

V.—EGGS RECEIVED FROM FOREIGN COUNTRIES AT COLD SPRING HARBOR, NEW YORK, AND RETAINED OR FORWARDED DURING THE SEASONS OF 1883-'84 AND 1884-'85.

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By FRED MATHER.

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A. BROWN TROUT (*Salmo fario*).—February 28, 1883, I received two lots of eggs of the European brook trout, which, to distinguish from our native fish, I have called by the English name of "brown trout," as more likely to strike the popular fancy in this country than the German name of "bachforelle." The eggs were consigned to me personally by Herr von Behr, president of the *Deutsche Fischerei-Verein*, and consisted of 60,000 of a large kind, and 20,000 from streams tributary to the Upper Rhine, which were smaller, but were of the same species. The eggs were very far advanced when received, many having hatched in the packages, and a great number of the eggs were indented, an injury caused by lack of moisture. An announcement of the arrival of these eggs in Forest and Stream brought applications for them, and on March 10, I sent 10,000 of the large and 2,000 of the small kind to the New York Station at Caledonia. On March 21 I sent to the U. S. Fish Commission at Northville, Mich., 2,000 of the large and 3,000 of the small kind. In the hatchery under my charge at Cold Spring Harbor, the large eggs hatched head first, and I never knew any of the salmon family to live if they broke the shell in that manner. The large fish all died in from three to seven days after hatching. The smaller kind did better, and some 4,000 were placed in a rearing pond 25 feet long, 6 feet wide, and 3 feet deep, with vertical sides of boards, which extended 1 foot above the water. When six months old the pond contained several hundred fine fish fully 6 inches in length, as plump, well-fed trout as ever delighted the eye of a fish-culturist. We were so proud of these fish that we often caught them to show visitors, and as often as we disturbed them we would find many dead ones on the ground the next day. It was not until our stock was nearly exhausted that we noted the connection between the disturbance and the deaths, and removed the fish to safer quarters. The tendency to suicide in this fish seems unknown in Germany, and has not been manifested here since the transfer to a larger and deeper pond. I have (September, 1885) perhaps forty of these fish two and a half years old, which are as beautiful trout as I ever saw, and from which spawn is expected in a few months. The

breed will be kept pure, for I am not in favor of hybridizing a fish that is good enough, or, in fact, any fish unless it is merely in the way of scientific experiment.

On February 15, 1884, we received a box of brown-trout eggs from Herr von Behr, containing 16,000 of the large kind, half of which were consigned to Mr. E. G. Blackford, New York City, and the remainder to me; and 54,000 of the small kind, 32,000 of which were for me, and 22,000 for Mr. Blackford. Of the large variety I sent 3,000 to the New York station at Caledonia, 1,000 to the United States station at Northville, Mich., and 2,000 to Central Station at Washington, D. C. Of the small variety we sent 10,000 to Caledonia, 4,000 to Northville, and 9,000 to Central Station at Washington. The distribution of fry from Cold Spring Harbor will be found in the following tables.

On February 25, 1884, there were received as a present to the American Fish-Cultural Association from the Fishing Gazette of London, by its editor, R. B. Marston, esq., three lots of brown trout; 5,000 from Mr. Andrews's "best fish;" 3,000 from the Itchen; and 2,000 from the Wey; all from the hatchery of Mr. Andrews, at Guilford, Surrey. These eggs arrived in good condition, and were hatched and distributed. Those we retained cannot be distinguished from the same species from Germany. The White Star Line of steamers brought them from England free of charge. The letters below relate to the eggs from Germany:

"A box of European trout eggs (*Salmo fario*) arrived last night, and was forwarded this morning to Wytheville by Mr. Moore, who goes there to make the distribution of California trout; and we hope to be able to give a good account of them. We will retain enough for breeders, and make a single plant of the rest in some suitable stream in the vicinity of the hatchery." [M. McDonald, chief of division of distribution, Washington, D. C., February 23, 1884.]

"The German trout eggs arrived February 18 in prime order. Very few dead. They hatched about a week ago." [Frank N. Clark, Northville, Mich., March 24, 1884.]

On February 24, 1885, there was received from Herr von Behr, president of the *Deutsche Fischerei-Verein*, a case of 40,000 eggs of brown trout; half of them were consigned to Mr. E. G. Blackford, and half to myself. The eggs were in fair condition, 1,020 being dead on unpacking, and 2,594 were lost before hatching. Of the fry, 8,131 died before distribution, leaving 28,000 fry, of which nearly 19,000 were distributed. See table.

