

Spider crab correspondence was recently received from SCAMIT members giving more information on the Oxyrhynchid crabs presented in last month's voucher sheets. With their permission, here are their notes:

Dr. James Carlton -- Pyromaia tuberculata historically is unknown north of Monterey Bay. Until 1958 it was known only from Tomales Bay by a single specimen collected in 1946 (Garth, 1958). It seems to have appeared in San Francisco Bay in the 1960's, perhaps helped by the late 1950's El Nino. My suspicion is that once established in San Francisco Bay in the 1960's, it was picked up by trans-pacific shipping and carried to Japan later in the same decade! In the 1970's it appeared in Sagami Bay, Japan (introduced by ships) and has most recently appeared in Korea and New Zealand either via Japan or directly from the U.S. Perhaps the mode of transport is larvae carried in the marine ballast water.

Pyromaia's travels to date:

California to Japan:

T. Sakai. 1976. Crabs of Japan and the adjacent seas. Kodansha Ltd., 773 pp.

(I would predict that electrophoretic genetic analysis could reveal whether Pyromaia came from the Los Angeles area or (my bet) San Francisco Bay -- if, that is, the southern and northern stocks are genetically different enough. David Woodruff (Scripps) has done this with Crepidula onyx introduced from southern California to Hong Kong.)

Japan to Korea:

H.S. Kim. 1985. Systematic studies on crustaceans of Korea, 1. Decapods. Proceedings of the College of Natural Sciences, Seoul National University, Seoul, Korea, 10: 63-94.

(I have a copy of this; two other journals in which Korean marine invertebrate systematists are publishing are: The Korean Journal of Systematic Zoology (volume 1 appeared in 1985, and includes another paper by Kim on brachyuran crabs) and Inje Journal (volume 1, 1985, includes a paper, for example, on the sphaeromatid isopods of Korea; Inje College is in Korea.)

Japan (or California?) to New Zealand:

F.I. Dromgoole and B.A. Foster. 1983. Changes to the marine biota of the Auckland harbour. Tane 29: 79-96.

(Concerns introductions of marine invertebrates and algae in New Zealand; SIO has this journal.)

Pyromaia will certainly appear in Australia, if it is not there already.

Dr. Mary K. Wicksten has also written to SCAMIT about spider crabs. Her letter reads:

I always read with interest anything about spider crabs, so I took note of your section on spider crabs (August 1986). There are a few behavioral and habitat differences between the four similar spider crabs that will help you "in a pinch" (bad pun). Erileptus spinosus often occurs a bit deeper than the other three species, often being taken by dredges on steep shelly or pebbly bottoms along the offshore islands of southern California. Podochela hemphilli is a decorator, often attaching pieces of bryozoans or algae at right angles to the axes of its long legs. Some individuals put a sprig of algae on the rostrum, or use bits of ascididans in decorating. Podochela lobifrons is the least common of the four in southern California. Pyromaia tuberculata rarely decorates, but may have encrusting sponges or bryozoans on the carapace. (It may act like Pelia tumida--allows itself to be overgrown by attached organisms.) Of the four, it seems most tolerant of sandy or silty bottoms, ranging well away from the nearest hard substrate. It often occurs in bays and harbors. I've seen some riding around on large starfishes (Pisaster brevispinus and others). While one must rely on the anatomy for a final decision, one can narrow it down a bit by eliminating unlikely situations.

By the way, I've photographed Podochela hemphilli on Wharf #2 in Monterey Harbor, Monterey, California.

Helpful hints on the examination of Bryozoan were provided by Carol Pacquette and Martina Budris of MBC. The appearance of ovicells and the degree of calcification seen in Bryozoans may be quite variable within a colony. Not every individual within the group will possess identical characters. Long term storage of Bryozoans is probably best in 80% Ethanol; while the actual examination of specimens is best done dry.

