



THE TILE FISH.

pond, and they weighed from 5 to 7½ lbs. each. Three of them I killed for my epicurean friends, and the remaining three I rolled up in a wet bag. I started with them for Brooklyn at 3 P. M., and on my way met Mr. James Ridgeway, counselor at law, and Messrs. Page and McLain, of the *Eagle*, who carefully examined them. I gave the dead ones to my friends, and placed the living ones on the roof of my house, with two wet bags over and beneath them. There they remained all night. Next day at 2 P. M., I took one of them to the *Eagle* office, and there showed him still alive and in good condition, but as the tender-hearted Kinsella thought some of Mr. Bergh's men ought to be sent for, I made my escape and went to New York to Messrs. Middleton & Curman's fish establishment in Fulton Market. These gentlemen were more consistent, and instead of calling on Mr. Bergh, they proposed to give the carp a drink after his long journey. That suited us all, and for the first time in twenty-four hours Mr. Carp was in his native element, and it is needless to say that he enjoyed it.

The *New York Sun* noted the fact that of the fish distributed by the United States Commission, this was the largest one yet found in our water. It turned the scales at 7½ lbs.

The other two still remained in the wet bags in Brooklyn, and at 9:30 P. M. I poured a pail of water over them. Next morning I took them to Chief Engineer John V. Culyer's house on the borders of Prospect Park, showed them to him and received his permission to place them in one of the lakes in the park. I transferred the fish to Mr. Spear's chief clerk, and he drove near to the water, and gave them to an attaché, who in my presence deposited them alive and in good condition in the water of our beautiful Brooklyn Park. This occurred at 9:30 A. M., so that for 48½ hours the fish were out of water. This is a considerably longer time for the carp to be out of water than that mentioned in my previous paper. If I remain in the fish culture business, and am spared for another year I will test the endurance of the carp, study its habits and report to this body at its next annual meeting. In conclusion I would say, that persons owning trout ponds could do nothing better than place a few large carp in them. For a time they will become shy and hide away in some nook, but soon they will become less shy than the trout, and will actually reach their heads out of water to take a piece of bread out of your fingers. This season I fed my carp with stale bread, refuse of the table, potato peels, etc., and I find that they do not refuse soft or damaged apples. In fact they eat almost any vegetable or animal food, properly chopped and if possible partially cooked. I give you this, gentlemen, in my crude way and without embellishment in any form, using no long-tailed Latin words or names, but simply trusting in the efficacy of our English tongue to convey to you my meaning.

THE RAINBOW TROUT.

By JAMES ANNIN, JR.

IN bringing this subject before you, gentlemen, I know how unable I am to handle it in a proper manner, and have a fear that I may be considered liable to reproach for my incompetence.

Every article upon the rainbow trout that I remember to have seen has been greatly in its favor and loudly in its praise. I think that something is to be said in the negative, but don't wish it understood that I take decided grounds against them, but think that there are a few facts and surmises worthy of your attention.

The advantages claimed for the mountain or rainbow trout are gameness, rapid growth, hardiness, adaptability to waters that will hardly support the brook trout, etc. Now as to their game qualities, they certainly are one of our gamest fish known, and are quicker than our Eastern brook trout, requiring all your attention after they take fly; but I have been told by a gentleman who has taken in our Eastern waters rainbow trout which weighed a pound each, that he thought after their first two or three rushes they tired out quicker than our native trout. As to their rapid growth it must be conceded that they grow faster than our native brook trout.

Are they a hardy fish? Yes. Decidedly so. A person has no trouble in raising them; they don't refuse food, pine away and die as many of the brook trout will do in confinement, but they will eat often and in great quantities, and will sometimes take a bite out of their neighbor, as a pond of them will show to be a fact, by many marks, scars, loss of part of a fin, etc. Adaptability to waters that will hardly support our brook trout is the best thing, I think, that can be said of them, for if such waters are stocked with them, we will have them in their proper place, their mission will be fulfilled, and people in general will then consider them a great acquisition.

What I consider all wrong is that they are turned into good trout streams before the results can be told. We would not consider it any advantage if bass or pickerel were put into that good trout stream or pond. We have an endless number of streams, lakes and ponds in which they would doubtless thrive. I don't consider that it would be to the advantage of the brook trout if the mountain trout were introduced into the same stream, certainly not if it is true that the harder drive out the weaker.

