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**ANNOTATED CHECKLISTS OF FISHES**

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**Family Anarhichadidae Bonaparte 1846**

wolffishes

By

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Wolffishes are carnivorous, primarily demersal inhabitants of shallow to moderately deep cold waters of the North Pacific and North Atlantic oceans. They are the largest of the zoarcoids, reaching weights of nearly 20 kg (44 lb). Most are compressed, moderately elongate fishes but one species, *Anarrhichthys ocellatus*, is extremely elongate and for its shape goes by the common name wolf-eel. In northern Europe, wolffishes in the genus *Anarhichas* are often called catfishes. Dorsal fin long, starting at the head, and composed of 69–88 flexible spines in *Anarhichas* and 218–250 in *Anarrhichthys*. Anal fin with 42–55 soft rays in *Anarhichas* and 0–1 spine and 180–233 soft rays in *Anarrhichthys*. Caudal fin separated from dorsal and anal fins by a short peduncle in *Anarhichas*, median fins confluent and tapering to a point in *Anarrhichthys*. Pectoral fins large and rounded, with 18–24 rays. Pelvic fins absent. One pair of nostrils. Scales cycloid, minute, and nonoverlapping, or absent. Mechanosensory canals of head well developed, pores with age becoming overgrown: nasal 2, occipital 3–5, interorbital 1–2, postorbital 4–5, suborbital 7–9, preopercular 4, mandibular 3–4. One or two trunk lateral lines of superficial neuromasts, difficult to discern in preserved material. Most wolffish species have strong canines and molars for digging out and crushing clams and other hard-shelled prey. Northern wolffish, *Anarhichas denticulatus*, have mostly conical teeth and feed on prey with relatively weak shells and tough skins such as crabs, sea urchins, and lumpfishes (Cyclopteridae). Gill membranes attached to the isthmus, gill openings widely separated. Branchiostegal rays 6–8. Swim bladder absent. Vertebrae 72–89 in *Anarhichas* and 221–251 in *Anarrhichthys*. Maximum lengths 1.2–2.4 m (4–8 ft). Inhabit boulder-strewn, sandy and pebbly bottoms in fairly shallow water except for *A. denticulatus*, a benthopelagic inhabitant of deeper waters. Some of the Atlantic species, primarily spotted wolffish, *Anarhichas minor*, and Atlantic wolffish, *A. lupus*, are fished commercially for food and the skin is tanned for leather. Current classification recognizes two genera and five species: four species in *Anarhichas* and one in *Anarrhichthys*.

The family revision by Barsukov (1959 [ref. 23136]) is the most recent and remains the standard, with one nomenclatural correction made later by Barsukov (in Hureau and Monod 1973:529 [ref. 6590]): the placement of *Anarhichas latifrons* as a junior synonym of *A. denticulatus*, whereas previously the name *latifrons* was thought to have priority.

The first use of the family-group name apparently was by Bonaparte (1846:7 [ref. 519]) as a subfamily in Blenniidae. Wolffishes are currently recognized as belonging to the suborder Zoarcoidei, a group of nine families of northern blennylike fishes (e.g., Nelson 1994:391 [ref. 26204]). Several modern authors have used the spelling Anarrhichadidae (with two *rs*), but Anarhichadidae (one *r*), after *Anarhichas* Linnaeus 1758, is correct.

**Genus *Anarhichas* Linnaeus 1758**

*Anarhichas* Linnaeus 1758:247 [ref. 2787]. Type species *Anarhichas lupus* Linnaeus 1758. Type by monotypy.

*Lycichthys* Gill 1877:clxvii [ref. 1715]. Type species *Anarrhichas latifrons* Steenstrup 1876. Type by subsequent designation.

***Anarhichas denticulatus* Krøyer 1845**

*Anarhichas denticulatus* Krøyer 1845:140 [ref. 19477] (Greenland). No types known.

*Anarrhichas latifrons* Steenstrup & Hallgrímsson in Steenstrup 1876:177, Pl. 3 (fig. 3) [ref. 19478] (Iceland). Holotype: ZMUC 31 (cranium).

