

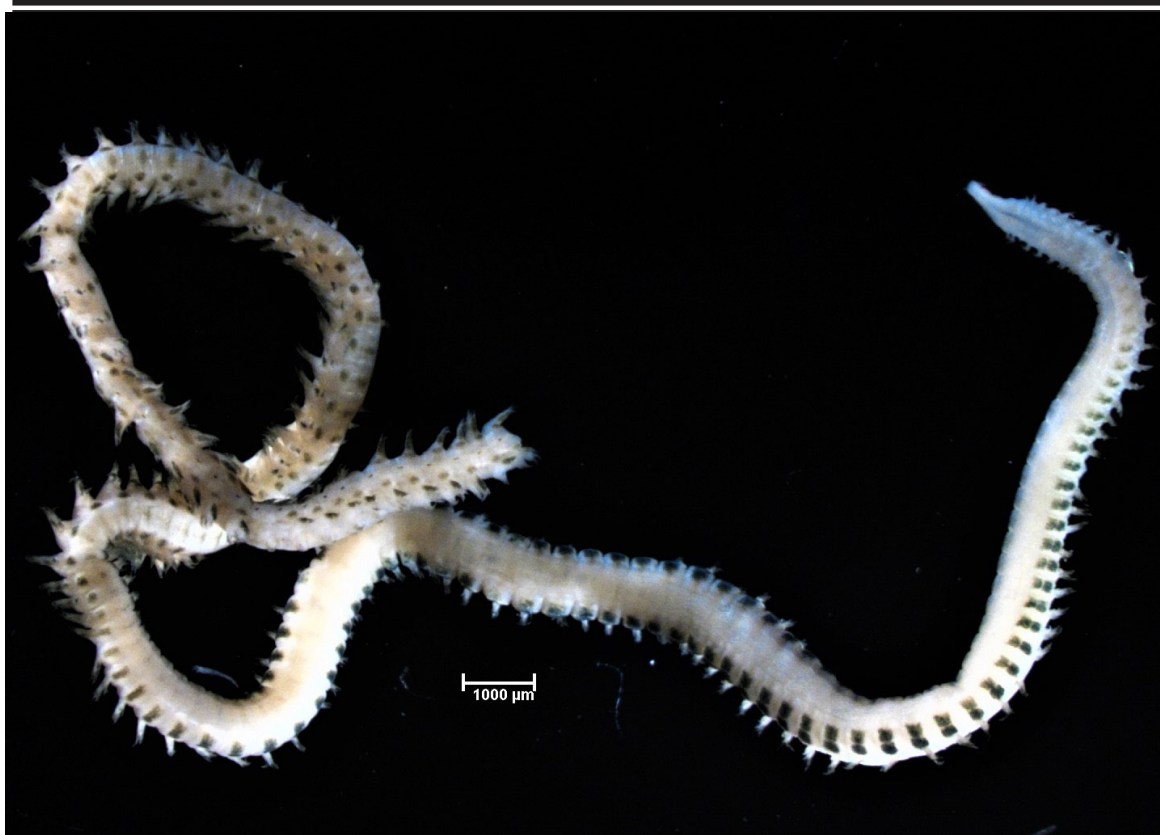
# SOUTHERN CALIFORNIA ASSOCIATION OF MARINE INVERTEBRATE TAXONOMISTS



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*Goniada* sp A SCAMIT 2023 §, LACSD station 2D, 15 July 2020, 31m, off Pt. Vicente, Palos Verdes.  
Photo by B. Haggin

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The SCAMIT newsletter is not deemed to be a valid publication for formal taxonomic purposes

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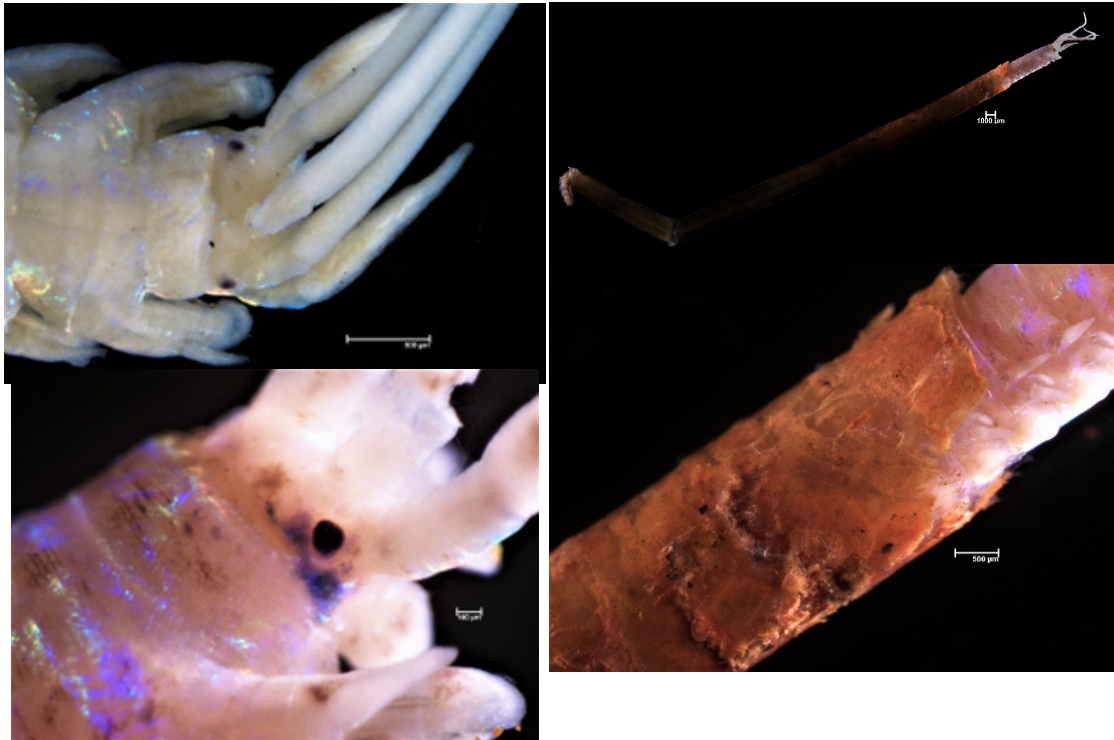
## 8 NOVEMBER 2021, ONUPHIDAE, *APHRODITA*, AND UPDATED POLYCHAETE KEYS, B. HAGGIN, ZOOM

**Attendance** – not taken, those attendees listed were gleaned from the meeting recording. Brent Haggin, Bill Furlong (LACSD); Ricardo Lara (CSD); Erin Oderlin (CLAEMD); Kelvin Barwick (OCSO).

Brent started the meeting by providing images (below) of *Hyalinoecia juvenalis* Moore, 1911, (Onuphidae) including the prostomium and tube characteristics. All images of *Hyalinoecia juvenalis* are from LACSD Station 0720-1D (31m) by B. Haggin.

### UPCOMING MEETINGS

Visit the SCAMIT website at: [www.scamit.org](http://www.scamit.org) for the most current meetings announcements.



Brent continued with the Family Onuphidae with a presentation covering species from southern California. The review of the family included most of the species included in Ed. 13 of the SCAMIT Species List and local in-house provisional species not currently listed in Ed. 13. The morphology of the family was reviewed, characteristics of each species were detailed, and some new images were presented. Below are some of the species covered. Throughout the following polychaete minutes the acronyms are as follows:

- OLA – Outer Lateral Antennae
- ILA – Inner Lateral Antennae
- MA – Median Antennae
- The chaetiger #'s are how far the antennae stretch



*Nothria* sp DC1 Harris, 2014 § - collected by CLAEMD from Station 5B in 76m on July 24, 1976. Its characteristics are as follows:

- OLA extends to chaetiger 1
- ILA extends to chaetiger 4
- MA extends to chaetiger 5
- Branchiae from chaetiger 8-9, simple
- Ventral cirri cirriform on chaetigers 1-2, transitional on chaetiger 3, pads from chaetiger 4
- Postchaetal lobes digitate thru chaetiger 13
- Hooks falcate chaetigers 1-2; Pseudocompound on chaetiger 3, unidentate & bidentate in chaetigers 1-3
- Infra-acicular hooks from chaetiger 13
- Pectinate chaetae with many teeth
- Maxillary formula: MI-1+1; MII-6+10; MIII-7+0; MIV-6+8; MV-1+1
- Differs from *Nothria occidentalis* Fauchald 1968 in the following ways:
  - *N. occidentalis* MA extends to chaetiger 9
  - Ventral cirri pads from chaetiger 3
  - *N. occidentalis* chaete are falcate & unidentate in chaetigers 1-2 pseudocompound & bidentate in chaetiger 3
  - Infra-acicular hooks from chaetiger 9
  - Pectinate chaetae with ~10 teeth

*Onuphis* sp HYP1 - collected by CLAEMD from Station B1, 44m, July, 2011. Its characteristics are as follows:



*Onuphis* sp HYP1 Photo by T. Phillips  
tic marks = 1mm (2012)



*Onuphis* sp HYP1 Photo by E. Oderlin (2020)

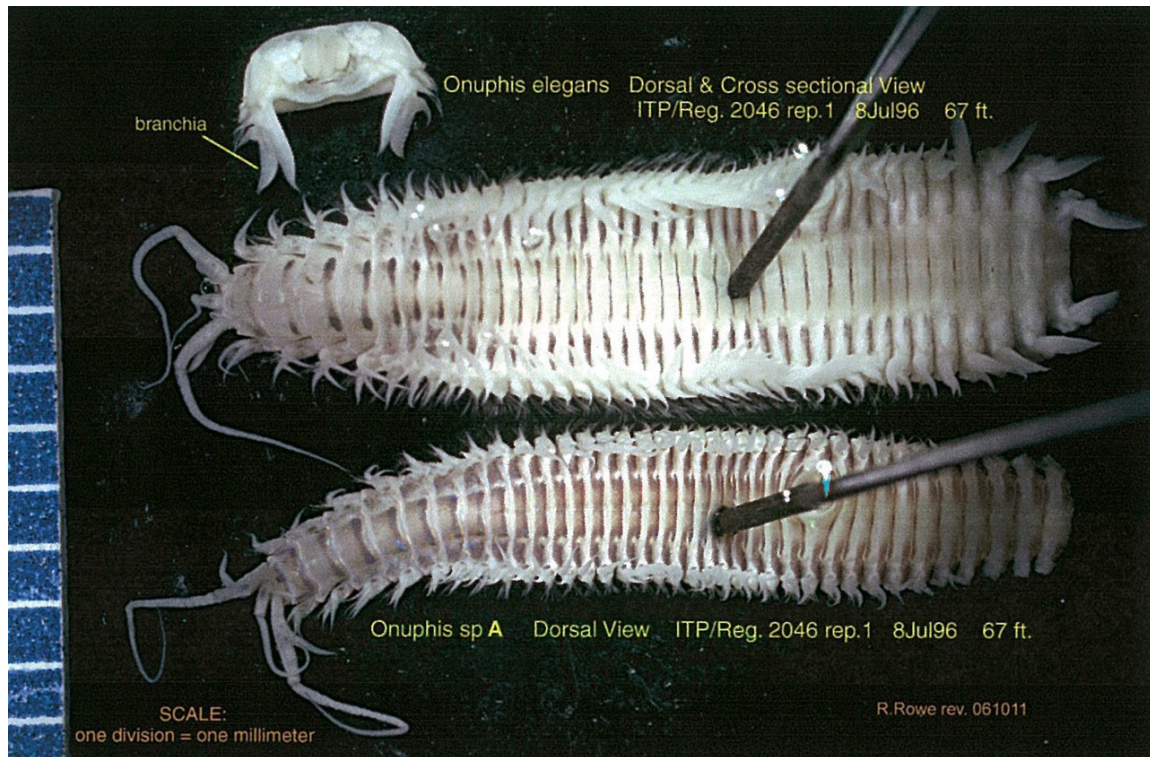
- OLA with 15 annulations
- ILA with 18-19 annulations





- Branchiae from chaetiger 1, single filament to end of fragment (52 chaetigers)
- Ventral cirri cirriform in chaetigers 1-6, transitional chaetiger 7, pads from chaetiger 8
- Postchaetal lobe cirriform thru chaetiger 10, reduced in chaetiger 11 and absent after
- Pseudocompound hooded hooks in chaetigers 1-4, tridentate
- Subacicular hooks begin in chaetiger 11
- Pigmentation is similar to *Onuphis iridescens* (Johnson 1901)

*Onuphis* sp A - collected by multiple agencies. It is a shallow water species and its characteristics are as follows:

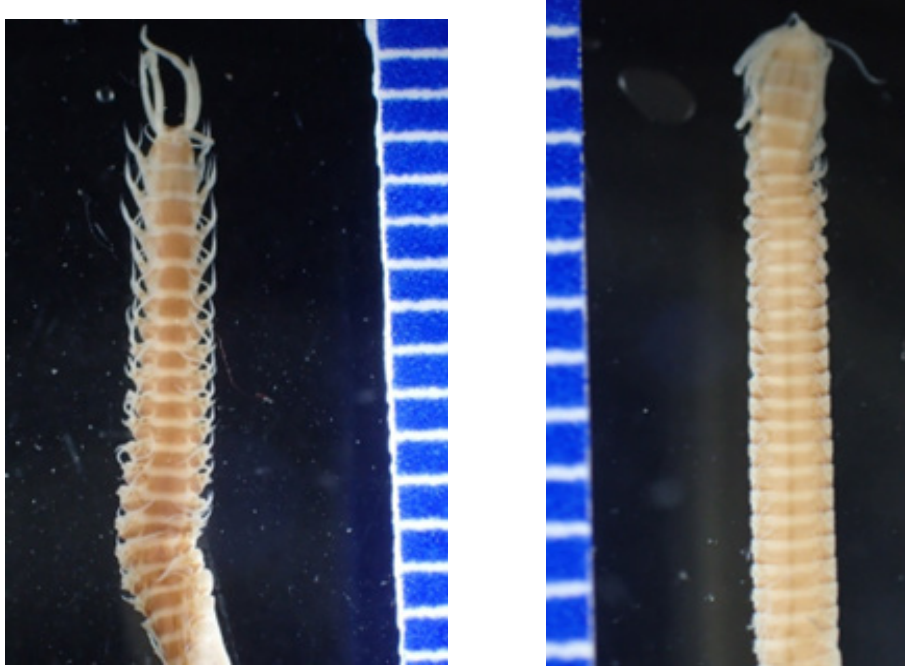


- Branchiae from chaetiger 1, single & thin throughout
- Ventral cirri pads from chaetiger 6 or 7
- Subacicular hooks begin in chaetiger 8-9
- Maxillary formula: MI-1+1; MII-7+7; MIII-8+0; MIV-6+8; MV-without teeth
- Pigmentation – wide brown bands form mid-dorsal squares in first few segments then complete bands
- Similar to *Onuphis iridescens* but subacicular hooks begin in chaetiger 12-13 and is deeper water
- Similar to *Onuphis elegans* (Johnson 1901) but the branchiae of *O. elegans* becomes very wide in median chaetigers and the maxillary formula of *O. elegans* is MI-1+1; MII-6/7+5/7; MIII-7/10+0; MIV-6/7+5/8; MV-1+1





*Onuphis* sp HYP2 - collected by CLAEMD from Bight '18 Stations: 10286 (175m), 10309 (166m), 10308 (173m), and 11000 (380m).



(All photos of *Onuphis* sp HYP2 are by E. Oderlin (2020). Left - Station B18-11000; Right - Station B18-10308.)

Its characteristics are as follows:

- Branchiae from chaetiger 1, single, changes from skinny to wide, but not winged
- Ventral cirri cirriform in chaetigers 1-5, transitional chaetiger 6, pads from chaetiger 7
- Postchaetal lobe present thru chaetiger 17, absent after
- Pseudocompound hooded hooks in chaetigers 1-4 (1-3 in small specimens), tridentate
- Subacicular hooks begin in chaetiger 12
- Pectinate chaetae flat, oblique, about 16 teeth
- Maxillary formula: MI-1+1; MII-9+9; MIII-8+0; MIV-7+8; MV-1+1
- Pigmentation – wide brown bands form mid-dorsal squares in first few segments then complete bands

*Onuphis* sp LA1 Haggin, 2019 § - this species has since been given a SCAMIT designation, *Onuphis* sp B SCAMIT, 2023 §, and its voucher sheet is provided with this newsletter.

