

9-16-87

**Southern California Association of
Marine Invertebrate Taxonomists**

3720 Stephen White Drive
San Pedro, California 90731



August 1987

Vol. 6, No. 5

NEXT MEETING:	September 14, 1987
SPECIMEN EXCHANGE GROUP:	Gastropod provisional species; <u>Turbonilla</u>
TAXONOMIC TOPIC:	Gammaridian Amphipoda, provisional species. Chair: Ann Martin

MINUTES FROM MEETING ON August 10, 1987:

The provisional species of Cumacea that were examined during the August meeting cannot be satisfactorily resolved without a re-examination of the specimens within the Campylaspis genus. Doug Diener of Marine Ecological Consultants has requested that specimens of this genus be sent to him as soon as possible. He would like to receive those which are bumpy and have small, reddish, measles-like spots on the carapace. Send your specimens to Doug at:

Marine Ecological Consultants
531 Encinitas Blvd. Suite 110
Encinitas, CA 92024

Upcoming SCAMIT Meetings

Several changes have been made for the October and November SCAMIT meetings. The scheduled date for the October meeting has been changed to avoid conflict with the Columbus Day holiday. The new meeting day will be Tuesday, October 13. The topic for this meeting has been changed to Gastropod, provisional species, with emphasis on species of Turbonilla. Please start to gather specimens for this meeting and examine your material, making notes and figures of the different species.

FUNDS FOR THIS PUBLICATION PROVIDED IN PART BY ARCO FOUNDATION,
CHEVRON USA, AND TEXACO INC.

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

In November, we will continue with the polychaete provisional species. The topic will be Eulalia, Eumida, and Steggoa. Please examine your material and make notes and figures of the cirri, lobes, antennae, probocis, and amount of reduction in the first tentacular segment.

As you have noticed, a number of provisional polychaete voucher sheets have been issued in this and last months' newsletters. This November meeting will result in more polychaete voucher sheets.

A Request

Jimmy Laughlin, of Southern California Coastal Water Research Project, has requested population density and fluctuation data for the amphipod Grandiderella japonica. Any comments you have concerning the species will be welcomed by Jimmy who can be reached at:

SCCWRP
646 W Pacific Coast Highway
Long Beach, CA 90806
(213) 435-7071

Copepod Persons

Greg Deets, from the Cabrillo Marine Museum, is studying copepod parasites of elasmobranch fish and would appreciate receiving any specimens. Send specimens to him in care of the museum at the same address on the SCAMIT letterhead.

SCAMIT Code: AHF 43

Date Examined: 8 June 1987

Voucher by: Leslie H. Harris (AHF)

SYNONYMY: Schistocomus hiltoni of Hartman, 1969 (not Chamberlin, 1919)

LITERATURE: Hartman, 1969
Fauchald (in Word and Charwat), 1975
Chamberlin, 1919

DIAGNOSTIC CHARACTERS:

1. Fifteen thoracic setigers, twelve thoracic uncinigers.
2. Paleae absent.
3. Four pairs of branchiae, 1st cirriform, other three bipinnate.
4. Abdominal parapodia each with papilliform notopodial rudiment at base and small dorsal cirrus subdistally.
5. Oral tentacles smooth.
6. Two distinct pairs of anal cirri, ventral pair longer than dorsal pair; and circlet of papillae.
7. Cephalic area stains uniformly dark with methyl green, except for nuchal organs which go unstained (Fig. 1).

LOCAL SPECIES AND CHARACTER DIFFERENCES:

1. Schistocomus hiltoni Chamberlin, 1919: branchiae consist of cirriform 1st pair, uni-pinnate 2nd, and bipinnate 3rd and 4th; pygidium has one large pair of ventral cirri, dorsal pair absent or barely longer than circlet of papillae; cephalic area with large median unstained patch (Fig. 2).

REMARKS: Three pairs of bipinnate branchiae are described and illustrated for Schistocomus hiltoni in the Atlas (Hartman, 1969). This branchial arrangement is diagnostic for the provisional species described herein, Schistocomus sp. A and not for Schistocomus hiltoni Chamberlin, 1919. Fauchald (1975) correctly

stated that the illustrations were of an undescribed species of Schistocomus. However, he also incorrectly stated that the description given was of S. hiltoni. The description given in the Atlas (Hartman, 1969) is for Schistocomus sp. A.

