

## *Prionospio lighti* Maciolek 1985

Nomenclature	
Phylum	Annelida
Class	Polychaeta
Order	Spionida
Family	Spionidae
	<i>Prionospio</i> ( <i>Minuspio</i> ) <i>lighti</i> Maciolek 1985 (PN)
Common Synonyms (S) Previous Names (PN)	<i>Prionospio cirrifera</i> Wirén, 1883 (PN)



Distribution	
Type Locality	Skiff Point, Bainbridge Island, Washington, holotype (USNM 74740)
Geographic Distribution	Washington to southern California (Blake 1996)
Habitat	Mixed sand and silt; intertidal to 600 m (Blake 1996)

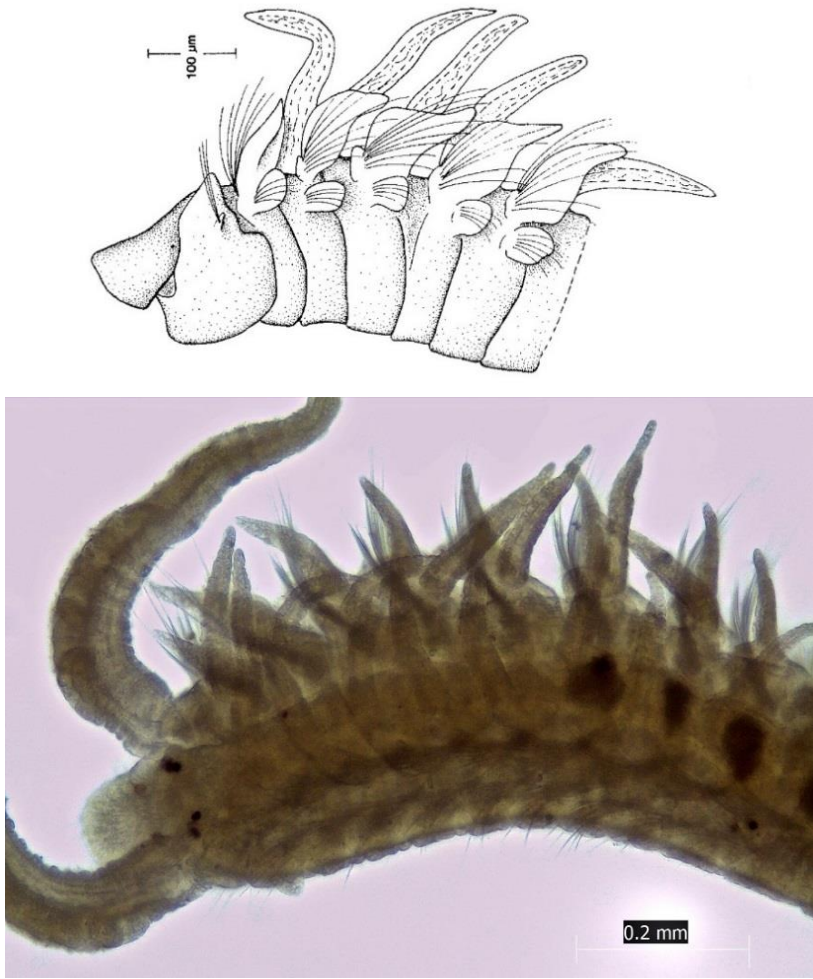
Description
From Maciolek 1985, p. 364 (unless otherwise noted)
<b>Size/Color:</b> Small species, measuring 0.5 mm wide and 15 mm long for 70 setigers. Light tan to white in alcohol.
<b>Body:</b> Cylindrical, elongate; broadest anteriorly and gradually tapering towards the posterior end (R.E. Ruff, personal observation).
<b>Prostomium:</b> Bluntly rounded anteriorly (see note in comments), with 3 to 5 small marginal peaks; tapering posteriorly, caruncle ending bluntly at posterior edge of setiger 1; 4 small eyes present, sometimes indistinct (or absent [Blake 1996]), anterior pair slightly larger and more widely spaced than posterior pair. Peristomium dorsally fused with setiger 1, forming moderate lateral wings.
<b>Branchiae:</b> Apinnate, cylindrical, present from setiger 2, numbering 6-12 pairs (usually 10); each branchia extending 2 or 3 setigers.
<b>Parapodia:</b> Notopodial lamellae lacking on setiger 1, largest in branchial region, with medially elongated tips giving a triangular appearance; lamellae smaller, triangular in posterior setigers, not forming dorsal ridges or crests. Neuropodial lamellae of setiger 1 small, digitiform; lamellae larger, rounded in branchial region; smaller, triangular, appearing similar to notopodial lamellae in post-branchial setigers. Interparapodial pouches lacking.

