



Species: *Lepidonotus* sp A SCAMIT, 2023 §

Synonyms: *Lepidonotus* sp LA1 Haggin, 2019 §

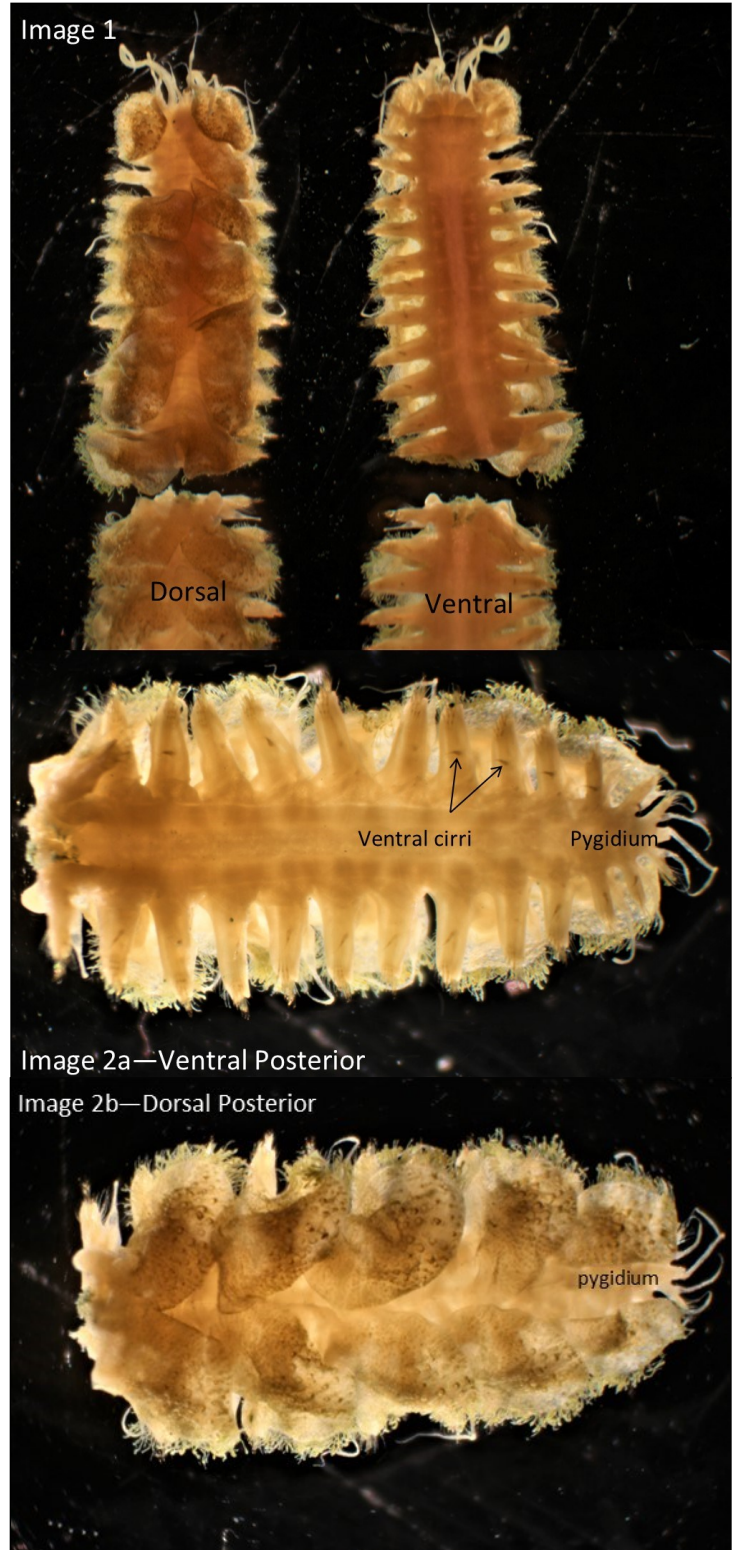
P-code—none assigned

ITI-code—none assigned

Subfamily: Lepidonotinae
Family: Polynoidae
Suborder: Aphroditiformia
Order: Phyllodocida
Subclass: Errantia
Class: Polychaeta
Phylum: Annelida

Diagnostic Characters:

- 1) ~18 mm X ~2 mm (4 mm with parapodia), complete but broken into 2 pieces (Images 1, 2a & 2b).
- 2) Prostomium indistinctly bilobed, anterior portion projecting forward as ceratophores of lateral antennae; eyes present, 2 pair, posterior pair small and less pigmented (Image 3).
- 3) Median antennae (MA) attached subterminally on distinct ceratophore in deep invagination created by lateral antennae. Median antennae slender with medial swelling and tapering to filiform tip (Image 3).
- 4) Lateral antennae (LA) attached terminally, without distinct ceratophores. Slight medial swelling (not as pronounced as in MA) and tapering to filiform tips (Images 3 & 4).
- 5) Palps longer than MA, tapering to filiform tips (Images 3 & 4).
- 6) Tentaculophores long, with 1 spinous chaetae. Two pairs of tentacular cirri (similar in shape to MA & LA), longer than LA but shorter than MA (Image 3).
- 7) Ventral cirri of chaetiger 1 very long, remainder are shorter and of equal length throughout (similar to those picture on chaetiger 11) (Images 1, 2a, & 15).
- 8) 12 pair of elytra (~1.5 mm X 3 mm, overlapping slightly in mid-dorsum). Elytra with fringe of long papillae and macrotubercles of two types: 1) tall, bluntly conical; 2) short, broad, rounded. Both types of macrotubercles and fringe papillae present throughout (Images 4-14).
- 9) Parapodia biramous. Notopodial lobe rounded, inserted anterodorsal to neuropodial lobe. Neuropodial lobe broadly rounded, with medial projection containing the acicula (Image 15).



Images 8-12, 16-20 by B. Haggin
Images 1-7, 13-15 by N. Lee

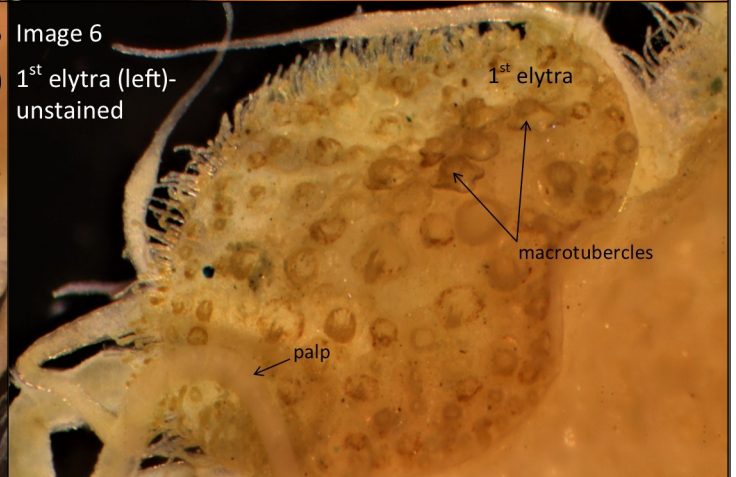
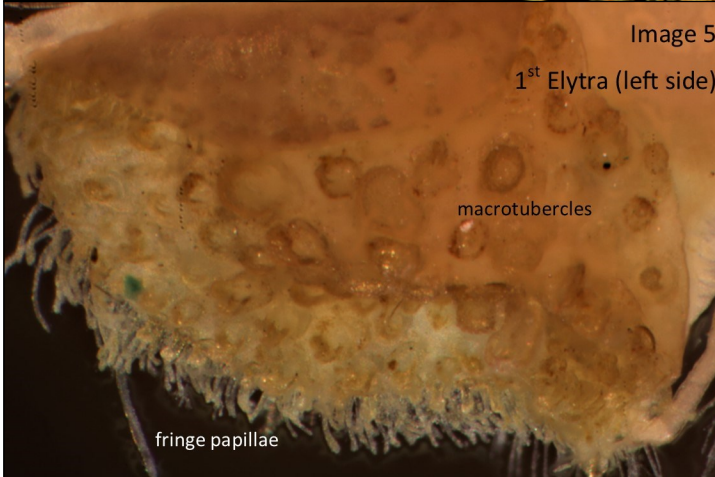
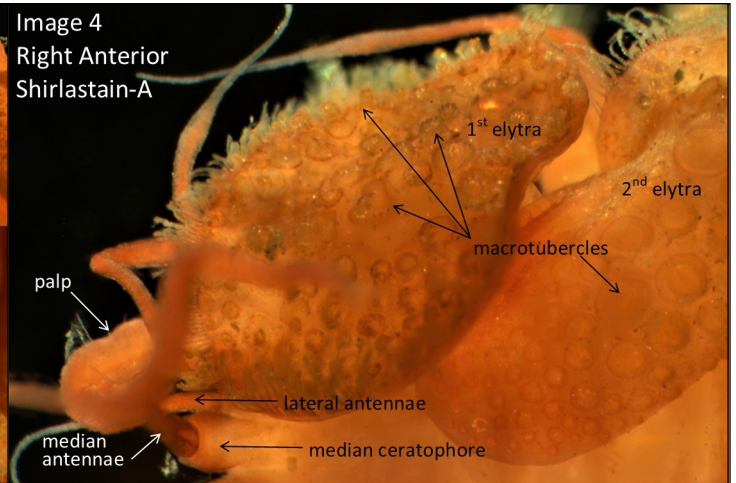
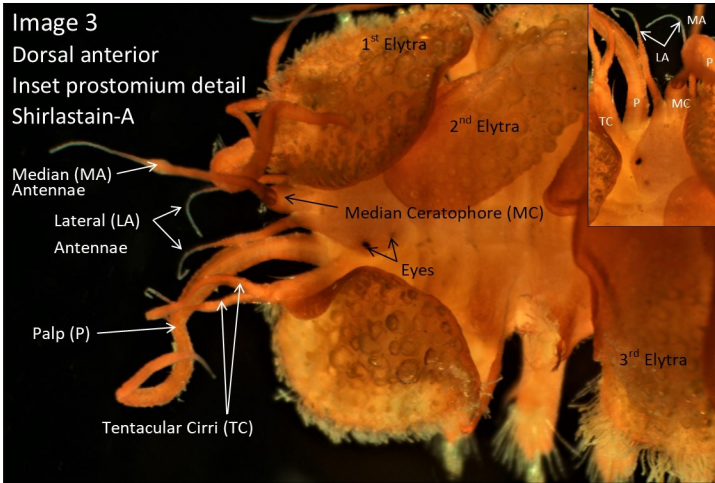
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Diagnostic Characters (cont.):

