner for 1878, Part VI, 1880, pp. 914-916; 919-924.]
- 141. ————. California salmon in the Netherlands.

  [In Report of the Commissioner for 1879, Part VII, 1882, pp. 709-713.]
- 142. Bouchon-Brandely, M. Report on the state of pisciculture in France and the neighboring countries.
  - [In Report of the Commissioner for 1872-'73, Part II, 1874, pp. 513-523.]
- 43. ————. Report relative to the generation and artificial fecundation of oysters, addressed to the minister of the marine and the colonies.
  - [In BULLETIN of the U.S. Fish Commission, Vol. II, 1882, pp. 319-338.]

144. Bouchon-Brandely, M. On the sexuality of the common oyster (O. edulis) and that of the Portuguese oyster (O. angulata). Artificial fecundation of the Portuguese oyster.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 339-341.]

- 145. ———. A report on oyster culture in the Mediterranean.
  [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 907-930, index.]
- 146. Bradford, Gamaliel. TRANSLATOR. The history of fish culture in Europe from its earlier records to 1854. By Jules Haime.

  [In Report of the Commissioner for 1872-773, Part II, 1874, pp. 465-492.]
- 147. Brayton, Alembert W. See David S. Jordan.
- 148. Brightman, Benj. F. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 379-382.]
- 149. Brightman, Potter. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In REPORT of the Commissioner for 1871-'72, Part I, 1873, pp. 70-71.]

150. Brinley, Francis. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In REPORT of the Commissioner for 1871-'72, Part I, 1873, pp. 8-9.]

- 151. ———. Report of committee of Rhode Island legislature, made at Newport, June 15, 1870.
  - [În REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 104-111.]
- 152. Broca, P. de. The halibut fishery of the United States.

  [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 169-171.]
- 153. On the oyster industries of the United States.

  [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 271-319.]
- 154. Brodhead, J. M. Upon the abundance of fish on the New England coast in former times.
  - [In REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 169-170.]
- 155. Caird, James, T. H. Huxley, and George Shaw Lefevre. Extracts from the report of the commissioners appointed to inquire into the sea fisheries of the United Kingdom; presented to both houses of Parliament by command of Her Majesty. London, 1861.

[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 145-148.]

156. Campbell, J. B. Notes on McCloud River, California, and some of its fishes.

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 44-46.]

157. Cattie, S. Th. On the genitalia of male eels, and their sexual characters.

[In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 280-284.]

158. Chadwick, B. P. The destruction of young fish by unsuitable fishing implements.

In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 339-340.

159. Cheney, Simeon F. Correspondence on the subject of the sea fisheries.

[In Report of the Commissioner for 1871-'72, Part I, 1873, pp. 135-136.]

160. Cheeseman, T. F. Exportation of salmon ova to New Zealand in 1876.

[ In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 965-967; 980.]

- 161. \_\_\_\_\_. Shipment of salmon ova to New Zealand in 1877.

  [In Report of the Commissioner for 1878, Part VI, 1880, p. 837.]
- 162. Church, Daniel T. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[ In Report of the Commissioner for 1871-72, Part I, 1873, pp. 31-32.]

- 163. ————. Statement concerning the menhaden fishery.

  [In Report of the Commissioner for 1878, Part V, 1879, pp. 418-424.]
- 164. Clark, A. Howard. Statistics of the fisheries of New Hampshire, Rhode Island, and Connecticut.

[CENSUS BULLETIN No. 291, 1882, pp. 7.]

- 165. \_\_\_\_\_. Statistics of the fisheries of Massachusetts.
  [Census Bulletin No. 295, 1882, pp. 35.]
- 166. Clark, Frank N. The self-picker.

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 62-65.]

167. ———. On the rearing of whitefish in spring water, and its relation to their subsequent distribution.

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 301-306.]

- 168. ———. Account of the operations at the Northville fishhatching station of the United States Fish Commission, from 1874 to 1882, inclusive.
  - [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 355-372.]
- 169. \_\_\_\_\_. Description of the United States fish-hatchery at Alpena, Michigan.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 388.]

- 170. Report of operations connected with the propagation of whitefish (*Coregonus albus*) at the Northville station, Northville, Michigan, for the season of 1880-'81.
  - [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 553-596, fig. 1, index.]
- 171. Clark, Henry W. Statement concerning the menhaden fishery.

  [In Report of the Commissioner for 1877, Part V, 1879, pp. 425-426.]

- 16 BULLETIN OF THE UNITED STATES FISH COMMISSION.
- 172. Clark, Nelson W. Description of improved apparatus in fish-hatching.

[In REPORT of the Commissioner for 1872-'73, Part II, 1874, pp. 582-585.]

- 173. Clift, W. Report on shad-hatching operations in 1872.
  - [In REPORT of the Commissioner for 1872-73, Part II, 1874, pp. 403-405.]
- 174. Collins, J. W. Gill-nets in the cod-fishery; a description of the Norwegian cod-nets, with directions for their use, and a history of their introduction into the United States.
  - [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 1-17; also separately.]
- 175. ———. An inquiry as to the capture of young codfish in Chesapeake Bay.

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 401-402.]

176. ———. First arrival of mackerel in New York in the spring of 1882.

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, p. 402.]

177. ———. Appearance of dog-fish (Squalus acanthias) on the New England coast in winter.

[In BULLETIN of the U.S. Fish Commission, Vol. II, 1882, p. 8.]

- 178. ————. Shad taken in mackerel gill-nets.

  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 95,]
- 179. ———. Notes on the movements, habits, and captures of mackerel for the season of 1882.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 273-285.]

180. ———. Notes on the herring fishery of Massachusetts Bay in the autumn of 1882.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 287-290.]

- 181. ———. Correspondence relative to the procurement of certain fishery implements for the Government of New South Wales.

  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 291-299.]
- 182. ———. Report upon a cruise made to the tilefish ground in the smack "Josie Reeves," September, 1882.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 301-310.]

- 183. ———. Notes on the halibut fisheries of 1881-'82.

  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 311-316.]

  (See also under Goode and Collins.)
- 184. Condon, J. C. Statement concerning the menhaden fishery.

  [In Report of the U. S. Fish Commissioner, Part V, 1879, pp. 375-377.]
- 185. Conner, Patrick. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 478-479.]

## Vol. III, No. 2. Washington, D. C. August 3, 1883.

- 186. Cook, Caleb. The manufacture of porpoise-oil.

  [In Proceedings of the U. S. Nat. Mus., Vol. I, 1878, pp. 16-18.]
- 187. Cooper, Mark A. Letter referring to experiments of W. C. Daniell, M. D., in introducing shad into the Alabama River.

[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 389-390.]

- 188. Cooper, G. S. Exportation of salmon ova to New Zealand in 1876. [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 978-979; 996.]
- 189. ————. Shipment of salmon and whitefish ova to New Zealand in 1877 and 1878.

[In Report of the Commissioner for 1878, Part VI, 1880, pp. 855; 857; 860.]

- 190. Copeland, Chas. W. Specifications for building the screw-steamer Fish-Hawk for the U.S. Commission of Fish and Fisheries.

  [By the U.S. Light-House Establishment, 1879, pp. 46.]
- 191. ———. Specifications for building the screw-steamer Albatross for the U. S. Commission of Fish and Fisheries.

  [By the U. S. Light-House Establishment, 1881, pp. 51.]
- 192. Costa, Achille. On the fisheries of the Gulf of Naples.

  [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 139-141.]
- 193. Coste, P. Report on the oyster and mussel industries of France and Italy.
  - [In REPORT of the Commissioner for 1880, Part VIII, 1883, pp. 825-883, pl. 13, index.]
- 194. Couchman, J. W. Transporting carp from the United States Fish Commission to Brazil.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 382.]

- 195. Crandall, J. S. Statement concerning the menhaden fishery.

  [In Report of the Commissioner for 1877, Part V, 1879, pp. 427-428.]
- 196. Creighton, J. R. Exportation of salmon and whitefish ova to New Zealand in 1876.
  - [In Report of the Commissioner for 1875-776, Part IV, 1878, pp. 970-971; 973-977; 979; 985-986.]
- 197. ————. Shipment of salmon and whitefish ova to New Zealand and Australia in 1877 and 1878.
  - [In Report of the Commissioner for 1878, Part VI, 1880, pp. 839-842; 851; 867-875; 882-883; 900-901.]
- 198. \_\_\_\_\_. Fish-culture in New Zealand.
  - [In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 51-52.] Bull. U.S. F. C., 83——2

199. Crocker, Timothy. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 50-51.]

200. Crowell, Alexander. Condition of the shore, fisheries of Massachusetts and Rhode Island in 1871.

[In REPORT of the Commissioner for 1871-72, Part I, 1878, p. 49.]

201. Curry, J. J. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In REPORT of the Commissioner for 1871-72, Part I, 1873, p. 8.]

202. Dambeck, Karl. Statistics of the most important fisheries of the North Atlantic.

[In Report of the Commissioner for 1873-774 and 1874-775, Part III, 1876, pp. 21-24.]

203. — — Geographical distribution of the Gadidæ, or the cod family, in its relation to fisheries and commerce.

[In Report of the Commissioner for 1877, Part V, 1879, pp. 531-557.]

204. Daniell, W. C. Letters referring to his experiments in introducing shad into the Alabama River.

[In REPORT of the Commissioner for 1872-73, Part II, 1874, pp. 387-390.]

205. Dantziger, Senator. The first five years of the Emden Joint-Stock Herring Fishery Association.

[In REPORT of the Commissioner for 1877, Part V, 1879, pp. 751-776.]

- 206. Davis, A. C. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 475-477.]
- 207. Davis, H. B. Gratifying results of propagating German carp, bream, and carp in ponds together. Table qualities of carp.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 317-318.]

208. Davis, Peter. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 32-33.]

209. Day, Thomas. Statement concerning the menhaden fishery.
[In Report of the Commissioner for 1877, Part V, 1879, pp. 390-391.]

210. Deane, Samuel. Upon the abundance of fish on the New England coast in former times.

[In Report of the Commissioner for 1871-'72, Part I, 1873, p. 161.]

211. De Blois, E. T. Statement concerning the menhaden fishery.
[In Report of the Commissioner for 1877, Part V, 1879, p. 425.]

212. \_\_\_\_\_. The origin of the menhaden industry.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 46-51.]

213. Dennis, William. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 13-14.]

- 214. DieBitsch, H., TRANSLATOR. What does a fish cost? By Christian Wagner.
  - [In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 605-607.]
- 215. Dill, Heman S. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 405-406.]
- 216. Dodge, Simeon. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879 pp. 399-401.]
- 217. Dodge, William, et al. A petition to the Fish Commission of the United States, signed by the fishermen of Block Island, June 12, 1877.
  - [In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 35-39.]
- 218. Dousman, H. F. Report relative to hatching and planting of the Penobscot salmon.
  - [In REPORT of the Commissioner for 1872-73, Part II, 1874, pp. 383-384.]
- 219. Dresel, H. G., TRANSLATOR. A hybrid plaice—Platessa vulgaris—with Rhombus maximus. By K. E. H. Krause.

  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 341-342.]
- 220. Ducastel, M. The transformation of salt marshes into fish ponds.
  - [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 517-531, figs. 2.]
- 221. Dudley, H. L. Annual proceedings of the United States Menhaden
  Oil and Guano Association.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 358-367.]
- 222. Duff, R. P. R. Exportation of salmon ova to New Zealand in 1876.
- [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 963-964; 969-970; 981-982.
- 223. Duncan, J. W. Exportation of salmon ova to New Zealand in 1875.

  [In Report of the Commissioner for 1875-76, Part IV, 1878, p. 963.]
- 224. Dunn, Horace D. Do the spawning salmon ascending the Sacramento River all die without returning to sea?
  - [In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 815-816.]
- 225. Dyer, Reuben. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.
  - [In Report of the Commissioner for 1871-72, Part I, 1873, p. 33.]
- 226. Dyrenforth, Robert G. List of patents granted by the United States to the end of 1872, for inventions connected with the capture, utilization, or cultivation of fishes and marine invertebrates.
  - [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 275-280.]
- 227. \_\_\_\_\_. List of patents issued in the United States, Great Britain, and Canada, up to the end of 1878, relating to fish and the methods, products, and applications of the fisheries.
  - [In Report of the Commissioner for 1876, Part VI, 1880, pp. 3-16, pl. 16.]

228. Dyrenforth, Robert G. Abstract of patents issued in Great Britain, up to the year 1878, having reference to the pursuit, capture, and utilization of the products of the fisheries.

[In Report of the Commissioner for 1878, Part VI, 1880, pp. 17-33.]

229. — List of patents issued in the United States, during the years 1879 and 1880, relating to fish and the methods, products, and applications of the fisheries.

[In REPORT of the Commissioner for 1880, Part VIII, 1883, pp. 1047-1048.]

230. Earll, R. Edward. A report on the history and present condition of the shore cod fisheries of Cape Ann, Massachusetts, together with notes on the natural history and artificial propagation of the species.

[In Report of the Commissioner for 1878, Part VI, 1880, pp. 685-740, pl. 3, index; also separately.]

231. — Statistics of the fisheries of Maine.

[Census Bulletin No. 278, 1881, pp. 47.]

232. ———. The Spanish mackerel, Cybium maculatum (Mitch.) Ag.; its natural history and artificial propagation, with an account of the origin and development of the fishery.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 395-426.]

233. Earll, R. Edward, and Marshall McDonald. Commercial fisheries of the Middle States.

[Census Bulletin No. 297, 1882, pp. 14.]

234. ———. Commercial fisheries of the Southern Atlantic States. [Census Bulletin No. 298, 1882, pp. 18.]

235. Eayrs, Winslow. Correspondence on the subject of the sea fisheries.
[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 136-137.]

236. Eckardt, R. The experiments in propagating the maifische (Alosa vulgaris) in 1876 and 1877.

[In REPORT of the Commissioner for 1877, Part V, 1879, pp. 853-866.]

237. ————. The peculiarities of blue carp.

| In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 389-390.]

238. \_\_\_\_\_. Report on the propagation and growth of carp.

[In Report of the Commissioner for 1879, Part VII, 1882, pp. 671-673.]

239. Eckardt, G. Carp propagation and blue carp.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 168.]

240. Edmunds, M. C. Obstructions to the ascent of fish in the tributaries of Lake Champlain.

[In REPORT of the Commissioner for 1872-773, Part II, 1874, pp. 622-629, map.]

241. Edwards, B. J. Table of temperatures of the Little Harbor, Wood's Holl, Massachusetts, from January, 1873, to December, 1873, inclusive.

[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 828-831.]

422. Edwards, Capt. Condition of the shore fisheries of Massachusetts, and Rhode Island in 1871.

[In Report of the Commissioner for 1871-'72, Part I, 1878, pp. 53-59.]

- 243. Edwards, Vinal N. Report on the fisheries of Nantucket, Edgartown, Hyannis, Martha's Vineyard, &c., in 1871-72.
  - [In REPORT of the Commissioner for 1871-772, Part I, 1873, pp. 187-192.]
- 244. ———. On the occurrence of the Oceanic bonito, Orcynus prelamys (Linné) Poey, in Vineyard Sound, Massachusetts.