*Lycichthys paucidens* Gill 1905:251 [ref. 17663] (Banquereau, near Nova Scotia, Canada, 200 or 250 fm). Holotype (unique): USNM 23915 (skeletonized).

*Lycichthys fortidens* Gill 1911:166, Fig. 8 [ref. 14791] (Banquereau, near Nova Scotia, Canada, 300 fm). Holotype: USNM 21845 (lost).

*Lycichthys parvovens* Lühhmann 1954:470, Fig. 19 [ref. 12655] (off Iceland). No types known.

DISTRIBUTION: North Atlantic and Arctic: Barents and Norwegian seas to Spitsbergen, Iceland, Faeroe Islands, southern Greenland, south along east coast of North America almost to Cape Cod, and west to Prince Patrick Island, Northwest Territories, Canada.

REMARKS: See Springer and Anderson (1997:4–5 [ref. 22953]) for information on disposition of *Lycichthys paucidens* and *L. fortidens* types.

Lühhmann (1954 [ref. 12655]) did not give a formal description of *L. parvovens* but designated it as a fifth species of *Lycichthys* on the basis of the teeth, which he reported are replaced not simultaneously as in the other four nominal species but sequentially. He provided an illustration (fig. 19) of a longitudinal section of a caniniform tooth from *L. parvovens*. Barsukov (1959:17, 116 [ref. 23136]) opined that “in all probability” *L. parvovens* is a juvenile of *Anarrhichas latifrons* (= *Anarhichas denticulatus*) and included it in the synonymy of that species.

***Anarhichas lupus* Linnaeus 1758**

*Anarhichas lupus* Linnaeus 1758:247 [ref. 2787] (“Oceano Septentrionali Angliae &c.” [northern English ocean]). Syntypes: BMNH 1853.11.12.27 [Gronovius coll.] (1, skin), others not found.

*Anarhichas strigosus* Gmelin 1789:1144 [ref. 18139] (“British Sea”). No types known.

*Anarrhichas vomerinus* Agassiz in Storer 1867:265, Pl. 15 [ref. 15844] (Cusk Rocks, between Boston and Cape Ann, Massachusetts, U.S.A.). Holotype: MCZ 12483.

*Anarhichas lupus marisalbi* Barsukov 1956:129, Fig. 1, bottom [ref. 19948] (Karel’skiy coast near Letnyaya Rechka, White Sea). Syntypes: ZIN 39575 (17), 40815 (32), 40816 (25).

DISTRIBUTION: North Atlantic and Arctic: White Sea to Spitsbergen, Iceland, Faeroe Islands, Scandinavia, North Sea, British Isles, southeastern and western Greenland, east coast of North America south to Cape Cod.

REMARKS: The subspecies *A. l. marisalbi* was described without mentioning any particular material in any museum. Barsukov (1956:133 [ref. 19948]) reported that he used 2,000 specimens (!) from the White Sea near the village of Letnyaya Rechka (translates to Summer River) for the description. The ZIN collection has three lots (see listing above) labeled “Letnyaya Rechka” and all the specimens were collected in 1951 and determined by Barsukov. They clearly are syntypes. Lot ZIN 34535 (2) from the White Sea collected in 1947 by Barsukov may also be syntypes, but we cannot be certain. Eighty skulls were macerated and may also be in the ZIN collection but there is no catalog for the collection’s osteological preparations. The Code (Art. 72.4.1) specifies that specimens mentioned in the references cited in the synonymy must also be included in the type series. Those are: (1) Levander, K. M. 1888–1889. Medel. Soc. Fauna Fenn. v. 15: 231 (2 specimens); (2) Knipowitsch, N. M. 1897. Ezheg. Zool. Mus. v. 2: 148; (3) Derjugin,

K. M. 1928. Issled. Morey SSSR nos. 7–8: 342 (1 specimen); and (4) Zborovskaya, M. B. 1951. Proc. Karelo-Finsk. Dep. VNIORKH v. 3: 197 (B. A. Sheiko, ZIN, pers. comm., 16 June 2003).

