



## *Heteromastus filobranchus* Berkeley & Berkeley, 1932

### Nomenclature

Phylum	Annelida
Class	Polychaeta
Family	Capitellidae
Synonyms	none



### Distribution

Type Locality	Nanose Bay, western Canada, 15-20 fms (27-36.5 m)
Geographic Distribution	Coastal British Columbia, Canada to southern California
Habitat	Shelf and canyon depths in muddy sediments, commonly observed up to 100m

### Description

From Blake 2000 (unless otherwise noted)

**Size:** To 150 mm long, 2 mm wide (widest anteriorly), over 250 chaetigers. Light tan anteriorly, gray posteriorly in alcohol. Larger specimens with dark purplish hue when alive or preserved in formalin.

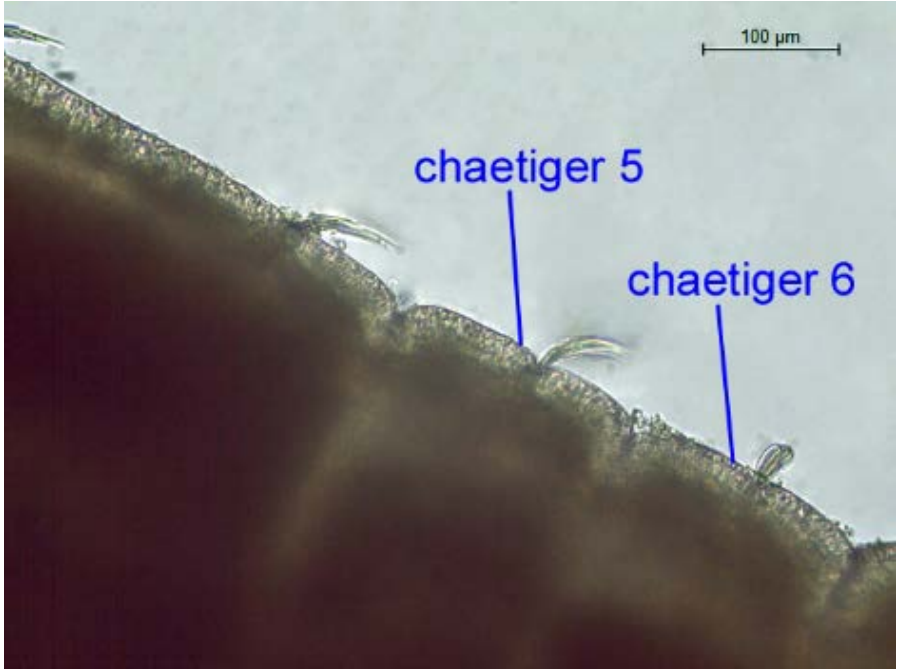
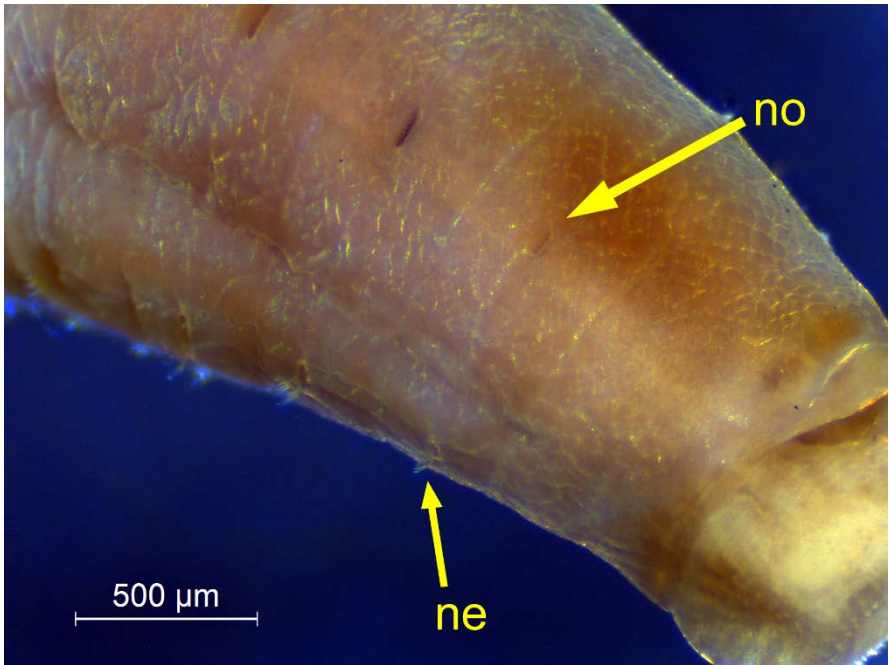
**Body:** Long and robust, coiled posteriorly. Transition between thorax and abdomen gradual, not abrupt. Thorax with 11 chaetigers; chaetiger 1 biramous. Thoracic chaetigers 1-4 areolated (integument not smooth; divided by creases into small areas). Chaetigers 1-2 uniannulate, following chaetigers (3-11) biannulate, with deep incision for setal fascicles.