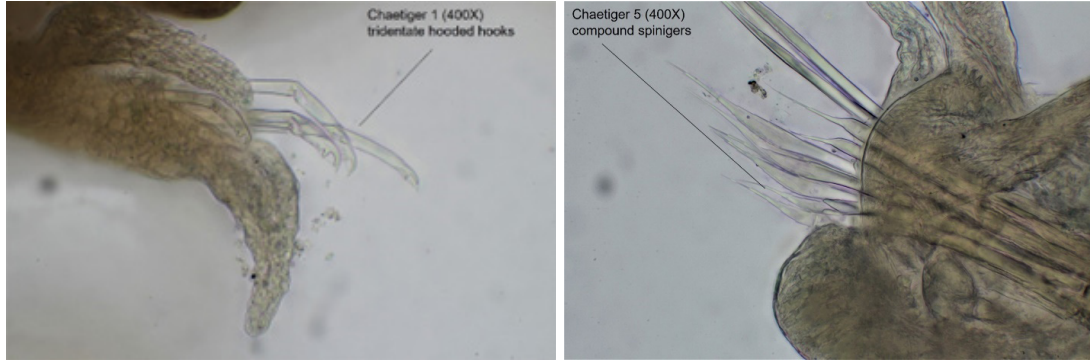
Brent then went on to give details on three additional provisional *Onuphis* species, *Onuphis* sp HYP1 Phillips, 2012 §, *Onuphis* sp HYP2 CLAEMD, 2020 §, and *Onuphis* sp A SCAMIT, 1992 §.

The next group discussed was the *Mooreonuphis* provisional species. Brent began with *Mooreonuphis* sp LA1 Brantley, 1999 §, originally collected off Santa Cruz Island during Bight '98. Subsequently, most of the records from LACSD have come from Station 2D (31m), which



is characterized by gravel and coarse sand. When present, *Mooreonuphis* sp LA1 is typically collected in large quantities (10-50 individuals/sample). Images below are by B. Haggin.

The characteristics of *Mooreonuphis* sp LA1 are as follows:



*Mooreonuphis* sp LA1

- OLA to chaetiger 2
- ILA to chaetiger 7
- MA to chaetiger 2
- Branchiae absent
- Ventral cirri pads from chaetigers 4-6
- Postchaetal lobes digitate through chaetigers 16-18
- Pseudocompound hooded hooks in chaetigers 1-4, bidentate & tridentate
- Subacicular hooks begin in chaetiger 11-13
- Composite spinigers in chaetigers 4-12(13)
- Pigmentation – dark brown band across peristomium; thin band across the center of each segment which branch into a sideways triangle shape near each parapodia; thin bands across intersegmental groove; fading by chaetiger 40

*Mooreonuphis* sp SD1 Rowe, 1996 § was discussed next. It was originally collected off San Diego and LACSD has 1 record from Station 2D (31m). The characteristics of *Mooreonuphis* sp SD1 are as follows:

- ILA to chaetiger 8 (7-12)
- Branchiae simple from chaetigers 23-40 (high variability but always after chaetiger 22)
- Ventral cirri cirriform chaetigers 1-3, digitate on chaetiger 4, pads from chaetiger 5
- Pseudocompound hooded hooks in chaetigers 1-3, tridentate (occasionally with 1 or 2 bidentate)
- Subacicular hooks begin in chaetiger 11-14
- Simple hooks on chaetigers 4-5
- Composite spinigers in chaetigers 4-11
- Pigmentation – Peristomium brown, light transverse banding on chaetiger 1, darkening on 2 & 3, darkest from 4-25 then fading



The final Onuphid discussed was *Mooreonuphis* sp SD2 Rowe, 1996 §, originally collected off San Diego and has the following characters:

- OLA to chaetiger 2
- ILA to chaetiger 5-7
- MA to chaetiger 2
- Branchiae from chaetigers 5-8 (only present through ~1/2 of body), simple
- Ventral cirri cirriform chaetigers 1-3, digitate on chaetiger 4, pads from chaetiger 5
- Postchaetal lobes digitate through chaetigers 16-18
- Pseudocompound hooded hooks in chaetigers 1-3/4, tridentate (occasionally bidentate)
- Subacicular hooks begin in chaetiger 9-10
- Simple hooks on chaetigers 4-6
- Composite spinigers in chaetigers 5-9/11
- Pigmentation – broken band across chaetigers 1 & 2, continuous across next ~20 chaetigers, band getting thinner posteriorly

An updated key to the Family Onuphidae was also presented. The *Key to the Family Onuphidae of SCAMIT (Ed. 13) and Local Provisional Species* (Haggin, 2023), a character table in excel format, and a pdf of the Onuphid presentation, have all been uploaded to the SCAMIT toolbox.

The next presentation was - “*Aphrodita* of SCAMIT (Ed. 13), Local Provisional Species and Questionable Synonymies”, also presented by Brent Haggin. He began the presentation with a review of *Aphrodita* morphology and definition of character states. The presentation moved on to species descriptions. The presentation can be found in the SCAMIT Toolbox:

The first species discussed was *Aphrodita brevitentaculata* Essenberg, 1917. This species was described from kelp holdfasts off San Diego and has the following characters:

- 2 pairs of large eyes, slightly fused
- Median antennae short, bends upwards with a bulbous tip
- Dorsal notochaetae without asperities & hooked tip
- Neurochaetae with smooth tips, nearly straight
- Felt colorless

The next species was *Aphrodita longipalpa* Essenberg, 1917. This species was described from off La Jolla, CA in 292m and has been collected by LACSD in “A” Station benthic grabs (305m) and in trawls between 200-305m. It has the following characters:

- Eyes not visible or absent
- Median antennae short, inserted far anterior on prostomium
- Palps very long (~11.5X length of prostomium)





- Dorsal notochaetae slightly hooked, covered in asperities
- Neurochaetae distally tapered, slightly curved & pilose

Unlike the first two species above which lack synonyms, the following species and their junior synonyms may prove to be problematic. The following species of *Aphrodita* have been, in Brent's opinion, inappropriately synonymized in the past. The first synonymy in question is that of *Aphrodita armifera* Moore, 1910 and *Aphrodita raripillata* Essenberg, 1917. *A. raripillata* was placed into synonymy with *A. armifera* by Hartman (1939) with the following two statements: 1) "*A. raripillata* Essenberg (1917, p. 413) agrees well with *A. armifera* Moore (1910, p. 371). Both types originated in southern California." 2) "*A. raripillata* Essenberg (1917, p. 413) from southern California may be referable to *A. armifera* Moore, although it is not certain that the inferior neuropodial setae have the paired spurs characteristic of the latter. In other respects the descriptions are similar." A comparison of some key characters shown below (from the original descriptions) illustrate the differences.

| Species               | <i>Aphrodita armifera</i>     | <i>Aphrodita raripillata</i> |
|-----------------------|-------------------------------|------------------------------|
| Type Locality         | Monterey Bay, CA              | San Diego, CA                |
| Type Depth            | 56-80 m                       | 27-55 m                      |
| Dorsal Notochaetae    | With Asperites                | With Asperites               |
| Inferior Neurochaetae | Spurs & Asperites Present     | Spurs & Asperites Absent     |
| Ocular Prominence     | Slightly Raised w/ Small Eyes | Prominent w/ Large Eyes      |

In Essenberg's (1917) description of *Aphrodita raripillata*, she acknowledges the similarities with *A. armifera*. "*Aphrodita raripillata* has a great resemblance to *Aphrodita armifera* (Moore, 1910), and is undoubtedly closely related to it. The chief difference is in the structure of the neurosetae. In *Aphrodita armifera* the neurosetae of the ventral series are covered with asperities and have a subterminal spur, while in *A. raripillata* no spur or asperities are seen even under the highest magnification." Hartman (1939) also confused a character in her redescription of *A. armifera* in stating "*Aphrodita armifera* is characterized by its heavy, smooth, dorsal notopodial spines ..." where Moore (1910) described the notochaetae as "roughened by numerous small tubercles." Brent reported that, careful examination of vouchers of *A. armifera* from LACSD, revealed the presence of asperites on dorsal notochaetae.

Brent recommends retaining *Aphrodita raripillata* as a valid taxon. As part of his review of *Aphrodita* species, LACSD currently have possible reports of *A. raripillata* (fitting Essenberg's original description) from shallow benthic grabs (30-61m) and in 23m trawls.

Next up was *Aphrodita japonica* Marenzeller, 1879, and its junior synonym, *Aphrodita cryptommata* Essenberg, 1917. *A. cryptommata* was placed into synonymy with *A. japonica* by Hartman (1939) with the following statements: 1) "*A. cryptommata* Essenberg (1917, p. 409) must be referred to *A. japonica* Marenzeller (1879, p. 111), one of the commonest species of *Aphrodita* dredged in fairly shallow waters from southern California southward." 2) "The description of *A. cryptommata* Essenberg agrees well with that of *A. japonica* save for the statement that in the former the elytra are squarish along their medial margins. The shape of the elytra is similar, however, if the inner edge be slightly cut away, as sometimes happens when the dorsal felt is cut apart." Hartman (1939) provided no other justification for her synonymy. She did not look at type material. A comparison of some key characters shown below (from the original descriptions) illustrate the differences.



| Species               | <i>Aphrodita japonica</i>                                      | <i>Aphrodita cryptommata</i>   |
|-----------------------|--|--------------------------------|
| Type Locality         | Southern Japan   | Southern California (Newport)  |
| Type Depth            | <20m   | 55-185m                        |
| Dorsal Notochaetae    | Without Asperites ??   | Without Asperites              |
| Inferior Neurochaetae | Falcate; Smooth or Sheathed, or Sheath Frayed Appearing Pilose | Without Sheaths or Pilose Tips |
| Median Antennae       | Long Style   | Short Style                    |

Hartman (1939) placed the two species in synonymy without providing any evidence other than the two statements above and confusion over the characteristics of the neurochaetae have not helped in clarifying the situation. Marenzeller (1879) described *Aphrodita japonica* from Japan in shallow water (<20m); with smooth neurochaetae and a long median antennae but did not give the size of the specimen examined. In his all too brief description, Moore (1903) expanded the depth range to 306m and assumed that the smooth spines described by Marenzeller are the result of wear, as his specimen had pilose neurochaetae, but did not mention the median antennae or the size of the specimen examined. Moore (1908) expanded the range to Alaska and Canada and the depth to 480m. He reinforced the “worn smooth with age” aspect of the neurochaetae while examining specimens 14-80 mm in length but did not mention the median antennae.

Moore (1910) expanded the range south to San Diego and the depth to 1300m. The neurochaetae were again mentioned to be worn smooth with age, but he cautioned that the long median antennae should be used with caution as it is often lost or broken. The specimens examined were between 28-155 mm long. Hartman (1939) expanded the range south to Ecuador and Panama. She mentioned the wearing with age of the neurochaetae in specimens up to 48 mm but did not mention the median antennae. Pettibone (1953), while describing specimens from Washington, reinforced the changing state of the neurochaetae in individuals from 30-180 mm in length. She also described the median antennae as short. This is the first evidence in the literature that we may be dealing with multiple species under the *Aphrodita japonica* name. Hartman (1968) restricted the range to Japan, and Alaska to southern California, in depths to 150m. Imajima (2003), while examining material from Sagami Bay, Japan (near the type locality of *A. japonica*), described the dorsal notochaetae as being “densely tuberculated” and the lateral notochaetae as being “finely tuberculated basally”. This character may prove useful in separating out local forms from what has been recorded as *A. japonica* in the past.

Essenberg (1917) described *Aphrodita cryptomatta* with smooth neurochaetae with narrow, bluntly terminating ends and a median antennae that is “very short, consisting of a short ceratophore and a short style.” Essenberg’s description was based on specimens that were 28 & 29 mm in length. Following the assumptions of Moore, Hartman and Pettibone mentioned that the pilose neurochaetae wear smooth with age. *A. cryptomatta* should be expected to have pilose neurochaetae since their descriptions were based on small individuals, but their specimens had smooth neurochaetae. Based on the discrepancies in the neurochaetal ornamentation, the difference in median antennae length, and now the apparent (Imajima 2003) presence or absence of asperites in the dorsal notochaetae of *A. japonica*, Brent recommends treating *A. cryptomatta* as a valid species. Due to the extreme distribution and potential depth range reported in the literature, and the now apparent confusion in the description of *A. japonica*, Brent feels that local specimens of *A. japonica* should be considered a species complex. LACSD has not yet completed their review of *A. japonica* but many of them key more closely to *A. solitaria* Essenberg, 1917.



Moving on to the next questionable synonymy is *Aphrodita refulgida* Moore, 1910 and *A. solitaria* Essenberg, 1917. Hartman (1939) placed *A. solitaria* into synonymy with *A. refulgida* with the following statements: 1) “*Aphrodita solitaria* Essenberg (1917, p. 408) may be the same as *A. refulgida* Moore (1910, p. 376). Both have pointed neuropodial setae (pl. 1, figs. 7, 8) in addition to other identical characters, and both probably originate from southern California.” 2) “The description of *A. solitaria* Essenberg agrees reasonably well with Moore’s description of *A. refulgida*.” A comparison of some key characters shown below (from the original descriptions) illustrate the differences.

| Species           | <i>Aphrodita refulgida</i> | <i>Aphrodita solitaria</i> |
|-------------------|----------------------------|----------------------------|
| Type Locality     | Monterey Bay, CA           | Southern California        |
| Type Depth        | 66-93m                     | unknown                    |
| Lateral Fibers    | Iridescent Green           | Colorless                  |
| Neurochaetal Tips | Smooth, Nearly Straight    | Strongly Pilose, Straight  |

Moore (1910) described *Aphrodita refulgida* as having brilliant green lateral fibers and neurochaetae that are smooth and straight, terminating in fine acuminate tips. The iridescent green lateral fibers are very conspicuous and do not fade easily after fixation (pers. obs.). Essenberg (1917) described *A. solitaria* as having colorless lateral fibers and neurochaetae with densely pilose tips. Based on these differences in characters, Brent would treat *A. solitaria* as a valid species. LACSD has not yet completed a review of *A. refulgida*, but as mentioned above, LACSD has some possible reports of *A. solitaria* from 305m trawls that were previously identified as *A. japonica*.

The final set of synonymies to explore are that of *Aphrodita negligens* Moore, 1905, *A. castanea* Moore, 1910 and *A. californica* Essenberg, 1917. Hartman (1936) placed *A. californica* into synonymy with *A. castanea* with the following sentence - “*Aphrodita castanea* Moore, 1910 = *A. californica* Essenberg, 1917.” However, by 1968 she had reversed this decision as both species are in her key in the Atlas (Hartman 1968). Pettibone (1953) placed *A. castanea* into synonymy with *A. negligens*. This also made *A. californica* a synonym of *A. negligens* by extension.

| Species            | <i>Aphrodita negligens</i>    | <i>Aphrodita castanea</i>               | <i>Aphrodita californica</i>  |
|--------------------|-------------------------------|---|-------------------------------|
| Type Locality      | Suruga Bay, Japan             | Monterey Bay, CA                        | Coronado, CA                  |
| Type Depth         | 62m                           | 66-565m                                 | 6m                            |
| Dorsal Notochaetae | Without Asperites             | With Asperites on Dorsal Side of Shaft  | Without Asperites             |
| Notochaetal Tips   | Taper Gradually to Hooked Tip | With Constriction at Base of Hooked Tip | Taper Gradually to Hooked Tip |
| Neurochaetal Tips  | With Pilose Tips              | With Pilose Tips                        | With Smooth Tips              |

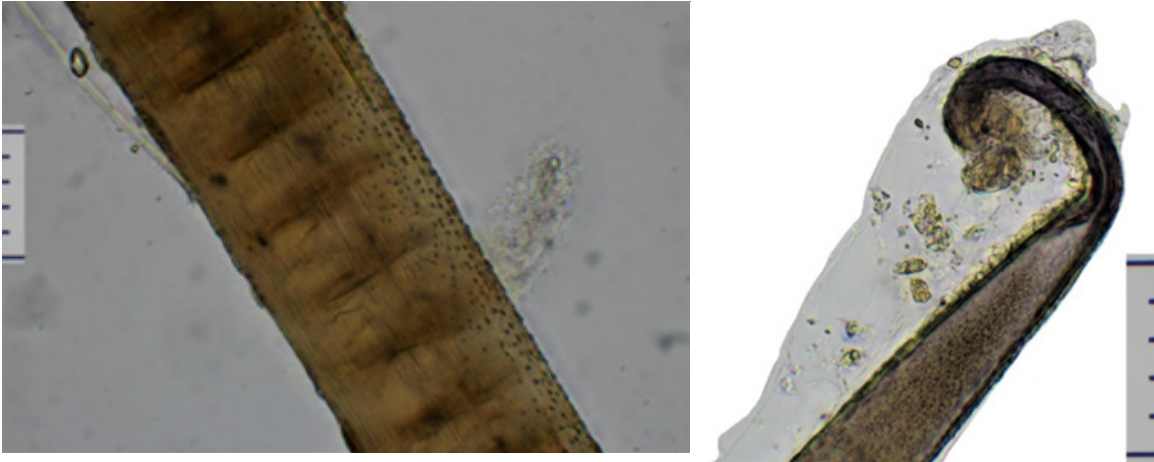
Moore (1905) described *Aphrodita negligens* from Japanese waters as having iridescent lateral fibers (though the color is a dull green, not brilliant like *A. refulgida*), dorsal notochaetae without asperites and gradually tapering to hooked tips and pilose neurochaetae. Since this species was described from Japan it is possible that true *A. negligens* is not present in southern California and reports of such may prove to be *A. refulgida* due, in part, to the iridescent green sheen of the lateral fibers. LACSD reports this species from 61m in benthic grabs and in trawls from 61-305m. A review of *A. negligens* at LACSD has not yet taken place.





