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Genera and Species of Goodeidae

W. N. Eschmeyer, R. Fricke, R. van der Laan (eds)

albivallis*, *Crenichthys baileyi Williams [J. E.] & Wilde [G. R.] 1981:489, Fig. 7 [Southwestern Naturalist v. 25 (no. 4); ref. [8991](#)] Preston Big Spring, White Pine County, Nevada, U.S.A. Holotype: UMMZ 203332. Paratypes: UMMZ 203333 (1, allotype); UNLV F-952 (28). •Synonym of *Crenichthys baileyi* (Gilbert 1893), but a valid subspecies *albivallis* Williams & Wilde 1981 as described -- (Fuller et al. 1999:322 [ref. [25838](#)], Lazara 2001:71 [ref. [25711](#)], Scoppettone & Rissler 2002:82 [ref. [25956](#)], Scharpf 2007:27 [ref. [30398](#)], Minckley & Marsh 2009:243 [ref. [31114](#)], Page & Burr 2011:452 [ref. [31215](#)]). **Current status:** Synonym of *Crenichthys baileyi* (Gilbert 1893). Goodeidae: Empetrichthyinae. Distribution: Springs in White Pine County, Nevada, U.S.A. [subspecies *Albivallis*]. Habitat: freshwater.

atripinnis*, *Goodea Jordan [D. S.] 1880:299 [Proceedings of the United States National Museum v. 2 (no. 94); ref. [2382](#)] Leon, Guanajuato, Mexico. Lectotype: USNM 23137. Paralectotypes: USNM 23137 (many). Lectotype established (as figured specimen) in caption to Pl. 114, p. 3257 in Jordan & Evermann 1900 [ref. [2446](#)] if figured specimen is identifiable. •Valid as *Goodea atripinnis* Jordan 1880 -- (Espinosa Pérez et al. 1993:41 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:281 [ref. [28615](#)], Scharpf 2007:28 [ref. [30398](#)], Miranda et al. 2010:185 [ref. [31345](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Goodea atripinnis* Jordan 1880. Goodeidae: Goodeinae. Distribution: Mexico: Pacific slope and Hidalgo. Habitat: freshwater.

audax*, *Characodon Smith [M. L.] & Miller [R. R.] 1986:3, Figs. 2-3 [American Museum Novitates No. 2851; ref. [5711](#)] Pond at El Ojo de Agua de Las Mujeres, near the village of El Toboso (24°16'35"N, 104°34'50"W), Durango, Mexico. Holotype: UMMZ 213302. Paratypes: AMNH 57006 (20); ANSP 157641 (20); UMMZ 211061 (36), 213303 (1, allotype), 213312 (168), 213319 (4); USNM 274718 (20). •Valid as *Characodon audax* Smith & Miller 1986 -- (Espinosa Pérez et al. 1993:40 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:278 [ref. [28615](#)], Scharpf 2007:27 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Characodon audax* Smith & Miller 1986. Goodeidae: Goodeinae. Distribution: El Ojo de Agua de Las Mujeres, Mexico. Habitat: freshwater.

baileyi*, *Cyprinodon macularius Gilbert [C. H.] 1893:233 [North American Fauna No. 7; ref. [1627](#)] Pahrangat Valley, Nevada, U.S.A. Syntypes: MCZ 35996 (2), CAS-SU 709 (3), USNM 46110 (6). Type catalog: Böhlke 1953:53 [ref. [12291](#)]. •Valid as *Crenichthys baileyi* (Gilbert 1893) -- (Lee et al. 1980:491 [ref. [22416](#)], Parenti 1981:516 [ref. [7066](#)], Page & Burr 1991:231 [ref. [18983](#)], Grant & Riddle 1995:209 [ref. [22414](#)], La Rivers 1994:512 [ref. [23389](#)], Nelson et al. 2004:107 [ref. [27807](#)]). •Valid as *Crenichthys baileyi* (Gilbert 1893), subspecies *baileyi* (Gilbert 1893) -- (Fuller et al. 1999:322 [ref. [25838](#)], Lazara 2001:71 [ref. [25711](#)], Scoppettone & Rissler 2002:82 [ref. [25956](#)], Scharpf 2007:27 [ref. [30398](#)], Minckley & Marsh 2009:242 [ref. [31114](#)], Page & Burr 2011:452 [ref. [31215](#)] with 5 subspecies, Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Crenichthys baileyi* (Gilbert 1893). Goodeidae: Empetrichthyinae. Distribution: Nevada, U.S.A. Ash Spring, Nevada [subspecies *baileyi*]. Habitat: freshwater.

bilineatus*, *Characodon Bean [T. H.] 1887:371, Pl. 20 (fig. 2) [Proceedings of the United States National Museum v. 10 (no. 637); ref. [14471](#)] Probably near Guanajuato, Mexico. Holotype (unique): USNM 37832. •Valid as *Skiffia bilineata* (Bean 1887) -- (Espinosa Pérez et al. 1993:42 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:284 [ref. [28615](#)], Scharpf 2007:29 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Skiffia bilineata* (Bean 1887). Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

caliente*, *Xenendum Jordan [D. S.] & Snyder [J. O.] 1899:127, Fig. 8 [Bulletin of the U. S. Fish Commission v. 19 [1899]; ref. [2501](#)] Río Verde near Aguascalientes, central Mexico. Holotype: CAS-SU 6147. Paratypes: BMNH 1900.9.29.126-132 (7), MNHN 1901-0229 to 0232 [ex SU] (4); CAS-SU 6206 (10); ZMUC 2-4. Type catalog: Bertin & Estève 1950:28-29 [ref. [19576](#)], Böhlke 1953:54 [ref. [12291](#)],

Nielsen 1974:57 [ref. 9588]. Goodeidae: Goodeinae.

captiva*, *Goodea Hubbs [C. L.] 1924:4, Pl. 5 (fig. 4) [Occasional Papers of the Museum of Zoology University of Michigan No. 148; ref. 15451] Upper tributary of Río Panuco at Jesús María, San Luis Potosí, Mexico. Holotype: FMNH 5557. Paratypes and additional material: FMNH 14181-358 (now 166); UMMZ 178225 [ex UMMZ 14181, 14190, 14205, 14239, 14265 and 14266] (6). Type catalog: Ibarra & Stewart 1987:42 [ref. 12367]. Derivation of species name not given, perhaps should be treated as a noun. •Valid as *Xenophorus captivus* (Hubbs 1924) -- (Espinosa Pérez et al. 1993:43 [ref. 22290], Nelson et al. 2004:107 [ref. 27807], Miller 2006:286 [ref. 28615], Scharpf 2007:29 [ref. 30398], Page et al. 2013:105 [ref. 32708]). **Current status:** Valid as *Xenophorus captivus* (Hubbs 1924). Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

catarinae*, *Neoophorus diazi de Buen [F.] 1942:343, Figs. 1-2 [Anales del Instituto de Biología de la Universidad Nacional Autónoma de México v. 13 (no. 1); ref. 13157] Near Uruapan, Santa Catarina, Michoacán, Mexico. Syntypes: (at least 26). •Valid as *Neoophorus catarinae* de Buen 1942 -- (Álvarez 1959:16 [ref. 11973]). •Valid as *Allotoca catarinae* (de Buen 1942) -- (Smith & Miller 1987:610 [ref. 6773], Espinosa Pérez et al. 1993:38 [ref. 22290], Meyer et al. 2001:455 [ref. 25811], Nelson et al. 2004:106 [ref. 27807], Miller 2006:271 [ref. 28615], Scharpf 2007:25 [ref. 30398], Page et al. 2013:103 [ref. 32708]). **Current status:** Valid as *Allotoca catarinae* (de Buen 1942). Goodeidae: Goodeinae. Distribution: Santa Catarina-Cupatitzio River, Pacific Slope of Mexico. Habitat: freshwater.

