



**Southern California Association of
Marine Invertebrate Taxonomists**

3720 Stephen White Drive
San Pedro, California 90731

July 1987

SCAMIT Vol. 6 No. 4

NEXT MEETING: August 10, 1987 (at the Cabrillo Marine Museum)

SPECIMEN EXCHANGE GROUP: Gammaridian Amphipoda, provisional species
Chair: Ann Martin

TAXONOMIC TOPIC: Cumacea, provisional species
Chair: Don Cadien

MINUTES FROM MEETING ON JULY 13, 1987:

A special polychaete meeting was held at the Allan Hancock Foundation worm lab on the USC campus. Consideration of polychaete provisional species continued, with attention directed to the Dorviellidae, Maldanidae, and Exogoniane (Syllidae).

The name Armandia bioculatea Hartman, 1938, commonly in use in southern California, should be considered a synonym of Armandia brevis (Moore, 1906) per Berkeley and Berkely (1941) and Banse, Hobson, and Nichols (1968). The discussions presented in these papers provide ample justification to submerge A. bioculatea.

A review of the literature and re-examination of Phyllodoce material from southern and northern California by L. Harris and D. Montagne revealed that Phyllodoce (Anaitides) papillosa Uschakov and Wu, 1959 from California based upon McCammon and Montagne (1979; Zool. J. Linn. Soc., 66:353-368) should be considered P. (A.) longipes (Kinberg, 1866). Phyllodoce longipes is characterized by the presence of a prolonged, acutely pointed superior presetal lobe as figured by Kinberg (1866), Bergstrom (1914), and others. The description and figures in McCammon and Montagne (1979) are deficient in not recording the presence of this structure. Upon

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

re-examination of some of the material upon which their description of P. papillosa was based, the pointed parapodial lobe is clearly present. In other respects the McCammon and Montagne (1979) description of P. papillosa may be used as a description of southern California P. longipes. Other descriptions of P. longipes may be found in:

- Bergstrom, E., 1914. Zur Systematik des Polychaeten Familie der Phyllodociden. Zool. Bidr. Uppsala, 3:37-224.
- Ehlers, E., 1901. Die Polychaeten des magellanischen und chilenischen Strandes. Ein faunistischer Versuch. Festschrift zur Feier des Hunderfundzigjahringen Bestehens des koeniglichen Gesellschaft der Wissenschaften zu Goettingen (Abh. Math.-Phys.). Berlin, 232 pp.
- Hartman, O., 1968. Atlas of the errantiate polychaetous annelids from California. Allan Hancock Fdn., Univ. Southern California, Los Angeles, 828 pp.
- Gathof, J., 1985. Chapter 19. Family Phyllodocidae, in J.M. Uebelacker and P.G. Johnson, eds., Vol III. Taxonomic Guide to the polychaetes of the Northern Gulf of Mexico. Barry A. Vittor & Assoc., Inc., Mobile, Alabama.

SCAMIT Code: LACO 79

Date Examined: 13 July 1987
Voucher by: David E. Montagne
(LACO)

SYNONYMY: Dorvilleidae sp. A Montagne

LITERATURE: SCAMIT Newsletter 2 (3), 1983

DIAGNOSTIC CHARACTERS:

1. Typical specimen 5mm long, 0.8mm wide, excluding parapodia, has 34 setigers.
2. Prostomium eyeless, shorter than wide, broadly rounded anteriorly; prostomial tentacles short, tumid cirri; palps articulated, insert ventro-laterally; digitate palpostyle short, one-half length of palpophore.
3. Mandibles well chitinized, lie in contact with one another, not fused; distally each mandible flares into lateral, toothed wing.
4. Maxillary apparatus in full development a K-type with large "ice-tong" shaped forceps; maxilla I with posteriorly-directed process extending to forceps base.
5. Setigerous segments bear well developed parapodia and large dorsal and ventral lateral lobes; dorsal lobes large, flat disc-shaped structures; the ventral segmental lobes are tumid cones.
6. Parapodia uniramous, bearing a dorsal cirrus, acicular lobe, setal lobe, and ventral cirrus; setae long simple falcigers and heterogomph falcigers.
7. The pygidium wider than long, with two digitiform anal cirri; there is no medial palpode.

