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SALMO *EVERMANNI* A SYNONYM OF *SALMO CLARKII* HENSHAWI

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SALMO EVERMANNI A SYNONYM OF SALMO CLARK!! HENSHAWI

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After finding a record that cutthroat trout from Lake Tahoe had been planted in the stream from which *Salmo evermanni* Jordan and Grinnell, 1908, was later obtained, and aware that specimens of *evermanni* resembled specimens of cutthroat trout from Lake Tahoe, we closely compared the type and two "cotypes" of *evermanni* with specimens of *Salmo clarkii henshawi* Gill and Jordan, 1878, from Lake Tahoe to determine if *evermanni* was actually a distinct form. We found no significant differences in the specimens. It is especially important that they were alike in distribution, size, and shape of the dark spots and in having a high number of gill rakers. These characters distinguish *henshawi* from other kinds of cutthroat trout. From these circumstances, and because the presence of a cutthroat endemic to the San Bernardino Mountains seems unlikely to us on distributional grounds, we have concluded that the specimens upon which the name *evermanni* was based were derived from a plant of cutthroat trout whose origin was Lake Tahoe.

The record concerning the plant and its source is contained in the Fourteenth Biennial Report of the Fish Commissioners of the State of California for the years 1895-1896. Operations of the Sisson Hatchery are described on pages 25-27. The cutthroat trout reared at the Sisson Hatchery in those years were from spawn obtained in Taylor and Blackwood creeks which are tributaries to Lake Tahoe. The places where cutthroat fry were liberated are listed beginning on page 64 for 1895 and on page 65 for 1896. On July 30, 1895, 6,000 cutthroat trout fry were liberated in the Santa Ana River, San Bernardino County. On July 26, 1896, 2,500 fry were planted in the "Santa Ana River" and 15,000 in the "Santa Ana River, above falls". It is obvious from the records of plants in tributaries of the Santa Ana River and in nearby streams that cutthroat trout fry were planted in most, if not all, streams of the higher parts of the San Bernardino Mountains. It is highly probable that "Santa Ana River, above falls" refers to the same part of the Santa Ana River from which the specimens of *evermanni* were obtained eleven years later. Whether or not cutthroat trout were planted in the stream after 1896 we do not know, for subsequent biennial reports are not detailed as to localities planted with cutthroat.

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The fact that the validity of *Salmo evermanni* has not been previously questioned rests, we think, on the reputation of the describers as authorities and on the scarcity of specimens. One factor is that the authors did not know that cutthroat had been introduced into the area and for some reason not apparent to us did not directly compare their material with cutthroat. This may rest on their notion that *evermanni* was a relict which had been derived from a coastal form, although they did not state the relationships of that form. Jordan (1919; p. 369) stated later : "Another species of trout, perhaps derived from the coastwise rainbow, perhaps older, but at any rate very distinct, occurs at San Gorgonio Mountain in southern California where it has only lately been found by Professor Joseph Grinnell. A little trout, plain colored, with large black spots, and very small scales, like a cutthroat. It lives at a height of seventy-five hundred feet and is shut off from the lower rainbow trout of the lower Santa Ana River by a series of waterfalls. This species has been called *Salmo evermanni* by Doctors Jordan and Grinnell." The original description by Jordan and Grinnell (1908, p. 31) of *evermanni* is detailed and accurate with regard to the characters listed. They mentioned, without comment, the presence of hyoid (= basibranchial) teeth, a character which distinguishes cutthroat from rainbow. They referred to the absence of red on the throat in these words, ". . . fresh tints unknown, but no red in the throat region shown in the specimens." The lack of red is not significant, since the cutthroat mark usually disappears in specimens preserved, as these were, in alcohol. In all, there is nothing in the description which indicates difference from *henshawi* preserved in similar fashion.

Whether or not the reference of *evermanni* to the rainbow series by Evermann and Bryant (1919; p. 108) has a relation to Jordan's statement "perhaps derived from the coastwise rainbow," we do not know. At any rate, later authorities—until Miller (1950)—referred *evermanni* to the rainbow series. We have found no definite indication in the literature that anyone except Miller ever examined any of the original specimens critically, if at all ; and it seems significant to us that he recognized them as belonging in the cutthroat series. He did not know, however, that cutthroat had been planted in the area. As far as we can determine, only the five original specimens exist, three in the Stanford collection and two in the U. S. National Museum collection. Miller's reference of *evermanni* to the cutthroat series was based on the specimens in the National Museum.

It is now established that the population of *evermanni* is extinct. Gard (M.S. thesis, 1953) after a careful search, concluded it was extinct before 1952. When it became extinct is uncertain as the evidence is incomplete and inconsistent, but it may have happened quite early. For instance, Bryant (1929; p. 392) stated : ". . . trout at the head of the Santa Ana River in southern California have been named a separate variety. In more recent years pack train loads of rainbows and steelhead trout have been placed in the habitat of the San Gorgonio trout and as a consequence the native stock has been replaced by a hybrid fish which is certain to be of less interest and value."

We gratefully acknowledge the help of Dr. George S. Myers and the late Miss Margaret Storey in permitting us to examine the type and two paratypes of *evermanni* and specimens of cutthroat trout from Lake Tahoe in the Stanford University collection.

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