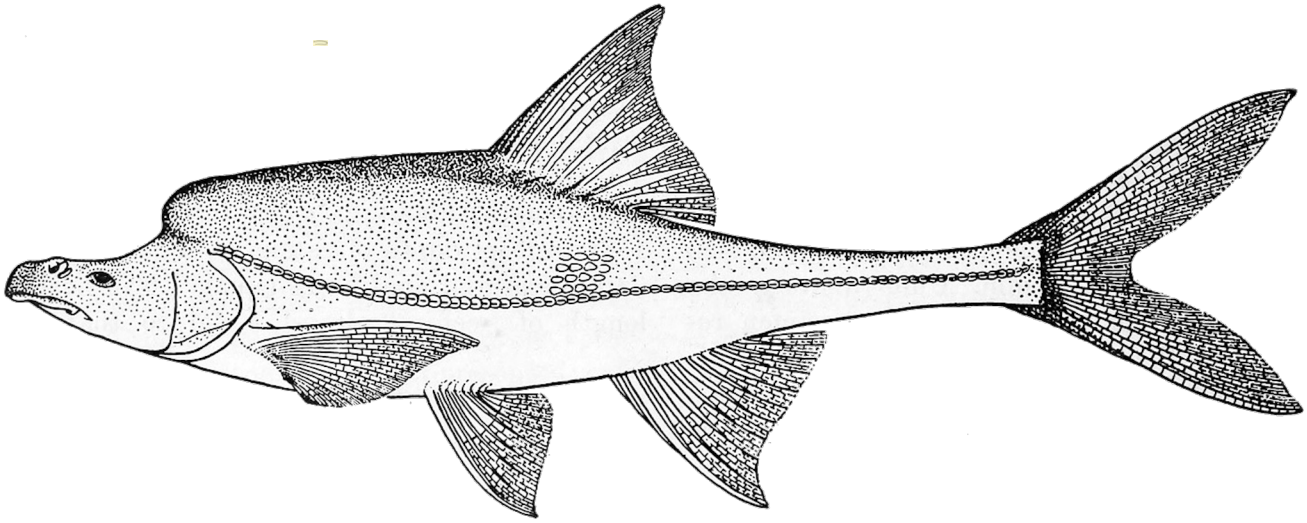
Order CYPRINIFORMES

Western Chubs

Family **LEUCISCIDAE**

Subfamily **LAVINIINAE** Bleeker 1863



Gila cypha, holotype, 305 mm SL. Illustration by Aime M. Awl. From: Miller, R. R. 1946. *Gila cypha*, a remarkable new species of cyprinid fish from the Colorado River in Grand Canyon, Arizona. Journal of the Washington Academy of Sciences 36 (12): 409–415.

Chrosomus

Rafinesque 1820

chrṓma (Gr. χρῶμα), skin or color; *somus*, from *sṓma* (Gr. σῶμα), body, referring to vibrant coloration of *C. erythrogaster*

Subgenus ***Chrosomus***

***Chrosomus cumberlandensis* (Starnes & Starnes 1978)** *-ensis*, Latin suffix denoting place: upper Cumberland River drainage (Kentucky and Tennessee, USA), where it is endemic

***Chrosomus eos* Cope 1862** after Eos, goddess of morning-glow, allusion not explained, probably referring to bright red or yellow belly of large males

***Chrosomus erythrogaster* (Rafinesque 1820)** *erythrós* (Gr. ἐρυθρός), red; *gastḗr* (Gr. γαστήρ), belly or stomach, "belly white with longitudinal red stripes from the pectoral fin to the tail"

***Chrosomus oreas* Cope 1868** from *oreiás* (Gr. ορειάς), of the hills, referring to its occurrence in montane and upland regions

***Chrosomus saylori* (Skelton 2001)** in honor of Charles F. Saylor (b. 1948), Tennessee Valley Authority ichthyologist, part of crew who first collected this species, for contributions to the knowledge of southeastern USA fishes

***Chrosomus tennesseensis* (Starnes & Jenkins 1988)** *-ensis*, Latin suffix denoting place: Tennessee River drainage, USA, where it is endemic

Chrosomus saylori, holotype, nuptial male, 50.5 mm SL. Photo by C. Williams. From: Skelton, C. E. 2001. New dace of the genus *Phoxinus* (Cyprinidae: Cypriniformes) from the Tennessee River drainage, Tennessee. Copeia 2001 (1): 118–128.

