



**LOS ANGELES COUNTY
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Voucher Sheet

B. Haggin

July 2026



Cossura sp LA2 Haggin, 2025 §

Synonyms: none

P-Code – P132

ITI – none assigned

Family: Cossuridae

Infraclass: Scolecida

Subclass: Sedentaria

Class: Polychaeta

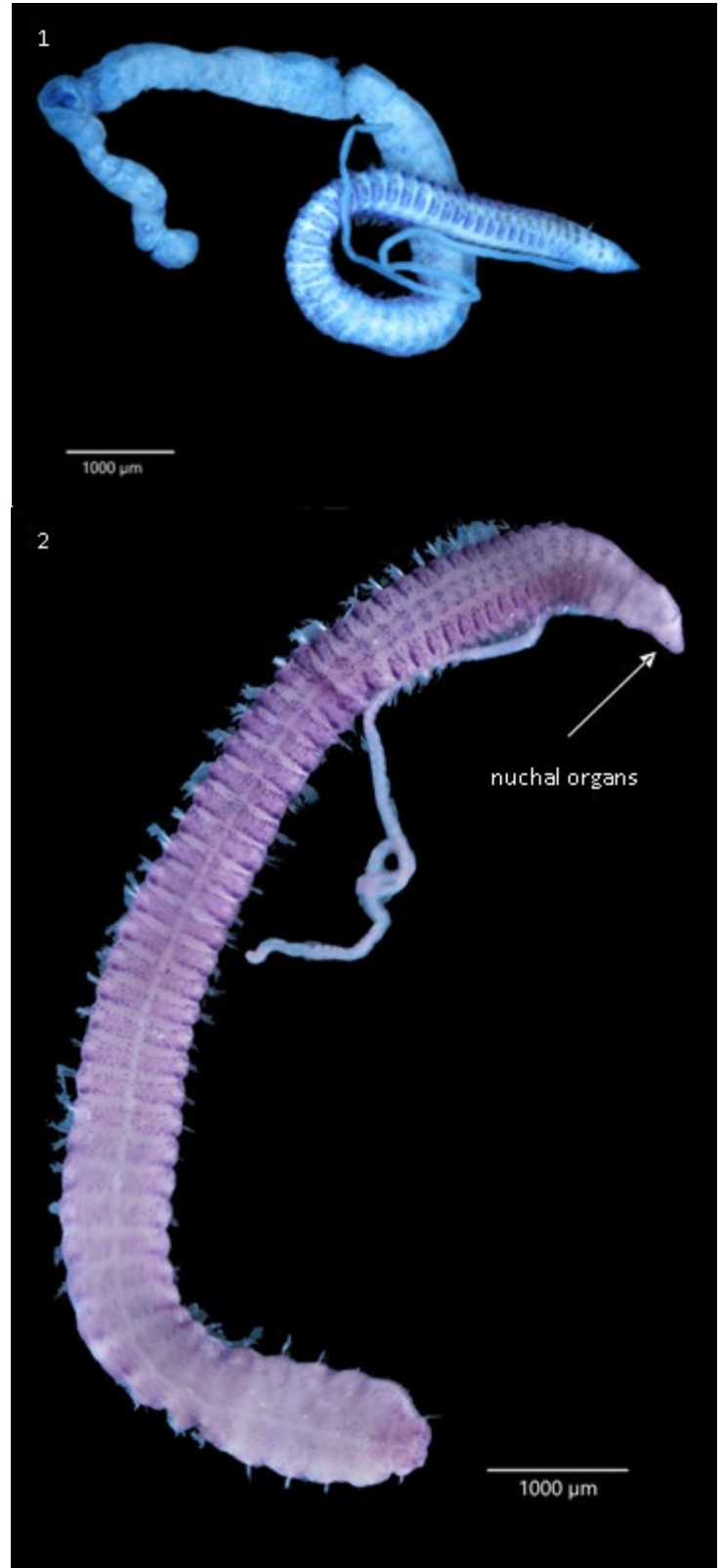
Phylum: Annelida

Diagnostic Characters: Animal incomplete, ~75 chaetigers (Image 1)

