Next Scheduled Meeting: September 13, 1982 at 9:30 a.m.

Place: Marine Biological Consultants
       947 Newhall Street
       Costa Mesa, California 92627

Guest Speaker: Larry Lovell, Jay Shrake
               Marine Ecological Consultants on proper use of provisionary nomenclature.

Specimen Exchange Group: Ampeliscidae

Topic Taxonomic Group: Phoxocephalidae

MINUTES FROM AUGUST 16, 1982

Curator

Sue William stepped down from position of Curator.
She was replaced by a committee of three, Don Cadien, Dave Montagne, and Tony Phillips. The museum collection will be housed at Marine Biological Consultants.

The Curator Committee already has come ideas on the museum collection. They want to have as many specimens as possible for the collection, hopefully covering the geographic range of the species. In particular it is important to mark at least one individual from each specimen exchange species that is a good representative of that species.

Phyllodoce

Dave Montagne's gave his talk on Phyllodoce in which he described how he and Jim McCammon developed their ideas for their paper. Dave felt that members of Phyllodoce are difficult to separate because there are no hard characters to use and there are more species names available than species in the literature. He found that the pharynx is a reliable characteristic to use for separating West
Phyllodoce
(continued)

Coast Phyllodoce into five species. Because the pharynx is not always eversed, Dave presented a pictorial key using other characteristics. The key with his comments are enclosed.

There was discussion on whether or not to retain the use of Phyllodoce as genus with Anaitides and Aponatides as subgenera as given in Dave's paper. The final decision was to use Phyllodoce as presented in the paper and the enclosed voucher sheets.

Cossura

Sue Williams found the easiest way to separate Cossura candida and brunnea is by depth. Cossura candida occurs in shallow waters, and has a uniramous first parapodium with posterior setae that are different than brunnea posterior setae. There is variation in the placement of the tentacle in candida. Cossura brunnea will be found in deep water (300 m).

Myriochele

Sue Williams mentioned that two species of Myriochele the Southern California area, sp. m and gracilis. Myiochele oculata is an Alaskan worm and M. heeri is an Atlantic worm.

Literature Auction

The following pieces of literature are available:


Station Data

A master list of stations (and their coordinates) from Hyperion, L.A. County, Orange County, and Point Loma has been compiled. The list will be maintained upon request. Additions to the station list from other participants are welcome.

Helpful Hints

The following pieces were given for this section:

Notes on Pholoides aspera by Karen Green; Steggoa californiensis, pictorial key to Phyllodoce and Phyllodoce (Anaitides) williamsi by Dave Montagne; and a Revision of Keys for Southern California Pilargiidae by Leslie Harris.
Beginning with the September Newsletter, only members of SCAMIT will receive the Newsletter. If you want to continue receiving the Newsletter, please mail in your application for membership.

APPLICATION FOR MEMBERSHIP
TO
SOUTHERN CALIFORNIA ASSOCIATION
OF
MARINE INVERTEBRATE TAXONOMISTS

June 1982 - May 1983. Membership fee is $5.00. Make checks payable to SCAMIT and mail to Ann Martin at 10844 Ellis Avenue, Fountain Valley, CA 92708.

Type of Membership:
Charter ( ) Participating ( ) Correspondent ( )

NAME:____________________________________________________

ADDRESS:________________________________________________

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_________________________________________________________
Notes on Pholoides aspera by Karen Green

Presented are figures of setae of Pholoides that are intended to supplement the description presented in Hartman, 1968 (Atlas, page 147).

Noto setae: include long haired capillaries (Fig. 1) and short geniculate capillaries with serrate superior edge (Fig. 2). Geniculate setae appear to be in a separate row anterior to the long setae (Fig. 3).

Neurosetae: compound falcigers, some with the shaft slightly serrate (Fig. 4).

Note: drawings are not to scale
Steggoa californiensis Hartman 1936

The following observations are based on examination of the "co-type" and paratype at AHF:

- Everted pharynx diffusely papillated with closely placed papillae; not as Hartman described (i.e., "Proboscis...closely covered with about 8 longitudinal rows of transversely elongate, low mounds largest at distal end, gradually becoming tiny at oral end.").