Subgenus ***Pfrille***

Jordan 1924

German name for *Phoxinus phoxinus* (Phoxininae), genus of which previously included *Chrosomus*

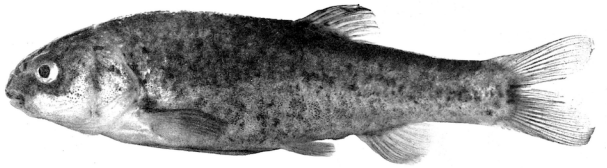
***Chrosomus neogaeus* (Cope 1867)** *néos* (Gr. νέος), new; *gaeus*, presumably from *Gaîa* (Gr. Γαῖα), land or earth, i.e., New World, the "nearer ally of the European" (i.e., Old World) *Phoxinus laevis* (=*phoxinus*, Phoxininae)

Eremichthys

Hubbs & Miller 1948

erēmíā (Gr. ἐρημία), desert, referring to its habitat in northwest Nevada, USA; *ichthýs* (Gr. ἰχθύς), fish

***Eremichthys acros* Hubbs & Miller 1948** *acer* (L.), sharp; *os* (L.), mouth, referring to the sharp-edged sheath on its jaws

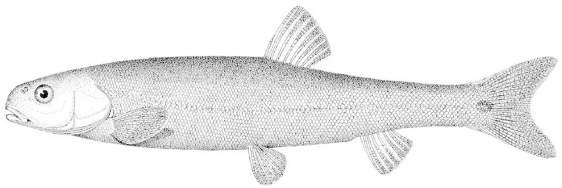


Eremichthys acros, paratype, 58 mm SL. Photo by Clarence M. Flaten. From: Hubbs, C. L. and R. R. Miller. 1948. Two new, relict genera of cyprinid fishes from Nevada. Occasional Papers of the Museum of Zoology University of Michigan No. 507: 1–30, Pls. 1–3.

Evarra

Woolman 1894

Mexican forename that achieved some level of fame in an 1890 verse by Rudyard Kipling, "Evarra and His Gods," which drew upon an Indian tradition of producing idols from oddly shaped stones, trees and other objects into "gods" that are recognizably in the image of the maker, who, in the verse, is named Evarra, a "maker of gods in lands beyond the sea" (Woolman did not explain his selection of the *Evarra* epithet;



Evarra eigenmanni. Illustration by A. H. Baldwin. From: Woolman, A. J. 1894. Report on a collection of fishes from the rivers of central and northern Mexico. Bulletin of the U. S. Fish Commission 14 (8): 55–66, Pl. 2.

perhaps he simply gave a nice-sounding Mexican name to a uniquely Mexican fish)

Evarra bustamantei **Navarro 1955** in honor of Miguel Bustamante y Septien (1790–1844), first Mexican to scientifically describe a Mexican fish, the goodeid *Cyprinus* (=*Girardinichthys*) *viviparus*, in 1837 [extinct by 1983 due to habitat loss]

Evarra eigenmanni **Woolman 1894** patronym not identified but clearly in honor of German-born American ichthyologist Carl H. Eigenmann (1863–1927) [extinct by 1983 due to habitat loss]

Evarra tlahuacensis **Meek 1902** *-ensis*, Latin suffix denoting place: Tláhuac, near type locality at Chalco Lake in the Valley of Mexico [extinct by 1983 due to habitat loss]

Gila

Baird & Girard 1853

allusion not explained, presumably referring to Gila River of Arizona and western New Mexico, USA, but Baird & Girard said the three taxa they included in the genus were all from the Zuni River of New Mexico; perhaps the authors believed the Zuni was part of the nearby but separate Gila basin, or selected *Gila* (reportedly derived from a Spanish contraction of *Hah-quah-sa-eel*, a Yuma Indian word meaning "running water which is salty") as nothing more than a locally flavored name from the American Southwest