- Nuchal organs present, appear as eyespots (Images 2-4)
- Branchial filament arising from segmental furrow between chaetiger 2 & 3; very long, extending back at least 50 chaetigers (Images 1, 2 & 8)
- Thoracic notochaetae and neurochaetae capillaries w/ frayed edge appearing as finely serrated
- 32-33 thoracic chaetigers (including transitional chaetigers); chaetiger 1 uniramous (Images 1, 2 & 7)
- Pygidium unknown

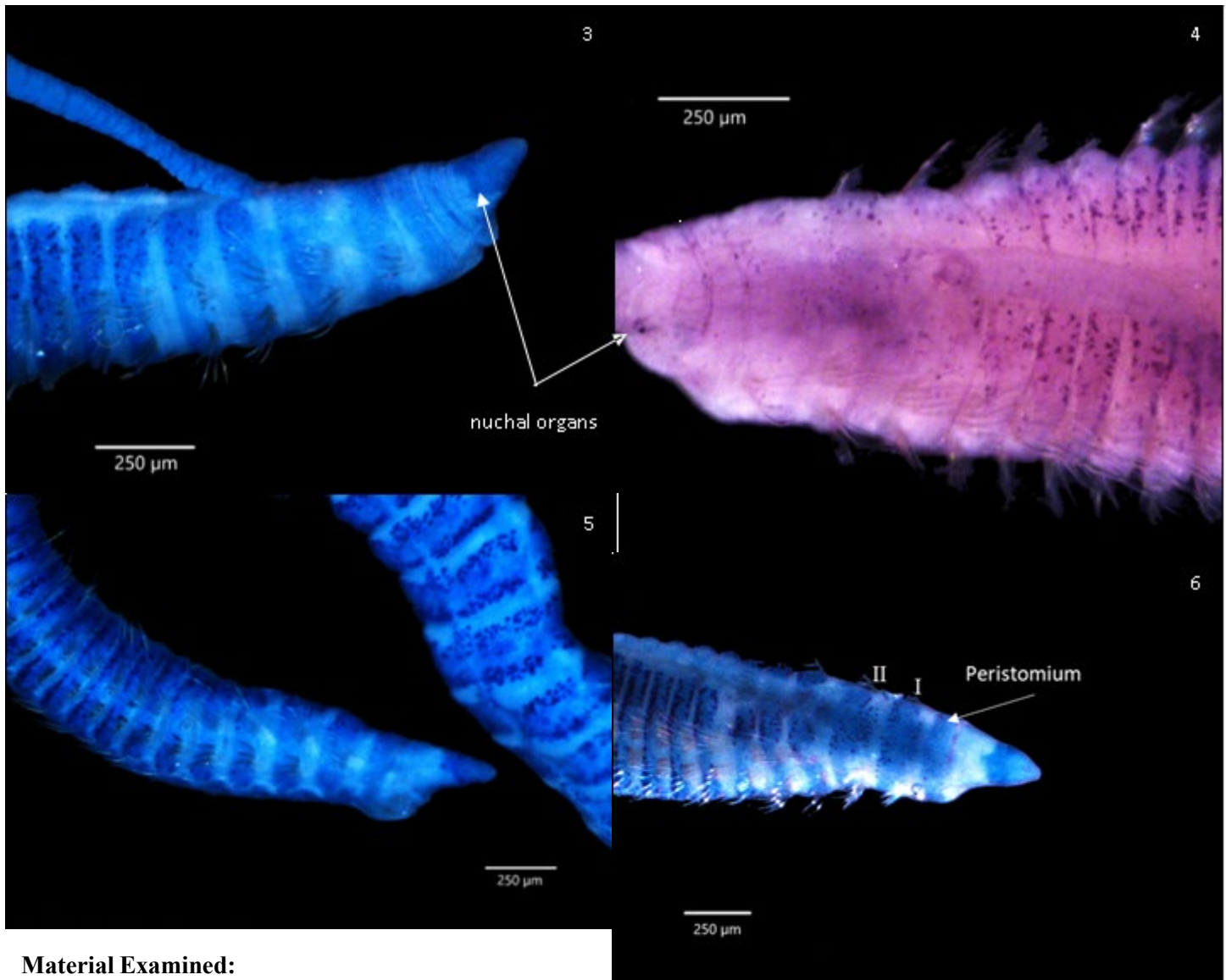
Pigmentation/Methyl Green Stain Pattern:

- Tip of prostomium unstained, then thick stain band encircling prostomium, posterior 1/2 of prostomium not staining (gives the appearance of an unstained ocular region similar to *Aphelochaeta petersenae*) (Images 1, 3, 5 & 6) or posterior 1/2 of prostomium staining but not as intensely
- Peristomium and pre-branchial region staining weakly (Images 3, 5 & 6) or staining darkly, but less intensely than prostomium
- Thorax with broad dorso- and ventrolateral patches; patches do not connect laterally behind the chaetal fascicles (Images 1, 2 & 8)
- Anterior thorax with bare mid-dorsum and a mid ventral patch (Images 1, 2, 7 & 9)
- Patches merge medially on dorsum and ventrum in posterior thorax, creating continuous bands that are still separated laterally (Images 2 & 7-9)
- Stain fades quickly in abdomen





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Material Examined:

Bight Stations: B23-12043 LA/LB Harbor (8m—33.75184N, 118.17969W—13SEP2023) - 14 individuals (Images 1-9);
B23-12070 Newport Bay (7m—33.609098N, 117.904639W—31AUG2023) - 9 individuals

All Photos by B. Haggin

Comparative Material:

Cossura bansei Hilbig, 1996 – LACSD NPDES Monitoring Station: 0721-7C (60m – 33.70506N, 118.34878W – 14JUL2021) - 2 individuals (Image 10)

Cossura candida Hartman, 1955 - LACSD NPDES Monitoring Station: 0721-10B (140m – 33.66238N, 118.29848W – 12JUL2021) - 1 individual (Image 11)

Cossura rostrata Fauchald, 1972 – Bight Station: B18-10362 (745 m – 33.63469N, 118.58346W – 02AUG2018) - 1 individual (incomplete) (Images 12 & 13)



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Comparative Material cont.:

Cossura sp A SCAMIT, 2025 § - LACSD NPDES Monitoring Station: 0724-3B (157m—33.72382N, 118.40719W—18JUL2024) - 1 individual (Image 14)

Habitat:

Cossura sp LA2 is known from only two samples, 7m in Newport Bay and 8m in LA/LB Harbor. It was found to co-occur with *Cossura candida* (9 individuals) and *Cossura* sp A (392 individuals) in LA/LB Harbor and *Cossura candida* in Newport Bay.

