

Committee on Common and Scientific Names of Fishes from the United States, Canada, and Mexico

- Joint committee of American Fisheries Society and American Society of Ichthyologists & Herpetologists
- Charge: List of scientific names and classification of all native species of fishes, and all non-native fishes known to have reproducing populations, in Canada, Mexico and the U.S., and recommend a common name in English for all species, a French name for those occurring in Canada, and a Spanish name for those occurring in Mexico
- The 8th edition has been submitted to AFS for publication and includes the names of 5071 species



Committee on Common and Scientific Names of Fishes from the United States, Canada, and Mexico

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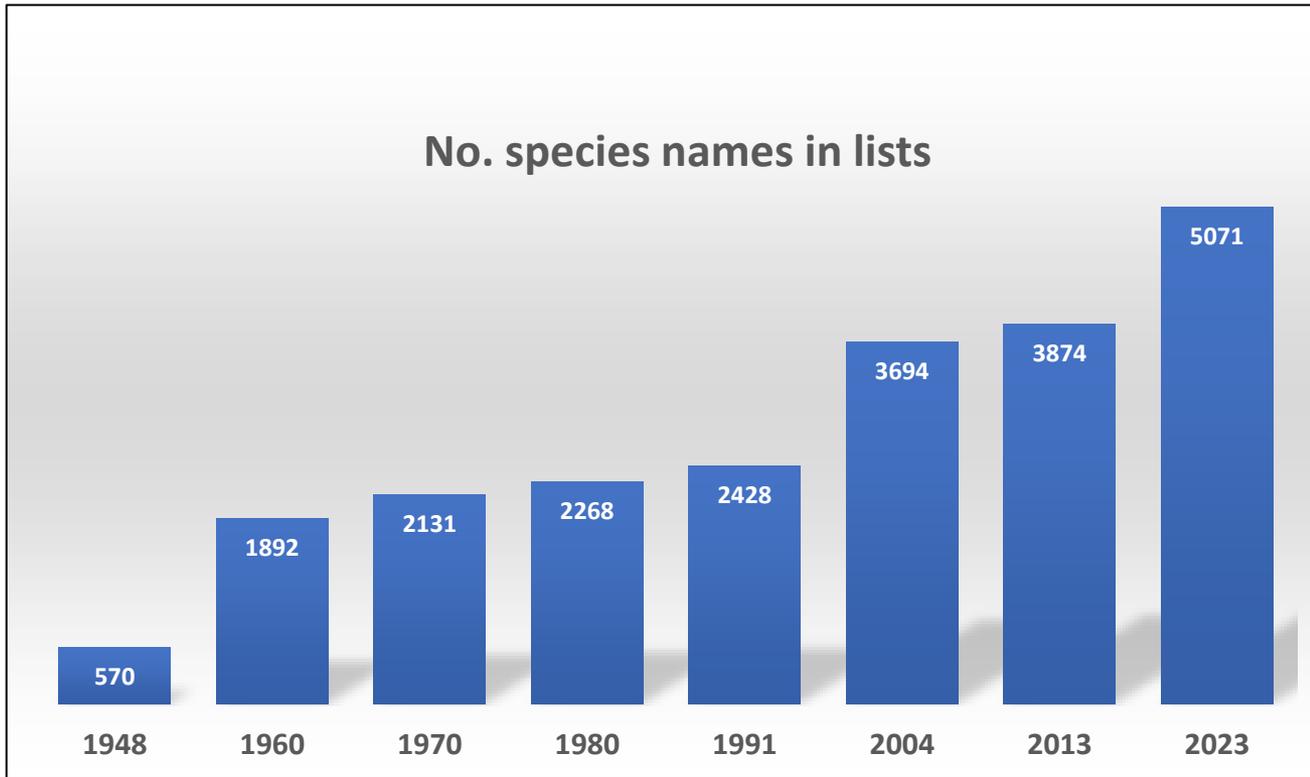
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Lists were published in 1948, 1960, 1970, 1980, 1991, 2004 and 2013 as AFS Special Publications

Common and Scientific Names of Fishes from the United States, Canada, and Mexico

- **A new edition of the list of names of fishes is produced approximately every 10 years**
- **To produce the list, the Committee reviews scientific taxonomic literature and communicates with colleagues outside the committee who are experts on the taxonomy of particular groups of fishes**
- **Scientific names recognized in the list are based on published studies**
- **Occurrence data are obtained from publications and online resources**