Gila alutacea **(Agassiz & Pickering 1855)** Latin for leather-colored or pale, referring to its brownish coloration [placed in its own genus, *Acrocheilus*, by many workers; *acer* (L.), sharp, and *cheîlos* (Gr. χεῖλος), lip, referring to its chisel-shaped mouth, hence the common name Chiselmouth]

Gila atraria **(Girard 1856)** apparently incorrect comparative of *ater* (L.), black (correct would be *atrior* or *atria*), referring to "nearly black or brownish black" color of sides and back, with "blackish" fins and "brownish black" sides and upper part of head

Gila brevicauda **Norris, Fischer & Minckley 2003** *brevis* (L.), short; *cauda* (L.), tail, referring to its "unusually abbreviate" caudal fin

Gila coerulea **(Girard 1856)** apparent misspelling of *caerulea* (L.), dark blue (but used here to mean blue in general), its "upper regions a greyish azur" [placed in its own genus, *Klamathella*, by some workers; *-ella* (L.), diminutive suffix, referring to its occurrence in the Klamath River system of Oregon and California, USA

Gila conspersa **Garman 1881** Latin for speckled, referring to brown spots on scales

Gila coriacea **(Hubbs & Miller 1948)** leathery, referring to how small, deeply embedded scales give its skin a "distinctly leathery texture" (formerly in the monotypic genus *Moapa*, endemic to headwaters of the Moapa River, Nevada, USA; *moapa* is a Paiute Indian word for muddy)

Gila crassicauda **(Baird & Girard 1854)** *crassus* (L.), thick, fat or stout; *cauda* (L.), tail, referring to its "largely developed" caudal peduncle compared with narrow caudal peduncle of *Lavinia exilicauda*, its presumed congener at the time

Gila cypha **Miller 1946** from *kyphós* (Gr. κυφός), hunchbacked, referring to large scaleless hump on nape of large adults

Gila ditaenia **Miller 1945** *di-*, (Gr. prefix), from *dýo* (δύο), two; *taenia* (L.), band or ribbon, referring to black bands above and below lateral line

Gila elegans **Baird & Girard 1853** Latin for fine, elegant or select, allusion not explained; Girard (1857)[1] wrote: "The most striking peculiarity of this species consists in its elongated and slender body, and especially its slender tail, terminated by a rather well developed and deeply furcated caudal fin. Indeed, all the fins are proportionally well developed."

Gila eremica **DeMarais 1991** *-ica* (L.), belonging to: *erēmíā* (Gr. ἐρημία), desert referring to the "severe" desert conditions where it occurs, with an average rainfall of <150 mm/year

Gila intermedia **(Girard 1856)** Latin for intermediate, described as intermediate between two similar species, *G. pulchella* (=*nigrescens*) and *G. purpurea*, "more closely related however to the former than to the latter" [treated as a synonym of *G. robusta* by some workers]

Gila jordani **Tanner 1953** in honor of David Starr Jordan (1851–1931), "a great ichthyologist and educator, which is but a small way to show my appreciation for his and Mrs. Jordan's many kindnesses to me while I was a student at Stanford University"

Gila minacae **Meek 1902** of Miñaca, Río Yaqui basin, Chihuahua, México, type locality

Gila modesta **(Garman 1881)** Latin for moderate, modest or unassuming, its flanks lacking the "lustrous appearance" of *G. nigrescens*

Gila nigra **Cope 1875** Latin for black, referring to its color (which is actually gray-brown) [treated as a synonym of *G. robusta* by some workers]

Gila nigrescens **(Girard 1856)** Latin for blackish, referring to "crowded" black dots on scales and/or "almost black" color of back and sides

Gila orcuttii **(Eigenmann & Eigenmann 1890)** in honor of American naturalist Charles Russell Orcutt (1864–1929), who collected holotype (using a blanket as a seine!)

