

Order CYPRINIFORMES

Mountain Barbels

Family **CYPRINIDAE**
Subfamily **SCHIZOPYGOPSINAE** Mirza 1991



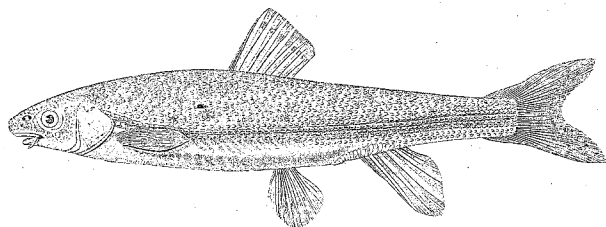
Diptychus

Steindachner 1866

di- (Gr. prefix, from *dýo* (δύο), two; *ptychus*, from *ptychós* (Gr. πτυχός), genitive of *ptyx* (πτύξ), layer or fold, referring to lower jaw of *D. maculatus*, with a cutting anterior edge covered with a horny sheath, behind which is a distinct, uninterrupted labial fold, continuous with upper lip

***Diptychus maculatus* Steindachner 1866** Latin for spotted, referring to two rows of dark speckles on abdomen and lower portion of head

***Diptychus sewerzowi* Kessler 1872** in honor of Russian zoologist Nikolai A. Severtzov (also spelled Severtzov and Sewerzoff, 1827–1885), who collected holotype



Diptychus sewerzowi. From: Kessler, K. F. 1872. Ichthyological Fauna of Turkestan. Izvestia Imperatorskago Obschestva Liubiteli Estestvoznania, Antropologii i Etnografii 10 (1): 47–76, Pls. 6–12.

Gymnodiptychus

Herzenstein 1892

gymnos, bare or naked, referring to absence of scales except on lateral line; *Diptychus*, genus in which type species, *G. dybowskii*, had originally been assigned

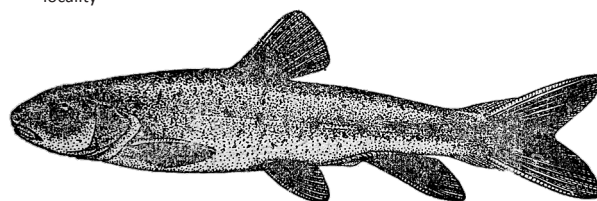
***Gymnodiptychus dybowskii* (Kessler 1874)** in honor of Polish biologist Benedykt Dybowski (1833–1930), “indefatigable researcher of the fauna of East Siberia” (translation)

***Gymnodiptychus integrigymnatus* Mo 1989** *integer* (L.), whole or entire; *gymnatus*, presumably from *gymnós* (Gr. γυμνός), bare or naked, referring to “complete” absence of scales (except for anal scales and

pelvic axillary scale on body)¹ [authorship credited to Huang but, per Eschmeyer’s Catalog of Fishes, Mo wrote the description]

***Gymnodiptychus pachycheilus* Herzenstein 1892** *pachýs* (Gr. παχύς), thick; *cheilus*, from *cheilos* (Gr. χείλος), lip, probably referring to thick and fleshy lower lip

***Gymnodiptychus pachycheilus weiheensis* Wang & Song 1985** *-ensis*, Latin suffix denoting place: Weihe River system, Gansu Province, China, type locality

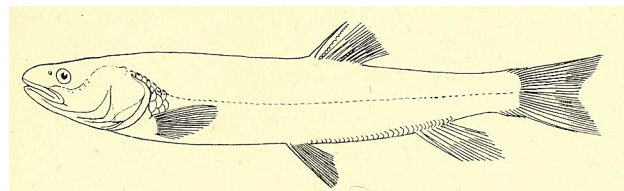


Gymnodiptychus integrigymnatus. From: Chu, X.-L., Y.-R. Chen et al. (eds.). The fishes of Yunnan, China Part 1 Cyprinidae. Science Press, Beijing, China. i–vii + 1–377.

Oxygymnocypris

Tsao 1964

oxýs (Gr. ὀξύς), sharp or pointed, proposed as a subgenus of *Gymnocypris* (= *Schizopygopsis*) with a conical, pointed snout



Oxygymnocypris stewartii. From: Lloyd, R. E. 1908. Report on the fish collected in Tibet by Capt. F. H. Stewart, I.M.S. Records of the Indian Museum (Calcutta) 2 (4): 341–344, Pl. 25.