RELATED SPECIES AND CHARACTER DIFFERENCES:

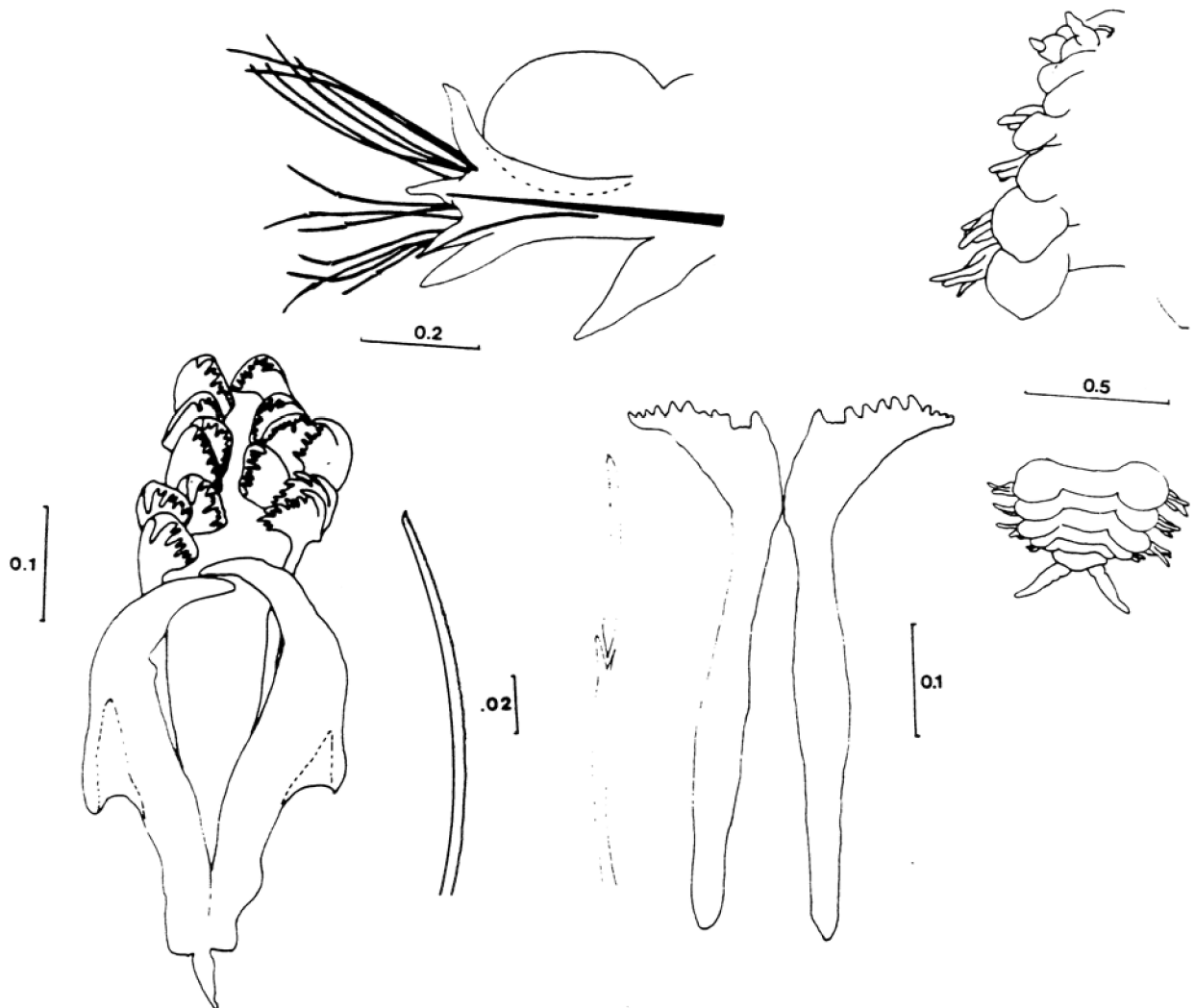
Ophryotrocha sp. A is most quickly distinguished from other Ophryotrocha by the presence of the large discoid dorsal lobes on the setigerous segments.

