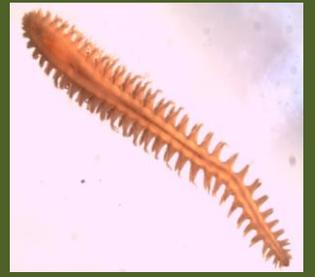


Puget Sound Polychaetes:
Family Nephtyidae



Family Nephtyidae

General characters (from Banse and Hobson, 1974)

- Setiger where interrampal cirri start.
- Shape of interrampal cirri.
- Shape of the acicular and postsetal lobes of the neuro- and notopodia.
- When conducting identification, you usually need to dissect out and examine both the interrampal cirri and the acicular and postsetal lobes of the noto and neuropodia from setiger 20-30 to make proper identification.
- Proboscoidal organs on pharynx are also distinctive, but more difficult to examine.

Three genera in Puget Sound (from Banse and Hobson, 1974)

- *Bipalponephtys* – interrampal cirri straight or slightly recurved, posterior prostomial antennae bifurcate.
- *Nephtys* – interrampal cirri recurved (curves outward), posterior prostomial antennae simple (not bifurcate).
- *Aglaophamus* – interrampal cirri involuted (curves inward), posterior prostomial antennae simple.

General notes

The Nephtyidae key in Banse and Hobson, 1974, is easiest to use to identify specimens to genus, and includes all of the genera and species that we have in Puget Sound. The species characteristics listed below are all taken from Banse and Hobson, 1974.

Genus *Bipalponephtys*

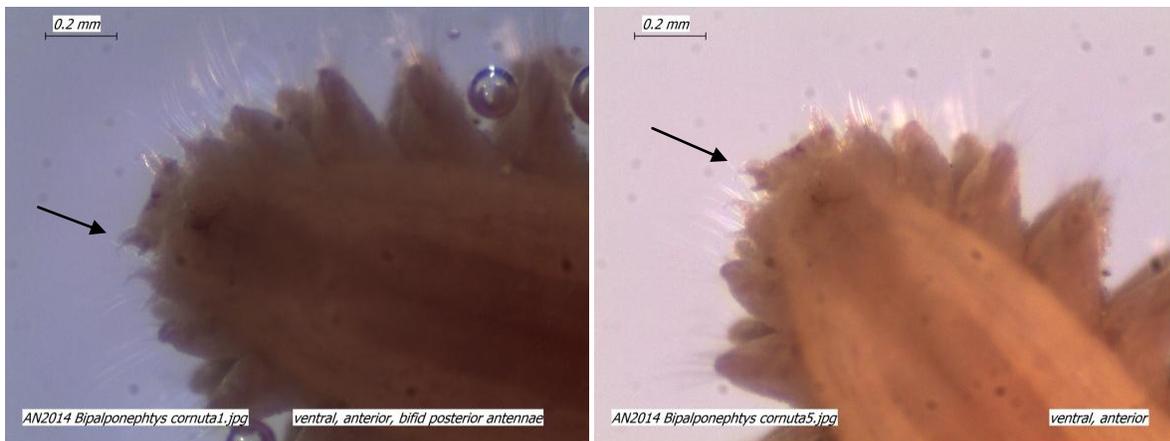
Bipalponephtys cornuta (Berkeley & Berkeley, 1945)

- Posterior antennae bifurcate. This genus used to be included in *Nephtys*, but the bifurcated posterior antennae on the prostomium are now used to classify this as a separate genus.
- Interrampal cirri first present on setiger 5 or 6, straight and short through about setiger 10, slightly recurved in following setigers.
- Middorsal papillae present on proboscis.
- *N. cornuta cornuta* and *N. cornuta franciscana* have been synonymized – presence of eyespots on setiger 3 and distribution of crossbarred setae are no longer considered subspecies characteristics.

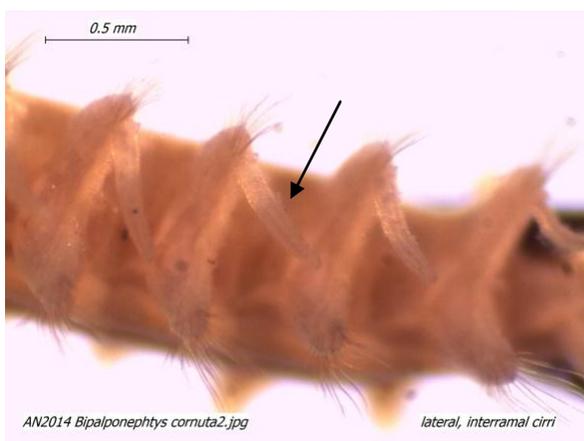
Family Nephtyidae



Whole body, dorsal view (l); prostomium, dorsal view (r)



Bifid posterior antennae on ventral prostomium (l,r)



Interramal cirri, lateral view

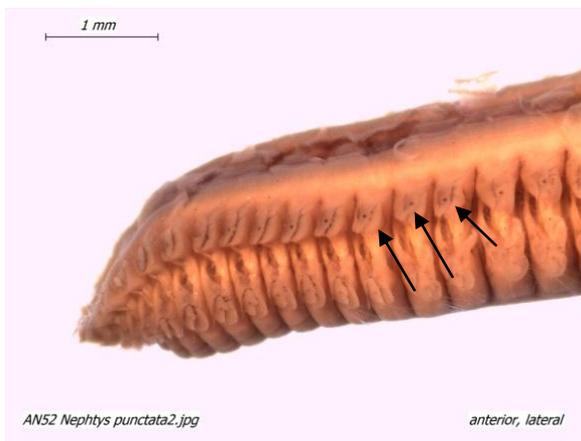
Genus *Nephtys*

***Nephtys punctata* Hartman, 1938**

- Posterior antennae simple, not bifurcate.
- Interramal cirrus slender, recurved, beginning on setiger 8-11.
- Acicular lobes deeply incised.
- Neuropodial postsetal lobe large.
- Proboscis with unpaired dorsal papilla, proximally with warts.