The branchiae of Schistocomus sp. A develop pinnae slowly and reach their characteristic configuration when the worm is 8-9 mm long (Table 1). However, even the smallest specimens can be identified by the methyl green stain pattern of the cephalic area.

DISTRIBUTION:

Schistocomus sp. A has definitely been found off Goleta, in the San Pedro channel, and off Point Loma. S. hiltoni has been reported from Vancouver Island through southern California, in intertidal and shelf depths, into canyons in shallow depths. The true distribution of both these species is uncertain because of confused identifications.

TABLE 1.

Branchiae development in Schistocomus sp. A, based on juveniles collected at Goleta in 73-93 ft.

<u>Specimen Length</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
4mm	cirriform	bipinnate (barely)	cirriform	absent/cirriform
5mm	"	bipinnate	"	"
6mm	"	"	pinnate	"
7mm	"	"	"	"
8mm	"	"	bipinnate	bipinnate (barely)
9mm	"	"	"	bipinnate



S. sp. A

a



S. hiltoni

b

Figure 1

Methyl green stain pattern of the cephalic area of:

- a. Schistocomus sp. A
- b. Schistocomus hiltoni Chamberlin, 1919

SCAMIT Code: HYP 44 (in part) Date examined: 13 July 1987
Voucher by: Leslie H. Harris (AHF)

SYNONYMY: Clymenella rubrocincta Johnson, 1901

LITERATURE: Arwidsson, 1907 (placed into unnamed new genus)
Monro, 1937 (put into Axiiothella)
Berkeley and Berkeley, 1941 (Axiiothella)
Hartman, 1969 (Axiiothella)
Clark and Dawson, 1963 (discusses generic confusion)
Harris, 1985 (SCAMIT Newsletter, vol. 3, no. 12)
Imajima and Shiraki, 1982

DIAGNOSTIC CHARACTERS:

1. Nuchal organs and carina extend 2/3 length of cephalic plaque; slight lateral notches, deeper mid-dorsal notch; proboscis smooth.
2. Usually thick fold on anterior margin of setiger (pseudocollar).
3. Neuropodial uncini of first three setigers with 4 teeth above main fang, no beard; number varies with size, holotype (162 x 3.5mm) has 4 uncini in 1st setiger, 6 uncini in 2nd setiger, 7/8 uncini in 3rd setiger; another specimen (40 x 1.5mm) has 4 uncini in each of first three setigers. Neurosetae in following setigers with 5-6 teeth above main fang, beared, 12 to 24 in number.
4. Notosetae consist of bilimbate capillaries, hirsute capillaries, and simple capillaries.
5. Nephridial pores on setigers 7-8-9.
6. Specimens have 18 setigers and 2 pre-anal asetigerous segments.
7. Pygidium with callus ring and anal funnel rimmed with 18-30 filaments alternating long and short, the mid-ventral filament longest.
8. Methyl green staining pattern (Fig. 1)
 - cephalic plaque, head light.
 - presetal portions of setigers 1-8 dark, postsetal portions light; bands of setigers 4-8 darkest.
 - no color after setiger 8 except for slight traces around tori.

RELATED SPECIES AND CHARACTER DIFFERENCES:

1. Axiiothella rubrocincta complexa Berkeley and Berkeley, 1941: 3-4 lateral notches on each side of cephalic rim; low collar on anterior margin of 4th setiger.
2. Clymenura gracilis Hartman, 1969: Cephalic rim smooth, only mid-dorsal notch; rounded ventral projection of glandular band on setiger 8; papillated proboscis; 5-6 asetigerous pre-anal segments.

ADDITIONAL NOTES:

Because specimens under 0.75mm in width may only have 1-2 uncini in the first three neuropodia, A. rubrocincta is easily mistaken for other species which have acicular hooks. Great care must be taken in examination of small specimens.

REMARKS:

A. rubrocincta has been one of the commonest maldanids reported in environmental studies, occurring from the intertidal zone through canyon and basin depths. Examination of specimens, however, revealed four undescribed and three described euclymenid species misidentified under this name. In reality, A. rubrocincta is found in shallow water, rarely deeper than 20-30 meters.

DISTRIBUTION:

Western Canada through the Mexican border. Reported from intertidal, shelf, basin and canyon depths, but in central and southern California, found mostly in bays, mudflats, and shallow shelf. Recorded from Japan, 130-295 meters.