¹ Xiao-Yong Chen, State Key Laboratory of Genetic Resources and Evolution, Kunming Institute of Zoology, Chinese Academy of Sciences, pers. comm.

Oxygymnocypris stewartii (Lloyd 1908) in honor of Capt. Francis Hugh Stewart (1879–1951), surgeon-naturalist, Indian Medical Service, who collected holotype

Ptychobarbus Steindachner 1866

ptychós (Gr. πτυχός), genitive of *ptýx* (πτύξι), layer or fold, presumably referring to broad, uninterrupted labial fold on *P. conirostris*; *barbus* (L.), beard, probably referring to pair of maxillary barbels that extend to hind end of preopercle in adults, and/or to *Barbus* (Barbinae), then a catch-all genus for many African, Asian and European cyprinids

Ptychobarbus chungtienensis (Tsao 1964) *-ensis*, Latin suffix denoting place: Zhongdian (phonetically spelled Chungtien) County, Yunnan Province, China, type locality

Ptychobarbus chungtienensis gezaensis (Huang & Chen 1986) *-ensis*, Latin suffix denoting place: Geza, Zhongdian County, Yunnan Province, China, type locality [treated as a full species or a synonym of *P. chungtienensis* depending on the reference; provisionally included here]

Ptychobarbus conirostris Steindachner 1866 *conus*, from *kónos* (Gr. κώνος), cone; *rostris*, Neo-Latin scientific adjective of *rostrum* (L.), snout, referring to its conical snout

Ptychobarbus dipogon (Regan 1905) *di-* (Gr. prefix), from *dýo* (δύο), two; *πόγων* (Gr. πώγων), beard, referring to one pair of barbels, compared with two pair among its presumed congeners in *Schizothorax* (Schizothoracinae)

Ptychobarbus kaznakovi Nikolskii 1903 in honor of Russian zoologist Alexander N. Kaznakov (1872–1933), an associate of Pyotr K. Kozlov's Imperial Russian Geographical Society expedition to Mongolia and Tibet (1899–1901), which yielded a rich natural history collection, including holotype of this species

Ptychobarbus leptosomus Zhang, Zhao & Niu 2019 slender-bodied, from *leptós* (Gr. λεπτός), thin, and *sóma* (Gr. σώμα), body, referring to its overall slender appearance

Schizopygopsis² Steindachner 1866

ópsis (Gr. ὄψις), appearance: similar to *Schizopyge* (Schizothoracinae), particularly the membranous fold in front of the anal fin

Schizopygopsis anteroventris Wu & Tsao 1989 *antero-* (L.), opposite; *ventris* (L.), genitive of *venter*, belly, probably referring to how ventral (pelvic) fins are directly opposite base of first dorsal-fin ray

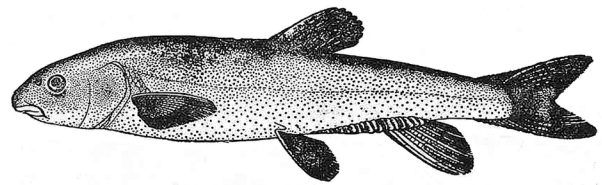
Schizopygopsis bangongensis Wu & Zhu 1979 *-ensis*, Latin suffix denoting place: Ban-Gong Lake, Tibet, China, type locality

Schizopygopsis chengi (Fang 1936) in honor of botanist Cheng Wan-Chun (1908–1987), Herbarium of the Biological Laboratory of the Science Society of China, who collected holotype

Schizopygopsis chengi baoxingensis Fu, Ding & Ye 1994 *-ensis*, Latin suffix denoting place: Baoxing County, Sichuan, China, type locality [proposed as a subspecies of *S. malacanthus* and treated as such by some workers]

Schizopygopsis chilianensis (Li & Chang 1974) *-ensis*, Latin suffix denoting place: Qilian Range, northeast ridge of Tibetan Plateau, where it occurs (“chilian” is the approximate phonetic spelling of “Qilian”)

Schizopygopsis chui (Tchang, Yueh & Hwang 1964) patronym not identified, possibly in honor of Yuan-Ting Chu (1896–1986), director,



Schizopygopsis anteroventris. From: Li, D.-H. (ed.). 1989. Economic fauna of Qinghai Province. Xining. 1–13 + 3 + 1–735, 12 pls., 1 foldout map.

