

# Annotated Checklist of North American Freshwater Fishes, Including Subspecies and Undescribed Forms *Addenda & Errata #5*

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## Part I

- pg. 4 *Ichthyomyzon fossor* update QC STATUS from SC to E
- pg. 5 *Lampetra* Reflecting what appears to be preferred usage among contemporary lamprey taxonomists, the four subgenera of *Lampetra*—*Entosphenus*, *Lampetra*, *Lethenteron* and *Tetrapleurodon*—are now recognized as full genera. The spellings (reflecting a change in gender) and/or authorships of the following names are affected:
- Entosphenus hubbsi* Vladykov & Kott 1976 [remove parentheses; also note placement in *Entosphenus* and not, as incorrectly noted, in *Lampetra*]
- Entosphenus lethophagus* (Hubbs 1971) [change gender and add parentheses]
- Entosphenus macrostomus* (Beamish 1982) [change gender and add parentheses]
- Entosphenus minimus* (Bond & Kan 1971) [change gender and add parentheses]
- Entosphenus similis* Vladykov & Kott 1978 [remove parentheses]
- Entosphenus tridentatus* [change gender]
- Lethenteron camtschaticum* [change gender]
- Tetrapleurodon geminis* Alvarez 1964 [remove parentheses]
- Tetrapleurodon spadiceus* (Bean 1887) [change gender and add parentheses]
- pg. 6 *Acipenser fulvescens* STATUS: add NC (KS)
- pg. 7 *Scaphirhynchus platyrhynchus* STATUS: add PT (US, due to similarity in appearance to *S. albus*) [proposed listing announced 22 Sept. 2009]; add SC (WY)
- pg. 8 *Hiodon alosoides* STATUS: add SC (WY), NC (KS)
- pg. 10 *Algansea* add the following new species:
- Algansea amecae* Pérez-Rodríguez, Pérez-Ponce de León, Domínguez-Domínguez & Doadrio 2009 [no common name]
- ETYMOLOGY: referring to Río Ameca basin, type locality
- DISTRIBUTION: eastern headwaters of Río Ameca basin (Jalisco), now found in only one small stream with little flow in La Coronilla (Pérez-Rodríguez et al., 2009)
- STATUS: critically imperiled
- pg. 12 *Couesius plumbeus* ssp. DISTRIBUTION: add WY; STATUS: add SC (WY)
- pg. 13 *Cyprinella callistia* add NOTE: A highly divergent species, both morphologically and genetically, that probably warrants its own genus (Schönhuth and Mayden, 2010).
- Cyprinella lutrensis lutrensis* amend NOTE: Schönhuth and Mayden (2010) suggest *C. l. suavis* represents a valid species.
- pg. 14 *Cyprinella nivea* add NOTE: Schönhuth and Mayden (2010) suggest Savannah R. pop. represents a separate species.
- pg. 15 *Cyprinella* cf. *zanema* replace NOTE: Schönhuth and Mayden (2010) suggest NC and SC pops. represent separate species.
- pg. 16 *Erimystax x-punctatus trautmani* STATUS: add T (IL)
- pg. 18 *Gila nigra* STATUS: C (US), E (NM)
- pg. 20 *Hybognathus argyritis* STATUS: add SC (WY)
- pg. 22 *Luxilus albeolus* amend ETYMOLOGY: whitish, the sides and fins a “pure silvery white”
- Luxilus cardinalis*, *L. c. chrysocephalus* and *L. cornutus frontalis* STATUS: add NC (KS)
- pg. 24 *Macrhybopsis meeki* STATUS: add SC (MT)
- pg. 25 *Nocomis biguttatus* STATUS: add SC (WY)
- pg. 27 *Notropis bifrenatus* STATUS: add T (SC)
- pg. 28 *Notropis boops* STATUS: add NC (KS)
- Notropis buchanaui* clarify DISTRIBUTION in Mississippi basin: Mississippi R. basin from ON and PA south to AL and LA