- 10) Notochaetae of 2 types: 1) few short, with broad, pointed tips, with transverse rows of serrations on shaft; 2) numerous long, capillary-like, tapering to fine tips, with rows of paired bracts along shaft (Images 16-18).
- 11) Neurochaetae stout, with unidentate, falcate tips and a cluster of small teeth subdistally (Images 16, 19 & 20).
- 12) Pygidium with 1 long anal cirri (Images 2a, 2b & 14).

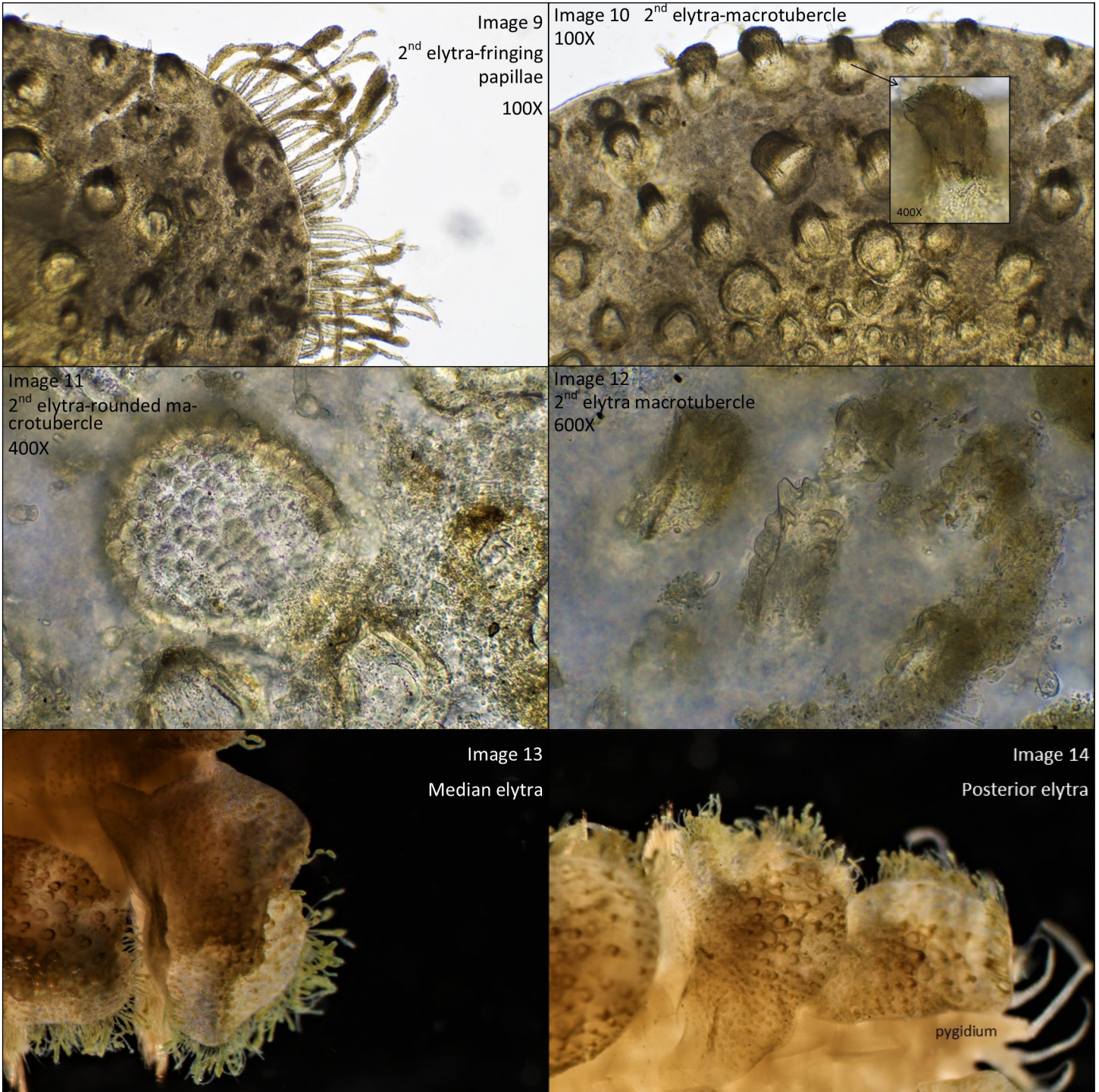


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Pigmentation/MGS:

Preserved material unpigmented

Material Examined:

B'18-10362—San Pedro Channel, 745 m (33.63467N, 118.58360W—02AUG18) (1 ind.)