Shanghai Fisheries Institute, who published many papers on Chinese fishes in the 1930s

Schizopygopsis dobula (Günther 1868) Latinization of *Döbel*, German common name for *Squalius cephalus* (Leuciscidae), which it presumably resembles

Schizopygopsis eckloni (Herzenstein 1891) in honor of F. L. Ecklon, one of Nikolai Przhevalsky's (see *S. przewalskii*) assistants during his second trip to Tibet, whose services Przhevalsky said were “invaluable” (translation)

Schizopygopsis eckloni scoliotomus (Wu & Chen 1979) curve-mouthed, from *skoliós* (Gr. σκολιός), curved or bent, and *stóma* (Gr. στόμα), referring to “deeply arched” mouth cleft [treated as a full species by some workers]

Schizopygopsis extrema (Herzenstein 1891) Latin for extreme, referring to the distinctiveness of its pharyngeal teeth, described as an “extreme form” (translation) of the teeth found in *Gymnocypris* (= *Schizopygopsis*)

Schizopygopsis firmispinata (Wu & Wu 1988) *firmus* (L.), strong; *spinata* (L.), spined or spiny, referring to stronger third simple ray of dorsal fin compared with weaker dorsal spine of *G. potanini*

Schizopygopsis himalayensis Tsao 1974 *-ensis*, Latin suffix denoting place: referring to its occurrence near Zhumulangma Mountain (Mt. Everest) in the Himalayas of Tibet

Schizopygopsis kessleri Herzenstein 1891 in memory of Russian ichthyologist Karl Federovich Kessler (1815–1881)

Schizopygopsis kialingensis Tsao & Tun 1962 *-ensis*, Latin suffix denoting place: Jialing River, Gansu Province, China, type locality

Schizopygopsis labiosa (Herzenstein 1891) Latin for large-lipped, referring to its “rather fleshy lips” (translation)

Schizopygopsis longimandibularis (Tsao, Chen, Wu & Zhu 1992) *longus* (L.), long; *mandibularis* (L.), of or pertaining to a jaw, presumably referring to its longer mouth (reflected in smaller mouth width-to-length ratio) compared with *S. chui*

Schizopygopsis malacanthus Herzenstein 1891 *malakós* (Gr. μαλακός), soft; *acanthus* (L.), from *ákantha* (Gr. ἄκανθα), thorn, presumably referring to the “very little thickened” dorsal spine on larger individuals in which serrations are “more or less atrophied” (translations)

Schizopygopsis maphamyumensis Wu & Zhu 1979 *-ensis*, Latin suffix denoting place: Mapham Yu Tso (Lake Manasarovar), Tibet, where it is endemic

Schizopygopsis microcephalus Herzenstein 1891 small-headed, from *mikrós* (Gr. μικρός), small, and *kephalé* (Gr. κεφαλή), head, referring to its smaller head compared with *S. guentheri* (= *pylzovi*) [reported to occur at 5350 meters³, making it the highest-living fish in the world]

Schizopygopsis namensis Wu & Ren 1982 *-ensis*, Latin suffix denoting place: Nam Cuo Lake, northeastern Tibet, type locality

Schizopygopsis pengquensis (Tang, Feng, Wanghe, Li & Zhao 2016) *-ensis*, Latin suffix denoting place: Pengqu River, Nielamu and Dingri counties, Tibet, where it appears to be endemic

Schizopygopsis potanini (Herzenstein 1891) in honor of Grigory Nikolayevich Potanin (1835–1920), Russian botanist, ethnologist and explorer in Central Asia

³Zhu, R. D. He, X. Feng, W. Xiong and J. Tao. 2021. The new record of the highest distribution altitude of cyprinid fishes in the world. *Journal of Applied Ichthyology* 37: 474–478.