concavus*, *Empetrichthys latos Miller [R. R.] 1948:105, Pl. 11 [Miscellaneous Publications, Museum of Zoology, University of Michigan No. 68; ref. 13064] Raycraft Ranch, about 0.5 mile north of Pahrump Ranch, Pahrump Valley, Nye County, Nevada, U.S.A. Holotype: UMMZ 141857. Paratypes: UMMZ 140491 (26, now 21), USNM 112071 [ex UMMZ 140491] (5). Now extinct -- (Lazara 2001:97 [ref. 25711]). •Synonym of *Empetrichthys latos* Miller 1948, but a valid subspecies *concavus* Miller 1948 as described -- (Lee et al. 1980:505 [ref. 22416], Parenti 1981:516 [ref. 7066], La Rivers 1994:528 [ref. 23389], Wildekamp 1996:14 [ref. 23649], Fuller et al. 1999:324 [ref. 25838], Lazara 2001:97 [ref. 25711], Scoppettone & Rissler 2002:82 [ref. 25956], Scharpf 2007:27 [ref. 30398], Page & Burr 2011:453 [ref. 31215]). **Current status:** Synonym of *Empetrichthys latos* Miller 1948. Goodeidae: Empetrichthyinae. Distribution: Spring on Raycraft Ranch, Nevada, U.S.A. [subspecies *concavus*, extinct]. Habitat: freshwater.

cortesae*, *Ilyodon Paulo-Maya [J.] & Trujillo-Jiménez [P.] 2000:466, Figs. 2-3 [Revista de Biología Tropical v. 48 (no. 2/3); ref. 25257] Manantiales de Cutzaróndiro, 13.1 kilometers southwest of río San Juan Tacámbaro, 19°10'42"N, 101°20'45"W, Michoacán, Mexico, elevation 1463 meters. Holotype: ENCB IPN P4380. Paratypes: ENCB IPN P4380 (81), UANL-14214 (2). •Valid as *Ilyodon cortesae* Paulo-Maya & Trujillo-Jiménez 2000 -- (Nelson et al. 2004:107 [ref. 27807], Scharpf 2007:28 [ref. 30398], Page et al. 2013:104 [ref. 32708]). •Mention -- (Miller 2006:283 [ref. 28615]). **Current status:** Valid as *Ilyodon cortesae* Paulo-Maya & Trujillo-Jiménez 2000. Goodeidae: Goodeinae. Distribution: Río San Juan Tacámbaro basin, Mexico. Habitat: freshwater.

quitzeoensis*, *Zoogoneticus Meek [S. E.] 1904:110, Fig. 29 [Field Columbian Museum, Zoological Series v. 5; ref. 2958] Unjustified emendation of *Platyopocilus quitzeoensis* Bean 1898. •In the synonymy of *Zoogoneticus quitzeoensis* (Bean 1898). **Current status:** Synonym of *Zoogoneticus quitzeoensis* (Bean 1898). Goodeidae: Goodeinae. Habitat: freshwater.

diazi*, *Zoogoneticus Meek [S. E.] 1902:93, Pl. 21 upper [Field Columbian Museum, Zoological Series v. 3 (no. 6); ref. 2957] Lago de Patzcuaro at Patzcuaro, Michoacán, Mexico. Holotype: FMNH 3618. Paratypes: FMNH 3611 (16), 3619 (80); UMMZ 162465 (10); USNM 55866-67 (1, 3). Type catalog: Ibarra & Stewart 1987:86 [ref. 12367]. •Valid as *Neoophorus diazi* (Meek 1902) -- (Álvarez 1959:16 [ref. 11973]). •Valid as *Allotoca diazi* (Meek 1902) -- (Smith & Miller 1987:610 [ref. 6773], Espinosa Pérez et al. 1993:39 [ref. 22290], Meyer et al. 2001:455 [ref. 25811], Nelson et al. 2004:106 [ref. 27807], Miller 2006:272 [ref. 28615], Scharpf 2007:25 [ref. 30398], Page et al. 2013:104 [ref. 32708]). **Current status:** Valid as *Allotoca diazi* (Meek 1902). Goodeidae: Goodeinae. Distribution: Lago de Patzcuaro and basin, Mexico. Habitat: freshwater, brackish.

dugesii*, *Fundulus Bean [T. H.] 1887:373, Pl. 20 (fig. 5) [Proceedings of the United States National Museum v. 10 (no. 637); ref. 14471] Guanajuato, Mexico (exact locality unknown). Lectotype: USNM 37831 (1 of 2, if identifiable). Paralectotypes: MCZ 35969 [ex USNM] (1), USNM 37831 (1 of 2).

Additional material (9). Originally as *F. dugèsi*. Two specimens originally designated types, other 9 specimens regarded as additional original material. Lectotype established (as figured specimen) in caption to Pl. 108, p. 3256 in Jordan & Evermann 1900 [ref. 2446] if figured specimen is identifiable. •Valid as *Allotoca dugesii* (Bean 1887) -- (Smith & Miller 1987:610 [ref. 6773] and Espinosa Pérez et al. 1993:39 [ref. 22290] as *dugesii*, Meyer et al. 2001:455 [ref. 25811], Nelson et al. 2004:106 [ref. 27807], Miller 2006:272 [ref. 28615], Scharpf 2007:25 [ref. 30398], Page et al. 2013:104 [ref. 32708]). **Current status:** Valid as *Allotoca dugesii* (Bean 1887). Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

eiseni, Characodon Rutter [C. L.] 1896:266 [Proceedings of the California Academy of Sciences (Series 2) v. 6; ref. 3841] Branch of Río Grande de Santiago, Tepic, Mexico. Syntypes: CAS-SU 5008 [not 4999 as published] (4). Type catalog: Böhlke 1953:54 [ref. 12291]. •Valid as "*Xenotoca*" *eiseni* (Rutter 1896) -- (Miller 2006:288 [ref. 28615]). •Valid as *Xenotoca eiseni* (Rutter 1896) -- (Espinosa Pérez et al. 1993:43 [ref. 22290], Nelson et al. 2004:107 [ref. 27807], Scharpf 2007:29 [ref. 30398], Page et al. 2013:105 [ref. 32708]). **Current status:** Valid as *Xenotoca eiseni* (Rutter 1896). Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

encaustus, Characodon Jordan [D. S.] & Snyder [J. O.] 1899:126, Fig. 7 [Bulletin of the U. S. Fish Commission v. 19 [1899]; ref. 2501] Laguna de Chapala, near Ocotlan, Jalisco, Mexico. Holotype (unique): CAS-SU 6163. Type catalog: Böhlke 1953:54 [ref. 12291]. •Valid as *Chapalichthys encaustus* (Jordan & Snyder 1899) -- (Espinosa Pérez et al. 1993:40 [ref. 22290], Nelson et al. 2004:107 [ref. 27807], Miller 2006:277 [ref. 28615], Scharpf 2007:26 [ref. 30398], Page et al. 2013:104 [ref. 32708]). **Current status:** Valid as *Chapalichthys encaustus* (Jordan & Snyder 1899). Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

erro, Xenoophorus Hubbs [C. L.] & Turner [C. L.] 1939:52, Pl. 2 (fig. 6), Pl. 5 (fig. 2) [Miscellaneous Publications, Museum of Zoology, University of Michigan No. 42; ref. 2265] Río Santa María, of the Río Panuco system, at Santa María del Río, San Luis Potosí, Mexico. Holotype: UMMZ 108555. Paratypes: "numerous". Name appeared first in Turner 1937:500 et seq., Pl. 1 (fig. 4 of trophotaeniae) [ref. 6400] but regarded as not recognizably differentiated in that work following Hubbs & Turner 1939. •Synonym of *Xenoophorus captivus* (Hubbs 1924) -- (Miller 2006:286 [ref. 28615]). **Current status:** Synonym of *Xenoophorus captivus* (Hubbs 1924). Goodeidae: Goodeinae. Habitat: freshwater.

