



**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

Voucher Sheet

B. Haggin

July 2026



P-Code – P132

ITI – none assigned

Cossura sp A SCAMIT, 2025 §

Synonyms: *Cossura* sp A Phillips, 1987 §

Family: Cossuridae

Infraclass: Scolecida

Subclass: Sedentaria

Class: Polychaeta

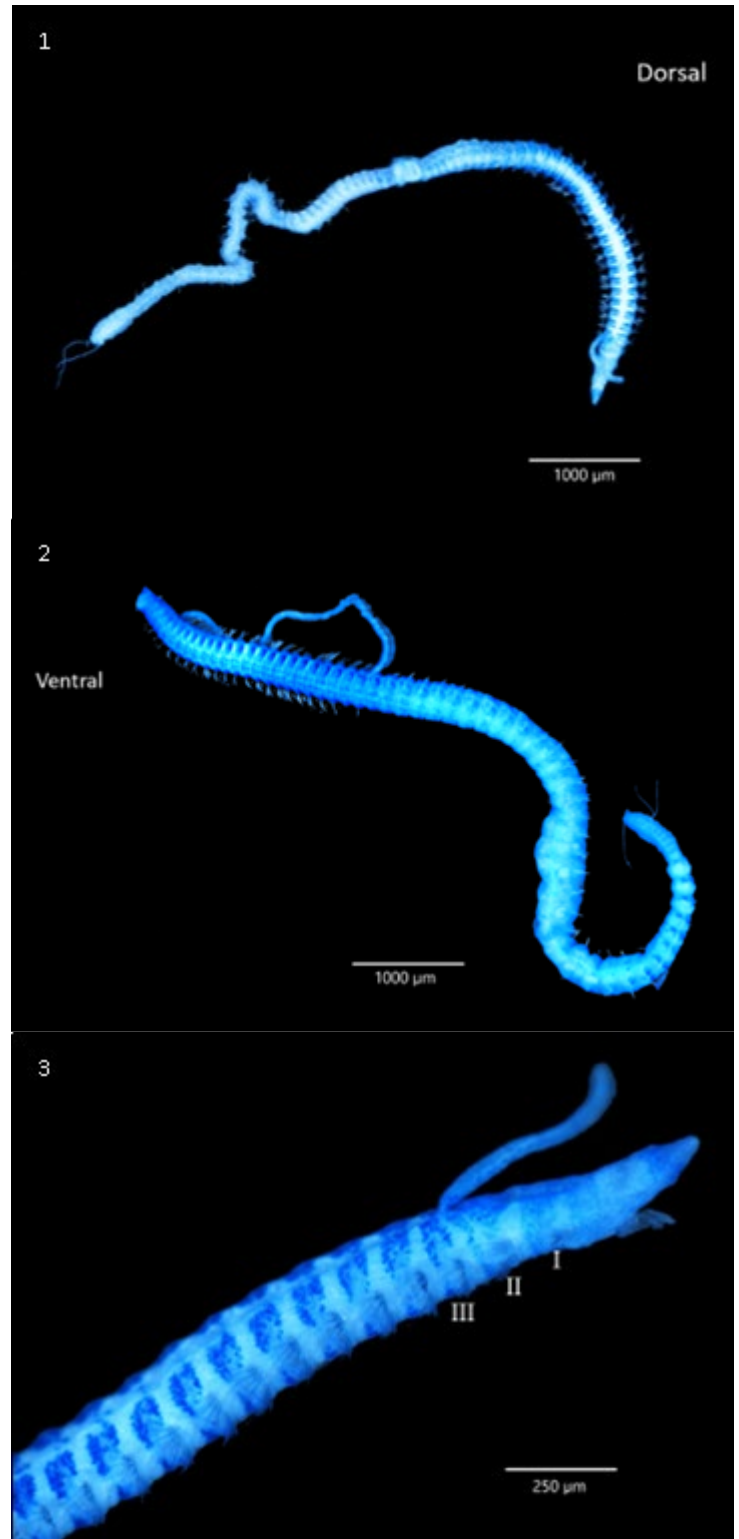
Phylum: Annelida

Diagnostic Characters: (*sensu* Rowe (1995) & personal observations): Animals complete; prostomium, peristomium, 70-96 chaetigers + 3-4 achaetous, pre-pygidial segments (**Images 1, 2 & 8**)