Common and Scientific Names of Fishes from the United States, Canada, and Mexico 8th edition, 2023: example of information

Scientific Name, Occurrence, and Accepted Common Name

SCIENTIFIC NAME	OCCURRENCE ¹	COMMON NAME (ENGLISH, SPANISH, FRENCH) ²		
Moronidae—En-temperate basses, Sp-lobinas norteñas, Fr-bars				
<i>Morone americana</i> (Gmelin, 1789)	A-F:CU	White Perch		baret
<i>Morone chrysops</i> (Rafinesque, 1820)	F:CU	White Bass		bar blanc
<i>Morone mississippiensis</i> Jordan & Eigenmann, 1887	F:U	Yellow Bass		
* <i>Morone saxatilis</i> (Walbaum, 1792)	A-P[I]-F:CMU	Striped Bass	lobina estriada	bar rayé

A = Atlantic Ocean, Ar = Arctic Ocean, P = Pacific Ocean, F = Freshwater, C = Canada, M = Mexico, U = United States, [I] = Introduced, [X] = Extinct, [XN] = Extinct in Nature

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*** indicates a change has been made from the 7th edition in a name or occurrence and an explanation for the change is in the Appendix**

**Morone saxatilis*. Newly recorded for Mexico following Contreras-Balderas, 1999, pages 31–52 *In*: Claudi & Leach (eds.). Nonindigenous freshwater organisms: vectors, biology, and impacts. Boca Raton: Lewis Publ.

Common and Scientific Names of Fishes from the United States, Canada, and Mexico

Scientific names: Committee reviews scientific literature to update names

- Eschmeyer's Catalog of Fishes is extremely helpful

Updating names includes:

Adding names of newly described or newly recognized species

Adding names of species newly discovered in our area

Removing synonyms of names of species

Updating genera, families and orders



Common and Scientific Names of Fishes from the United States, Canada, and Mexico

- **As in all things related to language, creating and interpreting words, in this case scientific names, can be complicated**

Valid scientific names of species, genera and families are those formed according to the **International Code of Zoological Nomenclature**, a set of rules for the naming of animals. Other names, published or not, are unavailable as scientific names.

- **The most important rule is the Rule of Priority:**
 1. The first formal scientific name given to a plant or animal taxon shall be the name that is to be used; valid name (principle of synonymy)
 2. Once a name has been used, no subsequent publication of that name for another taxon shall be treated as valid (principle of homonymy)

Common and Scientific Names of Fishes from the United States, Canada, and Mexico

- Without the Rule of Priority, communication using scientific names would be chaotic
- E.g., Longnose Gar has been given 22 scientific names
First described as *Esox osseus* by Linnaeus in 1758 [*osseus*]
Esox had been used earlier for another species, Northern Pike; when it was realized that gars and pickerels should not be in the same genus, *osseus* was moved to *Lepisosteus*.

Subsequently the Longnose Gar was “described” another 21 times.

Esox viridis Gmelin 1789

Esox niloticus Perry 1811

Sarchirus argenteus Rafinesque 1820

Lepidosteus bison DeKay 1842

Macrogathus loricatus Gronow 1854

Lepidosteus otarius Cope 1865

Lepidosteus ayresii Duméril 1870

Lepisosteus treculii Duméril 1870

Etc., etc., etc.



Lepisosteus osseus Linnaeus 1758

Common and Scientific Names of Fishes from the United States, Canada, and Mexico

- **Without Priority, communication using scientific names would be impossible**
- How would we decide which name to use?
- The most euphonious?
- The most recent?
- The one coined by the most progressive person, most conservative, least racist?
- Who decides and how often would we change (each time losing connection to published information)?