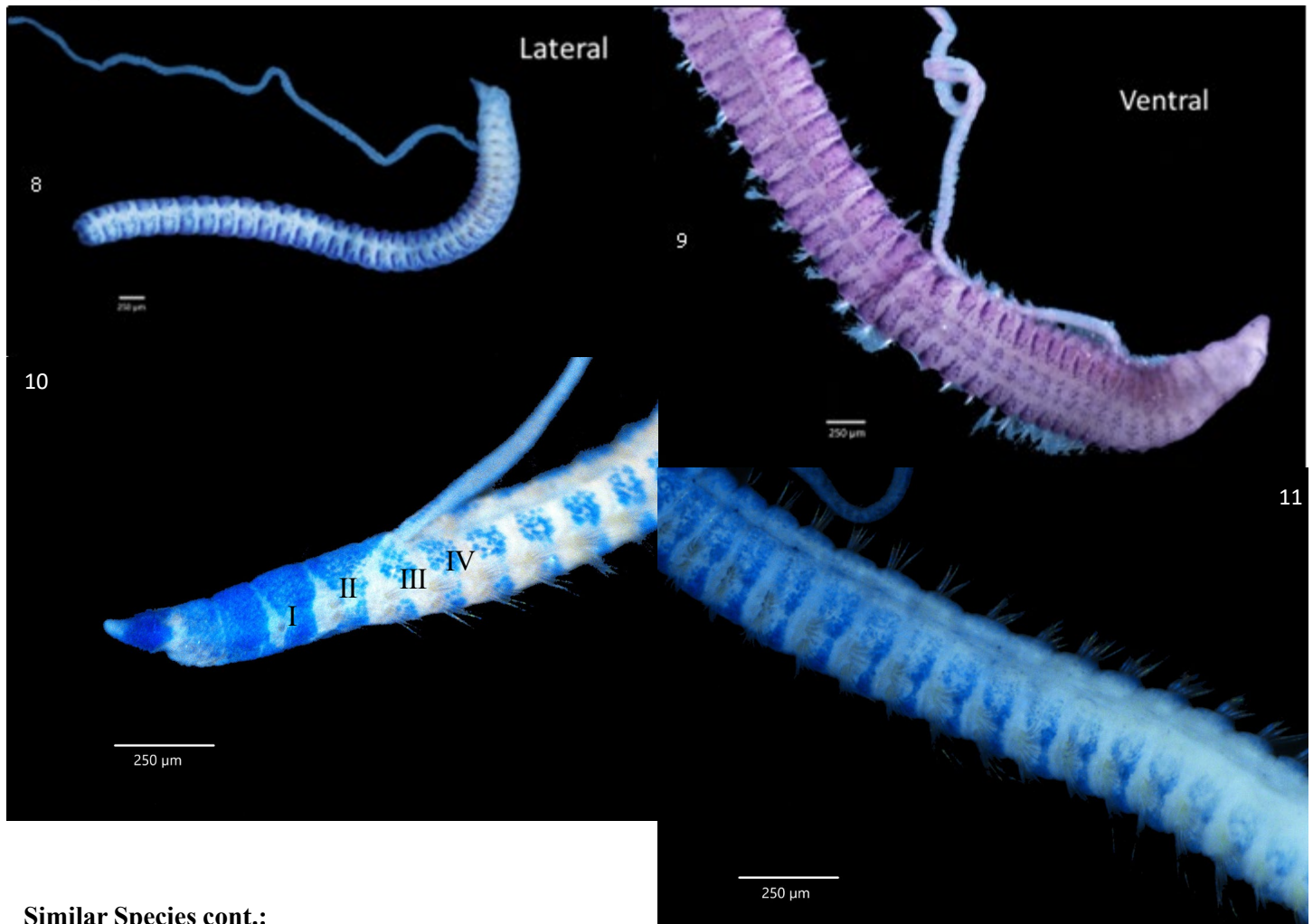
Similar Species:

Cossura bansei Hilbig, 1996—*Cossura bansei* resembles *Cossura* sp LA2 in having dorso- and ventrolateral stain patches that do not connect laterally behind the chaetal fascicle. The two species differ in the number of thoracic chaetigers, *Cossura bansei* with 20-31 and *Cossura* sp LA2 with 32-33, and they differ in the point of insertion of the branchial filament, with *Cossura bansei* being inserted far posterior on the 3rd chaetiger (Image 10), sometimes appearing as on the 4th. The branchial filament arises from the intersegmental furrow of the 2nd and 3rd chaetiger, well before the 3rd chaetal fascicle (Image 3), in *Cossura* sp LA2. The two species also differ in the prostomial Methyl Green stain pattern. The prostomium, peristomium and pre-branchial chaetigers stain intensely in *Cossura bansei*, while *Cossura* sp LA2 has a darkly staining prostomium, but the peristomium is unstained and the pre-branchial chaetigers stain lightly. *Cossura bansei* is reported from 18-160 m.

