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ANNOTATED CHECKLISTS OF FISHES

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Family Aphredoderidae Bonaparte 1846

pirate perches

By

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The Aphredoderidae contains only one extant species, *Aphredoderus sayanus*, endemic to freshwaters of North America. Single dorsal fin with 3–5 spines and 9–12 rays (usually III–IV, 10–12). Anal fin with 2–3 spines and 5–7 rays (usually II–III, 6–7). First spine in each of these median fins may be small and difficult to detect; largest anal fin spine begins as a ray, then transforms into a spine. Caudal fin slightly emarginate with rounded lobes in adults, may be rounded or truncate in juveniles, principal rays 16–19 (usually 18). Pelvic fins with 6–8 (usually 7) rays and small splint at base of first ray. Pectoral fins with 10–13 (usually 11–12) rays. Body deepest at or just anterior of dorsal fin origin. Mouth of moderate size, oblique, lower jaw protruding beyond upper. Lacrimal and infraorbitals with numerous spines. Preopercle serrated. Stout spine at angle of opercle, usually covered by epithelium. Branchiostegal rays 6. Ctenoid scales on body, cheek, and opercle. Swim bladder present, simple. Pyloric caeca 11–12, arranged in two rows of 5–6 per side. Appendicular lateral line usually incomplete, 35–60 scales in lateral series. Cephalic lateral line system and cutaneous sense organs highly developed. Prominent round, fleshy knob on isthmus. Urogenital opening and anus located immediately in front of anal fin in juveniles, migrating anteriorly as the fish matures and eventually resting in front of the pelvic fins in the thoracic region. Coloration of body brown, except for portions of ventral surface between anal fin and ventral surface of head, which may be white or yellowish with scattered melanophores. Median fins dusky, those of males darker during the breeding season. Pelvic and pectoral fins not pigmented as heavily as median fins. Posterior margin of caudal fin often with a white border, widest on the rounded lobes. Black subocular bar. Vertical black band, sometimes broken in middle, in front of caudal fin. Lateral dark streak on posterior abdominal and peduncle region of *Aphredoderus s. sayanus* (noticed first by Jordan 1889:116 [ref. 10563]). Maximum total length about 144 mm (5.7 in). (Sources: Moore and Burris 1956 [ref. 27308], Mansueti 1963 [ref. 27267], Jordan 1878 [ref. 10444], Rosen and Patterson 1969 [ref. 27330], Etnier and Starnes 1994 [ref. 22809], Boltz and Stauffer 1993 [ref. 20308], Jenkins and Burkhead 1994 [ref. 21581], W. Poly pers. obs.)

Blatchley (1885 [ref. 27331]) examined “numerous specimens from various localities” and concluded that there was a single species, *Aphredoderus sayanus*, and provided an extensive synonymy. The most recent taxonomic treatment of *A. sayanus* was by Boltz and Stauffer (1993 [ref. 20308]). The Aphredoderidae contains one fossil genus, *Trichophanes*, with two of three described species possibly valid (Rosen and Patterson 1969 [ref. 27330]). The Aphredoderidae has been considered closely related to either the Amblyopsidae or the Percopsidae (Rosen 1962 [ref. 5403], Rosen and Patterson 1969 [ref. 27330], Patterson 1981 [ref. 27325], Rosen 1985 [ref. 27270], Patterson and Rosen 1989 [ref. 27307], Murray and Wilson 1999 [ref. 27269]). The family-group names were used first by Bonaparte (1846:7 [ref. 519]) who spelled them Aphredodeiridae and Aphredodeirini.

Aphredoderus sayanus lives in freshwater streams, rivers, and lakes of the eastern and central United States. It is not valued as either a sport fish or an aquarium fish, although it can be caught by hook and line and persists quite well in captivity (Gilliams 1824 [ref. 18120], Abbott 1872 [ref. 27326], W. J. Poly pers. obs.). The pirate perch is usually nocturnal in its habits and feeds on invertebrates and small fishes. There are many anecdotal reports about reproductive activities of the pirate perch, but only recently was its unusual method of reproduction (transbranchial spawning) documented by Poly and Wetzel (2003 [ref. 26902]). Spawning occurs in winter or spring, depending on latitude.

Genus *Aphredoderus* Lesueur 1833

Aphredoderus Lesueur in Cuvier & Valenciennes 1833:445 [ref. 1002]. Type species *Aphredoderus gibbosus* Lesueur 1833 [senior objective synonym = *Scolopsis sayanus* Gilliams 1824]. Type by monotypy.

Sternotremia Nelson 1876:39 [ref. 3154]. Type species *Sternotremia isolepis* Nelson 1876. Type by monotypy.

Asternotremia Nelson in Jordan 1877:51 [ref. 2374]. Type species *Sternotremia isolepis* Nelson 1876.

Aphododerus Jordan 1877:52 [ref. 2374]. Type species *Aphredoderus gibbosus* Lesueur 1833.

REMARKS: *Asternotremia* is an unjustified emendation of *Sternotremia* Nelson 1876 and appeared as a nomen nudum in Jordan (1877:368 [ref. 2373]). *Aphododerus* Jordan 1877 is an unjustified emendation of *Aphredoderus* Lesueur 1833 and was used in publications by Jordan in 1877 and 1878 (Jordan 1877:49 [ref. 12244], 1877:368 [ref. 2373], 1878:48 [ref. 10444], 1878:411, 434 [ref. 2379], 1878:101 [ref. 10445]; also appeared on pp. 50–51 in Jordan 1877 [ref. 2374]). Incorrect subsequent spellings of *Aphredoderus* in early literature include *Aphrodederus*, *Aspredoderus*, *Aspredodorus*, *Aphrododirus*, *Aphododirus*, and *Aphredodirus* (e.g., DeKay 1842:3 [ref. 1098]; Abbott 1870 [ref. 15627], 1871 [ref. 27310]; Cope 1870:455 [ref. 913]).