Let me suppose a case. Mr. Blank has a splendid trout stream, say on Long Island; there are plenty of brook trout in it, and it is no trouble on any favorable day for him to

make a good catch. He takes it into his head that he will put into this stream the rainbow trout, and carries out his plans. After a year or two he begins catching the new comers, of good fair size, and he is astonished to see how they have grown. He has lots of fun with them, they are so very gamy, but if the weather is at all warm, he will find on arrival home that the new fish are beginning to be quite soft, while the native fish are hard. What I say about their becoming soft I have learned partly by experience and partly by what several fishermen have told me. One gentleman wrote that they were like dried herrings when he got home. Our gentleman don't think much of this, and a year or so more passes along when he invites a friend out to his preserve on the opening day of brook trout fishing, and they have plenty of sport, fish are plenty and perfectly willing to bite, but, confound it, they are almost all rainbow trout, and must be returned to the stream, as the law on them is not off for a month or more yet! Our friend works hard and long for a string of brook trout such as he could formerly take in a short time before introducing the rainbows. Now, gentlemen, if this supposititious case proves true, is it advisable to put them into your fine trout streams? It is proving itself to be true as fast as possible in one of the best trout streams in the State of New York, that has been stocked some four years, I believe, with rainbow trout.

A word to pisciculturists. Will it pay to make any great outlay, until we know that the rainbow trout are a profitable fish? And another question is, are they a good market fish? They certainly are not if they become soft very soon after coming from the water. What will the market price be? Will the fly-fisherman show his basket of mountain trout with the same pride, as he did when filled with the native brook trout, are also questions to be answered. I know one fisherman that will not put one of them into his basket, but throws all of them away, and it has seemed to me that it will do no harm to consider well the questions here raised before we stock our brooks with a fish which may exterminate our native species and not prove to be so valuable in the end.

THE PRESIDENT—Mr. Annin has opened a question which it may be worth our while to consider. Perhaps it will be well to learn more of this fish before fixing our streams with it. I would suggest that Mr. Mather give us his opinion on it.

MR. MATHER—I have had no personal experience with the rainbow, or, as it is sometimes called, the California mountain trout, and I am of the opinion of Mr. Page that it will be well to go slow until we know more. The fish came in with a hurrah and everybody seems to want it. It grows fast and may supplant our native trout entirely, and to my liking the latter is the best fish and the handsomest of the two. Unreported species often thrive and drive out native ones, witness the so-called Norway rat, which has supplanted the native until the latter is extinct on the seacoast, and even in parts of the West. An imported species often grows faster in its new home than it did in its original one, as witness the German carp in America. I am not prepared to say much of the rainbow trout; I have watched it with interest in ponds, but do not know how it will agree in streams with the native. If it grows faster, it will get all the food and the native will suffer. In that case I am opposed to it. If it will live in streams where the native will not, then it may be a good thing. We now have the cure of sparrows upon us, brought about by enthusiastic introducers of foreign species, and with this example of mistaken benevolence before us, I think we should be cautious.

MR. BLACKFORD—I do not yet know what value the rainbow trout will bear in the market. When it first comes in it will sell readily to those desiring to experiment. After that it will rest on its merits. I have no fear that it will supplant the footholds on the table of the epicure. Mr. B. B. Redding, Fish Commissioner of California, writes me that the Sunnolth River trout, *Salmo clarkii*, is much superior to the *S. trutta*, or rainbow trout. The Californians are now introducing our Eastern brook trout into their streams, and are loud in their praises of it.

MR. PHILLIPS—Might the rainbow trout not follow the rule that all the salmonoids of the Pacific coast are inferior to those of the Atlantic coast? I believe that I have understood Mr. Blackford to assert that the Pacific salmon is inferior to ours.

MR. BLACKFORD—They are. They may grow faster than our Eastern coast fishes, but Californian salmon are not so good. When they first began to send them here they sold car loads of them at forty to fifty cents per pound. Now it is difficult to sell a small lot at thirty cents. I notice another market man here, one who has had experience with these fish, and would ask Mr. Middleton what his opinion is.

MR. MIDDLETON—I agree with Mr. Blackford entirely. The salmon of the Pacific are inferior and do not sell well here, now.

Mrs. Lewis—I think all fish should be judged by the color of its skin. The dark brook trout is coarser and of fuller fibre, and where this is the case it is the best. I think the rainbow trout brought East, writes me that the Californian salmon have not gained the high reputation in the markets of Europe that the *Salmo salar* has. It is not considered a good salmon.