Cossura brunnea Fauchald, 1972—*Cossura brunnea* differs from *Cossura* sp LA2 in having the branchial filament inserted in the middle of chaetiger 3, posterior to the chaetal fascicle, rather than anterior to it as in *Cossura* sp LA2. The anterior thoracic stain is also different between the species, having an intense, alternating banded appearance, and lateral stain that connects laterally behind the chaetal fascicle in *Cossura brunnea* and a dark prostomium, unstained peristomium and lightly staining pre-branchial region in *Cossura* sp LA2. They also differ in the posterior thorax where the ventrum has mid-ventral patches and the dorsum has thin continuous bands in *Cossura brunnea* rather than a continuous dorsal and ventral band leaving only a lateral gap as in *Cossura* sp LA2. The two species also differ in the number of thoracic chaetigers, with *Cossura brunnea* having only 16-18 thoracic chaetigers compared to 32-33 in *Cossura* sp LA2. *Cossura brunnea* is reported from 1600-2200m.



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Similar Species cont.:

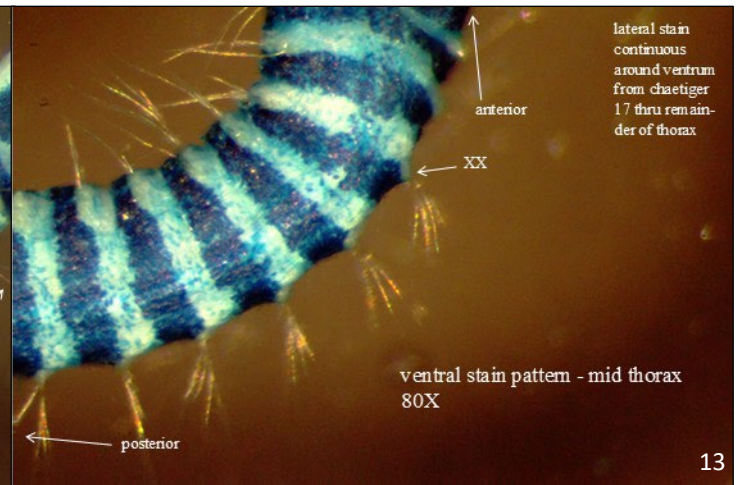
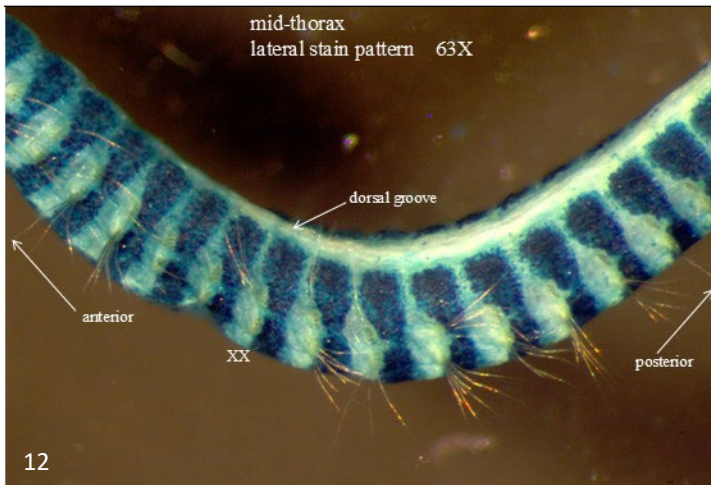
Cossura candida Hartman, 1955—*Cossura candida* and *Cossura* sp LA2 both have more than 30 thoracic chaetigers (*C. candida* w/ 24-35) (*C. sp* LA2 w/ 32-33). *Cossura candida* has its branchial filament inserted posterior to the 3rd chaetal fascicle while *Cossura* sp LA2 arises from the intersegmental furrow between chaetigers 2 & 3, anterior to the chaetal fascicle. *Cossura candida* has dorso- and ventrolateral stain patches that connect laterally behind the chaetal fascicle (Image 11) while *Cossura* sp LA2 does not connect laterally (Images 1 & 7). The type of *Cossura candida* is from 14 m inside Los Angeles Harbor but has been reported down to 2478m.

