

Species: *Goniada* sp A SCAMIT, 2023 §

Synonyms: *Goniada* sp LA1 Haggin, 2021 §

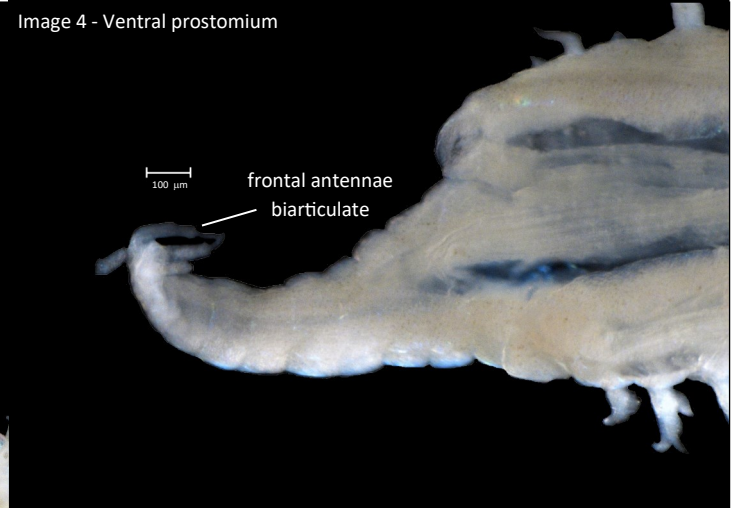
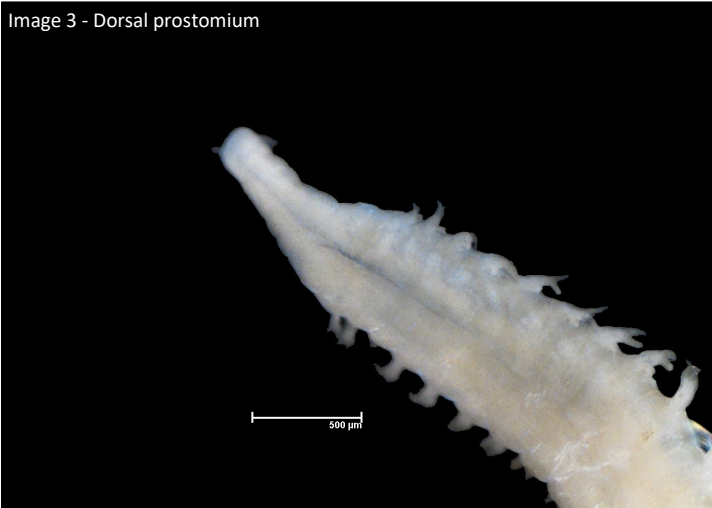
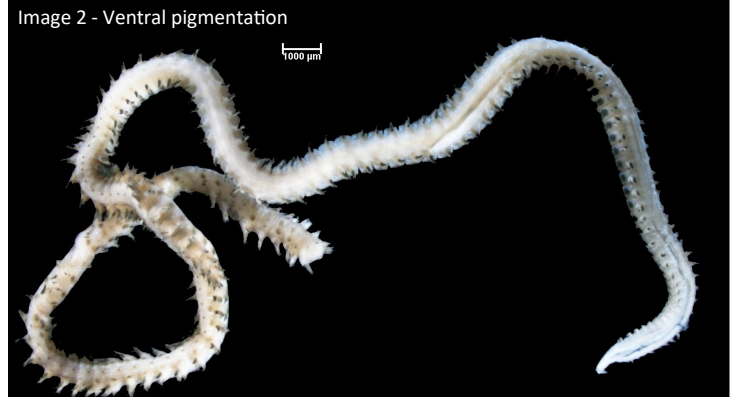