Figure 1. *Axiiothella rubrocincta* (Johnson, 1901). Methyl green staining pattern of anterior end, lateral view.

SCAMIT Codes: HYP 44 (in part), Date examined: 13 July 1987
LACO 49, SCCWRP 54 Voucher by: Leslie H. Harris (AHF)

SYNONYMY: Euclymeninae sp. C Harris

LITERATURE: Harris, 1985 (SCAMIT Newsletter, vol. 3, no. 12)

DIAGNOSTIC CHARACTERS:

1. Nuchal organs and carina extend $3/4$ - $4/5$ length of cephalic plaque; slight lateral and mid-dorsal notches, posterior margin smooth.
2. Presence of thick fold (pseudocollar) on 4th setiger variable, depends on degree of contraction.
3. Neurosetae of first three setigers single acicular spines, bent at tips. Neurosetae of following setigers rostrate uncini with 5 teeth above main fang plus accessory denticles (see additional remarks).
4. Notosetae consist of narrow-edged limbate capillaries and laterally hirsute thinner capillaries.
5. Nephridial pores on setigers 7-8-9 usually obscure.
6. Complete specimens have up to 27 setigers (number varies with size); no asetigerous pre-anal segments.
7. Pygidium with pronounced callus ring (flange) and anal funnel with up to 27 filaments (number varies with size); midventral filament longest, others alternate 1-2 short and 1 long. No anal cone, except as artifact of contraction.
8. Staining pattern (Fig. 1)
 - palpode and inside of flange dark, rest of plaque light.
 - presetal portions of setigers 1-8 dark, postsetal portions light; bands on setigers 6-7-8 darkest.
 - lateral and ventral stripes extend from setiger 9 through 13/14; thereafter only area around parapodial tori stained. No dorsal stripe, slight triangular extension on setiger 9.

RELATED SPECIES AND CHARACTER DIFFERENCES:

1. Euclymeninae sp. B: Different staining pattern, especially in possession of a dorsal stripe through setigers 11-12, darkest bands on setigers 2-3-4, dark carina; two asetigerous pre-anal segments; anal filaments subequal in length.
2. Clymenella californica Blake and Kudenov, 1974: Lateral, ventral and dorsal stripes through setiger 14, pigmented areas around posterior tori extend and form encircling bands; one asetigerous pre-anal segment; anal filaments subequal; anal cone may be present.
3. Euclymene campanula Hartman, 1969: 19 setigers; 7-8 asetigerous pre-anal segments; posterior segments strongly campanulate.
4. Euclymene grossa newporti Berkeley and Berkeley, 1941: 19 setigers; two asetigerous pre-anal segments; posterior margin of cephalic plaque serrated; no stripes in stain pattern.
5. Praxillella pacifica Berkeley, 1929: Different staining pattern (Fig. 2): setigers 4-8 more-or-less uniformly dark, no great contrast in presetal and postsetal portions of setigers, no stripes; anal cone present, usually projecting from anal funnel.
6. Praxillella gracilis (Sars, 1861): Stain pattern and pygidium as in P. pacifica; palpode prolonged into digitate extension.

REMARKS: Euclymeninae sp. A and B belong in a generic complex that is the most poorly defined in the family Maldanidae. The characters used to separate such genera as Clymenella Verrill, 1873, Axiothella Verrill, 1900, Euclymene Verrill, 1900, and Praxillella Verrill, 1881, are considered inadequate by some authors because of their variability or because the same characters are used on the species level within these genera. Adding to the difficulty of distinguishing between genera and assigning species is the vagueness of original and even emended descriptions, plus the practice of describing animals from incomplete specimens.

The taxa listed under Related Species all have similar cephalic plaques, acicular spines in the first three neuropodia, and anal funnels rimmed with many filaments.

REMARKS: (continued)

Euclymene delineata Moore, 1923 and E. reticulata Moore, 1923, have not been included because they were described from anterior fragments; until examination of the holotypes they should be considered nomen dubia. Euclymeninae sp. A and B have been previously identified as all of these, and as Axiothella rubrocincta (Johnson, 1901), which has modified uncini in the first three neuropodia.