- Branchial filament arising from intersegmental furrow between chaetigers 2 & 3 (anterior to the chaetal fascicle of chaetiger 3); easily breaks or detaches, unknown how far back it stretches, but at least the length of the thorax (**Images 2, 3, 4 & 7**)
- Thoracic notochaetae and neurochaetae capillaries w/ frayed edge appearing as finely serrated
- 24-30 thoracic chaetigers (including transitional chaetigers); chaetiger 1 uniramous (**Images 1, 2 & 6**)
- Pygidium with 3 long anal cirri; no additional lobes or papillae present (**Images 1, 2 & 8**)
- ~ Last 15 abdominal chaetigers dorsoventrally flattened (**Images 1, 2 & 8**)
- Gravid females with ova in 28 of 72 abdominal segments; segments with ova wide, moniliform, narrowing rapidly with loss of ova

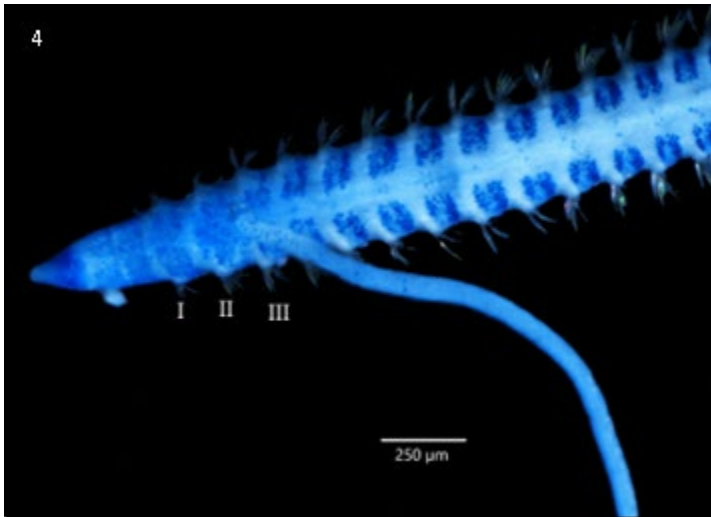
Pigmentation/Methyl Green Stain Pattern:

- Prostomium staining solidly except for tip (**Images 1, 3, 4 & 7**)
- Peristomium and chaetigers 1-2 staining lightly (**Images 1, 3, 4 & 7**)
- Large rectangular dorso- & ventrolateral patches present on all but last 1 or 2 thoracic chaetigers; covering ~1/4 body width, leaving mid dorsum exposed (**Images 1, 2 & 4-7**)
- Thoracic stain patches not connected laterally behind chaetal fascicles (**Images 3 & 5**)
- Abdominal segments with light speckling of stain, not encircling body or in any distinctive patterns (**Images 1 & 2**)





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Material Examined:

LACSD NPDES Monitoring Stations: 0719-4B (151m—33.71658N, 118.38694W—16JUL2019) - 12 individuals (Images 1, 3 & 7); 0724-3B (157m—33.72382N, 118.40719W—18JUL2024) - 1 individual (Image 4)

Bight Stations: B23-12043 LA/LB Harbor (8m—33.75184N, 118.17969W—13SEP2023) - 12 individuals (Images 2, 5, 6 & 8)