DISTRIBUTION:

Species A is known from two sites in southern California, where it occurs sympatrically with spp. B and C in 60m depths around the termini of the Los Angeles County Sanitation District's Whites Point outfalls, and in 95m depths around the terminus of the city of Los Angeles' 7 mile sludge line, discharging at the head of Santa Monica Canyon. It has also been collected in Howe Sound, British Columbia, at a site receiving pulp mill wastes in 20m of water where it co-occurs with a closely related undescribed species (O. sp. D of Montagne).

COMMENTS:

Ophryotrocha sp. A, B, C and D all appear to be confined to habitats characterized by highly organic sediments with high hydrogen sulfide concentrations.



Ophryotrocha sp. A

SCAMIT Code: HYP 23

Date Examined: 13 June 1983
Voucher by: David E. Montagne
(LACO)

SYNONYMY: Dorvilleidae sp. B Montagne
Dorvilleidae sp. B SCAMIT 1983

LITERATURE: SCAMIT Newsletter 2 (3), 1983

DIAGNOSTIC CHARACTERS:

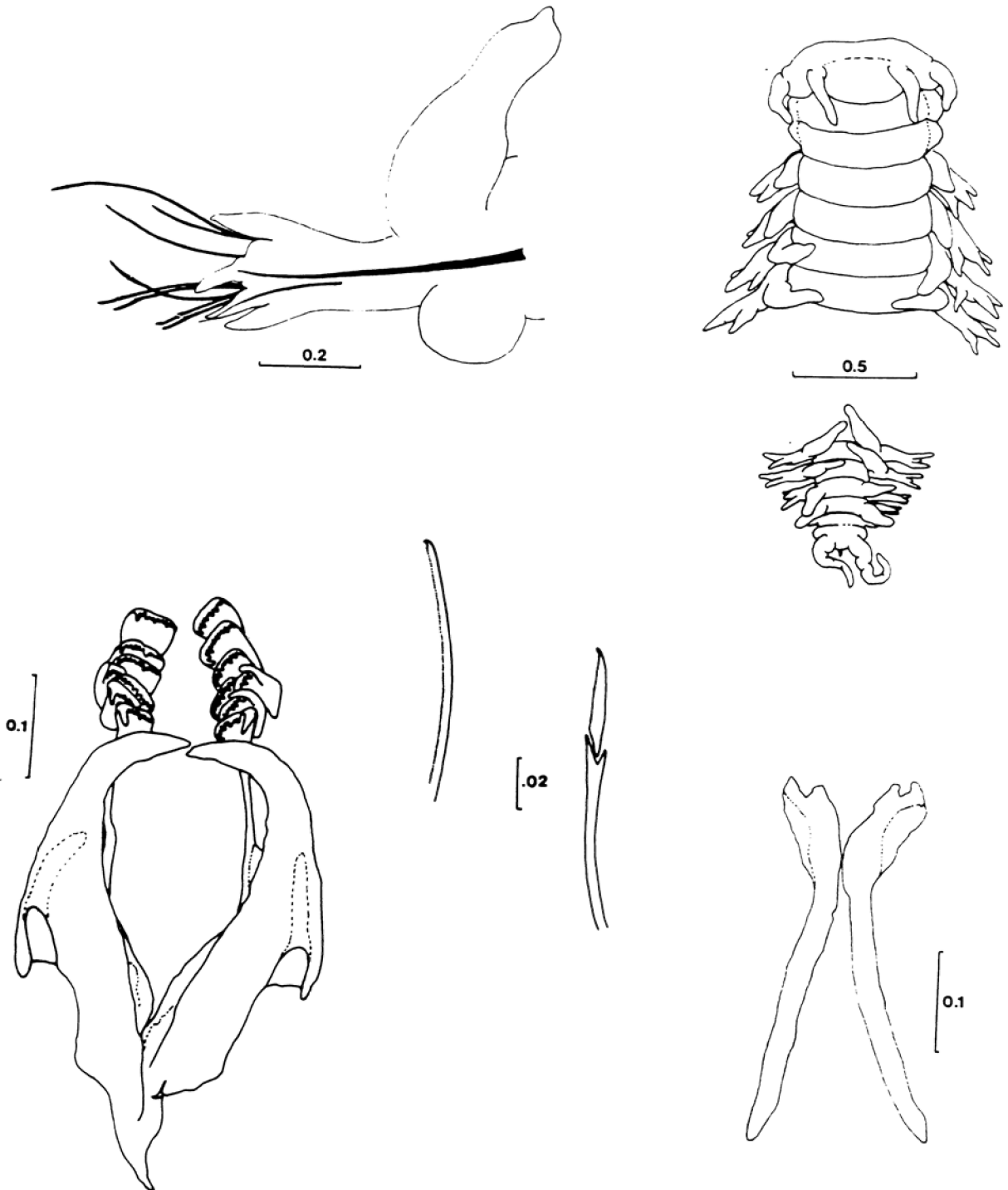
1. Typical complete specimen 6mm long and 0.7mm wide, excluding parapodia; has 41 setigers.
2. Prostomium eyeless, short, broad with a truncated anterior margin; prostomial tentacles cirriform, reaching back to the 2nd apodous peristomial ring; palps articulated, insert ventro-laterally; palpostyle cirriform, same length as the prostomial tentacles.
3. Mandibles well chitinized, lie in contact with one another, not fused, distal ends bow out, terminating in two blunt teeth, distally flared ends buttressed by laterally-placed wings.
4. Maxillary apparatus in full development a K-type with large "ice tong" forceps; Maxilla I with posteriorly-directed process extending to the forceps base.
5. Setigerous segments bear well developed parapodia and large dorsal and ventral lateral lobes; dorsal lobes are digitiform; ventral lobes flat discoid lappets overhanging parapodial bases.
6. Parapodia uniramous bearing a dorsal cirrus, an acicular lobe, a setal lobe, and a ventral cirrus; setae long simple falcigers, and heterogomph falcigers.
7. The pygidium wider than long, with two laterally inserted digitiform anal cirri and ventral-medial palpode.

