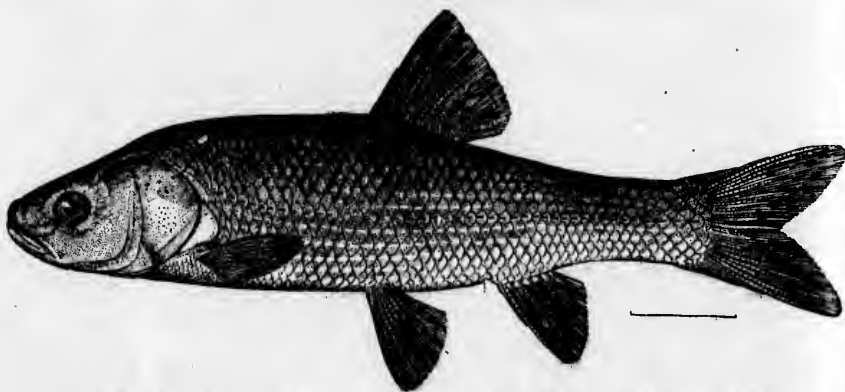


Color dusky above, silvery below, the middle and lower part of sides darkened by numerous coarse, black specks, which are also numerous on opercles and upper portion of cheeks. Dorsal and caudal dusky. Basal portion of anterior anal rays and inner face of pectorals dusky, the inner face of ventrals sometimes minutely black-punctate in adults. The sharp division of color between upper and lower parts, which suggested the name *bicolor*, is usually not very evident.

The following table gives proportionate measurements in hundredths of the length from tip of snout to base of caudal, in four specimens from Klamath Lake:

Measurements.	No. 1.	No. 2.	No. 3.	No. 4.
Total length in millimeters.....	250	175	120	92
Length of head.....	27	20	20	24
Length of snout.....	8	7	7	6
Diameter of eye.....	5	5	6	6
Interorbital width.....	9	8	8	8
Length of maxillary.....	8	8	7	7
Greatest depth.....	27	27	26	23
Least depth of caudal peduncle.....	10	10	11	9
Length of caudal peduncle.....	23	23	23	23
Distance snout to front of dorsal.....	54	54	50	52
Snout to ventrals.....	51	50	48	50
Base of dorsal.....	12	13	13	13
Base of anal.....	19	9	11	11
Height of anal.....	15	14	16	16
Height of dorsal.....	19	18	19	19
Length of pectoral.....	18	17	20	18
Length of ventral.....	15	15	16	15
Length of caudal.....	23	22	25	



Rutilus bicolor (Girard).—Drawn by Anna L. Brown from a specimen from Upper Klamath Lake.

9. *Rutilus bicolor* (Girard).

Algansea bicolor Girard, Proc. Ac. Nat. Sci. Phila. 1856, 183. Klamath Lake.

Myxoleucus parovanus Cope, Proc. Ac. Nat. Sci. Phila. 1893, 143. Klamath and Goose lakes.

Myxoleucus thalassinus Cope, l. c., 144. Goose Lake.

? *Myxoleucus formosus* Cope, l. c., 144. Silver, Chewaucan, and Warner lakes. Not *Algansea formosa* Girard.

? *Leuciscus bicolor* Jordan & Henshaw, Report Chief of Engineers, Geogr. Surv. W. 100th Mer., 193, 1878. Warner Lake.

This species is very similar in appearance to *R. obesus* from the Truckee and Humboldt rivers and their connecting lakes, differing only in the larger scales and the additional ray in the dorsal fin. The body is robust, the mouth oblique, the snout not obtuse. The maxillary reaches the vertical from front of eye in adults and is shorter in the young. Snout $3\frac{1}{2}$ to 4 in head; eye $5\frac{1}{2}$ in adults; interorbital width $2\frac{1}{2}$ to $3\frac{1}{2}$. Head $3\frac{1}{2}$ to $3\frac{3}{4}$ in length; depth $3\frac{1}{2}$ to 4. Teeth 4-5, the cutting edge broad and deeply channeled in young and adults, the hook largely obsolete in the latter.

Scales marked with strong concentric lines and radiating ridges. In fifteen specimens examined, there were 47 to 52 pores in the lateral line, 10 or 11 scales in an oblique series running from median line

before dorsal and lateral examined is slightly of caudal

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