²Tang et al. (2019, citation below) subsumed four genera (*Chuanchia*, *Gymnocypris*, *Herzensteinia*, *Platypharodon*) into the synonymy of *Schizopygopsis*, a classification followed herein. Since many references still recognize these genera, their name etymologies are given here: **Chuanchia** Herzenstein 1891, *-ia* (L. suffix), belonging to: Chuanche (or Chuan Che, “Yellow”) River, Yangtze River drainage, Qinhuai Province, China, type locality of *S. labiosa*; **Gymnocypris** Günther 1868, *gymnós* (Gr. γυμνός), bare or naked, referring to nearly scaleless body of *S. dobula*, and *cypris*, a common suffix for small cyprinoid genera, derived from *Cyprinus* (Common Carp); **Herzensteinia** Chu 1935, *-ia* (L. suffix), belonging to: Russian ichthyologist Solomon Markovich Herzenstein (1854–1894), who described *S. microcephalus* in 1891; **Platypharodon** Herzenstein 1891, *platýs* (Gr. πλατύς), flat, *pharónx* (Gr. φάρυγξ), throat, and *odon*, Latinized and grammatically adjusted from the Greek nominative ὀδούς (*odoús*), tooth, referring to flat, comb-like pharyngeal teeth of *S. extrema*. Citation: Tang, Y.-T., C.-H. Li, K.-Y. Wanghe, C.-G. Feng, C. Tong, F. Tian and K. Zhao. 2019. Convergent evolution misled taxonomy in schizothoracine fishes (Cypriniformes: Cyprinidae). *Molecular Phylogenetics and Evolution* 134: 323–337.

***Schizopygopsis przewalskii* Kessler 1876** in honor of Nikolai Przhevalsky (also spelled Przewalski and Prjevalsky, 1839–1888), Russian Cossack geographer, explorer and naturalist, who collected holotype and in whose book about Mongolia Kessler’s description appeared

***Schizopygopsis przewalskii ganzihonensis* Zhu & Wu 1975** *-ensis*, Latin suffix denoting place: Ganzi River, Qinghai, China, where it appears to be endemic

***Schizopygopsis pylzovi* Kessler 1876** in honor of Lieut. Mikhail Alexandrovich Pylzov (ca. 1848–1898), member of Nikolai Przhevalsky (also spelled Przewalski and Prjevalsky) expedition to Mongolia, during which holotype was collected

***Schizopygopsis scleracanthus* (Tsao, Wu, Chen & Zhu 1992)** *sclero-*, from *sklēros* (Gr. σκληρός), tough or hard; *acanthus* (L.), from *ákantha* (Gr. ἄκανθα), thorn, presumably referring to “saw-like thorn” (translation, i.e., osseous ray) on dorsal fin

***Schizopygopsis stoliczkae* Steindachner 1866** in honor of Moravian paleontologist Ferdinand Stoliczka (1838–1874), who collected holotype [spelled *stoličkai* by Steindachner; caron is deleted per ICZN Art. 32.5.2.1 but some authors incorrectly emend spelling to “*stoliczkae*”]

***Schizopygopsis thermalis* Herzenstein 1891** Neo-Latin for of or relating to hot springs or water, referring to its habitat at Tan la mountains of Tibet, elevation 4572–4877 m

***Schizopygopsis waddellii* (Regan 1905)** in honor of Lieut.-Col. Laurence Austine Waddell, C.B. [Companion of the Order of the Bath] (1854–1938), British army surgeon, explorer, philologist, linguist, and chemistry and pathology professor, who preserved type specimens in salt before presenting them to the British Museum (Natural History)

***Schizopygopsis younghusbandi* Regan 1905** patronym not identified but clearly in honor of Lieut.-Col. Francis Edward Younghusband (1863–1942), who led a 1904 British expedition to (and *de facto* invasion of) Tibet, during which holotype was collected

***Schizopygopsis younghusbandi shannaensis* Wu, Tsao, Chen & Zhu 1992** *-ensis*, Latin suffix denoting place: Shannan Region of Tibet, where it appears to be endemic

***Schizopygopsis younghusbandi wui* Tchang, Yueh & Hwang 1964** in honor of Wu Hsien-Wen (1900–1985), National Research Institute of Biology, Academia Sinica, for his contributions to Chinese ichthyology