exsul, Xenoophorus Hubbs [C. L.] & Turner [C. L.] 1939:54, Pl. 5 (fig. 3) [Miscellaneous Publications, Museum of Zoology, University of Michigan No. 42; ref. 2265] Agua del Medio, midway between Venado and Moctezuma, San Luis Potosí, Mexico. Holotype: UMMZ 118122. Paratypes: UMMZ 118120 (101, 4 c&s), 118121 (705), 118123 (594); USNM 117607 (10). •Synonym of *Xenoophorus captivus* (Hubbs 1924) -- (Miller 2006:286 [ref. 28615]). **Current status:** Synonym of *Xenoophorus captivus* (Hubbs 1924). Goodeidae: Goodeinae. Habitat: freshwater.

ferrugineus, Characodon Bean [T. H.] 1887:372, Pl. 20 (figs. 3-4) [Proceedings of the United States National Museum v. 10 (no. 637); ref. 14471] Guanajuato, Mexico. Lectotype: USNM 37810. Paralectotypes: USNM 37810 (1 of 2). Lectotype established (as figured specimen) in caption to Pl. 111, p. 3256 for *Characodon variatus* in Jordan & Evermann 1900 [ref. 2446] if figured specimen is identifiable. Goodeidae: Goodeinae.

francesae, Skiffia Kingston [D. I.] 1978:504, Figs. 1-2 [Copeia 1978 (no. 3); ref. 8920] Río Teuchitlán, below and just east of Teuchitlán, Jalisco, Mexico. Holotype: UMMZ 201177. Paratypes: UMMZ 172223 (57, 6 c&s), 189588 (146), 201178 (1, allotype). •Valid as *Skiffia francesae* Kingston 1978 -- (Espinosa Pérez et al. 1993:42 [ref. 22290], Nelson et al. 2004:107 [ref. 27807], Miller 2006:284 [ref. 28615], Scharpf 2007:29 [ref. 30398], Page et al. 2013:105 [ref. 32708]). **Current status:** Valid as *Skiffia francesae* Kingston 1978. Goodeidae: Goodeinae. Distribution: Río Ameca basin, Pacific Slope of Mexico [extinct in the wild]. Habitat: freshwater.

furcidens, Characodon Jordan [D. S.] & Gilbert [C. H.] 1882:354 [Proceedings of the United States National Museum v. 5 (no. 290); ref. 12308] Near Cape San Lucas, Baja California, Mexico [but locality unlikely]. Syntypes: CAS 58672 [IU 3294] (3); MCZ 35990 [ex USNM] (4); CAS-SU 3512 (2); UMMZ 65221 (1); USNM 5093 (27), 9571 (now 0, not found in 1980), 30971 (now 40), 35338 (44). Type catalog: Böhlke 1953:54 [ref. 12291]. •Valid as *Ilyodon furcidens* (Jordan & Gilbert 1882) -- (Espinosa Pérez et al. 1993:42 [ref. 22290], Paulo-Maya & Trujillo-Jiménez 2000:468 [ref. 25257], Nelson et al.

2004:107 [ref. [27807](#)], Miller 2006:282 [ref. [28615](#)], Scharpf 2007:28 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]]. **Current status:** Valid as *Ilyodon furcoides* (Jordan & Gilbert 1882). Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

garmani, Characodon Jordan [D. S.] & Evermann [B. W.] 1898:2831 [Bulletin of the United States National Museum No. 47; ref. [2445](#)] Parras, Coahuila, Mexico. Holotype (unique): MCZ 27704. •Valid as *Characodon garmani* Jordan & Evermann 1898 -- (Espinosa Pérez et al. 1993:40 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:279 [ref. [28615](#)], Scharpf 2007:27 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Characodon garmani* Jordan & Evermann 1898. Goodeidae: Goodeinae. Distribution: Near Parras, Mexico [extinct]. Habitat: freshwater.

geddesi, Characodon Regan [C. T.] 1904:257 [Annals and Magazine of Natural History (Series 7) v. 13 (no. 76) (art. 30); ref. [15198](#)] Lake Tezcoco, southern Mexico. Syntypes: (many) BMNH 1880.4.7.56 (1?), 1880.4.7.11-20 (10?), 1880.4.7.21-30 (10?). •Synonym of *Girardinichthys viviparus* (Bustamante 1837) -- (Radda & Meyer 2003:5 [ref. [27522](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Synonym of *Girardinichthys viviparus* (Bustamante 1837). Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

goslinei, Allotoca Smith [M. L.] & Miller [R. R.] 1987:610, Figs. 1-3 [Copeia 1987 (no. 3); ref. [6773](#)] Río Potrero Grande, Jalisco, Mexico. Holotype: UMMZ 213450. Paratypes: AMNH 55720 (4); UMMZ 178345 (5), 191678 (16, 5 c&s), 198851 (5), 212324 (1), 213395 (16). •Valid as *Allotoca goslinei* Smith & Miller 1987 -- (Espinosa Pérez et al. 1993:39 [ref. [22290](#)], Meyer et al. 2001:455 [ref. [25811](#)], Nelson et al. 2004:106 [ref. [27807](#)], Miller 2006:273 [ref. [28615](#)], Scharpf 2007:25 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Allotoca goslinei* Smith & Miller 1987. Goodeidae: Goodeinae. Distribution: Upper Ameca River basin, Pacific Slope of Mexico. Habitat: freshwater.

gracilis, Goodea Hubbs [C. L.] & Turner [C. L.] 1939:44, Pl. 4 (fig. 1) [Miscellaneous Publications, Museum of Zoology, University of Michigan No. 42; ref. [2265](#)] Santa María del Río, San Luis Potosí, Mexico. Holotype: UMMZ 108552. Paratypes: UMMZ 11485 (8), 65233 (4), 108553 (3), 113226 (6), 113408 (2); USNM [ex UMMZ 11485] 117541 (2). •Valid as *Goodea gracilis* Hubbs & Turner 1939 -- (Espinosa Pérez et al. 1993:41 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Goodea gracilis* Hubbs & Turner 1939. Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

grandis, Crenichthys baileyi Williams [J. E.] & Wilde [G. R.] 1981:495, Fig. 9 [Southwestern Naturalist v. 25 (no. 4); ref. [8991](#)] Hiko Spring, Lincoln County, Nevada, U.S.A. Holotype: UMMZ 203336. Paratypes: ASU 3942 (29); UMMZ 124998 (40), 203337 (1, allotype); UNLV 142 (44). •Synonym of *Crenichthys baileyi* (Gilbert 1893), but a valid subspecies *grandis* Williams & Wilde 1981 as described -- (Fuller et al. 1999:322 [ref. [25838](#)], Lazara 2001:72 [ref. [25711](#)], Scoppettone & Rissler 2002:82 [ref. [25956](#)], Scharpf 2007:27 [ref. [30398](#)], Minckley & Marsh 2009:243 [ref. [31114](#)], Page & Burr 2011:452 [ref. [31215](#)]). **Current status:** Synonym of *Crenichthys baileyi* (Gilbert 1893). Goodeidae: Empetrichthyinae. Distribution: Hiko Spring, Nevada, U.S.A. [subspecies *grandis*]. Habitat: freshwater.

hubbsi, Allodontichthys Miller [R. R.] & Uyeno [T.] 1980:1, Fig. 1 [Occasional Papers of the Museum of Zoology University of Michigan No. 692; ref. [5576](#)] Tributary to Río Tuxpan, at highway bridge, 8 kilometers north of Pihuamo, Jalisco, southwestern Mexico. Holotype: UMMZ 200221. Paratypes: UMMZ 172153 (14), 172158 (14, 2 c&s), 172165 (2), 189603 (3), 191682 (45, 5 c&s), 198841 (20); USNM 220574 [ex UMMZ 191682] (6). •Valid as *Allodontichthys hubbsi* Miller & Uyeno 1980 -- (Rauchenberger 1988:433 [ref. [6411](#)], Espinosa Pérez et al. 1993:38 [ref. [22290](#)], Nelson et al. 2004:106 [ref. [27807](#)], Miller 2006:268 [ref. [28615](#)], Scharpf 2007:25 [ref. [30398](#)], Page et al. 2013:103 [ref. [32708](#)]). **Current status:** Valid as *Allodontichthys hubbsi* Miller & Uyeno 1980. Goodeidae: Goodeinae. Distribution: Coahuayana River basin, Pacific Slope of Mexico. Habitat: freshwater.