  [In Proceedings of the U. S. Nat. Mus., Vol. I, 1878, p. 263.]
- 245. Elliott, Henry W. A monograph of the Seal Islands of Alaska. [Special Bulletin 4°, 1882, pp. 176, pl. 29, maps 2; also with modification as a Special Census Bulletin.]
- 246. Endlich, F. M. An analysis of water destructive to fish in the Gulf of Mexico.

[In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, p. 124.]

247. Farlow, W. G. List of sea-weeds or marine algae of the south coast of New England.

[In REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 281-294.]

- 248. ———. List of marine algæ of the United States.

  [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 691-717.]
- 249. . On the nature of the peculiar reddening of salted codfish during the summer season.

[In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 969-974.]

- 250. ———. Report on the contents of two bottles of water from the Gulf of Mexico, forwarded by the Smithsonian Institution [In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, p. 234.]
- 251. ———. The marine algæ of New England.

  [In Report of the Commissioner for 1879, Part VII, 1882, pp. 1-210, pl. 15, index; also separately.]
- 252. Farr, S. C. Exportation of salmon and whitefish ova to New Zealand in 1876.
  - [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 996-997; 999.]
- 253. Feddersen, A. Abstract of an article from the "Nordisk Tidsskrift for Fiskeri," 1878, entitled "Observations on Fishery Expositions," &c.
  - [In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 43-45.] (See also under Broeck and Feddersen.)
- 254. Finn, W. The Iceland herring fisheries.

  [In Report of the Commissioner for 1879, Part VII, 1882, pp. 493-496.]
- 255. Finsch, Dr. 0. Report on a trip in Germany to secure carp for the United States Fish Commission.
  - [In BULLETIN of the U.S. Fish Commission, Vol. I, 1881, pp. 220-225.]

256. Finsch, Dr. O. Report on the transportation of a collection of living carp from Germany.

[In Report of the Commissioner for 1879, Part VII, 1882, pp. 667-670.]

257. Firth, J. C. Exportation of salmon ova to New Zealand in 1875 and 1876.

[In Report of the Commissioner for 1875-'76, Part IV, 1878, pp. 959-962; 981-985.]

258. ———. Shipment of salmon and whitefish ova to New Zealand in 1877 and 1878.

[In Report of the Commissioner for 1878, Part VI, 1880, pp. 829-831; 833-834; 836; 837-839; 860-863; 866-867; 872; 875; 902.]

259. Fisher, F. B. Fishing and fish culture in Florida.
[In BULLETIN of the U. S. Fish Commission, Vol. I, 1881, p. 251.]

260. Fletcher, Wm. W. Report relative to the hatching and planting of the Penobscot salmon.

[In REPORT of the Commissioner for 1872-73, Part II, 1874, p. 380.]

261. Forbes, S. A. The food of young whitefish (Coregonus clupeiformis.)

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 19-20.]

262. — On the food of young whitefish (*Coregonus*). [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 269-270.]

263. ———. An inquiry into the first food of young lake white-fish (Coregonus clupeiformis).

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 402-403.]

264. Foster, D. E. Statement concerning the menhaden fishery.

[In Report of the Commissioner for 1877, Part V, 1879, p. 453.]

265. Fox, E. Exportation of salmon ova to New Zealand in 1876.
[In Report of the Commissioner for 1875-76, Part IV, 1878, p. 968.]

266. Fraiche, Félix. A practical guide to oyster culture and the methods of rearing and multiplying edible marine animals.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 753-824, figs. 27, index.]

267. Friedlaender, Oscar O. Notes on the menhaden fishery.
[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 252.]

268. Friele, M. An account of the fisheries of Norway in 1877. [In Report of the Commissioner for 1877, Part V, 1879, pp. 707-739.]

269. Friend, R. A. Statement concerning the menhaden fishery.

[In Report of the Commissioner for 1877, Part V, 1879, pp. 377-378.]

270. Furman, W. H. Description of improved apparatus in fish-hatching.

[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 586-587.]

- 271. Gage. George. Statement concerning the menhaden fishery. [In REPORT of the Commissioner for 1877, Part V, 1879, p. 479.]
- 272. Gaines, Kemp. Growth, spawning, and distribution of German carp reared from twenty fish furnished by the U.S. Fish Commission, November 29, 1880.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 392.]

- 273. Gallup, B. Frank. Catching dog-fish for oil and guano. [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 246.]
- 274. Gallup, Morgan & Co. Statement concerning the menhaden fishery. [In REPORT of the Commissioner for 1877, Part V, 1879, p. 417.]
- 275. Gamgee. John. On artificial refrigeration. [In REPORT of the Commissioner for 1877, Part V, 1879, pp. 901-972, pl. 3, figs. 5.]
- 276. Garman, Samuel. Synopsis and descriptions of the American Rhinobatidæ.

[In PROCEEDINGS of the U. S. Nat. Mus., Vol. III, 1880, pp. 516-523.]

277. Gasch. Adolf. Pond cultivation on the Kaniów estate (District of Biala, Galicia), the property of his imperial highness, Archduke Albrecht of Austria.

[In REPORT of the Commssioner for 1880, Part VIII, 1883, pp. 533-543.]

278. Gent. John J. Upon the abundance of fish on the New England coast in former times.

[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 149-154.]

279. Gifford, George. The disappearance of sardines from the Vendean coast, and its causes.

[In BULLETIN of the U.S. Fish Commission, Vol. II, 1882, pp. 13-14.]

280. Gilbert, Charles H. List of fishes observed at Punta Arenas, on the Pacific coast of Central America.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 112.] (See also under Jordan and Gilbert.)

281. Gilbert, W. L. Growth of the sälbling (Salmo salvelinus) in the Old Colony trout-ponds at Plymouth, Mass.

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, p. 427.]

282. Gill. Theodore. Catalogue and bibliography of the fishes of the east coast of North America.

[In REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 779-822. Also in Smithsonian Miscellaneous Collections, Vol. XIV, Smithsonian Pub. No. 283.]

----. Natural and economical history of the gourami. [In REPORT of the Commissioner for 1872-73, Part II, 1874, pp. 710-728, pl. 2.]

284, Bibliography of reports of fishery commissions. [In REPORT of the Commissioner for 1872-773, Part II, 1874, pp. 774-784.]

[In Proceedings of the U. S. Nat. Mus., Vol. V, 1882, p. 557.]

302. \_\_\_\_\_\_. Note on the affinities of the *Ephippiids*.

[In Proceedings of the U. S. Nat. Mus., Vol. V, 1882, pp. 557-560.]

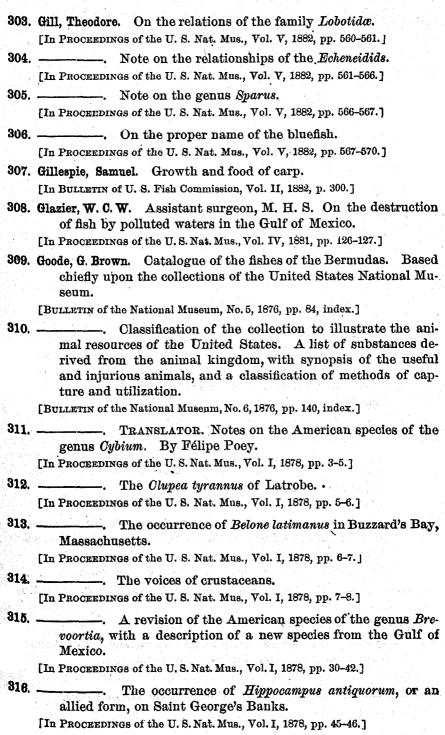
300. — Supplementary note on the Pediculati.

301.

. Note on the Petromyzontids. [In Proceedings of the U. S. Nat. Mus., Vol. V, 1882, pp. 521-525.]

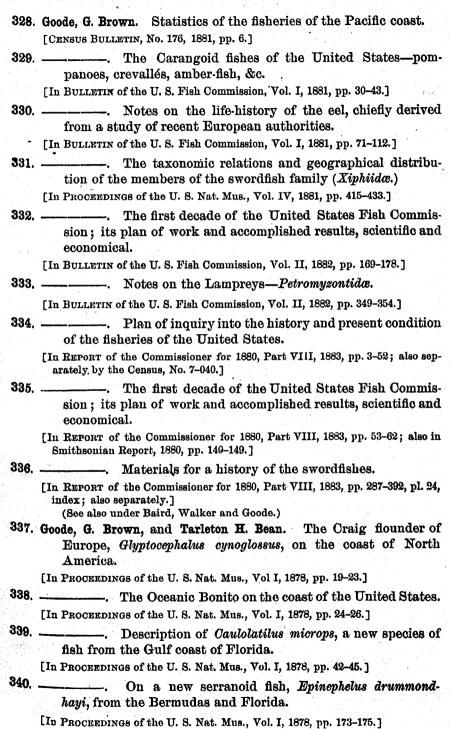
[In Proceedings of the U. S. Nat. Mus., Vol. V, 1882, pp. 551-556.]

Note on the Pomatomida.



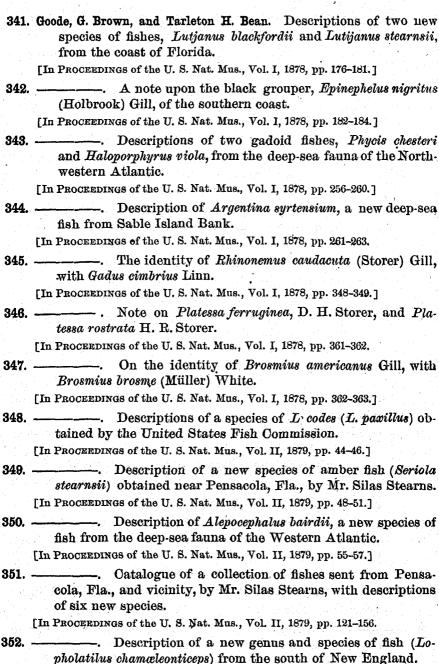
	。
317.	Goode, G. Brown. On two fishes from the Bermudas, mistakenly described as new by Dr. Günther.
	[In Proceedings of the U.S. Nat. Mus., Vol. I, 1878, pp. 462-463.]
318.	John's River and the east coast of Florida, with descriptions of a new genus and three new species.
	[In Proceedings of the U.S. Nat. Mus., Vol. II, 1879, pp. 108-121.]
319.	———. A study of the trunk-fishes (Ostraciontidæ), with notes upon the American species of the family.
15	[In Proceedings of the U.S. Nat. Mus., Vol. II, 1879, pp. 261-283.]
320.	resources and the fisheries of the United States, exhibited at Philadelphia in 1876 by the Smithsonian Institution and the United States Fish Commission, and forming a part of the
	United States National Museum.
	[Bulletin of the National Museum, No. 14, 1879, pp. 351, index.]
<b>3</b> 21.	The natural and economical history of the American
	menhaden.
	[In REPORT of the Commissioner for 1877, Part V, 1879, pp. 1-529, pl. 31, index.]
322.	Exhibit of the fisheries and fish culture of the United
	States of America at the Internationale Fischerei-Ausstellung
	held at Berlin, April 20, 1880, and forming a part of the collec-
	tions of the National Museum made by the United States Fish
	Commission.
	[BULLETIN of the National Museum, No. 18, 1880, pp. 236.]
323.	Descriptions of seven new species of fishes from deep soundings on the southern New England coast, with diagnoses of two undescribed genera of flounders, and a genus related to <i>Merlucius</i> .
	[In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 337-350.]
324.	Fishes from the deep waters on the south coast of
	New England, obtained by the United States Fish Commission in the summer of 1880.
	[In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 467-488.]
<b>3</b> 25.	
	land coast.
	[In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 532-535.]
326.	
	[In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 535-537.]
<b>327</b> .	Statistics of the fisheries of the Great Lakes.

[CENSUS BULLETIN, No. 261, 1681, pp. 8.]



353.

Nova Scotia.

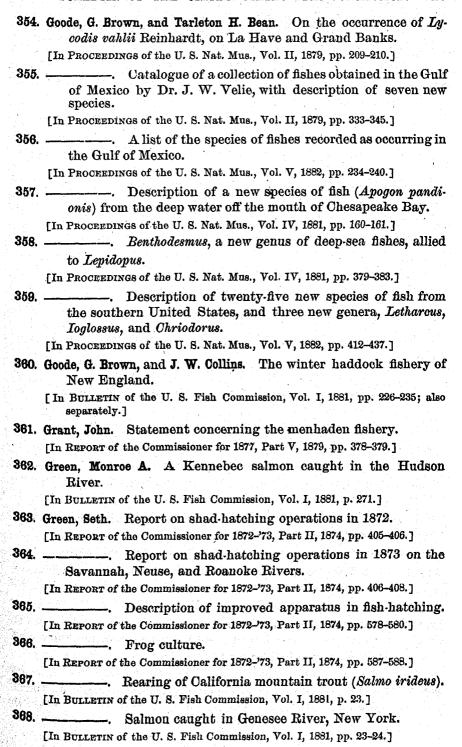


[In PROCEEDINGS of the U. S. Nat. Mus., Vol. II, 1879, pp. 46-48.]

[In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 205-209.]

-. Description of a new species of Liparis (L. ranula)

obtained by the United States Fish Commission off Halifax,



369. Green, Seth. The introduction of land-locked salmon into Weedhull Lake, New York, and the subsequent capture of some of them.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, p. 421.]

370. Griffith, William. Result of planting shad in the Ohio River.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 12.]

371. Griswold, Charles D. Experiments with a view to transplanting shad a few months old.

[In Report of the Commissioner for 1873-774 and 1874-775, Part III, 1876, pp. 370-372.

372. Haack, Director. A German view of the American section in the Berlin Fishery Exhibition.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 57-58.]

373. ————. Raising salmonoids in inclosed waters.

[In Report of the Commissioner for 1879, Part VII, 1882, pp. 675-685.]

374. ———. Treatment of young salmonoids and coregoni from the time they leave the egg till they are fully developed and can be placed in open waters.

[In Report of the Commissioner for 1879, Part VII, 1882, pp. 687-693.]

375. Habershaw, Frederick. Bringing whale oil from the Pacific to New York.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 215.]

376. Haime, Jules. The history of fish-culture in Europe from its early records to 1854.

[In REPORT of the Commissioner for 1872-'73, Part II, 1874, pp. 465-492.]

377. Hall, J. F. Statement concerning the menhaden fishery.

[In REPORT of the Commissioner for 1877, Part V, 1879, p. 481.]

378. Hallet, Almoran. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In REPORT of the Commissioner for 1871-772, Part I, 1873, pp. 47-49.]

379. Hamlin, A. C. On the salmon of Maine.

[In Report of the Commissioner for 1872-773, Part II, 1874, pp. 338-356.]

380. Handy, Hetsel. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 52-53.]

281. Handy, Hetsel, et al. Memorial of citizens of Hyannis addressed to Congress, praying that laws be passed prohibiting the use of fixed apparatus for capturing fish.

[In REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 137-138.]

