

Puget Sound Polychaetes:
Family Orbiniidae



Family Orbiniidae

General characters (from Blake, 1996)

- Body elongate and divided into wide, firm, dorsoventrally flattened anterior thoracic region (oval in cross section) and soft, fragile, rounded posterior abdominal region.
 - Prostomium acutely pointed to broadly rounded; small eyespots sometimes present; without prostomial branchiae, palps, or antennae.
 - Eversible pharynx soft and sac-like, without armature.
 - Peristomium consists of one or two achaetous segments.
 - Paired cirriform branchiae, when present, begin on the posterior thorax or the anterior abdominal region and continue to the posterior end; positioned between the notopodia.
 - Parapodia usually biramous; all setae simple (bent or arched).
 - Notopodia inconspicuous, with fingerlike postsetal lobes that may be forked or divided into lobes; notosetae include capillary and furcate setae; modified spines sometimes occur in abdominal notopodia.
 - Neuropodia well-developed in thoracic region and extend laterally and dorsally as distinct projections; neurosetae may include capillaries, uncini, and modified spines.
- **General notes**
 - Two subfamilies
 - Orbiniinae – we get these in Puget Sound – with 1 achaetous ring behind prostomium.
 - Protoariciinae – we don't get these in Puget Sound – with 2 achaetous rings behind prostomium, developmental feature...they add ring as they get older, so juveniles with one ring might be confused with Orbiniinae.
 - One major distinguishing feature between some species is presence or absence of modified spines in neurosetae. If specimen is too big to go under compound scope, put under dissecting scope and look for spines ...they catch the light differently than the capillary setae and look different under scope.

Common species of Orbiniidae found in Puget Sound (listed in frequency of occurrence)

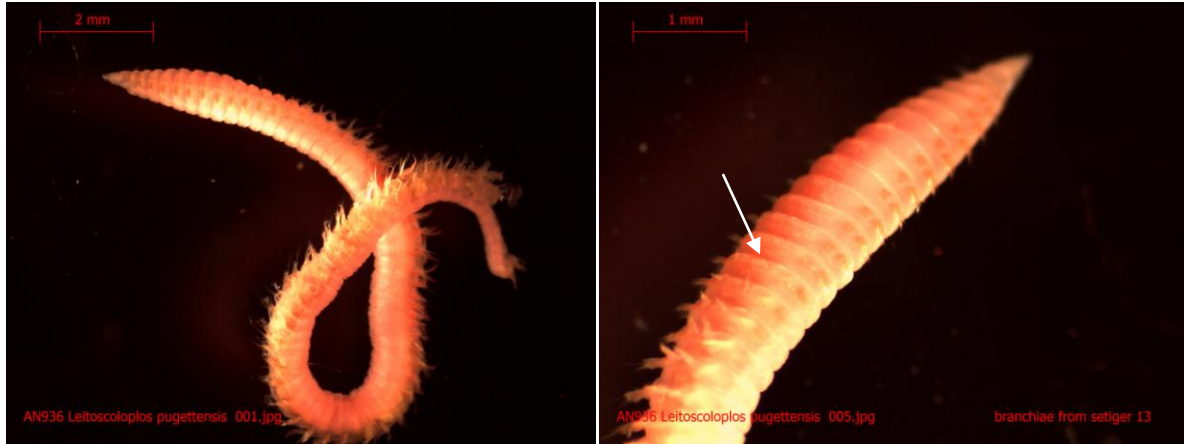
Leitoscoloplos pugettensis (Pettibone, 1957)

(from Blake, 1996, pg. 9)

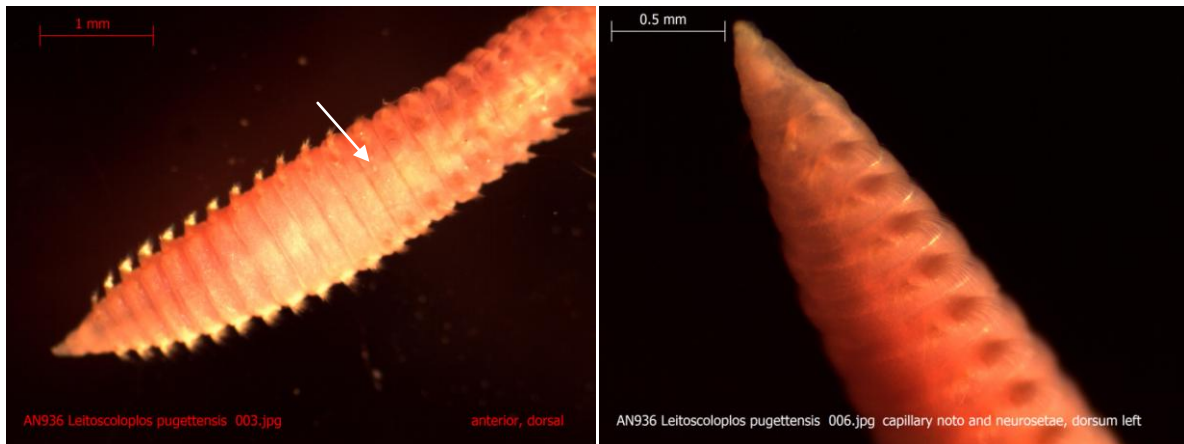
- Body large; thorax robust, with 14-20 setigers.
- Prostomium conical, tapering to an acute point; eyes absent.
- Neuropodia without subpodial lobe in posterior thorax and anterior abdomen.
- Branchiae first present from setigers 13-18.