RELATED SPECIES AND CHARACTER DIFFERENCES:

Ophryotrocha sp. B is most quickly distinguished from other Ophryotrocha by the presence of the large dorsal cirriform lobes and ventral discoid lobes.

DISTRIBUTION:

Species B is known only from southern California, where it occurs sympatrically with spp. A and C around L.A. County's and L.A. City's sewage outfalls.



Ophryotrocha sp B

SCAMIT Code: HYP 24

Date Examined: 13 June 1983
Voucher by: David E. Montagne
(LACO)

SYNONYMY: Dorvilleidae sp. C Montagne
Dorvilleidae sp. C SCAMIT 1983

LITERATURE: SCAMIT Newsletter 2 (3) 1983

DIAGNOSTIC CHARACTERS:

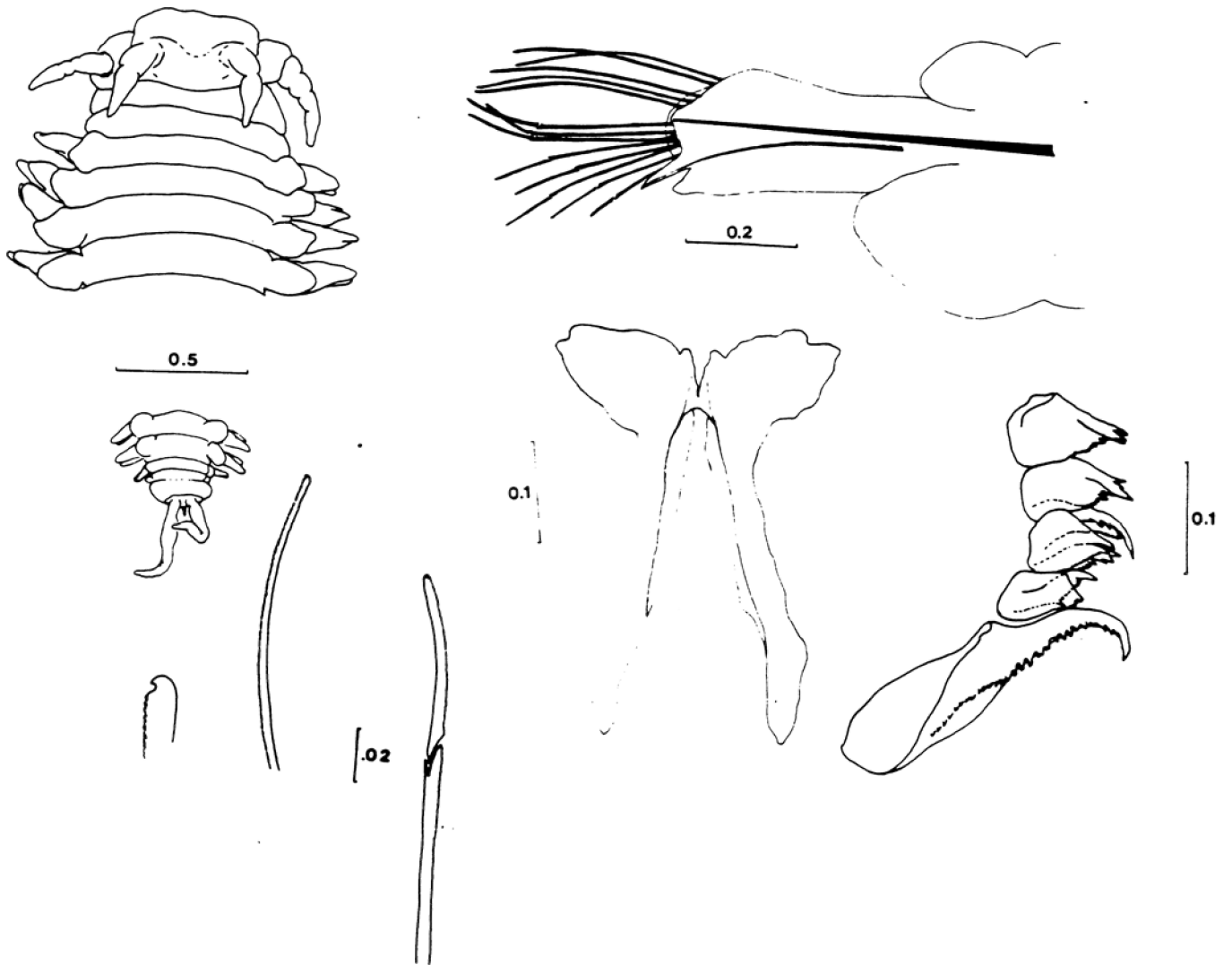
1. Typical complete specimen 5mm long, 1mm wide, excluding parapodia, has 33 setigers.
2. Prostomium eyeless, broad, truncated; prostomial tentacles pseudo-articulated, long, equal to or exceeding length of prostomium; palps articulated, insert ventro-laterally, palpostyles 3X length of palpophores; palps extend back to anterior margin of setiger 1.
3. Mandibles drawn out into lateral wings distally, anterior margin of wings untoothed; lateral wings more weakly chitinized than shafts; mandibles fused for short length just proximal to anterior margin.
4. Maxillary apparatus does not develop fully into K-type, transitional between P- and K-types; maxillary carriers bear teeth along margin. Maxillae I do not bear posterior processes.
5. Setigers bear well developed parapodia and dorsal and ventral lateral lobes; dorsal segmental lobes ovate in lateral view, 1/4 to 1/3 length of parapodia; ventral lobes similar in shape to dorsal but larger, 1/2 length of parapodia.
6. Parapodia are uniramous, bearing an acicular lobe, a setal lobe, and a short blunt ventral cirrus, there is no dorsal cirrus; setae long simple falcigers and heterogomph falcigers.
7. Pygidium wider than long, with two laterally inserted cirriform anal cirri and a ventral-medial palpode.