382. Harding, Charles W. Inquiries concerning the propagation of American smelt and shad, and notes on the fisheries of the Wash in England.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 428-429.]

383. Harding, Charles W. The utilization of localities in Norfolk and Suffolk, suitable for the cultivation of mussels and other shell fish.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 83-88.]

384. Harding, Garrick M. Suggestions to fish-culturists.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 55-56.]

385. Hardy, Josiah. Statement concerning the menhaden fishery.

[In Report of the Commissioner for 1877, Part V, 1879, pp. 410-412.]

386. Harger, Oscar. Notes on New England Isopoda.

[In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 157-165.]

[In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 297-462, pl. 13, index.]

388. Ham, W. A. Statement concerning the menhaden fishery.
[In Report of the Commissioner for 1877, Part V, 1879, p. 478.]

389. Harvey, M. Fishing and consumption of Fish in Newfoundland.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 102.]

390. Haskell, E. H. Second annual appearance of young cod hatched by the United States Fish Commission in Gloucester Harbor, in the winter of 1879-780.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 112.]

391. Hatch, Thomas E. On the silver-trout of Monadnock Lake, New Hampshire.

[In REPORT of the Commissioner for 1872-73, Part II, 1874, p. 372.]

392. Hatsel, W. T. Statement concerning the menhaden fishery.

[In Report of the Commissioner for 1877, Part V, 1879, pp. 477-478.]

393. Hausser, A. E. Oyster culture in Morbihan. A report prepared in the name of the Commissioners of the Competive Exhibition at Vannes.

[In REPORT of the Commissioner for 1880, Part VIII, 1883, pp. 943-999, figs. 10, index.]

394. Havens, W. S. Statement concerning the menhaden fishery.

[In Report of the Commissioner for 1877, Part V, 1879, pp. 441-443.]

395. Hawkins Brothers. Statement concerning the menhaden fishery.
[In Report of the Commissioner for 1877, Part V, 1879, pp. 443-444.]

396. Hawkins, J. W. An opinion regarding the influence upon the coast fisheries of the steamers used in the menhaden fishery.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 266-268.]

397. Hay, O. P. On a collection of fishes from Eastern Mississippi. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 488-514.]

898. — \_\_\_\_\_ On a collection of fishes from the Lower Mississippi Valley.

[In BULLETIN of the U. S. Fish Commission, Vol. II, 1882, pp. 57-75.]

- 399. Hayward, Jos. S. Catch of fish in Newfoundland and Labrador in 1881.
  - [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 286.]
- 400. Healy, R. Striped bass in Piankatank River, Virginia.
  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 75-76.]
- 401. Hector, James. Exportation of salmon and whitefish ova to New Zealand in 1876.
  - [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 971-973, 982; 989-993, 995; 997; 998-999; 1003.]
- 402. ———. Shipment of salmon ova to New Zealand in 1877, and whitefish in 1878.
  - [In Report of the Commissioner for 1878, Part VI, 1880, pp. 835-836; 851-852; 856; 876-878.]
- 403. Hegt, J. Noordhoch. Shipment of salmon ova to the Netherlands in 1877.
  - [In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 916-918.]
- 404. Hemphill, Henry. On the habits and distribution of the geoduck a clam of the Pacific (Glycimeris generosa, Gld.), with suggestions as to its introduction into the Atlantic coast of the United States.
  - [In BULLETIN of the U. S. Fish Commission, Vol. I, 1881, pp. 200-201.]
- 405. Hensen, V. The spawning process of salt-water fish, and its importance to fishermen. From investigations of the commission for the scientific examination of the German seas.
  - [In Report of the Commissioner for 1879, Part VII, 1882, pp. 548-557, figs. 2.]
- 406. Hermes, Otto. On the mature male sexual organs of the conger eel (*Conger vulgaris*), with some observations on the male of the common eel (*Anguilla vulgaris*, Fleming).
  - [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 126-130.]
- 407. ———. The propagation of the eel.
  - [In REPORT of the Commissioner for 1879, Part VII, 1882, pp. 457-462, figs. 3.]
- 408. Hessel, Rudolph. The salmon of the Danube, or the Hucho (Salmo hucho), and its introduction into American waters.
  - [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 161-165.]
- 409. ———. Method of treating adhesive eggs of certain fishes, especially of the *Cyprinidæ*, in artificial propagation.
  - [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 567-570, pl.]
- 410. ———. The carp and its culture in rivers and lakes, and its introduction into America.
  - [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 865-900, figs. 6; also separately.]
- 411. ———. Artificial culture of medicinal leeches and of species of Helix.
  - [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 264-265.]

## Vol. III, No. 3. Washington, D. C. August 6, 1883.

412. Heyser, E. Growth of mirror carp sent to Georgia by the United States Fish Commission.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 18.]

- 413. Hiester, Charles E. Fish culture for profit.

  [In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 382-383.]
- 414. Answers to questions relative to catfish.
  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 76-79.]
- 415. Higginson, Francis. Upon the abundance of fish on the New England coast in former times.

[In Report of the Commissioner for 1871-72, Part I, 1873, p. 161.]

- 416. Himes, C. F. TRANSLATOR. Carp ponds. From the Landwirth-schaft und Industrie.
  - [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 555-558.]
- 417. Hinckey, Isaac. The fish-eating cows of Provincetown, Massachusetts.

[In Bulletin of the U.S. Fish Commission, Vol. 1, 1881, p. 134.]

418. Hinckly, jr., Thos. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 59-67.]

- 419. Hobbs, Orlando. A list of Ohio River fishes sold in the markets.
  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 124-125.]
- 420. Hodge, E. B. Result of propagating salmon.
  [In Report of the Commissioner for 1878, Part VI, 1880, p. 930.]
- 421. Hoek, P. P. C. Researches on the generative organs of the oyster (O. edulis).

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 343-345.]

- 422. Oyster cultivation in the Netherlands.
  [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 1029-1035.]
- 423. Holmes, Mathew. Shipment of salmon and whitefish ova to New Zealand in 1877 and 1878.

[In REPORT of the Commissioner for 1878, Part VI, 1880, p. 860.]

424. Holton, Marcellus G. Description of improved apparatus in fish-hatching.

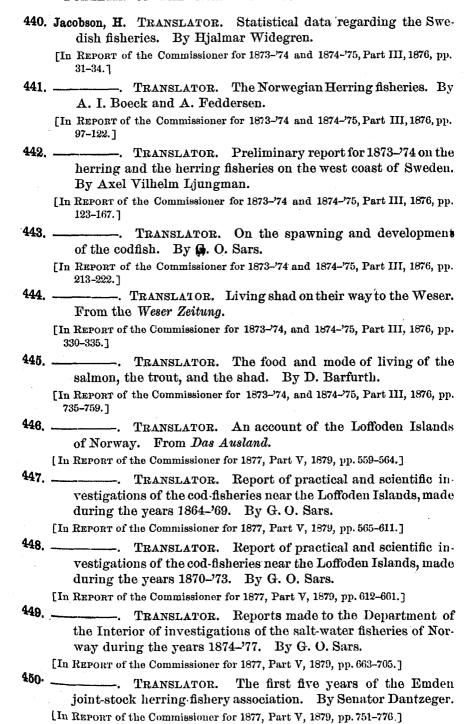
[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 580-582.]

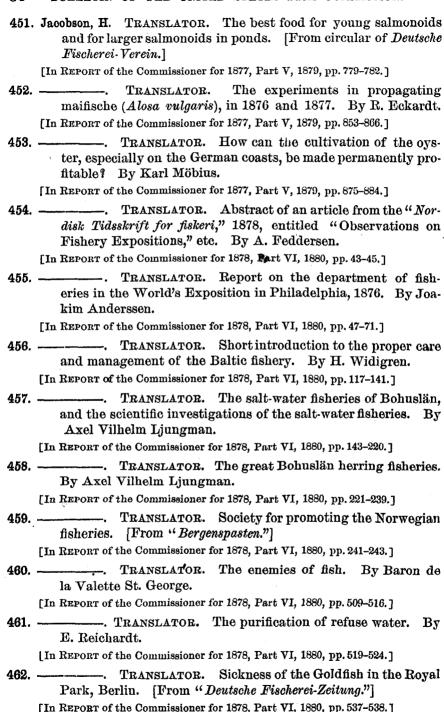
425. Horst, R. A contribution to our knowledge of the development of the oyster (Ostrea edulis L.).

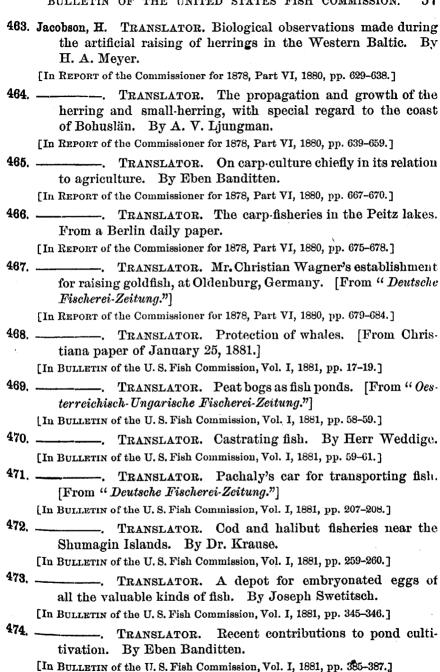
[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 159-167, figs. 12.] Bull. U. S. F. C., 83——3

- 426. Houghton, Robert. Shipment of salmon ova to New Zealand in 1877, and whitefish in 1878.
  - [In Report of the Commissioner for 1878, Part VI, 1880, pp. 834-835; 849.]
- 427. Howard, H. Exportation of whitefish ova to New Zealand in 1876. [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 999-1001.]
- 428. Hubbard, W. F. Report of salmon-hatching operations in 1878, at the Clackamas hatchery.
  - [In Report of the Commissioner for 1878, Part VI, 1880, pp. 771-772.]
- 429. Huddlestone, Frederick. Shipment of salmon ova to New Zealand in 1877.
  - [In Report of the Commissioner for 1878, Part VI, 1880, pp. 858; 863-864.]
- 430. Hughes, Smith E. Live ponds for fish in New Jersey.
  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 349-351.]
- 431. Humphrey, Mrs. B. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 387-388.]
- 432. Huxley, T. H. See S. Walpole; also see Caird, Huxley and Lefevre.
- 433. Ingalls, J. F. Character of the streams on the northern shore of Lake Michigan.
  - [In Report of the Commissioner for 1872-'73, Part II, 1874, pp. 630-632.]
- 434. Ingersoll, Ernest. On the fish mortality in the Gulf of Mexico.
  [In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, pp. 74-80.]
- dition of the fishing industries. Prepared under the direction of Prof. S. F. Baird, United States Commissioner of Fish and Fisheries, and G. Brown Goode, Assistant Director United States National Museum.
  - [Special Census Bulletin, 4°, 1881, pp. 251, pl. 13.]
- 436. Ingham, R. E. Statement concerning the menhaden fishery.

  [In Report of the Commissioner for 1877, Part V, 1879, pp. 433-434.]
- 437. Jacobson, H. TRANSLATOR. Report on the progress of pisciculture in Russia. By Theodore Soudakèvicz.
  - [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 493-513.]
- 438. ———. TRANSLATOR. Report on the state of pisciculture in France and the neighboring countries. By M. Bouchon-Brandely.
  - [In Report of the Commissioner for 1872-773, Part II, 1874, pp. 513-523.]
- 439. . TRANSLATOR. Statistics of the most important fisheries of the North Atlantic. By Karl Dambeck.
  - [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 21-24.]





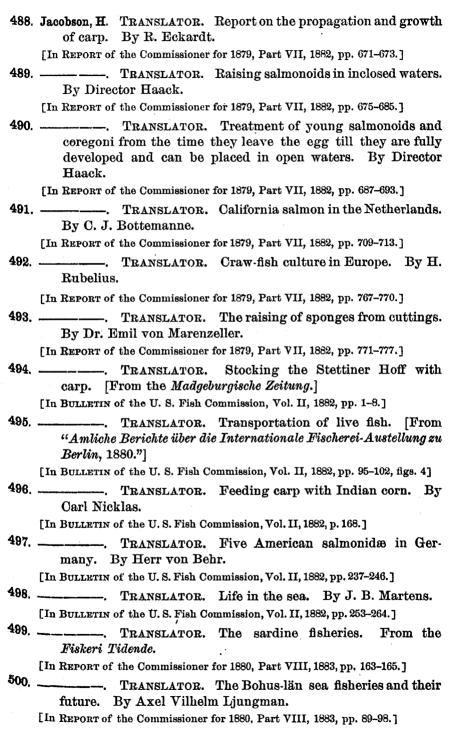


[In Report of the Commissioner for 1879, Part VII, 1882, pp. 457-462.]

Hermes.

475. \_\_\_\_\_. TRANSLATOR. The propagation of the eel. By Otto

38 BULLETIN OF THE UNITED STATES FISH COMMISSION. 476. Jacobson, H. TRANSLATOR. The eel question. By L. Jacoby. [In REPORT of the Commissioner for 1879, Part VII, 1882, pp. 463-483.] TRANSLATOR. The food of marine animals.  $\mathbf{B}\mathbf{y}$ Prof. K. Möbius. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 485-489.] TRANSLATOR. The Iceland herring-fisheries.  $\mathbf{B}\mathbf{y}$ 478. -W. Finn. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 493-496.] TRANSLATOR. Contribution towards solving the question of the secular periodicity of the great herring fisheries. By Axel [Vilhelm] Ljungman. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 497-503.] TRANSLATOR. Contributions towards a more correct knowledge of the herring's mode of life. By Axel [Vilhelm] Ljungman. In Report of the Commissioner for 1879, Part VII, 1882, pp. 505-513. 481. ———. TRANSLATOR. The fisheries on the west coast of South America. By H. G. Kruuse. [In REPORT of the Commissioner for 1879, Part VII, 1882, pp. 515-522.] 482. \_\_\_ TRANSLATOR. Popular extracts from the investigations of the commission for the scientific examination of the German Seas. Published by the royal ministry of agriculture, domains, and forests. [Cf. H. A. Meyer, K. Möbius, G. Garsten, and V. Hensen. [In REPORT of the Commissioner for 1879, Part VII, 1882, pp. 525-557; also separately. 483. ———. TRANSLATOR. The pollution of public waters by refuse from factories. By C. Tölke. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 619-624.] 484. ———. TRANSLATOR. Is sawdust injurious to the fisheries? By A. Landmark. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 625-632.] TRANSLATOR. The thick or thin fertilization of eggs. 485. — By G. F. Reisenbichler. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 633-635.] TRANSLATOR. On pond fisheries. By Von dem Borne. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 649-650.] TRANSLATOR. The piscicultural establishment of 487. — Mr. August Fruwirth, in Freiland near St. Pölten, Lower Austria. By Dr. Emil von Marenzeller. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 651-665.]