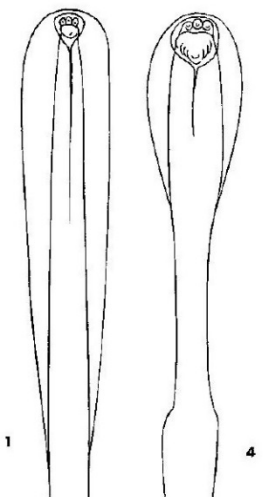
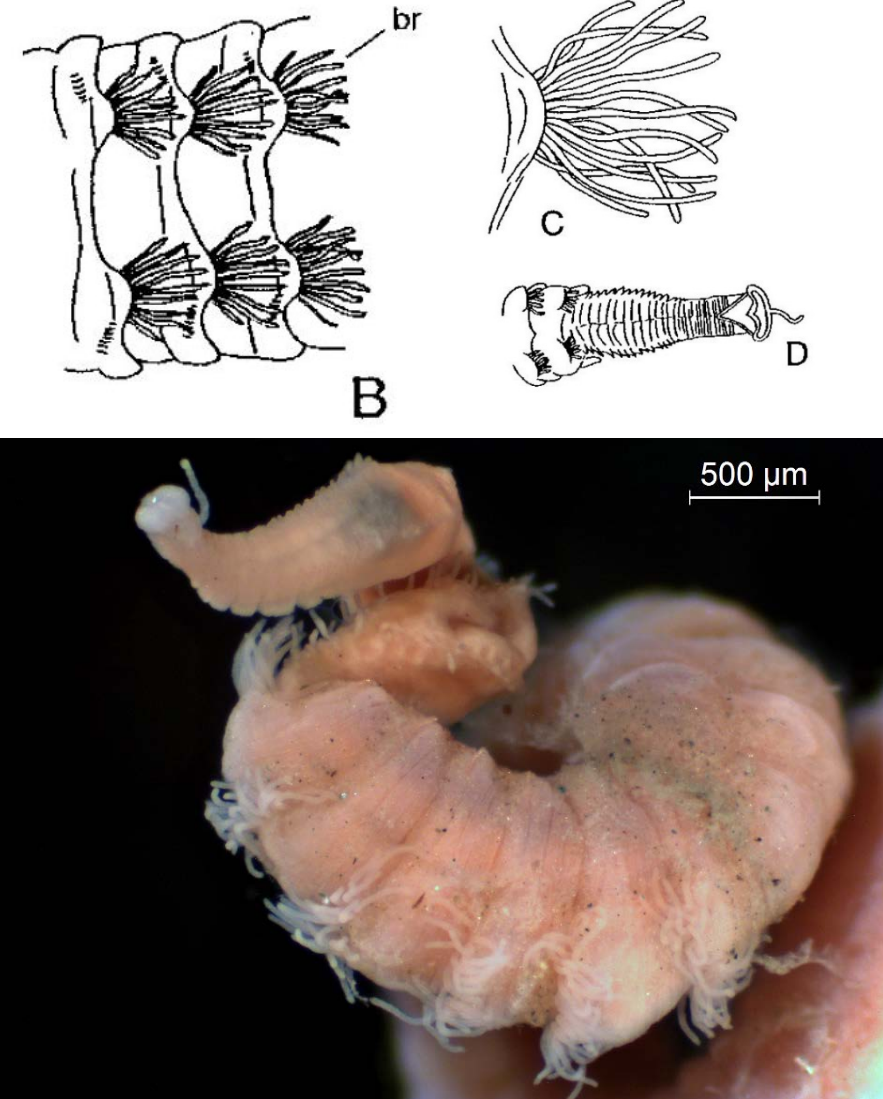
**Prostomium:** Small, conical; eyes absent. Peristomium uniannulate, achaetous, areolated. Proboscis inflated, with minute papillae.

