



## NEWSLETTER

August, 1982

Vol. 1, No. 5

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 provisional  
nomenclature.

Specimen Exchange Group: Ampeliscidae

Topic Taxonomic Group: Phoxocephalidae

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 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 Aponaitides 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).

loopy character

Myriochele

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

Literature Auction

The following pieces of literature are available:

7  
\$1.00

McCannon and Montagne. 1979. Some species of the genus Phyllodoce (Polychaeta) from Southern California. Zool. J. Linnean Soc. 66: 353-368.

\$ .75

Pettibone. 1967. Some bathyl polynoids from central and northeastern Pacific (Polychaeta: Polynoids). Proc. U.S. Nat. Mus. 121 (3575):1-15.

\$ .25

Clark and Jones. 1955. Two new Nephtys (Annelida, Polychaeta) from San Francisco Bay. J. Wash. Acad. Sci. 45 (5): 143-146.

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.



Membership

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  
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OF  
MARINE INVERTEBRATE TAXONOMISTS

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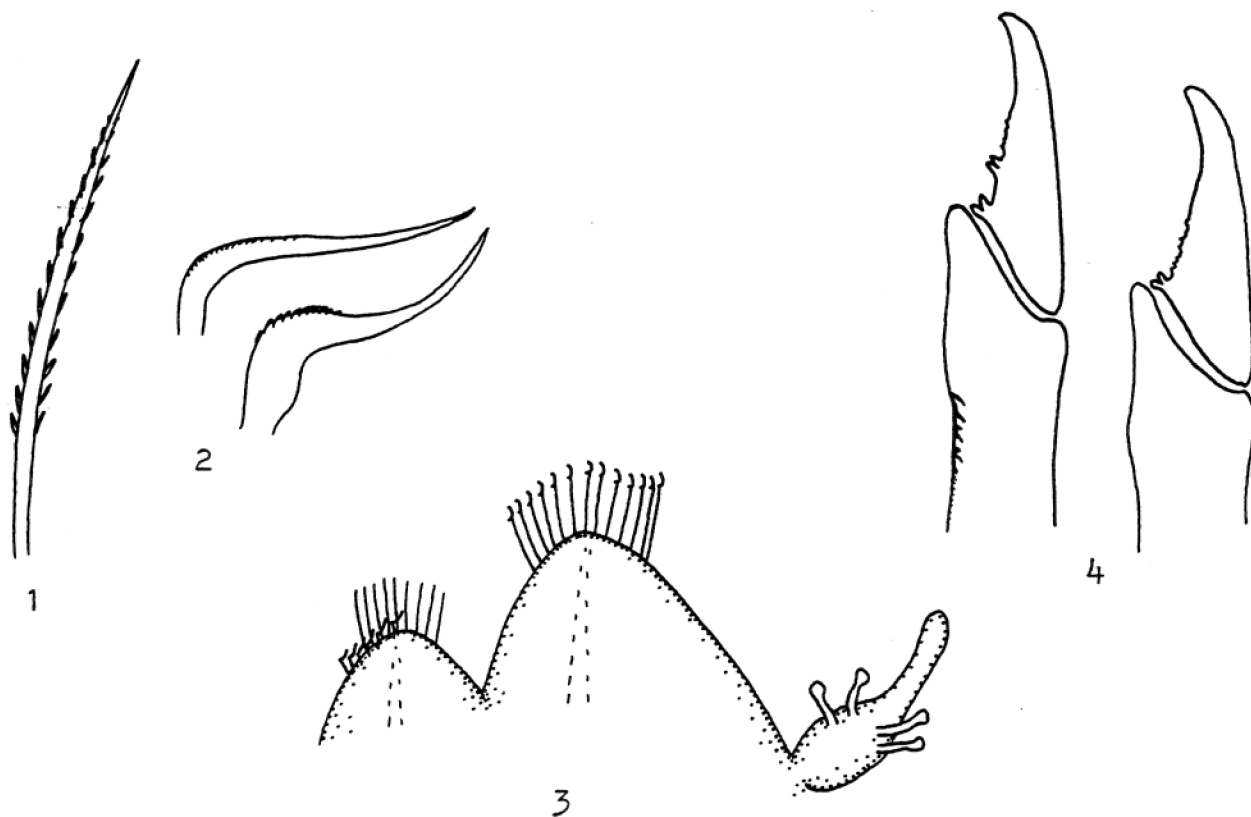
Notes on Pholoides aspera by Karen Green

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

Notosetae: 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 =  $1 + S \frac{1}{1} + S \frac{1}{N}$
- 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