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- All thoracic setae and abdominal neurosetae capillaries; abdominal notosetae include capillaries and furcate setae. (note: Kathy has not seen the furcate setae)
- Most common species of Orbiniidae.
- Only capillary setae in both notopodium and neuropodium of thorax.

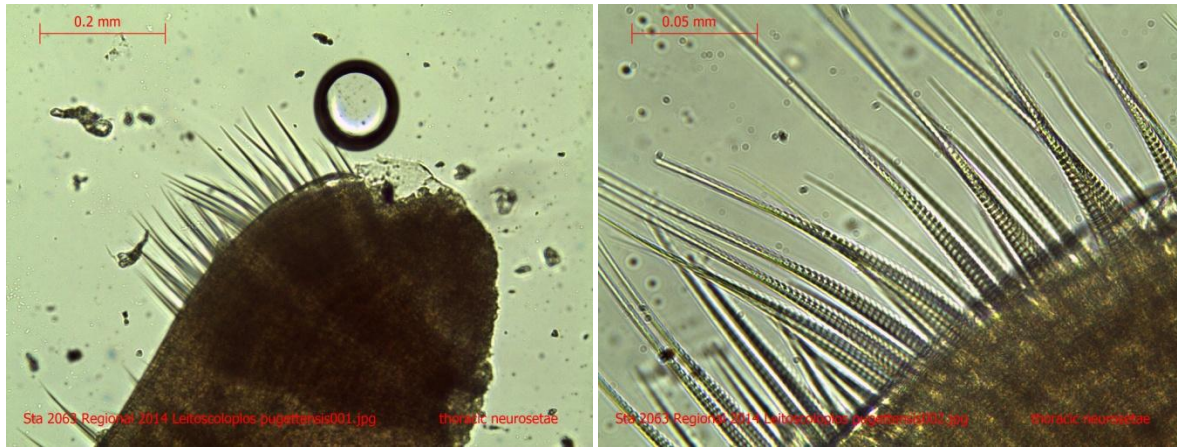


Whole body, lateral view (l); anterior end, lateral view, branchiae present from setigers 13 (look closely, the first pair is small (r))



Anterior end, dorsal view, prostomium pointed, no eyes, branchiae start on setigers 13 (l); anterior end, lateral view, dorsum to the left, thoracic noto- and neurosetae are all capillary (r)

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Thoracic parapodium, neurosetae all capillary (l); thoracic capillary neurosetae (r)

Scoloplos armiger (Müller, 1776)

(from Blake, 1996, pg. 15)

- Body moderate to large; thorax with 19-22 setigers; some dark pigment present on thoracic neuropodial lobes.
- Prostomium pointed, longer than wide; eyes absent.
- 1 or 2 subpodial lobes present ventral to posterior thoracic neuropodia.
- Thoracic neurosetae include capillaries and thick uncini (there can be very few of these spines).
- Branchiae first present from setigers 11-16.