All photos by B. Haggin

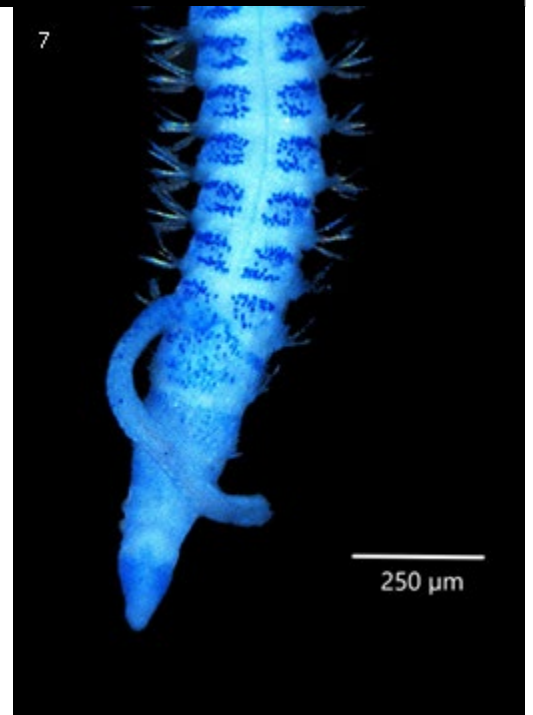
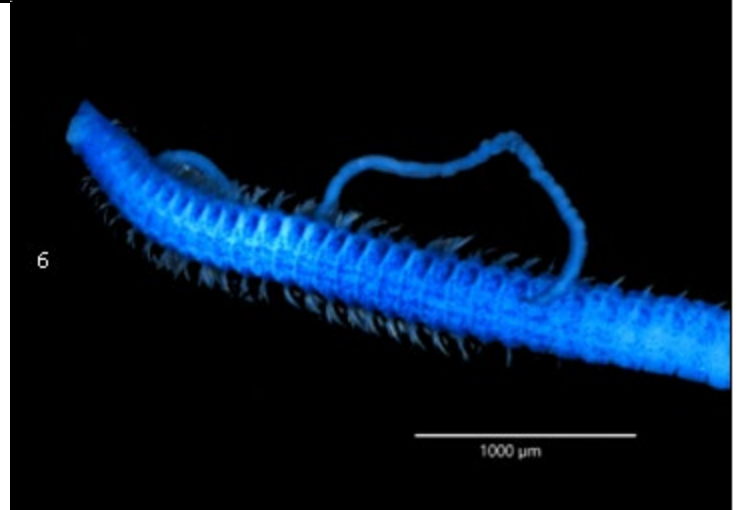
Comparative Material:

Cossura bansei Hilbig, 1996 – LACSD NPDES Monitoring Station: 0721-7C (60m – 33.70506N, 118.34878W – 14JUL2021) - 2 individuals (Image 9)