**Setae:** Anterior setae all sheathed capillaries; setae arranged in 2 rows from setiger 2. Neuropodial hooded hooks from setiger 13-18, up to 8 per fascicle; notopodial hooks from setiger 25-40, up to 4 per fascicle; hooks accompanied by capillaries throughout; hooks with 2 or 3 pairs of small teeth above main tooth. Ventral sabre setae present from setiger 12-14, numbering 1 or 2 per fascicle.

**Pygidium:** With one long dorsomedial and two shorter ventrolateral cirri.

**Methyl Green Staining:** Prostomium and caruncle stain intensely except for mid-dorsal spot. Lateral margins of peristomium stain intensely, less so ventrally, and in area between prostomium and peristomium, including groove where palps arise. Margins of dorsal and ventral lamellae stain intensely, continuing dorsally and ventrally across anterior margins of each segment; lateral areas of each segment posterior to postsetal lamellae also stained. Mid-ventrum with large square stained areas, often joined, forming solid line extended posteriorly in postbranchial segments; resulting overall pattern striking and highly characteristic (Blake 1996).

## Diagnostic Characteristics

Diagnostic Characteristics (From Blake 1996)	Photo, Illustrations	Photo, Illustration Credit
<p>6-12 pairs of branchiae present from setiger 2; all apinnate, not unusually long, extending only for about length of 2-3 segments</p>	 <p><i>Anterior (dorsolateral view); specimen from 2014 PSEMP Long-term Station 44 Rep 2</i></p>	<p>Maciolek 1985, p. 363</p> <p>Marine Sediment Monitoring Team</p>

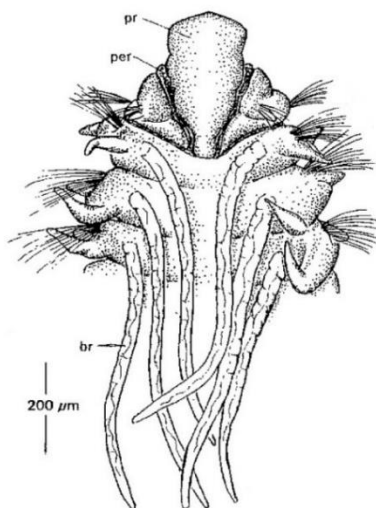


Anterior (dorsolateral view); specimen from 2014 PSEMP Long-term Station 44  
Rep 2