Moore (1910) described *Aphrodita castanea* as having a gray body, dorsal notochaetae with a constricted tip and asperites on the convex side, and pilose neurochaetae. These diagnostic differences have led SCAMIT to recognize *A. castanea* as a valid species. LACSD reports *A. castanea* in benthic grabs from 30-152m and in trawls from 61-305m.

*Aphrodita castanea* Moore, 1910 Left – Asperites on dorsal notochaetae; Right – Hooked tip with constriction (Images by B. Haggin, LACSD Station T5-305, 305m; scale=0.05mm(0.01mm))



Essenberg (1917) described *Aphrodita californica* from San Diego in 6m of water. It was described as having smooth notochaetae with a tapering, hooked tip and smooth neurochaetae. Based on the differences detailed above, Brent recommends treating *A. californica* as a valid species. LACSD has not yet completed a review of *Aphrodita* species and does not yet have any reports of possible *A. californica*. Other SCAMIT taxonomists are encouraged to check their own collections for possible specimens.

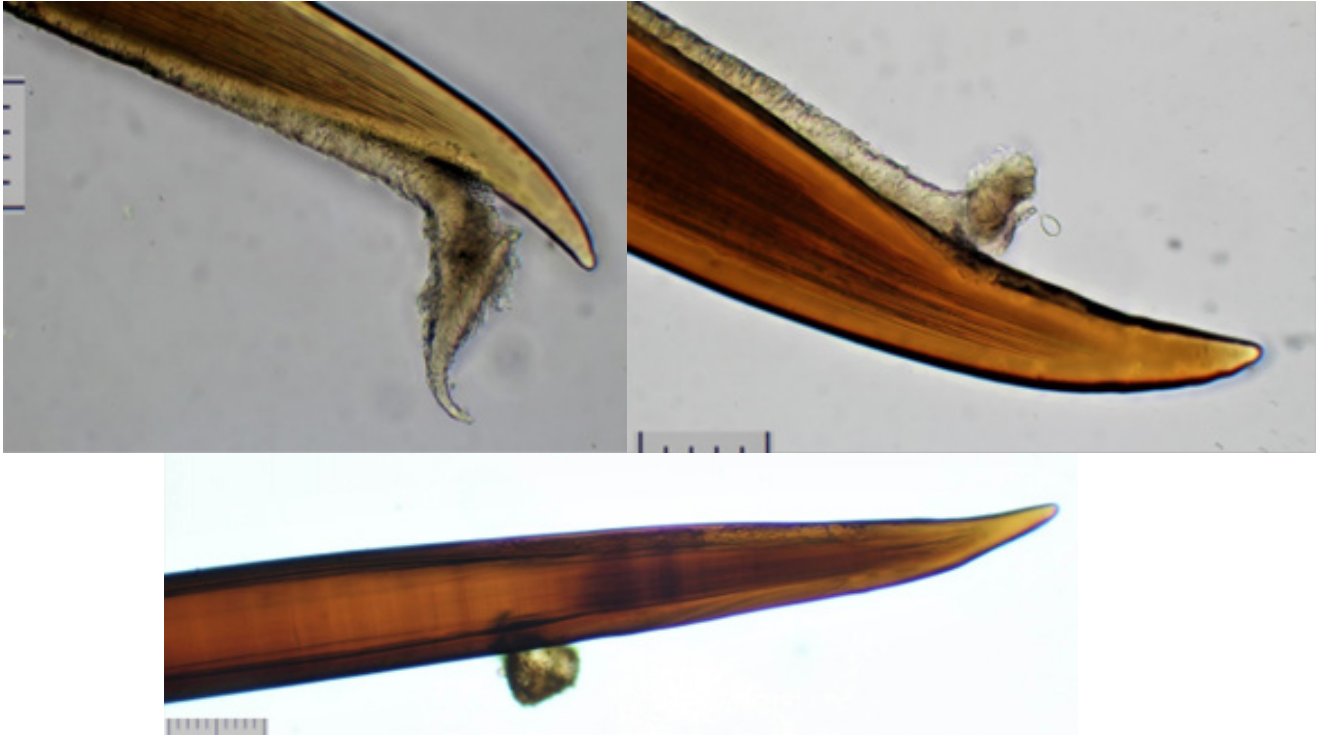
The final species reviewed was *Aphrodita* sp A Rossi, 1978 §. A voucher sheet for this provisional species was not found; characters listed below were gleaned from an old SCAMIT key “A Key to the Species of *Aphrodita* (Polychaeta) from the West Coast of North America” by Mark Rossi (1978). The characters are as follows:

- Dorsal notochaetae without asperites, 2X thicker than superior neurochaetae
- Lateral notochaetae iridescent golden-green
- Median antennae cirriform

It is Brent’s goal to visit the NHMLAC and view Essenberg’s type material to determine the validity of the synonymies proposed by Hartman (1936, 1939) and Pettibone (1953). An update will be provided once this occurs. Other congeners reported from the region but not by SCAMIT are *Aphrodita falcifera* Hartman, 1939 (Cedros Island, Mexico), *A. mexicana* Kudenov, 1975 (Western Mexico; 29-38m), *A. parva* Moore, 1905 (British Columbia, Canada; 200-311m), and *A. sonorae* Kudenov, 1975 (Gulf of California, Mexico; 36m).



*Aphrodita castanea* Moore, 1910 Upper Left – Inferior neurochaetae, scale=0.05mm(0.01mm); Upper Right – Median neurochaetae, scale=0.05mm(0.01mm); Bottom – Superior neurochaetae, scale=0.01mm (Images by B. Haggin, LACSD Station T5-305, 305m)



Brent's updated key to the *Aphrodita* was also presented. The Key to the Genus *Aphrodita* of SCAMIT (Ed. 13) and Local Provisional Species (Haggin, 2023), and a character table in Excel format, have been uploaded to the SCAMIT toolbox. The key treats all of the species mentioned above as provisionally valid and they are included within. Their names are left in RED font to distinguish them from the currently accepted species. The presentation given at the meeting has also been converted to a pdf and uploaded to the toolbox.

The meeting then proceeded to cover a number of keys that Brent has been updating to include local provisional species. The first was for the Family Glyceridae. This key was modified from the Glyceridae key in the MMS Atlas and incorporated provisional species *Glycera* sp LA1 Parker, 1999 §. Since the meeting, *Glycera* sp LA1 has received a SCAMIT designation and was published in SCAMIT Newsletter 39(6) as *Glycera* sp B SCAMIT, 2022 §. *Key to the Family Glyceridae of SCAMIT (Ed.13) and Local Provisional Species* (Haggin, 2023) has been updated to reflect this change and has been uploaded to the SCAMIT toolbox. A table of characters of the local *Glycera* spp was included.

The next key was for the Family Goniadidae. This key was modified from the Goniadidae key in the MMS Atlas and incorporated provisional species *Goniada* sp LA1 Haggin, 2021 §. Since the meeting, *Goniada* sp LA1 has received a SCAMIT designation and is published in this newsletter as *Goniada* sp A SCAMIT, 2023 §. The *Key to the Family Goniadidae of SCAMIT (Ed. 13) and Local Provisional Species* (Haggin, 2023) has been updated to reflect this change and has been published to the SCAMIT toolbox. A table of characters of the Family Goniadidae has been added to the key.



The next key presented was for the Genus *Magelona*. This key was modified from the Key to the West Coast *Magelona* by D. Norris (1999), which was based on D. Pasko's (1991) key and Hobson & Banse (1981). The purpose of this key was to consolidate multiple sections of keys found at LACSD that were missing parts of couplets. The updated key also incorporated methyl green stain patterns when information was available. The *Key to the Magelona of SCAMIT (Ed. 13) and Local Provisional Species* (Haggin, 2023) has been uploaded to the SCAMIT toolbox.

The next key was a newer version of Brent's key to the local Orbiniidae. This key was updated from his 2018 key by limiting it to only species on the SCAMIT Species List or local provisional species. The 2018 key included all Orbiniids reported from the Northeastern Pacific. The *Key to the Family Orbiniidae of SCAMIT (Ed. 13) and Local Provisional Species* (Haggin, 2023) has been uploaded to the SCAMIT toolbox. A character table is also available on the SCAMIT toolbox under the Family Orbiniidae – Other Useful Tools – Orbiniidae table.xlsx.

The final key presented was an updated key to the Spionidae. It was modified from the key to the Family Spionidae in the MMS Atlas and the Lovell & Pasko Spionidae key. It includes all Spionid species listed in SCAMIT Ed. 13, and all local provisional species known at the time. It also incorporates all nomenclatural changes since the Lovell & Pasko key, mostly in the *Spiophanes*, and incorporates methyl green stain patterns when known. The key also includes all the local Polydorids and their allies to be as comprehensive as possible. Brent's much expanded *Key to the Family Spionidae of SCAMIT (Ed. 13) and Local Provisional Species* (Haggin, 2023) has been uploaded to the toolbox on the SCAMIT Website.

As taxonomy is constantly changing, these keys are works in progress. Please email Brent (bhaggin@lacs.org) with any comments or suggested improvements, and he will incorporate them and update the keys.

## 10 JANUARY 2022, SCAMIT PROVISIONAL SPECIES TRIAGE, K. BARWICK, ZOOM

**Attendance:** Kelvin Barwick, OCSO; Brent Haggin, Norbert Lee, Christine Boren, Don Cadien, JoAnne Linnenbrink, LACSD; Leslie Harris, NHMLAC; Greg Lyon, Erin Oderlin, Cody Larsen, Craig Campbell, CLAEMD; Tony Phillips, Dean Pasko, Larry Lovell, DCE; Wendy Enright, Megan Lilly, Maiko Kasuya, Andrew Davenport, Ricardo Martinez-Lara, Veronica Rodriguez-Villanueva, Zoë Scott, Lauren Valentino, CSD; Alison Fisher, Ashley Loveland, Jessica Donald, SFPUC; Angelica Zavala Lopez, MTS.

Kelvin started the day by noting that it is SCAMIT's 40 year anniversary and asked if the Executive Committee had anything planned to which there was a crickets silence.

With announcements over Kelvin shared his presentation on the provisional species found on the SCAMIT List. First he reviewed the reasons for erecting provisional species. These included:

- Documentation of possible new species, to you, to your lab, to SCAMIT, to science
- Sort out problems of local diversity where literature is lacking and/or contradictory
- Place holder in data sets: inhouse, regional, SCAMIT

This stimulated a discussion about the purpose and usefulness of provisional species. Leslie noted their usefulness at the Museum since it designates an animal as unique. Accordingly, they are provided their own “shelf space” so visiting researchers can examine them if interested. Don





noted that he creates many provisional species for consulting work but he doesn't think all of them should be added to the Species List. He also remarked on the difference of POTW in-house provisionals and SCAMIT provisionals versus those in published literature. Those that have been described and published are species with non-standard nomenclature, but are not provisionals in the same sense as used by SCAMIT. It was agreed that those species on the List that are published with non-standard nomenclature do not need to be reviewed during the vetting process.

With everyone in agreement Kelvin began to solicit help and a list of volunteers was drawn up. He revealed a spreadsheet that will be used to quantify and qualify the information currently available on SCAMIT.org for each taxa. Once this is completed, a decision can be made on what to keep and what to remove.

Leslie had the floor next and wanted to talk about inaturalist. Leslie is lead for the polychaetes and she is uploading her live photo collections. She is also adding images of any phyla she photographs not just polychaetes. She encouraged others to upload photos as well. To view her images go to:

[https://www.inaturalist.org/observations?user\\_id=leslieh](https://www.inaturalist.org/observations?user_id=leslieh)

#### 14 FEBRUARY 2022, ADVENTURES IN POLYCHAETING, ZOOM

**Attendance:** Guest speaker: Sergio Salazar-Vallejo (ECOSUR-Chetumal); Brent Haggin, Christine Boren, Norbert Lee (LACSD); Kelvin Barwick (OCSD); Leslie Harris (NHMLAC); Erin Oderlin, Greg Lyon, Jennifer Smolenski (CLAEMD); Ricardo Martinez, Maiko Kasuya, Adam Webb, Veronica Rodriguez (CSD); Larry Lovell, Tony Phillips (DCE); Diane O'Donohue, Jessica Donald, Heather Peterson (CCSF); Theresa Diaz (MBC); Angelica Zavala Lopez (MTS); Dany Burgess, WADOE; Dot Norris, Retired.

Brent opened the business portion of the meeting with a reminder that anyone still interested in running for SCAMIT office next year needs to get their nominations in to a current SCAMIT Officer by the end of February for inclusion on the ballot.

Kelvin discussed delays in receiving the newest edition of *Annelida* (Rouse, et al. 2022). The publisher, in the United Kingdom, stated that it has been lost in transit and another copy has been dispatched. It was still available for purchase from Oxford University press online.

Sergio Salazar-Vallejo presented some preliminary research of his and his grad students' work on *Chloeia*. The presentation detailed variations within the local *Chloeia pinnata*; a confirmation of *Chloeia entypa* Chamberlin, 1919 as a valid deep-water species; and a brief look at 2 new *Chloeia* species, 1 from the Gulf of California and 1 from the Gulf of Mexico.

Kelvin led a discussion reviewing a few of the provisional species currently residing on the Provisional Species Website. The following species were reviewed:

- *Lumbrinerides* sp OC1 Barwick, 2020 § - Kelvin will review his specimen against *Lumbrineriopsis* sp SD1 and confirm placement within *Lumbrinerides*. Brent identified four specimens of *Lumbrinerides* sp OC1 this past survey and will double check them and send them to Kelvin for further investigation.



- *Plakosyllis* sp OC1 Barwick, 2020 § - Kelvin will do additional review of his provisional against *Plakosyllis americana* and report back with his findings. He will also compare his species to *Xenosyllis* which is typically associated with bryozoans, dorso-ventrally flattened, has articulated cirri and antennae and dorsally the segments are “wrinkled”. Brent will try to find the original *Plakosyllis* sp LA1 and make comparisons to *Plakosyllis* sp OC1.
- *Onuphis* sp LA1 Haggin, 2019 § - Brent will get specimens of *Onuphis eremita parva* from CSD to make further investigations.
- *Glycera* sp LA1 Haggin, 2021 § - After discussion of proper naming conventions, Brent will update the voucher sheet to reflect the authorship as Parker, 1999 § as this voucher sheet was a re-description and not a new description. Other minor edits will be made and this voucher sheet will move toward getting a SCAMIT name.
- *Goniada* sp LA1 Haggin, 2021 § - Brent will make a few minor edits to this voucher sheet and it will move toward getting a SCAMIT name.
- *Phyllochaetopterus* sp LA1 Haggin, 2019 § - Brent showed preliminary images of a Bight '18 collected species of *Phyllochaetopterus* from deep water. This species has a distinctive banding pattern in the ventral thorax. Leslie indicated that according to currently unpublished data, species of *Phyllochaetopterus* and *Spiochaetopterus* do not separate genetically and thus both groups are polyphyletic as currently described.

Leslie next led a discussion covering multiple topics. She began with a review of new papers that deal with some re-descriptions of local species:

Radashevsky et. al. 2021. This paper addresses *Marenzelleria* spp and may be more applicable to San Francisco and Puget Sound collections.

Maciolek & Blake. 2021. This paper addresses *Microspio* spp and contains a great re-description of *Microspio pigmentata* with high quality photos.

Leslie then presented her preliminary work on the genus *Phylo* (Orbiniidae). The SCAMIT Species List has 2 species currently listed: *P. nudus* (Moore, 1911) described from California and *P. felix* Kinberg, 1866 described from Brazil. Also commonly reported from this coast, though not by SCAMIT, is *P. ornatus* (Verrill, 1873) described from Massachusetts. Synonymized with *P. ornatus* by Hartman (1959) was *P. macginitii* (Berkeley & Berkeley, 1941) described from Newport Bay. In order to validate local species Leslie is looking for *Phylo* specimens from shallow water. She wants to document character states and ranges for comparison to the original descriptions of the 4 species. Literature pertinent to this group is Blake 2021. This paper has current images and descriptions of *P. ornatus* and *P. felix* though with synonymies these descriptions may be combinations of characters.