***Anarhichas minor* Olafsen 1772**

*Anarhichas minor* Olafsen 1772:592 [ref. 18493] (Iceland). No types known.

*Anarrhichas pantherinus* Zuiew 1784:271, Pl. 6 [ref. 17710] (“Oceano Septentrionali” [in the northern ocean] and White Sea). No types known.

*Anarhicas karrak* Bonnaterre 1788:38 [ref. 4940] (Greenland seas). No types known.

*Anarhichas maculatus* Bloch & Schneider 1801:496 [ref. 471] (Iceland). No types known.

*Anarhichas scansor* Bloch & Schneider 1801, Pl. 92 [ref. 471] (no locality). No types known.

*Anarrhichas leopardus* Agassiz in Spix & Agassiz 1831:92, Pl. 51 [ref. 13] (Atlantic Ocean). No types known.

*Anarrhichas steenstrupii* Gill 1861:46 [ref. 1766] (no locality). No types known.

DISTRIBUTION: North Atlantic and Arctic: Barents Sea to Spitsbergen, northern Scandinavia to Iceland, Faeroe Islands, southeastern and western Greenland, and eastern Canada from Baffin Island to Nova Scotia.

REMARKS: *Anarhichas scansor* is the name given on plate 92 of Bloch and Schneider (1801); the name does not appear elsewhere in this work. The plate corresponds to the account of *A. pantherinus* on page 495.

Specimens attributed to *Anarhichas minor* by Fabricius (1780:139–140 [ref. 17464]) were believed by Gill (1861) to represent a new species which he named *Anarrhichas steenstrupii*. Barsukov (1959:128 [ref. 23136]) later placed *A. steenstrupii* in the synonymy of *Anarhichas minor*.

***Anarhichas orientalis* Pallas 1814**

*Anarhichas orientalis* Pallas 1814:77 [ref. 3351] (eastern Kamchatka, Russia). No types known.

*Anarrhichas fasciatus* Bleeker 1873:151 [ref. 431] (no locality). No types known.

*Anarrhichas lepturus* Bean 1879:212 [ref. 16038] (Saint Michael’s, Norton Sound, Alaska, U.S.A.).  
Lectotype: USNM 21509.

DISTRIBUTION: North Pacific and Arctic: Beaufort and Chukchi seas to northern Gulf of Alaska and to Okhotsk and Japan seas. The only Arctic Canada records are from Bathurst Inlet, Nunavut.

REMARKS: Popov (1931:380 [ref. 26681]) stated, incorrectly, that *A. fasciatus* Bleeker 1873 was from China. This species was based on a painting by a Chinese artist and has no known type specimen or locality. From the description of *A. fasciatus*, reproduced by Gill (1911:170 [ref. 14791]), it is evident that the painting portrayed a juvenile of *A. orientalis*.

See Springer and Anderson (1997:4 [ref. 22953]) for information on *A. lepturus* types, including lectotype designation.

**Genus *Anarrhichthys* Ayres 1855**

*Anarrhichthys* Ayres 1855:2 (column 5) [ref. 13428]. Type species *Anarrhichthys ocellatus* Ayres 1855. Type by monotypy.

***Anarrhichthys ocellatus* Ayres 1855**

*Anarrhichthys ocellatus* Ayres 1855:2 (column 5) [ref. 13428] (San Francisco Bay, California, U.S.A.). Syntypes: (2) probably lost in 1906 fire.

*Anarrhichthys felis* Girard 1858:125 [ref. 4911] (San Francisco and Monterey, California, U.S.A.).  
Syntypes: (5 + 2) USNM 511 (originally 3, now 2) San Francisco, 692 (1, bones, lost), 693 (1, bones, lost).

DISTRIBUTION: Eastern North Pacific: southeastern Bering Sea and eastern Aleutian Islands to southern California.

REMARKS: The description of *Anarrhichthys ocellatus* also appeared in Ayres (1855:31–32 [ref. 159]), with additional details. See Springer and Anderson (1997:3 [ref. 22953]) for explanation of complex nomenclatural history of Girard's (1858) *A. felis* and disposition of types.