Aphredoderus sayanus (Gilliams 1824)

Scolopsis sayanus Gilliams 1824:81, Pl. 3 [ref. 18120] (fish pond at Harrowgate, near Philadelphia, Pennsylvania, U.S.A.). Syntypes: (3) ANSP 12690 (1); whereabouts unknown for remaining two syntypes.

Aphredoderus gibbosus Lesueur in Cuvier & Valenciennes 1833:448, Pl. 278 [ref. 1002] (Lake Pontchartrain, Louisiana, U.S.A.). Holotype (unique): MNHN A-3019.

Sternotremia isolepis Nelson 1876:39 [ref. 3154] (small stream in s. Illinois [Union Co.], Illinois, U.S.A.). Lectotype: INHS 26952.

Asternotremia mesotrema Jordan 1877:52, Pl. 45 (fig. 74) [ref. 2374] (Flint R., Georgia, U.S.A.). Holotype: USNM 9296 (poor condition).

Aphrododirus cookianus Jordan 1877:60 [ref. 2372] (Sawyer's Creek, outlet of Long Lake, Kendallville, Indiana, U.S.A.). Holotype (unique): whereabouts unknown.

DISTRIBUTION: Eastern and central United States. See Remarks.

REMARKS: Two subspecies were recognized by Boltz and Stauffer (1993 [ref. 20308]): *Aphredoderus s. sayanus* in Atlantic Coast drainages from New York to Georgia and *A. s. gibbosus* in the Mississippi River, Great Lakes, and western Gulf Coast drainages, with intergrades in Gulf Coast and Atlantic Coast drainages between Mississippi and Georgia.

Name combinations that appeared in early literature include *Scolopoides sayanus* and *Scolopsides sayanus* (Ayres 1842:58 [ref. 15927], Ayres 1842:260 [ref. 15930]).

It is clear from the text of Cuvier and Valenciennes (1833 [ref. 1002]) that *Aphredoderus gibbosus* Lesueur 1833 is an unneeded new name for and objective synonym of *Scolopsis sayanus* Gilliams 1824 and not a separate species description. DeKay (1842:36 [ref. 1098]) seems to be the only author who noticed this fact until now. Therefore, the type species of *Aphredoderus* should

be *Scolopsis sayanus*, and the types of *A. gibbosus* should be the same syntypes of *S. sayanus*. Lesueur provided a single specimen, illustration, and very brief description to Cuvier and Valenciennes, who corrected and greatly expanded the description, crediting the name to Lesueur. The name *A. gibbosus* has become established in the literature as an independent description by Lesueur with its own type specimen and has been used as a valid subspecies. *Sternotremia isolepis* Nelson 1876 was considered a valid species or subspecies in some early works (e.g., Jordan 1878:48 [ref. 10444], Jordan and Evermann 1896:786 [ref. 2443]). Jordan (1889:116 [ref. 10563]) used the name *gibbosus* over *isolepis* as “a tangible variety or subspecies” with reference to specimens from the Illinois River. Gerking (1945 [ref. 27359]) is among the authors to use *A. s. gibbosus* as a valid subspecies in the 1900s. Because only the name *gibbosus*, not *isolepis*, has been used for over 50 years, nomenclatural stability will be maintained by continued use of *A. sayanus gibbosus* even though Nelson’s (1876) name, *isolepis*, is the appropriate available name.

In the original description of *Aphrodedirus cookianus* Jordan 1877 the generic name was spelled *Aphredoderus* on page 44 but appeared as *Aphrodedirus* on subsequent pages. The lectotype of *Sternotremia isolepis* Nelson 1876 was designated by Sabaj et al. (1997:272 [ref. 23225]). The illustration of *Asternotremia mesotrema* Jordan 1877 on Plate 45 (fig. 74) was drawn from a paratype. The name *Asternotremia mesotrema* appeared as a nomen nudum in Jordan (1877:368 [ref. 2373]).

Summary Lists

Genus-Group Names of Family Aphredoderidae

Aphododerus Jordan 1877 = *Aphredoderus* Lesueur 1833

Aphredoderus Lesueur 1833 = *Aphredoderus* Lesueur 1833

Asternotremia Nelson 1877 = *Aphredoderus* Lesueur 1833

Sternotremia Nelson 1876 = *Aphredoderus* Lesueur 1833

Incertae Sedis Genus-Group Names

None

Unavailable Genus-Group Names

None

Species-Group Names of Family Aphredoderidae

cookianus, *Aphrodedirus* Jordan 1877 = *Aphredoderus sayanus gibbosus* Lesueur 1833

gibbosus, *Aphredoderus* Lesueur 1833 = *Aphredoderus sayanus gibbosus* Lesueur 1833

isolepis, *Sternotremia* Nelson 1876 = *Aphredoderus sayanus gibbosus* Lesueur 1833

mesotrema, *Asternotremia* Jordan 1877 = *Aphredoderus sayanus* (Gilliams 1824) [subspecies intergrade]

sayanus, *Scolopsis* Gilliams 1824 = *Aphredoderus sayanus sayanus* (Gilliams 1824)

Incertae Sedis Species-Group Names

None

Unavailable Species-Group Names

albidus, *Aphrodedirus* Abbott 1871:720 [ref. 27310]. A hypothetical name used in reference to a pallid specimen of *Aphredoderus sayanus* (collected from Stony Brook [Mercer Co., New Jersey, near the village of Princeton]), and clearly the name was not intended as new. In the synonymy of *Aphredoderus sayanus sayanus* (Gilliams 1824).

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