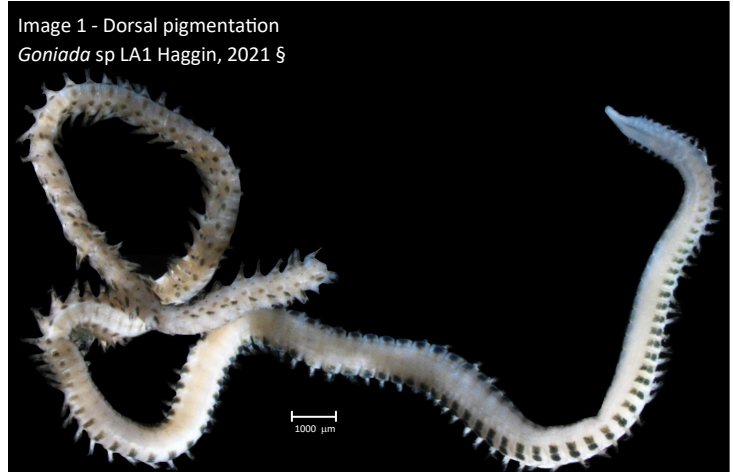
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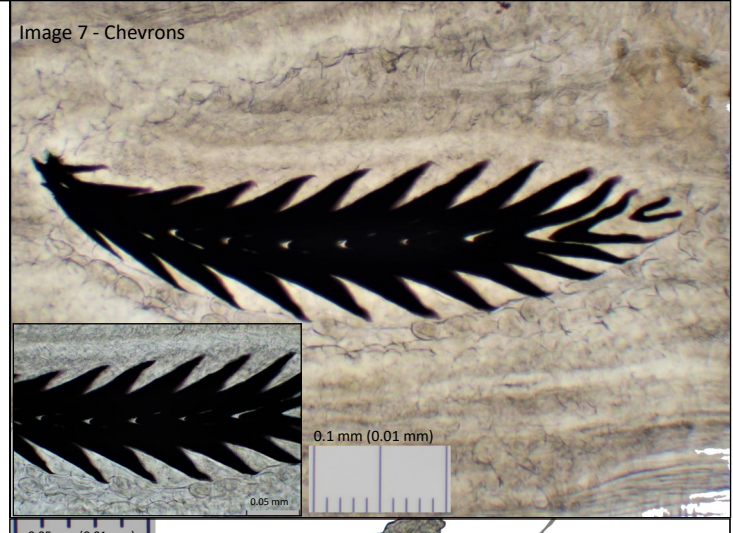
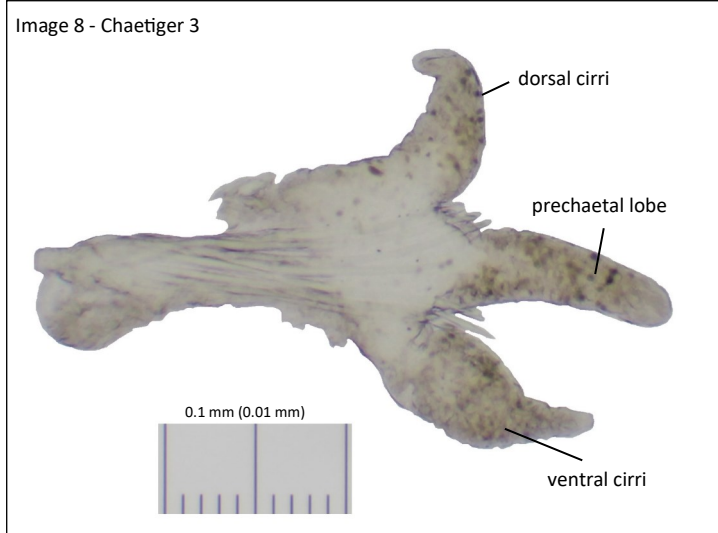
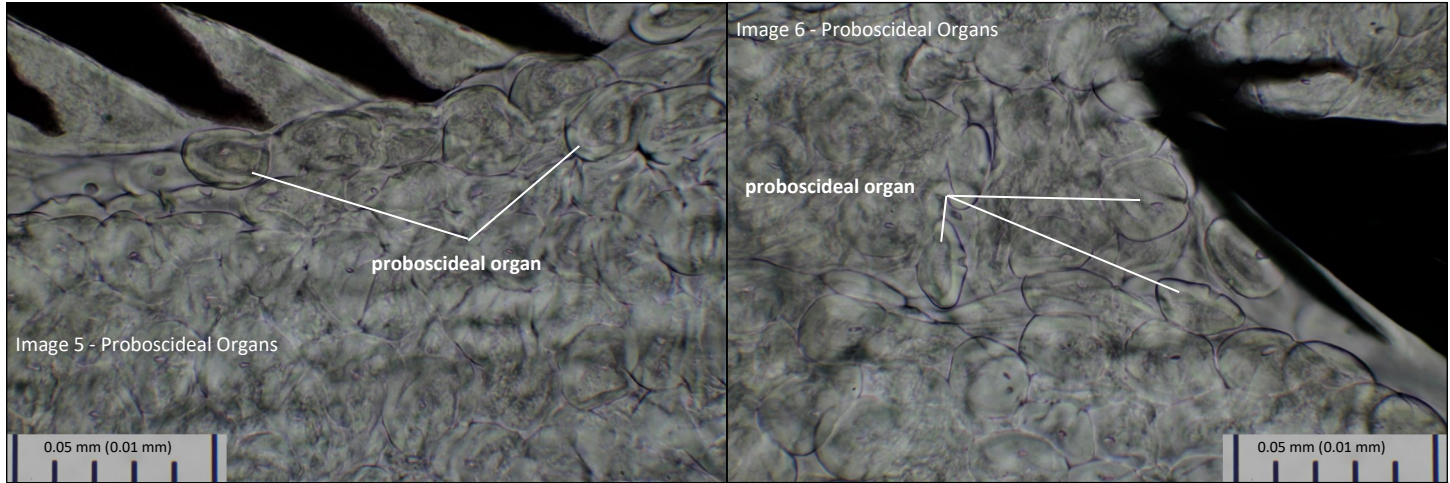
ITI—Group 2