innominatus, Girardinichthys Bleeker [P.] 1860:484 [Acta Societatis Regiae Scientiarum Indo-Neêrlandicae v. 7 (N. S., v. 2); ref. [380](#)] Mexico City, Mexico. Holotype (?): ANSP 7605. Paratypes or syntypes: ?MCZ 1311 [ex USNM] (1). Type information: Böhlke 1984:96 [ref. [13621](#)]. Based on *Lucania* sp. Girard 1859:118 [ref. [27410](#)]. •Synonym of *Girardinichthys viviparus* (Bustamante 1837) -

- (Radda & Meyer 2003:5 [ref. [27522](#)]). **Current status:** Synonym of *Girardinichthys viviparus* (Bustamante 1837). Goodeidae: Goodeinae. Habitat: freshwater.

ireneae, *Girardinichthys* Radda [A. C.] & Meyer [M. K.] 2003:7, Fig. 1 [Annalen des Naturhistorischen Museums in Wien v. 104 B; ref. [27522](#)] North end of Laguna de Zacapu Michoacán, Mexico. Holotype: NMW 94578. Paratypes: NMW 94579 (2), M. Meyer Coll. uncat. (2). •Valid as *Hubbsina ireneae* (Radda & Meyer 2003) -- (Scharpf 2007:28 [ref. [30398](#)]). •Valid as *Girardinichthys ireneae* Radda & Meyer 2003 -- (Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Girardinichthys ireneae* Radda & Meyer 2003. Goodeidae: Goodeinae. Distribution: Lago de Zacapu and outflow, Mexico. Habitat: freshwater.

lateralis, *Characodon* Günther [A.] 1866:308 [Catalogue of the fishes in the British Museum v. 6; ref. [1983](#)] Central America. Syntypes: (at least 9) BMNH 1855.9.19.317-320 (4?), 1855.9.19.1566-1569 (4?). •Valid as *Characodon lateralis* Günther 1866 -- (Espinosa Pérez et al. 1993:40 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:279 [ref. [28615](#)], Scharpf 2007:27 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Characodon lateralis* Günther 1866. Goodeidae: Goodeinae. Distribution: Headwaters of Río Mezquital, Pacific Slope of Mexico. Habitat: freshwater.

latos, *Empetrichthys* Miller [R. R.] 1948:101, Pls. 10 (fig. 2), 11 (bottom) [Miscellaneous Publications, Museum of Zoology, University of Michigan No. 68; ref. [13064](#)] Main spring pool on Manse Ranch, Pahrump Valley, Nye County, Nevada, U.S.A. Holotype: UMMZ 141855. Paratypes: UMMZ 132915 (34), 140489 (143, now 123, 8 c&s); USNM 112071-73 [ex UMMZ] (5, 10, 10); ZMA 102240 [ex UMMZ] (15); ZMB 21233 [ex UMMZ 140489] (2). Type catalog: Nijssen et al. 1982:70 [ref. [19236](#)], Paepke & Seegers 1986:148 [ref. [19981](#)]. Described with 3 new subspecies; types for the species *latos* are those of the nominotypical subspecies *E. latos latos*. •Valid as *Empetrichthys latos* Miller 1948 -- (Lee et al. 1980:505 [ref. [22416](#)], Parenti 1981:516 [ref. [7066](#)], Page & Burr 1991:231 [ref. [18983](#)], La Rivers 1994:523 [ref. [23389](#)], Grant & Riddle 1995:209 [ref. [22414](#)], Wildekamp 1996:12 [ref. [23649](#)], Nelson et al. 2004:107 [ref. [27807](#)]). •Valid as *Empetrichthys latos* Miller 1948, subspecies *latos* Miller 1948 -- (Fuller et al. 1999:324 [ref. [25838](#)], Lazara 2001:97 [ref. [25711](#)], Scoppettone & Rissler 2002:82 [ref. [25956](#)], Scharpf 2007:27 [ref. [30398](#)], Page & Burr 2011:453 [ref. [31215](#)] with 3 subspecies, Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Empetrichthys latos* Miller 1948. Goodeidae: Empetrichthyinae. Distribution: Pahrump Valley, Nevada, U.S.A. Habitat: freshwater.

lennoni, *Ilyodon* Meyer [M. K.] & Förster [W.] 1983:257, Figs. 1-2 [Zoologische Abhandlungen; Staatliches Museum für Tierkunde in Dresden v. 38 (no. 16); ref. [8303](#)] Arroyo Chacambero near Altamirano, Guerrero, Mexico. Holotype: MTD F 1881. Paratypes: MTD F 1882-83 (2), 1884-85 (2), 1886-90 (5). Type catalog: Zarske 2003:26 [ref. [27474](#)]. •Valid as *Ilyodon lennoni* Meyer & Förster 1983 -- (Espinosa Pérez et al. 1993:42 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Page et al. 2013:104 [ref. [32708](#)]). •Mention as not valid -- (Miller 2006:283 [ref. [28615](#)]). **Current status:** Valid as *Ilyodon lennoni* Meyer & Förster 1983. Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

lermae, *Skiffia* Meek [S. E.] 1902:102, Pl. 25 upper & middle [Field Columbian Museum, Zoological Series v. 3 (no. 6); ref. [2957](#)] Patzcuaro Lake at Parzvuaro, River Lerma system, Michoacan, Mexico. Holotype: FMNH 3616. Paratypes: FMNH 3622-24 (0, 88, 29), 14461 (1), 72589 (17); CAS-SU 22342 (18), 68747 [ex CAS-SU 22342] (2, c&s); UMMZ 65230 [ex IU 11068] (4); ?USNM 55860 (22). Type catalog: Ibarra & Stewart 1987:80 [ref. [12367](#)]. •Valid as *Skiffia lermae* Meek 1902 -- (Espinosa Pérez et al. 1993:43 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:285 [ref. [28615](#)], Scharpf 2007:29 [ref. [30398](#)], Page et al. 2013:105 [ref. [32708](#)]). **Current status:** Valid as *Skiffia lermae* Meek 1902. Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

limnurgus, *Girardinichthys* Jordan [D. S.] & Evermann [B. W.] 1927:502 [Proceedings of the California Academy of Sciences (Series 4) v. 16 (no. 15); ref. [2453](#)] Lake Lerma, Mexico. Holotype: USNM 50229. •Synonym of *Girardinichthys multiradiatus* (Meek 1904) -- (Radda & Meyer 2003:6 [ref. [27522](#)]). **Current status:** Synonym of *Girardinichthys multiradiatus* (Meek 1904). Goodeidae: Goodeinae. Habitat: freshwater.

luitpoldii, *Characodon* Steindachner [F.] 1894:147 [Anzeiger der Akademie der Wissenschaften in

