

ing. The salmon were put in at four points on Tanner's Creek, two where the water was shallow, and two with considerable depth of water. We opened holes in the ice for the deep planting. The ice was at least a foot thick; the water temperature was 33°. When the fry were liberated by us they immediately begun to stem the current.

Fine black bass are caught in Tanner's Creek. Numerous springs feed this stream near Guilford.

Dr. Vincent reports the capture of two fish of the 1874 shipment; he will correspond with regard to the progress of the present introduction of salmon.

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**ACCOUNT OF A SHIPMENT, BY THE UNITED STATES FISH COMMISSION, OF CALIFORNIA SALMON-FRY (*ONCORHYNCHUS CHOUICHIA*) TO SOUTHERN LOUISIANA, WITH A NOTE ON SOME COLLECTIONS MADE AT TICKFAW.**

**By TARLETON H. BEAN.**

The young salmon which were destined for the Louisiana streams were reared from the egg in Mr. F. N. Clark's hatchery at Northville, Mich. On the 19th of December, 1876, Mr. Orrin P. Maxson and the writer were instructed to carry 30,000 of these fry to the Tangipahoa and Notalbany rivers. We took them in fifteen milk cans, and had two reserve cans for water. Fifteen thousand of the salmon were consigned to the Tangipahoa River, at Amite, in Mr. Maxson's care, and the rest to the Notalbany River, near Tickfaw, 10 miles south of Amite and about 50 miles north of New Orleans, on the Saint Louis, New Orleans and Chicago Railroad.

We left Northville at 2.45 p. m. on Tuesday. While in Toledo one of the water cans sprung a leak. We were compelled to draw off the water in pails and distribute some to the fish. We then took the can to a hardware store and had it soldered. As the fish cans had too much water in them, we drew off some and returned it to the water cans.

Our route was by Cincinnati, Hamilton and Dayton Railroad to Cincinnati, thence by Louisville, Cincinnati and Lexington road and Louisville Short Line to Milan, Tenn., and from there by Saint Louis, New Orleans and Chicago road to our objective points.

The only great delay occurred at Milan, where we waited from 4 a. m. Thursday to 1.30 p. m., and here was experienced the only difficulty we had with the fry. The high temperature of the air, as compared with that of Northville, and the standing still, which seems to be particularly injurious to salmon, combined to make them troublesome. Frequent changes of water and aerating by pouring with dippers, however, brought them under control. We found a supply of excellent ice, also, which we used freely in the well water taken here.

After leaving Milan there was no further trouble with the fry beyond the usual care accorded to them. Our stay in the baggage car was attended, however, with some personal discomfort, owing to the pres-

ence of sundry legions of chickens, ducks, and turkeys, on their first visit to the New Orleans Christmas festivities. Conductors and baggage men during the whole route assisted us in every way possible.

We reached our destination on Friday morning—the morning of a very pleasant, warm, and sunshiny day. Birds were abundant. A resident of Tickfaw spoke of his intention to plant pease and beans in a few days. There was abundant evidence of recent rains. The clay subsoil retains widespread accumulations of water over the surface.

A four-ox team drew the cans to Notalbany River, the time occupied in going and returning being about three hours. Messrs. O. M. Kinchen, M. N. Arnold, and W. L. Fairchild accompanied me to see the planting. Notalbany River has pure, cold water (55 Fahr.), running over a bed of clear, white sand and gravel. There are many deep places and numerous little rapids. Big-mouth black bass (*Micropterus pallidus*) abound, much to the jeopardy of the tender salmon. Soon after the fry were put in they started up the stream, and in a few minutes most of them had traveled about 200 yards. The current is quite strong. At one place a rapid caused a short delay, but soon one salmon took the leap and the rest followed.

Mr. Maxson came down from Amite as soon as possible on Friday, after successfully placing his charge in the Tangipahoa. We made some collections of fish in the pools of water left by overflow in the vicinity of Tickfaw. On the following day, December 24, we hauled a Baird seine in the Notalbany, to see what neighbors the little quinnat salmon were to have. We captured a good many of the fry introduced on Friday, and returned them to the stream in fine condition. They were concealed under dead leaves, sticks, and stones, on the bottom.

#### COLLECTIONS OBTAINED.

In the pools of water at Tickfaw we found *Zygonectes melanops* and a species of some other genus of cyprinodonts, young *Lepomis*, young black bass (*Micropterus pallidus*), a species of *Cambarus*, and a small shrimp. In Notalbany River we seined *Zygonectes notatus*, *Ammocrypta Beanii*, and a representative of another genus of darters, *Lepomis megalotis*, a species of *Noturus*, numerous cyprinoids not yet determined, some mollusks, and the common shrimp. A tree frog (*Hyla* sp.) was also caught near the river. Large numbers of cane rabbits (*Lepus callotis* var.), opossums (*Didelphys virginiana*), and raccoon (*Procyon lotor*) were brought in daily by hunters. Quail were plentiful, but strong in flight and gun-shy.

As to the result of the introduction of California salmon in 1876 nothing is known to me. Mr. W. Alex. Gordon, 30 Carondelet street, New Orleans, has a knowledge of the Tangipahoa, and may be able to give information about the subject.

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