Family: Goniadidae
Suborder: Glyceriformia
Order: Phyllodocida
Subclass: Errantia
Class: Polychaeta
Phylum: Annelida

Diagnostic Characters:

- 1) Prostomium pointed, longer than wide, with 9 annulations (Images 1, 2 & 3). Terminal ring with 4 bi-articulate antennae, distal articulations very narrow (Image 4).
- 2) 1 pair of small, faint, subdermal eyes present.
- 3) Proboscideal organs of 1 kind: small and spherical with a central depression, beaks are absent (Images 5 & 6).
- 4) Chevrons present, 14 on each side, edges fairly smooth (Image 7).
- 5) Macrognaths and micrognaths missing or absent.
- 6) Parapodia uniramous through chaetiger 71.
- 7) Chaetiger 5 with 1 prechaetal & 1 postchaetal lobe, postchaetal lobe very small (Image 8).
- 8) From chaetiger 8 a second, small prechaetal lobe is present (Image 9).
- 9) Dorsal cirri asymmetrical, with broad base & long, tapering inferior cirrus (Images 9, 11 & 12).
- 10) Ventral cirri digitiform, with a constricted tip; = to or longer than parapodia (Image 9, inset).
- 11) Neuropodial prechaetal lobes digitate, postchaetal lobe triangular (Image 9).
- 12) Notopodia present from chaetiger 72 (Images 10 & 11); notopodial prechaetal lobe digitate, postchaetal lobe absent (Image 12).





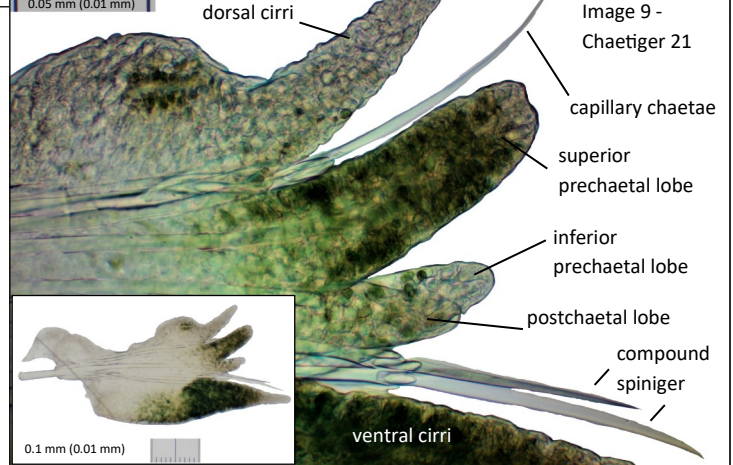
13) Neuropodia of middle chaetigers with inferior fascicle of ~5 long-bladed, compound spinigers with long, fine teeth and a superior fascicle of 2 finely serrated capillary chaetae. 1 acicula present (Image 9).