40	BULLETIN OF THE UNITED STATES FISH COMMISSION.
501.	Jacobson, H. TRANSLATOR. What should be done by the Government with regard to the great Bohus-län herring fisheries. By Axel Vilhelm Ljungman.
	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 99-126.]
502.	TRANSLATOR. Report on the practical and scientific investigations of the spring herring fisheries during the year 1880, submitted to the Department of the Interior. By O. S. Jensen.
	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 127-161.]
503.	TRANSLATOR. The Iceland fisheries. By C. Trolle.
000.	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 77-87.]
<b>504</b> .	TRANSLATOR. Report submitted to the Department of the Interior on the practical and scientific investigations of the Finmark capelan fisheries, made during the spring of the year 1879. By G. O. Sars.
	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 167-187.]
505.	Rhine salmon. By F. Miescher-Rüsch.
	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 427-474.]
506.	TRANSLATOR. Report on the condition of piscicul. ture in foreign countries, from documents collected at the International Fishery Exposition at Berlin, 1880. By M. C. Raveret-Wattel.
	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 477-489.]
507.	By J. P. J. Koltz.
	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 491-516, figs. 27.]
508.	TRANSLATOR. The transformation of salt marshes into fish-ponds. By M. Ducastel.
	[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 517-531, figs. 2.]
509.	TRANSLATOR. Pond cultivation on the Kaniów estate (District of Biala, Galicia), the property of his imperial highness, Archduke Albrecht of Austria. By Adolph Gasch. [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 533-543.]
510.	TRANSLATOR. The injurious influence on piscicul-
	ture of the retting water of flax and hemp. By E. Reichardt.

TRANSLATOR. Raise carp! By Max von dem Borne. [In REPORT of the Commissioner for 1880, Part VIII, 1883, pp. 673-680.]

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 545-550.]

512. Jacobson, H. TRANSLATOR. Results of the investigations of the Netherland Zoological Station relative to the oyster and its cultivation at the end of the first year of these investigations. Appendix to Zesde Jaarverslag omtrent het zoölogisch station der Nederlandoche Dierkundige Vereenöging.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 1001-1027.]

513. ———. TRANSLATOR. Oyster cultivation in the Netherlands. By Dr. P. P. C. Hoek.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 1029-1035.]

514. Jacoby, L. The eel question.

[In Report of the Commissioner for 1879, Part VII, 1882, pp. 463-483.]

515. Jason, Luce & Co. Account of fish taken at Menemsha Bight, Martha's Vineyard.

[In Report of the Commissioner for 1871-72, Part I, 1873, p. 173.]

516. Jefferson, J. P. On the mortality of fishes in the Gulf of Mexico in 1878.

[In Proceedings of the U.S. Nat. Mus., Vol. I, 1878, pp. 363-364.]

517. Jefferson, J. P., Joseph Y. Porter, and Thomas Moore. On the destruction of fish in the vicinity of the Tortugas during the months of September and October, 1878.

[In Proceedings of the U.S. Nat. Mus., Vol. I, 1878, pp. 244-245.]

- 518. Jennett, Wallace R. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 474-475.]
- 519. Jensen, O. S. Report on the practical and scientific investigations of the spring herring fisheries during the year 1880, submitted to the Department of the Interior.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 127-161.]

- 520. Jewett, E. Occurrence of shad and salmon in Connecticut River.
  [In Report of the Commissioner for 1871-72, Part I, 1878, p. 137.]
- 521. Johnson, A. M. Shipment of whitefish over to New Zealand in 1878.

[In Report of the Commissioner for 1878, Part VI, 1880, pp. 879-880.]

522. Johnson, Samuel. Growth of German carp sent to Savoy, Texas, by the United States Fish Commission.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 14.]

523. Johnson, S. H. Notes on the mortality among fishes of the Gulf of Mexico.

[In Proceedings of the U.S. Nat. Mus., Vol. IV, 1881, p. 205.]

524. Jouy, Pierre L. Description of a new species of Squalius (Squalius aliciæ) from Utah Lake.

[In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, p. 19.]

- 525. Jordan, Alden H. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 391-393.]
- 526. Jordan, David S. Contributions to North American ichthyology, based primarily on the collections of the U. S. Nat. Museum. I. Review of Rafinesque's Memoirs on North American Fishes.

  [In Bulletin of the National Museum, No. 9, 1877, pp. 56, index.]
- 527. ————. Contributions to North American ichthyology, based primarily on the collections of the U.S. Nat. Museum. II. A.—
  Notes on Cottidæ, Etheostomatidæ, Percidæ Centrarchidæ, Aphodoeridæ, Dorysomatidæ, and Cyprinidæ, with revisions of the genera and descriptions of new or little known species. B.—
  Synopsis of the Siluridæ of the fresh waters of North America.

[BULLETIN of the National Museum, No. 10, 1877, pp. 124, pl. 45, index.]

- 528. Jordan, David S. Notes on a collection of fishes from Clackamas River, Oregon.
  - [In Proceedings of the U.S. Nat. Mus., Vol. I, 1878, pp. 69-85.]
- 529. ———. Notes on certain typical specimens of American fishes in the British Museum and in the Museum d'Histoire Naturelle at Paris.

[In Proceedings of the U.S. Nat. Mus., Vol. II, 1879, pp. 218-226.]

- 530. ———. Description of new species of North American fishes. [In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 235-241.]
- 531. ———. Notes on a collection of fishes obtained in the streams of Guanajuato and in Chapala Lake, Mexico, by Prof. A. Dugès.

[In Proceedings of the U.S. Nat. Mus., Vol. II, 1879, pp. 298-301.]

532. ———. Notes on a collection of fishes from East Florida, obtained by Dr. J. A. Henshall.

[In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 17-21.]

533. ———. Notes on a collection of fishes from Saint John's River, Florida, obtained by Mr. A. H. Curtiss.

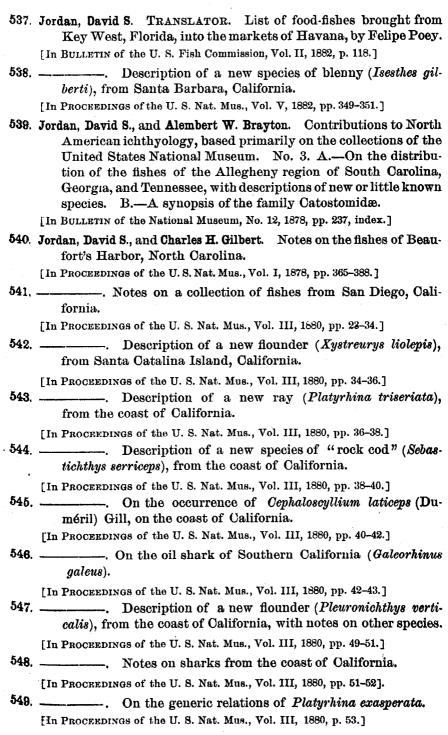
[In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 22-34.]

534. ———. Note on a forgotten paper of Dr. Ayres, and its bearing on the nomenclature of the cyprinoid fishes of the San.
 Francisco markets.

[In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 325-237.]

- 535. ———. Note on "Sema" and "Dacentrus." [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, p. 327.]
- 536. ———. Description of a new species of Caranx (Caranx beant), from Beaufort, North Carolina.

[In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 486-488.]

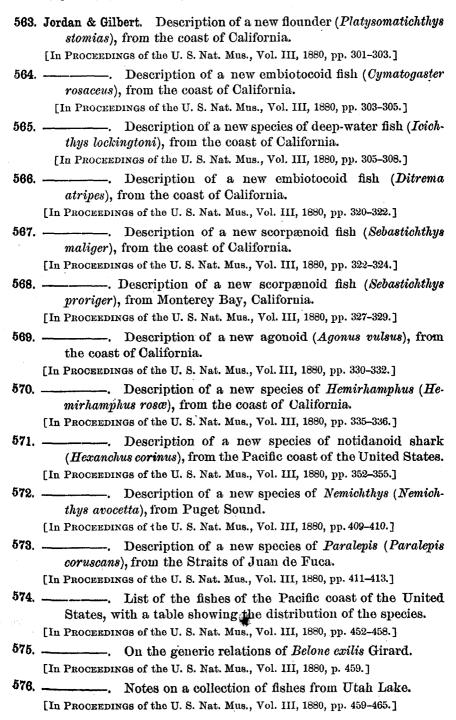


44 BULLETIN OF THE UNITED STATES FISH COMMISSION. 550. Jordan & Gilbert. Description of a new species of Sebastichthys (Sebastichthys miniatus), from Monterey Bay, California. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 70-73.] . Description of a new species of "rock-fish" (Sebas-551. tichthys carnatus), from the coast of California. [In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 73-75.] 552. ———. Descriptions of a new species of ray (Raia stellulata), from Monterey, California. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 133-135.7 553. ———. Descriptions of new species of Xiphister and Apodichthys, from Monterey, California. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 135-140.] Description of two new species of Sebastichthys (Sebastichthys entomelas and Sebastichthys rhodochloris), from Monterey Bay, California. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 142-146.] ternus), from Monterey Bay, California. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 152-154.] **556.** — Description of a new flounder (*Hippoglossoides exilis*). from the coast of California. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 154-156.] 557. — Description of a new species of ray (Raia rhina), from the coast of California. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 251-253.] 558. ———— Description of two new species of fishes (Ascelichthus rhodorus and Scytalina cerdale), from Neah Bay, Washington Territory. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 264-268.] (Sudisringens and Myctophum crenulare), from Santa Barbara Channel, California. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 273-276.] 560. ———. Description of two new species of flounders (Parophrys ischyrus and Hippoglossoides elassodon), from Puget Sound. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 276-280.] 561. ———. Description of seven new species of sebastoid fishes. from the coast of California. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 287-298.]

from Monterey, California, with notes on a related species.

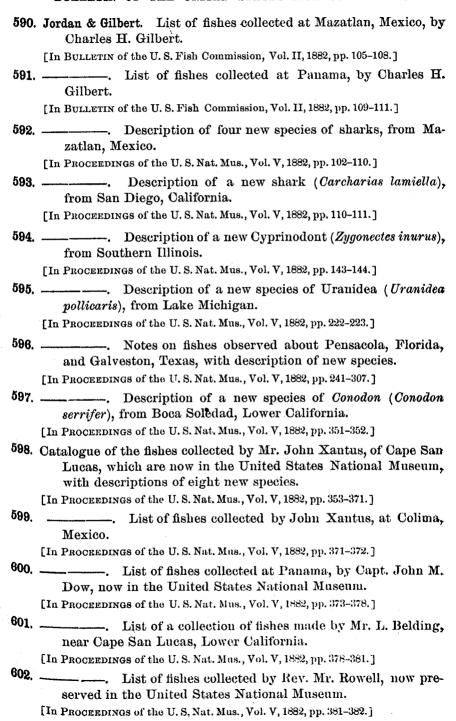
[In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 299-301, ]

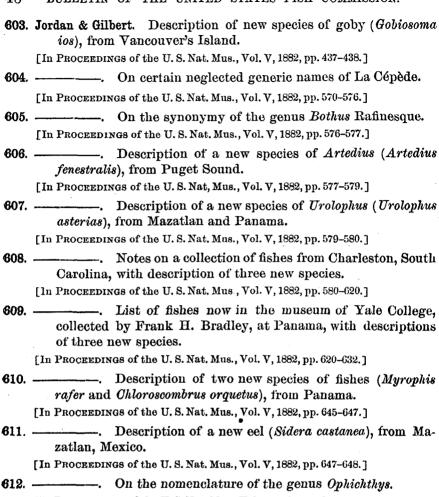
562.