Anterior end, dorsal view (l); anterior, ventral view, simple antennae on prostomium (r)



Anterior, ventral view, interrampal cirri (l); midbody parapodium (r)

Family Nephtyidae



Midbody parapodium, notched notopodial (l) and neuropodial (r) presetal lobes;
recurved interramal cirri (l,r)

Nephtys longosetosa Orsted, 1842

- Posterior antennae simple, not bifurcate.
- Interramal cirri recurved, beginning on setiger 3-6.
- Notopodial acicular lobe rounded.
- Neuropodia postsetal lobe large, lower edge concave.
- Not as common in Puget Sound as *N. punctata* (although may be due to confusion between the two species).



Whole body, dorsal view (l); anterior and posterior ends, dorsal view (r)

Family Nephtyidae



Prostomium, dorsal view (l); mid-body parapodium, rounded notopodial acicular lobe, large neuropodial postsetal lobe (r)

Nephtys caeca (Fabricius, 1780)

- Posterior antennae simple, not bifurcate.
- Interramal cirri beginning on set 4-6, recurved.
- Both neuro- and notopostsetal lobes very large.
- Notopodial acicular lobe bilobed.
- Common in Puget Sound.



Interramal cirri from setiger 4 (l); large postsetal lobes (po l), notopodial acicular lobe (nal) bilobed (r)

Nephtys caecoides Hartman, 1938

- Posterior antennae simple, not bifurcate.
- Interramal cirri beginning on setiger 4, recurved.
- Notopodial postsetal lobe small, not partly covered by acicular lobe (smaller than lobe in *N. caeca*).

Family Nephtyidae

- Proboscis proximally smooth, with unpaired dorsal papilla.
- Dorsal pigment pattern conspicuous – prostomium only.



Notopodial postsetal lobe small

Nephtys ferruginea Hartman, 1940

- Posterior antennae simple, not bifurcate.
- Interramal cirri beginning on setiger 3, straight and flattened, not recurved, pointing inward or downward.
- Acicular lobes of middle parapodia incised.
- Postsetal lobes small.
- Anterior, dorsal pigment pattern conspicuous, but may fade in alcohol.
- Proboscis with unpaired dorsal papilla.
- Most common Nephtyidae we find in Puget Sound.
- Was called *N. signifera*.



Dorsal pigment pattern, anterior end (l,r)

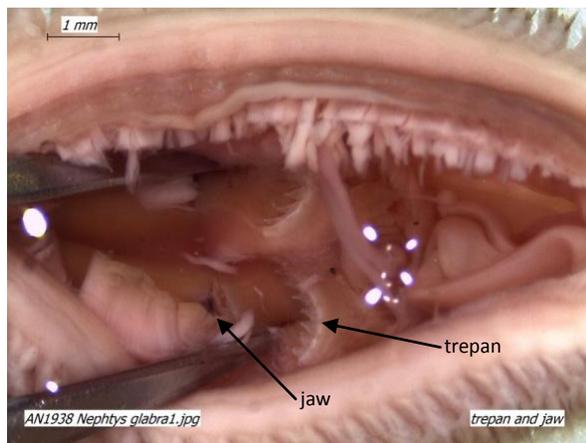
Family Nephtyidae



Acicular lobes incised, postsetal lobes (po l) small, interramal cirri (ic) relatively short, straight, flat (l,r)

Nephtys glabra Hartman, 1950

- Posterior antennae simple, not bifurcate.
- Interramal cirri beginning on setiger 6-7, slender, recurved.
- Acicular lobes bluntly conical.
- All parapodial lamellae reduced, low and rounded throughout.
- Proboscis with 22 rows of only 1-3 subterminal papillae and large middorsal papilla.
- Inside proboscis two trepans with 8-9 conspicuous, whitish, hard teeth.
- Previously placed in the genus *Dentinephtys*.



Trepans and jaws inside proboscis

Family Nephtyidae

Additional species of Nephtyidae found in Puget Sound

Nephtys assignis
Nephtys brachycephala

Nephtys californiensis
Nephtys ciliata

Nephtys discors

Literature

Banse, K. & Hobson, K.D. 1974. Benthic errantiate polychaetes of British Columbia and Washington. Bull. Fish. Res. Board Can. 185, 111 pages.

Hilbig, B. 1994. Chapter 13. Family Nephtyidae Grube, 1850. Pages 329-362. IN: Blake, J.A.; B. Hilbig; and P.H. Valentich-Scott (editors). Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and Western Santa Barbara Channel. Volume 4 -The Annelida Part 1. Oligochaeta and Polychaeta: Phyllodocida (Phyllodocidae to Paralacydoniidae). Santa Barbara Museum of Natural History, Santa Barbara, California. ISBN 0-93649-09-03.

More Information

More information about Puget Sound benthic invertebrates is available at:
<http://www.ecy.wa.gov/programs/eap/sediment/>

This document is available on the Department of Ecology's website at
<https://fortress.wa.gov/ecy/publications/SummaryPages/1403241.html>.

If you need this document in a format for the visually impaired, call (360) 407-6764. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call (877) 833-6341.

These notes were compiled by Kathy Welch and Maggie Dutch after a polychaete workshop held on November 20, 2013 at the Department of Ecology.