Gila pandora **(Cope 1872)** etymology not explained nor evident; Cope was unsure of the "truer affinities" of this species and mentions several genera to which it may belong, so perhaps its taxonomic ambiguity was a Pandora's box, i.e., a source of troubles for Cope[2]; another possibility: since Cope invested in silver mines in Colorado and New Mexico (ca. 1880)[3], perhaps he named this fish for the Pandora mine and subsequent mining town (ca. 1875) just east of Telluride, Colorado, USA, 225 km away from type locality in Costilla County, Colorado

Gila pulchra **(Girard 1856)** Latin for beautiful or lovely, referring to the "brilliant" coloration of males (reddish or blackish-brown above, golden yellow below)

Gila purpurea **(Girard 1856)** Latin for purple, referring to purplish black color of back and sides

Gila robusta **Baird & Girard 1853** Latin for of oak or oaken and, by extension, hard, firm or solid (but often used by ichthyologists to mean fat or stout), its body described as "very much swollen anteriorly"

Gila seminuda **Cope & Yarrow 1875** *semi-*, from *semis* (L.), half; *nudus* (L.), bare or naked, referring to absence of ventral scales

Hesperoleucus

Snyder 1913

hesperus (L.), western, referring to western North America (i.e., Oregon and California, USA), where all taxa occur; *leucus*, probably an abridgement of *Myloleucus* Cope 1872 (=*Gila*), a "closely related" genus

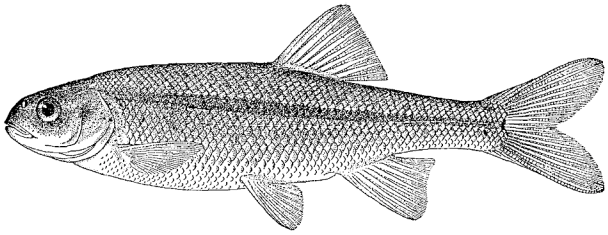
Hesperoleucus mitrulus **Snyder 1913** unnecessarily masculinized spelling of *mitrula* (L.), turban, allusion not explained, perhaps referring to the "peculiar cup-like" (convex) shape of its scales, which presumably

---

[1] Girard, C. F. 1857. Report on fishes collected on the survey. Route near the 38th and 39th parallels, explored by Captain J. W. Gunnison, and near the 41st parallel, explored by Lieutenant E. G. Beckwith. Zoological Report No. 4. Pp. 1–400, Pls. 1–76. *In*: Reports of explorations and surveys, to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean, v. 10. Beverley Tucker, Washington, D.C.

[2] Suggested by Mark Henry Sabaj Pérez, Academy of Natural Sciences of Drexel University, pers. comm.

[3] Pp. 147 et seq. in: Davidson, J. P. 1997. *The Bone Sharp: The Life of Edward Drinker Cope*. Philadelphia: Academy of Natural Sciences of Philadelphia.



Hesperoleucus venustus, holotype. From: Snyder, J. O. 1913. The fishes of streams tributary to Monterey Bay, California. Bulletin of the Bureau of Fisheries 32 (Doc. 776) (for 1912): 47–72, Pls. 19–24.

can be said to resemble a turban

***Hesperoleucus parvipinnis* Snyder 1913** *parvus* (L.), small; *pinnis*, Neo-Latin adjective of *pinna* (L.), fin, i.e., finned, presumably referring to its "short, rounded" fins

***Hesperoleucus symmetricus* (Baird & Girard 1854)** Latin for symmetrical, referring to its symmetrical caudal fin, compared with asymmetrical caudal fin of *Pogonichthys inaequilobus* (=*macrolepidotus*, Pogonichthyinae), its presumed congener at the time

> ***Hesperoleucus symmetricus serpentinus* Baumsteiger & Moyle 2019** Latin for of or belonging to a serpent, referring to the serpentine rocks through which small creeks in the Red Hills region of Tuolumne County, California, USA (where this subspecies is endemic) flow

***Hesperoleucus venustus* Snyder 1913** Latin for pleasing or beautiful, allusion not explained, perhaps referring to its "trim and well proportioned" body

> ***Hesperoleucus venustus navarroensis* Snyder 1913** *-ensis*, Latin suffix denoting place: Navarro River, Mendocino County, California, USA, type locality