- pg. 31 *Notropis percobromus* change NOTE to NOTES: (1) Some pops. from Ozark and Ouachita highlands may warrant species status (Berendzen et al., 2008, 2009). (2) Wabash pop. may be assignable to *N. rubellus* (Berendzen et al., 2009).
- pg. 32 *Notropis rubellus* STATUS: add SC (QC); change period at end NOTE to a comma and add: and perhaps another undescribed form (Berendzen et al., 2008, 2009).
- pg. 33 *Notropis suttkusi* add NOTE: Pops. from Ouachita and Caddo R. in the eastern Ouachita Highlands may represent an undescribed form (Berendzen et al., 2008, 2009).
- pg. 34 change *Phoxinus* to *Chrosomus Rafinesque 1820* Previously considered a subgenus of *Phoxinus* Rafinesque 1820, *Chrosomus* was elevated to full genus by Strange and Mayden (2009), restricting *Phoxinus* to Eurasian taxa. Two subgenera continue to be recognized: *Chrosomus* (*chroma*, color; *soma*, body, referring to overall vibrant coloration) and the monotypic *Pfrille* Jordan 1924 (a German name for *Phoxinus phoxinus*). With the revised classification, parentheses need to be added or removed from the authorship of several names: *C. cumberlandensis* (Starnes & Starnes 1978), *C. neogaeus* (Cope 1867), *C. saylori* (Skelton 2001) and *C. tennesseensis* (Starnes & Jenkins 1988) [parentheses added]; *C. eos* Cope 1862 and *C. oreas* Cope 1868 [parentheses removed].

*Phoxinus* (now *Chrosomus*) *erythrogaster* STATUS: add NC (KS)

- pg. 36 *Platygobio gracilis gracilis* STATUS: add SC (WY)
- Pteronotropis* The inclusion of two undescribed *Pteronotropis* is based on the unpublished studies of B. A. Porter and R. D. Suttkus (B. A. Porter, pers. comm.).

*Pteronotropis hubbsi* STATUS: update E (IL) to extirpated (IL)

Add two undescribed species:

*Pteronotropis cf. hypselopterus*  
DISTRIBUTION: St. Marys, St. Johns and Withlacoochee R. (GA, FL)  
STATUS: apparently secure

*Pteronotropis cf. metallicus* (Alafia Shiner)  
DISTRIBUTION: Alafia R. system (Hillsborough Co., FL)  
STATUS: imperiled

- pg. 38 *Rhinichthys obtusus* amend STATUS: NC (KS, as *R. atratulus*)
- pg. 40 *Scardinius* Additional research suggests a new etymology for the name; rather than being named for the Scardus mountains, which do not occur within the native range of rudds, it appears the name is derived from either *scardafa* or *scarda*, which were Roman (now Italian) vernacular names for rudds

## Part II

- pg. 2 *Campostoma anomalum pullum* red-finned form is now recognized as a full species (see Part IV, pg. 3, below)
- pg. 4 *Carpionodes velifer* update DISTRIBUTION: change

Choctawhatchee R. (FL, AL) to Apalachicola R. (FL) [new record reported by Young et al., 2010]

- pg. 9 *Erimyzon* revised ETYMOLOGY: *eri-*, very; *myzo*, to suck, a “free translation” of the vernacular name chubsucker
- pg. 11 *Moxostoma carinatum* update QC STATUS from SC to T
- pg. 12 *Moxostoma pisolabrum* append DISTRIBUTION: recently reported from Strawberry R. (AR) (McAllister et al., 2009)
- pg. 21 *Esox niger* STATUS: add SC (QC)
- pg. 22 *Hypomesus transpacificus* STATUS: on 4 April 2010 U.S. Fish and Wildlife Service announced that status deserves to be reclassified from T to E but is “precluded by other higher priority listing actions”
- pg. 23 *Thaleichthys pacificus* STATUS: add T (US, southern DPS only) [listing announced 18 March 2010; southern DPS ranges from Nass R. (BC) south to and including Mad R. (CA)]
- pg. 26 *Oncorhynchus clarkii alvordensis* under DISTRIBUTION: “Thouand” should be spelled “Thousand”

*Oncorhynchus clarkii bouvieri* and *O. c. pleuriticus* STATUS: add SC (WY)

*O. clarkii lewisi* STATUS: add SC (WY) and T (AB)

- pg. 27 *Oncorhynchus clarkii utah* STATUS: add SC (WY)
- pg. 31 *Oncorhynchus mykiss gairdneri* STATUS: add T (AB, native Athabasca R. pop. only)
- pg. 34 *Thymallus arcticus* STATUS: add SC (WY)

## Part III

- pg. 2 *Campostoma anomalum pullum* revised NOTE 1: red-finned “Ouachita” form (erroneously thought to be referable to *Dionda grisea*) is now recognized as a distinct species per Cashner et al. (2010):

*Campostoma spadiceum* (Girard 1856); Highlands Stoneroller  
ETYMOLOGY: nut-brown, referring to brown-red coloration on upper part of body  
DISTRIBUTION: Red, Ouachita and lower Arkansas R. basins from eastern OK to central AR  
STATUS: apparently secure