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

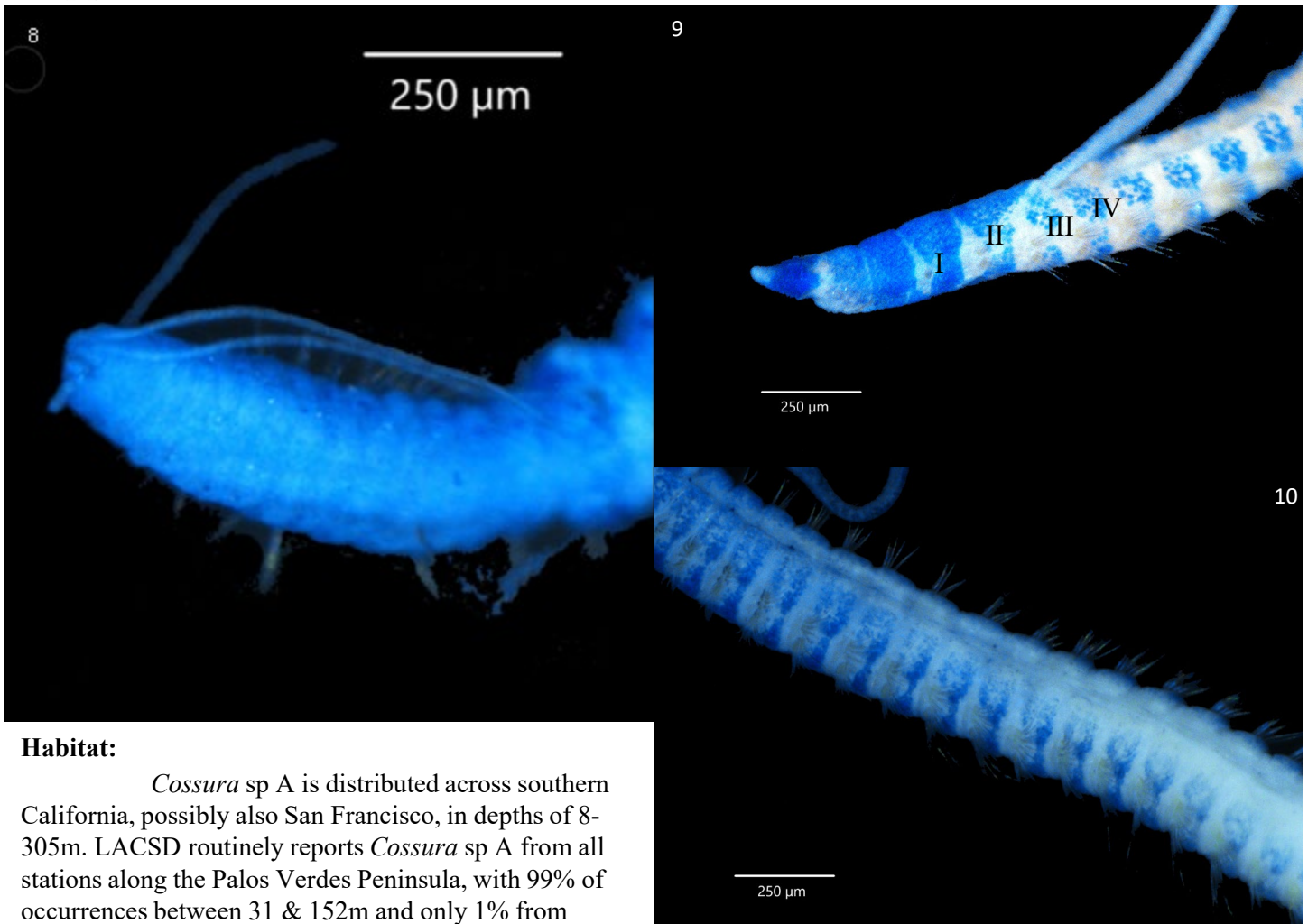
Cossura rostrata Fauchald, 1972 – Bight Station: B18-10362 (745 m – 33.63469N, 118.58346W – 02AUG2018) - 1 individual (incomplete) (Images 11 & 12)

Cossura sp LA2 Haggin, 2025 § – Bight Station: B23-12043 LA/LB Harbor (8m—33.75184N, 118.17969W—13SEP2023) - 14 individuals (Image 13)





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Habitat:

Cossura sp A is distributed across southern California, possibly also San Francisco, in depths of 8-305m. LACSD routinely reports *Cossura* sp A from all stations along the Palos Verdes Peninsula, with 99% of occurrences between 31 & 152m and only 1% from 300m. LACSD also reports *Cossura* sp A from the LA/LB Harbor during Bight surveys. *Cossura* sp A has been collected in sediments of silt, silty-clay, clayey-silt, silty-sand or sandy-silt, showing little affinity for sediment type. *Cossura* sp A has been collected in samples with both *Cossura candida* and *Cossura bansei*.