ADDITIONAL NOTES:

Juveniles may have modified uncini instead of simple acicular hooks in the first three neuropodia because the type of uncini change with size in some species. The stripe pattern is constant in adults, but in specimens under 0.75mm in width, the stripes become spotty and may disappear entirely leaving only pigmented areas around the tori. The stain pattern of setigers 1-9 remains the same regardless of size.

DISTRIBUTION:

Euclymeninae A is one of the two most abundant maldanids in shelf depths throughout southern California in soft sediments.

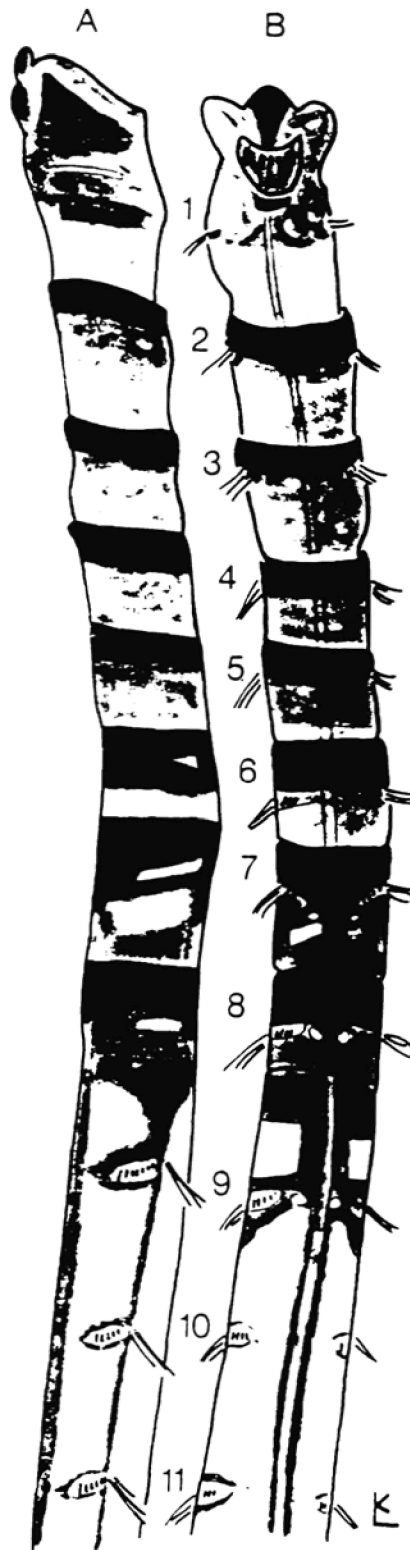


Figure 1. Euclymeninae sp. A SCAMIT. Methyl green staining pattern. A, anterior end, lateral view; B, anterior end, ventral view.

SCAMIT Code: HYP 44 (in part) Date examined: 13 July 1987
Voucher by: Leslie H. Harris AHF)

SYNONYMY: Euclymeninae sp. D Harris

LITERATURE: Harris, 1985 (SCAMIT Newsletter, vol. 3, no. 12)

DIAGNOSTIC CHARACTERS:

1. Nuchal organs and carina extend $3/4$ - $4/5$ length of cephalic plaque; slight lateral and mid-dorsal notches, posterior margin smooth.
2. Presence of thick fold (pseudocollar) on 4th setiger variable, depends on degree of contraction.
3. Neurosetae of first three setigers single acicular spines, bent at tips. Neurosetae of following setigers rostrate uncini with five teeth above main fang plus accessory denticles. Juveniles may have modified uncini instead of acicular spines.
4. Notosetae consists of narrow-edged limbate capillaries and laterally hirsute thinner capillaries.
5. Nephridial pores on setigers 7-8-9, usually difficult to distinguish except in reproductive specimens.
6. Complete specimens have up to 21 setigers (number varies with size) and two asetigerous pre-anal segments.
7. Pygidium with pronounced callus ring (flange) and anal funnel with up to 19 subequal filaments (number varies with size). No anal cone, except as artifact of contraction.
8. Staining pattern (Fig. 1)
 - palpode, marginal flange and carina dark, rest of palpode light.
 - presetal portions of setigers 1-6 usually darker than postsetal sections, distinction may be blurred on setigers 4 and 5; bands on setigers 2-3 darkest.
 - setiger 7 with three colored areas ventrally, two dorsally.
 - lateral and ventral stripes extend from setiger 9 through tori of 14th, thereafter only area around tori darkly stained. Dorsal stripe from setiger 9 through setiger 11 or 12.