Available names:

Lepisosteus osseus

Lepisosteus viridis

Lepisosteus niloticus

Lepisosteus argenteus

Lepisosteus bison

Lepisosteus loricatus



Lepisosteus osseus

Priority: *Lepisosteus osseus* is the valid name

The scientific community has used the Rule of Priority for almost 300 years

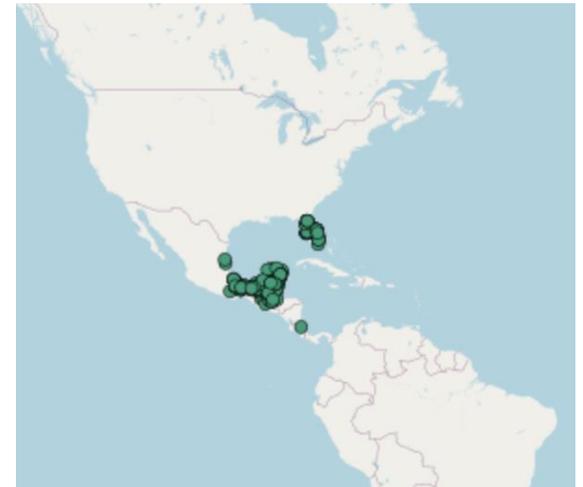
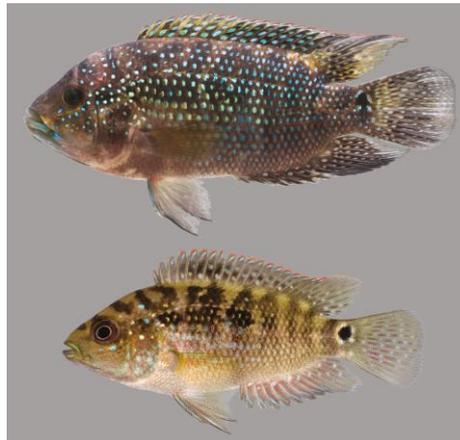
Common and Scientific Names of Fishes from the United States, Canada, and Mexico

Occurrence data

The Committee reviews scientific literature to update

Updating occurrence data includes:

- Species descriptions, taxonomic revisions
- Ecological literature, field guides, etc.
- Institutional specimen record: iDigBio



Rocio octofasciata
Jack Dempsey
A:MU

Serranidae. *Hypoplectrus maculiferus* removed from list following Puebla, et al. 2022, Zootaxa 5093:101–141. Species of *Anthias*, *Baldwinella*, *Choranthias*, *Hemanthias*, *Plectranthias*, and *Pronotogrammus* transferred from Serranidae to Anthiadidae following Smith, et al. 2018, Copeia 2018:94–116.

Centropristis fuscula. Correction of author and date.

Hypoplectrus affinis. New to list following Puebla, et al. 2022, Zootaxa 5093:101–141.

Hypoplectrus atlahua. Newly described by Tavera & Acero P., 2013, aqua 19:29–38.

Hypoplectrus castroaguirrei. Corrected year of description.

Hypoplectrus ecosur. Newly described by Victor, 2012, J. Ocean Sci. Found. 5:1–19.

Hypoplectrus floridae. Newly described by Victor, 2012, J. Ocean Sci. Found. 5:1–19. Newly recorded for Mexico following Robertson et al. 2019, ZooKeys 882:127–157.

Hypoplectrus gummigutta. New to list following Schmitter-Soto et al. 2000, An. Inst. Biol. UNAM Zool. 71:143–177.

Hypoplectrus guttavarius. Newly listed for Mexico following Schmitter-Soto et al. 2000, An. Inst. Biol. UNAM Zool. 71:143–177.

Paralabrax auroguttatus. Newly listed for U.S. following Love et al. 2019, Bull. So. Cal. Acad. Sci. 118:109–110.

Serranus flaviventris. New to list following Santana-Moreno & Moreno-Mendoza, 2019, Mar. Bio. Res. 15:159–162.

Serranus luciopercanus. New to list following González-Gándara, et al. 2013, Univ. Cienc. 28:191-208.

Serranus maytagi. New to list based on specimen record: UF 152896.

Common and Scientific Names of Fishes from the United States, Canada, and Mexico

- Updating scientific names and occurrence data takes ~95% of our time
- Assigning common names takes ~5% of our time



Common and Scientific Names of Fishes from the United States, Canada, and Mexico

- **Recommended common names are those found in publications or online e.g., FishBase**
- **If none is available, the committee coins names; usually based on morphology, distribution, or other characteristic of the species**
- **Committee adheres to a set of principles for common names. In particular, common names:**

Are not intended to duplicate the power of scientific names in reflecting phylogenetic relationships (e.g., many groups of fishes are called “basses”)

No two species in the list can have the same common name

Should be persistent

(no international rule, but same rationale as for scientific names)



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Thank you