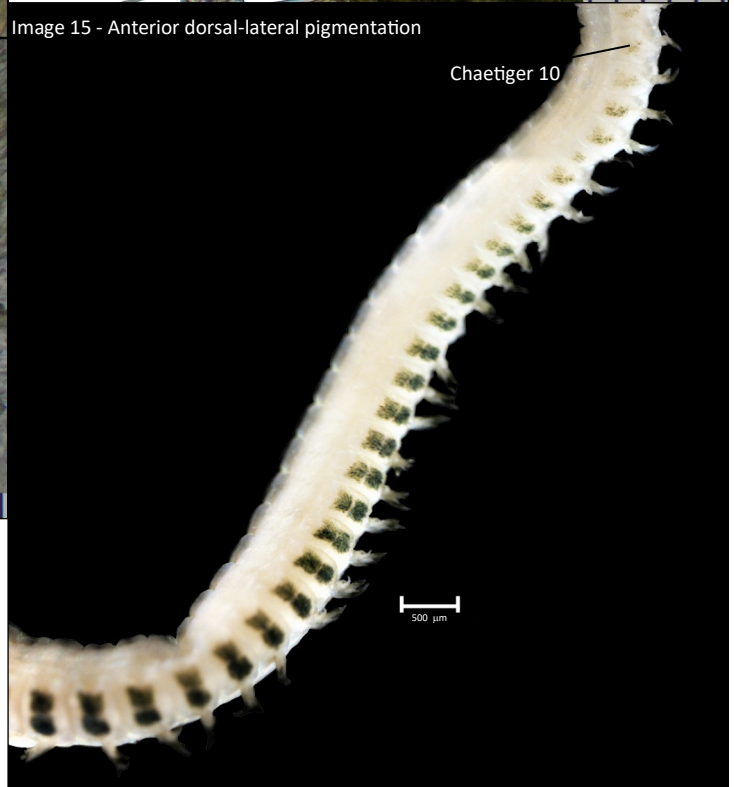
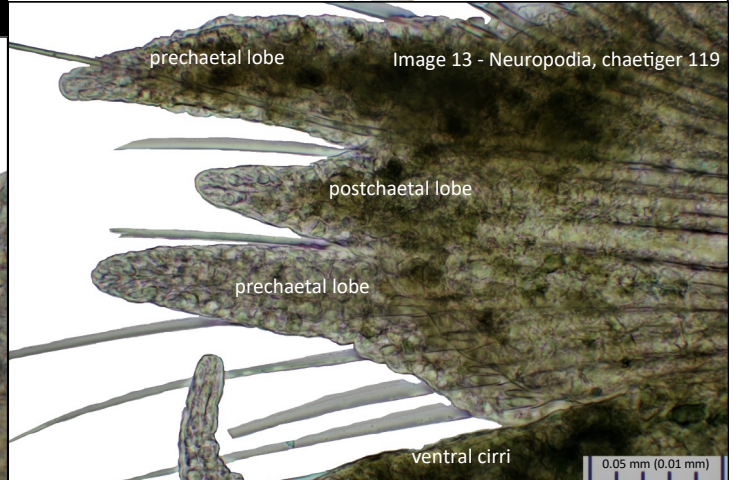
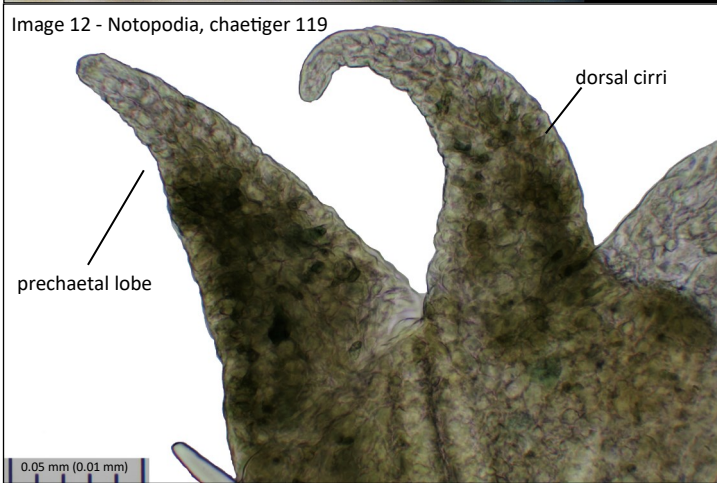
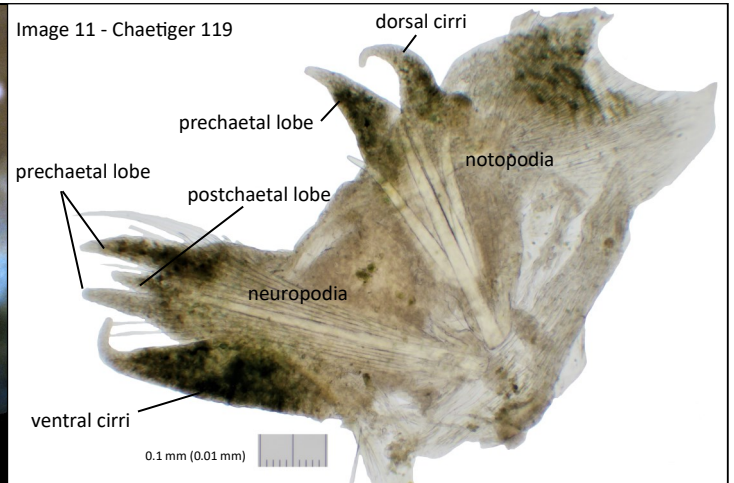