> ***Hesperoleucus venustus subditus* Snyder 1913** Latin for subordinate or subdued, allusion not explained, perhaps referring to its "more robust body, slightly shorter fins, fewer dorsal and anal rays, and a small number of scales in the lateral line" compared with the "trim and well proportioned" nominate form

Lavinia

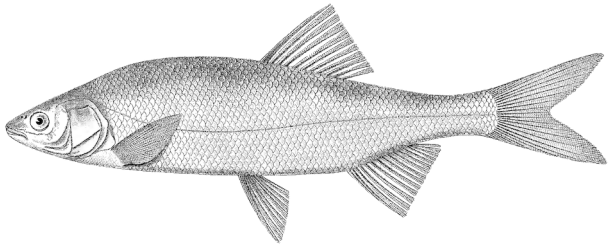
Girard 1854

classical feminine name, presumably chosen because Girard liked the sound of it

***Lavinia exilicauda* Baird & Girard 1854** *exilis* (L.), thin or meager; *cauda* (L.), tail, referring to its narrow caudal peduncle compared with thick caudal peduncle of *Gila crassicauda*, it presumed congener at the time

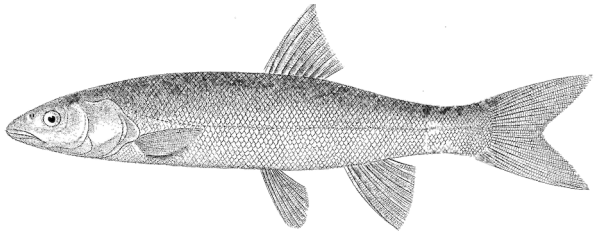
> ***Lavinia exilicauda chi* Hopkirk 1973** Pomo Indian name for this species in northern California, USA

> ***Lavinia exilicauda harengus* Girard 1856** Medieval Latin for herring, probably derived from an Old English (*haéring*, *heringas*), Old Frisian (*hêreng*), Old High German (*hâring*), or similar Anglo-Saxon or Germanic vernacular,[4] allusion not explained; since Girard's specimens were missing scales, he may have been referring to a herring's proclivity to shed scales when handled



First-published image of *Lavinia exilicauda*. Illustration by John H. Richard. From: Girard, C. F. 1857. Report on fishes collected on the survey. Route near the 38th and 39th parallels, explored by Captain J. W. Gunnison, and near the 41st parallel, explored by Lieutenant E. G. Beckwith. Zoological Report No. 4. Pp. 1–400, Pls. 1–76. *In*: Reports of explorations and surveys, to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean, v. 10. Beverley Tucker, Washington, D.C.

[4] Source: "herring" entry, Oxford English Dictionary (OED). Jordan & Evermann (1896, Fishes of North and Middle America, vol. 1) claim that *harengus* is allied to the German *Heer*, army, "a fish that swims in armies" (schools?), but provide no etymological evidence. The OED mentions the possibility that the Old High German and Middle High German variant *hęring* was influenced by the Old High German *hęri*, host (i.e., a large number of people or things), as in "the fish that comes in hosts."



First-published image of *Mylopharodon conocephalus*. Illustration by John H. Richard. See caption of *Lavinia exilicauda* for source.

Mylopharodon

Ayres 1855

mylo-, from *mýlē* (Gr. μύλη), mill or millstone; *phar-*, from *phárynx* (Gr. φάρυγξ), throat; *odon*, Latinized and grammatically adjusted from the Greek nominative ὀδούς (*odoús*), tooth, referring to its molariform pharyngeal teeth

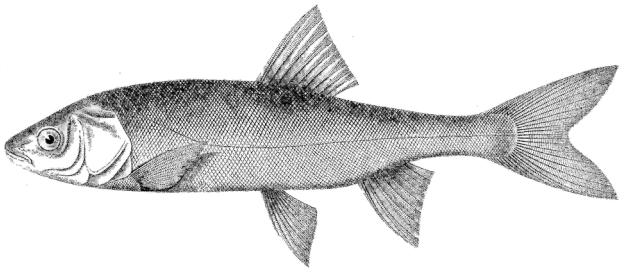
***Mylopharodon conocephalus* (Baird & Girard 1854)** cone-headed, from *conus* (L.), from *kônos* (Gr. κῶνος), cone, and *kephalḗ* (Gr. κεφαλή), head, referring to rounded shape of head