Leslie finished her presentation with a new paper on the genus *Anobothrus* (Ampharetidae), Saring et. al. 2022. This paper presents a key to valid species of *Anobothrus* but it is incorrect. Leslie has an updated version of the key if interested. As a result of her investigations, it has come to her attention that what we have locally called *A. gracilis* (Malmgren, 1866) (described from Sweden) is actually *A. bimaculatus* Fauchald, 1972 (described from Mexico). One of the key differences between the two species is in the notochaetae; all of the notochaetae in *A. gracilis* should be hirsute, while only the notochaetae of segment 12 should be hirsute in *A. bimaculatus*. Leslie is creating a voucher sheet detailing the differences and the change in nomenclature we should be using. Leslie also discussed the presence of 2 additional *Anobothrus* provisional species she has found. Both come from the Channel Islands so they may be of concern for Bight '23.



They are small species with one specimen, which was mature and gravid only approximately 6mm total length.

Kelvin showed images of an unidentified *Clavadoce* (Phyllodocidae) that they found as bycatch on their recent trawls. Leslie commented that she had never seen it before and that it was new.

The day was finished with Leslie showing images of living *Nereiphylla* sp. (Phyllodocidae) to highlight the extreme color variation present within a single species.

### PROVISIONAL SPECIES VOUCHER SHEETS

Attached to this newsletter are some of the polychaete provisional species voucher sheets discussed, as well as a provisional sheet for a deep water phoronid. Due to the large size of this newsletter it was decided that the remaining polychaete species voucher sheets will be appended to Vol 40 no 6.

- *Chaetozone* sp D
- *Goniada* sp A
- *Jasmineira* sp C
- *Kirkegaardia* sp B
- and for the non polychaete - Phoronidae sp DC1

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WoRMS



Please visit the SCAMIT Website at: [www.scamit.org](http://www.scamit.org)

### SCAMIT OFFICERS

If you need any other information concerning SCAMIT please feel free to contact any of the officers at their e-mail addresses:

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SCAMIT  
PO Box 50162  
Long Beach, CA 90815





## Voucher Sheet

B. Haggin  
April, 2023

Species: *Chaetozone* sp D SCAMIT, 2023 §

Synonyms: *Chaetozone* sp LA2 Haggin, 2019 §

P-Code—see Discussion

ITI—Group 2

Family: Cirratulidae  
Suborder: Cirratuliformia  
Order: Terebellida  
Infraclass: Canalipalpata  
Subclass: Sedentaria  
Class: Polychaeta  
Phylum: Annelida

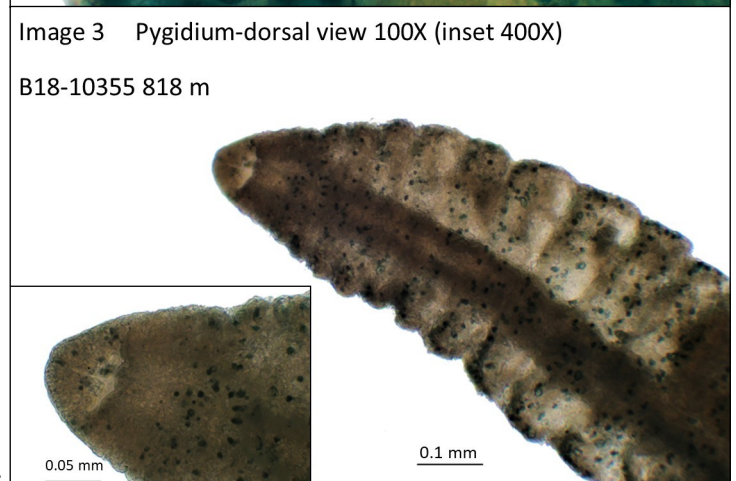
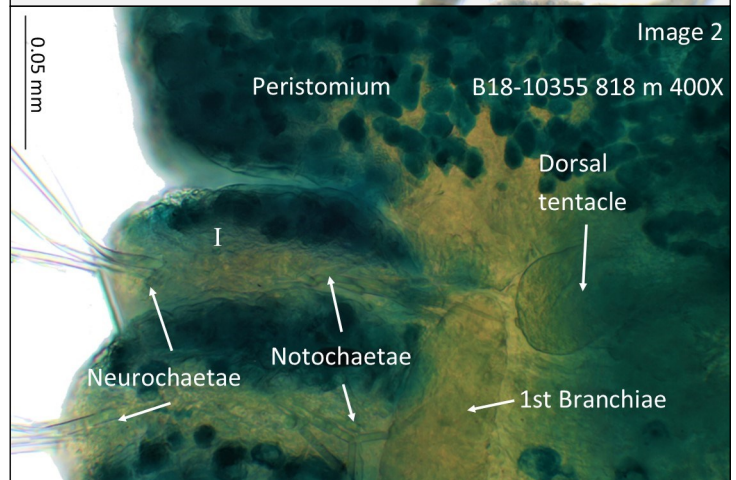
### Diagnostic Characters:

- 1) Individual is 7.48 mm long (entire) and 0.42 mm across the thorax (excluding chaetae).
- 2) Prostomium bluntly triangular, eyes present (**Image 1**).
- 3) Dorsal tentacle inserted lateral to peristomial pad & just anterior to 1st branchiae on peristomium (**Image 2**).
- 4) Thorax dorsoventrally compressed with 13 chaetigers, slightly crowded, with segments wider than long.
- 5) Abdomen rounded in cross-section with 44 abdominal chaetigers and 2 achaetous pre-pygidial segments.
- 6) Pygidium with terminal anus and ventral lobe (**Image 3**).
- 7) Neuropodial spines present in thorax from chaetiger 8; slightly curved, bluntly pointed (**Images 4, 5, 6**).
- 8) Notopodial spines present in abdomen from chaetiger 30; straight, bluntly pointed (**Images 5, 6**).
- 9) Forming only partial cinctures posteriorly

### Pigmentation/MGS:

- 1) Prostomium and peristomium staining intensely, with an unstained band in middle of prostomium/peristomium (head) dorsally, unstained laterally (cheeks) and an unstained ventral patch posterior to the mouth (**Images 7, 8**).
- 2) Chaetigerous segments with encircling stain bands, each segment unstained anteriorly, lightly staining around chaetal fascicles and heavily staining posteriorly; 1st 6 chaetigers the stain does not connect across the ventrum (**Images 7, 8**).

\*\* stain intensity decreasing overall toward pygidium \*\*



All photos by B. Haggin

# *Chaetozone* sp D

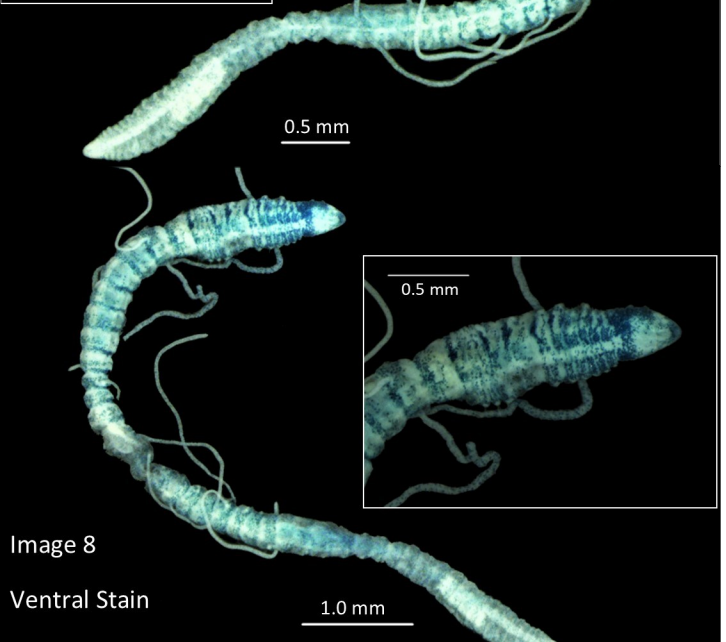
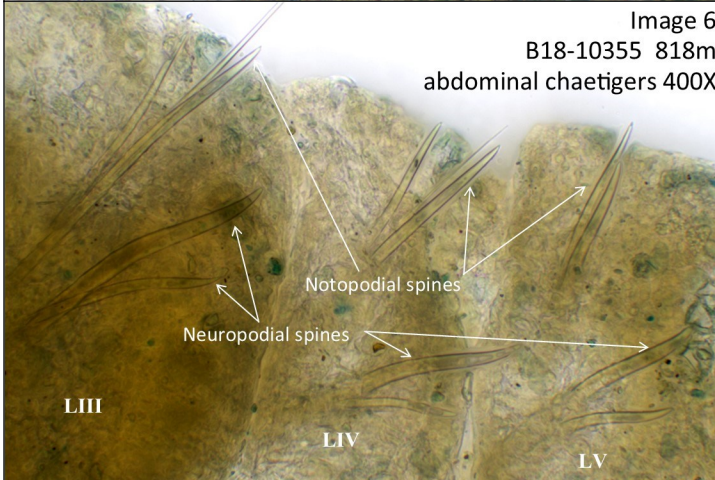
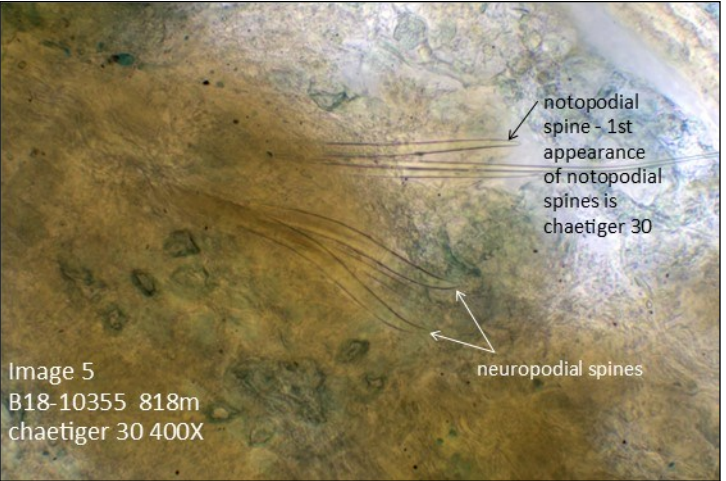
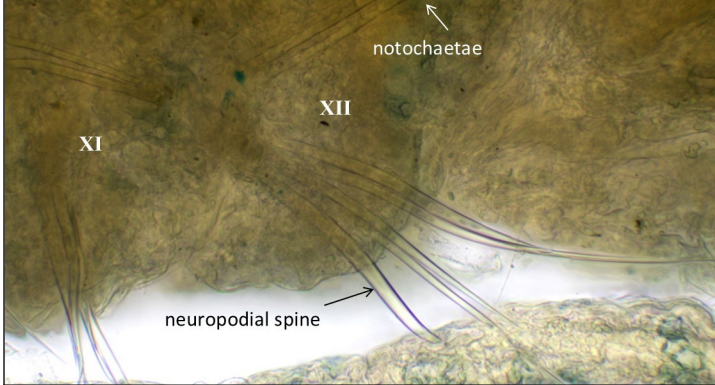
SCAMIT, 2023 §



## Voucher Sheet

B. Haggin  
April, 2023

Image 4  
B18-10355 818m  
thoracic chaetigers 400X



### Material Examined:

B'18-10355—South of Pt. Dume, Santa Monica Basin/San Pedro Channel, 818 m (1 ind.) (33.88369N, 118.79006W—17AUG18)

### Similar Species:

*Chaetozone hartmanae* Blake, 1996—*Chaetozone* sp D most closely resembles *Chaetozone hartmanae* in the shapes of the spines, straight in the notopodia and curved in the neuropodia. The two differ in the starting chaetiger of the neuropodial spines, chaetiger 33 in *C. hartmanae* and chaetiger 8 in *C. sp D*. The MGS pattern of the two also differ, with *C. hartmanae* having a near solid stain patch in the posterior thorax, little stain in the anterior thorax and abdominal stain concentrating just posterior to the chaetal fascicles. *Chaetozone* sp D has stain concentrated in the anterior thorax though not staining across the ventrum and near encircling stain bands in the abdomen. The holotype of *Chaetozone hartmanae* was described from 86 m off Santa Barbara, but then its distribution listed as 542-914 m (Blake, 1996). *Chaetozone hartmanae* is routinely collected by LACSD from 30 -60 m, with a few scattered records from 150 m. With the similarity in acicular spine morphology, it is possible that deeper water records of *C. hartmanae* may belong to this provisional species.





## *Chaetozone* sp D

SCAMIT, 2023 §

## Voucher Sheet

B. Haggin  
April, 2023

### Similar Species (cont.):

*Chaetozone acuta* Banse & Hobson, 1968 (sensu Blake, 1996)—*Chaetozone acuta* resembles *Chaetozone* sp D in the presence of eyes on the prostomium and in having incomplete cinctures of the posterior abdominal segments. The two differ in the start of neuropodial spines, 18-40 in *Chaetozone acuta* and chaetiger 8 in *C. sp D*, *Chaetozone* sp D lacks the obliquely shaped capillary chaetae found in *Chaetozone acuta*, and *C. acuta* lacks a distinctive MGS banding pattern in the thorax that is present in *Chaetozone* sp D.

*Chaetozone armata* Hartman, 1963 (sensu Blake, 1996)—*Chaetozone armata* is similar to *Chaetozone* sp D in having neuropodial spines present from far anterior chaetigers (chaetiger 1 for *C. armata*, chaetiger 8 for *C. sp D*) and the start of notopodial spines (16-25 for *C. armata*, 30 for *C. sp D*). The two differ in the position of the dorsal tentacle relative to the first branchiae, anterior to and inserted in the middle of the peristomium for *Chaetozone armata* and lateral to and inserted on the posterior of the peristomium in *Chaetozone* sp D. The posterior chaetigers of *Chaetozone armata* contain only a single acicular spine in each rami while *Chaetozone* sp D has 2 spines in each rami in posterior chaetigers. *Chaetozone armata* is known from shallow shelf depths up to 180 m, *C. sp D* is known only from deeper water in 818 m.

*Chaetozone truebloodi* Blake, 2019—*Chaetozone truebloodi* is similar in having neuropodial spines present from the far anterior (chaetiger 9 for *C. truebloodi*, chaetiger 8 for *C. sp D*) and the start of notopodial spines 22 vs. 30. *Chaetozone truebloodi* also differs in the position of the dorsal tentacle relative to the first branchiae, with it being anterior in *C. truebloodi* and lateral in *C. sp D*. *Chaetozone truebloodi* also differs in its MGS pattern, having only the prostomium staining intensely, the peristomium and few anterior chaetigers speckled and the rest of the body unstained, while *C. sp D* has a distinctive stain pattern over most of its body. *Chaetozone truebloodi* is known only from the Clarion-Clipperton Fracture Zone in depths of 4880 m.

### Habitat:

*Chaetozone* sp D is known from a single individual. It was collected in 818 m off Pt. Dume, Santa Monica Basin/San Pedro Channel in clayey silt. Also collected in the sample were the polychaetes *Protis pacifica* Moore, 1923; *Amage longibranchiata* Hartman, 1960; *Ampharete cornuta* (Hilbig, 2000); *Phyllochaetopterus* sp A SCAMIT, 2023 § (reported as *Phyllochaetopterus* sp LA1 Haggin, 2019 §); *Kirkegaardia* sp B SCAMIT, 2023 § (reported as *Kirkegaardia* sp LA1 Haggin, 2019 §); *Aricidea (Acmira)* sp LA1 Lovell, 2014 §; and an unidentified Hesionid.

### Discussion:

Blake (2022) emended the generic diagnosis of *Chaetozone* to the following:

Prostomium conical to pointed, usually lacking eyespots, with a pair of small nuchal slits or depressions at posterior edge, sometimes pigmented. Peristomium with a single pair of grooved dorsal tentacles arising from posterior margin or sometimes more posterior on an achaetous anterior segment, or rarely on an anterior setiger. First pair of branchiae arising near dorsal tentacles, an achaetous segment or first setiger; sometimes with first two pairs of branchiae on a single anterior segment. Body usually expanded anteriorly and narrowed posteriorly, middle or posterior body segments sometimes moniliform; posterior end often expanded. Setae include capillaries on most setigers and acicular spines in neuropodia and notopodia, with spines typically concentrated in posterior segments, usually forming distinct armature with spines carried on cinctured segments with elevated membranes; cinctures with few to many spines sometimes encircling entire posterior end, accompanied with none to many alternating capillaries; bidentate spines sometimes present in juveniles or occasionally in ventral-most position of far posterior setigers of adults, accompanying unidentate spines in cinctures; some species with long, natatory-like capillary notosetae, sometimes limited to gravid individuals. Pygidium a simple lobe, disklike, with long terminal cirrus, or few short lobes.