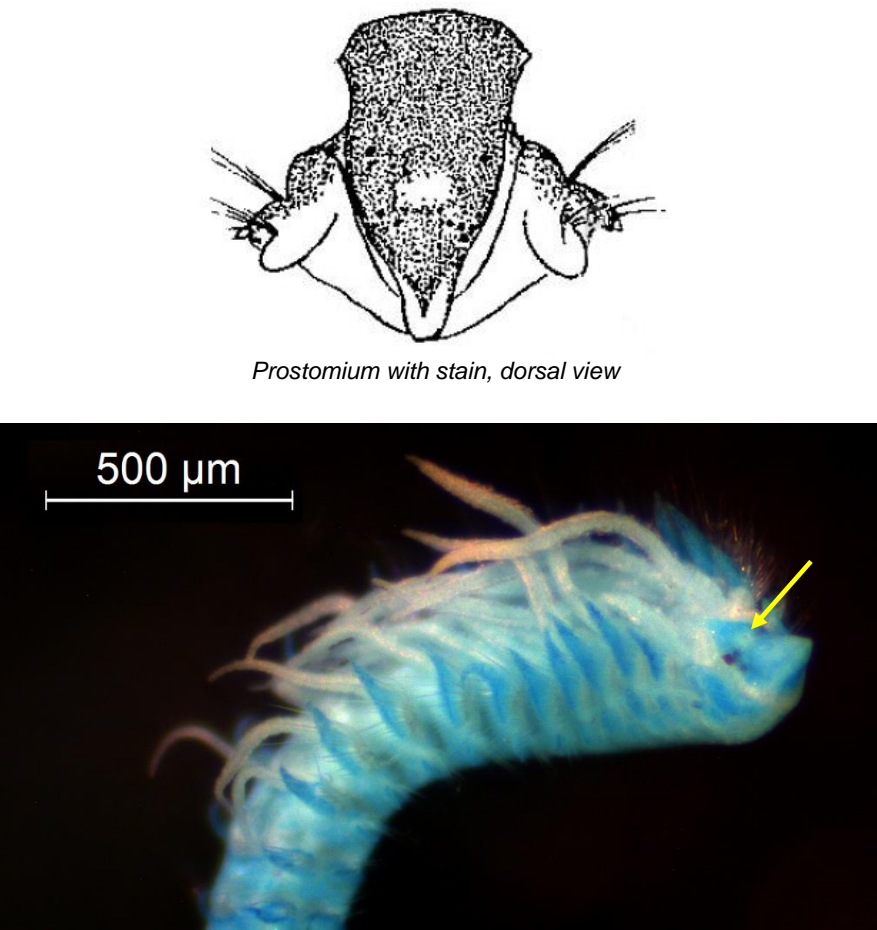


Anterior (dorsolateral view); specimen from 2014 PSEMP Long-term Station 29  
Rep 1

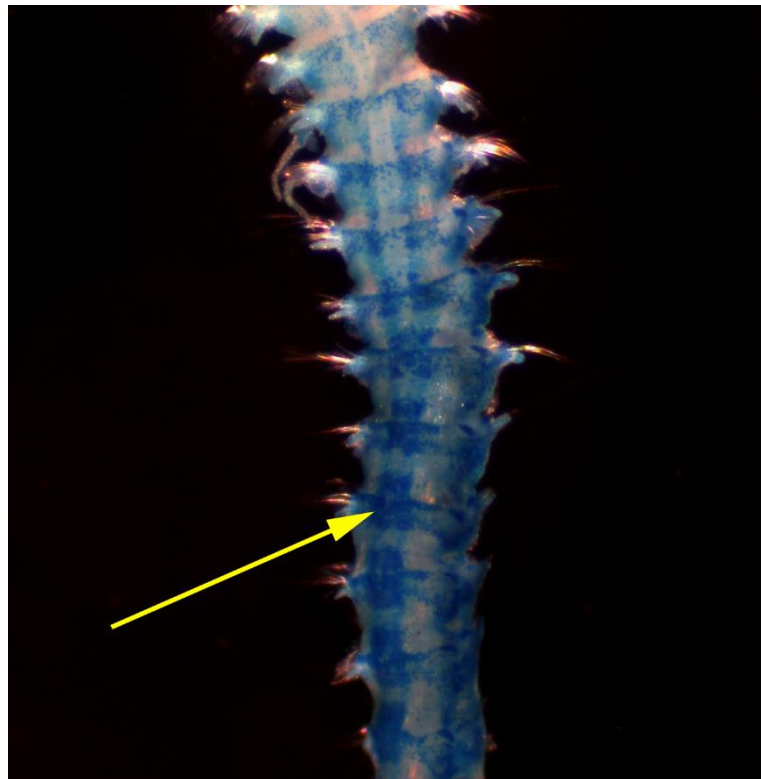
Prostomium  
bluntly rounded  
anteriorly, with  
3-5 small lateral  
peaks



