



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

Voucher Sheet

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Cossura bansei Hilbig, 1996

Synonyms: none

Family: Cossuridae
Infraclass: Scolecida
Subclass: Sedentaria
Class: Polychaeta
Phylum: Annelida

Diagnostic Characters: (*sensu* Hilbig {1996} or personal observations): Animals complete; prostomium, peristomium, 68-69 chaetigers + 3 achaetous, pre-pygidial segments

- Branchial filament arising from posterior border of chaetiger 3 (Images 1, 2 & F)
- Thorax with 20-31 chaetigers (Images 1, 3 & 4)
- Pygidium with 3 anal cirri (usually fragmented and missing) (Image 5)
- Pygidial processes absent (pers. obs.) (Image 5)

Pigmentation/Methyl Green Stain Pattern:

- Prostomium, peristomium & chaetigers 1-3 staining solidly except for tip of prostomium (Images 1-3)
- Large rectangular dorso- and ventrolateral patches present on all but last 1 or 2 thoracic chaetigers (covering ~1/4 body width) (Images 1-4)
 - Diminishing in size posteriorly but present as small rounded patches above and below chaetae to end of body
- Not staining laterally between chaetal fascicles (Images 1 & 3)
- Midventrum with segmental groups of single deeply staining cells (Image 4)
- Pygidium with ring of stain (Image 5)

Material Examined:

LACSD NPDES Monitoring Stations: 0721-7C (60m – 33.70506N, 118.34878W – 14JUL2021) - 2 individuals (Images 2-4); 0722-9B (154m – 33.68150N, 118.32222W – 11JUL2022) - 4 individuals (Images 1 & 5)

Image F modified from Hilbig (1996)

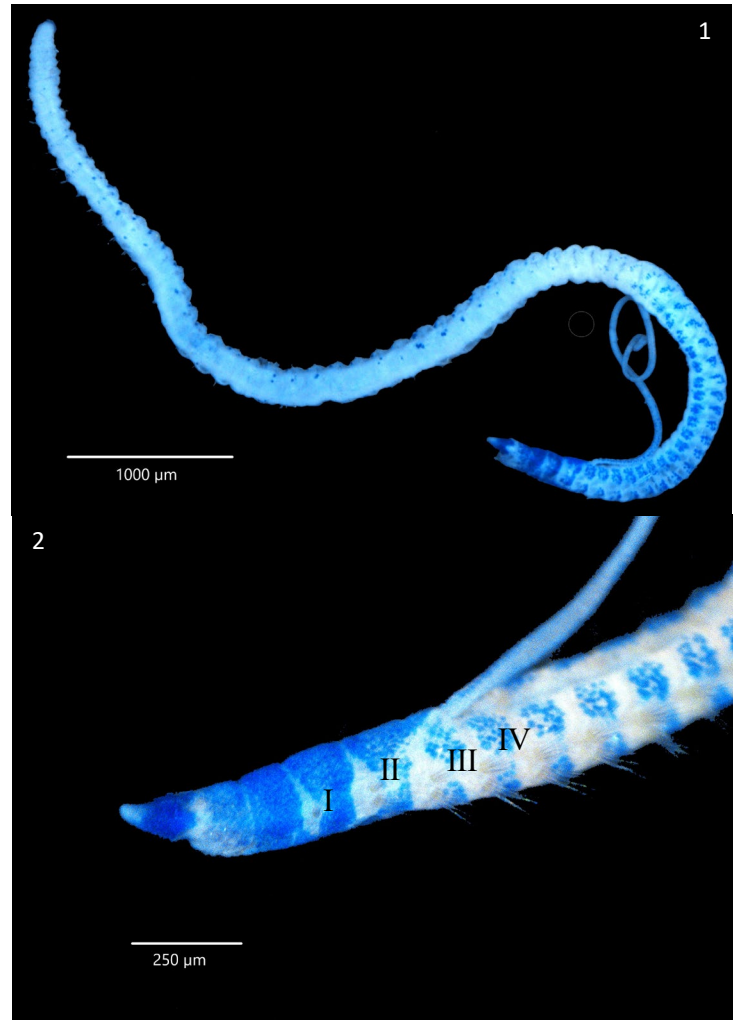
All photos by B. Haggin

Comparative Material:

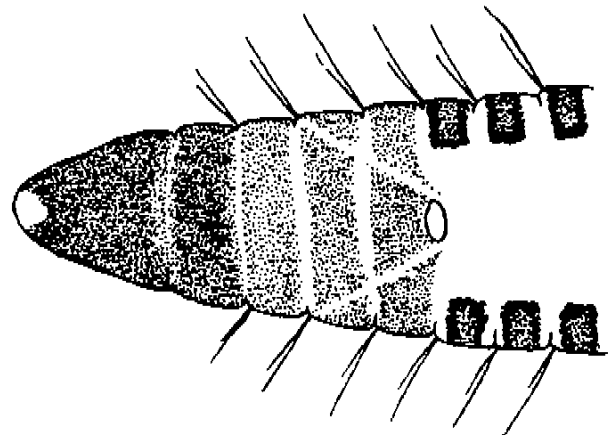
Cossura candida Hartman, 1955 - LACSD NPDES Monitoring Station: 0721-10B (140m – 33.66238N, 118.29848W – 12JUL2021) - 1 individual (Image 6)

P-Code – P132

ITI – none assigned

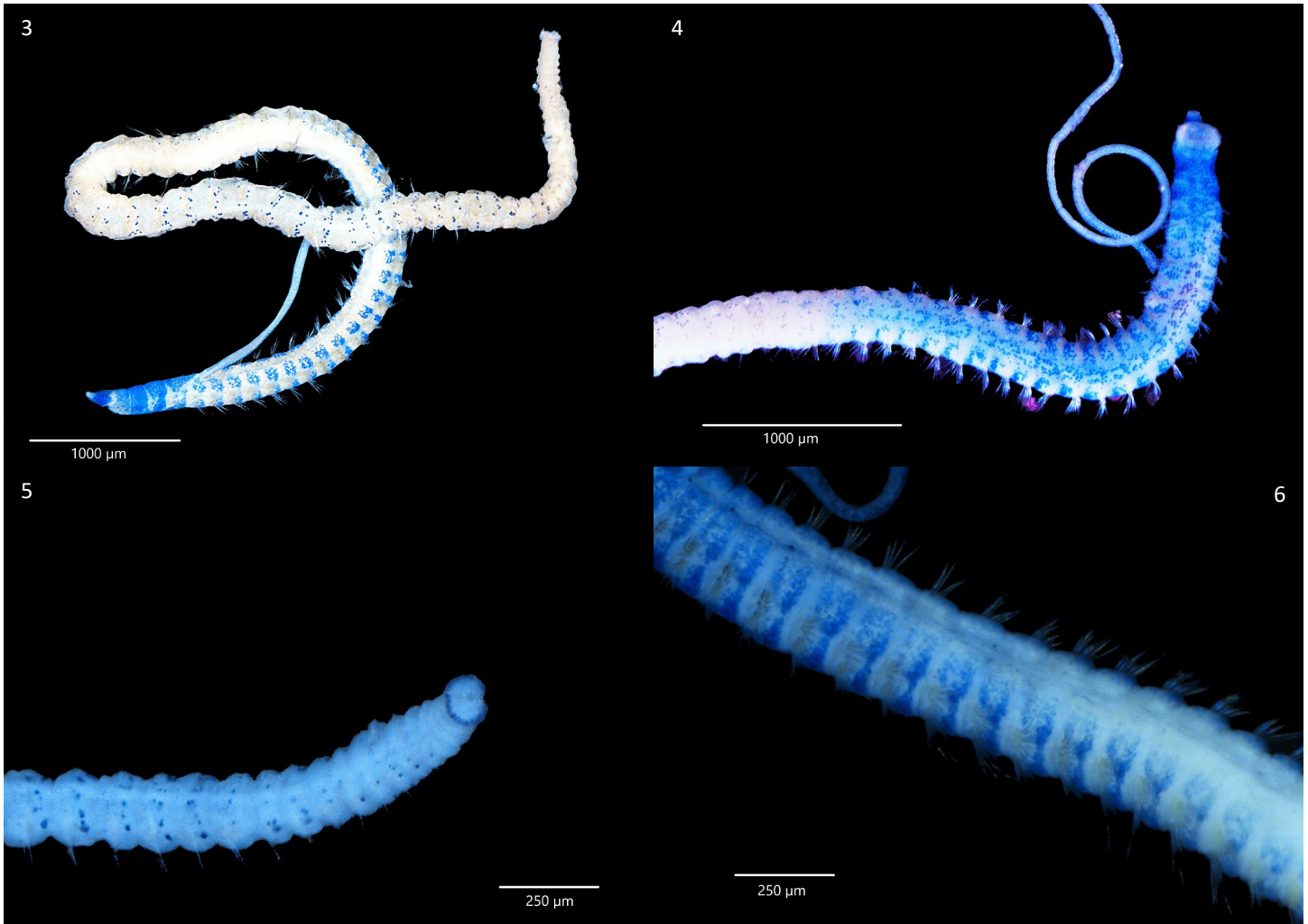


F





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Comparative Material cont.:

Cossura rostrata Fauchald, 1972 – Bight Station: B18-10362 (745 m – 33.63469N, 118.58346W – 02AUG2018) - 1 individual (incomplete) (Images 7 & 8)

Cossura sp A SCAMIT, 2025 § - LACSD NPDES Monitoring Station: 0724-3B (157m—33.72382N, 118.40719W—18JUL2024) - 1 individual (Image 9)

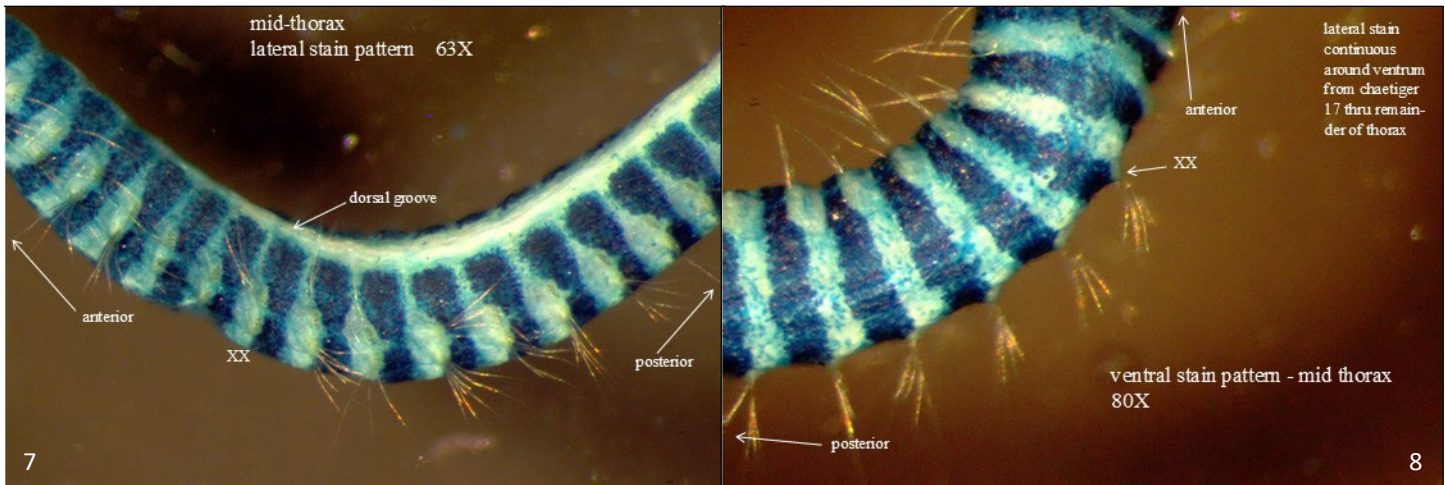
Cossura sp LA2 Haggin, 2025 § – Bight Station: B23-12043 LA/LB Harbor (8m—33.75184N, 118.17969W—13SEP2023) - 14 individuals (Image 10)