RELATED SPECIES AND CHARACTER DIFFERENCES:

Ophryotrocha sp. C is most quickly distinguished from other Ophryotrocha by the presence and form of the dorsal and ventral lobes.

DISTRIBUTION:

Species C is known only from southern California, where it occurs sympatrically with spp. A and B around L.A. County's and L.A. City's sewage outfalls.



Ophryotrocha sp C

SCAMIT Code: AHF 44

Date examined: 13 July 1987
Voucher by: Leslie H. Harris (AHF)

SYNONYMY: Exogone sp. A Williams
Exogone sp. Banse, 1972
Exogone uniformis of Imajima, 1966 (not Hartman, 1961)

LITERATURE: Banse, 1972
Imajima, 1966
SCAMIT Newsletter 1 (8); 1982

DIAGNOSTIC CHARACTERS:

1. Medium-sized species, up to 5-6mm long. Median antenna 2-3X length of lateral antennae.
2. Proventricle in 4-5 segments, 20 rows of muscle cells.
3. Dorsal cirri present on setiger 2
4. Compound spinigers (1-2) and compound falcigers (3-6) present in each parapodium; falciger blades bidentate, distal tooth smaller than subdistal tooth, cutting margin finely serrate. No awl-setae; no thick-shafted spinigers.
5. Superior simple seta usually from first setiger, curved at tip; inferior simple seta in median and posterior setigers, bidentate.
6. Palps variable in shape, from broad and gently curved to elongate and pointed; four eyes.
7. Two long and thin anal cirri, as long as last three setigers.

LOCAL SPECIES AND CHARACTER DIFFERENCES: (Refer to the following figures)

1. Exogone lourei Berkeley and Berkeley, 1938: Thick-shafted spinigers on setigers 1 and 2, regular spinigers also present; dorsal cirri on setiger 2; falcigers bidentate, spinose; superior simple setae with unidentate tips; four eyes; two anal cirri.

2. Exogone molesta Banse, 1972: Lateral antennae short, median up to 7X length of laterals; compound setae unidentate to subbidentate, falcigers coarsely serrate, spinigers present; simple setae have pointed tips, slightly serrated; four eyes.
3. Exogone uniformis Hartman, 1961: Three short subequal antennae; proventricle in 7-8 segments; dorsal cirri on setiger 2; thick-shafted spinigers on setiger 2, regular spinigers present; falcigers bidentate, spinose; simple superior setae with bent tips; four eyes; two anal cirri.
4. Exogone verugera (Claparede, 1868): Three short, subequal antennae; proventricle in three segments; dorsal cirri on setiger 2; spinigers (?awl setae) present, compound setae unidentate to subbidentate, spinose to smooth; simple setae with acute or curved tips; four eyes; two anal cirri.
5. Exogone sp. B SCAMIT: Three subequal antennae; proventricle in three segments; spinigers and awl setae present; (simple setae with acute tips; falciger blades minute, bidentate and smooth-edged); four eyes, two anal cirri.
6. Exogone sp. C SCAMIT: Prostomial antennae similar to E. molesta; median antenna up to 7-10X length of laterals; short bladed falcigers distinctly bidentate, serrate; simple setae bidentate in posterior setigers; six eyes; two anal cirri and a median mid-ventral filament.

REMARKS:

This species was first identified by Sue Williams in fouling material from Huntington Harbor, but usually is found in shallow, soft-bottom areas. It appears to be the same as Imajima's (1966) Exogone uniformis, which Banse (1972) stated was an unidentified species since it lacked the characteristic spiniger with enlarged shaft of E. uniformis. The setae may be partially retracted into the parapodia and the shaft endings obscured, so great care must be taken when checking for the presence or absence of enlarged shaft endings.

DISTRIBUTION:

Point Conception to Orange County; in soft-sediments in shallow water; plus in fouling material. ?Japan.

Awl-like setae:



frontal view
400X



lateral view
1000X

Setae drawings from Hartman 1969, Banse 1972, or specimens.