Orthodon

Girard 1856

orthós (Gr. ὀρθός), straight; *odon*, Latinized and grammatically adjusted from the Greek nominative ὀδούς (*odoús*), tooth, referring to its erect, cultriform (knife-like) pharyngeal teeth

***Orthodon microlepidotus* (Ayres 1854)** small-scaled, from *mikrós* (Gr μικρός), small, and *lepidōtós* (Gr. λεπιδωτός), scaly, referring to small scales, ~110 along lateral line



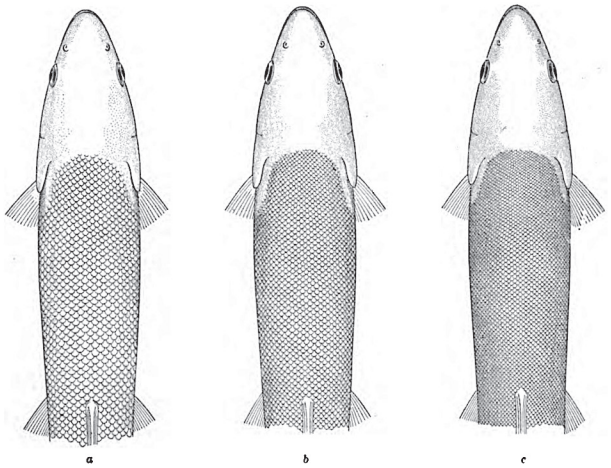
First-published image of *Orthodon microlepidotus*. Illustration by John H. Richard. See caption of *Lavinia exilicauda* for source.

Ptychocheilus

Agassiz 1855

ptycho-, folded; *cheilus*, lip, referring to skin fold behind jaws

***Ptychocheilus grandis* (Ayres 1854)** Latin for large, reaching 1.4 m in length, the largest leuciscid (or minnow) in North America



Dorsal view of *Ptychocheilus umpquae* (c), showing differences in size of scales that distinguish between *P. grandis* (a) and *P. oregonensis* (b). From: Snyder, J. O. 1908. The fishes of the coastal streams of Oregon and northern California. Bulletin of the Bureau of Fisheries 27 (Doc. 638) (for 1907): 153–189 + map.

***Ptychocheilus lucius* Girard 1856** Latin for pike (*Lucius*, Esocidae), referring to its pike-like shape

***Ptychocheilus oregonensis* (Richardson 1836)** *-ensis*, Latin suffix denoting place: Oregon, USA (the territory, not the state; type locality is probably Fort Vancouver, Washington)

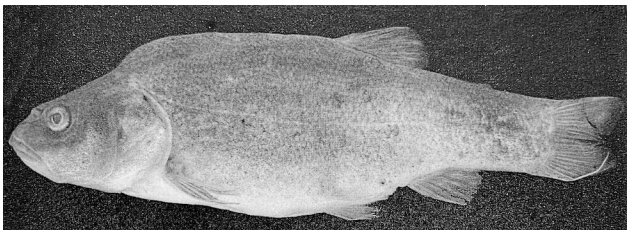
***Ptychocheilus umpquae* Snyder 1908** of the Umpqua River and its tributaries, Oregon, USA, one of the river systems where it occurs

Relictus

Hubbs & Miller 1972

Latin for relict, a relict fish, left behind when pluvial waters dried up

***Relictus solitarius* Hubbs & Miller 1972** Latin for alone or isolated, being the only fish in any of the lake basins in which it occurs



First-published image of *Relictus solitarius*, superannuated female. From: Hubbs, C. L., R. R. Miller and L. C. Hubbs. 1974. Hydrographic history and relict fishes of the north-central Great Basin. Memoirs of the California Academy of Sciences 7: i–v + 1–259.