577.	Jordan & Gilbert. Description of a new species of rock-fish (Sebastichthys chrysomelas), from the coast of California.
	[In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 465-466.]
578.	
	[In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, pp. 29-70.]
570	————. Description of Sebastichthys mystinus.
010.	[In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, pp. 70-72.]
£00	
990.	chochilus harfordi), from Sacramento River.
	[In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, pp. 72-73.]
581.	———. Notes on Raia inornata.
	[In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, pp. 73-74.]
582.	Notes on a collection of fishes, made by Lieut. Henry
	E. Nichols, U. S. N., on the west coast of Mexico, with descriptions of new species.
	[In Proceedings of the U.S. Nat. Mus., Vol. IV, 1881, pp. 225-233.]
583.	List of fishes collected by Lieut. Henry E. Nichols,
	U. S. N., in the Gulf of California and on the west coast of Lower California, with descriptions of four new species.
	[In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, pp. 273-279.]
584.	————. Descriptions of thirty-three new species of fishes from Mazatlan, Mexico.
	[In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, pp. 338-365.]
595	Description of a new species of Pomadasys from
<i>000.</i>	Mazatlan, with a key to the species known to inhabit the Pacific coasts of tropical America.
	[In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, pp. 383-388.]
£00	· · · · · · · · · · · · · · · · · · ·
<i>9</i> 86.	thys xenurus), from the west coast of Central America.
	[In Proceedings of the U.S. Nat. Mus., Vol. IV, 1881, p. 454.]
507	Description of five new species of fishes from Mazat-
561.	lan, Mexico.
	[In Proceedings of the U.S. Nat. Mus., Vol. IV, 1881, pp. 458-463.]
~~~	250
588.	Descriptions of nineteen new species of fishes from the
	Bay of Panama.
	[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 306-335.]
อชษ.	————. A review of the Siluroid fishes found on the Pacific coast of tropical America, with descriptions of three new species.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 34-54.]





- 612. On the nomenclature of the genus Ophichthys. [In Proceedings of the U.S. Nat. Mus., Vol. V, 1882, pp. 648-652.]
- -----. Synopsis of the fishes of North America. [In Bulletin of the National Museum, No. 16, 1883, pp. 1018.]
- 614. Jordan, David S., and Pierre L. Jony. Check-list of duplicates of fishes from the Pacific coast of North America, distributed by the Smithsonian Institution in behalf of the United States National Museum, 1881.

[In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, pp. 1-18.]

- 615. Jouy, Pierre L. See David S. Jordan. See No. 524.
- 616. Juel, Niels. Statistics of the Loffoden fisheries for 1878. [In Report of the Commissioner for 1878, Part VI, 1880, pp. 245-254.]
- 617. Kalb, George B. See Joseph Swain.
- 618. Kane, D. P. Statement concerning the menhaden fishery. [In REPORT of the Commissioner for 1877, Part V, 1879, p. 483.]

## Vol. III, No. 4. Washington, D. C. Aug. 9, 1883.

- 619. Karsten, G. On the scientific investigation of the Baltic Sea and the German Ocean.
  - [In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 283-294.]
- 620. ———. The physical condition of the Baltic and the North Sea, from investigations of the commission for the scientific examination of the German Seas.

[In Report of the Commissioner for 1879, Part VII, 1882, pp. 525-533.]

- 621. Kemps, David. Statement concerning the menhaden fishery.

  [In Report of the Commissioner for 1877, Part V, 1879, pp. 481-482.]
- 622. Kenney, R. C. Statement concerning the menhaden fishery.

  [In Report of the Commissioner for 1877, Part V, 1879, pp. 414-416.]
- 623. Kenniston, G. B. Statement concerning the menhaden fishery.

  [In Report of the Commissioner for 1877, Part V, 1879, pp. 382-385.]
- 624. Kerr, John W. The whitefish of the Great Lakes—Lakes Erie and Ontario.

[In Report of the Commissioner for 1872-773, Part II, 1874, pp. 80-81.]

625. Kidder, J. H. Hints for emergencies. Prepared for the use of field parties of the U. S. Fish Commission.

[In pamphlet, 8°, 1877? pp. 7.]

626. Report of experiments upon the animal heat of fishes, made at Provincetown, Massachusetts, during the summer of 1879, in connection with operations of the United States Fish Commission.

[In PROCEEDINGS of the U. S. Nat. Mus., Vol. II, 1879, pp. 306-326.]

627. Kiel, Peter. The whitefish of the Great Lakes—Lakes Erie and Ontario.

[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 81-84.]

- 628. Kirsch, M. On the raising of the "gold orfe" (*Cyprinus orfus*).

  [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 559-561.]
- 629. Knight, John T. Presence of shad in the rivers tributary to the Gulf of Mexico.

[In Report of the Commissioner for 1872-73, Part II, 1874, p. 391.]

- 630 Knight, William. A bill proposed to the Maryland legislature at the session of 1876, and entitled "An act to regulate the catching and to provide for the preservation of fish in the waters of the State and of the Potomac River."
  - [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 265-272.]
- 631. Roch, Charles. Statement concerning the menhaden fishery.

[In Report of the Commissioner for 1877, Part V, 1879, pp. 482-483.]
Bull. U. S. F. C., 83——4

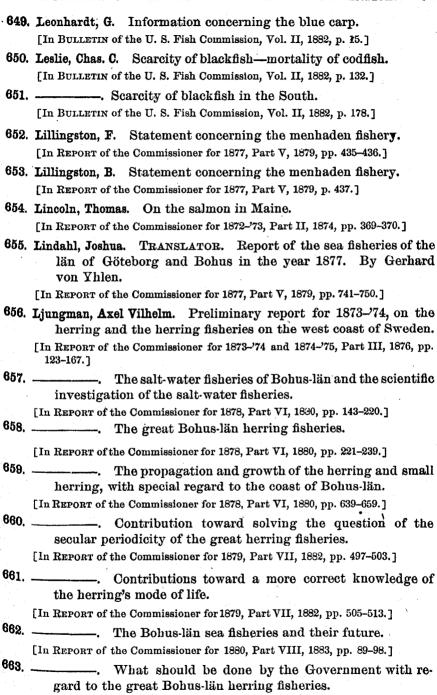
- 632. Koltz, J. P. J. The artificial propagation of fish.
  - [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 491-516, figs. 27.]
- 633. Kopsch, H. Notes on pisciculture in Kiangsi.
  - [In REPORT of the Commissioner for 1873-'74 and 1874-'75, Part III, 1876, pp. 543-547.]
- 634. Krause, Dr. Cod and halibut fisheries near the Shumagin Islands.
  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 259-260.]
- 635. Krause, K. E. H. A hybrid plaice, Platessa vulgaris, with Rhombus maximus.
  - [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 341-342.]
- 636. Kruuse, H. G. The fisheries of the west coast of South America.

  [In Report of the Commissioner for 1879, Part VII, 1882, pp. 515-522.]
- 637. Laighton, Cedric. The capture of shad at Isles of Shoals, New Hampshire.
  - [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, p. 421.]
- 638. Landmark, A. Is sawdust injurious to the fisheries?

  [In Report of the Commissioner for 1879, Part VII, 1882, pp. 625-632.]
- 639. Lanman, Charles. The whitefish of Eastern Maine and New Brunswick.
  - [In Report of the Commissioner for 1872-773, Part II, 1874, pp. 84-86.]
- 640. . The Salmonidæ of Eastern Maine, New Brunswick, and Nova Scotia.
  - [In Report of the Commissioner for 1872-'73, Part II, 1874, pp. 219-225.]
- 641. ———. Notes on the shad and gaspereau or alewife of New Brunswick and Nova Scotia.
  - [In REPORT of the Commissioner for 1872-773, Part II, 1874, pp. 461-462.]
- 642. La Valette St. George, Baron von. The enemies of fish.

  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 509-516.]
- 643. Lawrence, George W. Presence of shad in the rivers tributary to the Gulf of Mexico.
  - [In Report of the Commissioner for 1872-'73, Part II, 1874, pp. 392-393.]
- 644. Lawsom, Hance. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 458-460.]
- 645. Lefebvre, Alfred. The proposed introduction of American catfish into the rivers of Belgium.
  - [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 153-154.]
- 646. Lefevre, George Shaw. See James Caird.
- 647. Leonard, J. A. Plan of the international fisheries exhibition to be held at Edinburgh, Scotland, and a list of prizes to be awarded.

  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 390-391.]
- 648. \_\_\_\_\_. Report on the Edinburgh fisheries exhibition. [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 80-82.]



664. Lockington, W. N. Review of the *Pleuronectida* of San Francisco. [In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 69-108.]

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 99-126.]

665. Lockington. W. N. Descriptions of new genera and species of fishes from the coast of California. [In Proceedings of the U.S. Nat. Mus., Vol. II, 1879, pp. 326-332.] 666. \_\_\_\_\_. Remarks on the species of the genus Chirus found in San Francisco market, including one hitherto undescribed. [In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 53-57.] 667. \_\_\_\_\_\_. Description of a new fish from Alaska (Uranidea microstoma.) [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 58-59.] C68. —————. Description of a new species of Agonida (Brachyopsis verrucosus) from the coast of California. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 60-63.] Description of a new genus and some new species of California fishes (Icosteus anigmaticus and Osmerus attenuatus). [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 63-68.] 670. ———. Description of a new chiroid fish (Myriolepis zonifer) from Monterey Bay, California. [In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 248-251.] \_\_\_\_\_\_. Description of new sparoid fish (Sparus brachysomus) from Lower California. [In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 244-286.] 672. \_\_\_\_\_. Note on a new flat-fish (Lepidopsetta isolepis) found in the markets at San Francisco. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, p. 325.] 673. Description of a new species of prionotus (Prionotus stephanophrys) from the coast California. [In Proceedings of the U.S. Nat. Mus., Vol., III, 1880, pp. 529-532.] 674. Description of a new genus and species of Cottidæ. [In Proceedings of the U.S. Nat. Mus., Vol. IV, 1881, pp. 141-144.] 675. Loew, Oscar. TRANSLATOR. On the scientific investigation of the Baltic Sea and the German Ocean. By G. Karsten. [In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 283-294.] 676. Lord, W. Scott. Weight of salmon caught in Restigouche River. [In Bulletin of the U.S. Fish Commission, Vol. I, 1881, p. 274.] 677, Loring, David F. Statement concerning the menhaden fishery.

678. Loring, Joseph G. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In Report of the Commissioner for 1817-72, Part I, 1873, pp. 49-51.]

[In REPORT of the Commissioner for 1877, Part V, 1879, pp. 407-410.]

679. Loring, Thomas. Statement concerning the menhaden fishery.
[In Report of the Commissioner for 1877, Part V, 1879, pp. 403-404.]

- 680. Lothrop, Alonzo Y. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 412-413.]
- 681. Luce & Co., Jason. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 35-37.]

- 682. \_\_\_\_\_. Statement concerning the menhaden fishery.

  [In Report of the Commissioner for 1877, Part V, 1879, p. 417.]
- 683. Luce Brothers. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, p. 418.]
- 684. Lumbert, Henry. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In Report of the Commissioner for 1871-72, Part I, 1873, p. 53.]

685. Lupton, N. T. On the breeding habits of the sea-catfish (Ariopsis milberti?).

[In Proceedings of the U.S. Nat. Mus., Vol. I, 1878, pp. 278-279.]

- 686. Lyman, Theodore. On the possible exhaustion of sea fisheries. In Report of the Commissioner for 1871-72, Part I, 1873, pp. 112-116.]
- 687. \_\_\_\_\_. Fish culture in salt or brackish water.

  [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 575-578, pl. 1.]
- 688. McCaskie, A. Official papers relating to the proposed International Fisheries Exhibition at Edinburgh in 1882.
- [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 130-132.]
- 689. McDonald, Marshall. Statistics of the fisheries of Virginia. [Census Bulletin No. 281, 1881, pp. 8.]
- 690. \_\_\_\_\_\_. Experiments in the transportation of the German carp in a limited supply of water.

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 215-218.]

- 691. ———. Distribution of German carp by the United States Fish Commission in 1881.
  - [In BULLETIN of the U. S. Fish Commission, Vol. II, 1882, p. 94.] (See also under Earll and McDonald.)
- 692. McKay, Charles L. A review of the genera and species of the family Centrarchidæ, with a description of one new species.

[In Proceedings of the U.S. Nat. Mus., Vol. IV, 1881, pp. 87-93.]

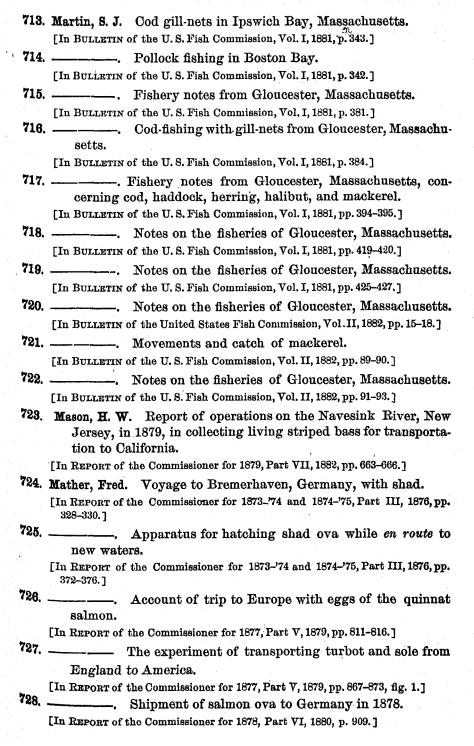
- 693. McKennie, M. Obstructions to the ascent of fish in some of the rivers of Virginia.
  - [In Report of the Commissioner for 1872-73, Part II, 1874, p. 629.]
- 694. Macy, Zaccheus. Upon the abundance of fish on the New England coast in former times.
  - [In Report of the Commissioner for 1871-'72, Part I, 1873, pp. 163.]

- 54BULLETIN OF THE UNITED STATES FISH COMMISSION. 695. Maddocks, L. Statement concerning the menhaden fishery. [In Report of Commissioner for 1877, Part V, 1879, p. 382.] 696. Manning, C. G. Statement concerning the menhaden fishery. [In REPORT of the Commissioner for 1877, Part V, 1879, p. 465.] 697. Marchant, C. B. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 416-417.] 698. Marenzeller, Emil von. The piscicultural establishment of Mr. August Fruwirth, in Freiland, near St. Pölten, Lower Austria. [In REPORT of the Commissioner for 1879, Part VII, 1882, pp. 651-665, fig. 1.] The raising of sponges from cuttings. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 771-777.] 700. Marquette, George R. Extraordinary floods in the Potomac River. [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, p. 258.] 701. Martens, J. B. Life in the sea. [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 253-264.] 702. Martin, Chandler. Statement concerning the menhaden fishery. [In REPORT of the Commissioner for 1877, Part V, 1879, p. 390.] 703. Martin, S. J. Coal ashes as a means of raising mackerel in purseseines. [In BULLETIN of the U.S. Fish Commission, Vol. I, 1881, p. 65.] Methods of using Willard's patent pocket for mack-704. erel. [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 65-66.] 705. — First appearance of fish at Gloucester, 1881. [In BULLETIN of the U. S. Fish Commission, Vol. I, 1881, p. 66.] Notes on the mackerel fishery of 1881. [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 132-133.] ———. Notes on New England fishes. [In BULLETIN of the U.S. Fish Commission, Vol. I, 1881, p. 133.]
- 708. ————. Notes on New England food fishes.
  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, p. 202.]
- 709. \_\_\_\_\_\_. Notes on the Gloucester fishery.

  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, p. 263.]
- 710. —————. Cod-fishing with gill-nets in Ipswich Bay, Massachusetts.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1881, p. 264.]

- 711. ———. Fishery news from Gloucester, Massachusetts. [In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 265-266.]
- 712. \_\_\_\_\_. Notes on the Gloucester fisheries.
  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, p. 268.]



- 729. Menzies, J. A. R. Exportation of salmon ova to New Zealand in 1876. [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 994; 1001-1002.]
- 730. ———. Shipment of salmon ova to New Zealand in 1877. [In Report of the Commissioner for 1878, Part VI, 1880, p. 865.]
- 731. Meyer, H. A. Biological observations made during the artificial raising of herring in the Western Baltic.

[In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 629-638.]

- 732. Miescher-Rüsch, F. Contributions to the biology of the Rhine salmon.
  - [IN REPORT of the Commissioner for 1880, Part VIII, 1883, pp. 427-474.]
- 733. Miles, George W. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 437-441.]
- 734. Milner, James W. Report on the fisheries of the Great Lakes; the result of inquiries prosecuted in 1871 and 1872.