The Polychaete Research Newsletter is an informal publication that provides for communication between polychaete workers. Any topic pertinent to polychaetes is of interest to the newsletter. Most of the topics concern work being done in the Northeastern Atlantic associated with Great Britain. The newsletter is published several times each year. For additional information contact:

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LIST OF SPECIMENS EXAMINED ON SEPTEMBER 8, 1986

SCCWRP 69	<u>Thalamoporella californica</u>	(Levinsen 1909)
SCCWRP 70	<u>Membranipora tuberculata</u>	(Bosc 1802)
SCCWRP 71	<u>Scrupocellaria diegensis</u>	Robertson 1905
SCCWRP 72	<u>Crisia occidentalis</u>	Trask 1857
MBC 50	<u>Rhynchozoon rostratum</u>	(Busk 1856)
MBC 51	<u>Thalamoporella californica</u>	(Levinson 1909)
MBC 52	<u>Membranipora villosa</u>	Hincks 1880
MBC 53	<u>Scrupocellaria diegensis</u>	Robertson 1905
MBC 54	<u>Membranipora membranacea</u>	(Linnaeus 1767)
MBC 55	<u>Membranipora perfragilis</u>	(MacGillivray 1881)

TRAVELS WITH OLGA

Last month was the final edition of Olga Hartman's letters. We hope you enjoyed reading them!

SCAMIT Code: HYP 57, OC 63

Date examined: April 14, 1986

Voucher by: Leslie H. Harris
(MBC)

SYNONYMY: Fabrisabella sp.A Harris
Fabrisabella sp.B Williams

LITERATURE: Banse 1979
Fauchald 1977
Fauvel 1927
Hartman 1969

DIAGNOSTIC CHARACTERS:

1. Body short and tumid, 2-3mm without crown. 8 thoracic and about 16 abdominal setigers.
2. Thoracic notosetae include bilimbate, subspatulate, and broadly spatulate with very long mucrons. Abdominal neurosetae are capillary or unilimbate with narrow wings.
3. Thoracic neurosetae are long handed, acicular uncini, gently bent, 4-6 per fascicle. Abdominal uncini are avicular, S-shaped, strongly-bent. Both types have a large main fang and a crest of smaller teeth. No companion setae.
4. Collar has ventral notch, slight ventro-lateral dips, then slopes abruptly middorsally. Edges of dorsal folds may overlap or gap, branchial basis exposed. Collar usually flares out.
5. Anus ventral, pygidium conical with two lateral eyespots.
6. Vascular coils (atocysts?) present, 1 pair, dorsally within the collar.
7. 7-8 pairs of radioles, with many long pinnules, bushy-looking. No lateral flange or palmate membrane. Radioles end in large, bilobed foliaceous membranes, with sometimes a smaller (replacement?) membrane subterminally.

8. No glandular girdle on setiger 2. No intra-segmental furrow in thoracic setigers.
9. Staining pattern: (see illustration)
 - Strongly marked ventral shields on all setigers, thoracic and abdominal; shields from setiger 10 to end of body divided by fecal groove.
 - Slight staining on parapodia.
 - No deeply colored areas on dorsum or crown.
 - Pygidium very dark.

RELATED SPECIES AND CHARACTER DIFFERENCES:

1. Jasmineira candela (Grube 1863) also has radioles ending in foliaceous membranes. It has 17-18 setigers total, bilimbate and broadly spatulate thoracic notosetae, and geniculate, limbate abdominal neurosetae. J. sp.A has about 24 setigers, bilimbate, spatulate and subspatulate setae, and straight capillary or unilimbate neurosetae. The mucron of the spatulate setae in candela is short, less than the length of the spatulate, while the mucron of sp.A setae is very long, up to twice the length of the spatulate head.