Wien v. 31 (no. 15); ref. [19243](#)] Lake Pátzcuaro, Michoacan, Mexico. Syntypes: NMW 12996 [ex ZSM] (1) apparently lost, ZSM [old collection] (orig. 2) destroyed in WWII. Type catalog: Neumann 2006:276 [ref. [28925](#)]. •Valid as *Goodea luitpoldii* (Steindachner 1894) -- (Espinosa Pérez et al. 1993:41 [ref. [22290](#)] as *luitpoldi*, Nelson et al. 2004:107 [ref. [27807](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Goodea luitpoldii* (Steindachner 1894). Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

maculata, Allotoca Smith [M. L.] & Miller [R. R.] 1980:410, Figs. 1A-B, 2 [Copeia 1980 (no. 3); ref. [6906](#)] Laguna de Santa Magdalena, about 82 kilometers west of Guadalajara by highway 15, Jalisco, Mexico, 20°54'N, 103°57'W, elevation 1210 meters. Holotype: UMMZ 200250. Paratypes: UMMZ 173553 (15, 5 c&s), 178322 (48, now 47), 203851 (51); USNM 219779 [ex UMMZ 203851] (4). •Valid as *Allotoca maculata* Smith & Miller 1980 -- (Smith & Miller 1987:610 [ref. [6773](#)], Espinosa Pérez et al. 1993:39 [ref. [22290](#)], Meyer et al. 2001:455 [ref. [25811](#)], Nelson et al. 2004:106 [ref. [27807](#)], Miller 2006:273 [ref. [28615](#)], Scharpf 2007:26 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Allotoca maculata* Smith & Miller 1980. Goodeidae: Goodeinae. Distribution: Lago de Magdalena basin, Pacific Slope of Mexico. Habitat: freshwater.

maculatus, Zoogoneticus Regan [C. T.] 1904:256 [Annals and Magazine of Natural History (Series 7) v. 13 (no. 76) (art. 30); ref. [15198](#)] Río Santiago, Río Lerma basin, Mexico. Syntypes: BMNH 1898.2.8.99-101 (3). Goodeidae: Goodeinae.

martini, Goodea atripinnis de Buen [F.] 1946:100 [Revista de la Sociedad Mexicana de Historia Natural v. 7 (nos 1-4); ref. [12981](#)] Río Grande de Morelia, Lake Cuitzeo valley, Mexico. Syntypes: Goodeidae: Goodeinae.

meeki, Neoophorus Álvarez [J.] 1959:17 [Ciencia (Mexico City) v. 19 (nos 1-3); ref. [11973](#)] Lago de Zirahuén, near Ajuno, Michoacán, Mexico. Holotype: not researched. Paratypes: (13) and (30). •Valid as *Allotoca meeki* (Álvarez 1959) -- (Smith & Miller 1987:610 [ref. [6773](#)], Espinosa Pérez et al. 1993:39 [ref. [22290](#)], Meyer et al. 2001:455 [ref. [25811](#)], Nelson et al. 2004:106 [ref. [27807](#)], Miller 2006:274 [ref. [28615](#)], Scharpf 2007:26 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Allotoca meeki* (Álvarez 1959). Goodeidae: Goodeinae. Distribution: Lago de Zirahuén basin, Mexico. Habitat: freshwater.

melanosoma, Xenotoca Fitzsimons [J. M.] 1972:750 [Copeia 1972 (no. 4); ref. [7117](#)] Río Tamazula, 5 kilometers south of Guzmán, Jalisco, Mexico. Holotype: UMMZ 189077. Paratypes: UMMZ 186292 (30, 2 c&s), 189078 (1), 189079 (21, 2 c&s). •Valid as "*Xenotoca*" *melanosoma* Fitzsimons 1972 -- (Miller 2006:288 [ref. [28615](#)]). •Valid as *Xenotoca melanosoma* Fitzsimons 1972 -- (Espinosa Pérez et al. 1993:43 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Scharpf 2007:29 [ref. [30398](#)], Page et al. 2013:105 [ref. [32708](#)]). **Current status:** Valid as *Xenotoca melanosoma* Fitzsimons 1972. Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

merriami, Empetrichthys Gilbert [C. H.] 1893:234, Pl. 5 [North American Fauna No. 7; ref. [1627](#)] Ash Meadows in Amargosa Desert, between California & Nevada, U.S.A. Holotype: USNM 131151. Paratypes: CAS-SU 766 (2), USNM 46101-03 (3, 2, 1). Type catalog: Böhlke 1953:53 [ref. [12291](#)]. Holotype established in caption for Pl. 5. Now extinct -- (Lazara 2001:98 [ref. [25711](#)]). •Valid as *Empetrichthys merriami* Gilbert 1893 -- (Lee et al. 1980:506 [ref. [22416](#)], Parenti 1981:516 [ref. [7066](#)], La Rivers 1994:520 [ref. [23389](#)], Grant & Riddle 1995:209 [ref. [22414](#)], Wildekamp 1996:18 [ref. [23649](#)], Lazara 2001:98 [ref. [25711](#)], Scoppettone & Rissler 2002:82 [ref. [25956](#)], Nelson et al. 2004:107 [ref. [27807](#)], Page & Burr 2011:453 [ref. [31215](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Empetrichthys merriami* Gilbert 1893. Goodeidae: Empetrichthyinae. Distribution: Springs at Ash Meadows, Nevada, U.S.A. [extinct]. Habitat: freshwater.

miniatus, Zoogoneticus Meek [S. E.] 1902:94, Pl. 21 lower [Field Columbian Museum, Zoological Series v. 3 (no. 6); ref. [2957](#)] Lago de Chalco near Chalco, Mexico. Holotype: FMNH 3680. Paratypes: FMNH 14414-17 (4). Type catalog: Ibarra & Stewart 1987:86 [ref. [12367](#)]. Spelled *mineatus* in figure caption. •Synonym of *Neoophorus diazi* (Meek 1902) -- (Álvarez 1959:16 [ref. [11973](#)]). •Synonym of *Allotoca diazi* (Meek 1902) -- (Miller 2006:272 [ref. [28615](#)]). **Current status:** Synonym of *Allotoca diazi* (Meek 1902). Goodeidae: Goodeinae. Habitat: freshwater, brackish.

moapae, Crenichthys baileyi Williams [J. E.] & Wilde [G. R.] 1981:497, Fig. 11 [Southwestern

Naturalist v. 25 (no. 4); ref. [8991](#)] Cardy Lamb Spring, Clark County, Nevada, U.S.A. Holotype: UMMZ 203338. Paratypes: ASU 5231 (61), UMMZ 203339 (1, allotype). •Synonym of *Crenichthys baileyi* (Gilbert 1893), but a valid subspecies *moapae* Williams & Wilde 1981 as described -- (Fuller et al. 1999:322 [ref. [25838](#)], Lazara 2001:72 [ref. [25711](#)], Scoppettone & Rissler 2002:82 [ref. [25956](#)], Scharpf 2007:27 [ref. [30398](#)], Minckley & Marsh 2009:243 [ref. [31114](#)]). **Current status:** Synonym of *Crenichthys baileyi* (Gilbert 1893). Goodeidae: Empetrichthyinae. Distribution: Cardy Lamb Spring, Nevada, U.S.A. [subspecies *moapae*]. Habitat: freshwater.

multipunctatum, Xenendum Pellegrin [J.] 1901:206 [Bulletin du Muséum National d'Histoire Naturelle (Série 1) v. 7 (no. 5); ref. [14765](#)] Agua Azul, Río Lerma system, near Guadalajara, Jalisco, Mexico. Syntypes: MNHN 1897-0371 to 0373 (3). Type catalog: Bertin & Estève 1950:29 [ref. [19576](#)]. •Valid as *Skiffia multipunctata* (Pellegrin 1901) -- (Espinosa Pérez et al. 1993:43 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:285 [ref. [28615](#)], Scharpf 2007:29 [ref. [30398](#)], Page et al. 2013:105 [ref. [32708](#)]). **Current status:** Valid as *Skiffia multipunctata* (Pellegrin 1901). Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

multiradiatus, Characodon Meek [S. E.] 1904:119 [Field Columbian Museum, Zoological Series v. 5; ref. [2958](#)] Río Lerma at Lerma, Mexico. Holotype: FMNH 4523. Paratypes: FMNH 14390-412 (23). Type catalog: Ibarra & Stewart 1987:22 [ref. [12367](#)]. •Valid as *Girardinichthys multiradiatus* (Meek 1904) -- (Espinosa Pérez et al. 1993:41 [ref. [22290](#)], Radda & Meyer 2003:6 [ref. [27522](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:280 [ref. [28615](#)], Scharpf 2007:27 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Girardinichthys multiradiatus* (Meek 1904). Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

nevadae, Crenichthys Hubbs [C. L.] 1932:4, Pl. 1 [Occasional Papers of the Museum of Zoology University of Michigan No. 252; ref. [2242](#)] A warm spring at Duckwater, Nye County, Nevada, U.S.A. Holotype: MCZ 32948. Paratypes: UMMZ 95024 (1). •Valid as *Crenichthys nevadae* Hubbs 1932 -- (Lee et al. 1980:492 [ref. [22416](#)], Parenti 1981:516 [ref. [7066](#)], Page & Burr 1991:231 [ref. [18983](#)], La Rivers 1994:517 [ref. [23389](#)], Grant & Riddle 1995:209 [ref. [22414](#)], Fuller et al. 1999:323 [ref. [25838](#)], Lazara 2001:72 [ref. [25711](#)], Nelson et al. 2004:107 [ref. [27807](#)], Page & Burr 2011:453 [ref. [31215](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Crenichthys nevadae* Hubbs 1932. Goodeidae: Empetrichthyinae. Distribution: Railroad Valley, Nevada, U.S.A.; introduced into other springs. Habitat: freshwater.