- Setae present from 2nd tentacular segment; Hartman's description states setae absent from this segment.

- Tentacular formula = $1 + \frac{S}{T} + \frac{S}{N}$

- The ventral cirrus of the second tentacular segment is not foliaceous as described in Hartman '68. It is a short, tumid cirrus. It is accurately described in the original description. This type of 2nd tentacular ventral cirrus is seen in several species of Eulalia. Hartman '68 implies that it is similar in appearance to the 2nd ventral tentacular cirrus found in Sige.

- Distal end of setal shaft is finely spinous as figured by Hartman. There are no large superior teeth or tooth present as is seen in most species of Eulalia.

Three genera of phyllodocid (Pterocirrus, Sige, Steggoa) are defined by Fauchald 1977 as having foliose cirri on the second tentacular segment. There may be some confusion and thus some inconsistency in what is meant by the term "foliose" in this case. In two of the genera, Pterocirrus and Sige, foliose cirrus appears to mean a cylindrical cirrus bearing a lateral foliaceous border. This type is clearly figured for Sige macroceros orientalis by Imajima and Hartman, 1964 (a species sometimes placed in Pterocirrus - see Ushakov 1955). The "foliose" ventral cirrus of Steggoa californiensis clearly differs in form from such cirri. Instead the cirri of S. californiensis is in no way different from that seen in some species of Eulalia. I don't know if this shape is typical of what is considered foliose in the genus Steggoa, having not seen other species referred to the genus. However, I suspect that S. californiensis is improperly placed in Steggoa and, if the genus was critically reviewed, would be referred to Eulalia as defined by Fauchald 1977. It differs most clearly from other So. Calif. Eulalia in the nature of the ornamentation of the distal end of the setal shaft.

The worm we (LACSD) have been referring to as S. californiensis is apparently Eulalia bilineata (Johnston) as interpreted by Ushakov 1955, Imajima and Hartman 1964, and Banse and Hobson 1968, 1974 (as E. bilineata?).
Pictorial Key to the Species of *Phyllodoce (sensu lato)*
Common to Soft Bottom Sediments of the Southern California Shelf

DAVID E. MONTAGNE
Marine Biology Laboratory
Los Angeles County Sanitation Districts

The accompanying pictorial key is to those members of the *Phyllodoce* subgenera *Anaitides* and *Aponaitides* which occur in soft sediments between 30 and 300 M depth in Southern California. Local experience has shown these to be the species of *Phyllodoce (sensu lato)* most difficult to separate. They are also the most frequently occurring members of this genus in such depths. Three other species of *Phyllodoce*; *P. (Phyllodoce) ferruginea*, *P. (Genetyllis) castanea*, and *P. (Paranait-ls) polynoides*; are also encountered though less frequently. These latter species are all distinctive in appearance and present few problems in identification.

All five species in the key are fully described in McCammon and Montagne 1979. The key presented in that paper emphasizes the structure of the eversible pharynx as the most reliable diagnostic character. Unfortunately, in the course of identifying benthic samples, few specimens are seen with conveniently everted pharynges. The pictorial key is intended to provide a system based upon more convenient characteristics that have proven to be equally reliable as pharyngeal structure in separating the five species.

A comment is in order on the use of pigmentation as a diagnostic character. While all these species exhibit some variation in pigment pattern and density (particularly *P. hartmanae* and small individuals of *P. groenlandica*) the specific distributions referred to in the key for *P. papillosa* and *P. cuspidata* have proven to be very consistent. In order to be safe, reliance on these characters should be confined to relatively freshly preserved material though I have found them to be reliable in preserved material at least eight to ten years old. If doubt arises, the examination of the pharynx by means of dissection should confirm identification.