RELATED SPECIES AND CHARACTER DIFFERENCES:

1. Euclymeninae sp. A: Different staining pattern, especially absence of dorsal stripe; darkest bands on setigers 6-7-8; unstained carina; no asetigerous pre-anal segments; anal filaments alternate long and short with mid-ventral one longest.

See other species listed for Euclymeninae sp. A.

ADDITIONAL NOTES:

See Euclymeninae sp. A.

REMARKS: See Euclymeninae sp. A.

DISTRIBUTION:

Euclymeninae sp. B is infrequently encountered in southern California; it is found in soft sediments between 50 and 200m.

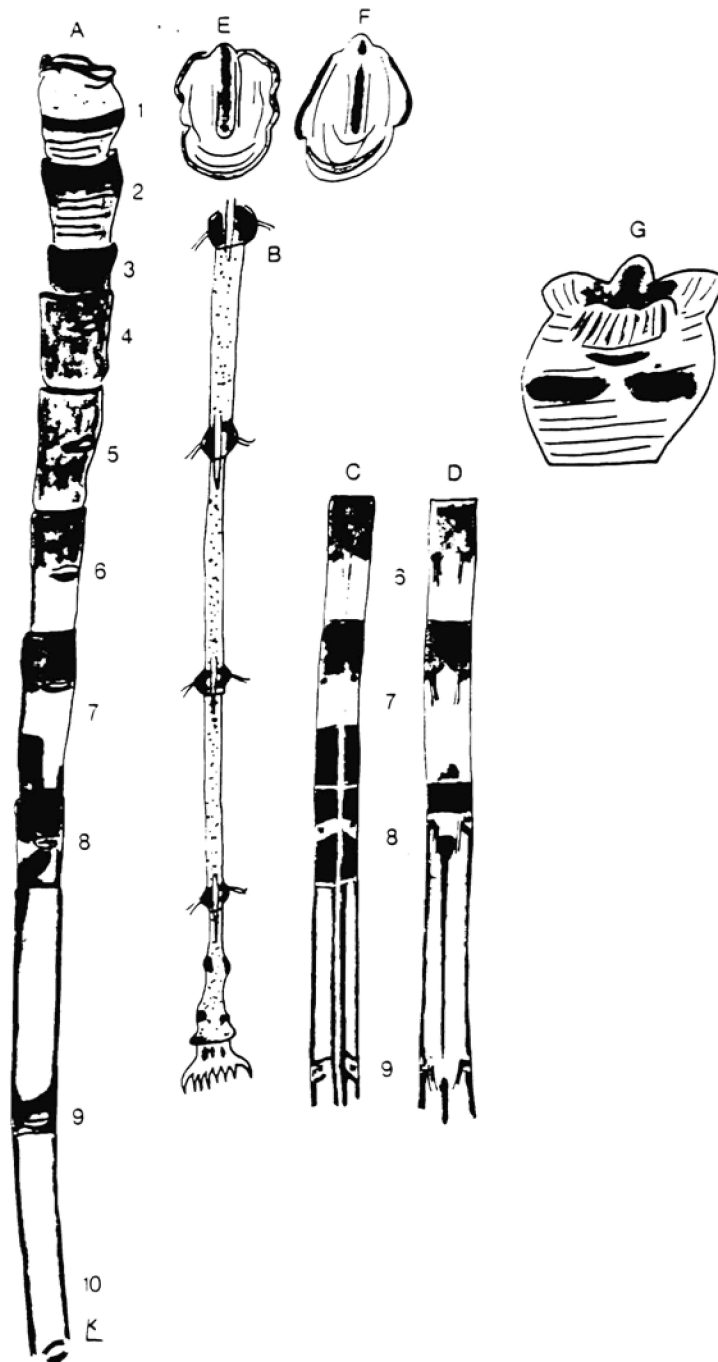


Figure 1. Euclymeninae sp. B SCAMIT. Methyl green staining pattern. A, anterior end, lateral view; B, posterior end; C, setigers 6 to 9, ventral view; D, setigers 6 to 9, dorsal view; E, F, cephalic plaques; G, prostomium, ventral view.