## *Chaetozone* sp D

SCAMIT, 2023 §

## Voucher Sheet

B. Haggin  
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### Discussion (cont.):

Blake (2015) remarked on the importance of details of the peristomium, position of the dorsal tentacle and branchiae, nature of the posterior cinctures and their associated acicular spines, and the pygidium in the description of new species. In 2018, Blake erected a new genus *Chaetocirratulus* to contain bitentaculate cirratulids that have little to no posterior cincture and few acicular spines throughout. He thought that local species *Chaetozone gracilis* (Moore, 1923) might belong in the new genus but did not move it at this time. Blake (2022) commented that the pointed prostomium and elongate body of *C. gracilis* (rather than rounded and fusiform) should keep it within the genus *Chaetozone*. While *Chaetozone* sp D has very few spines in each rami throughout, the species described within *Chaetocirratulus* have no notopodial spines or notopodial spines present in only the last few pre-pygidial segments similar to *Chaetozone gracilis*. Along with an elongate body and triangular prostomium, the placement of the provisional species in the genus *Chaetozone* seems justified.

The P-Value Tool file has a P-Code of “P108” for *Chaetozone hartmanae*. Based on the similarity in spine morphology, *Chaetozone* sp D would most likely have been identified as juvenile *Chaetozone hartmanae* in the past. I am unsure if *Chaetozone* sp D should inherit P-Code “P108” from *Chaetozone hartmanae*.

WoRMS currently lists 73 valid species of *Chaetozone* and SCAMIT Ed. 13 has 12 named species, including *Chaetozone setosa* Cmplx, and 5 provisional species. *Chaetozone* sp D would be the 6<sup>th</sup> provisional species when added in Edition 14.

### References:

**Blake, J. A.** 1996. Family Cirratulidae Ryckholdt, 1851. Pages 263-384. IN: Blake, James A.; Hilbig, Brigitte; and Scott, Paul H. *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.

**Blake, J. A.** 2015. New Species of *Chaetozone* and *Tharyx* (Polychaeta: Cirratulidae) from the Alaskan and Canadian Arctic and the Northeastern Pacific, including a description of the lectotype of *Chaetozone setosa* Malmgren from Spitsbergen in the Norwegian Arctic. *Zootaxa* 3919(3): 501-552.

**Blake, J. A.** 2018. Bitentaculate Cirratulidae (Annelida, Polychaeta) collected chiefly during cruises of the R/V *Anton Bruun*, USNS *Eltanin*, USCG *Glacier*, R/V *Hero*, RVIB *Nathaniel B. Palmer*, and R/V *Polarstern* from the Southern Ocean, Antarctica, and off Western South America. *Zootaxa* 4537(1): 1-130.

**Blake, J. A.** 2019. New species of Cirratulidae (Annelida, Polychaeta) from abyssal depths of the Clarion-Clipperton Fracture Zone, North Equatorial Pacific Ocean. *Zootaxa* 4629(2): 151-187.

**Blake, J. A.** 2022. New species and records of *Caulleriella*, *Chaetocirratulus* and *Chaetozone* (Annelida, Cirratulidae) from continental shelf and slope depths of the Western North Atlantic Ocean. *Zootaxa* 5113(1): 1-89.

**Read, G. & Fauchald, K.** (Ed.) 2023. World Polychaeta Database. *Chaetozone* Malmgren, 1867. Accessed through: World Register of Marine Species at: <https://www.marinespecies.org/aphia.php?p=taxdetails&id=129242> on 2023-04-12

**SCAMIT.** 2021. *A Taxonomic Listing of Benthic Macro- 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.



## *Chaetozone* sp D

SCAMIT, 2023 §



## Voucher Sheet

B. Haggin  
April, 2023

### Other Literature Consulted:

**Blake, J. A.** 2006. New species and records of deep-water Cirratulidae (Polychaeta) from off Northern California. *Scientia Marina* 70S3: 45-57.

**Blake, J. A. & Lavesque, N.** 2017. A new species of *Chaetozone* (Polychaeta, Cirratulidae) from the Bay of Biscay offshore France, together with a review of *Chaetozone* species from the North Atlantic and adjacent waters. *Zootaxa* 4312(3): 565-579.

**Hartman, O.** 1963. Submarine canyons of Southern California Part III. Systematics: Polychaetes. *Allan Hancock Pacific Expeditions* 27(3): 1-93.

### Version History:

Version 1.0—Voucher sheet created (03MAR2020)

Version 1.1—Updated name to *Chaetozone* sp LA2 (*Chaetozone* sp LA1 occupied from B'03) (09MAR2020)

Version 2.0—Updated voucher sheet to new SCAMIT guidelines (04OCT2022)

Version 3.0—Updated name to *Chaetozone* sp D and author to SCAMIT, 2023 §; Updated Discussion section; Updated names of co-occurring provisional species (12APR2023)



## Voucher Sheet

B. Haggin  
April, 2023

Species: *Goniada* sp A SCAMIT, 2023 §

Synonyms: *Goniada* sp LA1 Haggin, 2021 §

P-Code—none assigned

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) Macrognahts and micrognahts 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).

Image 1 - Dorsal pigmentation

*Goniada* sp LA1 Haggin, 2021 §



Image 2 - Ventral pigmentation



Image 3 - Dorsal prostomium

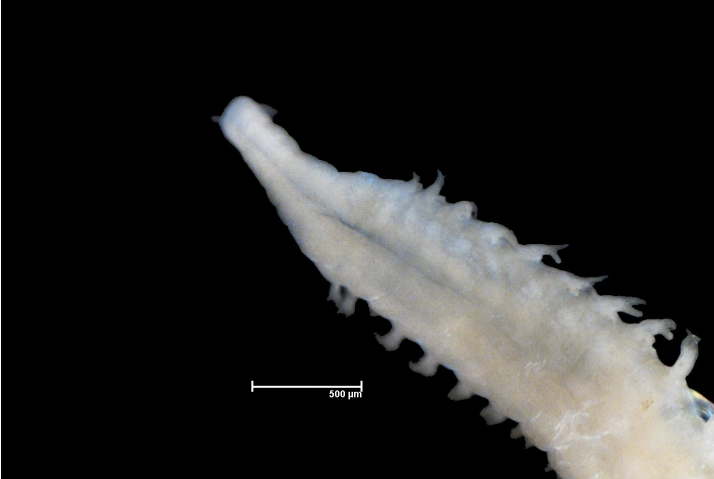
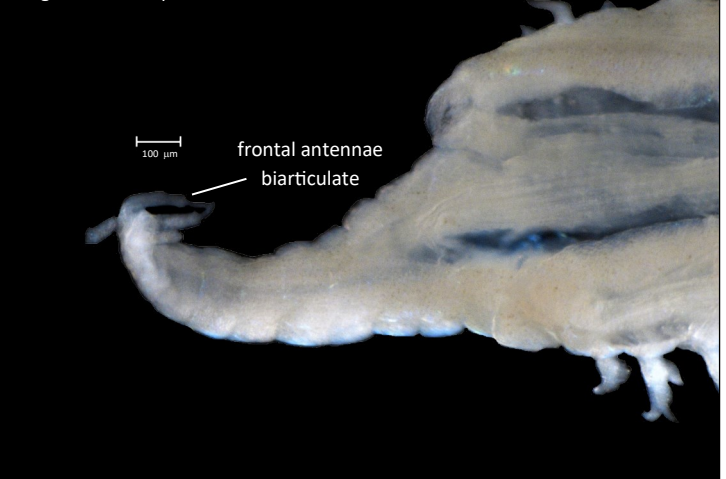


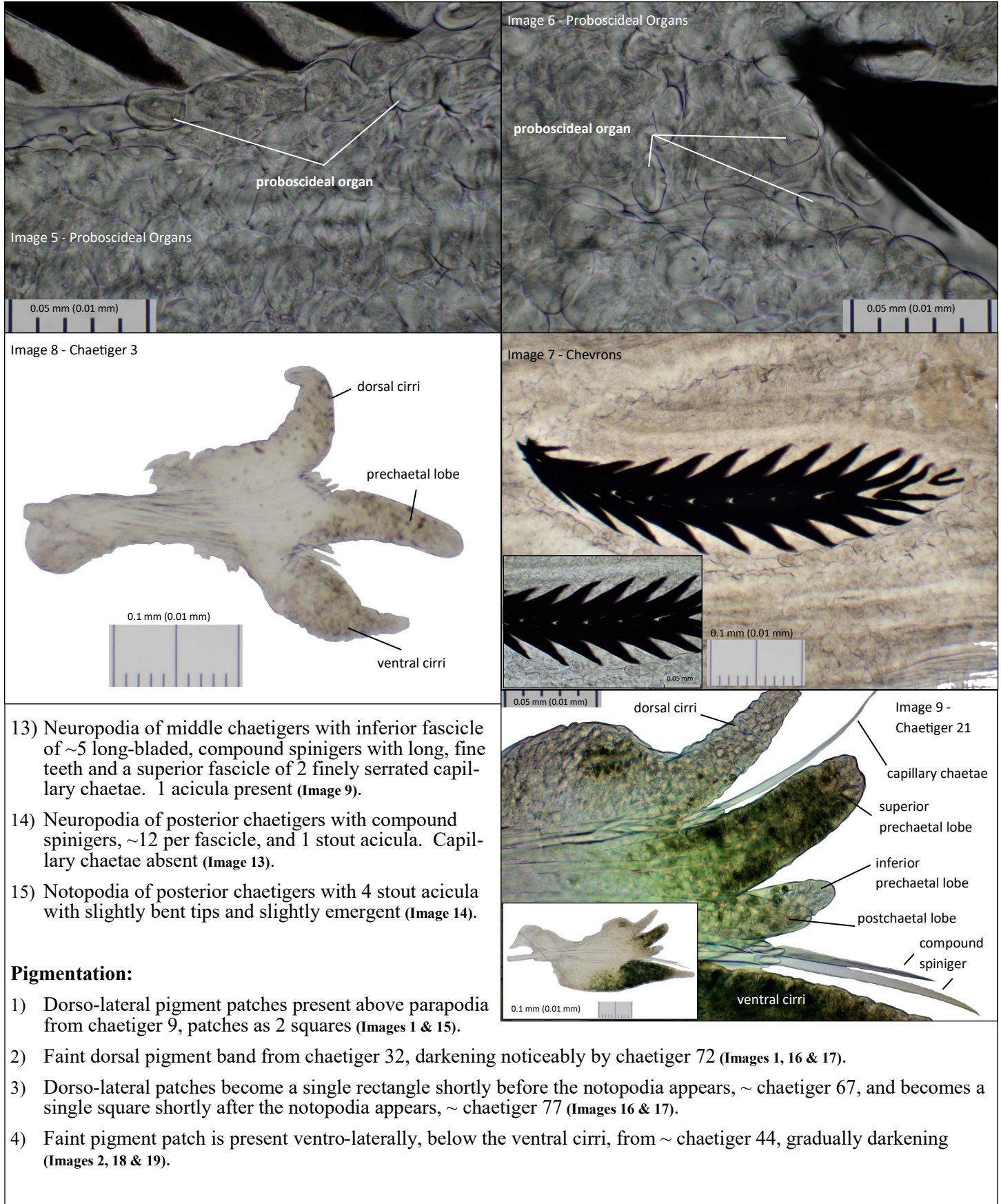
Image 4 - Ventral prostomium



*Goniada* sp A  
SCAMIT, 2023 §



**Voucher Sheet**  
B. Haggin  
April, 2023





*Goniada* sp A

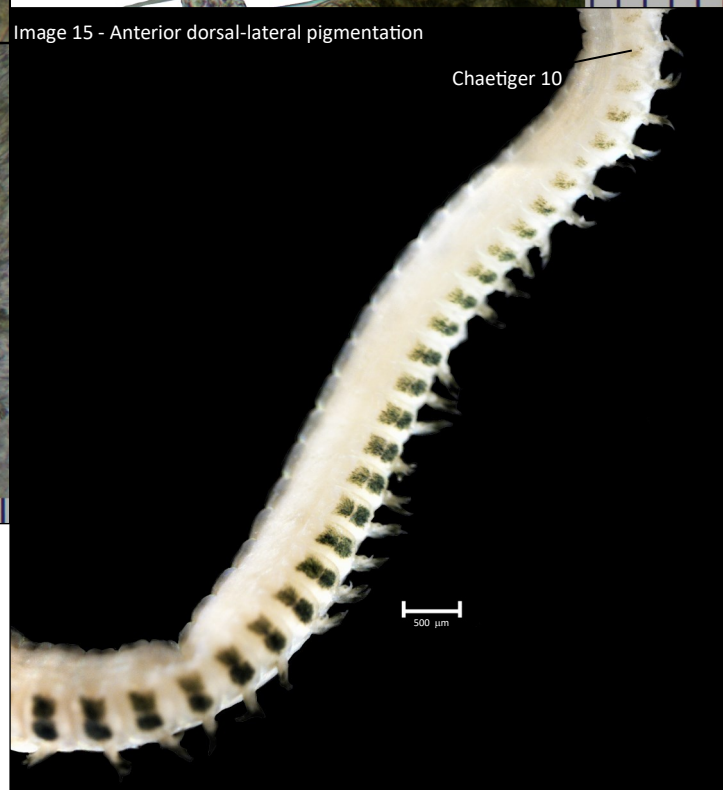
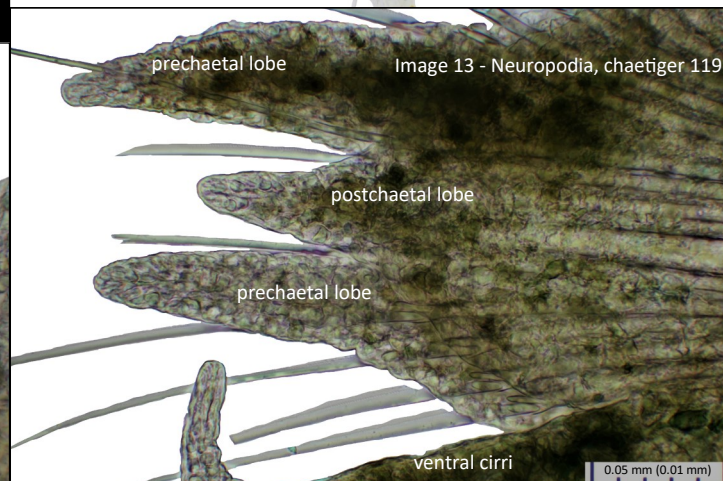
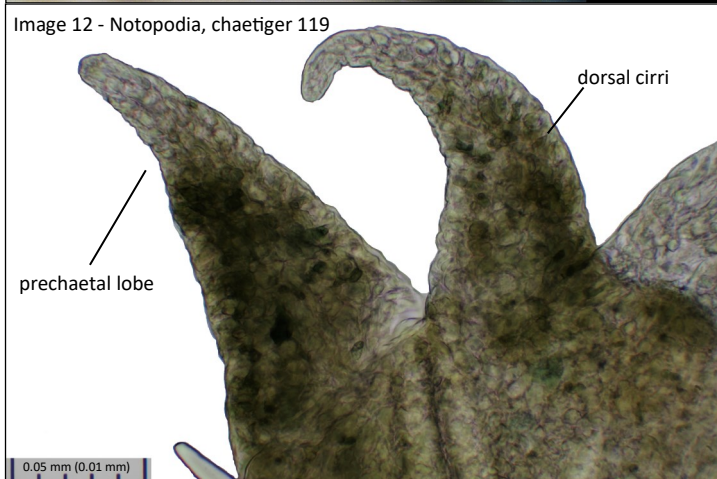
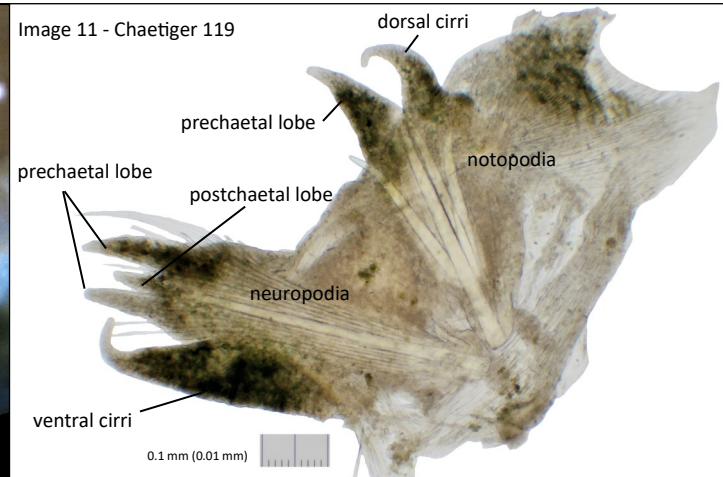
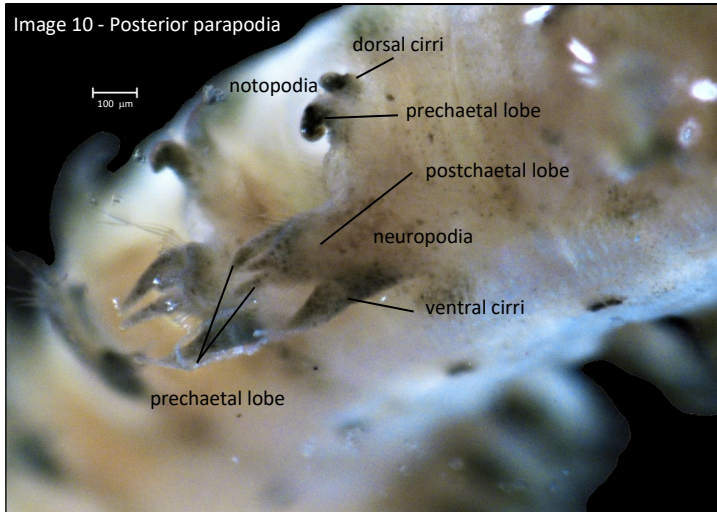
SCAMIT, 2023 §



Voucher Sheet

B. Haggin

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**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).