- pg. 13 *Fundulus kansae* STATUS: add SC (WY)
- pg. 18 *Gambusia senilis* under note 2: *guayacón de San Diego* has been described:

*Gambusia zarskei* Meyer, Schories & Scharl 2010  
ETYMOLOGY: in honor of Axel Zarske, for his “valuable contributions to discussions on the conservation biology and problems of endangered fishes” such as this one  
DISTRIBUTION: upper Rio Conchos system east of San Diego de Alcalá (Chihuahua)  
STATUS: data not available but likely at least vulnerable  
SUBGENUS: *Arthrophallus*

- pg. 23 *Xiphophorus couchianus* in addition to spelling correction

and status update noted in Part V (p. 18), change NOTE to following: Phenotypically distinct Apodaca pop. is treated as a subspecies by Chavarría Gallegos et al. (2008) and given a name, *X. c. apodaca*, clearly a *nomen nudum*, by Valdés-González et al. (2008); others believe this form to be a hybrid with *X. meyeri* and/or introduced hobby strains (Coletti, 2009).

Add the following species:

***Xiphophorus cf. couchianus*** (Tunnel Platyfish)

DISTRIBUTION: Arroya Santa Ana, a headwater tributary of Arroyo Ebanol of Río San Juan (near Monterrey, Nuevo León)

STATUS: critically imperiled; its habitat will most likely be destroyed by the building of an aqueduct (hence its proposed common name) (Coletti, 2009)

NOTES: (1) Distinguishing characters given by Valdés-González et al., 2008. (2) A ms. name (“*regio*”) has been proposed and is circulating in hobbyist literature (Coletti, 2009).

pg. 25 ***Allotoca goslinei*** update STATUS: likely extinct in nature due to competitive displacement with invasive *Xiphophorus helleri* (Helmus et al., 2009); captive pops. in university and hobbyist aquaria

pg. 28 ***Goodea*** intro paragraph, 5th line, correct “1984” to “1894”

pg. 33 ***Cyprinodon pachycephalus*** delete NOTE: this pop. has been described as a new species:

***Cyprinodon julimes*** De la Maza-Benignos & Valladores 2009; Julimes Pupfish (*cachorrito de Julimes*)

ETYMOLOGY: from the town of Julimes

DISTRIBUTION: El Pandeño de los Pandos, a thermal spring in Río Conchos basin, Julimes, Chihuahua

STATUS: critically imperiled (E, Méx., as *C. pachycephalus*)

#### Part IV

pg. 4 ***Pteronotropis metallicus*** delete NOTE; Alafia R. pop. now listed as an undescribed species (see Part 1, p. 36, above)

pg. 6 ***Lota lota maculosa*** STATUS: add SC (WY); possibly extirpated in KS and NE (Stapanian et al., 2010)

pg. 10 ***Cottus cf. hypselurus*** has been described:

***Cottus immaculatus*** Kinzinger & Wood 2010; Knobfin Sculpin

ETYMOLOGY: immaculate, referring to absence of melanophores on ventral surface of peritoneum (vernacular refers to fleshy knobs at tips of dorsal fin spines of spawning males)

DISTRIBUTION: Current, Eleven Point, Spring and White R. drainages (MO, AR)

STATUS: apparently secure

CLADE: Uranidea

pg. 17 ***Micropterus punctulatus*** STATUS: add SC (OK, “*wichitae*” hybrid [see note 1, below] only)

pg. 18 **FAMILY PERCIDAE** add to end of intro paragraph: For a complete list of reported natural darter hybrids, see

Keck and Near (2009).

pg. 19 ***Ammocrypta clara*** add to DISTRIBUTION: lower Elk R. (WV) [new records reported by Cincotta and Walsh, 2010]

pg. 20 ***Lepomis miniatus*** STATUS: update T (IL) to E (IL)

pg. 25 ***Etheostoma exile*** STATUS: add T (IL)

pg. 28 ***Etheostoma nigrum*** STATUS: add NC (KS)

pg. 29 ***Etheostoma ookaloosae*** update STATUS: E, PT (US) [proposed downlisting from E to T announced 2 Feb. 2010]

pg. 30 ***Etheostoma perlongum*** add NOTE: Citing DNA evidence, McCartney and Barreto (2010) say this species is an isolated pop. of *E. olmstedii* and that its taxonomic status should be reevaluated.

pg. 35 ***Etheostoma whipplei*** STATUS: add NC (KS)

pg. 40 ***Percina shumardi*** STATUS: add SC (OK)