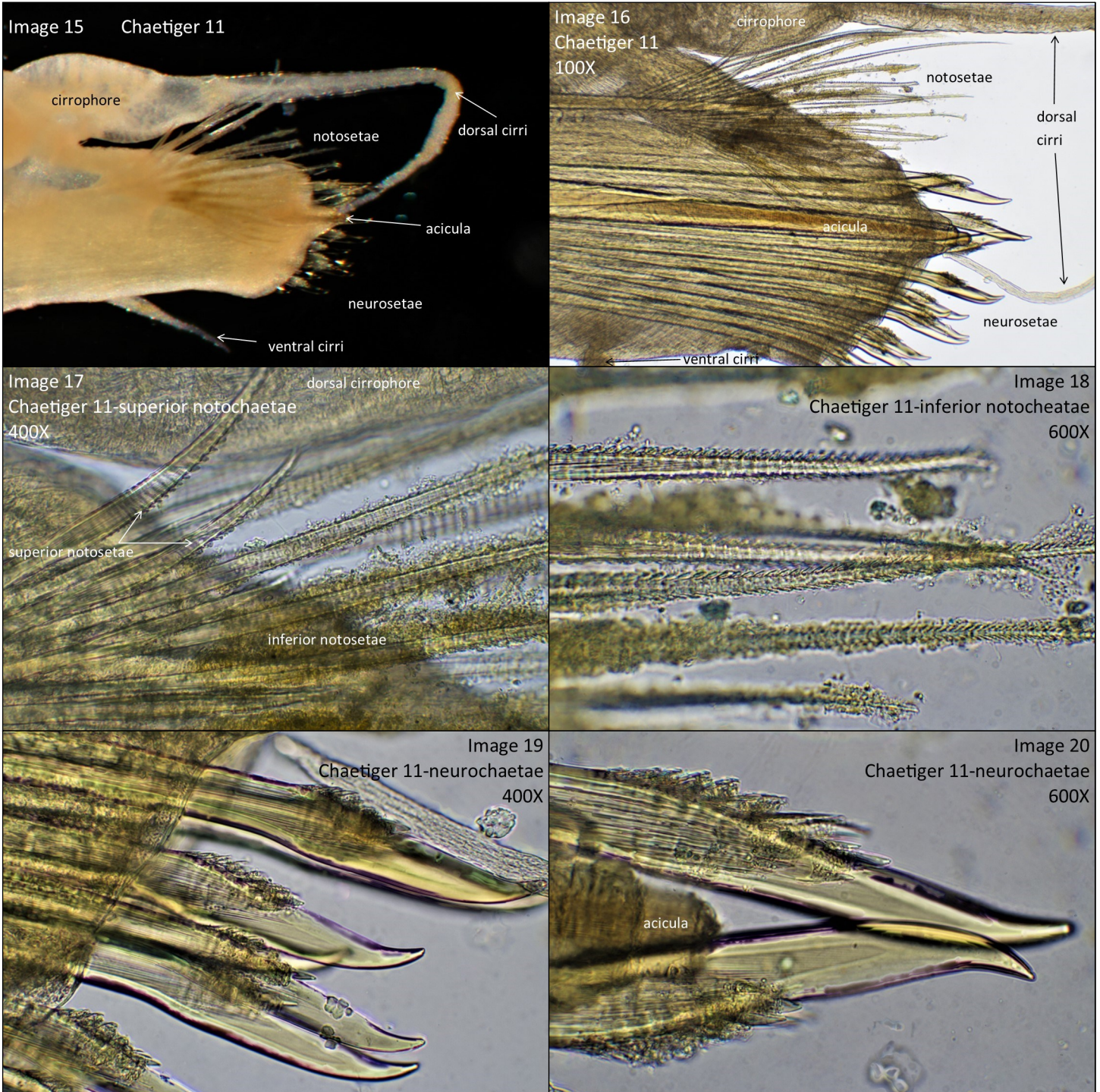


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Similar Species:

Lepidonotus spiculus (Treadwell, 1906) (sensu Ruff, 1995)—*Lepidonotus spiculus* is similar to *Lepidonotus* sp A in having 12 pairs of elytra with macrotubercles and fringing papillae, the characteristics of the short notochaetae and the neurochaetae. The two differ in the details of the macrotubercles. *Lepidonotus spiculus* has three types of macrotubercles (bluntly conical, short rounded and sharply conical) rather than two in *L. sp A* (bluntly conical and short rounded). The macrotubercles of *L. spiculus* are also on polygonal basal plates. The basal plates of *L. sp A* are not evident and



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Similar Species (cont.):

Lepidonotus spiculus (cont.): do not appear polygonal if present. The two also differ in the dentition of the capillary notochoetae, though there is a little confusion here. Ruff (1995) describes the capillary notochoetae of *Lepidonotus spiculus* as having a transverse row of serrations on the shaft of the notochoetae (Image G below) while Treadwell (1906) describe it as having a series of paired bracts along the shaft and Imajima (1997) illustrates it this way as well (Image C below).

Lepidonotus sp A has only paired bracts along the shaft. *Lepidonotus spiculus* was originally described from Monterey Bay, California and its range has since been expanded to occur from the west coast of North America to Japan from 84-126 m (Ruff, 1995 & Imajima, 1997). Leslie Harris (pers. comm.) has stated that *Lepidonotus spiculus* is typically found in shallow water on hard substrates.