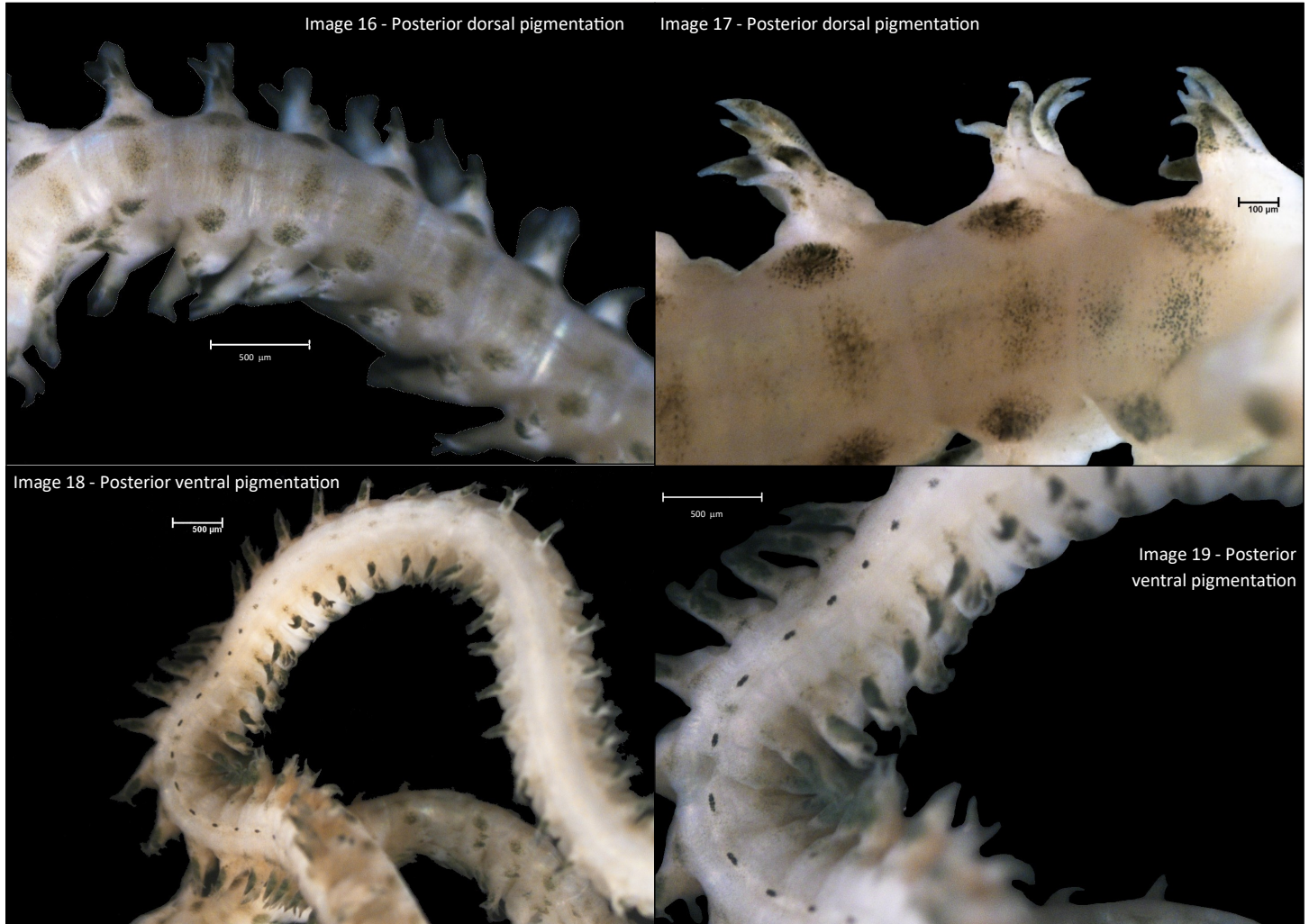
# *Goniada* sp A

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## Voucher Sheet

B. Haggin  
April, 2023



### 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.



## *Goniada* sp A

SCAMIT, 2023 §

## Voucher Sheet

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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

SCAMIT, 2023 §

## Voucher Sheet

B. Haggin  
April, 2023

### 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:

- Böggemann, M.** 2005. Revision of the Goniadidae. *Abhandlungen des Naturwissenschaftlichen Vereins in Hamburg* (Neue Folgen) 39: 1-354.
- Hartman, O.** 1940. Polychaetous annelids. Part II. Chrysopetalidae to Goniadidae. *Allan Hancock Pacific Expeditions* 7(3): 173-287.
- Hartman, O.** 1950. Goniadidae, Glyceridae and Nephtyidae. *Allan Hancock Pacific Expeditions* 15(1): 1-180.
- 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.
- Read, G. & Fauchald, K.** (Ed.) 2023. World Polychaeta Database. *Goniada* Audouin & H Milne Edwards, 1833. Accessed through: World Register of Marine Species at: <https://www.marinespecies.org/aphia.php?p=taxdetails&id=129300> on 2023-04-12
- SCAMIT.** 2021. *A Taxonomic Listing of Benthic Macro- 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:

- Böggemann, M.** 2016. Glyceriformia (Annelida) of the abyssal SW Atlantic and additional material from the SE Atlantic. *Marine Biodiversity* 46(1): 227-241.
- 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.
- Hartman, O.** 1968. *Atlas of the Errantiate Polychaetous Annelids from California*. Los Angeles, CA, University of California, Allan Hancock Foundation.
- Moore, J. P.** 1905. New species of Polychaeta from the North Pacific, chiefly from Alaskan waters. *Proceedings of the Academy of Natural Sciences of Philadelphia* 57: 525-554, plates XXXIV-XXXVI.
- 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)





## Voucher Sheet

B. Haggin  
April, 2023

Species: *Jasmineira* sp C SCAMIT, 2023 §

P-code—119

Synonyms: *Jasmineira* sp LA1 Haggin, 2019 §

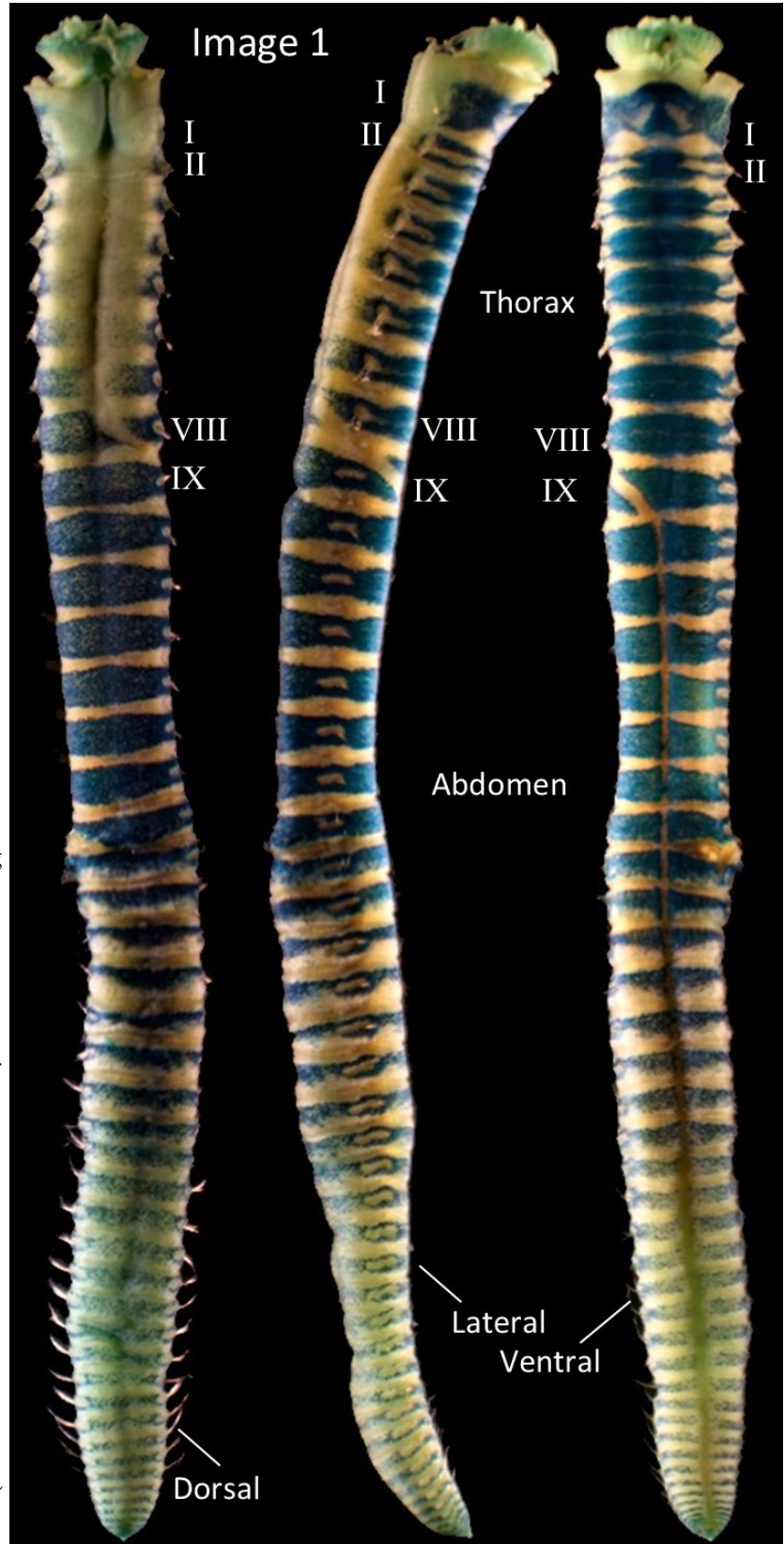
ITI-code—Group 1

Subfamily: Sabellinae  
Family: Sabellidae  
Order: Sabellida  
Infraclass: Canalipalpata  
Subclass: Sedentaria  
Class: Polychaeta  
Phylum: Annelida

### Diagnostic Characters:

43 chaetigers; 15.4 mm long x 1.2 mm wide (excluding chaetae & radiole base)

- 1) Thorax with 8 chaetigers. Abdomen with 35 chaetigers (Image 1).
- 2) Branchial skeleton retained, Branchial crown with semicircular lobes. 12 pairs of radioles (crown absent, # radioles determined by counting attachment scars) (Images 1 & 2).
- 3) Collar complete, smooth, w/ slight ventral notch (only divided @ faecal groove), lowest dorsally, highest ventrally (close to even, only slight change in size). Collar length about same length of chaetiger 1 (Images 1 & 2).
- 4) 2 pairs of Otocysts; dorsal pair kidney-shaped & very inflated, ventral pair circular & only slightly inflated (vascular coils?) (Image 2).
- 5) Narrow glandular girdle on chaetiger 2; ventrally even with chaetae of chaetiger 2, dipping below chaetae laterally and remaining low dorsally (Image 2).
- 6) Pygidium with digitate caudal appendage (Images 3 & 4).
- 7) Thoracic notochaetae of 2 types: Superior notochaetae unilimbate (or asymmetrically bilimbate), ~5 per fascicle; Inferior notochaetae spatulate with mucron tip, ~7 per fascicle (Image 5).
- 8) Thoracic neurochaetae acicular, long-handled, slightly bent with multiple rows of many fine teeth above main tooth, ~10 per fascicle (Image 6).
- 9) Abdominal notochaetae capillary (or limbate with very narrow wings), ~10 per fascicle (Image 7).
- 10) Abdominal neurochaetae avicular, S-shaped, but with longish handle between bends, with multiple rows of fine teeth above main tooth, ~15 per fascicle (Image 8).



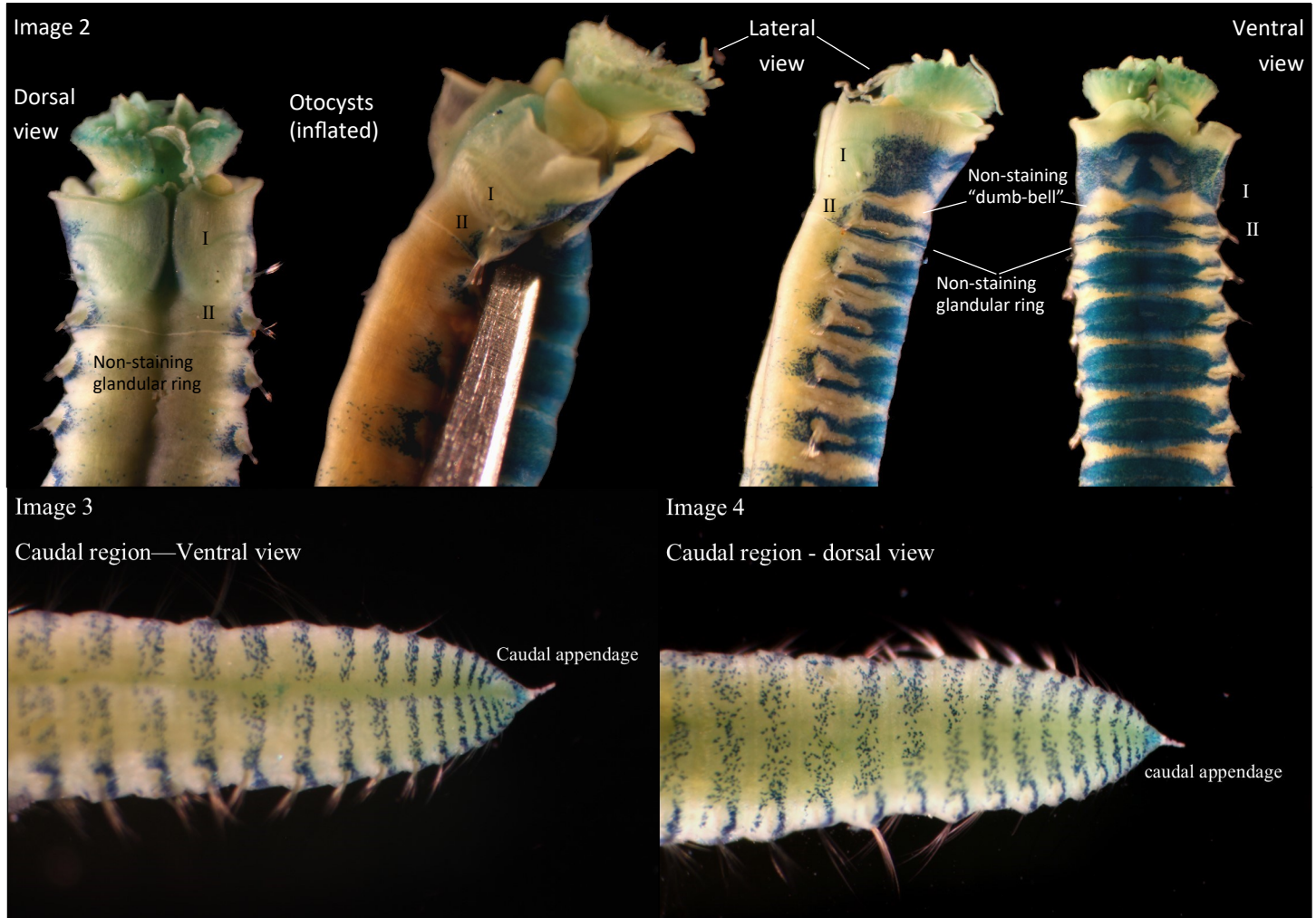


*Jasmineira* sp C  
SCAMIT, 2023 §



**Voucher Sheet**

B. Haggin  
April, 2023



Images 1, 2, 3, 4 & 10 by N. Lee  
Images 5-9 by B. Haggin

**Pigmentation/MGS:**

- 1) Collar—unstained along anterior 1/2 & dorsally, slight stain on inside of collar along dorsal gap. Collar stained laterally, not extending beyond setae and ventrally (Images 1 & 2).
- 2) Chaetiger 1—unstained dorsally, stained laterally (ventral to chaetae) & ventrally. Pair of unstained diagonal patches ventero-medially in anterior, followed by a stain band and a large, unstained “dumb-bell” patch posteriorly across ventrum (Images 1 & 2).
- 3) Chaetiger 2—with a solid “Figure 8” stain ventrally with a lateral extension from each lobe of the “8” extending to & connecting just dorsal of the chaetal fascicle (Images 1 & 2).
- 4) Chaetigers 3-8—with an “oval” stain patch ventrally, stain patch with 2 lateral extensions extending to and connecting dorsal of the chaetal fascicle. Dorsal stain approaching midline in posterior thorax (Images 1 & 2).
- 5) Abdominal chaetigers—with a rectangular stain patch encircling each chaetiger. Stain intensity decreasing posteriorly, but continues to pygidium (Images 3 & 4).