If the branchial crown is lost, this might be mistaken for J. sp.B or Fabrisabella vasculosa Hartman 1969. F. vasculosa has 2 pairs of vascular coils, 12-14 radiole pairs, the mucron is shorter than the spatulate head, and there are no subspatulate setae. J. sp.B has a long, linear body, 10-12 pairs of radioles, a short mucron, subspatulate setae, and a digitate caudal appendage. J. sp. A has 1 pair of vascular coils, a short, tumid body, 7-8 pairs of radioles, a short mucron, subspatulate setae and a rounded pygidium. The dorsal separation of the collar in Fabrisabella vasculosa does not appear to be a reliable character since it varies on specimens seen.

REMARKS: Specimens of this species were originally identified as Fabrisabella Hartman 1969, because of the lack of companion setae, the long-handled, gently-curved thoracic uncini and avicular abdominal uncini. These characters are shared by Jasmineira Langerhans 1880, and the only character separating them is whether the collar is deeply and widely separated dorsally (Fabrisabella) or not (Jasmineira); on the basis of its collar structure and its similarity to J. candela the new species has been put into Jasmineira. This is the first record for the genus from the area, and the second for the Pacific coast (Banse 1979). In Fauchald 1977, Fabrisabella is included under subfamily Sabellinae in the dichotomous key, but should be under Fabricinae because of its acicular thoracic uncini; in the generic definitions it's listed as a Fabricinae.

DISTRIBUTION: Point Conception through Orange County, in mixed sediments and rock bottoms to 120m in depth.

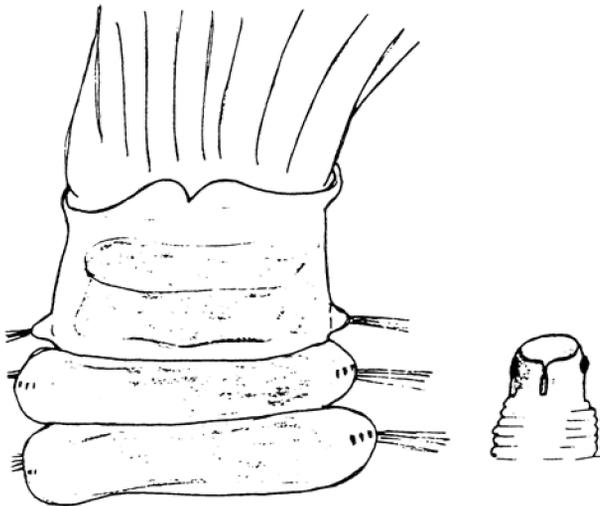


Fig. 1 Ventrum and pygidium staining pattern



Fig. 2 Radiole tip (most pimmules omitted)

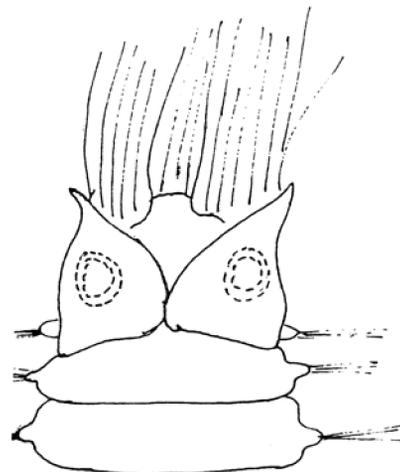


Fig. 3 Dorsum

9. Staining pattern:

- Thoracic setigers stain dark green; ventral shields not delineated, stained area continues laterally and surrounds parapodia. Dorsum unstained except for slight banding on last thoracic segments.
- Stain on abdominal segments forms continuous bands around the body on most setigers, interrupted by fecal groove; last 10-12 setigers are much lighter both dorsally and ventrally.
- Pygidial area very dark, caudal appendage unstained.
- Distinct pattern on collar, anterior region free of stain.