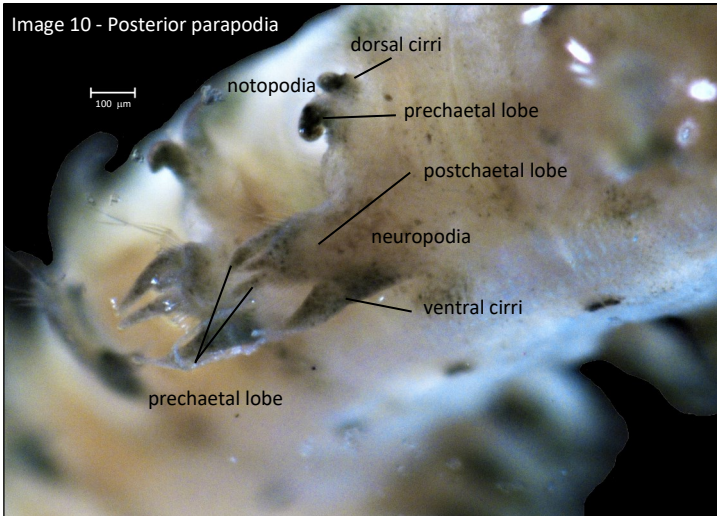
14) Neuropodia of posterior chaetigers with compound spinigers, ~12 per fascicle, and 1 stout acicula. Capillary chaetae absent (Image 13).