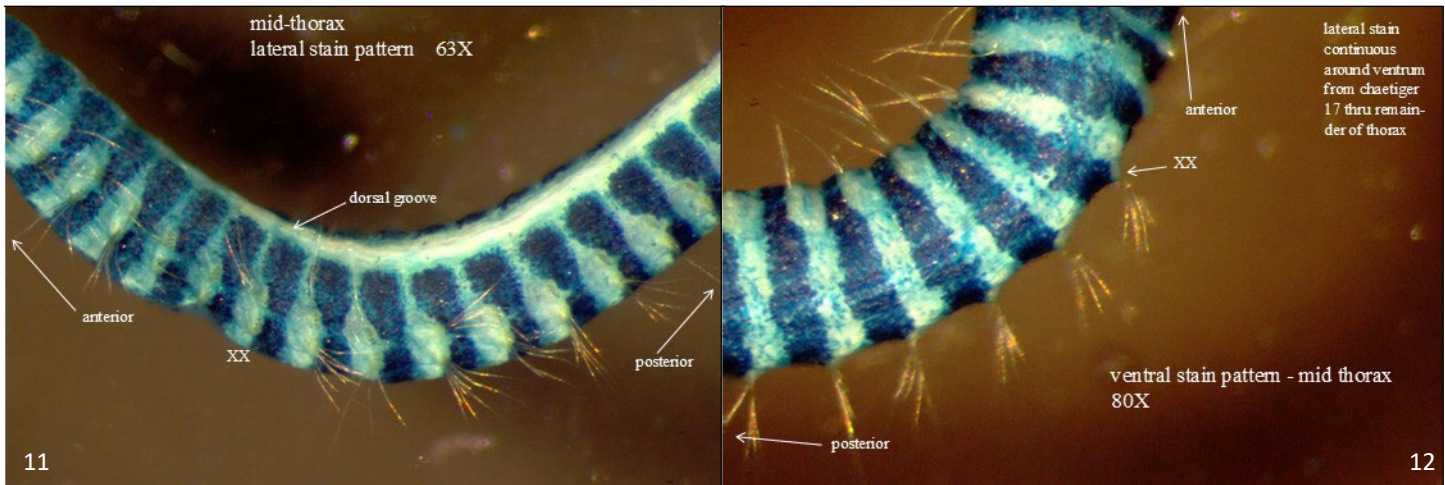
Similar Species:

Cossura bansei Hilbig, 1996—*Cossura bansei* is one of the species that most closely resembles *Cossura* sp A. The number of thoracic chaetigers of *Cossura* sp A falls within the range of *Cossura bansei*, *C. bansei* with 20-31 and *C. sp A* with 24-30. The two species also have a pygidium without additional lobes or papillae present, and both have dorso- and ventrolateral stain patches that do not connect laterally behind the chaetal fascicle. They differ in the point of insertion of the branchial filament, with *Cossura bansei* being inserted far posterior on the 3rd chaetiger, sometimes appearing as on the 4th (Image 9). The branchial filament arises from the intersegmental furrow of the 2nd and 3rd chaetiger, well before the 3rd chaetal fascicle (Image 4), in *Cossura* sp A. 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 A has a darkly staining prostomium, but the peristomium and pre-branchial chaetigers stain lightly. *Cossura bansei* is a shelf and upper slope animal, reported from 23-301m.

Cossura brunnea Fauchald, 1972—*Cossura brunnea* differs from *Cossura* sp A in most respects. *Cossura brunnea* has only 16-18 thoracic chaetigers, has the branchial filament inserted in the middle of chaetiger 3, posterior to



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Similar Species cont.:

Cossura brunnea cont.—the chaetal fascicle, the thoracic stain patches connect laterally behind the chaetal fascicle and in the stain pattern of the posterior thoracic segments where the ventrum has mid-ventral patches and the dorsum has thin continuous bands. *Cossura* sp A has 24-30 thoracic chaetigers, has the branchial filament arising from the intersegmental furrow of chaetigers 2 & 3, the thoracic stain patches do not connect laterally behind the chaetal fascicle, and the stain pattern of the posterior thoracic segments remains as dorso- and ventrolateral patches, not becoming bands across the dorsum. *Cossura brunnea* is reported from 1600-2200m.