[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 1-75, pl. 1.]

- 735. ———. New species of Argyrosomus and Coregonus. [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 86-89.]
- 736. ———. Report on the propagation of the shad (Alosa sapidissima) and its introduction into new waters by the U. S. Fish Commissioner in 1873.

[In REPORT of the Commissioner for 1872-73, Part II, 1874, pp. 419-451.]

- 737. ———. The progress of fish-culture in the United States. [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 523-558, pl. 4.]
- 738. ———. Character of some of the northern tributaries of Lake Michigan.

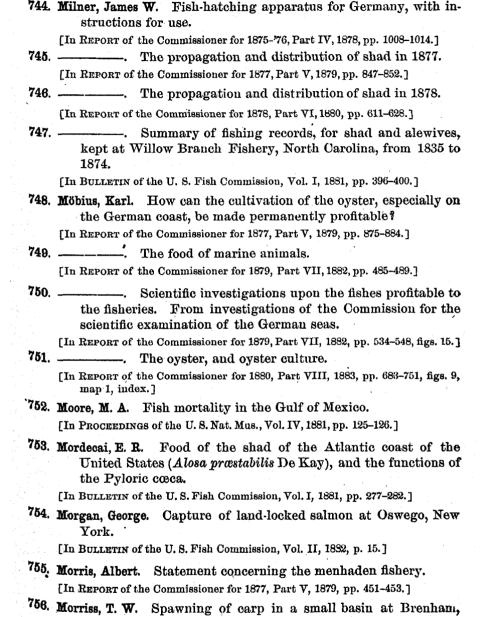
[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 632-633.]

- 739. Notes on the grayling of North America.

  [In Report of the Commissioner for 1872-773, Part II, 1874, pp. 729-742.]
- 740. Operations in the distribution of shad in 1874.

  [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 323-326.]
- 741. ———. Report of the Triana trip.
  - [In Report of the Commissioner for 1873-774 and 1874-75, Part III, 1876, pp. 351-362.]
- 742. ———. Experiments with a view to transporting shad in sea water.
  - [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 363-369.]
- 743. ———. The propagation and distribution of shad.

  [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 901-909.]



757. Morton, Thomas. Upon the abundance of fish on the New England coast in former times.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 27.]

Texas.

[In Report of the Commissioner for 1871-72, Part 1, 1873, pp. 154-159.]

- 758. Nelson, E. W. Fisheries of Chicago and vicinity.
  [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 783-800, fig. 1.]
- 759. Nicolas, Carl. Feeding carp with Indian corn.
  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 168.]
- 760. Norny, E. R. On the propagation of the striped bass.
  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 67-78.]
- 761. ———. A proposed pond for rearing striped bass (*Roccus lineatus*) in Delaware Bay.

  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 260-261.]
- 762. Norris. Thaddeus. Salmon-hatching on the Delaware.
- [In Report of the Commissioner for 1872-73, Part II, 1874, p. 382.]
- 763. Nussbaum, M. A simple test to learn if fish ova are impregnated.
  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 347-348.]
- 764. Nye, jr., Willard. Eels (Anguilla rostrata) in New Bedford waterpipes. Mackerel abundant in Amherst River.
  - [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 272.]
- 765. Olin, Washington. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, p. 393.]
- 766. Osborn, John H. Notes and suggestions concerning the Florida shad fishery.
  - [In Bulletin of the U.S. Fish Commission, Vol. I, 1881, p. 351.]
- 767. ———. Shad fishing on the Saint John's River. [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 132.]
- 768. Owens, A. A. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 453-454.]
- 769. Packard, jr., A. S. Preliminary report on a series of dredgings made on the United States Coast Survey steamer Bache, in the Gulf of Maine, under the direction of Prof. S. F. Baird, United States Fish Commissioner, during September, 1873.
  - [In Report of the Commissioner for 1873-774 and 1874-775, Part III, 1876, pp. 687-690.]
- 770. Palmer, George H. Argument in regard to regulating the sea-fisheries by law; the food-fishes of the New England coast.

  [In Report of the Commissioner for 1871-72, Part I, 1878, pp. 88-103.]
- 771. Pasco, I. D. A call for carp from Nevada.
  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 29-30.]
- 772. Patterson, C. P. Temperatures in the Gulf of Mexico.
  [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 745-748.]
- 773. Pattison, Holmes A. Presence of shad in the rivers tributary to the Gulf of Mexico.
  - [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 394-395.]

- 774. Payne, James. Shipment of salmon ova to New Zealand in 1877.
  [In Report of the Commissioner for 1878, Part VI, 1880, p. 859.]
- 775. Pease, Josiah C. Account of bluefish caught about Edgartown, Massachusetts, 1865-71.
  - [In Report of the Commissioner for 1871-72, Part I, 1873, p. 177.]
- 776. Perrin, Marshall L. Transportation of lobsters to California.
  [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 259-265.]
- 777. ————. Report on the movement of a lot of California salmon eggs from the United States salmon breeding establishment on the McCloud River to various States on the eastern coast during the season of 1874.
  - [In REPORT of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 449-459.]
- 778. Peyrer, Carl. Fisheries and fishery laws in Austria and of the world in general.
  - [In Report of the Commissioner for 1873-774 and 1874-775, Part III, 1876, pp. 571-679.]
- 779. Phillips, Barnet. Holland carp put into the Hudson River, New York, about 1830.
  - [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 25.]
- 780. Phillips, Eben B. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 401-403.]
- 781. Pitman, J. Talbot. Argument in favor of a law prohibiting the use of traps and pounds in Rhode Island.
  - [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 196-223.]
- 782. Poey, Felipe. Notes on the American species of the genus Cybium.
  [In PROCEEDINGS of the U. S. Nat. Mus., Vol. I, 1878, pp. 3-5.]
  - 783. \_\_\_\_\_. List of food-fishes brought from Key West, Florida, into the markets of Havana.
    - [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 118.]
  - 784. Pollard, Isaac W. Presence of shad in the rivers tributary to the Gulf of Mexico.
    - [In Report of the Commissioner for 1872-773, Part II, 1874, pp. 391-392.]
  - 785. Pollen, Daniel. Exportation of salmon ova to New Zealand in 1876. [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 977-978; 1002.]
  - 786. Poppe, Robert A. The introduction and culture of the carp in California.
    - [In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 661-666.]
  - 787. Porter, Joseph Y. On the destruction of fish by poisonous water in the Gulf of Mexico.
    - [In Proceedings of the U. S. Nat. Mus., Vol. IV, 1881, pp. 121-123.]
      (See also under Jefferson, Porter, and Moore.)

- 788. Potter, William H. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 428-429.]
- 789. Potts, Edward. Fresh-water sponges. What, where, when, and who wants them.
  - [To be in Bulletin of the U. S. Fish Commission; also in separate circular printed by the author.]
- 790. Powel, Samuel. Special argument in regard to regulating the sea fisheries by law.
  - [In Report of the Commissioner for 1871-'72, Part I, 1873, pp. 73-75.]
- 791. Pratt, K. B. Report of salmon-hatching operations on Rogue River, Oregon.
  - [In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 773-774.)
- 792. Prentiss, Henry M. Return of salmon planted in Penobscot River.
  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, p. 273.]
- 793. Rasch, H. H. Is sawdust as serious an obstacle to the ascent of salmon in our rivers as is generally maintained?

  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 517-518.]
- 794. On the reason for an extraordinarily rich production of oysters in a natural basin.
  - [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 1037-1043.]
- 795. Raveret-Wattel, M. C. Shipment of salmon ova to France in 1878. [In Report of the Commissioner for 1878, Part VI, 1880, p. 913.]
- 796. ————. Report on the condition of pisciculture in foreign countries, from documents collected at the International Fishery Exposition at Berlin, 1880.
  - [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 477-489.]
- 797. Rathbun, Richard. The littoral marine fauna of Provincetown, Cape Cod, Massachusetts.
  - [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 116-133.]
- 798. ———. List of marine invertebrates, mainly from the New England coast, distributed by the United States National Museum (Series II).
  - [In Proceedings of the U.S. Nat. Mus., Vol. IV, 1881, pp. 293-303.]
- 799. List of marine invertebrates from the New England coast, distributed by the United States National Museum (Series III).
  - [In Proceedings of the U.S. Nat. Mus., Vol. IV, 1881, pp. 304-307; also by Smithsonian Institution as No. 471.]
- 800. Dredging stations of the United States Fish Commission steamer Fish Hawk, Lieut. Z. L. Tanner commanding, for 1880, 1881, and 1882, with temperature and other observations.
  - [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 119-131.]

- 801. Rathbun, Richard. Notes on the shrimp and prawn fisheries of the United States.
  - [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 139-152. (See also under Smith and Rathbun; see also under Verrill and Rathbun.)
- 802. Raynor, J. Morrison. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, p. 443.]
- 803. Redding, B. B. Letters relating to the San Joaquin River and its fishes.
  - [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 479-483.]
- 804. Reichardt, E. The purification of refuse water.

  [in Report of the Commissioner for 1878, Part VI, 1880, pp. 519-524.]
- 805. ———. The injurious influence on pisciculture of the retting water of flax and hemp.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 545-550.]

- 806. Reisenbichler, G. F. The thick or thin fertilization of eggs.

  [In Report of the Commissioner for 1879, Part VII, 1882, pp. 633-635.]
- 807. Renaud, J. An account of the Portuguese and French oysters cultivated in the Bay of Arcachon.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 931-941, figs. 4.]

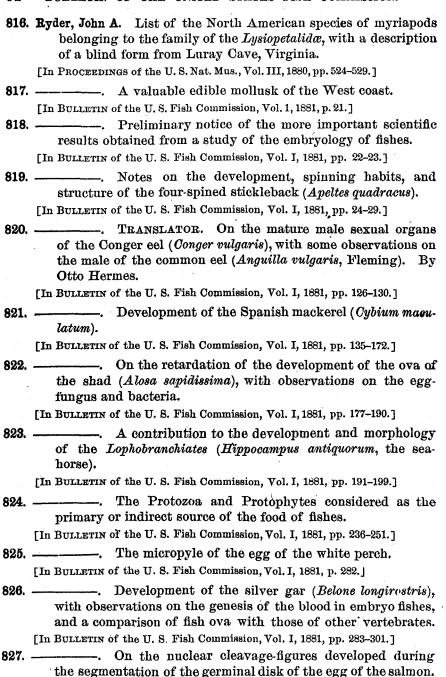
- 808. Rice, H. J. TRANSLATOR. The oyster and oyster-culture. By Carl Mobius.
  - [In Report of the Commissioner for 1880, Part VIII, 1883, 683-751, figs. 9, map.]
- and the methods of rearing and multiplying edible marine animals. By Felix Fraiche.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 753-824, figs. 23.]

- 810. Richardson, Henry. Statement concerning the menhaden fishery.

  [In Report of the Commissioner for 1877, Part V, 1879, pp. 464-465.]
- 811. Rixford, George C. Progress and results in fish culture (carp). [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, p. 396.]
- 812. Robbins, Isaac D. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, p. 460.]
- 813. Rookwell, A. P. Hatching and distribution of California salmon in tributaries of Great Salt Lake.
  - [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 434-435.]
- 814. Rubelius, H. Crawfish culture in Europe.
  [In Report of the Commissioner for 1879, Part VIII, 1882, pp. 767-770.]
- 815. Ryder, Francis W. Codfish caught near Cape Charles, mouth of Chesapeake Bay, in 1834.
  - [In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 384-385.]

828. -



oyster.
[In Bulletin of the U. S. Fish Commission, Vol. I, 1891, pp. 403-419.]

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 335-339.]

829.	Ryder, John A. Additional observations on the retardation of the development of the ova of the shad.
	[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 422-424.]
830.	
	omy of the oyster.
	[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 135-137.]
831.	Observations on the absorption of the yelk, the food,
	feeding, and development of embryo fishes, comprising some
	investigations conducted at the central hatchery, Armory
	Building, Washington, D. C., in 1882.
900	[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 179-205, fig. 1.]
oచ <b></b> జ.	can, Portuguese, and common edible oyster of Europe compared.
	[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 205-215.]
833.	Translator. Report relative to the generation and
	artificial fecundation of oysters, addressed to the minister of
4. 9	the marine and the colonies. By M. Bouchon-Brandely.
004	[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 319-338.]
034,	oyster (O. edulis) and that of the Portuguese oyster (O. angu-
	lata). Artificial fecundation of the Portuguese oyster. By M. Bouchon-Brandely.
	[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 339-341.]
835.	TRANSLATOR. Researches on the generative organs
	of the oyster (O. edulis). By P. P. C. Hoek.
00-	[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 343-345.]
<del>შ</del> 3წ,	TRANSLATOR. A simple test to learn if fish ova are
	impregnated. By Prof. M. Nussbaum. [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 347-348.]
897	
JU1.	On Camaraphysema, a new type of sponge. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 269-272].
228	
<b>-0</b> 0,	their sexual characters. By S. Th. Cattie.
	[In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 280-284.]
889.	A note on the organ of Bojanus in Ostrea virginica
	Gmelin.
	[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 345-347.]
840.	On the mode of fixation of the fry of the oyster.
04-	[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 383-387, figs. 9.]
<b>04]</b> ,	Sargent. W. H. Statement concerning the menhaden fisheries.
	[In Report of the Commissioner for 1877, Part V, 1879, pp 373-375.]

- 842. Sars. G. O. On the spawning and development of the cod fish.
  [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 213-222.]
- 843. Report of practical and scientific investigations of the cod fisheries near the Loffoden Islands, made during the

[In Report of the Commissioner for 1877, Part V, 1879, pp. 565-611.]

years 1864-'69.

844. ———. Report of practical and scientific investigations on the cod fisheries near the Loffoden Islands, made during the years 1870–773.

[In REPORT of the Commissioner for 1877, Part V, 1879, pp. 612-661.]

845. ———. Report made to the Department of the Interior of investigations of the salt-water fisheries of Norway during the years 1874-77.

[In Report of the Commissioner for 1877, Part V, 1879, pp. 663-705.

- 846. ———. Report on the Norwegian deep-sea expedition of 1878. [In Report of the Commissioner for 1878, Part VI, 1880, pp. 257-281.]
- 847. ———. Report submitted to the Department of the Interior on the practical and scientific investigations of the Finmark capelan fisheries, made during the spring of the year 1879.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 167-187.]

- 848. Sartell, William S. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 391.]
- 849. Schultz, Alexander. Account of the fisheries and seal-hunting in the White Sea, the Arctic Ocean, and the Caspian Sea.

[In Report of the Commissioner for 1873-774 and 1874-775, Part III, 1876, pp. 35-96.]

850. Scudder, Newton P. The halibut fishery, Davis' Strait.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 189-228, index; also separately.]

- 851. Seldon, G. Henry. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 461-464.]
- 852. Shears, E. E. Carp in the Hudson River.
  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 54-55.]
- 853. Shepard, Joseph. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 479-480.]
- 854. Shotwell, J. R. Method of purifying the residuum of gas-works be fore allowing it to pass off into the water.

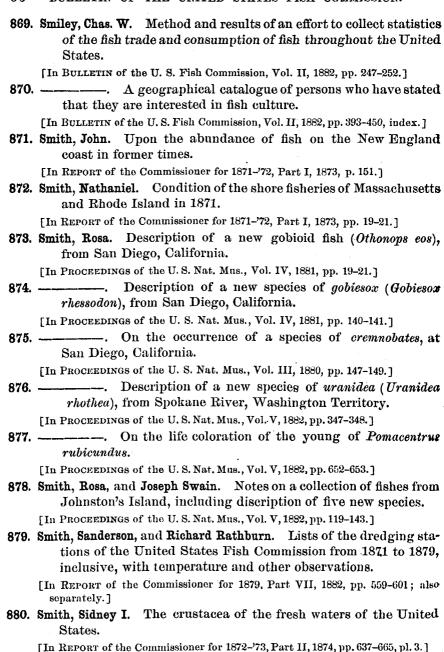
[In REPORT of the Commissioner for 1875-'76, Part IV, 1878, pp. 847-849.]

- 855. Siebold, C. Th. E. von. Correspondence relating to the gold-orfe.
  [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 561-562.]
- 856. Simpson, jr., A. W. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 465-474.]