Siphateles

Cope 1883

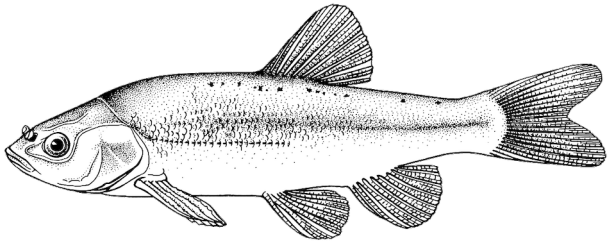
síphōn (Gr. σίφων), pipe or tube; *atelḗs* (Gr. ἀτελής), incomplete or imperfect, referring to "undeveloped" lateral line of *S. vittatus* (=juvenile *S. bicolor*)

***Siphateles alvordensis* (Hubbs & Miller 1972)** *-ensis*, Latin suffix denoting place: Alvord River basin of Oregon and Nevada (USA), where it is endemic

***Siphateles bicolor* (Girard 1856)** *bi-*, from *bis* (L.), two, of two colors, referring to darker coloration above, white or silvery below

> ***Siphateles bicolor columbianus* (Snyder 1908)** *-anus* (L.), belonging to: Columbia River, Oregon, USA, which at one time was connected to the Harney basin, where it is endemic
>
> ***Siphateles bicolor euchila* (Hubbs & Miller 1972)** *eŭ-*, a Greek (εὖ) intensive (well or very); *chila*, from *cheîlos* (Gr. χεῖλος), lip, referring to its large mouth with fleshy lips
>
> ***Siphateles bicolor eurysoma* (Williams & Bond 1981)** *eurýs* (Gr. εὐρύς), wide or broad; *sṓma* (Gr. σῶμα), body, referring to its wider head and body compared with other subspecies
>
> ***Siphateles bicolor isolata* (Hubbs & Miller 1972)** Latin for isolated, confined to Warm Springs Marsh, Elko County, Nevada, USA
>
> ***Siphateles bicolor mohavensis* Snyder 1918** *-ensis*, Latin suffix denoting place: Mojave River basin, California, USA, where it is endemic
>
> ***Siphateles bicolor newarkensis* (Hubbs & Miller 1972)** *-ensis*, Latin suffix denoting place: Newark Valley and pluvial Lake Newark, Nevada, USA, where it is endemic
>
> ***Siphateles bicolor obesa* (Girard 1856)** Latin for fat or plump, referring to chubby form of some specimens
>
> ***Siphateles bicolor oregonensis* (Snyder 1908)** *-ensis*, Latin suffix denoting place: Oregon, USA, where it is endemic to the Albert Lake basin
>
> ***Siphateles bicolor pectinifer* (Snyder 1917)** *pecten* (L.), comb; *-ifer*, from *fero* (L.), to have or bear, referring to its gill rakers, which are finer and more numerous compared with *S. b. obesa*
>
> ***Siphateles bicolor snyderi* (Miller 1973)** in memory of John Otterbein Snyder (1867–1943), who "pioneered in researches on freshwater fishes of western North America"
>
> ***Siphateles bicolor thalassinus* (Cope 1883)** Latin for sea-green, from *thálassa* (Gr. θάλασσα), sea, referring to "light, translucent green" coloration when "fresh"
>
> ***Siphateles bicolor vaccaceps* (Bills & Bond 1980)** *vacca* (L.), cow; *-ceps* (Neo-Latin), headed, referring to Cow Head Basin, California and Nevada, USA, where it is endemic

***Siphateles boraxobius* (Williams & Bond 1980)** *-ius* (L.), adjectival suffix: referring to Borax Lake, Harney County, Oregon, USA, where it is endemic; *bíos* (Gr. βίος), life, i.e., living in borax



Siphateles boraxobius, holotype, tuberculate male, 50.6 mm SL. Illustration by Bonnie Hall. From: Williams, J. E. and C. E. Bond. 1980. *Gila boraxobius*, a new species of cyprinid fish from southeastern Oregon with a comparison to *G. alvordensis* Hubbs and Miller. Proceedings of the Biological Society of Washington 93 (2): 291–298.