***Sander*** delete 4th sentence of intro paragraph and add the following exotic species:

#### EXOTIC

***Sander lucioperca*** (Linnaeus 1758); Zander

ETYMOLOGY: *lucius*, pike; *perke*, perch, being a pike-shaped perch

DISTRIBUTION: native: Continental Europe to western Siberia; US: small reproducing pop. in Spiritwood Lake (ND), where they were stocked for sportfishing in 1989

#### Part V

pg. 3 ***Elassoma cf. okefenokee*** has been described and a different common name has been proposed:

***Elassoma gilberti*** Snelson, Krabbenhoft & Quattro 2009; Gulf Coast Pygmy Sunfish

ETYMOLOGY: in honor of Carter R. Gilbert, Curator of Fishes, Florida Museum of Natural History from 1961-1998 and now Curator Emeritus, for his many contributions to the study of North American fishes, and for serving as a guide and mentor for many years

DISTRIBUTION: Gulf drainages from FL panhandle and extreme southwestern GA south through western portion of north-central FL peninsula

STATUS: secure or apparently secure

pg. 11 ***Gobiesox fluviatilis*** DISTRIBUTION: add Zacatecas to list of districts in Río Grande de Santiago basin [oversight]

pg. 14 ***Rhinogobius brunneus*** add parentheses around authority names and date [correction]

pg. 16 ***Luxilus albeolus*** amended ETYMOLOGY is incorrect (see Part 1, p. 22, above)

pg. 17 ***Spirinchus thaleichthys*** correction: species proposed for federal protection (and confirmed, see Part II, p. 23, above) is actually *Thaleichthys pacificus*

pg. 18 ***Xiphophorus couchianus*** delete NOTE 2; this isolated pop. is now listed as an undescribed species (see Part III, pg. 23, above)

- pg. 21 **Supplementary Material** 1st paragraph, 5th line: correct “232 native genera, 11 exotic genera” to “211 native genera, 32 exotic genera,” then add 3 more native genera (=214) with the split of *Lampetra* noted above; change other numbers as noted for Table 3 (next entry); 3rd paragraph, revise as follows:

One thing is certain: The number of described and valid North American native freshwater fish species will continue to grow. Indeed, that number has grown significantly (up 14.5%) since the most recent authoritative checklist of North American freshwater fishes — that of Mayden et al. — was published in 1992. In that checklist 979 named native species were listed as valid, compared to the 1121 named native species listed in this series (162 additions and 20 deletions for a net gain of 142 species). Newly described species (60%), elevated subspecies (17%) and resurrected synonyms (17%) account for most of the additions (Table 4, pages 8-9). Synonymy accounts for half of the deletions (Table 5, page 10).

- pg. 22 **Table 3, Petromyzontidae** update native genera from 3 to 6; **Cyprinidae** update 304 described native species to 306 and 15 undescribed native species to 17; **Poeciliidae** update 75 described native species to 76 and 0 (-) undescribed native species to 1; **Cyprinodontidae** update 34 described native species to 35; **Cottidae** update 33 described native species to 34 and 11 undescribed native species to 10; **TOTAL** update 211 native genera to 214, 1115 described native species to 1121, and 59 undescribed native species to 60

- pg. 23 **Percidae** update 1 exotic species /subspecies to 2; **TOTAL** update 54 exotic species/subspecies to 55

**Table 3 Summary** update 1115 described native species to 1121; update 1174 total species to 1181; update 59 undescribed species to 60; update 1404 total natives to 1410; update total exotics to 55; update bottom line total from 1458 to 1466

- pg. 24 **Table 4** with additions of *Algansea amecae*, *Gambusia zarskei*, *Cyprinodon julimes*, *Cottus immaculatus* and *Elassoma gilberti*, newly described species now total 97 (n=97); with addition of *Campostoma spadiceum*, resurrected synonyms now total 28 (n=28)

**Table 6** North America: update 16% Critically Imperiled to 16.5%, and 4% Extinct or Extirpated to 3.5%; México: update 27% Apparently Secure to 26.5%, 16.5% Imperiled to 16%, and 25% Critically Imperiled to 26%

- pg. 26 **Fig. 14** with addition of *Campostoma spadiceum*, Mississippi = 419 species (42% endemic); with additions of *Pteronotropis* cf. *hypselopterus* and *P.* cf. *metallicus*, Southeastern = 302 species (39% endemic); with additions of *Xiphophorus* cf. *couchianus*, *Gambusia zarskei* and *Cyprinodon julimes*, Rio Grande = 161 species (54% endemic); with addition of *Algansea amecae*, Central México = 225 species (still 63% endemic)

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