15) Notopodia of posterior chaetigers with 4 stout acicula with slightly bent tips and slightly emergent (Image 14).

Pigmentation:

- 1) Dorso-lateral pigment patches present above parapodia from chaetiger 9, patches as 2 squares (Images 1 & 15).
- 2) Faint dorsal pigment band from chaetiger 32, darkening noticeably by chaetiger 72 (Images 1, 16 & 17).
- 3) Dorso-lateral patches become a single rectangle shortly before the notopodia appears, ~ chaetiger 67, and becomes a single square shortly after the notopodia appears, ~ chaetiger 77 (Images 16 & 17).
- 4) Faint pigment patch is present ventro-laterally, below the ventral cirri, from ~ chaetiger 44, gradually darkening (Images 2, 18 & 19).





Pigmentation (cont.):

- 5) Faint mid-ventral, intersegmental pigment spot is present from chaetiger 65, becoming dark and obvious by chaetiger 72 (Images 2, 18 & 19).
- 6) Ventral cirri pigmented from chaetiger 9 (Images 1, 2 & 9).
- 7) Neuropodial prechaetal lobe pigmented from chaetiger 14 (Images 1, 2 & 9).

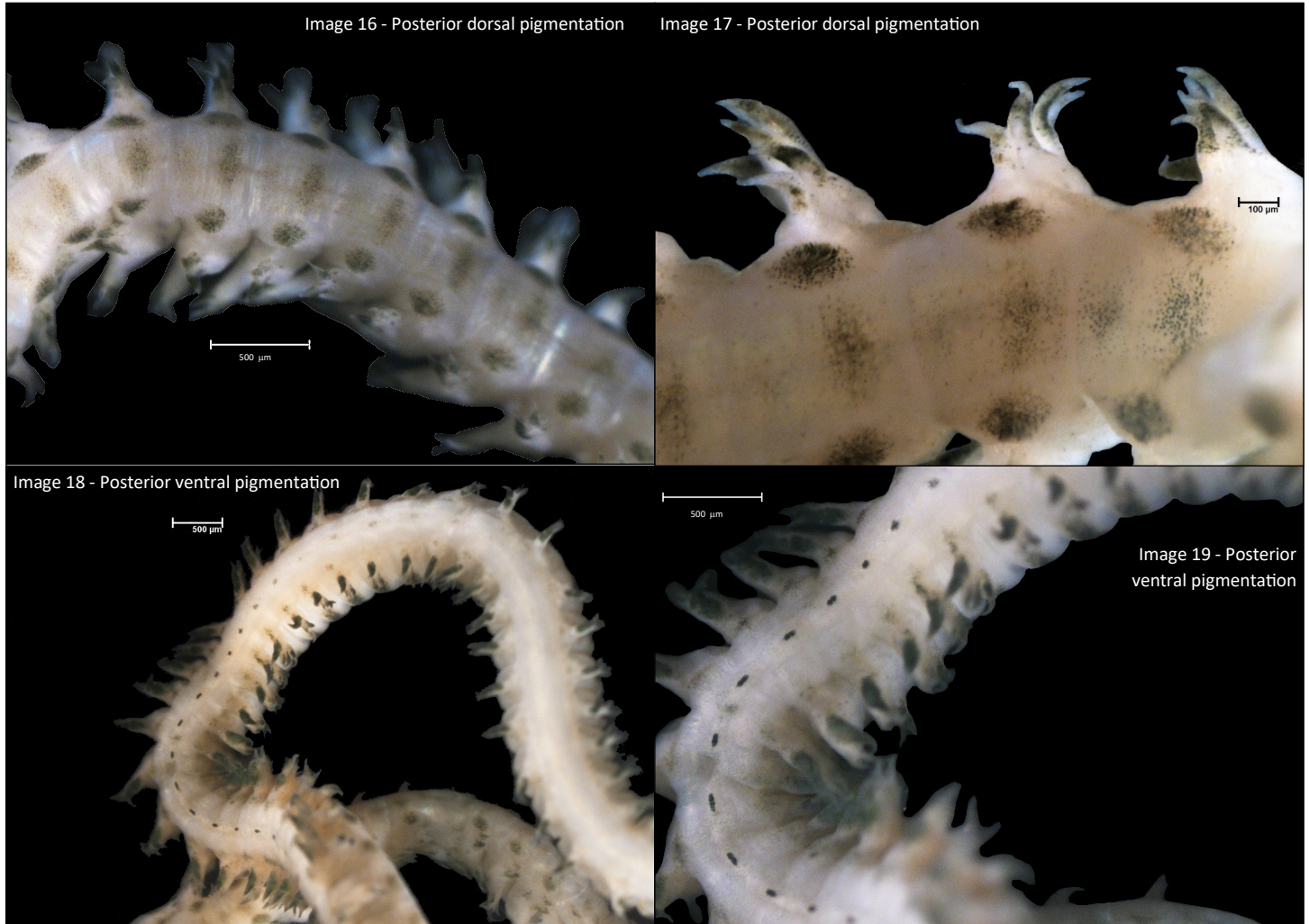


Goniada sp A

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Pigmentation (cont.):

All photos by B. Haggin

- 8) Dorsal cirri pigmented from chaetiger 70 (Images 10, 11 & 17).
- 9) Notopodia pigmented from chaetiger 72 (Images 10, 11 & 17).

Material Examined:

0720-2D—Pt. Vicente, Palos Verdes, 31m (1 ind., incomplete—137 chaetigers) (33.74120N, 118.42130W—15JUL20)
(all images)

Similar Species:

Goniada sp A is in a group of local *Goniada* that has 1 prechaetal and 1 postchaetal lobe on chaetiger 5.