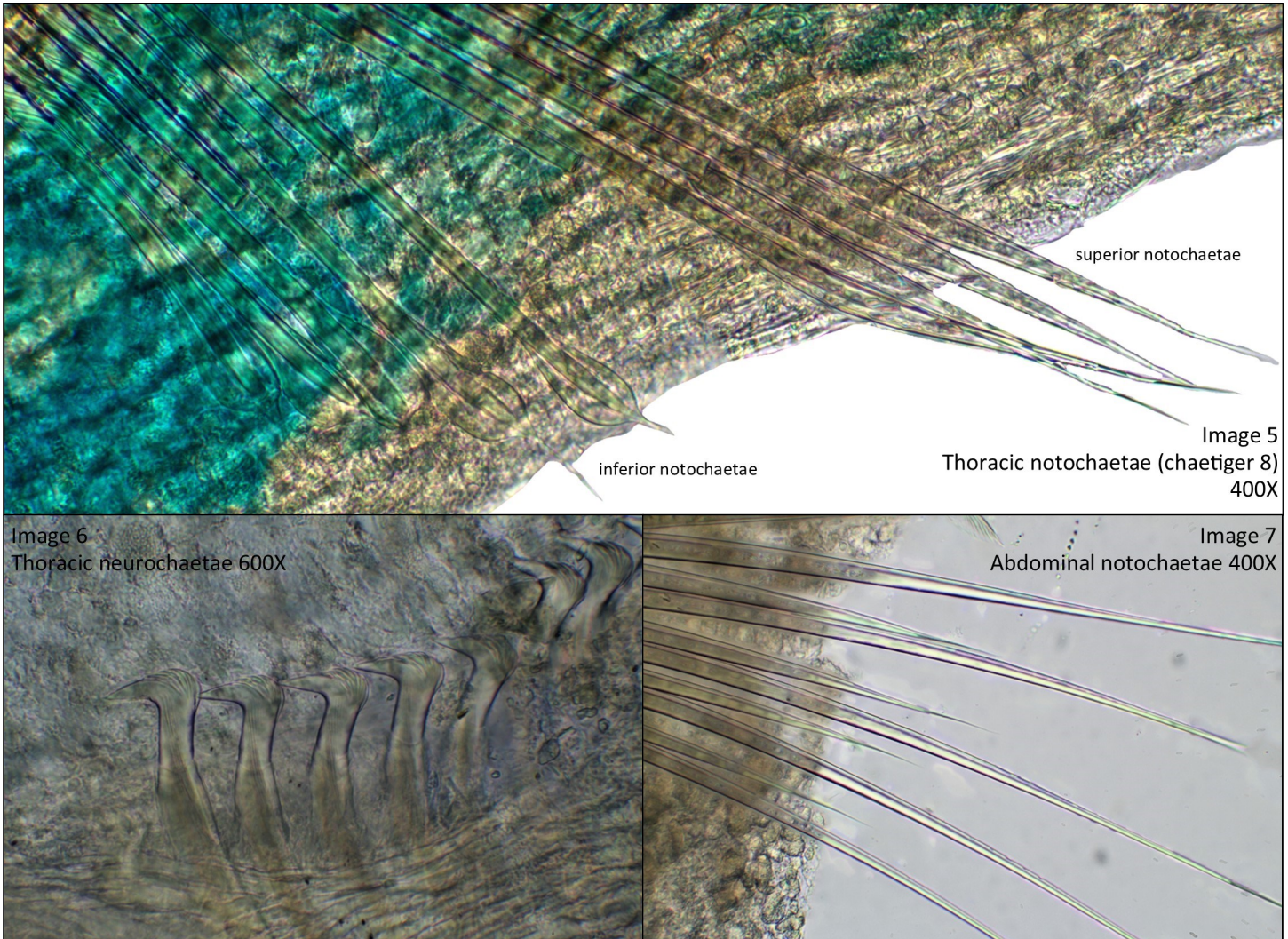


*Jasmineira* sp C  
SCAMIT, 2023 §



**Voucher Sheet**

B. Haggin  
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**Material Examined:**

B'18-10365—Off west coast of Santa Catalina Island, San Pedro Channel, 548 m (2 inds.) (33.53667N, 118.58933W)  
(Images 1-9)

**Similar Species:**

*Jasmineira* sp B SCAMIT, 1986 §—*Jasmineira* sp B is similar to *Jasmineira* sp C in having a caudal appendage and retaining a branchial skeleton. The two differ in *Jasmineira* sp B has 1 pair of otocysts (Image 10) while *Jasmineira* sp C has 2 pair of otocysts. *Jasmineira* sp B also has 3 types of thoracic notochaetae (bilimbate, subspatulate & spatulate with a short mucron) while *Jasmineira* sp C has only 2 types of thoracic notochaetae (narrowly bilimbate & spatulate with a mucron tip). The stain pattern also differs between the two species. *Jasmineira* sp B lacks the unstained “dumb-bell” patch in chaetiger 1 that is present in *Jasmineira* sp C and the thoracic stain patches of *Jasmineira* sp B are more rectangular and extend to the chaetal fascicle (Image 10) while the ventral stain patches of *Jasmineira* sp C is more oval and has a slight pinching prior to the chaetal fascicle (Image 2).





*Jasmineira* sp C  
SCAMIT, 2023 §

**Voucher Sheet**

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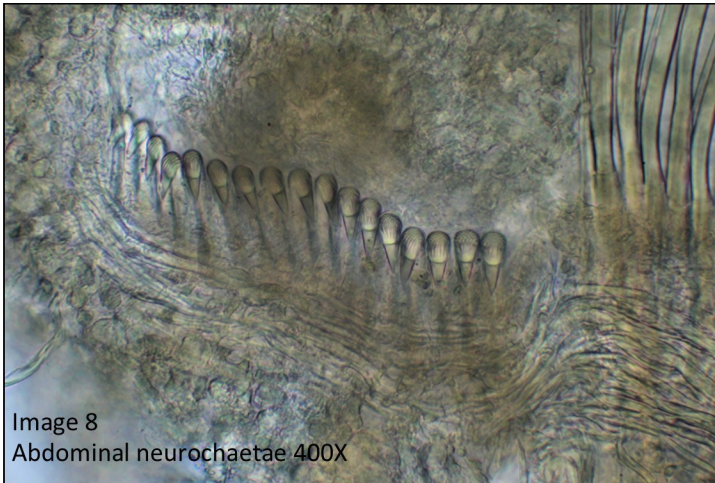


Image 8  
Abdominal neurochaetae 400X

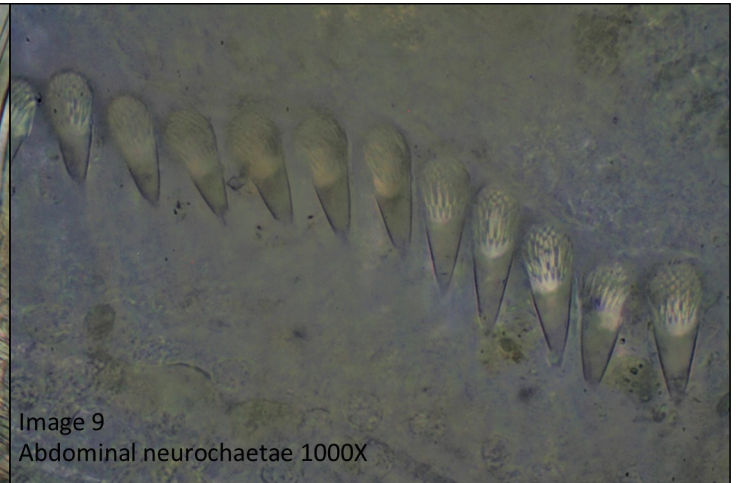
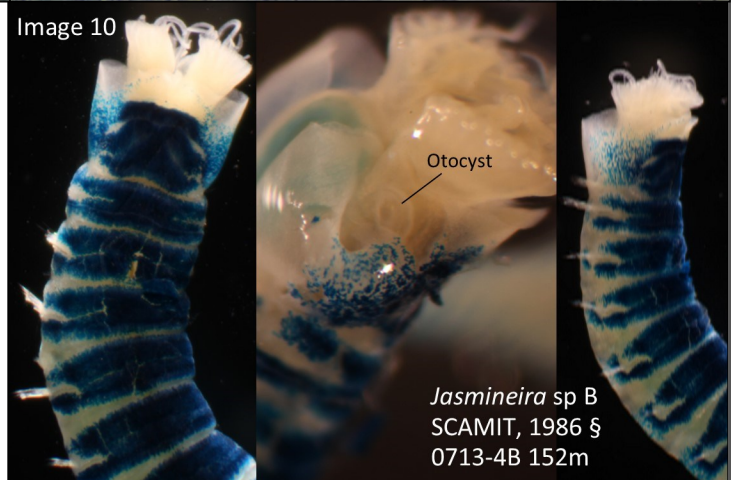


Image 9  
Abdominal neurochaetae 1000X

**Habitat:**

*Jasmineira* sp C is known from deeper water in the San Pedro Channel. It is found in sediments of clayey silt from 548 m. Also collected in the sample were the polychaetes *Maldane californiensis* Green, 1991; *Euclymeninae* sp A SCAMIT, 1987 §; *Aricidea* (*Acmira*) *rubra* Hartman, 1963; *Cirrophorus branchiatus* Ehlers, 1908; *Subadyte mexicana* Fauchald, 1972; *Prionospio ehlersi* Fauvel, 1928; *Trichobranchus hancocki* (Hartman, 1955); *Leiochrides hemipodus* (Hartman, 1960); *Aphelochaeta* sp LA4 Haggin, 2019 §; *Aphelochaeta* sp LA5 Haggin, 2019 §; *Glycinde armigera* Moore, 1911; an unidentified Ampharetid, an unidentified Polynoid, an unidentified Sabellid, an unidentified *Levinsenia*, and an Oligochaete.



**Discussion:**

Cochrane (2000) gave the generic diagnosis of *Jasmineira* as follows:

Small to medium-sized sabellins with few to numerous pairs of radioles; radiolar skeleton with two rows of cells. Inter-radiolar membrane absent; radiolar flanges present. Dorsal lips with dorsal radiolar appendages; dorsal pinnular appendages absent. Ventral lips and parallel lamellae present. Few to many pairs of ventral cirri (*sensu* Krøyer) present. Anterior margin of anterior peristomial ring (hereafter referred to as the peristomium) with narrow, ventral lobe; posterior peristomial ring collar (hereafter named the collar) present. Glandular ridge on chaetiger 2. Chaetiger 1 bearing only elongate narrowly swollen chaetae with a long terminal taper, geniculate at the 'knee' area (often referred to as limbate capillary chaetae, see also Chapter 1.2.5). From chaetiger 2, inferior thoracic notochoetae present in two transverse rows or groups: anterior row(s) of shorter chaetae (also referred to in the literature as limbate capillary chaetae and in need of clarification), posterior row(s) with spatulate or chaetae with broad bilateral swellings. Abdominal fascicles arranged in two transverse rows: anterior row in anterior segments with elongate narrowly swollen chaetae, geniculate at the 'knee' area (often referred to as "limbate capillaries"); posterior row in anterior chaetigers with fine needle-like chaetae (often referred to as "needle-like capillaries"); anterior and posterior rows in posterior chaetigers containing only the latter chaetal type. Thoracic uncini acicular; teeth above main fang of equal size; hood present. Abdominal uncini with main fang surmounted by series of equal-sized teeth; breast reduced to narrow swelling; handles long. Abdominal chaetigers

*Jasmineira* sp C  
SCAMIT, 2023 §



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**Discussion (cont.):**

number several to many, depending on the taxon and/or size of the individuals.

WoRMS currently lists 18 valid species of *Jasmineira*. None of the described species are from southern California. The closest described species are from Japan, *Jasmineira kikuchii* Nishi *et al.*, 2009 and *Jasmineira pacifica* Annenkova, 1937. SCAMIT Ed. 13 has only 1 provisional species listed.

**References:**

Capa, M., Giangrande, A., Nogueira, J. M. de M. & Tovar-Hernández, M. A. 2014. Annelida: Polychaetes - Sabellidae Latreille, 1825. IN: Westheide, W. & Purschke, G. (Eds.), *Handbook of Zoology - A Natural History of the Phyla of the Animal Kingdom* 1-22.

Cochrane, S. J. 2000. Taxonomy and Systematics of Selected Marine Soft-Bottom Fan-Worms (Polychaeta: Sabellidae: Sabellinae). *Ph.D. Thesis, University of St. Andrews, Scotland, U.K.*, 296 pp.

Fauchald, K. 1977. The polychaete worms, definitions and keys to the orders, families and genera. *Natural History Museum of Los Angeles County: Los Angeles, CA (USA), Science Series*. 28:1-188.

Harris, L. H. 1986. *Jasmineira* sp B Voucher Sheet. *SCAMIT Newsletter* 5(6): 8-10.

Read, G. & Fauchald, K. (Ed.) 2023. World Polychaeta Database. *Jasmineira* Langerhans, 1880. Accessed through: World Register of Marine Species at: <https://www.marinespecies.org/aphia.php?p=taxdetails&id=129533> on 2023-04-13

SCAMIT. 2021. *A Taxonomic Listing of Benthic Macro- 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:**

Fitzhugh, K. 1989. A systematic revision of the Sabellidae-Caobangiidae-Sabellongidae complex (Annelida: Polychaeta). *Bulletin of the American Museum of Natural History* 192: 1-104.

**Version History:**

Version 1.0—Draft voucher sheet created (31May2019)

Version 2.0—Updated name to *Jasmineira* sp C and author to SCAMIT, 2023 §; Added specimen dimensions; Updated voucher sheet to conform to new SCAMIT guidelines; Updated image text to reduce image clutter; Added ITI- and P-codes; Added Habitat, Discussion and Other Literature Consulted section; Added new images of thoracic and abdominal chaetae; Added comparison images of *Jasmineira* sp B stain pattern (13APR2023)





## Voucher Sheet

B. Haggin  
April, 2023

Species: *Kirkegaardia* sp B SCAMIT, 2023 §

P-Code—P059

Synonyms: *Kirkegaardia* sp LA1 Haggin, 2019 §

ITI—Group 2

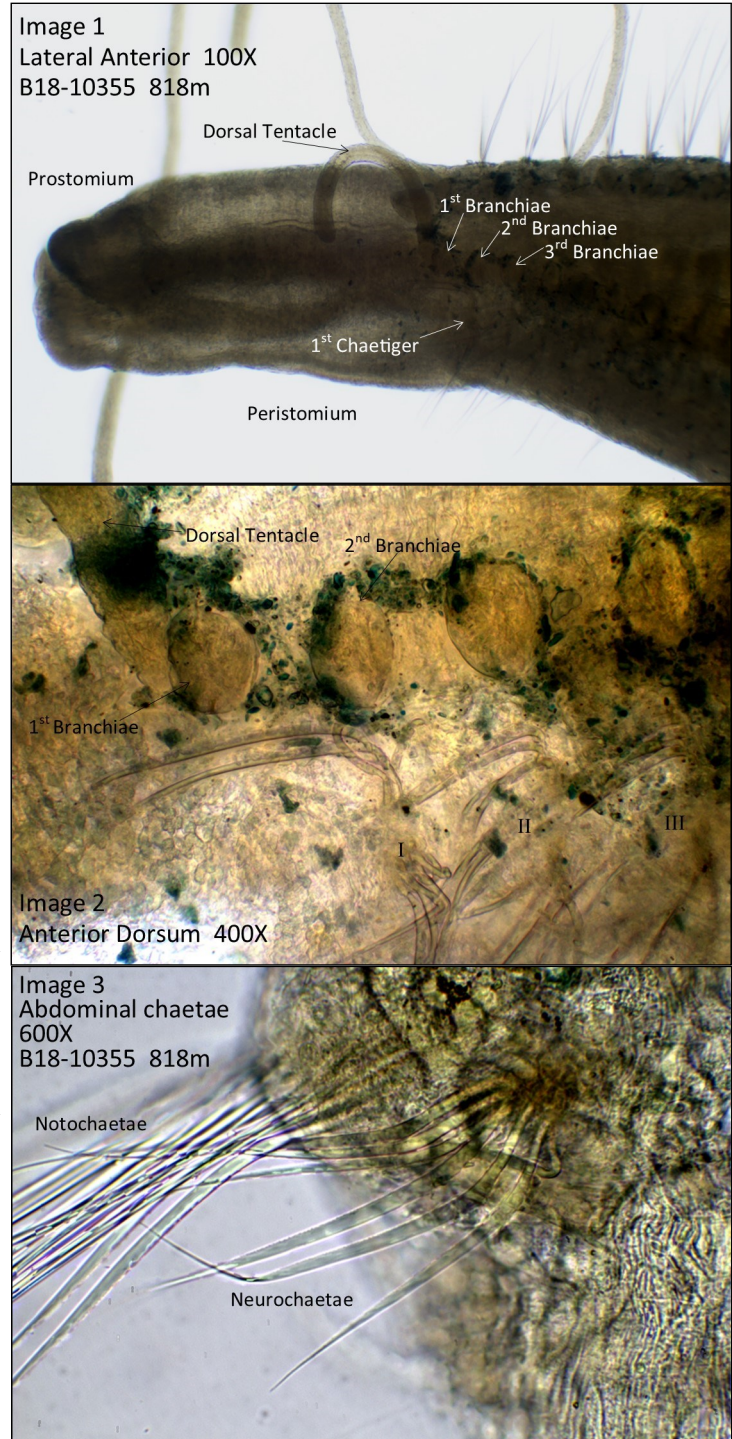
Family: Cirratulidae  
Suborder: Cirratuliformia  
Order: Terebellida  
Infraclass: Canalipalpata  
Subclass: Sedentaria  
Class: Polychaeta  
Phylum: Annelida

### Diagnostic Characters:

- 1) Prostomium & peristomium elongate (Images 1 & 4-9).
- 2) Body long & thin (thread-like) (Image 10).
- 3) Subdermal eyes present (becomes more apparent when stained).
- 4) Dorsal tentacle & 1<sup>st</sup> branchiae inserted anterior to 1<sup>st</sup> chaetiger. Dorsal tentacle inserted more medially than 1<sup>st</sup> branchiae (Images 1 & 2).
- 5) Thorax slightly dorso-ventrally compressed but laterally inflated. Chaetigers crowded, much wider than long. Parapodia are slightly dorsally elevated, forming a slight dorsal groove (Images 1 & 4-7).
- 6) Thorax with 22-24 chaetigers (Images 8 & 10).
- 7) Abdominal chaetigers round in cross-section, longer than wide & slightly moniliform (Image 10).
- 8) Abdominal notochaetae smooth, becoming very long in mid-posterior abdomen (Image 3).
- 9) Abdominal neurochaetae tapering to fine tips, basal edge finely denticulated and flattened. Denticulations not apparent until mid-abdomen @ 600X magnification or more (Image 3).
- 10) Pygidium unknown.