Cossura modica Fauchald & Hancock, 1981—*Cossura modica* is the only local cossurid with its branchial filament inserted on the 4th chaetiger. It can also be differentiated from *Cossura* sp LA2 by its shorter thorax, having only 14-26 thoracic chaetigers compared to 32-33 in *Cossura* sp LA2. *Cossura modica* has an intensely staining pre-branchial region and lateral stain that connects behind the chaetal fascicle while *Cossura* sp LA2 has a dark prostomium, an unstained peristomium and the rest of the pre-branchial region is lightly stained, and the lateral stain does not connect behind the chaetal fascicles. *Cossura modica* was described from deep-water off Oregon and has a reported depth range of 985-2955m.

Cossura pygodactylata Jones, 1956—*Cossura pygodactylata* is similar to *Cossura* sp LA2 in having the insertion of the branchial filament anterior to the 3rd chaetal fascicle and thoracic lateral stain patches that do not connect laterally behind the chaetal fascicle. The two are differentiated by the shorter thorax, 13-21 thoracic chaetigers in *Cossura pygodactylata* and 32-33 in *Cossura* sp LA2. If specimens are complete, *Cossura pygodactylata* has 3 long



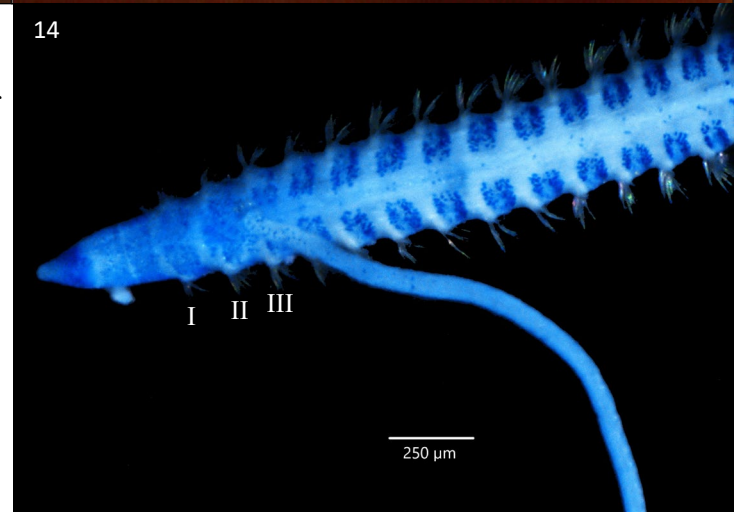
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Similar Species cont.:

Cossura pygodactylata cont.— anal cirri and 6-10 short pairs of short cirri on the pygidium. The pygidium of *Cossura* sp LA2 is unknown. *Cossura pygodactylata* was originally described from San Francisco Bay and has a reported range of 1-2720m and spans the North Pacific from Japan to central California and the North Atlantic from South Carolina to western France. See additional comments on the *Cossura pygodactylata* voucher sheet.