### Summary Lists

#### Genus-Group Names of Family Anarrhichadidae

*Anarrhichas* Linnaeus 1758 = *Anarrhichas* Linnaeus 1758

*Anarrhichthys* Ayres 1855 = *Anarrhichthys* Ayres 1855

*Lycichthys* Gill 1877 = *Anarrhichas* Linnaeus 1758

#### Incertae Sedis Genus-Group Names

None

#### Unavailable Genus-Group Names

*Latargus* Klein 1775:298 [ref. 2618]. Suppressed. Published in a work that does not conform to the principle of binominal nomenclature. In the synonymy of *Anarrhichas* Linnaeus 1758.

#### Species-Group Names of Family Anarrhichadidae

*denticulatus*, *Anarrhichas* Krøyer 1845 = *Anarrhichas denticulatus* Krøyer 1845

*fasciatus*, *Anarrhichas* Bleeker 1873 = *Anarrhichas orientalis* Pallas 1814

*felis*, *Anarrhichthys* Girard 1858 = *Anarrhichthys ocellatus* Ayres 1855

*fortidens*, *Lycichthys* Gill 1911 = *Anarrhichas denticulatus* Krøyer 1845

*karrak*, *Anarrhichas* Bonnaterre 1788 = *Anarrhichas minor* Olafsen 1772

*latifrons*, *Anarrhichas* Steenstrup & Hallgrímsson 1876 = *Anarrhichas denticulatus* Krøyer 1845

*leopardus*, *Anarrhichas* Agassiz 1831 = *Anarrhichas minor* Olafsen 1772

*lepturus*, *Anarrhichas* Bean 1879 = *Anarrhichas orientalis* Pallas 1814

*lupus*, *Anarrhichas* Linnaeus 1758 = *Anarrhichas lupus* Linnaeus 1758

*maculatus*, *Anarrhichas* Bloch & Schneider 1801 = *Anarrhichas minor* Olafsen 1772

*marisalbi*, *Anarrhichas lupus* Barsukov 1956 = *Anarrhichas lupus* Linnaeus 1758

*minor*, *Anarrhichas* Olafsen 1772 = *Anarrhichas minor* Olafsen 1772

*ocellatus*, *Anarrhichthys* Ayres 1855 = *Anarrhichthys ocellatus* Ayres 1855

*orientalis*, *Anarrhichas* Pallas 1814 = *Anarrhichas orientalis* Pallas 1814

*pantherinus*, *Anarrhichas* Zuiew 1784 = *Anarrhichas minor* Olafsen 1772

*parvodens*, *Lycichthys* Lüthmann 1954 = *Anarrhichas denticulatus* Krøyer 1845

*paucidens*, *Lycichthys* Gill 1905 = *Anarrhichas denticulatus* Krøyer 1845

*scansor*, *Anarrhichas* Bloch & Schneider 1801 = *Anarrhichas minor* Olafsen 1772

*steenstrupii*, *Anarrhichas* Gill 1861 = *Anarrhichas minor* Olafsen 1772

*strigosus*, *Anarrhichas* Gmelin 1789 = *Anarrhichas lupus* Linnaeus 1758

*vomerinus*, *Anarrhichas* Agassiz 1867 = *Anarrhichas lupus* Linnaeus 1758

#### Incertae Sedis Species-Group Names

*dentex*, *Anarrhichas* Bloch 1784:Pl. 74 (fig. 2) [ref. 19645]. Based on plate showing dentition, and species not identifiable from plate. Text appeared in Bloch & Schneider 1801:496 [ref. 471].

#### Unavailable Species-Group Names

*eggerti*, *Anarrhichas* Steenstrup 1843:267 [ref. 26680]. Nomen nudum. In the synonymy of *Anarrhichas minor*. Also seen spelled as *eggertii*.

*lupusmarinus*, *Anarrhichas* Forsskål, 1775:xix [ref. 1351]. Nomen nudum.

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