RELATED SPECIES AND CHARACTER DIFFERENCES:

1. Jasmineira caudata Langerhans 1880 has a digitate caudal appendage, but its collar lacks a midventral notch and has only 2 kinds of thoracic notosetae.
2. Jasmineira pacifica Annenkova fide Banse 1979 is the second species with a caudal appendage, but it has greatly enlarged and deeply split ventral collar lobes, the lobes and anterior part of the collar is strongly staining, and its limbate setae are very short-bladed.

J. sp.B has a level collar with midventral notch, not enlarged ventrally, a non-staining anterior collar region, 3 kinds of notosetae in the thorax, including long-bladed limbate setae.

(See also section under Jasmineira sp.A)

REMARKS: Both the branchial crown and the caudal appendage are easily lost. The distinctive stain pattern is a reliable character for identification.

Banse (1979) mentions 2 specimens of Jasmineira sp. from British Columbia which he tentatively assigned to J. pacifica, although their collars lacked reduced ventral extensions and incisions, and the strongly staining anterior region. These would appear to be closely related to J sp.B.

DISTRIBUTION: Point Conception to Santa Monica Bay, to 60 meters in soft sediments.

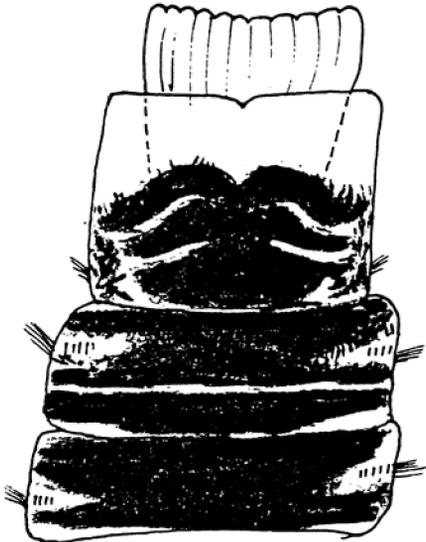


Fig. 1 Ventrum

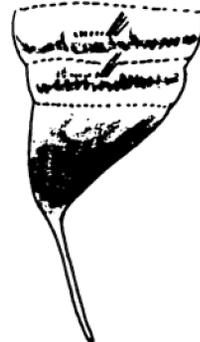


Fig. 2 Pygidium

SCAMIT Code: MBC 45

Date examined: April 14, 1986

Voucher by: Leslie H. Harris
(MBC)

SYNONYMY: Potamethus sp.A Harris
Potamethus sp.A Williams

LITERATURE: Hartman 1969
Knight-Jones 1983

DIAGNOSTIC CHARACTERS:

1. Body linear, small: ovigerous female 7.4 mm without branchial crown. Tube very thin, brown, made of silt, adheres tightly to body.
2. Eight thoracic setigers, 18-20 abdominal setigers.
3. Tentacular crown short, with 6-7 radiole pairs; pinnules short.
4. Collar low dorsally; forms pair of long triangular lobes ventrally.
5. Thoracic uncini avicular, long stemmed; companion (pennon) setae present.
6. Ventral shields in thorax.
7. Pygidium bi-lobed.

RELATED SPECIES:

1. Potamethus mucronatus (Moore 1923): 15 pairs of radioles, 49-57+ abdominal setigers, thoracic uncini with unusually high crest and exceptionally long stemmed, tube black, inhabits deep slope and abyssal depths.

REMARKS: This species is distinguished easily by the triangular collar lappels and the stain pattern. The companion setae are nearly invisible, very hard to see. The tube adheres to the animal, and is characteristically difficult to remove without damaging the animal.

DISTRIBUTION: Point Loma to Point Sol, Catalina Island; soft bottoms down to 195m.