Cossura candida Hartman, 1955—*Cossura candida* is similar to *Cossura* sp A in having an overlapping range of thoracic chaetigers, *C. candida* with 24-35 and *C. sp A* with 24-30. The two differ in the location of branchial filament insertion and the Methyl Green Stain pattern. *Cossura candida* has a branchial filament inserted posterior to the 3rd chaetal fascicle while *Cossura* sp A arises from the intersegmental furrow of the 2nd and 3rd chaetigers, anterior to the 3rd chaetal fascicle. *Cossura candida* has dorso- and ventrolateral stain patches that connect laterally behind the chaetal fascicles (Image 10) and in *Cossura* sp A the stain patches do not connect laterally. 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 A by its shorter thorax, having only 14-26 thoracic chaetigers compared to 24-30 in *Cossura* sp A. *Cossura modica* has an intensely staining pre-branchial region and lateral stain that connects behind the chaetal fascicle while *Cossura* sp A has a dark prostomium 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 A by having the insertion of the branchial filament anterior to the chaetal fascicle of chaetiger 3 and in having dorso- and ventrolateral thoracic stain patches that do not connect laterally behind the chaetal fascicle. The two differ in the number of thoracic chaetigers, 13-21 in *Cossura pygodactylata* and 24-30 in *Cossura* sp A. If specimens are complete, *Cossura pygodactylata* has 3 long anal cirri and 6-10 short pairs of short cirri on the pygidium. *Cossura* sp A lacks the additional short cirri. *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* and *Cossura* sp A are similar in having their branchial filament inserted anterior to the 3rd chaetal fascicle. *Cossura rostrata* has 29-36 thoracic chaetigers while



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Similar Species cont.:

Cossura rostrata cont.—*Cossura* sp A has 24-30. *Cossura rostrata* has a peristomium and pre-branchial chaetigers that stain as intensely as the prostomium, a lateral stain that connects behind the chaetal fascicle (Image 11) and a continuous ventral stain band in the posterior thorax (Image 12). *Cossura* sp A differs in having a peristomium and pre-branchial chaetigers that stain less intensely than the prostomium, lacking a continuous lateral stain behind the chaetal fascicle and lacking a continuous ventral stain in the posterior thorax. *Cossura rostrata* has been reported from Oregon to western Mexico from 6-3348m. See additional comments on the *Cossura rostrata* voucher sheet.



Cossura sp LA2 Haggin, 2025 §—*Cossura* sp LA2 is similar to *Cossura* sp A in having a branchial filament arising from the intersegmental furrow of chaetigers 2 & 3, a similar number of thoracic chaetigers, *C. sp* LA2 with 32-33 and *C. sp* A with 24-30, 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 LA2 forms a near continuous, though faint, band around the body (Image 13), both dorsally and ventrally, leaving only the lateral gap behind the chaetal fascicle. *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 is currently known only from bays and harbors, being report from 8m in LA/LB Harbor and 7m from Newport Bay.

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 sp A was originally erected by Phillips (1987) as an alternative to *Cossura candida* due to its stain pattern and position of insertion of the branchial filament. *Cossura* sp A was once proposed to be *Cossura pygodactylata* by L. Lovell and T. Phillips (SCAMIT (2014)) but a review of specimens has shown this not to be the case. The differences in the number of thoracic chaetigers and the additional short anal cirri found in *Cossura pygodactylata* show these two species to be different. *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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Version History:

Version 1.0 – Voucher sheet created (16OCT2025 – BMH)

Version 2.0 – Updated name to *Cossura* sp A SCAMIT, 2026 §; Added “Comparative Material” section; Updated “Similar Species” section; Added *Cossura bansei* *Cossura candida*, *Cossura rostrata* & *Cossura* sp LA2 pictures; Updated “Discussion” section; Updated “References” section (16JUL2026 – BMH)