## Vol. III. No. 5. Washington, Ib. C. Aug. 9. 1883. 857. Sisson, Benjamin H. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 445-447.] 858. Slack, J. H. Report relative to the hatching and planting of the Penobscot salmon. [In Report of the Commissioner for 1872-73, Part II, 1874, p. 381.] 859. \_ Report on shad-hatching operations in 1873 on the Delaware River. [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 409-413.] 860. \_\_\_\_\_\_. Notes on the natural history of the shad, as observed in the Delaware River. [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 457-460.] **8**61. \_\_ tributed. In REPORT of the Commissioner for 1873-774 and 1874-775, Part III, 1876, pp. 431-434. 862. Smidth, J. K. Historical observations on the condition of the fisheries among the ancient Greeks and Romans, and on their mode of salting and pickling fish. In Report of the Commissioner for 1873-774 and 1874-75, Part III, 1876, pp. 3-20.1 863. Smiley, Chas. W. Summary of reports for 1878 by State fish commissioners respecting the increase of food-fishes by artificial propagation. [In Report of the Commissioner for 1878, Part VI, 1880, pp. 925-943.] 864, \_ ———. Changes in the fisheries of the Great Lakes during the decade 1870-1880. [In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 252-258.] 865. \_\_\_ ———. Descriptive list of the publications of the United States Fish Commission, from its organization in 1871 to December 31, 1879. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 781-786.] 866. \_\_\_\_\_\_ Result of planting shad in the Muskingum River. [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 32.] 867. \_\_\_\_\_ Removal of bass from Indiana to North Carolina by the United States Fish Commission. [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 116.] The proposed use of steamers in the mackerel fishery.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 155-158.]

Bull. U. S. F. C., 83——5



. ———. Food of fresh-water fishes.
[In REPORT of the Commissioner for 1872-73, Part II, 1874, pp. 708-709.]

[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 690-707.]

Sketch of the invertebrate fauna of Lake Superior.

- 883. Smith, Sidney I. Occurrence of *Chelura terebrans*, a crustacean destructive to the timber of submarine structures on the coast of the United States.
  - [In Proceedings of the U.S. Nat. Mus., Vol. II, 1879, pp. 232-235, figs. 2.]
- 884. \_\_\_\_\_\_. Notice of a new species of the Willemoesia group of crustacea (recent Eryontidæ).
  - [In Proceedings of the U.S. Nat. Mus., Vol. II, 1879, pp. 345-353, pl. 1.]
- 885. ————. Preliminary notice of the *crustacea* dredged in from 64 to 325 fathoms off the south coast of New England, by the United States Fish Commission in 1880.
  - [In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 413-452.] (See also under Thacher and Smith.)
- 886. Smith, Silas B. On the Chinnook names of the salmon in the Columbia River.
  - [In PROCEEDINGS of the U.S. Nat. Mus., Vol. IV, 1881, pp. 391-392.]
- 887. Soudakèvicz, Theodore. Report on the progress of pisciculture in Russia.
  - [In REPORT of the Commissioner for 1872-'73, Part II, 1874, pp. 493-513.]
- 888. Southwick, J. M. K. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.
- [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 10-11; 31.]
- 889. \_\_\_\_\_\_. Argument in regard to regulating the sea fisheries by law.
  - [In REPORT of the Commissioner for 1871-72, Part I, 1878, pp. 76-88.]
- 890. Spindel, Isaiah. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.
  - [In Report of the Commissioner for 1871-772, Part I, 1873, pp. 67-70.]
- 891. Starbuck, Alexander. History of the American whale-fishery from its earliest inception to the year 1876.
  - [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 1-763, pl. 6, index.]
- 892. Stearns, R. E. C. Suggestions for transplanting clams from the Pacific Ocean to the Atlantic.
  - [In BULLETIN of the U.S. Fish Commission, Vol. II, 1882, pp. 20-21.]
- 893. Stearns, Silas. A note on the Gulf menhaden, Brevoortia patronus Goode.
  - [In Proceedings of the U.S. Nat. Mus., Vol. I, 1878, pp. 181-182.]
- Stebbins, Barney M. Result of propagating black bass.
  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 936-937.]
- 895. Steindachner, Franz. Note on Perca flavescens.
  - [In Proceedings of the U.S. Nat. Mus., Vol. I, 1878, p. 243.]

- 68 BULLETIN OF THE UNITED STATES FISH COMMISSION.
- 896. Stenzel, Alexander. On the so-called "dry" method of impregnating spawn.

[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 571-575.]

897. Sterling, E. Report relative to hatching and planting of the Penobscot salmon.

[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 382-383.]

898. Stevens, Pardon W. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 16-19.]

699. Stilwell, E. M. On shad-hatching operations by the commissioners of the State of Maine.

[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 417-418.]

- 900. Obstructions to the ascent of fish in the rivers of Maine.
  - [In REPORT of the Commissioner for 1872-73, Part II, 1874, pp. 617-621, map.]
- 901. ———. Return of salmon planted in Penobscot River. [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 271-273.]
- 902. Stilwell, E. M., and Charles G. Atkins. Description of improved apparatus for fish-hatching.

[In REPORT of the Commissioner for 1872-'73, Part II, 1874, pp. 579-580.]

- 903. Stirling, A. B. Notes on the fungus disease affecting salmon.
  [In Report of the Commissioner for 1878, Part VI, 1880, p. 525-529.]
- 904. ———. Additional observations on the fungus disease affecting salmon and other fish.

[In Report of the Commissioner for 1878, Part VI, 1880, pp. 531-536.]

- 905. Stokes, J. L. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, p. 435.]
- 906. Stone, Livingston. Report of operations during 1872 at the United States salmon-hatching establishment on the McCloud River, and on the California salmonidæ generally; with a list of specimens collected.

In REPORT of the Commissioner for 1872-73, Part II, 1874, pp. 168-215, pl. 1.]

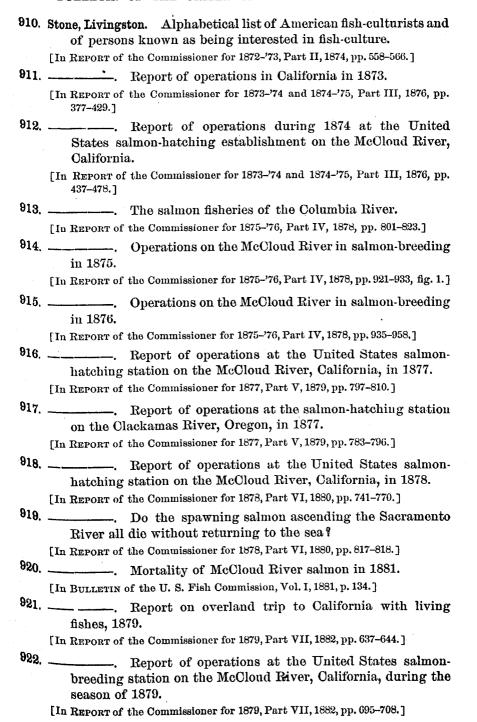
- 907. ————. Notes on the salmon of the Miramichi River.

  [In Report of the Commissioner for 1872-'73, Part II, 1874, pp. 216-218.]
- 908. ————. On the salmon fisheries of the Sacramento River.

to the Sacramento.

- [In Report of the Commissioner for 1872-773, Part II, 1874, pp. 374-379.]

  909. ————. Report on the transfer of shad from the Hudson River
  - [In REPORT of the Commissioner for 1872-773, Part II, 1874, pp. 413-416.]



- 70 BULLETIN OF THE UNITED STATES FISH COMMISSION.
- 923. Stone, Livingston. Report of operations at the United States trout ponds, McCloud River, California, during the season of 1879.

[In Report of the Commissioner for 1879, Part VII, 1882, pp. 715-720.]

924. — Replies to questions of Herr von Behr concerning Salvelinus fontinalis and Salmo iridea.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 9-12.]

925. — Account of operations at the McCloud River fishbreeding stations of the United States Fish Commission for 1872 to 1882 inclusive.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 217-236.]

926. — Does the panther (Felis concolor) go into the water to kill fish ?

[In PROCEEDINGS of the U.S. Nat. Mus., Vol. V, 1882, p. 570.]

927. ———. Report of operations at the United States salmonhatching station on the McCloud River, California, during the season of 1880.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 597-613.]

- 928. ———. Report of operations at the United States trout ponds in the McCloud River, California, during the season of 1880.

  [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 615-621.]
- 929. Strüvy, R. Carp culture in East Prussia.
  [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 552-555.]
- 930. Sturdevant, F. Result of propagating trout.
  [In Report of the Commissioner for 1878-'79, Part VI, 1880, pp. 935-936.]
- 931. Suckley, George. On the North American species of salmon and trout.
  - [In Report of the Commissioner for 1872-'73, Part II, 1874, pp. 91-160.]
- 932. Sutton, F. Exportation of salmon ova to New Zealand in 1876. [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 987-988; 1003.]
- 933. Swain, Joseph. A review of the species of Stolephorus found on the Atlantic coast of the United States.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 55-57.]

- 934. Swain, Joseph, and George B. Kalb. A review of the genus Noturus, with a description of one new species.
  - [In Proceedings of the U. S. Nat. Mus., Vol. V, 1882, pp. 638-643.]
- 935. A review of the Syngnathina of the United States, with the description of one new species.
  - [In Proceedings of the U. S. Nat. Mus., Vol. V, 1882, pp. 307-315.] (See also under Smith and Swain.)

936. Swan, James G. The surf-smelt of the Northwest coast, and the method of taking them by the Quillehute Indians, west coast of Washington Territory.

[In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 43-46.]

- 937. \_\_\_\_\_. The eulachon or candle-fish of the Northwest coast. [In Proceedings of the U. S. Nat. Mus., Vol. III, 1880, pp. 257-264.]
- 938. ———. Shad in Puget Sound.
  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 152.]
- 939. Swan, John D. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In REPORT of the Commissioner for 1871-72, Part I, 1873, pp. 12-15.]

940. Sweet, S. B. Decrease of fish in Squamscot River, New Hampshire, on account of refuse matter from gas works.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 33.]

341. Swetitsch, Joseph. A depot for embryonated eggs of all the valuable kinds of fish.

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 345-346.]

- 942. Syrski, Dr. Lecture on the organs of reproduction and the fecundation of fishes and especially of eels.
  - [In Report of the Commissioner for 1873-'74 and 1874-'75, Part III, 1876, pp. 719-734, figs. 23.]
- 943. Tanner, Z. L. Report of operations of the United States steamer Speedwell in 1879, while in the service of the United States Fish Commission.

[In Report of the Commissioner for 1879, Part VII, 1882, pp. 603-615.]

944. \_\_\_\_\_. Report of an exploring trip of the steamer Fish Hawk in Chesapeake Bay in the early spring of 1882.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 133-135.]

945. \_\_\_\_\_. Occurrence of fur-seals in mid ocean.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 216.]

- 946. Tarr & Co., Judson. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 385-387.]
- 947. Taylor, Edward E. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In Report of the Commissioner for 1871-'72, Part I, 1873, pp. 26-28.]

848. Thacker, James K., and Sidney I. Smith. On stomachs of salmon and their contents.

[In REPORT of the Commissioner for 1872-73, Part II, 1874, p. 371.]

949. Thayer, A. W. Result of propagating trout.

[In Report of the Commissioner for 1878, Part VI, 1880, p. 936.]

950. Thompson, John H. Record of young salmon caught near Martha's Vineyard and at Seconticut Neck.

[In BULLETIN of the U. S. Fish Commission, Vol. I, 1881, pp. 270-271.]

951. Throckmorton, S. R. On the edible qualities of the Sacramento salmon.

[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 373-374.]

- 952. ———. The introduction of striped bass into California.

  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 61-62.]
- 953. Description of the fish-way in Pitt River, California. [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 202-204.]
- 954. Tice, Benjamin. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, p. 457.]
- 955. Tifft, Henry 0. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In Report of the Commissioner for 1871-72, Part I, 1873, p. 7.]

956. Todd, Frank. Occurrence of salmon in Restigouche and Saint Croix Rivers due to artificial propagation.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 275-277.]

- 957. Tölke, C. The pollution of public waters by refuse from factories. [In Report of the Commissioner for 1879, Part VII, 1882, pp. 619-624.]
- 958. Tomkinson, J. R. Result of propagating salmon.
  [In Report of the Commissioner for 1878, Part VI, 1880, p. 931.]
- 959. Trolle, C. The Iceland fisheries.
  [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 77-87.]
- 960. Trumbull, J. Hammond, J. J. Gent, et al. Notices in regard to the abundance of fish on the New England coast in former times.

  [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 149-172.]
- 961. ———. Upon the abundance of fish on the New England coast in former times.

[In Report of the Commissioner for 1871-72, Part I, 1873, pp. 165-169.]

- 962. \_\_\_\_\_. Etymology of the names of the menhaden. [In Report of the Commissioner for 1877, Part V, 1879, p. 11.]
- 963. Turner, Will E., M. D. Presence of shad in the rivers tributary to the Gulf of Mexico.

[In Report of the Commissioner for 1872-773, Part II, 1874, p. 394.]

- 964. Vail, David G. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 447-449.]
- 965. Van Antwerp, W. Growth, spawning, edible qualities, and manner of cooking German carp received from the United States Fish Commission in 1880.
  - [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 300.]

- 966. Veckenstedt, Dr. Ed. On the carp-ponds of Nether-Lusatia.
  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 671-674.]
- 967. Verrill, A. E. Report upon the invertebrate animals of Vineyard Sound and the adjacent waters, with an account of the physical characters of the region.
  - [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 295-778, pl. 38, index.]
- 968. ———. Synopsis of the North American fresh-water leeches. [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 666-689.]
- of the northeastern coast of America, with descriptions of new genera and species, and critical remarks on others. [Part I.]

  [In Proceedings of the U. S. Nat. Mus., Vol. II, 1879, pp. 165-205.]
- 970. \_\_\_\_\_\_. Notice of recent additions to the marine invertebrata of the northeastern coast of America, with descriptions of new genera and species, and critical remarks on others.

PART II. Mollusca, with notes on Annelida, Echinodermata, &c.. collected by the United States Fish Commission.

- [ In Proceedings of the U.S. Nat. Mus., Vol. III, 1880, pp. 356-405.]
- 971. Notice of recent additions to the marine invertebrata of the northeastern coast of America, with descriptions of new genera and species, and critical remarks on others.

PART III. Catalogue of Mollusca recently added to the fauna of Southern New England.

- [In PROCEEDINGS of the U.S. Nat. Mus., Vol. III, 1880, pp. 405-409.]
- 972. \_\_\_\_\_. Report on the cephalopods of the northeastern coast of America.
  - [In Report of the Commissioner for 1879, Part VII, 1882, pp. 211-455, pl. 46, index; also separately.]
- 973. \_\_\_\_\_\_. Notice of recent additions to the marine invertebrata of the northeastern coast of America, with descriptions of new genera and species, and critical remarks on others.

PART IV. Additions to the deep-water Mollusca, taken off Martha's Vineyard, in 1880 and 1881.

- [ In Proceedings of the U.S. Nat. Mus., Vol. V, 1882, pp. 315-343.]
- 974. \_\_\_\_\_\_. Description of some of the apparatus used by the United States Commission of Fish and Fisheries in dredging off the New England coast.

[In Report of the Commissioner for 1880, Part VIII, 1883, pp. 65-74, pl. 4.]

- 975. Verrill, A. E., and Richard Rathbun. List of marine invertebrata from the New England coast, distributed by the United States Commission of Fish and Fisheries.
  - [In PROCEEDINGS of the U.S. Nat. Mus., Vol. II, 1879, pp. 227-232.]