pahrump, Empetrichthys latos Miller [R. R.] 1948:104, Pl. 11 (third from top) [Miscellaneous Publications, Museum of Zoology, University of Michigan No. 68; ref. [13064](#)] Pahrump Ranch, 6 miles northwest of Manse Ranch, Pahrump Valley, Nye County, Nevada, U.S.A. Holotype: UMMZ 141856. Paratypes: UMMZ 140490 (142, now 130, 1 c&s), USNM 112073 [ex UMMZ 140490] (10). •Synonym of *Empetrichthys latos* Miller 1948, but a valid subspecies *pahrump* Miller 1948 as described -- (Lee et al. 1980:505 [ref. [22416](#)], Parenti 1981:516 [ref. [7066](#)], La Rivers 1994:527 [ref. [23389](#)], Wildekamp 1996:16 [ref. [23649](#)], Fuller et al. 1999:324 [ref. [25838](#)], Lazara 2001:97 [ref. [25711](#)], Scoppettone & Rissler 2002:82 [ref. [25956](#)], Scharpf 2007:27 [ref. [30398](#)]). **Current status:** Synonym of *Empetrichthys latos* Miller 1948. Goodeidae: Empetrichthyinae. Distribution: Pahrump Ranch, Nevada, U.S.A. [subspecies *pahrump*, extinct]. Habitat: freshwater.

paraguayense, Ilyodon Eigenmann [C. H.] 1907:428 [Proceedings of the United States National Museum v. 32 (no. 1532); ref. [1219](#)] Paraguay. Holotype: USNM 55642. Paratypes: USNM 92934 (1). •Synonym of *Ilyodon furcoides* (Jordan & Gilbert 1882) -- (Hubbs & Turner 1939:58 [ref. [2265](#)]). **Current status:** Synonym of *Ilyodon furcoides* (Jordan & Gilbert 1882). Goodeidae: Goodeinae.

pardalis, Chapalichthys Álvarez [J.] 1963:119, Fig. 3 (right) [Anales de la Escuela Nacional de Ciencias Biológicas, México v. 12 (nos 1-4); ref. [901](#)] Tocumbo, Michoacan, Mexico. Holotype: not reserched. Paratypes: (542) UNAL 1002 [ex IPN P543] (12), UMMZ 211061 (36, 4 c&s). Type catalog: Contreras-Balderas et al. 1998:5 [ref. [23752](#)]. •Valid as *Chapalichthys pardalis* Álvarez 1963 -- (Espinosa Pérez et al. 1993:40 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:277 [ref. [28615](#)], Scharpf 2007:26 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Chapalichthys pardalis* Álvarez 1963. Goodeidae: Goodeinae. Distribution: Tocumbo, Pacific Slope of Mexico. Habitat: freshwater.

peraticus, Chapalichthys Álvarez [J.] 1963:123 [Anales de la Escuela Nacional de Ciencias

Biológicas, México v. 12 (nos 1-4); ref. [901](#)] Presa San Juanico, near Cotija, Michoacan, Mexico. Holotype: not researched. Paratypes: (180) UNAL 1002 [ex IPN P731] (8). Type catalog: Contreras-Balderas et al. 1998:5 [ref. [23752](#)]. •Synonym of *Chapalichthys pardalis* Álvarez 1963 -- (Miller 2006:278 [ref. [28615](#)]). •Valid as *Chapalichthys peraticus* Álvarez 1963 -- (Espinosa Pérez et al. 1993:40 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Chapalichthys peraticus* Álvarez 1963. Goodeidae: Goodeinae. Distribution: Represa San Juanico, Mexico [if valid, probably extinct]. Habitat: freshwater.

polylepis, Allodontichthys Rauchenberger [M.] 1988:435, Fig. 2 [Copeia 1988 (no. 2); ref. [6411](#)] Río Potrero Grande, Jalisco, Mexico. Holotype: UMMZ 213951. Paratypes: UMMZ 178348 (49), 189587 (27), 198850 (20). •Valid as *Allodontichthys polylepis* Rauchenberger 1988 -- (Rauchenberger 1988:436 [ref. [6411](#)], Espinosa Pérez et al. 1993:38 [ref. [22290](#)], Nelson et al. 2004:106 [ref. [27807](#)], Miller 2006:269 [ref. [28615](#)], Page et al. 2013:103 [ref. [32708](#)]). **Current status:** Valid as *Allodontichthys polylepis* Rauchenberger 1988. Goodeidae: Goodeinae. Distribution: Tributaries of Río Ameca, Pacific Slope of Mexico. Habitat: freshwater.

purhepechus, Zoogoneticus Domínguez-Domínguez [O.], Pérez-Rodríguez [R.] & Doadrio [I.] 2008:377, Figs. 5A,B [Revista Mexicana de Biodiversidad 79; ref. [30098](#)] La Luz Spring (lower Lerma), Zamora, Michiacán, Mexico. Holotype: CPUM 1509. Paratypes: CPUM 1055 (10), MNCN 246184 (15), CNP-IBUNAM 14425-27 (3). Plus unlisted non-type material from several localities. •Valid as *Zoogoneticus purhepechus* Domínguez-Domínguez, Pérez-Rodríguez & Doadrio 2008. **Current status:** Valid as *Zoogoneticus purhepechus* Domínguez-Domínguez, Pérez-Rodríguez & Doadrio 2008. Goodeidae: Goodeinae. Distribution: Mexico: Lower Lerma basin, upper Armeria, Santiago and Ameca basins and Chapala Lake [considered endangered]. Habitat: freshwater.

quitzeoensis, Platypoecilus Bean [B. A.] 1898:540, Fig. [Proceedings of the United States National Museum v. 21 (no. 1159); ref. [14672](#)] Lake Quitzeo [Cuitzeo], Mexico. Holotype (unique): USNM 48209. •Valid as *Zoogoneticus quitzeoensis* (Bean 1898) -- (Espinosa Pérez et al. 1993:44 [ref. [22290](#)] with genus as *Zoogonecticus*, Webb & Miller 1998:16 [ref. [23734](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:289 [ref. [28615](#)], Scharpf 2007:30 [ref. [30398](#)], Domínguez-Domínguez et al. 2008:380 [ref. [30098](#)], Page et al. 2013:105 [ref. [32708](#)]). **Current status:** Valid as *Zoogoneticus quitzeoensis* (Bean 1898). Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

regalis, Neoophorus Álvarez [J.] 1959:19, Fig. 1 [Ciencia (Mexico City) v. 19 (nos 1-3); ref. [11973](#)] Vicinity of Los Reyes, Mexico. Holotype: not researched. Paratypes: (6). •Valid as *Neoophorus regalis* Álvarez 1959 -- (Meyer et al. 2001:455 [ref. [25811](#)]). •Valid as *Allotoca regalis* (Álvarez 1959) -- (Espinosa Pérez et al. 1993:39 [ref. [22290](#)], Nelson et al. 2004:106 [ref. [27807](#)], Miller 2006:274 [ref. [28615](#)], Scharpf 2007:26 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). **Current status:** Valid as *Allotoca regalis* (Álvarez 1959). Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