**Branchiae:** From about chaetiger 30-50, tufts of multiple digitate filaments behind the notopodia, increasing in length posteriorly. In small individuals there may be only a few filaments per chaetiger; in adult worms they can number 12 or more per chaetiger.

**Chaetae:** Chaetigers 1-5 with capillaries only, 6-11 hooded hooks only. Thoracic hooks with 3 apical teeth over large main fang, smooth shafts, long hoods; abdominal hooks with distinct node on shaft and shorter hood.

**Pygidium:** With a single slender caudal filament (Hartman 1969).

Diagnostic Characteristics		
Diagnostic Characteristics	Photo, Illustrations	Photo, Illustration Credit
<p>Thorax with 11 chaetigers; 1-5 capillaries, 6-11 hooded hooks (characteristic of genus)</p>	 <p>100 <math>\mu</math>m</p> <p>chaetiger 5</p> <p>chaetiger 6</p> <p><i>Thorax (ventrolateral view); specimen from 2014 PSEMP Long-Term Station 4 Rep 1 (Bellingham Bay, WA)</i></p>	<p>Marine Sediment Monitoring Team</p>
<p>Chaetiger 1 biramous (characteristic of genus)</p>	 <p>no</p> <p>ne</p> <p>500 <math>\mu</math>m</p> <p><i>Anterior thorax (dorsolateral view); no – notochaetae, ne – neurochaetae. Specimen from 2014 PSEMP Long-Term Station 4 Rep 1</i></p>	<p>Marine Sediment Monitoring Team</p>

<p>Thoracic and abdominal hooded hooks with 3 apical teeth over main fang</p> <p><i>Note: This character can only be assessed with a frontal view of the hook, which can be difficult to obtain with light microscopy.</i></p>	 <p>1 4</p> <p>ABOVE LEFT: Thoracic hooded hook; ABOVE RIGHT: Abdominal hooded hook</p>	<p>Hartman 1969, p. 379</p>
<p>Multiple posterior branchial filaments, from about chaetiger 30-50</p> <p><i>Note: Very small specimens may have fewer filaments per chaetiger than the specimen pictured to the right.</i></p>	 <p>br</p> <p>B C D</p> <p>500 µm</p> <p>Posterior body region; specimen from 2014 PSEMP Long-Term Station 4 Rep 1</p>	<p>Blake 2000 (after Hartman 1947), p. 68</p> <p>Marine Sediment Monitoring Team</p>

**Methyl Green Staining:**

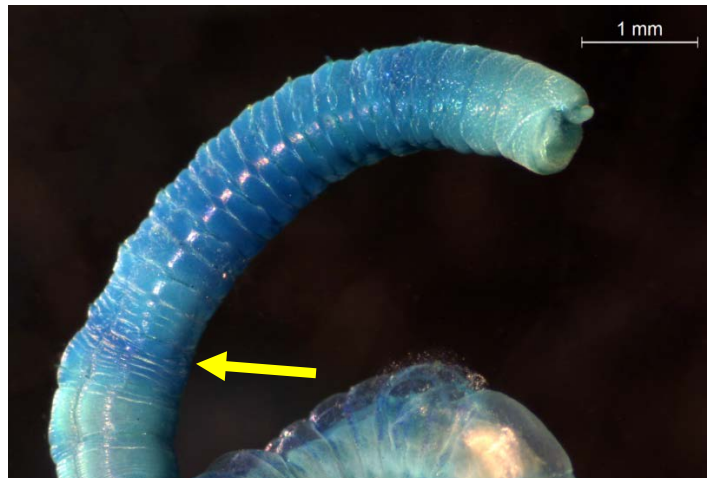
Peristomium and thorax staining uniformly light green except last thoracic segment which is darker (indicated by yellow arrows, right).

Abdomen with light stain (if at all), no pattern evident (SCAMIT 1985). Pygidial ring staining.