Habitat:

Cossura bansei was originally described from the Santa Maria Basin off Point Sal, CA from a depth of 90m. It has a reported distribution of British Columbia, Canada to southern California from 18-160m. LACSD reports *Cossura bansei* from 23-301m off Palos Verdes with 63% of reports from deeper than 120m. It can be found in sediments of silt to clayey-silt and is usually encountered in abundances of less than 5 individuals per station. *Cossura bansei* has been found to co-occur with *Cossura candida* and *Cossura* sp A, sometimes both in the same station.



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Similar Species:

Cossura brunnea Fauchald, 1972—*Cossura brunnea* is similar to *Cossura bansei* in having the branchial filament inserted posterior to the chaetal fascicle of chaetiger 3. The two species differ in most other respects. *Cossura brunnea* has only 16-18 thoracic chaetigers while *Cossura bansei* has 20-31 thoracic chaetigers. *Cossura brunnea* has thoracic stain patches that connect laterally behind the chaetal fascicle, and the dorsum of posterior thoracic segments has thin continuous bands. *Cossura bansei* has thoracic stain patches that 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 a very deep-water animal, reported from 1600-2200m.

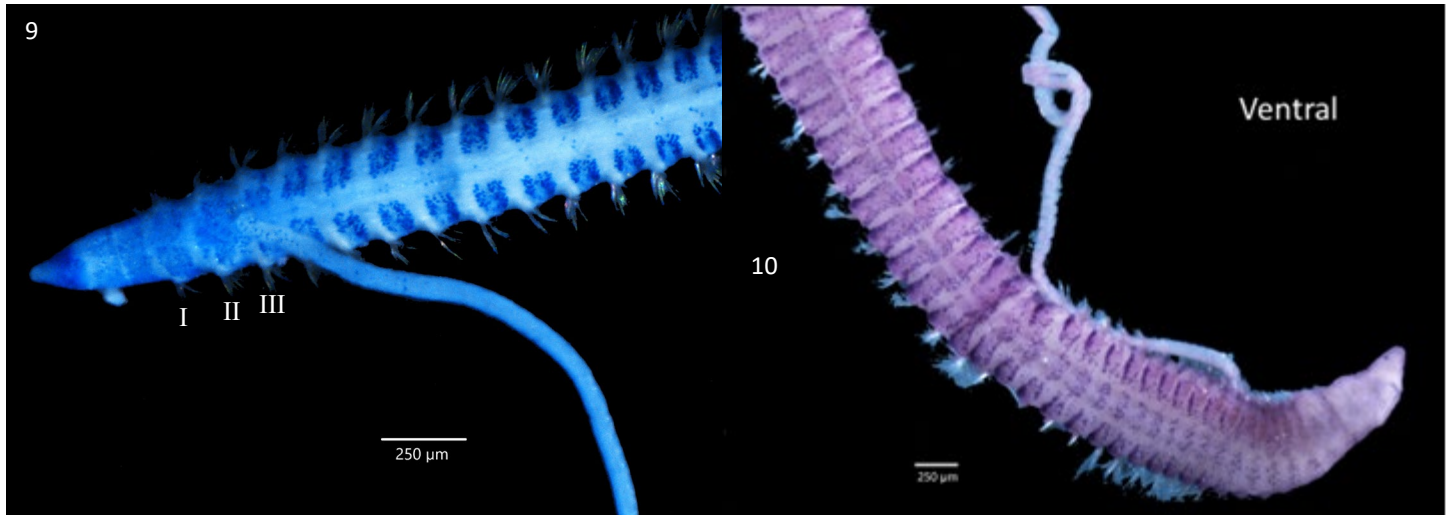
Cossura candida Hartman, 1955—*Cossura candida* is similar to *Cossura bansei* in having an overlapping range of thoracic chaetigers, *C. candida* with 24-35 and *C. bansei* with 20-31, and in the insertion of the branchial filament posterior to the 3rd chaetal fascicle. The two differ in the Methyl Green Stain pattern. *Cossura candida* has dorso- and ventrolateral stain patches that connect laterally behind the chaetal fascicles (Image 6) and in *Cossura bansei* the stain patches do not connect laterally (Image 3). 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 bansei* by its slightly shorter thorax, having only 14-26 thoracic chaetigers compared to 20-31 in *Cossura bansei*. *Cossura modica* has an intensely staining pre-branchial region and lateral stain that connects behind the chaetal fascicle while *Cossura bansei* has a lateral stain that does not connect laterally 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 bansei* in having dorso- and ventrolateral thoracic stain patches that do not connect laterally behind the chaetal fascicle. The two differ in the insertion of the branchial filament, with *Cossura pygodactylata* being inserted anterior to the chaetal fascicle of chaetiger 3 while *Cossura bansei* is inserted posterior to the chaetal fascicle of chaetiger 3, and in the number of thoracic chaetigers, 13-21 in *Cossura pygodactylata* and 20-31 in *Cossura bansei*. If specimens are complete, *Cossura pygodactylata* has 3 long anal cirri and 6-10 short pairs of short cirri on the pygidium. *Cossura bansei* 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.



