Catalogue of American Amphibians and Reptiles.

**SIREN**

**Siren Linnaeus**

**Sirens**

*Siren Linnaeus*, 1766, sign. Rrr 5, Addenda (not pagd).

Type species, *Siren lacertina*, 1766, by monotypy.


**Phanerobranchus** Leuckart, 1901:260. Absolute synonym.

**Sirex**: Vaillant, 1863:256. Emendation.

- **CONTENT.** Two species are extant, *S. lacertina* and *S. intermedia*. Fossil species include *S. simpsoni* (Pliocene, Florida), *S. hesterna* (Miocene, Florida) and *S. dunni* (Eocene, Wyoming). See REMARKS.

- **DEFINITION.** These large, aquatic, eel-like salamanders possess only the pectoral limbs, each with 4 digits. The gills are persistent. See familial and specific accounts.

- **DIAGNOSIS.** The co-familial *Pseudobranchus* closely resembles *Siren* but is more limited geographically, having only 3 digit formulae, is much smaller, and is striped. Most of the genus *Siren* are rather uniformly pigmented and, except for juveniles, completely devoid of stripes. *Pseudobranchus* also has a more slender body, a more pointed head, and a single pair of gill slits. Unlike *Pseudobranchus*, the skin of *Siren* transforms. The epidermis thickens (Czopek, 1962) and consists of 4 to 6 layers of cells as in most adult amphibians.

Fossil vertebræe can be identified by the following characterisric (Goin and Auffenberg, 1955): the lower margin of the centrum is straight, whereas that of *Pseudobranchus* is distinctly concave. In *Siren* the zygaphophyseal region is nearly straight and it meets the transverse process at the base of the prezygapophysis but in *Pseudobranchus* it curves downward and fuses with the transverse process at a point posterior to the base of the prezygapophysis. Furthermore, at its junction with the transverse process the zygaphophyseal ridge tends to flare less in *Siren* than in *Pseudobranchus*. For diagnostic features of extinct species of *Siren* see FOSSIL RECORD.

- **ILLUSTRATIONS.** See species accounts. Other useful drawings include: vertebrae of fossils (Goin and Auffenberg, 1955); dorsal view of head and gills and comparison with *Pseudobranchus* (Noble, 1931:161); olfactory capsule of *Siren* and comparison with other salamanders (Hilton, 1951a); head muscles and comparison with *Pseudobranchus* (Hilton, 1959); skin of *Siren* and comparison with other amphibians (Bernstein, 1953); sound-transmitting apparatus (Hilton, 1949); teeth (Hilton, 1951b); male urogenital apparatus (Willett, 1965).

- **DISTRIBUTION.** Sirens inhabit the Coastal Plain of southeastern United States from the District of Columbia to Florida and westward in the Gulf states to extreme northeastern Mexico. In the Mississippi Valley, they range northward through Illinois and Indiana to southwestern Michigan.

- **FOSSIL RECORDS.** *Siren simpsoni* (Goin and Auffenberg, 1955) occurs in Pliocene deposits from Alachua County, Florida. The neural arch of the thoracic vertebrae stands high above the centrum. From extant *Siren*, it differs by having straighter zygaphophyseal ridges and a wider flaring to the aliform processes. *Siren hesterna* (Goin and Auffenberg, 1955) is known from a single vertebra from Miocene deposits in Gilchrist County, Florida (White, 1942). It has a short stubby centrum, strongly diverging zygaphyses, a high neural arch, and wide-flaring aliform processes. *Siren dunni* (Goin and Auffenberg, 1957:83) is based on 3 vertebrae taken from Eocene deposits in Sweetwater County, Wyoming. Its neural arch extends high above the centrum and the zygaphophyseal ridge is nearly straight (viewed laterally). From recent sirens it differs in having the zygaphophyseal ridges more concave (viewed dorsally). From *S. hesterna* it differs in having a reduced angle and a better developed floor between the aliform processes. From *S. simpsoni* it differs in that the dorsal wing of the transverse process originates nearer the posterior margin of the centrum and swings upward gradually to meet the zygaphophyseal ridge at an angle of only 40 degrees (rather than 60 degrees).

- **PERTINENT LITERATURE.** The following references are among the most useful. Descriptions and general biology:


**ETYMOLOGY.** _Siren_ is from the Greek _seiren_, a mythological group of insidious temptresses who lured mariners to destruction. The name alludes to the mermaid-like traits of no legs, a long, curvaceous tail and body (Oesterdam, 1769) and possibly to the sounds they produce. _Siren_ is of feminine gender. The scientific and common names are the same.

See species accounts for etymologies of living sirens. *S. simpsoni* is named for Clarence Simpson, discoverer of the locality where the fossils were found. *S. dunni* is a patronym for the dedicated herpetologist, Emmett Reid Dunn. *S. hesterna* is derived from the Latin _hesternus_, of yesterday.

**KEY TO SPECIES**

1. Adults large, total length more than 500 mm; costal grooves 36 to 40, usually 38; hatchlings and young inconspicuously marked, light yellow stripe on snout. **intermedia** (in part)
   - Adults small, total length much below 500 mm; costal grooves usually 32 to 35; hatchlings and young inconspicuously marked, broad reddish band over snout. **intermedia** (in part)

2. Body stocky, maximum length 950 mm; tip of tail rounded; light markings usually absent or form lateral or ventral rows of narrow short bars. **intermedia** (in part)
   - Body slender, maximum length 686 mm; tip of tail pointed; light spots usually present restricted to venter. **intermedia** (in part)

**REMARKS**

The following have been erroneously classified (Smith and Tichen, 1961): *Siren operculata* Beavoir (1799, Trans. Amer. Philos. Soc. 4:277-281), a senior synonym of _Ambystoma tigrinum_; _S. pliciformis_ Shaw (1802, Gen. Zool. 3(2):614), a junior synonym of _Ambystoma mexicanum_; _S. quadrupes_ Bartson, _nomens nudum_.
LITERATURE CITED