resolanae, Xenotaenia Turner [C. L.] 1946:7, Figs. 2, 4 [Occasional Papers of the Museum of Zoology University of Michigan No. 495; ref. [4471](#)] Río Resolana, a tributary of the Río Purificación, about 25 miles southwest of Autlan, Jalisco, (Pacific slope) Mexico. Holotype: UMMZ 143024. Paratypes: UMMZ 143025 (2). •Valid as *Xenotaenia resolanae* Turner 1946 -- (Espinosa Pérez et al. 1993:43 [ref. [22290](#)], Lyons 1997:267 [ref. [22779](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:286 [ref. [28615](#)], Scharpf 2007:29 [ref. [30398](#)], Page et al. 2013:105 [ref. [32708](#)]). **Current status:** Valid as *Xenotaenia resolanae* Turner 1946. Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

robustus, Fundulus Bean [T. H.] 1892:285, Pl. 44 (fig. 2) [Proceedings of the United States National Museum v. 15 (no. 903); ref. [14505](#)] Mexico. Syntypes: USNM 43760 (1), 43762 (1). Additional material: USNM 37834 (1), 41873 (5). •Valid as *Alloophorus robustus* (Bean 1892) -- (Espinosa Pérez et al. 1993:38 [ref. [22290](#)] as *Allophorus*, Nelson et al. 2004:106 [ref. [27807](#)], Miller 2006:270 [ref. [28615](#)], Scharpf 2007:25 [ref. [30398](#)], Page et al. 2013:103 [ref. [32708](#)]). **Current status:** Valid as *Alloophorus robustus* (Bean 1892). Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

splendens, Ameca Miller [R. R.] & Fitzsimons [J. M.] 1971:3, Fig. 1-2, 4-6 [Copeia 1971 (no. 1); ref. [3019](#)] Río Teuchitlán, just below Teuchitlán, Jalisco, Mexico. Holotype: UMMZ 172227. Paratypes:

UMMZ 160912 (9), 17228 (1), 172229 (198, 18 c&s), 173801 (10). •Valid as *Ameca splendens* Miller & Fitzsimons 1971 -- (Espinosa Pérez et al. 1993:39 [ref. 22290], Fuller et al. 1999:322 [ref. 25838], Nelson et al. 2004:106 [ref. 27807], Nelson et al. 2004:106 [ref. 27807], Miller 2006:275 [ref. 28615], Scharpf 2007:26 [ref. 30398], Minckley & Marsh 2009:233 [ref. 31114], Page et al. 2013:104 [ref. 32708]). **Current status:** Valid as *Ameca splendens* Miller & Fitzsimons 1971. Goodeidae: Goodeinae. Distribution: Río Ameca basin, Pacific Slope of Mexico. Habitat: freshwater.

splendens, Ameca Gärtner [G.] 1981:138, Fig. [ref. 8599] Clear-water highland brooks, Mexico. Described as "*Ameca* n. sp. *Ameca splendens* n. sp." If it was in fact intended as a new species, then it is preoccupied (and objectively invalid) by *Ameca splendens* Miller & Fitzsimons 1971. **Current status:** Synonym of *Ameca*. Goodeidae: Goodeinae. Habitat: freshwater.

tamazulae, Allodontichthys Turner [C. L.] 1946:5 [Occasional Papers of the Museum of Zoology University of Michigan No. 495; ref. 4471] Río Tamazula, a tributary of the Río Tuxpan, above Tamazula, Jalisco, Mexico. Holotype: UMMZ 143022. Paratypes: UMMZ 143023 (8). •Valid as *Allodontichthys tamazulae* Turner 1946 -- (Rauchenberger 1988:436 [ref. 6411], Espinosa Pérez et al. 1993:38 [ref. 22290], Nelson et al. 2004:106 [ref. 27807], Miller 2006:269 [ref. 28615], Scharpf 2007:25 [ref. 30398], Page et al. 2013:103 [ref. 32708]). **Current status:** Valid as *Allodontichthys tamazulae* Turner 1946. Goodeidae: Goodeinae. Distribution: Río Tuxpa and tributaries, Pacific Slope of Mexico. Habitat: freshwater.

tequila, Zoogoneticus Webb [S. A.] & Miller [R. R.] 1998:5, Fig. 1 [Occasional Papers of the Museum of Zoology University of Michigan No. 725; ref. 23734] Río Teuchitlán, Río Ameca drainage, at eastern edge of Teuchitlán, Jalisco, Mexico. Holotype: UMMZ 233655. Paratypes: BMNH 1997.12.2.1 (1), UMMZ 233656-58 (2, 4, 5). •Valid as *Zoogoneticus tequila* Webb & Miller 1998 -- (Nelson et al. 2004:107 [ref. 27807], Miller 2006:289 [ref. 28615], Scharpf 2007:30 [ref. 30398], Domínguez-Domínguez et al. 2008:380 [ref. 30098], Page et al. 2013:105 [ref. 32708]). **Current status:** Valid as *Zoogoneticus tequila* Webb & Miller 1998. Goodeidae: Goodeinae. Distribution: Teuchitlán springs in Río Ameca drainage, River, Pacific Slope of Mexico. Habitat: freshwater.

thermophilus, Crenichthys baileyi Williams [J. E.] & Wilde [G. R.] 1981:493, Fig. 8 [Southwestern Naturalist v. 25 (no. 4); ref. 8991] Mormon Spring, Nye County, Nevada, U.S.A. Holotype: UMMZ 203334. Paratypes: UMMZ 203335 (1, allotype); UNLV 121 to 124 (4, 6, 12, 6). •Synonym of *Crenichthys baileyi* (Gilbert 1893), but a valid subspecies *thermophilus* William & Wilde 1981 as described -- (Fuller et al. 1999:322 [ref. 25838], Lazara 2001:72 [ref. 25711], Scoppettone & Rissler 2002:82 [ref. 25956], Minckley & Marsh 2009:243 [ref. 31114], Page & Burr 2011:452 [ref. 31215]). **Current status:** Synonym of *Crenichthys baileyi* (Gilbert 1893). Goodeidae: Empetrichthyinae. Distribution: Mormon, Hot Creek and Moon River springs, Nevada, U.S.A. [subspecies *Thermophilus*]. Habitat: freshwater.

toweri, Goodea Meek [S. E.] 1904:138, Fig. 41 [Field Columbian Museum, Zoological Series v. 5; ref. 2958] Río Verde, San Luis Potosí, upper tributaries of River Panuco, Mexico. Holotype: FMNH 4519. Paratypes: FMNH 4520 (24), 72588 (2); UMMZ 165644 (3). Type catalog: Ibarra & Stewart 1987:42 [ref. 12367]. •Valid as *Ataeniobius toweri* (Meek 1904) -- (Espinosa Pérez et al. 1993:40 [ref. 22290], Nelson et al. 2004:106 [ref. 27807], Miller 2006:276 [ref. 28615], Scharpf 2007:26 [ref. 30398], Page et al. 2013:104 [ref. 32708]). **Current status:** Valid as *Ataeniobius toweri* (Meek 1904). Goodeidae: Goodeinae. Distribution: Río Verde drainage, Atlantic Slope of Mexico. Habitat: freshwater.