PICTORIAL KEY TO THE SPECIES OF Phyllodoce (sensu lato) COMMON TO SOFT BOTTOM SEDIMENTS OFF SOUTHERN CALIFORNIA

3rd TENTACULAR SEG. WITH SETAE

DORSUM OF TENTACULAR SEG. UNPIGMENTED; VENTRAL CIRRI CUSPIDATE, SHORTER THAN SETAL LOBE

Phyllodoce (Anaitides) cuspidata

ANTERIOR DORSAL CIRRI DISTALLY ACUTE

Phyllodoce (Anaitides) medipapillata

DORSUM OF TENTACULAR SEG. DARKLY PIGMENTED

Phyllodoce (Anaitides) papillosa

3rd TENTACULAR SEG. WITHOUT SETAE

DORSUM OF TENTACULAR SEG. PIGMENTED AS ON FOLLOWING SEG; VENTRAL CIRRI POINTED, EQUAL TO OR EXCEEDING SETAL LOBE IN LENGTH

Phyllodoce (Anaitides) groenlandica

ANTERIOR DORSAL CIRRI CIRCULAR TO OVATE

Phyllodoce (Aponaitides) hartmanae
Phyllochoce (Anaitides) williamsi Hartman 1936

The following observations are based on examination of paratype at AHF:

- Tentacular formula (not given by Hartman) = $1 + 0 \text{ } \frac{1}{2} + S \text{ } \frac{1}{N}$
- Ventral tentacular cirri of seg. II quite short, $\frac{1}{2} x$ length of dorsal tentacular cirri on seg. I, II, III.
- Normal ventral cirri quite distinctive, short (barely exceeding parapodia in ant. setigers; shorter than parapodia in post. setigers) and distally rounded. Hartman '36 figures them as exceeding the parapodia — this is not the case on the paratype.
- Prostomium deeply cleft on posterior margin, nuchal papilla distinct.
- Paratype has no pigmentation evident — even eyes are difficult to see (due to fading?)
- This worm has a long linear appearance accentuated by the wide spacing between successive parapodia.

To my knowledge I've never seen this worm, with the exception of the paratype. It was described from Tomales Bay (type), Drake's Estero, and S.F. Bay intertidal. Hartman 1968 reports it from the local intertidal.

Figure: Phyllochoce (Anaitides) williamsi paratype

a) Anterior dorsal view  (b) Post. face of parapodium, setiger 9
   c) Post. face of parapodium, setiger 70
Revision of Keys for Southern California Pilargiidae

Leslie Harris
So. Calif. Coastal Water Research Project

Pilargiidae Saint-Joseph, 1899

1. Notopodia in part with thick, conspicuous setae.................2
1. Notopodia without conspicuous setae.........................Pilargis
2. Notopodial spines distally straight..........................3
2. Notopodial spines distally crooked..........................4
3. Prostomium without antennae; peristomium without cirri......

.................................................................Parandalia
3. Prostomium with 3 antennae; peristomium with cirri.......Synelmis
4. Prostomial antennae & peristomial cirri long..............Sigambra
4. Prostomial antennae & peristomial cirri short...............5
5. Peristomium dorsally entire; 2 prostomial antennae........

.................................................................Ancistargis
5. Peristomium dorsally incised; 3 prostomial antennae........

.................................................................Ancistrosyllis

Ancistargis Jones, 1961
Notopodial hooks start about setiger 4 to 7, ventral cirri start on setiger 3.................A. hamata (Hartman, 1960)

Ancistrosyllis McIntosh, 1879
Notopodial bases prolonged, with transverse rows of papillae; notopodial hooks start about setiger 18*.........................

.................................................................A. breviceps (Hartman, 1963)
Notopodial bases not prolonged, without transverse rows of papillae; notopodial hooks start about setigen 4-6..........

.................................................................A. groenlandica (McIntosh, 1879)

*setiger 13 in Pettibone, 1966
A. groelandica has been found off Orange County, in 312 to 487 meters (SCCWRP data). See Fauchald & Emerson, 1971 and Pettibone, 1966.

Using a dissecting scope with substage lighting is the easiest way to determine the presence or absence of a median antenna. Hold the specimen at an angle so the antenna will be silhouetted by the light. If the median antenna is hard to see, you can still distinguish between southern California Ancistargis & Ancistrosyllis by using an artificial key based on the position of the first ventral cirrus (not a true generic character).

