

ing a period of eight years I have never seen a particle of ice floating down the stream, or forming, save on its banks, and then only after there had been a rise in the river and then freezing weather, which formed ice as the river fell. During these eight years I have known the river but once to rise as high as 7 feet above low water. Some winters it does not rise 2 feet, and for a majority of the eight winters it did not rise over 3 feet. All these points seem to me to make it a very desirable stream for the propagation of salmon. As the river enters the Columbia above all the principal salmon-fisheries, it would be an equal benefit to all.

WARM SPRINGS, CROOK COUNTY, OREGON, *July 27, 1885.*

99.—THE MOUNTAIN OR SALMON TROUT OF OREGON.

By Prof. DAVID S. JORDAN.

The trout from Portland* is the common Rocky Mountain trout or Clarke's trout, or Red-throated trout—*Salmo purpuratus* Pallas.

In Washington Territory it is known as mountain trout when taken in the rivers and brooks, and as salmon trout when taken in the sea or river mouths. Sea-run specimens are more silvery, with finer spots and less red than those taken in the small streams, and larger individuals are sometimes taken in the sea than are often seen in the rivers.

There is not the slightest doubt that the so-called salmon trout of the fish-dealers and the mountain trout of the sportsmen are one and the same fish, the only differences being temporary, dependent on the water and possibly on the food. I have myself caught hundreds of these same trout with the seine about Tacoma, in the sea, the locality from which this specimen was obtained. This species may always be known when fresh by a deep scarlet or crimson blotch on the membranes of the lower side of the lower jaw. This fish is, therefore, both a mountain trout and a salmon trout, as the names are understood in Washington Territory and Oregon. If the laws permit the killing of one and prohibit the killing of the other, the only test is whether caught in fresh or salt water.

INDIANA UNIVERSITY,

Bloomington, Ind., February 17, 1885.

* Mr. J. C. Mendenhall, dealer in Columbia River salmon, at Portland, Oreg., forwarded a specimen, January 30, 1885, for identification, and wrote as follows: "Today the Multnomah Rod and Gun Club of this city will send you a salmon trout for classification. This fish was taken from a net containing flounders, porgies, and smelt, off Tacoma Harbor, in Puget Sound, and it is called by all fishermen a salmon trout. They are caught in the waters of the Puget Sound and in the Columbia and in the tributaries near their mouths, but never near their sources or above falls or rapids. In this case the club claims it to be a mountain trout or a brook trout."