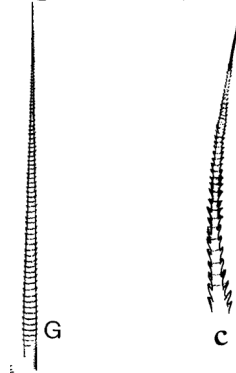


Image G from Ruff, 1995

Image C from Imajima, 1997

Lepidonotus squamatus (Linnaeus, 1758)—The historical descriptions of *Lepidonotus squamatus* have been of poor quality, the best and most recent being that of Jirkov (2001) but the description either lacked good details or translated poorly from Russian. *Lepidonotus squamatus* is similar to *Lepidonotus* sp A in most characters, including both having 2 types of macrotubercles, bluntly conical and short, rounded and details of the neurochaetae. The illustration provided in Jirkov (2001) (below) appears to be of paired bracts along the shaft but the description provided was not conclusive.

Lepidonotus squamatus is consistently described as having dark-brown or reddish elytra (Pettibone, 1963; Imajima & Hartman, 1964 & Jirkov, 2001), while *Lepidonotus* sp A has relatively unpigmented elytra. *Lepidonotus squamatus* was originally described from shallow water in western Europe and its range has since expanded to encompass southern and western Europe; California; Japan; Arctic (Imajima & Hartman, 1964) and off Korea (Jirkov, 2001). Pettibone (1963) lists *L. squamatus* as from low water to 1,400 fathoms (2560 m) but Jirkov (2001) list it as mainly from depths of less than 20 m. Based on the distribution and depth range *Lepidonotus squamatus* is likely a species complex and true *L. squamatus* likely does not occur locally.



Image from Jirkov, 2001

Habitat:

Lepidonotus sp A is known from a single individual from deeper water in the San Pedro Channel. It was found in sediments of clayey silt from 745 m. Also collected in the sample were the polychaetes *Myriochele gracilis* Hartman, 1955; *Maldane californiensis* Green, 1991; *Protis pacifica* Moore, 1923; *Cossura rostrata* Fauchald, 1972; *Aricidea (Acmira) rubra* Hartman, 1963; *Levinsenia oculata* (Hartman, 1957); *Phyllochaetopterus* sp A SCAMIT, 2023 § (reported as *Phyllochaetopterus* sp LA1 Haggin, 2019 §); *Syllis* sp A SCAMIT, 2023 § (reported as *Syllis* sp LA4 Haggin, 2019 §);



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Habitat (cont.):

Kirkegaardia sp B SCAMIT, 2023 § (reported as *Kirkegaardia* sp LA1 Haggin, 2019 §); *Harmothoe* sp LA1 Furlong, 2014 §; and an unidentified syllid, an unidentified polynoid and an unidentified *Cossura*.

Discussion:

De Assis *et al.* (2015) gave the generic diagnosis of *Lepidonotus* as follows:

Body short, arched, with 26 segments. Bilobed prostomium extending anteriorly into ceratophores of terminally-attached lateral antennae. Antennae and cirri smooth. Facial tubercle present; buccal segment with or without nuchal fold. Twelve pairs of elytra on segments 2, 4, 5, 7.... 21 and 23. Notopodia small or vestigial; unidentate notochaetae short, slender, spinose, or notochaetae capillaries sometimes present. Neuropodia large, with or without acicular lobe; neurochaetae stout, long, with subdistal spines and unidentate or occasionally bidentate tips.

Currently there are 78 valid species of *Lepidonotus* listed on WoRMS with 3 of those reported from southern California and 1 described from California. Besides *Lepidonotus spiculus* and *L. squamatus*, *Lepidonotus caeruleus* Kinberg, 1856 is listed by De Assis *et al.* (2015) as having a distribution of Japan to California and Brazil. The species was described from Brazil and reports of this species from the NEP are doubtful. *Lepidonotus spiculus* is the only species of *Lepidonotus* currently listed in SCAMIT Ed. 13.

References:

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Treadwell, A. L. 1906. Polychaetous annelids of the Hawaiian Islands collected by the steamer Albatross in 1902. *Bulletin of the United States Fish Commission* 23(3): 1145-1181.

Other Literature Consulted:

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Linnaeus, C. 1758. *Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima, reformata [10th revised edition]*, vol. 1: 824 pp.

Version History:

Version 1.0—Draft voucher sheet created (09MAR2020)

Version 2.0—Voucher sheet completed, images updated and updated format to conform with new SCAMIT guidelines (06OCT2022)

Version 3.0—Updated name to *Lepidonotus* sp A and author to SCAMIT, 2023 §; Updated Similar Species section; Updated Discussion section; Updated names of co-occurring species; Updated References (12APR2023)