Goniada littorea Hartman, 1950—is also in the group of *Goniada* with 1 prechaetal and 1 postchaetal lobe on chaetiger 5. *Goniada littorea* has 15-18 chevrons with irregular edges and proboscideal organs with beaks, while *G. sp A* has 14 chevrons with mostly smooth edges (Image 7) and proboscideal organs that lack beaks. *Goniada littorea* is uniramous through 35-43 chaetigers and with a single prechaetal lobe in 9-14 chaetigers while *G. sp A* is uniramous through 71 chaetigers and with a single prechaetal lobe in 7 chaetigers. *Goniada littorea* has capillary chaetae present in only the first 3 chaetigers while *Goniada sp A* has capillary chaetae present to at least chaetiger 21. *Goniada littorea* has 3 dorsal pigment patches across most of the animal while *G. sp A* doesn't get a mid-dorsal pigment patch until chaetiger 32.



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Similar Species (cont.):

Goniada maculata Ørsted, 1843 (*sensu* Hilbig, 1994)—is also in the group of *Goniada* with 1 prechaetal and 1 postchaetal lobe on chaetiger 5, it differs from *G. sp A* by having only 8-10 chevrons rather than 14, having heart-shaped rather than spherical proboscideal organs, and in having a fleshy dorsal cirri rather than one that is asymmetrical and tapering. *Goniada maculata* is uniramous through 23-45 chaetigers and has capillary chaetae present in the notopodia while *Goniada sp A* is uniramous through 72 chaetigers and lacks capillary chaetae in the notopodia.

Goniada acicula Hartman, 1940—*Goniada acicula* is similar to *Goniada sp A* in lacking capillary chaetae in the notopodia but *G. acicula* has 2 prechaetal lobes on chaetiger 5 while *G. sp A* has only 1 prechaetal lobe on chaetiger 5.

Habitat:

Goniada sp A is known from a single individual from off Pt. Vicente, Palos Verdes, CA in shallow water (31m) in sediments of coarse sand. Also collected in the sample were the polychaetes *Protodorvillea gracilis* (Hartman, 1938); *Micropodarke dubia* (Hessle, 1925); *Oxydromus pugettensis* (Johnson, 1901); *Glycera sp B* SCAMIT, 2022 § (reported as *Glycera sp LA1* Parker, 1999 §); *Opisthodonta sp SD1* (Rowe, 2004 §); *Odontosyllis phosphorea* Moore, 1909; *Syllis sp SD1* Rodriguez, 2008 §; *Sphaerosyllis californiensis* Hartman, 1966; *Diopatra splendidissima* Kinberg, 1865; *Mooreonuphis sp LA1* Brantley, 1999 §; *Lumbrineris latreilli* Audouin & H. Milne Edwards, 1834; *Lumbrineris cruzensis* Hartman, 1944; *Nephtys simoni* Perkins, 1980; *Tenonia priops* (Hartman, 1961); *Arcteobia sp LA1* Lovell, 2012 §; *Pholoe glabra* Hartman, 1961; *Eulalia levicornuta* Cmplx; *Eulalia gracilior* (Chamberlin, 1919); *Clymenella complenata* Hartman, 1969; *Petaloclymene pacifica* Green, 1997; *Euclymeninae sp A* SCAMIT, 1987 §; *Euchone arenae* Hartman, 1966; *Paradialychone bimaculata* (Banse & Nichols, 1968); *Chaetozone armata* Hartman, 1963; *Pista brevibranchiata* Moore, 1923; *Pista estevanica* Berkeley & Berkeley, 1942; *Pista sp beta* Lovell, 2006 §; *Polycirrus sp OC1* Phillips & Lovell, 1999 §; *Polycirrus sp A* SCAMIT, 1995 §; *Lanassa venusta venusta* (Malm, 1874); *Lysippe sp A* Williams, 1984 §; *Ampharete manriquei* (Salazar-Vallejo, 1996); *Ampharete labrops* Hartman, 1961; *Phyllochaetopterus prolifica* Potts, 1914; *Semiodera inflata* (Treadwell, 1914); *Dipolydora barbilla* (Blake, 1980); *Malacoceros indicus* (Fauvel, 1928); *Spiophanes norrisi* Meißner & Blank, 2009; *Scoloplos sp LA2* Haggin, 2017 §; an unidentified Hesionid, an unidentified *Syllis*, an unidentified *Diopatra*, an unidentified *Mooreonuphis*, an unidentified Onuphid, an unidentified *Lumbrineris*, an unidentified Lumbrinerid, an unidentified *Malmgreniella*, an unidentified *Owenia*, an unidentified *Euchone*, an unidentified Sabellid, an unidentified *Pista*, an unidentified *Polycirrus*, an unidentified Terebellid, an unidentified Ampharetid, an unidentified Chaetopterid, an unidentified *Dipolydora*, and an unidentified Scalibregmatid.