*B. SAIBLING* (*Salmo salvelinus*)—On January 10, 1881, Mr. Carl Schuster, burgomaster of Freiburg, Germany, announced that he had sent 60,000 saibling eggs by the North German Lloyd's steamer Mosel, of January 8, consigned to the U. S. Fish Commission. These reached New York on January 22. They were forwarded the next day to Mr. A. H. Powers, Plymouth, N. H., which point they reached on the 24th. The entire loss while crossing the ocean and being transported to the

hatchery was but 5,000 eggs. Mr. Powers was directed to hatch them and place them in Newfound Lake, located 7 miles from Plymouth. The eggs were all hatched by February 28, with a loss in hatching of 6,515 eggs. Mr. Powers deposited 30,000 fry in Newfound Lake on May 18.

Another instalment of saibling eggs was announced by Max von dem Borne on February 3. These were lost in transit.

C. GERMAN WHITEFISH (*Coregonus*).—Received on January 30, 1885, one box, containing 50,000 eggs of the small species of *Coregonus* (*Madue marana*) inhabiting Lake Constance, sent by Herr von Behr from the hatchery of Carl Schuster, Freiburg, in Baden. The eggs were in good condition, and by order of Professor Baird were repacked and shipped to Mr. Charles G. Atkins, Bucksport, Me.

D. LOCH LEVEN TROUT (*Salmo levenensis*).—On January 2, 1885, we received from Sir James G. Maitland, Howietoun Fishery, Stirling, Scotland, six cases, containing 100,000 eggs of the Loch Leven trout. They were in remarkably good condition, in fact the best I ever received from across the water, as very few were indented and only 870 were dead; 80,000 were sent to Mr. F. N. Clark, Northville, Mich.; and 10,000 to the Bisby Club, Herkimer County, New York, of which General R. U. Sherman, of the New York fish commission, is president. General Sherman reports the eggs as doing well, and the trout as fine as he ever saw. From what I can learn of this fish, it seems to be a very desirable one to introduce into our waters.

*Distribution of brown trout (Salmo fario), eggs and fry, from Cold Spring Harbor, New York, in 1883.*

Date.	Number of eggs.	Number of fry.	Destination.	At request of—
Mar. 10	12,000	.....	Caledonia, N. Y. ....	S. Green, superintendent.
22	5,000	.....	Washington, D. C. * .....	Prof. S. F. Baird.
Total..	17,000	.....		

\* These eggs were sent from Washington to Wytheville, Va.

*Distribution of brown trout (Salmo fario), eggs and fry, from Cold Spring Harbor, New York, in 1884.*

Date.	Number of eggs.	Number of fry.	Shipped to—	By order of—
Feb. 10	13,000	.....	M. A. Green, Mumford, N. Y. ....	E. G. Blackford.
10	5,000	.....	F. N. Clark, Northville, Mich. ....	Prof. S. F. Baird.
21	11,000	.....	Col. M. McDonald, Wytheville, Va. ....	Do.
Apr. 23		6,000	Jones & Howlett, Cold Spring Harbor, N. Y. ....	Fred Mather.
May 1		3,000	A. N. Frye, Bellmore, Long Island, N. Y. ....	E. G. Blackford.
5		3,000	Charles J. Stewart, Jamaica, Long Island, N. Y. ....	Fred Mather.
20		3,000	J. J. O'Connor, 62 Wall street, New York City. ....	Do.
21		8,000	Townsend Jones, Cold Spring Harbor, N. Y. ....	Do.
22		2,000	New York fish commission, Cold Spring Harbor, New York.	Do.
22		12,000	R. B. Roosevelt, Sayville, N. Y. ....	R. B. Roosevelt.
22		3,000	H. B. Hyde. ....	E. G. Blackford.
Total..	29,000	40,000		

*Distribution of brown trout (Salmo fario), eggs and fry, from Cold Spring Harbor, New York, in 1885.*

Date.	Number of fry.	Shipped to—	Name of stream.	By order of—
April 30	2,000	H. S. Jennings, Islip, N. Y. ....	Not known	E. G. Blackford.
May 3	5,000	George Snyder, Manhasset, N. Y. ....	Private ponds	Do.
4	1,000	J. R. Wood, Cold Spring Harbor, N. Y. ....	do	Fred Mather.
12	1,000	F. H. Weeks, Cold Spring Harbor, N. Y. ....	Swamp Brook	Do.
13	700	H. Scudder, Northport, N. Y. ....	Not known	E. G. Blackford.
15	2,500	Dr. A. K. Fisher, Sing Sing, N. Y. ....	do	Do.
21	2,000	A. W. Humphries, Sterlington, N. Y. ....	Sterling Lake	Do.
30	1,200	Weeks & De Forest, Cold Spring Harbor, New York.	Oyster Bay	Do.
30	3,500	Townsend Jones, Cold Spring Harbor, N. Y.	Private ponds	Do.
Total..	18,900			