MR. ANNIN—I have eaten the rainbow trout. Lieutenant Mansfield, of the U. S. Navy, has caught them in the West

and in my stream, at Caledonia, N. Y. One of the party went on the lower end of the stream to take rainbow trout and caught many. He saved the larger ones in the well of the boat and had them cooked in the morning. We all ate of them and it was the unanimous verdict that they were inferior. Lieut. Mansfield said that they tasted like black bass from warm and muddy waters. Last summer I cooked one which was good. It had red flesh, the only one of the species that I ever saw with red flesh. Some Rochester gentlemen own the lower preserve on our stream, and they have said that they would give a hundred dollars if there was not a rainbow trout in it.

MR. WEEKS—We need all the trout we can get in Pennsylvania, but the proper thing to do is to get them into the right places. Rainbow trout should never be put into good streams where the native trout will thrive. Those who handle them should be certain that they are not making a mistake, and should have a correct knowledge of the habits and merits of the fish before distributing them too widely.

The meeting then adjourned until the following day.

THE TILE FISH.

LOPHOLATILUS CHAMAELONTICEPS—GOODE AND BEAN.

THIS fish was first discovered in 1879 by Capt. W. H. Kirby, of Gloucester, Mass., who forwarded a specimen to the U. S. National Museum, where it was described and named by Prof. G. Brown Goode and Dr. Tarleton H. Bean. Capt. Kirby took about five hundred pounds of this fish on a codfish trawl, at a depth of eighty-four fathoms, eighty miles south of Noman's Land. The largest one of his catch weighed fifty pounds.

Messrs. Goode and Bean say that the species appears to be genetically distinct from the already described species of the family *Latilabe* of Gill. It is related by its few-rayed vertical fins, and other characters, to the genus *Latilabe* as restricted by Gill, but is distinguished by the presence of a large adipose appendage upon the snout, resembling the adipose fin of the Salmonidae, and by a fleshy prolongation upon each side of the labial fold extending backward beyond the angle of the mouth.

Several of these fishes have been taken and have been eaten and pronounced excellent, but no number has been sent to market. In our issue of March 30, will be found an account of the great number of dead fish which were found floating in the Atlantic between the Grand Banks and Barneget, N. J. Whether the miles of dead fish which half a dozen vessels, whose course was wide apart, report as visible, were all of this species is impossible to say. Prof. Baird thought that they were numerous, at least, among the dead fish, and afterward the specimen sent him proved his surmise correct, for they were all "tile" fish.

Strolling down to Fulton Market one day near the close of last week we saw a large fish hanging above Blackford's stand and a crowd of people surveying it. Upon nearing it we saw that it was the much talked of tile fish, a handsome yellow-flecked specimen of fifty pounds weight. This fish was picked up on Thursday, April 20, by the schooner *Herald* of the Marine, Captain Levi N. McLean, in lat. 37° 39', long. 74°, about eighty-five miles off the capes of Virginia. When seen it was floating on its back and struggling, and was brought on board with a gaff and lived for two hours on the deck.

The name "tile fish" is one designed by the scientists who described for the use of the fishermen, and those who cannot handle its full name. It will be seen that it is a shortening of its generic name. What has caused the excessive mortality in this fish is at present unknown, but if all the dead fish reported to have been seen were of this species, they must exist in immense numbers, and if not exterminated, would be well worth fishing for.

FISHERY EXHIBITION IN LONDON NEXT YEAR.

OUR English friends are already stirring in the matter of inducing the United States to take part in the Fishery Exhibit of 1883, and we wish them success in it. There is no doubt of the advantages to be derived by our fishermen, and others interested by an exhibition of our fishery resources in London. As the case stands it will require a special appropriation by Congress to enable our country to be represented, as the Commissioner of Fisheries has no funds which he can use for this purpose. If, however, Minister Lowell moves in the matter it may be accomplished. Advice by cable from London, April 30, says: A meeting was held at the Mansion House to-day in furtherance of the proposed fisheries exhibition at London in 1883. Mr. Lowell, the American Minister, said that he had grounds for believing that his government would participate. He had, he said, this morning transmitted by cable to Washington the formal invitation.

The Prince of Wales has interested himself in this matter, as may be seen by the following which was called to the *New York Herald* on the 26th:

At an influential meeting held at Willis's Rooms, London, the Prince of Wales presided, and thus briefly stated the objects of the exhibition: "Ladies and gentlemen, the report of the Duke of Richmond has brought before your notice salient points and important statistics in connection with this