Parandalia Emerson & Fauchald, 1971

1. Eyes absent; notoacicular spines from setiger 7.................
   .............................................P. fauveli (Berkeley & Berkeley, 1941)
1. Eyes present; notoacicular spines from setiger 9..............
   .............................................P. ocularis Emerson & Fauchald, 1971
P. ocularis occurs infrequently (abundant in patches) in Santa Monica Bay at 60 meters (SCCWRP data). Described from Santa Barbara Channel (Emerson & Fauchald, 1971)

Pilargis Saint-Joseph, 1899

1. Neurosetae simple, each with large sub-distal boss & abruptly tapering point.........................P. mirasetis Fauchald, 1972
1. Neurosetae simple, distally falcate, bifid, and laterally serrated........................................2
2. Notopodia with subglobular base and terminal clavate process; dorsum thickly papillated.............P. berkeleyi Monro, 1933
2. Notopodia with broad quadrate base and tapering short cirrus; dorsum lightly papillated..............P. maculata Hartman, 1947
P. mirasetis, previously known from a single collection in 2340 m off Punta San Telmo, Mexico, has been found off Orange County in 487 m (SCCWRP data; identification of specimen by Sue Williams, Allan Hancock Foundation). See Fauchald, 1972. Note change in description of Pilargis berkeleyi in Hartman, 1968 p. 383:

Starting in line 9, the diagnosis currently reads: "Notosetae represented by slender, penetrating rods, occurring singly in a fascicle, each distally falcate, bifid, and laterally serrated (fig. 5)"; this should read as follows "...occurring singly in a fascicle. Neurosetae each distally falcate, bifid, and laterally serrated (fig. 5)."

Sigambra Müller, 1858

1. Notoacicular spines first present from about setiger 4......2
   1. Notoacicular spines first present from about setiger
      14 (11-15) ............................................... S. bassi (Hartman, 1945)
2. Median antenna longer than lateral antennae (to 2x);
   notosetae absent.................... S. tentaculata (Treadwell, 1941)
2. Median antenna as long as lateral antennae; 2-3 very fine,
   short, simple notosetae present as well as recurved hooks......
   ................................................................. S. setosa Fauchald, 1972

S. setosa was described from the upper Gulf of California, 1784-2449 m (Fauchald, 1972), collected in Yaquina Bay, Oregon in 1600-2800 m (Fauchald & Emerson, 1981), and found off Orange County in 487 m (SCCWRP data).
Synelmis Chamberlin, 1919

Notopodial spines distally straight; 3 prostomial antennae, peristomial cirri present; dorsal cirri of first setiger similar to following; dorsal & ventral cirri subequal.

..................S. albini (Langerhans, 1881)

Most information and keys adapted from:


VOUCHER SHEET

Identified As: Phyllodoce (Anaitides) groenlandica (Oersted, 1943).

Specimen Code: LACO 3


Hartman, O. 1968 (Atlas) - p. 225
Ushakov, P.V. 1974 - p. 127
Banse, K., K.D. Hobson, 1974 - p. 44
Kravitz, M.J., H.R. Jones, 1979 - p. 14

Important Characters: Third tentacular segment with setae; ventral cirri longer than acicular lobe, taper evenly to a point; dorsum of tentacular segments pigmented as on following segments.

Related Species and Character Differences: P. cuspidata has ventral cirri about same length as acicular lobe and dorsum of tentacular segments unpigmented; P. papillosa, P. medipapillata and P. (Aponaitides) hartmanae have setae present after the third tentacular segment.

Variability: Pigmentation on dorsum: descriptions vary from three distinct transverse lines to uniform dark-blue or brown, often iridescent; dorsal cirri from greenish with brown spots to dark brown with light margin.

Common Synonyms: Anaitides groenlandica

VOUCHER SHEET

Identified As: Phyllodoce (Aponaitides) hartmanae (Blake and Walton, 1977)

Specimen Code: SCCWRP 4


Other Texts Consulted: Fauchald, K. 1977 - p. 47
Blake, J.A. and C.P. Walton, 1977 - p. 308

Important Characters: Papillae on proximal region of eversible proboscis in diagonal rows covering sides and ventrum, mid-dorsum bare; dorsum of tentacular segments pigmented as following segments; setae start on fourth segment.

Related Species and Character Differences: P. papillosa has papillae on proximal region of eversible proboscis in six longitudinal rows on each side, none mid-ventral; dorsum of tentacular segments darkly pigmented.

Variability: Pigmentation can vary from nearly colorless to brown.