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Similar Species cont.:

Cossura rostrata Fauchald, 1972—*Cossura rostrata* and *Cossura bansei* differ in most aspects. *Cossura rostrata* has its branchial filament inserted anterior to the 3rd chaetal fascicle and *Cossura bansei* has its inserted posterior to the 3rd chaetal fascicle. *Cossura rostrata* has 29-36 thoracic chaetigers while *Cossura bansei* has 20-31. *Cossura rostrata* has a lateral stain that connects behind the chaetal fascicle (Image 7) and a continuous ventral stain band in the posterior thorax (Image 8). *Cossura bansei* lacks a continuous lateral stain behind the chaetal fascicle (Image 3) and lacks a continuous ventral stain in the posterior thorax (Image 4). *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 one of the species that most closely resembles *Cossura bansei*. Both species have an overlapping range of thoracic chaetigers, *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 the branchial filament of *Cossura* sp A arising from the intersegmental furrow of the 2nd and 3rd chaetiger, well before the 3rd chaetal fascicle (Image 9). *Cossura bansei* has its branchial filament inserted far posterior on the 3rd chaetiger, sometimes appearing as on the 4th (Image 2). 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* sp A is reported from 8-305 m.

Cossura sp LA2 Haggin, 2025 §—*Cossura* sp LA2 is similar to *Cossura bansei* in having a lateral stain that does not connect behind the chaetal fascicles in the thorax. The two species differ in the posterior thoracic and anterior abdominal stain. *Cossura* sp LA2 forms a near continuous, though faint, band around the body, both dorsally and ventrally (Image 10), leaving only the lateral gap behind the chaetal fascicle. *Cossura bansei* maintains the dorso- and ventrolateral patches throughout the thorax, leaving a gap mid-dorsally, and fading in the abdomen. *Cossura* sp LA2 has 32-33 thoracic chaetigers while *Cossura bansei* has 20-31 thoracic chaetigers. *Cossura* sp LA2 is currently known only from bays and harbors, being report from 8m in LA/LB Harbor and 7m from Newport Bay.



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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.

WoRMS lists the type locality of *Cossura bansei* as “off “Ridley Island, Chatham Sound, British Columbia, Canada”, however, Hilbig (1996) registered all of the type material from the Santa Maria Basin. Hilbig (1996) named this species after Karl Banse based on an unidentified *Cossura* collected by him from BC and Washington that Hilbig thought might be the same species. The specimens from Banse were too small to confirm some of the characteristics and the specimens were never stained. It is unknown if *Cossura bansei* is actually found in the BC/Washington region.

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 members of the genus.

References:

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Other Literature Consulted:

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Version History:

Version 1.0 – Voucher sheet created (16JUL2026 – BMH)