SCAMIT Code: AHF 45

Date examined: 13 July 1987
Voucher by Leslie H. Harris (AHF)

SYNONYMY: Exogone sp. D. Harris
Exogone gemmifera auctore (not Pagenstecher, 1862),
central and southern California reports.
Exogone cf. gemmifera Harris, 1982; SCAMIT 1983
(OCS D 11, PL 11)

LITERATURE: Harris, 1982, SCAMIT Newsletter Vol 1, No. 8
Hartman, 1968, SCAMIT Newsletter 1(10), 1983

DIAGNOSTIC CHARACTERS:

1. Small species, linear, 2-3mm length, dorsum gently arched.
2. Proventricle in 2 1/2 segments, 14-16 columns.
3. Dorsal cirri lacking on setiger 2.
4. Three types of composite setae: (a) in first three setigers only, up to 7-10 "awl-setae," which appear thin and sharply tapering when seen from above, but if viewed laterally are deeply bifurcate with extremely thin second tine (all blades subequal in size). (b) in all setigers except 1st-3rd, one (rarely two) spiniger next to superior simple seta, spiniger increases in size towards middle of body then decreases (spiniger length; setiger 4 - 16.5 μ m, setiger 15 - 23 μ m, setiger 29 - 12 μ m). (c) in all setigers except 1st-3rd, three (four in anterior) short-bladed falcigers, bidentate, with much larger subdistal tooth and minute distal tooth.
5. Simple superior seta from setiger 1, with abruptly acute tip and subdistal spines surrounding the tip. Simple inferior seta begins in median setiger (setiger 19 in 31 setiger worm), bidentate, with lateral serrations on its cutting edge.
6. Palps broad, short and gently rounded. Four large eyes.
7. Two long, thin anal cirri, as long as last three setigers.

LOCAL SPECIES AND CHARACTER DIFFERENCES:

See Exogone sp. A voucher.

REMARKS: The setal types and their distribution appears to be unique for this species, at least for this area. The bifurcate state of the "awl-setae" is difficult to distinguish, even under oil immersion and with the right viewing angle. Exogone gemmifera Pagenstecher 1862 probably does not occur locally. E sp. B is presently being described as part of a revision of southern California Syllidae.

SCAMIT Code: AHF 46

Date examined: 13 July 1987

Voucher by: Leslie H. Harris (AHF)

SYNONYMY: Exogone sp. C Harris

LITERATURE: Hartman, 1968; Banse, 1972

DIAGNOSTIC CHARACTERS:

1. Three long antennae, median up to 7-10X length of laterals.
2. Proventricle in four segments, 20-23 columns.
3. Dorsal cirri small, lacking on setiger 2.
4. No thick-shafted spinigers, regular spinigers, or long-bladed falcigers; no awl setae. All compound setae short-bladed falcigers, distinctly bidentate and coarsely serrated; inferior tooth becomes more pronounced in posterior segments.
5. Simple superior seta from setiger 1, slightly bidentate at first then becoming strongly pronounced and 2X thickness of other setae in posterior setigers. Simple inferior seta in median and posterior setigers, becomes more bidentate towards end of body.
6. Palps long and pointed. Four eyes and two eyespots present.
7. Pygidium ends in two long cirriform appendages and a much smaller median, ventrally-attached, filament.

LOCAL SPECIES AND CHARACTER DIFFERENCES:

See Exogone sp. A voucher.

RELATED SPECIES AND CHARACTER DIFFERENCES:

1. Exogone molesta - has spinigers.
2. Exogone sexoculata Hartmann - Schroder, 1979 has coarsely serrated setae, 6 eyes and pointed palps and other similar features, but it has spinigers like those of E. molesta, which E. sp. C lacks.

REMARKS: Exogone sp. C is most likely to be mistaken for E. molesta because both have a very long median antenna, elongate or pointed palps, and strongly dentate falcigers. They can be distinguished by the number of eyes, presence or absent of spinigers, and the dentition of the blade tips. E. sp. C is presently being described as part of a revision of southern California Syllidae.

DISTRIBUTION:

Northern Channel Islands shelf, off the western tip of Santa Cruz Island, Pt. Conception, Goleta, Santa Monica Bay and Orange County; in coarse, mixed and soft sediments; from 20 to 200 meters. Will co-occur with Exogone lourei.