



## Puget Sound Polychaetes: Family Terebellidae



### Family Terebellidae

#### General characters (from Hilbig, 2000)

- Body divided into anterior thorax (notopodia and neuropodia present) and posterior abdomen (neuropodia only).
- Prostomium reduced and fused with peristomium; having an anterior upper lip and posterior tentacular membrane (tentacular membrane bearing numerous nonretractile tentacles (long in life, short when preserved)). (Ampharetidae can retract their buccal tentacles.)
- Eyespots sometimes present, located above and behind the reduced, belt-like prostomium.
- First 2-3 segments without setae; may bear branchiae dorsally and/or lateral to ventrolateral membranous flaps called lateral lappets.
- Branchiae present or absent (genus level characteristic); when present, located on a few anterior segments, usually segments 2 to 5; may be simple and cylindrical, arborescent, or bottle-brush shaped (number of gills is species level characteristic).
- Thoracic parapodia biramous; notopodia cylindrical bearing simple setae, usually limbate capillaries; thoracic neuropodia usually present, usually avicular uncini.
- Abdominal parapodia uniramous or without setae; notopodia lacking; neurosetae, when present, usually consist of avicular uncini.
- Pygidium simple, without anal cirri or lobes. (Usually absent from specimens, but it is unremarkable.)
- There are a couple of genera with no neurosetae in the abdomen.
- Neurosetae are variable...spines to uncini.

#### Common species of Terebellidae found in Puget Sound

##### Genus *Polycirrus*

- No gills.
- Anterior has glandular ventral shields...staining patterns are important.
- Many species, but not many are described. In Hobson and Banse, 1981, they are numbered with Roman numerals.
- Good info from Larry Lovell, 1995, a key with a nice table of provisional species...also, there is a key with the staining patterns.
- Notopodia generally have different pre and post-setal lobes, helps to distinguish among the different species.

*Polycirrus californicus* Moore, 1909

- Body widest in anterior thoracic region, with ventral shields.
- Upper lip and tentacular membrane fused, large, scoop-shaped; peristomium forming large, rugose, cushion-like lower lip. (curved shape, not really ruffled)
- Branchiae absent.
- Thorax with 20-40+ pairs of notopodia (juveniles may have fewer); notopodia with conspicuous posterior lobes (diagnostic for *P. californicus*) and fascicles of finely hirsute capillary setae.
- Neuropodial uncini present from setiger 8 to 13 to end of body.



Anterior, ventral, postsetal lobes, ventral shields (I); anterior, ventral, cushion-like lower lip



Anterior, lateral, note upper lip

## Genus *Artacama*

### *Artacama coniferi* Moore, 1905

- Body widest in anterior thorax, gradually tapering to pygidium; body wall rugose on dorsum of anterior thorax; segments bi- to tri-annulate.
- Anterior end with large proboscis-like, papillated extension.
- Branchiae present; segment 2 through 4 with tufts of numerous smooth branchial filaments arising from short stems.
- With 17 thoracic setigers; notopodia present from segments 4 through 20 bearing spreading fascicles of broadly limbate setae.
- Neuropodia present from segment 5 to end of body; neurosetae.



Whole body, lateral view (l); anterior end, lateral view (r)