Discussion:

Böggemann (2005) gives the generis diagnosis of *Goniada* as follows:

Prostomium annulated, sometimes with only indistinct rings; terminal annulus with biarticulate appendages. Proboscis with a few different types of papillae; usually with macrognaths (except for *Goniada amacrognatha*) and dorsal and ventral micrognaths; chevrons usually present (might be lost in larger specimens of *Goniada gigantea*). Anterior part of body with uniramous parapodia, following region with biramous parapodia, transitional region may be present. Notochaetae capillary or acicular; neurochaetae usually compound spinigers, additional falcigers might be present on anterior few chaetigers of smaller specimens.

In his revision of the Family Goniadidae, Böggemann (2005) either placed local species in synonymy with distant species, or synonymized distant species with local ones. The first example can be seen with *Goniada annulata*, a species described from Alaska, being placed into synonymy with *Goniada foliacea* Moore, 1903 described from Sagami Bay, Japan, and also with *Goniada littorea*, described from southern California, being placed into synonymy with *Goniada echinulata* Grube, 1870 described from Brazil. The second example can be seen with *Goniada clavata* Kirkegaard, 1995, from Indonesia, being placed in synonymy with *Goniada brunnea*, or with multiple species being placed into synonymy with *Goniada maculata*. Most of these synonymies were done with little justification other than the types were examined and created cosmopolitan distributions with depth ranges from the intertidal down to 3859 meters. It is not clear if the species descriptions given in Böggemann (2005) are composites of the multiple species placed in synonymy or if they are redescriptions of the holotypes, but the descriptions given should be used with caution. SCAMIT does not support the synonymies proposed in Böggemann (2005) and continue to use *Goniada annulata* and *Goniada littorea* as valid species in southern California. *Goniada maculata* was original described from Denmark and its actual occurrence locally should be further investigated.

Goniada sp A

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Discussion (cont.):

The lack of notochaetae in biramous chaetigers is a key feature of identifying *Goniada* sp A but the notopodia does not form until around segment 71. It may not be possible to positively identify *Goniada* sp A with only an anterior fragment. WoRMS currently lists 44 valid species of *Goniada* and SCAMIT Ed. 13 has 5 named species. *Goniada* sp A will be the first provisional *Goniada* when added in Edition 14.

References:

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- Hartman, O.** 1940. Polychaetous annelids. Part II. Chrysopetalidae to Goniadidae. *Allan Hancock Pacific Expeditions* 7(3): 173-287.
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- Hilbig, B.** 1994. Family Goniadidae Kinberg, 1866. pages 215-230. IN: Blake, James A. & Hilbig, Brigitte. *Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and Western Santa Barbara Channel. 4 - The Annelida Part 1. Oligochaeta and Polychaeta: Phyllodocida (Phyllodocidae to Paralacydoniidae)*. Santa Barbara Museum of Natural History. Santa Barbara.
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- SCAMIT.** 2021. *A Taxonomic Listing of Benthic Marco- and Megainvertebrates from Infaunal & Epifaunal Monitoring and Research Programs in the Southern California Bight, Edition 13*. Cadien, D. B., Lovell, L. L., Barwick, K. L., Haggin, B. M., eds. 203pp.

Other Literature Consulted:

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- Böggemann, M. & Dietz, A.** 2016. Glyceriformia (Annelida) from the deep sea of the Atlantic sector of the Southern Ocean. *Polar Biology* 39(8): 1505-1510.
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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.

Version History:

Version 1.0—Voucher sheet created (28OCT2021)

Version 1.1—Updated photo labelling to reduce image clutter; Improved species description; Updated material examined section (12APR2022)

Version 2.0—Updated voucher to new SCAMIT guidelines; Updated name to *Goniada* sp A and author to SCAMIT, 2023 §; Updated Habitat section and added co-occurring species; Added Discussion and Other Literature Consulted sections; Update References; Added ITI group (12APR2023)