Blake  
1996, p.  
137

	 <p data-bbox="410 804 1268 856"><i>Prostomium (dorsal view, anterior branchiae removed for clarity); specimen from 2014 PSEMP Long-term Station 29 Rep 2</i></p>	<p data-bbox="1304 163 1427 285">Marine Sediment Monitoring Team</p>
<p data-bbox="201 869 367 1142"><b>Methyl green staining:</b> Prostomium and caruncle stain intensely except for mid-dorsal spot; lateral margins of peristomium stain intensely</p>	 <p data-bbox="656 1272 1026 1297"><i>Prostomium with stain, dorsal view</i></p> <p data-bbox="456 1850 1224 1906"><i>Anterior end (lateral view); arrow indicates mid-dorsal spot without stain; specimen from 2014 PSEMP Long-term Station 29 Rep 1</i></p>	<p data-bbox="1317 869 1414 957">Blake 1996, p. 137</p> <p data-bbox="1304 1318 1427 1440">Marine Sediment Monitoring Team</p>

Mid-ventrum  
with large  
squares of stain



Mid-body (ventral view); specimen from 2014 PSEMP Long-term Station 29 Rep 1

### Related Species and Characteristic Differences

Species Name	Diagnostic Characteristics
<i>Prionospio multibranchiata</i> Berkeley, 1927	Prostomium teardrop-shaped, with large, dark crescentic eyes.
<i>Prionospio steenstrupi</i> Malmgren, 1867	Prostomium subtriangular, truncate and without marginal peaks; 4 pairs of branchiae, 1 <sup>st</sup> and 4 <sup>th</sup> pairs pinnate.

### Comments

**Regarding prostomium shape:** Maciolek's (1985) illustration of a California specimen of *P. lighti* (p. 363, Figure 14B) shows the prostomium narrowing anteriorly, a feature she uses to distinguish it from *P. perkinsi* (an Atlantic/Gulf coast species). *P. lighti* in Puget Sound have a prostomium that is anteriorly broadened, giving it an overall spindle or wedge shape.

**From Blake 1996:** *P. lighti* is a dominant infaunal species on the continental shelf in depths of about 90-150 m; it is less common in deeper water...the common shallow water and continental shelf representative of the *P. cirrifera* complex in the eastern Pacific.

## Literature

- Blake, J.A. 1996. Family Spionidae Grube, 1850. *In: Blake, J.A., Hilbig, B., and P.H. Scott. 1996. Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and the Western Santa Barbara Channel. Volume 6. The Annelida Part 3. Polychaeta: Orbiniidae to Cossuridae.* Santa Barbara Museum of Natural History. Santa Barbara, California. (Pp. 136-138)
- 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. 372-376)
- Hartman, O. 1969. Atlas of the sedentariate polychaetous annelids from California. Allan Hancock Foundation, University of Southern California, Los Angeles. 812 pp. (p. 155, as *Prionospio cirrifera*)
- 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. 42, as *Prionospio cirrifera*)
- Maciolek, Nancy J. 1985. A revision of the genus *Prionospio* Malmgren, with special emphasis on species from the Atlantic Ocean, and new records of species belonging to the genera *Apoprionospio* Foster and *Paraprionospio* Caullery (Polychaeta, Annelida, Spionidae). *Zoological Journal of the Linnean Society.* 84: 325-983. (p. 363)

## More Information

<p>More information about Puget Sound benthic invertebrates is available at: <a href="http://www.ecy.wa.gov/programs/eap/psamp/index.htm">http://www.ecy.wa.gov/programs/eap/psamp/index.htm</a></p>	<p>Prepared by Dany Burgess (Ecology) and Mattie Michalek (WCC); reviewed by R. Eugene Ruff (Ruff Systematics). This document is available on the Department of Ecology's website at <a href="https://fortress.wa.gov/ecy/publications/SummaryPages/1603215.html">https://fortress.wa.gov/ecy/publications/SummaryPages/1603215.html</a></p>	<p>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.</p>
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