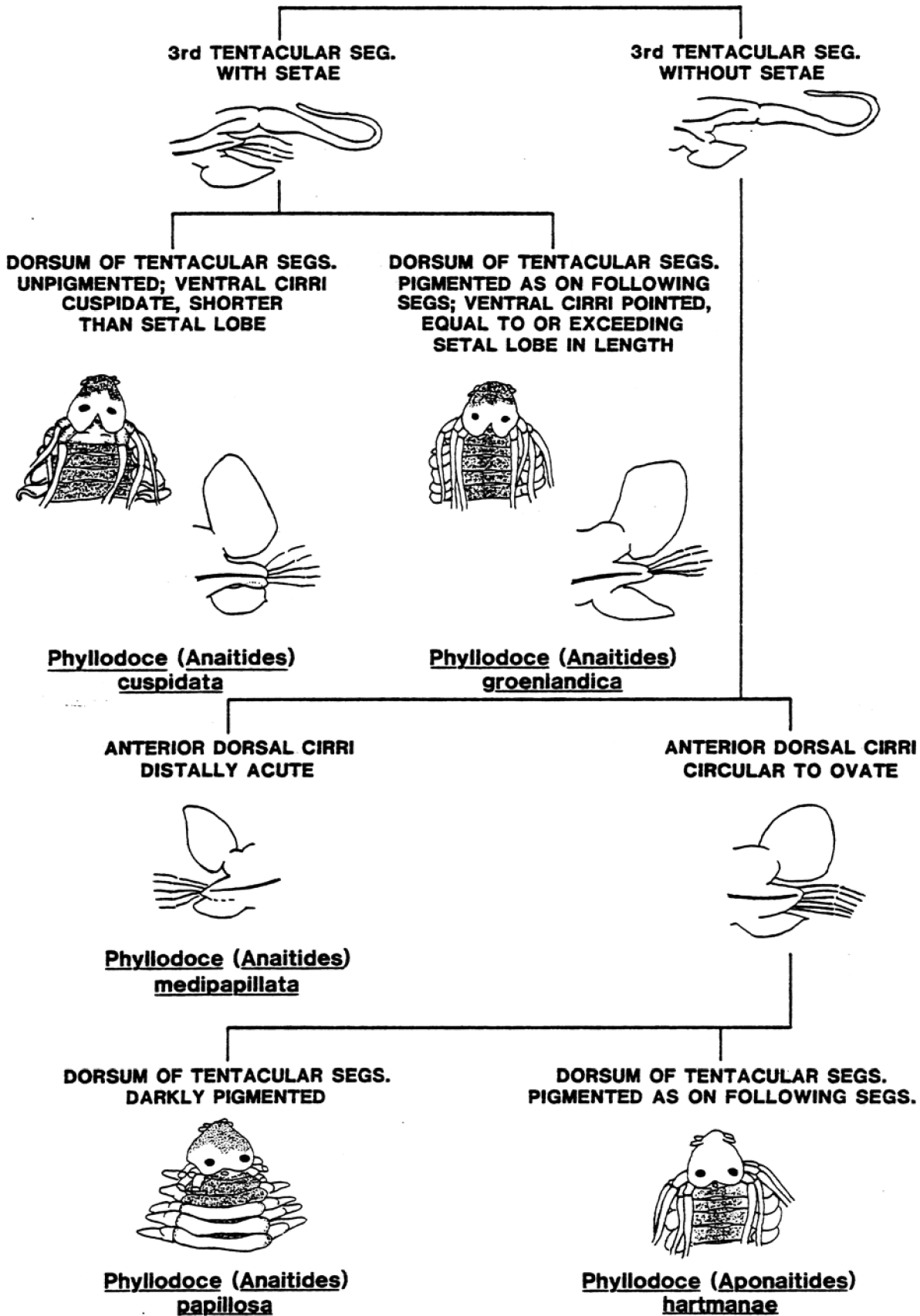
Marine Biology Laboratory  
Los Angeles County Sanitation Districts

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.* (*Paranaitis*) *polynoides*; are also encountered though less frequently. These latter species are all distinctive in appearance and present few problems in identification.