turneri, Hubbsina de Buen [F.] 1940:135, Pl. 1 [American Antiquity v. 2 (no. 2/3); ref. 688] Cointzio, State of Michoacán, Mexico. Holotype: UMMZ 143299 [ex Estación Limnol. Pátzcuaro]. Paratypes: Estación Limnol. Pátzcuaro (many), UMMZ 137769 (2). •Valid as *Hubbsina turneri* de Buen 1940 -- (Espinosa Pérez et al. 1993:41 [ref. 22290], Nelson et al. 2004:107 [ref. 27807], Miller 2006:282 [ref. 28615], Scharpf 2007:28 [ref. 30398]). •Valid as *Girardinichthys turneri* (de Buen 1940) -- (Radda & Meyer 2003:6 [ref. 27522], Page et al. 2013:104 [ref. 32708]). **Current status:** Valid as *Girardinichthys turneri* (de Buen 1940). Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

variatus, Characodon Bean [T. H.] 1887:370, Pl. 20 (fig. 1) [Proceedings of the United States National Museum v. 10 (no. 637); ref. 14471] Streams in Guanajuato, Mexico. Syntypes: USNM 37809 (4). •Valid as *Xenotoca variata* (Bean 1887) -- (Espinosa Pérez et al. 1993:43 [ref. 22290], Nelson et

al. 2004:107 [ref. [27807](#)], Miller 2006:287 [ref. [28615](#)], Scharpf 2007:29 [ref. [30398](#)], Page et al. 2013:105 [ref. [32708](#)]]. **Current status:** Valid as *Xenotoca variata* (Bean 1887). Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

variegata, Skiffia Meek [S. E.] 1902:104, Pl. 25 lower [Field Columbian Museum, Zoological Series v. 3 (no. 6); ref. [2957](#)] Zirahuén Lake, Michoacan, Mexico. Holotype: FMNH 3612. Paratypes: FMNH 3679 (12), 14458-59 (1, 86); CAS-SU 22343 (10); UMMZ 65225 (9); USNM 55861 (10). Type catalog: Ibarra & Stewart 1987:80 [ref. [12367](#)]. •Synonym of *Skiffia lermæ* Meek 1902 -- (Miller 2006:285 [ref. [28615](#)]). **Current status:** Synonym of *Skiffia lermæ* Meek 1902. Goodeidae: Goodeinae. Habitat: freshwater.

variegatus, Limnurgus Günther [A.] 1866:309 [Catalogue of the fishes in the British Museum v. 6; ref. [1983](#)] Vicinity of Mexico City, Mexico. Syntypes: (many) BMNH, ZMB 6073 (1). Type catalog: Paepke & Seegers 1986:171 [ref. [19981](#)]. •Synonym of *Girardinichthys viviparus* (Bustamante 1837) - (Radda & Meyer 2003:5 [ref. [27522](#)]). **Current status:** Synonym of *Girardinichthys viviparus* (Bustamante 1837). Goodeidae: Goodeinae. Habitat: freshwater.

vivipara, Allotoca de Buen [F.] 1940:307, Fig. 2 [Ciencia (Mexico City) No. 7; ref. [13228](#)] Lake Patzcuaro, Mexico. Holotype (unique): UMMZ 143303 [ex Estacion Limnol. Patzcuaro]. •Synonym of *Allotoca dugesii* (Bean 1887). **Current status:** Synonym of *Allotoca dugesii* (Bean 1887). Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

viviparus, Cyprinus Bustamante [M. y S.] 1837:116 [El Mosaico Mexicano ó Colección de Amenidades Curiosas é Instructivas v. 2; ref. [22292](#)] Mexico. No types known. •Valid as *Girardinichthys viviparus* (Bustamante 1837) -- (Espinosa Pérez et al. 1993:41 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)], Miller 2006:280 [ref. [28615](#)], Scharpf 2007:28 [ref. [30398](#)]). **Current status:** Valid as *Girardinichthys viviparus* (Bustamante 1837). Goodeidae: Goodeinae. Distribution: Mexico. Habitat: freshwater.

whitei, Goodea Meek [S. E.] 1904:137, Fig. 40 [Field Columbian Museum, Zoological Series v. 5; ref. [2958](#)] Yautepec, Morelos, Mexico. Holotype: FMNH 4747 [not 4757]. Paratypes: FMNH 4541 (146), 4548 (257), 72572 (17); CAS-SU 9395 (9), 9397 (31); UMMZ 65229 (3); USNM 55771-72 (31, 10). Type catalog: Ibarra & Stewart 1987:42 [ref. [12367](#)]. •Valid as *Ilyodon whitei* (Meek 1904) -- (Espinosa Pérez et al. 1993:42 [ref. [22290](#)], Trujillo-Jiménez & Díaz-Pardo 1996:795 [ref. [25564](#)], Paulo-Maya & Trujillo-Jiménez 2000:468 [ref. [25257](#)], Nelson et al. 2004:107 [ref. [27807](#)], Scharpf 2007:28 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)]). •Mention -- (Miller 2006:283 [ref. [28615](#)])). **Current status:** Valid as *Ilyodon whitei* (Meek 1904). Goodeidae: Goodeinae. Distribution: Upper tributaries to Río Balsas, Pacific Slope of Mexico. Habitat: freshwater.

xaliscone, Xenendum Jordan [D. S.] & Snyder [J. O.] 1899:128, Fig. 9 [Bulletin of the U. S. Fish Commission v. 19 [1899]; ref. [2501](#)] Laguna de Chapala, near Ocotlan, Jalisco, Mexico. Holotype: CAS-SU 6148. Paratypes: CAS-SU 6207 (4). Type catalog: Böhlke 1953:54-55 [ref. [12291](#)]. Goodeidae: Goodeinae.

xantusi, Balsadichthys Hubbs [C. L.] & Turner [C. L.] 1939:63, Pl. 4 (fig. 3) [Miscellaneous Publications, Museum of Zoology, University of Michigan No. 42; ref. [2265](#)] Quiet pools of a small tributary of Río Colima, Hacienda Los Limones, Colima, Mexico. Holotype: UMMZ 105997. Paratypes: UMMZ 169762 (61), 160777 (26); USNM 92901-03 (1, 6, 14). •Valid as *Ilyodon xantusi* (Hubbs & Turner 1939) -- (Espinosa Pérez et al. 1993:42 [ref. [22290](#)], Nelson et al. 2004:107 [ref. [27807](#)])). •Synonym of *Ilyodon furcidens* (Jordan & Gilbert 1882). **Current status:** Synonym of *Ilyodon furcidens* (Jordan & Gilbert 1882). Goodeidae: Goodeinae. Distribution: Mexico [if valid]. Habitat: freshwater.

zacapuensis, Allotoca Meyer [M. K.], Radda [A. C.] & Domínguez-Domínguez [O.] 2001:455, Figs. 1-2 [Annalen des Naturhistorischen Museums in Wien v. 103 B; ref. [25811](#)] Laguna de Zacapu, Zacapu, Michoacán, Mexico. Holotype: NMW 94584. Paratypes: CPUM 1079 (9), NMW 94585 (1), SMF 28887 (6). •Valid as *Allotoca zacapuensis* Meyer, Radda & Domínguez-Domínguez 2001 -- (Nelson et al. 2004:106 [ref. [27807](#)], Miller 2006:275 [ref. [28615](#)], Scharpf 2007:26 [ref. [30398](#)], Page et al. 2013:104 [ref. [32708](#)])). **Current status:** Valid as *Allotoca zacapuensis* Meyer, Radda & Domínguez-Domínguez 2001. Goodeidae: Goodeinae. Distribution: Laguna de Zacapu and outflow, Mexico.

Habitat: freshwater.

zonistius*, *Zoogoneticus Hubbs [C. L.] 1932:69 [Copeia 1932 (no. 2); ref. [16377](#)] Colima, Mexico. Holotype: MCZ 32818. Paratypes: UMMZ 97316 (1). •Valid as *Allodontichthys zonistius* (Hubbs 1932) - (Espinosa Pérez et al. 1993:38 [ref. [22290](#)], Nelson et al. 2004:106 [ref. [27807](#)], Miller 2006:270 [ref. [28615](#)], Scharpf 2007:25 [ref. [30398](#)], Page et al. 2013:103 [ref. [32708](#)]). **Current status:** Valid as *Allodontichthys zonistius* (Hubbs 1932). Goodeidae: Goodeinae. Distribution: Pacific Slope of Mexico. Habitat: freshwater.

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