

California Academy of Sciences

---

**ANNOTATED CHECKLISTS OF FISHES**

---

Number 4

September 2003

**Family Rhamphocottidae Gill 1888**

grunt sculpins

By

Catherine W. Mecklenburg

*Field Associate, Department of Ichthyology, California Academy of Sciences  
c/o Point Stephens Research, P.O. Box 210307, Auke Bay, Alaska 99821, U.S.A.  
email: ptstephens@alaska.com*

*Rhamphocottus richardsonii*, the only species in this family, is a distinctive-looking marine cottoid fish with a large head (up to 60% of standard length), long snout, and bilateral blunt bony ridges on the top of the head. Starks (1921:9 [ref. 26679]) called the family the horsehead sculpins, but authors later adopted the name grunt sculpins for the noise these fish make when removed from the water. Body deep, with a high dorsal profile, and moderately compressed. Head and body covered with small, multispined plates projecting through the skin as “prickles.” One preopercular spine, strong and sharp. All fin rays unbranched. Dorsal fins two, well separated, the first with 7–9 spines and the second with 12–14 soft rays. Anal fin with 6–8 rays, located opposite the posterior rays of the second dorsal fin. Pelvic fins with 1 spine and 3 or 4 soft rays. Lower pectoral fin rays long, thickened, and free of membrane, used for crawling along the bottom and over rocks. Trunk lateral line canal present, incomplete (extending as far as posterior third of second dorsal fin), with about 25 pores in short, elevated tubes. Palatine teeth absent. Gill membranes broadly joined to the isthmus; gill openings small, located above the base of the pectoral fins. Branchiostegal rays 6. Swim bladder absent. Vertebrae 24–28. Maximum total length about 8.9 cm (3.5 in). Inhabits tidepools and shallow coastal waters of Alaska and the Pacific Northwest, while farther south tending to occupy greater depths, to nearly 200 m, where the water is cooler. Frequently observed taking shelter in empty shells, including those of the giant barnacle, *Balanus nubilis*, and discarded bottles and cans. Diet comprises small crustaceans, fish larvae, and zooplankton. Abundant and broadly distributed in the eastern North Pacific but evidently occupying a narrow range in the western North Pacific.

Authors have classified *Rhamphocottus* among the Cottidae or placed it in its own family. Washington et al. (1984:446 [ref. 13660]) summarized larval and juvenile evidence supporting placement in a separate family. Yabe (1985 [ref. 11522]), from a cladistic analysis of adult morphology, considered Rhamphocottidae to be the primitive sister group to the other members of the superfamily Cottoidea; presence of multifid prickles, a basioccipital-parasphenoid fossa, and a highly modified pelvis set the rhamphocottid stem off from the other cottoids. From the evidence presented in those studies, most authors (e.g., Nelson 1994:322 [ref. 26204], Eschmeyer 1998 [ref. 23416]) now classify *Rhamphocottus* in a separate family.

The family-group name dates to Gill (1888:357 [ref. 26431]), where the available generic name is indicated by inference from its stem (International Code of Zoological Nomenclature, 4th ed., Art. 11.7.1.1). Evidently not aware of the earlier work, authors sometimes cite Gill (1889:590 [ref. 1729]) for the name.

**Genus *Rhamphocottus* Günther 1874**

*Rhamphocottus* Günther 1874:369 [ref. 2006]. Type species *Rhamphocottus richardsonii* Günther 1874. Type by monotypy.

***Rhamphocottus richardsonii* Günther 1874**

*Rhamphocottus richardsonii* Günther 1874:369 [3 of separate] [ref. 2006] (Fort Rupert, British Columbia, Canada). Holotype (unique): BMNH 1868.2.12.4.

DISTRIBUTION: North Pacific: western Gulf of Alaska to southern California; east coast of northern and central Honshu, Japan.

REMARKS: Often misspelled *richardsoni*.

**Summary Lists**

**Genus-Group Names of Family Rhamphocottidae**

*Rhamphocottus* Günther 1874 = *Rhamphocottus* Günther 1874

**Incertae Sedis Genus-Group Names**

None

**Unavailable Genus-Group Names**

None

**Species-Group Names of Family Rhamphocottidae**

*richardsonii*, *Rhamphocottus* Günther 1874 = *Rhamphocottus richardsonii* Günther 1874

**Incertae Sedis Species-Group Names**

None

**Unavailable Species-Group Names**

None

**Literature Cited**

- Eschmeyer, W. N., editor. 1998 (May) [ref. 23416]. Catalog of fishes. Center for Biodiversity Research and Information, Spec. Publ. 1. California Academy of Sciences, San Francisco. 3 vols. 1–2905.
- Gill, T. N. 1888 [ref. 26431]. The primary groups of mail-cheeked fishes. *Am. Nat.* v. 22: 356–358.
- Gill, T. N. 1889 (25 Sept.) [ref. 1729]. On the classification of the mail-cheeked fishes. *Proc. U. S. Natl. Mus.* v. 11 (no. 756): 567–592.
- Günther, A. 1874 (for Nov.) [ref. 2006]. Descriptions of new species of fishes in the British Museum. *Ann. Mag. Nat. Hist. (Ser. 4)* v. 14 (no. 83): 368–371.
- Nelson, J. S. 1994 [ref. 26204]. *Fishes of the world*. 3rd edition. John Wiley & Sons, New York. i–xvii + 1–600.
- Starks, E. C. 1921 [ref. 26679]. A key to the families of marine fishes of the West Coast. *Fish and Game Comm., State of California, Fish Bull. No. 5*: 1–16.
- Washington, B. B., W. N. Eschmeyer and K. M. Howe. 1984 [ref. 13660]. Scorpaeniformes: relationships. In: H. G. Moser et al., eds. *Ontogeny and systematics of fishes*. *Am. Soc. Ichthyol. Herpetol. Spec. Publ.* 1: 438–447.
- Yabe, M. 1985 [ref. 11522]. Comparative osteology and myology of the superfamily Cottoidea and its phylogenetic classification. *Mem. Fac. Fish. Hokkaido Univ.* v. 32 (no. 1): 1–130.

**Acknowledgments**

The California Academy of Sciences Department of Ichthyology provided financial and technical support.

Suggested citation format:

Mecklenburg, C. W. 2003. Family Rhamphocottidae Gill 1888 — grunt sculpins. *Calif. Acad. Sci. Annotated Checklists of Fishes No. 4*. 2 pp.

Copyright © 2003 by the California Academy of Sciences  
San Francisco, California, U.S.A.