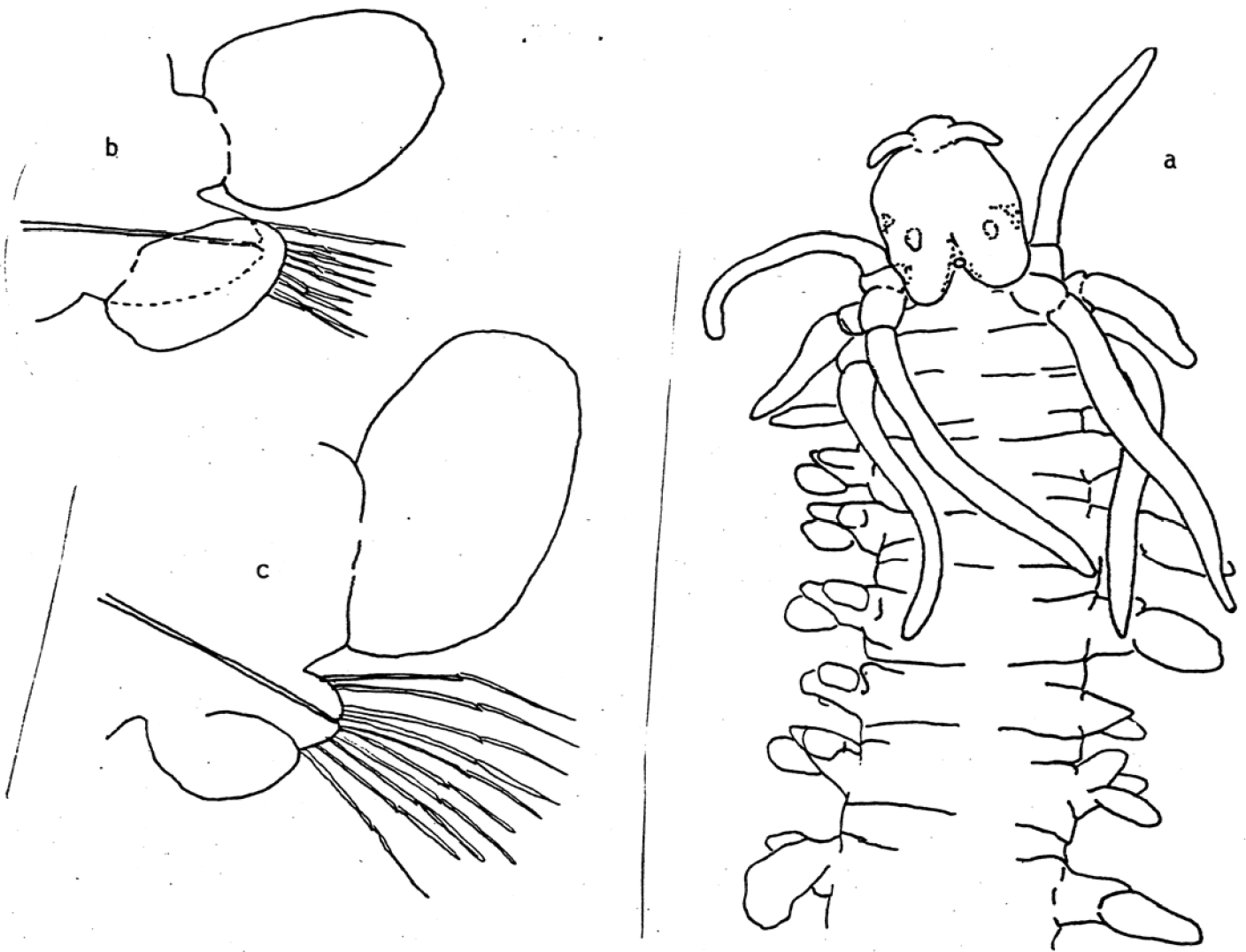
All five species in the key are fully described in McCammon and Montagne 1979. The key presented in that paper emphasizes the structure of the eversible pharynx as the most reliable diagnostic character. Unfortunately, in the course of identifying benthic samples, few specimens are seen with conveniently 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**



*mee  
206.*



Phyllodoce (Anaitides) williamsi Hartman 1936

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

- Tentacular formula (not given by Hartman) =  $1 + 0 \frac{1}{I} + S \frac{1}{N}$
- Ventral tentacular cirri of seg. II quite short,  $\sim 1/2$  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: Phyllodoce (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.....  
.....Ancistrostylis

Ancistargis Jones, 1961

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

Ancistrostylis 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 & Ancistrostylis 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;

Hartman, O. 1968. Atlas of errantiate, polychaetous annelids from California. Allan Hancock Foundation, University of Southern California, Los Angeles, 828 pp.

Emerson, R.R. & K. Fauchald. 1971. A revision of the genus Loandalia Monro with description of a new genus and species of pilargiid polychaete. Bull. So. Cal. Acad. Sci., 70:18-22.

Fauchald, K. 1972. Benthic polychaetous annelids from deep water off western Mexico and adjacent areas in the eastern Pacific Ocean. Allan Hancock Monogr. Mar. Biol., 7:1-575.

Fauchald, K. 1977. The Polychaete Worms - definitions and keys to orders, families, and genera. Los Angeles County Museum of Natural History. Science Series, 28:188 p.

Fauchald, K. & D.R. Hancock. 1981. Deep-water polychaetes from a transect off central Oregon. Allan Hancock Foundation Monogr. 11:1-73.

Pettibone, M.H. 1966. Revision of the Pilargidae (Annelida: Polychaeta), including descriptions of new species, and redescription of the pelagic Podarmus ploa Chamberlin (Polynoidae). Proc. U.S. Nat. Mus., 118(3525):155-208.

