

# SCAMIT VOUCHER SHEET



## Lineidae sp B

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Group: Nemertea: Pilidiophora: Heteronemertea: Lineidae

SCAMIT CODE: None

Date Examined: October 2, 2019

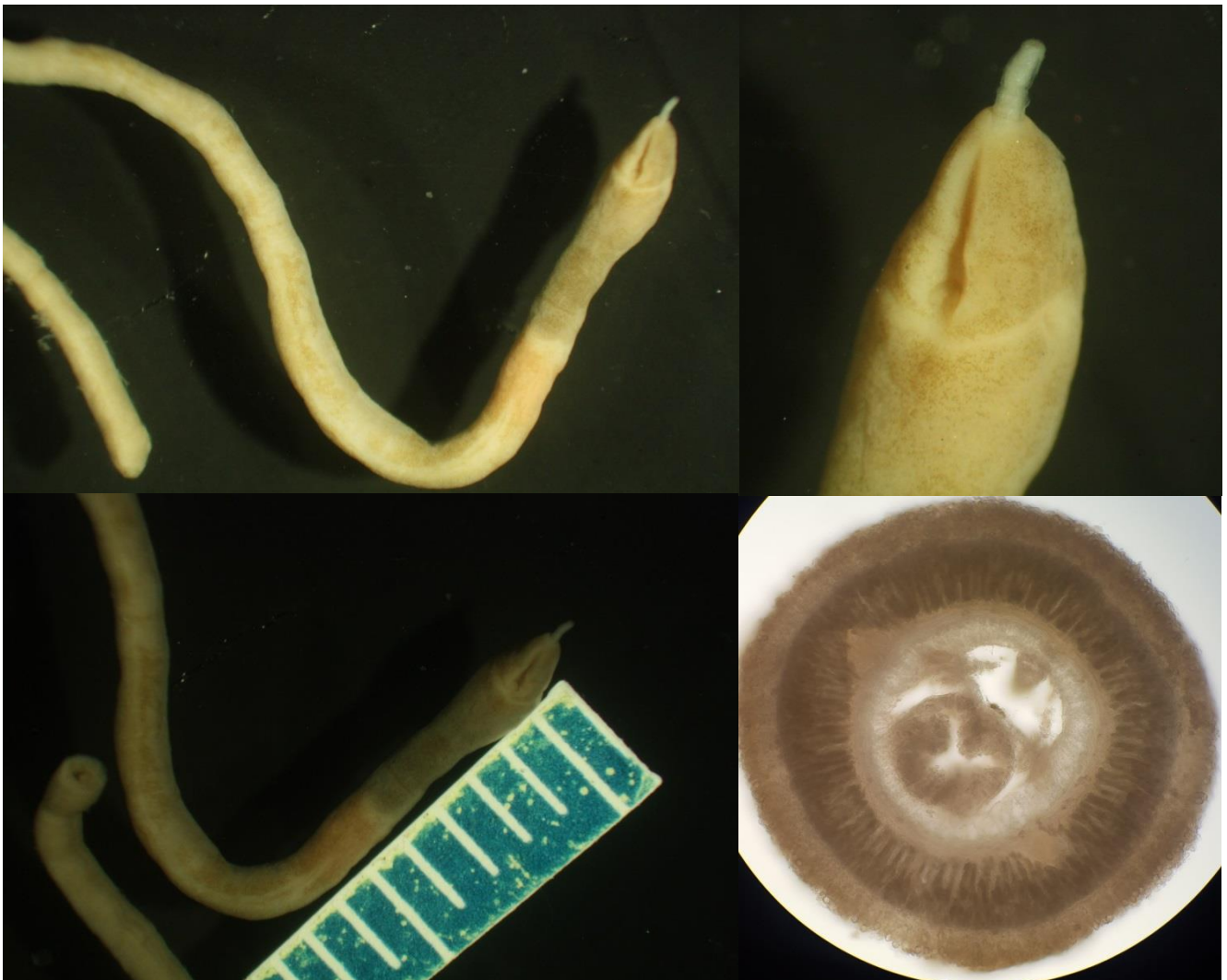
SYNONYMY: Lineidae sp DC1 (Pasko 2019)

Authorship: SCAMIT 2021 §

Lineidae sp HYP3 (Larsen & Pasko 2019)

### DIAGNOSTIC CHARACTERS:

1. Large, deep horizontal cephalic slit. Transverse groove/white line at posterior end of cephalic slit.
2. Two-layered Heteronemertean musculature, with lateral nerve cord (LNC) embedded on the outside of the circular muscle layer.
3. Distinct two-toned preservation band in esophageal region, with a thin white band dividing the two colors; reddish-pink posterior of the white band, and a yellow-brown anterior of the white band.
4. Large, distinct lateral sense organ (LSO) present at posterior end of preservation band.
5. Cerebral sense organ (CSO) present at proximal end of cephalic slit, in the shape of a small circle.
6. Head shape is ovate (egg-shaped); anteriorly tapered with a broad base (similar to *Cerebratulus*).
7. Moderately sized mouth, but without distinctive ribbing or musculature.



#### SPECIMEN COLLECTION(S):

- CLAEMD, Station B18-11000 (~394 m), East Santa Barbara Channel, July 2018
- LACSD, Station B18-10333 (~406 m), East Santa Barbara Channel, July 2018

#### ADDITIONAL COMMENTS/DETAILS:

- The coloration intensity anterior to the white band can vary, as observed between the three specimens examined. The above pictures depict the darkest anterior coloration of the three specimens, with the lightest having coloration similar to the background tissue. The posterior pinkish coloration can also vary, probably due to preservation.
- The presence of an LSO in a Heteronemertean is unusual, if not unheard of, likely because LNCs in Heteronemerteans are located interior to the outer-most longitudinal muscle layer and are presumably restricted from developing a contiguous connection to the dermal layers. In contrast, 3-layer Palaeonemerteans, which are the predominant bearers of the LSO character, have LNCs located exterior to the outer-most muscle layer (circular muscle), with easy access to the dermal layer.
  - Interestingly, after examining of the position of the nerve cord with serial cross-sections, there was no substantial LNC migration towards the dermal layer. Rather, cross-sections located across the LSO exhibited a glandular (?) mass extending inward from the dermis, towards the LNC.

#### RELATED SPECIES AND CHARACTER DIFFERENCES:

##### **Lineidae sp SD1**

- Similar yellow-beige background color.
- Well-defined horizontal slit, although narrow.
- Partially complete white transverse line crossing mouth (at posterior end of cephalic slit).
- Absence of two-tone coloration (preservation band) and white band in esophageal region; no LSO.
- Head shape is more linear (parallel margins, like *Lineus bilineatus*) vs ovate



##### **Lineus sp AV1 (collected from Avalon, 42m)**

- Darker background coloration than Lineidae HYP3 and Lineidae SD1
- Large, deep cephalic slit. Partial transverse white line crossing mouth.
- Larger mouth than Lineidae HYP3 and Lineidae SD1.
- Absence of LSO and two-tone preservation band.