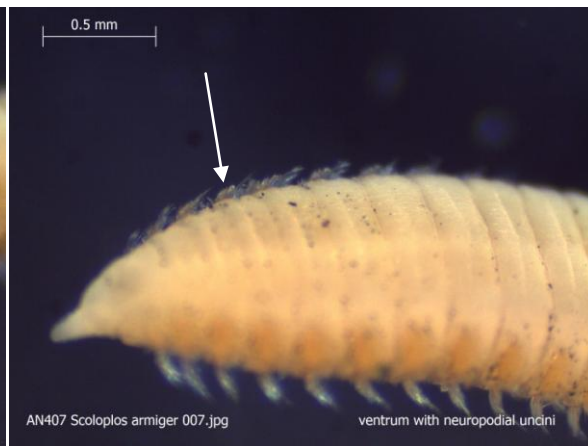


Most of body, dorsal view (l); anterior end, dorsal view (r); anterior end, dorsal view (r)

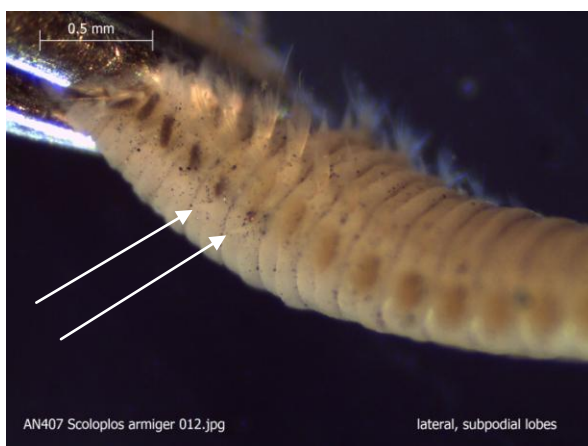
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Anterior end, dorsolateral view, branchiae starting on setigers 11 (l,r)



Ventrolateral view, neuropodia (top) with capillary setae and uncini (l); neuropodial uncini (r)



Lateral, subpodial lobes (l)

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Thoracic parapodium, neurosetae include capillaries and thick uncini (l,r)

Phyllophorus Kinberg, 1866

(from Hobson and Banse, 1981)

- Prostomium pointed anteriorly.
- Postsetal lobes on posterior neuropodia fringed, with up to 18 papillae.
- Posterior thoracic neuropodia with spines (“spears”).
- Branchiae start on setiger 5.



Anterior end, dorsolateral view, note pointed prostomium, fringed postsetal neuropodial lobes and thoracic neuropodia with spines (l, r); branchia (br) start on setigers 5.

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Anterior end, dorsolateral view, note pointed prostomium, fringed postsetal neuropodial lobes and thoracic neuropodia with spines (l); Thoracic neuropodial spines (r)

Naineris quadricuspida (Fabricius, 1780)

(from Hobson and Banse, 1981)

- Prostomium rounded anteriorly.
- Postsetal lobe of thoracic neuropodia with single papilla (we could not see this on our specimens).
- Thoracic neuropodia without subuluncini.



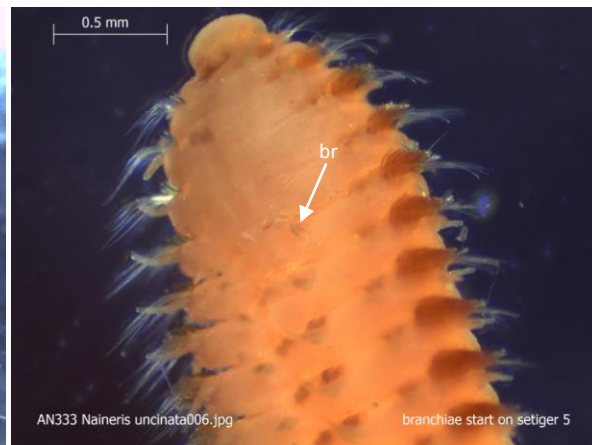
Whole body, dorsal view (l); anterior end, dorsal view, note rounded prostomium (r)

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Naineris uncinata Hartman, 1957

(from Hobson and Banse, 1981)

- Prostomium anteriorly truncate.
- Postsetal lobe of thoracic neuropodia with 1 papilla on setigers 1-6, 2 on remaining thoracic setigers. (we could not see this on our specimens)
- Gills from setiger 5 or 6.
- Thoracic neuropodia without subuluncini.



Whole body, dorsal view (l); anterior end, dorsal view, rounded prostomium, branchiae from setigers 5 (r)



Anterior end, lateral view, note thoracic capillary notosetae and neurosetae uncini

Additional species of Orbiniidae found in Puget Sound

Leitoscoloplos sp. N1
Orbinia sp.

Scoloplos acmeiceps
Scoloplos armiger alaskensis

Literature

Blake, J.A. 1996. Chapter 1. Family Orbiniidae Hartman, 1942. Pages 1-26. 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 6 - The Annelida Part 3. Polychaeta: Orbiniidae to Cossuridae. Santa Barbara Museum of Natural History. Santa Barbara, California. ISBN 0-93649-11-5.

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.

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/1403244.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 August 13, 2014 at the Department of Ecology.