VOUCHER SHEET

- Identified As: Phyllodoce (Anaitides) groenlandica  
(Oersted, 1943).
- Specimen Code: LACO 3
- Keys Used: McCammon, J.A. and D.E. Montagne,  
1979 - p. 359.
- Other Texts Consulted: Fauchald, K. 1977 - p.47.  
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
- Comments: Ushakov (1974) lists P. maculata and  
P. mucosa with distribution on the  
Pacific Coast of North America. P.  
maculata differs from P. groenlandica  
by the shape of the dorsal cirri and  
the shape and position of ventral  
cirri P. mucosa differs from P.  
groenlandica in dorsal cirri being  
oblong-oval in anterior segments  
and irregularly longer and pointed  
on middle segments.

VOUCHER SHEET

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

Specimen Code: SCCWRP 4

Keys Used: McCammon, J.A. and D.E. Montagne,  
1979 - p. 364

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  
(Ushakov and Wu, 1959)

Specimen Code: LACO 4

Keys Used: McCammon, J.A. and D.E. Montagne,  
1979 - p. 357

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

Keys Used: Hartman, O. 1968 (Atlas) - p. 285  
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  
28176.6 - 41078.9 Coarse red sand.



LITERATURE PERTINENT TO TAXONOMY OF NEP PHOXOCEPHALID AMPHIPODS

Barnard, J. L. 1957. A new genus of phoxocephalid Amphipoda (Crustacea) from Africa, India, and California. *Annals and Magazine of Natural History*, series 12, 10:432-438.

Original description of Mandibulophoxus and erroneous introduction of M. uncistrostratus 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.

\_\_\_\_\_. 1963. Relationship of benthic amphipoda to invertebrate communities of inshore sublittoral sands of southern California. *Pac. Nat.* 3(15):439-468.

Original description of Metharpinia jonesi.

\_\_\_\_\_. 1966a. Submarine canyons of southern California. Part V - Systematics: Amphipoda. *Allan Hancock Pac. Exped.* 27(5):166 pp.

Original description of Coxophoxus.

\_\_\_\_\_. 1966b. Benthic Amphipoda of Monterey Bay, California. *Proc. U. S. Nat. Mus.* 119(3541), 41 pp.

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

\_\_\_\_\_. 1971. Gammaridean Amphipoda from a deep-sea transect off Oregon. *Smithsonian Conts. to Zool.* No. 61, 86 pp.

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

\_\_\_\_\_. 1979. Revision of American species of the marine amphipod genus Paraphoxus (Gammaridea: Phoxocephalidae). *Proc. Biological Society of Washington* 92(2):368-379.

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

- \_\_\_\_\_. 1980a. Revision of Metharpinia and Microphoxus (marine phoxocephalid Amphipoda from the Americas). Proc. Biological Society of Washington 93(1):104-135.

Original description of Metharpinia coronadoi.

- \_\_\_\_\_. 1980b. The genus Grandifoxus (Crustacea: Amphipoda: Phoxocephalidae) from the northeastern Pacific Ocean. Proc. Biological Society of Washington 93(2):490-514.

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

- Barnard, J. L., and C. M. Barnard. 1981. The amphipod genera Eobrolgus and Eyakia (Crustacea: Phoxocephalidae) in the Pacific Ocean. Proc. Biological Society of Washington 94(1):295-313.

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

- \_\_\_\_\_. 1982. The genus Rhepoxynius (Crustacea: Amphipoda: Phoxocephalidae) in American seas. Smithsonian Conts. to Zool. No. 357, 49 pp.

Original description of Rhepoxynius homocuspидatus, 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.

- Barnard, J. L., and M. M. Drummond. 1978. Gammaridean Amphipoda of Australia, Part III: The Phoxocephalidae. Smithsonian Contrib. to Zool. No. 245, 551 pp.

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.

- Bousfield, E. L. 1973. Shallow-water gammaridean Amphipoda of New England. Comstock Publishing Associates, Cornell University Press, Ithaca, New York. 312 pp.

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

Gray, W. S., Jr., and J. C. McCain. 1969. The taxonomic status of Mandibulophoxus gilesi Barnard, 1957 (Crustacea: Amphipoda). Proc. Biological Society of Washington 82:189-192.

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:

Barnard, J. L. 1958. Revisionary notes on the Phoxocephalidae (Amphipoda), with a key to the genera. Pacific Science 12: 146-151.

\_\_\_\_\_. 1969. The families and genera of marine gammaridean Amphipoda. Bull. U. S. Natl. Mus. No. 271, 535 pp.

Barnard, J. L., and M. M. Drummond. 1976. Clarification of five genera of Phoxocephalidae (marine Amphipoda). Proc. Biological Society of Washington 88:515-548.