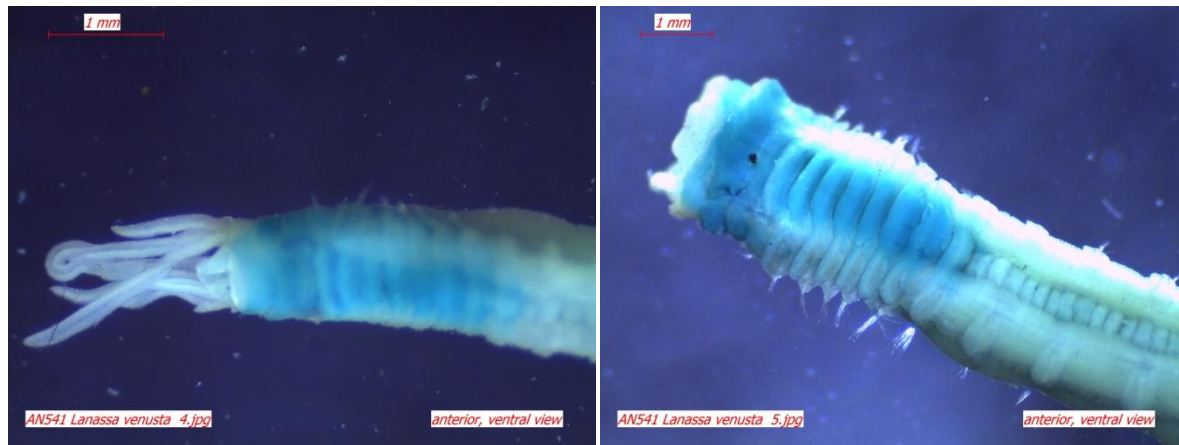
## Genus *Lanassa*

### *Lanassa venusta* Malm, 1874

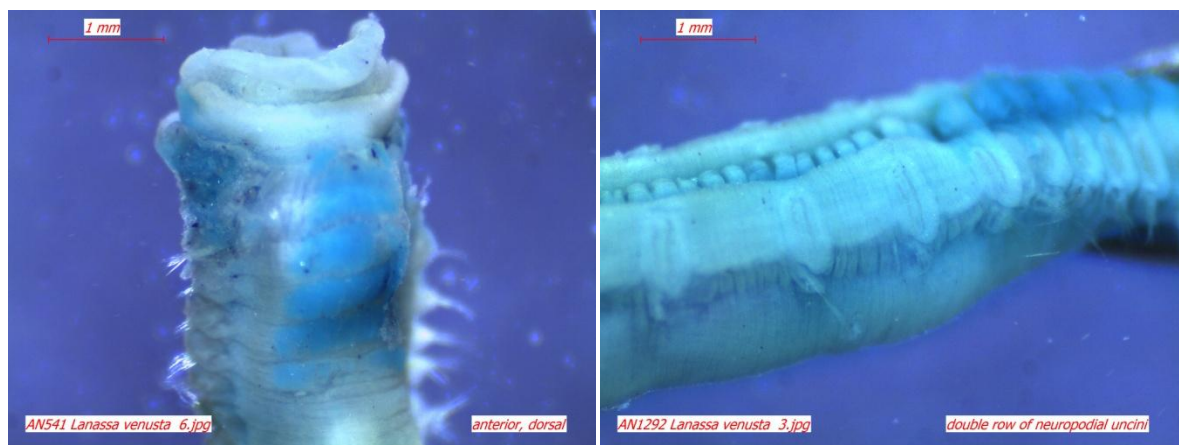
- Body slender, linear, with firm thorax and soft abdomen.
- Upper lip large, rounded lobe; without eyes.
- Branchiae absent.
- Segments 2 and 3 with small rounded lateral lappets.
- 2-3 transverse glandular structures on anterior dorsum.
- Notopodia present from segment 4 on 11 (not 12 or 15) setigers; notosetae limbate with finely denticulate tips (may appear smooth except at 1000x).
- Neuropodia present from segment 5 (setiger 2), with single rows of uncini through setiger 7 and double rows through setiger 18 (segment 21); **last 4 segments with double rows of uncini lacking notopodia (diagnostic character)**.
- Thorax with ventral shield on anterior 8 to 10 segments. The last one looks like a little button.

## Family Terebellidae

- Methyl green staining brings out 2-3 glandular pads on anterior dorsum, as well as the ventral glandular shields.



Anterior, ventral view (l,r)



Anterior, dorsal view (l); double row of neuropodial uncini (r)

### Genus *Amphitrite*

#### *Amphitrite robusta* Johnson, 1901

- Body stout, widest in anterior thorax; dorsum of the first 6 or 7 segments rugose.
- Tentacular membrane with numerous long, deeply grooved tentacles; tentacles do not break off easily.
- Lateral lappets present on segments 2 and 3; inconspicuous.
- Notopodia from segment 4; thoracic notosetae distally denticulate limbate setae.
- Neuropodia from segment 5, very long; uncini in double rows, interlocking face-to-face, in posterior thorax.



## Family Terebellidae

- With 3 pairs of palmately branched branchiae on short stems arising from segments 2-4; terminal branches relatively long.
- Ventral shields from segment 2, numbering 13; ventral shields on last 6 thoracic setigers inconspicuous.



Anterodorsal, buccal tentacles, branchiae, rugose (l); anterolateral view, lateral lappets (r)



Palmately branched branchia, long tips (l); neuropodia with double rows of uncini (r)

## Genus *Pista*

### *Pista wui* Safranov, 1988

- Body widest in thorax, tapering into a long, slender abdomen.
- Eyes absent.
- With conspicuous lateral lappets on segments 1-4; those on segment 1 short, glandular, projecting ventrally; on setiger 2 lappets small, located ventrally; lappets on segments 3 and 4 foliaceous, inserted laterally, subequal in size.

## Family Terebellidae

- Two pairs of branchiae present, bottle-brush shaped, inserted on segments 2 and 3; each pair of branchiae very unequal in size.
- Thoracic notosetae distally smooth.
- Thoracic uncini with long handles.



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



Bottle brush-shaped branchia, one larger than the other (l,r)

### Additional species of Terebellidae found in Puget Sound

*Amaeana occidentalis*

*Amphitrite cirrata*

*Amphitrite edwardsii*

*Eupolymnia heterobranchia*

*Lanassa nordenskioldi*

*Lanice conchilega*

*Laphania boeckii*

*Lysilla loveni*

*Nicolea zostericola*

*Pista agassizi*

*Pista brevisbranchiata*

*Pista elongata*

*Pista estevanica*

*Pista moorei*

*Pista pacifica*

*Polycirrus sp A*

*Polycirrus sp I*

*Polycirrus sp III*

*Polycirrus sp IV*

*Polycirrus sp V*

*Proclea graffii*

*Scionella japonica*

*Streblosoma bairdi*

*Thelepus setosus*

### Literature

Hilbig, B. 2000. Chapter 9. Family Terebellidae Grube, 1851. Pages 242-44. 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 7 - The Annelida Part 4. Polychaeta: Fabelligeridae to Sternaspidae. Santa Barbara Museum of Natural History. Santa Barbara, California. ISBN-13: 978-0936494128.

Hobson, K. D. and K. Banse. 1981. Sedentariate and archiannelid polychaetes of British Columbia and Washington. Canadian Bulletin of Fisheries and Aquatic Sciences v.209:145.

Holthe, Torleif. 1986. Polychaeta Terebellomorpha. Marine Invertebrates of Scandinavia Number 7. Norwegian University Press. 194pp.

### Other References

Harris, L. 2001. *Pista* lateral lappet chart for SCAMIT (handout not in newsletter).

Harris, L. 2002. *Pista* spp. drawings, morphology and stain patterns. CD published for SCAMIT.

### 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/1403251.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 June 22, 2014 at the Department of Ecology.