- 976. Vogel, Julius. Exportation of salmon ova to New Zealand in 1876.

  [In Report of the Commissioner for 1875-76, Part IV, 1878, pp. 968-969.]
- 977. Wagner, Christian. What does a fish cost?

  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 605-607.]
- 978. Walker, Francis A. See Baird, Walker, and Goode.
- 979. Wallem, Fredrik M. Report on the American fisheries.
  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 75-115.]
- 980. Walpole, S., and T. H. Huxley. Disease among the salmon of many rivers of England and Wales.

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 429-448.]

- 981. Ward, Lester F. List of water plants for carp ponds.
  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 22-25.]
- 982. Washburn, jr., J. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 388-390.]
- 983. Washington, John. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 430-431.]
- 984. Watson, W. C. The salmon of Lake Champlain and its tributaries.
  [In Report of the Commissioner for 1873-774 and 1874-775, Part III, 1876, pp. 531-540.]
- 985. Way, J. H. Result of propagating trout.

  [In Report of the Commissioner for 1878, Part VI, 1880, p. 936.]
- 986. Weddige, Herr. Castrating fish.
  [In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 59-61.]
- 987. Wergeland, N. The economic value of the Norwegian lakes and rivers as a field for fish culture.

[ In Report of the Commissioner for 1878, Part VI, 1880, pp. 539-604.]

- 988. Westgate, Sylvanus. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.
  - [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 33-34.]
- 989. Whaley, Joseph. Statement concerning the menhaden fishery. [In Report of the Commissioner for 1877, Part V, 1879, pp. 449-450.]
- 990. Whalley, W. E. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.
  - [In Report of the Commissioner for 1871-72, Part I, 1873, pp. 21-26.]
- 991. Whitmore, G. S. Shipment of salmon and whitefish to New Zealand in 1877 and 1878.
  - [In Report of the Commissioner for 1878, Part VI, 1880, pp. 854; 865-866; 900; 903; 905.]
- 992. Widegren, Hjalmar. Statistical data regarding the Swedish fisheries.
  - [In Report of the Commissioner for 1873-'74 and 1874-'75, Part III, 1876, pp. 31-34.]

- 993. Widegren, Hjalmar. On the herring and its preparation as an article of trade.
  - [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 183-193.7
- 994. ————. Short introduction to the proper care and management of the Baltic fishery.
  - [In REPORT of the Commissioner for 1878, Part VI, 1880, pp. 117-141.]
- 995. Wigg, Dr. George. On the insensibility of the German carp to freezing.
  - [In BULLETIN of the U. S. Fish Commission, Vol. I, 1881, p. 402.]
- 996. Wilcox, Lander. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 431-432.]
- 997. Williams, Roger. Upon the abundance of fish on the New England coast in former times.
  - [In Report of the Commissioner for 1871-72, Part I, 1873, p. 164]
- 998. Williamson, John. Description of improved apparatus in fish hatching.
  - [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 586-586.]
- 999. Willis, H. Shad fisheries of the Susquehanna River fifty-six years ago.
  - [In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 261-263.]
- 1000. Wilmot, Samuel. Notes on the Western gizzard shad, Dorosoma cepedianum heterurum (Raf.) Jordan.
  - [In Proceedings of the U. S. Nat. Mus., Vol. I, 1878, pp. 263-264.]
- 1001. \_\_\_\_\_ Unsuccessful transportation of Califoria salmon eggs.
  [In Report of the Commissioner for 1878, Part. VI, 1880, pp. 755-762.]
- 1002. \_\_\_\_\_. Introduction of California salmon into Ontario, with remarks on the disappearance of Maine salmon from that province.
  - [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 347-349.]
- 1003. \_\_\_\_\_. Remarks on the scarcity of male and grilse salmon in the rivers of Ontario, Canada.
  - [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 379-381.]
- 1004. Wilson, Charles A. Raising brook trout in mineral water.
  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 392.]
- 1005. Wilson, Edmund B. Report on the Pycnogonida of New England and adjacent waters.
  - [In Report of the Commissioner for 1878, Part VI, 1880, pp. 463-506, pl. 7, index; also separately.]
- 1006. Wilson, J. Cracroft. Shipment of whitefish ova to New Zealand in 1878.
  - [In Report of the Commissioner for 1878, Part VI, 1880, pp. 880-882.]

1007. Wilson, J. Paul. TRANSLATOR. An account of the fisheries of Norway in 1877. By M. Friele.

[In REPORT of the Commissioner for 1877, Part V, 1879, pp. 707-739.]

- 1008. Wilson, Samuel. Shipment of salmon ova to Australia in 1877.

  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 825-828; 831-833.]
- 1009. Wilson, Thomas. The proposed introduction of catfish into Ghent. [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 340-341.]
- 1010. Winslow, Samuel H., and George. Condition of the shore fisheries of Massachusetts and Rhode Island in 1871.

[In Report of the Commissioner for 1871-72, Part I, 1883, pp. 45-47.]

- 1011. Wolf, A. G. Statement concerning the menhaden fishery.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 450-451.]
- 1012. Wood, M. L. The fisheries of the Gulf of Mexico.
  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 19-20.]
- 1013. Wood, William. Upon the abundance of fish on the New England coast in former times.

[In Report of the Commissioner, for 1871-'72, Part I, 1873, pp. 161-162.]

- 1014. Wood, William. Return of salmon planted in Connecticut River. [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, p. 274.]
- 1015. Worth, S. G. The artificial propagation of the striped bass (Roccus lineatus) in Albemarle Sound.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 174-177.]

- 1016. ———. Shad hatching. Carp ponds at Raleigh.
  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 26-27.]
- 1017. A poor season for shad-hatching in North Carolina. [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 54.]
- 1018. Wright, Abel A. A Georgia carp pond.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 68-69.]

- 1019. Wright, Harrison, Chairman of the committee. Report of a committee of the Wyoming Historical and Geological Society on the early shad fisheries of the north branch of the Susquehanna River.
  - [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 352-359; also separately.]
- 1020. Yarrow, H. C. On the speckled trout of Utah Lake. (Salmo virginalis Girard.)
  - [In Report of the Commissioner for 1872-773, Part II, 1874, pp. 363-368.]
- 1021. ———. Report of a reconnaissance of the shad rivers south of the Potomac.
  - [In Report of the Commissioner for 1872-73, Part II, 1874, pp. 396-402.]

1022. Yarrow H. C. Notes on the natural history of the shad as observed at Beaufort Harbor, N. C., and vicinity.

[In Report of the Commissioner for 1872-73, Part II, 1874, pp. 452-456.]

1023. Yhlen, Gerhard von. Report on the sea fisheries of the Län of Göteborg and Bohus in the year 1877.

[In REPORT of the Commissioner for 1877, Part V, 1879, pp. 741-750.]

1024. Yoakum, F. L. Carp culture in Texas.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 28-32.]

1025. Yost, John. Report upon the management of German carp by a Mississippi correspondent.

[In Bulletin of the U.S. Fish Commission, Vol. II, 1882, p. 310.]

1026. Young, A. Upon the abundance of fish on the New England coast in former times.

[In Report of the Commissioner for 1871-72, Part I, 1873, p. 160.]

1027. Zentz, F. On the races or varieties of carp, denying the existence of blue carp and gold carp.

[In Bulletin of the U.S. Fish Commission, Vol. I, 1881, pp. 387-389.]

# II.—ARTICLES FROM PERIODICALS, &c., ALPHABETICALLY ARRANGED.

- 1028. Amtliche Berichte, &c. Transportation of live fish.

  [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 95-102, figs. 4.]
- 1029. Bergenposten. Society for promoting the Norwegian fisheries.
  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 241-243.]
- 1030. Berlin daily paper. The carp fisheries in the Peitz Lakes.
  [In Report of the Commissioner for 1878, Part VI, 1880, pp. 675-678.]
- 1031. Christiana paper. Protection of whales.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 17-19.]

- 1032. Das Ausland. An account of the Loffoden Islands of Norway.
  [In Report of the Commissioner for 1877, Part V, 1879, pp. 559-564.]
- 1033. Deutsche Fischerei-Verein. The best food for young salmonoids and for larger salmonoids in ponds.

[In REPORT of the Commissioner for 1877, Part V, 1879, pp. 779-782.]

1034. Deutsche Fischerei-Zeitung. Sickness of the gold-fish in the Royal Park, Berlin.

[In Report of the Commissioner for 1878, Part VI, 1880, pp. 537-538.]

1035. \_\_\_\_\_. Mr. Christian Wagner's establishment for raising gold-fish, at Oldenberg, Germany.

[In Report of the Commissioner for 1878, Part VI, 1880, pp. 679-684.]

1036. \_\_\_\_\_. Pachaly's ear for transporting fish.

[In BULLETIN of the U. S. Fish Commission, Vol. I, 1881, pp. 207-208.]

- $\textbf{1037. Deutsche Fischerei-Zeitung.} \quad \textbf{The Cottbus carp trade.}$ 
  - ' [In BULLETIN of the U. S. Fish Commission, Vol. II, 1882, p. 158.]
- 1038. Field. Introduction of the aland, or orfe, into England.
  [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 218-220.]
- 1039. Fiskeri Tidende. The Scotch herring fisheries in 1882.
  - [In Bulletin of the U.S. Fish Commission, Vol. II, 1882, pp. 117-118.]
- 1040. ———. The cod fisheries on the coast of Norway.
- [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 138.]
- 1041. The sardine fisheries.
  - [In REPORT of the Commissioner for 1880, Part VIII, 1883, pp. 163-165.]
- 1042. Frank Leslie's Illustrated Newspaper. American birds, animals, and fishes for New Zealanders.
  - [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 53-54.]
- 1043. Galveston Daily News. Progress and results of fish-culture [carp]. [In Bulletin of the U. S. Fish Commission, Vol. I, 1881, p. 396.]
- 1044. Gloucester Telegraph. Fishing for shad in South American waters. [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 138.]
- 1045. Landwirthschaft und Industrie. Carp-ponds.
  - [In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 555-558.]
- 1046. Magdeburgische Zeitung. Stocking the Stettiner Haff with carp. [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp. 1-8.]
- 1047. Nederlandsche Dierkundige Vereeniging, &c. Result of the investigations of the Netherlands Zoological station relative to the oyster and its cultivation at the end of the first year of its investigations.
  - [In Report of the Commissioner for 1880, Part VIII, 1883, pp. 1001-1027.]
- 1048. Nordisk Tidsskrift for Fiskeri. The fishing villages, Snekkersteen and Skotterup, and the collection of fishing-implements exhibited by them at Elsinore, Denmark, during the summer of 1872.
  - [In Report of the Commissioner for 1873-774 and 1874-775, Part III, 1876, pp. 173-181.]
- 1049. ———. New contributions to the herring question. The dispute between Axel Boeck and Ossian Sars, regarding the Norwegian summer-herring. Sars's recent observations, and his new theory on the migrations of the herring.
  - [In REPORT of the Commissioner for 1873-'74 and 1874-'75, Part III, 1876, pp. 195-211.]
- 1050. On the artificial propagation of the lobster.
  - [In REPORT of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 267-269.]

1051. Nordisk Tidsskrift for Fiskeri. On ponds for the culture of the carp.

[In Report of the Commissioner for 1873-'74 and 1874-'75, Part III, 1876, pp. 549-552.]

1052. Norwegian Commission. On the fisheries of Norway.

[In Report of the Commissioner for 1873-74 and 1874-75, Part III, 1876, pp. 25-30.]

1053. Oesterreichisch-Ungarische Fischerei-Zeitung. Peat-bogs as fishponds.

[In Bulletin of the U. S. Fish Commission, Vol. I, 1881, pp. 58-59.]

1054. Scientific Farmer. Connection of abundance of moss and of black flies with abundance of trout.

[In Bulletin of the U. S. Fish Commission, Vol. II, 1882, pp, 103-104.]

1055. Sunland Tribune. Poisoned water in the Gulf of Mexico. [In Bulletin of the U. S. Fish Commission, Vol. II, 1882, p. 104.]

1056. Swedish Fishery Report. Improvement in the salmon fisheries of Sweden.

[In REPORT of the Commissioner for 1872-73, Part II, pp. 1874, 166-167.]

1057. Weser-Zeitung. Living shad on their way to the Weser.
[In Report of the Commissioner for 1873-774 and 1874-775, Part III, 1876, pp. 330-335.]

1058. Bean, Tarleton H.\* Description of a new species of Alepidosaurus (A. Æsculapius), from Alaska.

[In PROCEEDINGS of the U. S. Nat. Mus., Vol. V, 1882, pp. 661-663.]

- III.—ARTICLES IN TYPE FOR REPORT OF THE COMMISSIONER FOR 1881, PART IX.
- 1059. Atkins, Chas. G. Report on the propagation of Penobscot salmon in 1881-'82.
- 1060. \_\_\_\_\_\_. Report on the propagation of Schoodic salmon in
- 1061. Bonchon-Brandely, M. Report to the Minister of the Marine relative to oyster culture upon the shores of the British Channel and the ocean.
- 1062. Brocchi, Dr. P. Report on the present condition of oyster culture in France.
- 1063. Bean, Tarleton, H. TRANSLATOR. The Loffoden fishery in 1880. By Lieut. Niels Juel.
- 1064. Clark, Frank N. Report of work at the United States Hatchery, Northville, Mich., 1881-'82.

<sup>\*</sup>This item was omitted from its proper place by mistake.—Editor.

- 1065. Dyrenforth, Robert G. List of patents issued in the United States during the year 1881 relating to fish, and the methods, products, and applications of the fisheries.
- 1066. Forbes, S. A. The first food of the common white-fish (Coregonus clupeiformis, Mitch.).
- 1067. Goode, G. Brown, Joseph W. Collins, R. E. Earll, and A. Howard Clark. Materials for a History of the Mackerel Fishery.
- 1068. Juel, Niels. The Loffodon fishery in 1880.
- 1069. McDonald, Marshall. TRANSLATOR. Report of the Minister of the Marine relative to oyster culture upon the shores of the British Channel and the ocean. By M. Bouchon-Brandely.
- 1070. Smiley, Chas. W. The extent of the use of fish guano as a fertilizer.
- 1071. Statistics of the shad hatching operations conducted by the United States Fish Commission in 1881.
- 1072. Snell, Merwin P. TRANSLATOR. Report on the present condition of oyster culture in France. By Dr. P. Brocchi.
- 1073. Stone, Livingston. Report of operations at the United States salmon-breeding station on the McCloud River, California, during the season of 1881.
- 1074. ———. Report of operations at the United States trout ponds, McCloud River, California, for the season of 1881.
- 1075. Tanner, Z. L. Report on construction, equipment, and cruise of the United States Fish Commission steamer Fish Hawk during the fall of 1879 and year of 1880.
- 1076. ———. Report of the work of the United States Fish Commission steamer Fish Hawk for the year ending December 31, 1881.
- 1077. Webster, H. E., and James E. Benedict. The Annelida chætopoda from Provincetown and Wellfleet, Mass.

Of the foregoing 1,077 titles, 102 are under translators' names, and 7 are references to co-editors or duplicates, so that the actual number of separate papers enumerated is 968.

NOTE.—The following additions should be made to the citations in this list: Page 4, No. 14, 10 pl. and folding map; page 4, No. 15, 15 pl.; page 4, No. 18, 1 pl.; page 4, No. 21, 15 figs.; page 5, No. 30, with index; page 6, No. 46, 3 pl., 19 figs.

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A.-U. S. FISH COMMISSION-GENERAL.

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