### Pigmentation/MGS:

- 1) Prostomium staining on anterior margin (Images 4, 5, 6 & 7).
- 2) Peristomium staining dorsally, speckled, not in annulation furrows. Ventrally as a band behind mouth, then as a “V”-shape extending to anterior of chaetiger 1, beginning slightly laterally. Peristomium unstained postero-laterally (Images 4-10).



All photos by B. Haggin



*Kirkegaardia* sp B

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Image 4  
Dorsal Anterior Stain  
40X



Image 5  
Dorsal Anterior Stain  
80X



Image 6  
Lateral Anterior Stain  
40X

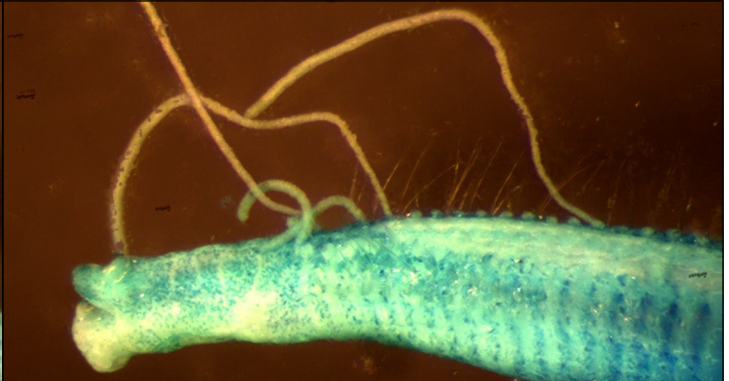


Image 7  
Lateral Anterior Stain 80X

**Pigmentation/MGS (cont.):**

- 3) Ventral Thorax w/ dark segmental bands from chaetiger 11-22, extending laterally to above notochaetae. Anterior thorax lightly speckled (Images 4, 6 & 8).
- 4) Abdomen with a lateral stain spot posterior to the chaetal fascicles. Ventrally with a medial line in each segment (Images 8 & 10).

**Material Examined:**

B'18-10355—South of Pt. Dume, Santa Monica Basin/San Pedro Channel, 818m (2 inds.) (33.88369N, 118.79006W—17AUG18) (all images)

B'18-10357—Santa Monica Basin, 839m (6 inds.) (33.85231N, 119.1947W—20JUL18)

B'18-10362—San Pedro Channel, 745m (4 inds.) (33.63469N, 118.58346W—02AUG18)

B'18-10363—San Pedro Channel, 738m (3 inds.) (33.61354N, 118.72009W—02AUG18)

B'18-10366—Off Two Harbors, Santa Catalina Island, San Pedro Channel, 883m (1 ind.) (33.42346N, 118.42346W—02AUG18)



Image 8  
Ventral Anterior Stain 63X

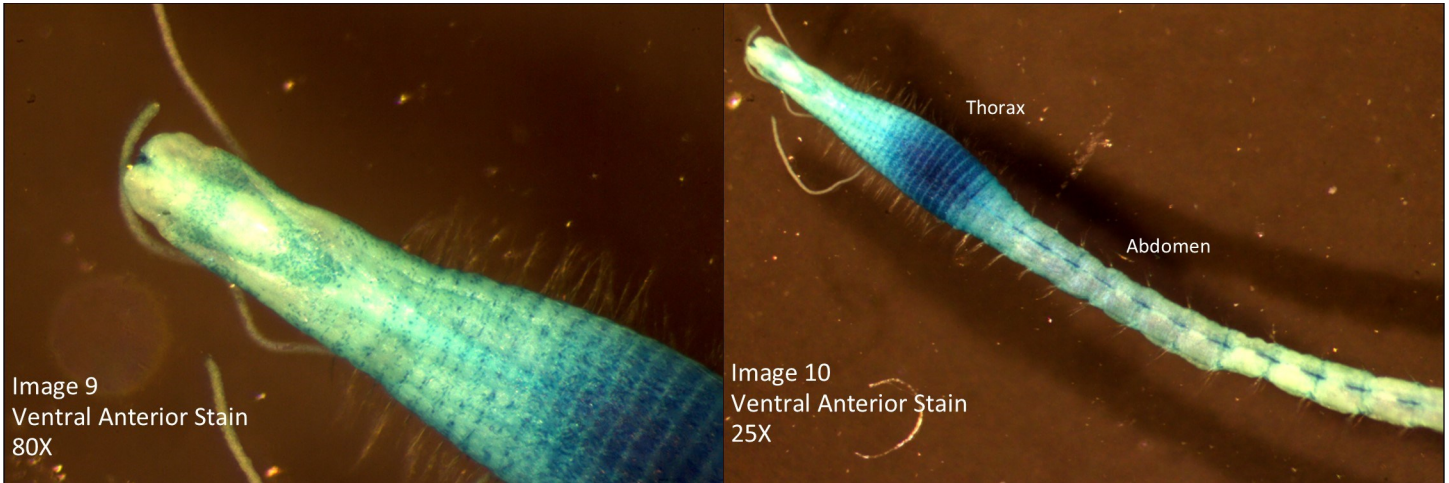


## *Kirkegaardia* sp B

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### Similar Species:

*Kirkegaardia cryptica* (Blake, 1996) - *Kirkegaardia cryptica* & *Kirkegaardia* sp B have a very similar overall appearance. They are both long and thin (thread-like), have an elongate peristomium, the dorsal tentacle and 1st branchiae are inserted anterior to chaetiger 1 and the thoracic parapodia are slightly dorsally elevated, forming a slight dorsal groove. They differ in the denticulation of the abdominal neurochaetae where *Kirkegaardia cryptica* has a distinct sawtooth edge with individual teeth widely spaced along the cutting edge and *Kirkegaardia* sp B has a more finely denticulated cutting edge. The MGS pattern of *Kirkegaardia cryptica* and *Kirkegaardia* sp B also differ. The ventral thoracic stain of *Kirkegaardia cryptica* is a solid stain patch in the posterior thorax where in *Kirkegaardia* sp B, the posterior ventral thoracic stain occurs in distinct bands. The ventral peristomium has a distinct “V”-shaped stain in *K. sp B* that is absent in *Kirkegaardia cryptica*.

*Kirkegaardia* sp SD9 (Rodriguez-Villanueva, 2008 §) - *Kirkegaardia* sp SD9 & *Kirkegaardia* sp B have a very similar appearance as they both have an elongate peristomium and a long and thin (thread-like) body. *Kirkegaardia* sp SD9 differs in the more elongate (chaetigers are widely spaced) thorax compared to the more compressed (chaetigers are tightly packed) thorax of *Kirkegaardia* sp B. The MGS pattern of *Kirkegaardia* sp SD9 is more spread out in the ventral thorax, with the posterior thoracic ventral bands being broken, giving the appearance of 3 lines running down the ventrum. The ventral posterior thoracic stain pattern of *Kirkegaardia* sp B is not a series of broken bands.

### Habitat:

*Kirkegaardia* sp B is known from multiple individuals collected during Bight '18. It was collected between 738-883 m in the Santa Monica Basin/San Pedro Channel between Pt. Dume and Two Harbors, Santa Catalina Island in clayey silt. Also collected in the samples were the polychaetes *Protis pacifica* Moore, 1923 (10355, 10362, 10366); *Amage longibranchiata* Hartman, 1960 (10355, 10366); *Ampharete cornuta* (Hilbig, 2000) (10355); *Phyllochaetopterus* sp A SCAMIT, 2023 § (reported as *Phyllochaetopterus* sp LA1 Haggin, 2019 §) (10355, 10362, 10366); *Leiochrides hemipodus* Hartman, 1960 (10363); *Chaetozone* sp D SCAMIT, 2023 § (reported as *Chaetozone* sp LA2 Haggin, 2019 §) (10355); *Myriochele gracilis* Hartman, 1955 (10362); *Aricidea (Acmira) rubra* Hartman, 1963 (10362, 10363); *Aricidea (Acmira)* sp LA1 Lovell, 2014 § (10355, 10366); *Aricidea (Strelzovia) monicae* Laubier, 1967 (10363); *Levinsenia oculata* (Hartman, 1957) (10362, 10363); *Cossura rostrata* Fauchald, 1972 (10362); *Maldane californiensis* Green, 1991 (10362, 10363); *Spiophanes fimbriata* Moore, 1923 (10363); *Harmothoe* sp LA1 Furlong, 2014 § (10362); *Lepidonotus* sp A SCAMIT, 2023 § (reported as *Lepidonotus* sp LA1 Haggin, 2019 §) (10362); *Syllis* sp A SCAMIT, 2023 § (reported as *Syllis* sp LA4 Haggin, 2019 §) (10362); an unidentified *Aricidea* (10355), an unidentified *Cossura* (10362),



## *Kirkegaardia* sp B

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### Habitat (cont.):

an unidentified Syllid (10362), an unidentified Polynoid (10362), an unidentified Eyclymeninid (10363), and an unidentified Hesionid (10355). *Kirkegaardia* sp B was the only polychaete found in sample B'18-10357.

### Discussion:

Blake (2016) replaced the genus *Monticellina* with the genus *Kirkegaardia* after discovering that *Monticellina* was preoccupied in the Platyhelminthes and redescribed the genus as: "Bitentaculate cirratulids with distinct body regions and all setae distally pointed. Pre-setigerous area typically elongate, cylindrical, with short, blunt prostomium and long peristomium with none to many weakly developed annulations; dorsal tentacles arising on posterior margin of peristomium, anterior to setiger 1. Thoracic notopodia often shifted dorsally, elevated, producing distinct dorsal groove along thoracic region; other species with thoracic parapodia more lateral, leaving broad elevated dorsum; parapodia of middle and posterior region lateral. Middle body segments longer than wide, frequently beadlike; posterior segments wider than long, somewhat crowded, with posterior most segments usually expanded or enlarged. Setae including simple capillaries with fibrils observed under SEM and denticulated capillaries with distinct denticles present along one edge of seta; denticles visible at 400-1000X; blades usually basally expanded."

Blake (2016) divided *Kirkegaardia* into three species groups: *Kirkegaardia dorsobranchialis-heterochaeta* group, *Kirkegaardia baptisteae-tesselata* group, and *Kirkegaardia luticastella* group. The *Kirkegaardia luticastella* group is characterized by an enlarged pre-chaetigerous region and anterior thorax and occupy distinct mud balls on the seafloor. The *Kirkegaardia baptisteae-tesselata* group is characterized by thoracic parapodia not elevated and without an elongated pre-chaetigerous region. The *Kirkegaardia dorsobranchialis-heterochaeta* group is characterized by elevated thoracic parapodia producing a dorsal channel and an elongated pre-chaetigerous region that is either smooth or with annular rings or a dorsal ridge. *Kirkegaardia* sp B would fall into the *Kirkegaardia dorsobranchialis-heterochaeta* group which also contains another local species, *Kirkegaardia cryptica*.

WoRMS currently lists 42 valid species of *Kirkegaardia* and SCAMIT Ed. 13 has 5 named species and 1 provisional species. SCAMIT also recognizes 1 additional in-house provisional species from City of San Diego that is not currently on the SCAMIT species list.

### References:

**Blake, J. A.** 1996. Family Cirratulidae Ryckholdt, 1851. Pages 263-384. IN: Blake, James A.; Hilbig, Brigitte; and Scott, Paul H. *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.

**Blake, J. A.** 2016. *Kirkegaardia* (Polychaeta, Cirratulidae), new name for *Monticellina* Laubier, preoccupied in the Rhabdocoela, together with new records and descriptions of eight previously known and sixteen new species from the Atlantic, Pacific, and Southern Oceans. *Zootaxa* 4166(1): 1-93.

**Read, G. & Fauchald, K.** (Ed.) 2023. World Polychaeta Database. *Kirkegaardia* Blake, 2016. Accessed through: World Register of Marine Species at: <https://www.marinespecies.org/aphia.php?p=taxdetails&id=884676> on 2023-04-12

**Rodriguez-Villaneuva, V.** 2017. Cirratulidae Ryckholdt, 1851. *SCAMIT Powerpoint Presentation* (June 2017).





## *Kirkegaardia* sp B

SCAMIT, 2023 §

## Voucher Sheet

B. Haggin  
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### References (cont.):

SCAMIT. 2021. *A Taxonomic Listing of Benthic Macro- 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:

Blake, J. A. 2019. New species of Cirratulidae (Annelida, Polychaeta) from abyssal depths of the Clarion-Clipperton Fracture Zone, North Equatorial Pacific Ocean. *Zootaxa* 4629(2): 151-187.

Dean, H. K. & Blake, J. A. 2009. *Monticellina* (Polychaeta: Cirratulidae) from the Pacific coast of Costa Rica with descriptions of six new species. *Zoosymposia* 2: 105-126.

Elias, R., Rivero, M. S. & Lobo Orensanz, J. M. 2016. New species of *Monticellina* and *Chaetozone* (Polychaeta: Cirratulidae) in the SW Atlantic, and a review of *Monticellina* species. *Journal of the Marine Biological Association of the United Kingdom* 97(7): 1553-1563.

Hartman, O. 1969. *Atlas of the Sedentary Polychaetous Annelids from California*. Los Angeles, Ca, University of California, Allan Hancock Foundation.

### Version History:

Version 1.0—Voucher sheet created (02JUL2019)

Version 2.0—Updated voucher sheet to new SCAMIT guidelines; Updated name to *Kirkegaardia* sp B and author to SCAMIT, 2023 §; Added Discussion, Habitat and Other Literature Consulted sections; Added ITI & P-Code (12APR2023)

**SYNONYMY:** *Phoronis* sp DC1 Pasko 2019

**COLLECTIONS:**

OCSD Bight'18 Station 10369, 568m, 23-July-2018.

**LITERATURE:**

**DIAGNOSTIC CHARACTERS** (See photos front and back)

- Deep water species
- Trunk with at least one distinctive ventral ridge; collar with multiple ridges
- Lophophore tentacles elongate, thin (not enumerated)
- Elongated epidermal collar present between lophophore and anterior portion of trunk; collar bearing multiple distinctive ridges; base indicated by small group of pigment spots
- Transition from lophophore to collar smooth, indicated by low ridge, transitional groove absent
- Muscle pattern seemingly unique, with each band being notably thickened, some at least seem to be of the “feathery type” (see below)
- At least one giant lateral nerve fiber observed
- Tube unknown

**Comments:**

It can be distinguished from other phoronids by distinctive ridge along trunk, elongate epidermal collar also bearing crests or ridges, and seemingly distinctive muscle arrangement.