Cossura rostrata Fauchald, 1972—*Cossura rostrata* is similar to *Cossura* sp LA2 in having over 30 thoracic chaetigers, *C. rostrata* with 29-36 and *C. sp* LA2 with 32-33. *Cossura* sp LA2 has dorso- & ventrolateral stain patches in the anterior thorax but they do not connect laterally behind the chaetal fascicle as in *Cossura rostrata* (Image 12). The posterior thoracic stain of *Cossura rostrata* forms an intense stain band around the body that connects laterally (Image 13) but leaves a gap mid-dorsally while that of *Cossura* sp LA2 forms a near continuous, though faint, band around the body, both dorsally and ventrally, leaving only the lateral gap behind the chaetal fascicle. The stain of the prostomium is the most striking difference. Where the whole prostomium and peristomium stain intensely in alternating bands in *Cossura rostrata*, only the anterior half of the prostomium stains in *Cossura* sp LA2. Anterior fragments, or even whole animals, without the use of methyl green stain would be difficult to differentiate. *Cossura rostrata* has been reported from Oregon to western Mexico from 6-3348m. See additional comments on the *Cossura rostrata* voucher sheet.



Cossura sp A SCAMIT, 2025 §—*Cossura* sp A is similar to *Cossura* sp LA2 in having a branchial filament arising from the intersegmental furrow of chaetigers 2 & 3 (Image 14), a similar number of thoracic chaetigers, *C. sp* A with 24-30 and *C. sp* LA2 with 32-33, and a similar stain pattern in the anterior thorax, consisting of a darker staining prostomium, the remainder of the pre-branchial region staining lightly and lateral stain that does not connect behind the chaetal fascicles in the thorax. The posterior thoracic and anterior abdominal stain of *Cossura* sp A maintains the dorso- and ventrolateral patches throughout the thorax, leaving a gap mid-dorsally, and fading in the abdomen. *Cossura* sp LA2 forms a near continuous, though faint, band around the body, both dorsally and ventrally, leaving only the lateral gap behind the chaetal fascicle. Anterior fragments of less than 35 chaetigers, or even whole animals with inconclusive stain patterns should be identified as *Cossura* sp. *Cossura* sp A has been reported from 30-152 m from LACSD routine monitoring stations.



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Discussion:

The most recent diagnosis of the genus *Cossura* was given by Liñero-Arana & Díaz-Díaz (2010) and is provided below.

Diagnosis: Prostomium pointed or rounded anteriorly or with well developed anterior lateral horns. Peristomium subdivided by a dorsal transverse furrow. Single branchial filament arising middorsally between segments 2 and 5. Simple capillary bilimbate or hirsute and heavy sickle-shape setae.

Cossura rostrata was originally described from deep-water (2475m) off western Mexico in the Mazatlán Basin. The depth was expanded to 6m based on specimens from Bodega Bay originally identified by J. Blake (unpublished data) Hilbig (1996) in the MMS Atlas, but the extreme depth range make this unlikely. It is possible that this species could be *Cossura* sp LA2 based on the similarities in the stain patterns and insertion of the dorsal tentacle, which is difficult to determine when it is inserted near the segmental boundaries, but material from Bodega Bay would need to be examined. For now, *Cossura* sp LA2 is known only from Newport Bay and LA/LB Harbor.

Cossura sp LA2 was recently found in a sample from LA/LB Harbor containing over 500 cossurids. 14 were identified as *Cossura* sp LA2 and 392 were identified as *Cossura* sp A. 118 were left at *Cossura* sp. due to them being fragments or poorly staining.

Anterior fragments of less than 35 chaetigers, or even whole animals with inconclusive stain patterns should be identified as *Cossura* sp. The P-code assigned is a generic code assigned to all taxa within the genus.

References:

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- Jones, M. L.** 1956. *Cossura pygodactylata*, a new annelid from San Francisco Bay (Polychaeta: Cirratulidae). *Journal of the Washington Academy of Sciences* 46(4): 127-130.
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Other Literature Consulted:

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Version History:

Version 1.0 – Voucher sheet created (27OCT2025-BMH)

Version 2.0 – Added “Comparative Material” section; Added photos; Updated “Similar Species” section; Updated “Discussion” section; Updated “References” section (16JUL2026-BMH)