Fig. 1 Staining pattern

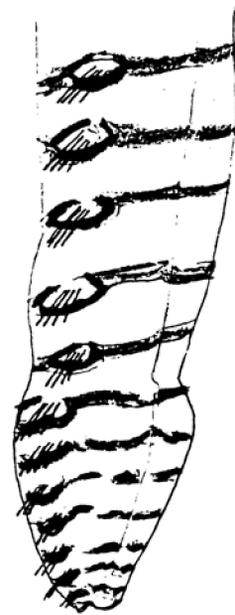


Fig. 2 Pygidium

SCAMIT Code: MBC 46

Date examined: April 14, 1986
Voucher by: Leslie H. Harris
(MBC)

SYNONYMY: Euchone sp.A Harris
Euchone sp.A Lovell

LITERATURE: Banse 1957
Banse 1970
Banse 1972
Hartman 1969

DIAGNOSTIC CHARACTERS:

1. Body minute, ovigerous female 2mm long without branchial crown; radioles almost always missing.
2. Abdomen has 3 anterior (pre-funnel) setigers and 3 depression setigers.
3. Large oblique collar, higher ventrally than dorsally; no midventral notch or noticeable lateral notches; narrow dorsal gap.
4. Thoracic notosetae 3 kinds: (a) long, limbate in all setigers; (b) very short, fine geniculate in first 2-3 setigers; (c) short, in setigers 2-8, appear limbate rather than subspatulate.
5. No ventral shields.
6. Faint postsetal glandular girdle on 1st abdominal setiger (very hard to distinguish).

RELATED SPECIES AND CHARACTER DIFFERENCES:

Euchone trilobata (Banse 1957) is the closest species to Euchone sp. A, both having a total of 6 abdominal setigers, and both lacking distinct subspatulate setae. Sp.A's anal depression consists of 3 setigers, its collar is oblique and conceals the branchial basis, and the abdominal uncini have broad bases and large rostra. Trilobata has 4 setigers in its anal depression, the collar is level and doesn't cover the branchial basis,

and the uncini are pectinate. The small species of Euchone found locally are compared with trilobata and sp.A in the following table.

REMARKS: This species has often been identified as E hancocki or incolor juveniles because of its small size and 3 depression setigers. Juveniles may not have the full number of depression setigers, and the best character to use for identification is the number of anterior abdominal (pre-depression) setigers, which remains constant in small species (Banse 1970).

DISTRIBUTION: Point Conception to Point Loma, 20 to 150m; patchy abundance in soft sediments.

TABULAR KEY TO
SOUTHERN CALIFORNIA EUCHONE SPECIES

by

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<u>Species</u>	<u>1.</u>	<u>2.</u>	<u>3.</u>	<u>4.</u>	<u>5.</u>	<u>6.</u>	<u>7.</u>	<u>8.</u>
<u>arenae</u> Hartman 1966	6-9	6	5-7	-	level, slight midventral notch	long limbate, short limbate, subspatulate	+	Southern California; Gulf of California
<u>hancocki</u> Banse 1970	5	3	4	1st; post- setal	level to slightly oblique, no distinct mid- ventral incision	long limbate, short limbate, short & fine limbate	-	Southern California
<u>incolor</u> Hartman 1965	6	3	3	3rd; pre- setal	oblique, slightly higher ventrally, slight mid- ventral and lateral notches	long limbate, short limbate, subspatulate	-	New England; Northeast Pacific
<u>limnicola</u> Reish 1960	8	10	7	-	oblique, higher ventrally than dorsally, lack- ing notches	long limbate, short limbate, subspatulate	+	Southern California
<u>trilobata</u> (Banse 1954)	2	4	4	-	level, no notches, brachial basis not concealed	long limbate, short limbate, short & fine limbate	-	Falkland Islands
sp.A	3	3		1st post- setal *	oblique, higher ventrally than dorsally, no notches, con- ceals branchial basis	long limbate, short limbate, short & fine limbate	-	Southern California

* very inconspicuous

<u>Table Key:</u>	1. # anterior abdominal setigers	5. collar
	2. # anal depression setigers	6. thoracic notosetae
	3. # radioles	7. ventral shields
	4. abdominal setiger with glandular girdle; position	8. occurrence