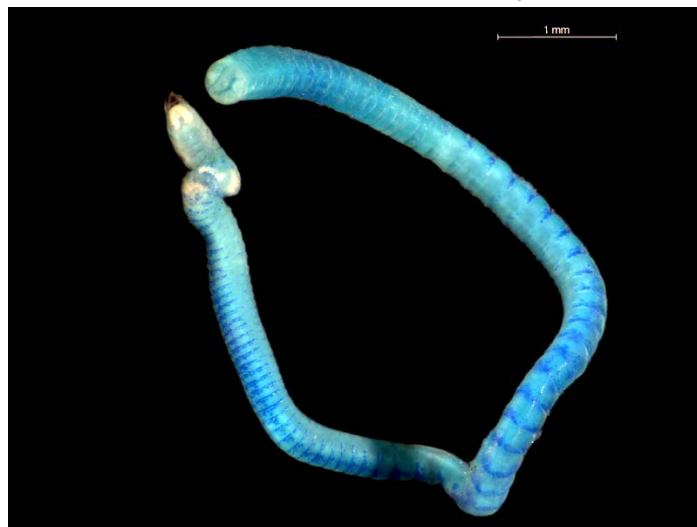
*Note: Some Puget Sound and BC specimens have dark intersegmental MG bands on the abdomen, even in small specimens (see photo, bottom right).*



*Specimen from 2016 PSEMP Long-Term Station 191 Rep 2 (Elliott Bay, WA)*



*Thorax (lateral view); specimen from 2016 PSEMP Long-Term Station 191 Rep 2*



*Specimen from 2017 Urban Bays Station 32 (Bellingham Bay, WA)*

## Related Species and Characteristic Differences

Species Name	Diagnostic Characteristics
<i>Heteromastus filiformis</i>	Body slender and fragile; branchiae single filaments, from chaetiger 100 (Blake 2000).
<i>Barantolla nr. americana</i>	No abdominal branchiae, but posterior ends are often broken off. Six thoracic chaetigers with capillaries, but small specimens may not have developed capillaries on chaetiger six. The two species are best distinguished by staining – <i>B. nr. americana</i> stains with dark bands around tori.

## Comments

*H. filobranchus* is often found covered with a thin brown mucous sheath which must be removed in order for chaetae to be observed (see photo, right, by the Marine Sediment Monitoring Team). Thoracic chaetae may also be retracted and difficult to see.

Common in locations with high nutrient input (e.g. sewage outfalls); may occur at these areas in great densities (Burd et al. 2013).



## Literature

- Berkeley, E. and C. Berkeley. 1932. Some Capitellidae (Polychaeta) from the northeast Pacific with a description of a new genus. *Proceedings of the Zoological Society of London*, 669-675.
- Blake, J.A. 2000. Family Capitellidae Grube, 1862. Pp. 47-96. *IN: Blake, James A., Hilbig, Brigitte, and P. Valentich Scott. Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and Western Santa Barbara Channel. Volume 7 - The Annelida Part 4. Polychaeta: Flabelligeridae to Sternaspidae.* Santa Barbara Museum of Natural History. Santa Barbara, CA. (p. 67-68)
- Blake, J.A. and R.E. Ruff. 2007. Polychaeta. Pp. 309-410. *In: Carlton, J.T. (Ed). The Light and Smith Manual. Intertidal Invertebrates from Central California to Oregon.* University of California Press, Berkeley. (p. 388-390)
- Burd, B., Macdonald, T., and S. Bertold. 2013. The effects of wastewater treatment effluent and river discharge on benthic heterotrophic production, organic biomass and respiration on marine coastal sediments. *Marine Pollution Bulletin*. 74: 351-363.
- Hartman, O. 1969. *Atlas of the sedentariate polychaetous annelids from California.* Allan Hancock Foundation, University of Southern California, Los Angeles. 812 pp. (p. 378-380)
- Hobson, K.D. and K. Banse. 1981. Sedentariate and archiannelid polychaetes of British Columbia and Washington. *Can. Bull. Fish. Aquat. Sci.* 209: 144 p. (p. 65)

Kozloff, E.N. 1987. *Marine Invertebrates of the Pacific Northwest*. University of Washington Press. Seattle, WA. 511 pp. (p. 146 and 154)

## More Information

To learn more about our Voucher Sheet project, please visit: <http://ecologywa.blogspot.com/2017/03/eyes-under-puget-sound-voucher-sheet.html>

More information on Puget Sound marine monitoring is available on our [website](#), including a full list of published [benthic invertebrate voucher sheets](#).

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