Aids to Identification: Dorsum with dark intersegmental spots, dark spots at bases of dorsal cirri, papillae on proximal region of everted proboscis in diagonal rows.
VOUCHER SHEET

Identified As: Phyllodoce (Anaitides) papillosa (Uschakov and Wu, 1959)

Specimen Code: LACO 4


Other Texts Consulted: Fauchald, K. 1977 - p. 47
Ushakov, P.V. 1974 - p. 132

Important Characters: Papillae on proximal region of eversible proboscis in six longitudinal rows on each side, none mid-ventral; setae first present after third tentacular segment; dorsum first two setigers pigmented brown; anterior dorsal cirri nearly circular.

Related Species and Character Differences: P. cuspidata and groenlandica have third tentacular segment with setae. P. medipapillata has papillae on proximal region of eversible proboscis in diagonal rows covering sides and ventrum, mid dorsum bare, dorsum of tentacular segments pigmented as on following segments.

Common Synonyms: Anaitides papillosa

Aids to Identification: Pigment pattern on dorsum, bases of parapodia, tentacular segments.
VOUCHER SHEET

Identified As: Hesionura coineau difficilis (Banse, 1963)

Specimen Code: Hyp 7

            Fauchald, K. 1977 - p. 47

Other Texts Consulted: Banse, K and K.D. Hobson 1974 - p. 43
                       Banse, K. 1963 - p. 197

Important Characters: Very elongated, pseudoannulated prostomium with four antennae of equal length; two pairs eyes on its posterior margin; three pairs tentacular cirri on first two segments, cirri on first segment and dorsal on second are long and slender, ventral cirrus on second segment is oval and barely larger than ventral cirri on other setigers; no setae or acicula on second segment; no tentacular cirrus on third segment; parapodia with four-five compound setae, all have bifid shafts, except for dorsal most, which has trifid shaft.

Variability: Degree of contraction of prostomium and tentacular cirri after preservation.

Station Data: Santa Monica Bay DN8 24.4M 5-4-81
           28178.6 - 41078.9 Coarse red sand.
LITERATURE PERTINENT TO TAXONOMY OF NEP PHOXOCEPHALID AMPHIPODS


Original description of Mandibulophoxus and erroneous introduction of M. uncirostratus into NEP literature.

—. 1960. The amphipod family Phoxocephalidae in the eastern Pacific Ocean, with analyses of other species and notes for a revision of the family. Allan Hancock Pac. Exped. 18(3):175-375.

Monographic revision of the family in the NEP with commentary on species from other areas. Original descriptions of 20 of the 37 species currently recognized as valid.


Original description of Metharpinia jonesi.


Original description of Coxophoxus.


Extended description and illustration of Rhepoxynius fatigans and some of its variant forms.


Original description of Rhepoxynius vigitegus (northern species so far) and synonymy of Harpiniopsis sanpedrensis with H. (now Pseudharpinia) excavata.


Reallocation of NEP species placed in Paraphoxus in the 1960 monograph. Eyakia, Eobrolgus, Rhepoxynius, Grandifoxus, and Foxiphalus are described, and Metharpinia resurrected from synonymy.
phoxocephalid amphipods (cont)


Original description of Metharpinia coronadoi.


Differentiation of Grandifoxus grandis from several undescribed species found in central California and further north, and extended descriptions of all forms in the genus.


Original description of Eobrolgus chumashi and descrimination between the introduced western Atlantic E. spinosus and the local geminate E. chumashi.


Original description of Rhepoxynius homocuspilidatus, and division of the R. epistomus taxon into R. menziesi n. sp. (NEP), R. sp. D (NEP), R. hudsoni n. sp. (NWA), and R. epistomus (NWA). Provides revised description of all Rhepoxynius using Barnard and Drummond format and also key to American members of the genus.


Analysis of southern Australian fauna and reinterpretation of the family on a world-wide basis as a result. Subfamilial and generic allocations of all world species reviewed. New key characters introduced and described.


Description of western Atlantic Eobrolgus spinosus (compare with Barnard and Barnard 1981).

Clears up Mandibulophoxus taxonomy, fixing *M. gilesi* as the correct name for the NEP species.

The taxonomy in the following three (3) publications has been superceded and should no longer be used:

