Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

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Next Meeting:	August 12, 1985
Guest Speaker:	Dr. Donald Mauer Director, Southern California Ocean Studies Consortium
Specimen Exchange Group:	Scaphopoda, Aplacophora
Topic Taxonomic Group:	Mytiloidea

MINUTES FROM JULY 8, 1985

An Ad Hoc Committee met on June 27th at the Hyperion Biology Laboratory to discuss the formation of an executive committee. this meeting was attended by all officers and a member from each standing committee. A constitutional ammendment defining this committee and its function was sent to the membership for consideration. If approved, the executive committee would serve in an advisory capacity to the officers and be helpful in effectively directing SCAMIT activities and goals in the future. This committee would meet at least annually, with additional data scheduled as needed. The first meeting would be in early August.

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SCAMIT receives donation: Many thanks to Texaco for a $2,500 donation which was received July 26th. We would like to also thank Dominic Gregorio for his assistance.

SCAMIT has recently sent letters supporting the formation of a National Biological Survey to Dr. Kosztarab (NABIS Planning Chairman), Senator R. Stafford and Ronald Auten (Senate Committe on Environmental and Public Works). These letters described SCAMIT activities and goals, and explained the benefits that SCAMIT would receive from such a survey.

Mrs. Bruce Benedict, through Brad Myers, recently donated a large collection of taxonomic literature that belonged to her late husband to SCAMIT. This material includes books, articles and monographs most of which deals mostly with crustacean taxonomy. This generous donation to the growing SCAMIT library is gratefully appreciated.

The Western Society of Malacologists has recently announced its 18th annual meeting. The meeting will be held at the Santa Rosa Residence Hall of the University of California at Santa Barbara on August 18-21, 1985. Sessions on Hawaiian Mollusks, Gulf of California Mollusks, Opistobranchs, land snails, Paleontology, and a other general Molluscan topics will be presented. In addition, a fossil field trip, a dredging trip, and a cruise to Santa Cruz Island are scheduled. A fund raising auction will also be conducted offering fine molluscan specimens, books, and reprints will be up for bidding. The pre-registration fee is $15.00 for regular members and $7.50 for student members. Additional information and registration materials can be obtained by contacting:

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San Diego, CA 92109
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List of specimens from July 1985:

HYP 46A	*Leptognathia* sp. C of SCAMIT (=sp. C of MBC)
HYP 47A	*Leptognathia* sp. B of SCAMIT (=sp. B of MBC)
HYP 48A	*Leptognathia* sp. D of SCAMIT (=sp. B of MBC)
MBC 30A	*Leptognathia* sp. B of SCAMIT (=sp. B of MBC)
MBC 31A	*Leptognathia* sp. E of SCAMIT (=sp. E of MBC)
MBC 32A	*Leptognathia* sp. A of SCAMIT (=sp. A of MBC)

Helpful Hints on Tanaids: Leptognathia sp. A and Leptognathia sp. D (MBC) are very similar and may not be distinct enough for species separation. Leptognathia sp. B possesses distinct curved uniramous uropods. Both the body and uropods are heavily calcified. Leptognathia sp. C has a pair of lateral pleonal teeth pointing ventrally, while Leptognathia sp. E has a single sternal tooth extending posteriorly to the end of the telson.

Don Cadien and Carol Paquette of MBC, Applied Environmental Sciences have provided the following information on Tanaids:

> The crustacean order Tanaidacea encompasses nearly 800 recent species of which 50 morphotypes have been identified from California. Systematics among Californian species is very difficult. Presently many new species have been collected during recent environmental studies (e.g., MMS surveys in the Santa Maria Basin) and need to be described.
>
> Tanaids are common on both soft and hard substrata from intertidal to abyssal depths. In shallow waters, the intertidal and sublittoral rock habitats are dominated by Zeuxo normani (=Anatanais normani), especially in coralline algal mats. Other common shallow hard substrata tanaids are Synapseudes intumesceus, Pagurapseudes laevis, and Parapseudes latifrons. In bay muds various species of Leptochelia and some Leptognathia commonly occur. In deeper offshore waters, common tanaids on hard bottom habitats include Zeuxo paranormani, Anatanais pseudonormani, Tanaidacea sp. A and sp. B (of MBC), and Apseudes sp. A (also of MBC). Various species of Leptognathia dominate deeper soft bottom habitats with species of Cryptocope also occurring.
>
> The best characters to use for speciation in this group are:
>
> 1) number of pleonal segments;
> 2) number of uropod inner-ramal segments;
> 3) presence or absence of eyes;
> 4) stoutness of pereopods 1-7;
> 5) sternal and lateral teeth;
> 6) placement of uropods; and
> 7) structure of uropod (biramous vs. uniramous).
>
> Characters generaly not found to be useful were size and shape of the gnathopod, shape of the head, and

width of the body. These characters seem to be dependent on sexual differences and vary with age of the animal. These will probably be more useful once life histories of California species are known.

Travels with Olga
(Postcard)
Malmo, Sweden
31 August 1939

Dear Frieda: I have left London rather hastily, because of the acute condition of events, and have had a beautiful and quiet trip thus far. Crossed the North Sea, Denmark and Kattegat, now very safe and sane. My greatest difficulty right now is language! But I will get on.

(Another postcard)
Malmo, Sweden
31 August 1939

Dear Folks: Arrived in Sweden, going direct to Stockholm. European situation looks foggy, hence my hurried departure from London. Hope you do not feel concerned. Everything is safe and sane here. More later after I arrive in Stockholm. Everything has been beautiful and interesting thus far.

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SCAMIT Code: AHF 36C

Date examined: 13 May 1985
Voucher by: Leslie Harris

Literature:

Hartman 1941, 1969; Banse and Hobson, 1968; Hobson and Banse, 1981; Pettibone, 1954

Diagnostic characters:

1. Tube of moderately coarse sand, black and white, arcuate.
2. 12-13 pairs of brassy-yellow cephalic spines; each short and blunt except for outermost which are shorter and taper to acute tips.
3. 12 uncinigers. Uncini with single row of 3-4 larger teeth above a series of much smaller ones at the base.
4. Dorsal rim of cephalic plate smooth. Antennular membrante with 28-30 marginal papillae.

Related species and differences:

1. Cistenides granulata (Linnaeus, 1767).
   - Tube of coarse sand grains, arcuate.
   - 7-10 pairs of yellow cephalic spines; tips blunt or short, straight, hairlike.
   - 30 to 50 marginal papillae on antennular membrane.
   - Arctic; North Atlantic.

Additional notes:

1. Cistenides is often considered a subgenus of Pectinaria. (Hartman, 1941.)
2. Some authors (Pettibone 1954, Banse and Hobson 1968, Hobsone and Banse, 1981) regard C. brevicoma as a synonym of C. granulata because of variability in their distinguishing characteristics.
3. Banse and Hobson (1968) found that small specimens may have uncini with their large teeth in two rows as well as in one row.

Distribution:

Southern California north to western Canada; shallow subtidal to 90 fms; in gravel and sand.

SCAMIT Code OC 57 Date examined: 13 May 1985
Voucher by: Leslie Harris

Literature:
Williams 1982 (SCAMIT Newsletter #2, May 1982);
Blake and Dean 1973; Uschakov 1955

Diagnostic characters: (Figure 1)

1. 2 little red eyespots, pigmented transverse band across dorsum (fades quickly in preserved material).
2. Prostomium cylindrical, anteriorly rounded.
3. Tube fairly straight, not tapering at ends; sloppy, loose construction.
4. First two setigers with long notosetae, fascicles close together; wide space separates them from setigers 3 and 4. Setae of setigers 3 and 4 much shorter, also closely spaced.
5. Uncini with 2 equal-sized teeth set side by side, begin setiger 4.
6. Pygidium a simple ring.

Related species and differences:

1. Myriochele oculata Zaks 1923 (Figure 2).
   - Little red eyespots and pigmented dorsal area.
   - Prostomium rounded, anteriorly truncate.
   - Tube more cohesive than that of M. sp. M, similar to that of M. gracilis.
   - First four setigers evenly spaced; notosetae of all setigers similar in size (Uschakov 1955 depicts notosetae of first setiger as slightly longer than others following; Blake and Dean 1973 illustration has the notosetae of setiger 4 slightly longer than the preceding.
   - Uncini with two subequal teeth, one set higher than the other.
   - Pygidium simple, with two small lobes.
   - Arctic; Sea of Japan; West Africa.

2. Myriochete gracilis Hartman 1955 (Figure 3).
   - No eyespots.
   - Prostomium subglobular to cylinderical.
   - Tube tapers at both ends, covered with spicules; tube neat, compact.
   - First three setigers closely spaced, notosetae short and even; middle setigers elongated;

posterior setigers crowded.
- Uncini with two fangs of same length, one set above the other, begin on setiger 3, last few parapodia with only uncini.
- Pygidium a simple ring.
- Southern California, shelf through canyon depths; in mud.

3. Myriochele pygidialis Hartman, 1960 (Figure 4).
- No eyespots.
- Prostomium truncate, "flat-top".
- Tube very long and tough, internally chitinized and covered with silt and prickly particles.
- First four setigers close together, notosetae gradually lenthen; middle setigers elongate, especially 4-8, posterior 12-14 crowded.
- 2 teeth of uncini set side by side; begin on setiger 4.
- Pygidium petaloid with 7-9 lobes and a middorsal cleft.
- Southern California, canyons plus basins; in green silty mud.

Distribution:
Point Conception through Point Loma, southern California, shelf depths in mud and sand.

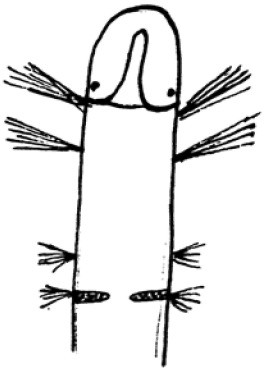

Figure 1. Myriochele sp. M (after Williams, 1982)

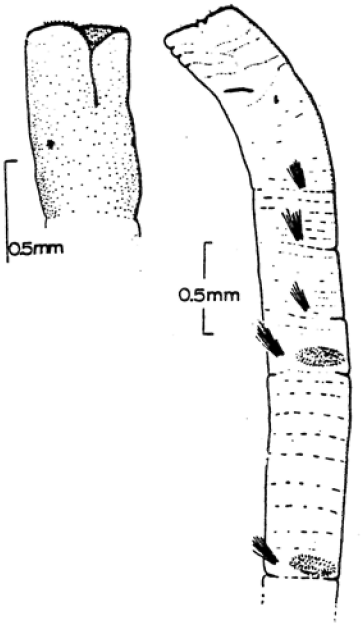

Figure 2. Myriochele oculata (from Blake and Dean, 1973)

SCAMIT Code: AHF 34

Date examined: 13 May 1985
Voucher by: Leslie Harris

Synonymy:
Myriochele gracilis Hartman, 1955, in part (pl. 2, fig. 5)

Liturature:
Hartman, 1955; 1960; 1969

Diagnostic characters: (Figure 1)

1. Prostomium subspherical to globular with two short lobes anteriorly.
2. Two long, thick, longitudinally grooved palpi emerge from dorso-anterior edge of prostomium.
3. First segment asetigerous, longer than wide; next three segments with notosetae only; neuro-uncini begin on setiger 4.
4. Notosetae all capillaries; 100-200 uncini per neuropodium, each distally falcate, tip oblique to shaft, with small accessory tooth.
5. Over 100 segments, crowded and short in far posterior; specimens usually only short anterior fragments; anal end not definitely known.

Related species and differences:

1. Myriowenia gosnoldi Hartman, 1965.
   - Complete specimen with two anterior segments; ten setigers.
   - Collarlike fold on anterior of second segment.
   - Prostomium cylindrical, not inflated.
   - Pygidium with terminal anus and 2 long, filiform appendages inserted middorsally.

Distribution:
Atlantic Ocean, off New England and mouth of Amazon River. Southern California, in shelf, slope, basin and canyon depths; in mud or mixed sediments.

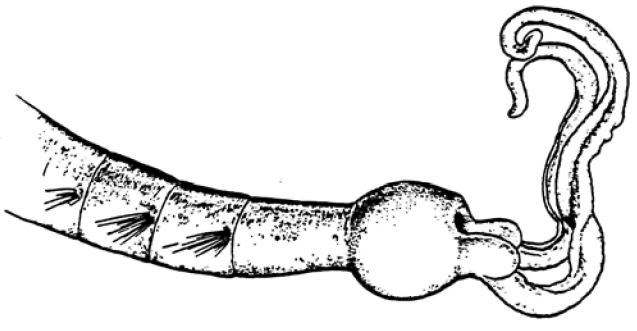

Figure 1. Myriowenia californiensis (from Hartman, 1955)

SCAMIT Code: CMM 8 Date examined: 13 May 1985
Voucher by: Leslie Harris

Synonymy:
Owenia fusiformis collaris Hartman, 1955

Literature:
Hartman, 1955; 1969; Hobson and Banse, 1981.

Diagnostic characters: (Figure 1)
1. Anterior end with branchial lobes that form a simple notched funnel in juveniles, but increase in complexity with age and become a highly branched, filiform-tipped crown.
2. Conspicuous, thin, membranous collar, uniformly even except for pair of ventrolateral notches. Size of collar depends on size of worm: small juveniles will have only a slight development dorsally while the collar of a large specimen will extend halfway up the branchiae.
3. Uncini with two very long teeth, no shoulder at subdistal end of shaft.

Related species and differences:
1. Owena fusiformis delle Chiaje, 1841.
   - Lacks thoracic membranous collar
   - Uncinal teeth short, definite shoulder present.
   - Cosmopolitan; includes records in eastern North Pacific (Hobson and Banse 1981).

Additional notes:
Hartman (1955, 1969) specifically distinguishes O. collaris from O. fusiformis by the presence of a collar in the former and its absence in the latter. Earlier, (however) Hartman (1945) synonymized O. aedificator (Andrews, 1891) with O. fusiformis. O. aedificator was described as having a delicate membranous collar. Hobson and Banse (1981) illustrate O. fusiformis with a low but definite collar. Examination of many individuals to determine the extent of variability in collar development, as well as type specimens, is necessary to resolve the questions of synonymy.

Distribution:
Southern California, shelf through canyon depths; in mixed sediments with mud and silt.

SCAMIT Code: AHF 35 Date examined: 13 May 1985
Voucher by: Leslie Harris

Literature:
Chamberlin, 1919; Hartman 1944; 1948; 1969; Banse, Hobson and Nichols, 1968; Hobson and Banse, 1981; Okuda, 1938; Pettibone, 1954.

Diagnostic characters: (Figures 1 and 2)
1. 2 rows of paleae. Outer paleae nearly straight, the spinelets closely spaced, appressed to shaft. Inner paleae distally curved, nearly smooth.
2. Three parathoracic segments with paleae.
3. Thoracic paleae broad, distally tapering to a point.
4. Nuchal hooks on dorsal side of opercular stalks.

Related species and differences:
1. Idanthyrsus armatus Kinberg, 1867 (Figure 3).
   - Outer paleae nearly straight, spinelets widely separated, curved outward.
   - Thoracic paleae distally widened (paddle-like).
   - South America; Puget Sound (Hobson and Banse, 1981).

Additional notes:
1. Some authors (Okuda, 1938; Pettibone, 1954) synonymize I. armatus and I. ornamentatus, others (Hartman 1944, 1948, 1969; Banse et al. 1968; Hobson and Banse, 1981) consider them both valid species.
2. The shape of the thoracic paleae is considered a more reliable species character than the shape of the outer paleae (Hobson and Banse, 1981; Banse et al., 1968).

Distribution:
Northern California thorugh Alaska; intertidal rocky habitats; reef-building.

SCAMIT Code: SCCRP 55 Date examined: 13 May 1985
Voucher by: Leslie Harris

Literature:
Moore, 1906
Hartman 1944, 1969
Berkeley and Berkeley, 1941
Fauvel, 1927

Diagnostic characters: (Figure 1)
1. Opercular stalk with many black speckles.
2. Outer paleae flat plates with variable number of teeth and distal spinose arista. Middle paleae prolonged distally to a tapering point. Inner paleae are short and spoon-shaped.
3. Oral tentacles in 10-19 rows.

Related species and differences:
1. Sabellaria gracilis Hartman 1944 (Figure 2).
   - Opercular stalk with few longitudinal purplish-brown dashes.
   - Outer paleae flat plates with marginal teeth and distal spinose arista. Middle and inner paleae similar, both sickle-shape, tapering to a point, and rugose.
   - Oral tentacles in 6-7 rows.
2. Sabellaria alcocki Gravier, 1907 (Figure 3). (Reported off Corona del Mar by Berkeley and Berkeley, 1941.)
   - Middle paleae alternate long and short (only the middle paleae alternate, not the middle and inner paleae as stated in Hartman, 1969. See Fauvel, 1927; Hartman, 1944).
   - Indian Ocean; southern Europe; cosmopolitan in warm seas.
3. Sabellaria nanella Chamberlin, 1919 (Figure 4).
   - Outer paleae distally finely pectinate with one process longer and thicker than the others. Middle paleae distally flat, platelike, suboval. Inner paleae adze-shaped, tapeirng to a hooked point.
   - San Francisco, littoral.
4. Sabellaria spinulosa leuckart, 1849 (Figure 5).
   - Anterior of body purplish-brown, speckled.

- Outer paleae broad, flat with marginal teeth and distal serrated arista. Middle paleae distally cusped and short. Inner paleae distally prolonged and expanded, terminating in an acute tip.
- Oral tentacles in 6-7 rows.
- North Atlantic, San Francisco Bay.

Additional notes:

1. In Hartman, 1969, p. 505, Figure 4 should be #5 and Figure 5 should be #4.
2. S. alcocki, S. nanella, and S. spinulosa are unlikely to be found in southern California, except as introduced spcies in or near harbors.

Distribution:

Southern California through Alaska and west to Japan, littoral and shelf depths; rocky substrate.

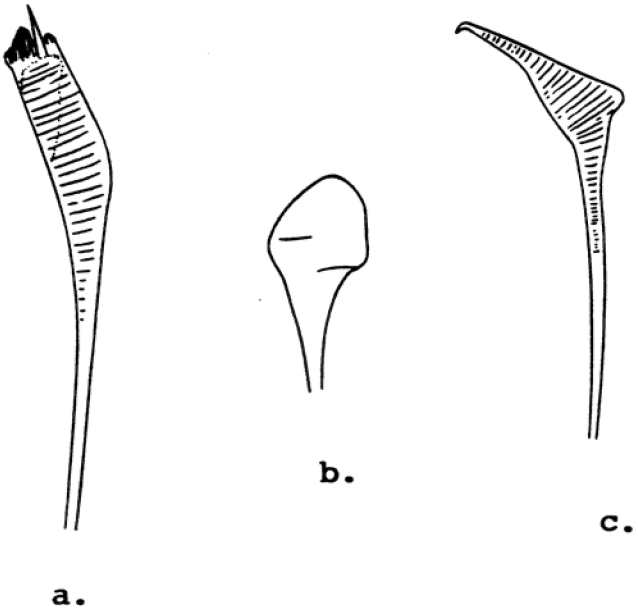

Figure 4. Paleae of Sabellaria nanella
a. Outer
b. Middle
c. Inner

(from Hartman, 1969).

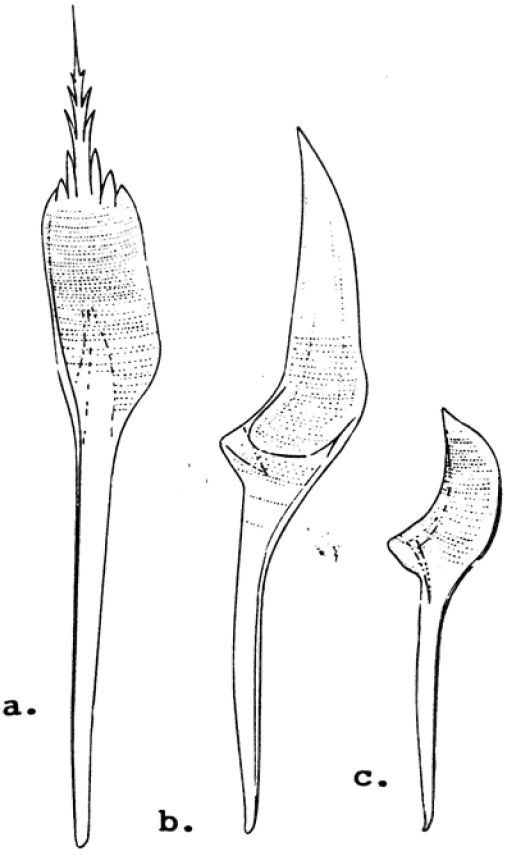

Figure 5. Paleae of Sabellaria spinulosa
a. Outer
b. Middle
c. Inner

(after Hartman, 1969).

SCAMIT Code: CMM 7 Date examined: 13 May 1985
Voucher by: Leslie Harris

Literature:
Hartman 1944, 1969

Diagnostic characters:
1. Opercular stalk with few longitudinal purplish-brown dashes.
2. Outer paleae flat plates with marginal teeth and distal spinose arista. Middle and inner paleae similar, both sickle-shape and rugose, tapering to a point.
3. Oral tentacles in 6-7 rows.

Related species and differences:
Refer to Sabellaria cementarium voucher.

Distribution:
Southern California, in littoral regions; rocky habitats in protected niches.