June, 1986 Vol. 5, No. 3

NEXT MEETING: July 14, 1986

SPECIMEN EXCHANGE GROUP: Oxyrhyncha

TAXONOMIC TOPIC: Corophidae (includes Aorodiae, Isaeidae, and Photidae)

MINUTES FROM MEETING ON JUNE 9, 1986

SCAMIT has just received a large donation of scientific literature from Dr. Robert Setzer. A preliminary listing of these titles has now been completed and will soon be included in the SCAMIT library card catalogue. Once again, SCAMIT thanks its members and supporters for generously supporting the library; and thanks to Dr. Setzer for allowing SCAMIT to be the repository for these valuable titles.

PAUL SCOTT, from the Santa Barbara Natural History Museum, and Don Cadien from MBC, led our session on the Pectinidae and Cardiidae. Paul mentioned that the museum's Mollusca collection has now been sorted to the Genus level and is available for use. The collection contains a number of syntypes of Dall and Carpenter. A catalogue to this collection is in preparation and will possibly be available by the end of this year.

Paul also is preparing a manuscript on Mysella species from the eastern Pacific and would like to receive short-term (6 months) specimen loans. It would be of additional help if the material also was accompanied by sediment data. All material loaned will be returned identified!

British Micropalaeontologial Society is announcing the Tenth International Symposium on Ostracoda. Ostracoda and Global Events. University College of Wales. Abersytwyth. July 25-30, 1987. For further information write Dr. R.C. Whatley, Department of Geology, University College of Wales, Llandinam Building, Penglais, Abersytwyth, Dyfed, S423, 3DB, Wales, U.K.

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

List of Specimens Examined on June 9, 1986

MBC 47	Argopecten circularis (Sowerby 1835)
SCCWRP 68	Delectopecten randolphi tilamookensis (Arnold, 1906)
PL 69	Nemocardium centifilosum (Carpenter 1846)
PL 70	Leptopecten latiauratus (Conrad 1837)
HYP 58	Leptopecten latiauratus (Conrad 1837)

Travels with Olga:

Gustafsson's Pensionat
Sveagagen 108, Stockholm
1 October 1939

Dear Albert: I wonder whether letters are still getting through. I hear occasionally from California to the effect that someone wrote a letter at such-and-such a time, but I know nothing of it. Perhaps they are only delayed.

It is a month now that I have been in Stockholm, and I feel quite at home. If I heard English on the streets instead of Swedish, I might think myself in a beautiful American city. The air is very clear and the sky bright-blue, because by virtue of being only about 8 degrees from the Arctic Circle. The pole star is so much nearer overhead than I have ever seen it. It is cold, but usually fair. The days are getting rapidly shorter. By 6 P.M. the street lights are turned on.

You would appreciate seeing the large meteorite at the Riksmuseum. It is mounted on a large granite pedestal, out-of-doors, in front of the Geological Division. It weighs 22 tons, is iron-nickel, with traces of other metals. It was found by Nordenskrold in 1891 on the western side of Greenland, in the intertidal zone, when Nordenskrold was director of the Swedish scientific expedition. A long, ca. 1/2" core, has been taken out of it, almost through its center, and it was found to have a fairly uniform composition. Thus, one can see through it. The Swedish people have been on very many scientific expeditions in the past, and have brought to Sweden treasures from many parts of the world.

The collection I am now studying was brought in by the famous "Eugenie's Resa," executed in 1851-53, around the world. They crossed the equator 8 times, and stopped at numerous places in South America, Panama, San Francisco, (here Captain C.A. Virgin had four men shanghaied, 2 of whom were recovered), the Galapagos and Hawaiian Islands, etc. ... J.S.H. Kinberg was both the leading physician and zoologist, and did much work on chaetopods. His hundreds of types are now at the Riksmuseum. The narrative of the expedition was written by a First Lieutenant, in Swedish, but an accurate translation exists in German. Professor Bock has lent a copy to me so that now I am reading it. It is a very fascinating, detailed account. San Francisco at that time was a dark blot on the American continent. It was 1850, in the height of the gold rush days, and contained a glum lot of people from all parts of the world. The two of Virgin's men who never were returned included one of the musicians and a marine soldier. The account of the treatment of the Hawaiian Islands by European

powers is very good. Perhaps you will read this book sometime. I can get a copy in Swedish at a local antiquariat dealer for 30 kroner ($7.50), but fear I shall not be able to read it fluently. The German translation was printed in Berlin.

This war situation has dealt me a very heavy blow. I have lost nearly all my baggage, including my scientific materials. They should have arrived here before war ever began, but the last I heard was that the shipment went into Antwerp and is perhaps now interned, if not bombed. Unfortunately, there is nothing I can do about it. Passenger service in the North Sea is completely stopped. In the Baltic it is no better.

There still remains over a month's work for me to do here at Stockholm. If conditions permit, I may go on to Germany and Paris, in the order named, but who can say? If I cannot do that, or go to America, I may spend the winter in Stockholm. I should like to work for a while at Upsala, but that never was included in my preliminary program. As programs eventuate, I shall let you know.

Greetings and best wishes.

SCAMIT CODE: SCCWRP 68 Date Examined: June 9, 1986
Voucher By: D.B. Cadien

SYNONYMY: Pecten (Delectopecten) randolphi tillamookensis
Arnold 1906
Pecten (Delectopecten) arces Dall 1913
Delectopecten tillamookensis (Arnold 1906)

LITERATURE: Grau 1959
Bernard 1983

DIAGNOSTIC CHARACTERS:

1. Both valves convex but relatively flat; right valve not ventrally flexed.
2. Without internal ribs. All "ribs" composed solely of radial surface sculpture.
3. Translucent (transparent in youngest, semi-opaque in thickest old shells) white.
4. Posterior auricles poorly defined - continuous with disk outline.
5. Ctenolium of 4-5 teeth.
6. Internal ridge on posterior auricle of left valve.
7. Heavily sculptured with radial and concentric threads of nearly equal strength in adults, often with spined intersection (both valves). Typical sculpturing absent in young (less than 5 mm) specimens.

RELATED SPECIES AND CHARACTER DIFFERENCES:

Delectopecten randolphi randolphi - unsculptured as both juveniles and adults other than low vermiculate "camptonectes" sculpturing; also lacks internal ridge on left valve posterior auricle, otherwise nearly identical.

Delectopecten vancouverensis - posterior auricles better defined, not continuous with disk.

DISTRIBUTION: Bering Sea to Cadros Islad; 50-1100 m.

COMMENTS:

This subspecies differs from randolphi s. str. in only two characters - the external scultpure and internal ridge. Because

all other characters are essentially the same, Bernard reduced it to synonymy. Abbott (1974) has taken the opposite tack, listing tillamookensis at species level. We here follow a conservative middle path in recognizing a subspecies which has a few clear morphological differences, but no obvious mechanism isolating it from the sympatric randolphi s. str. Future research will probably invalidate the subspecies but since neither submergence or elevation is a clear choice we follow Grau's usage.

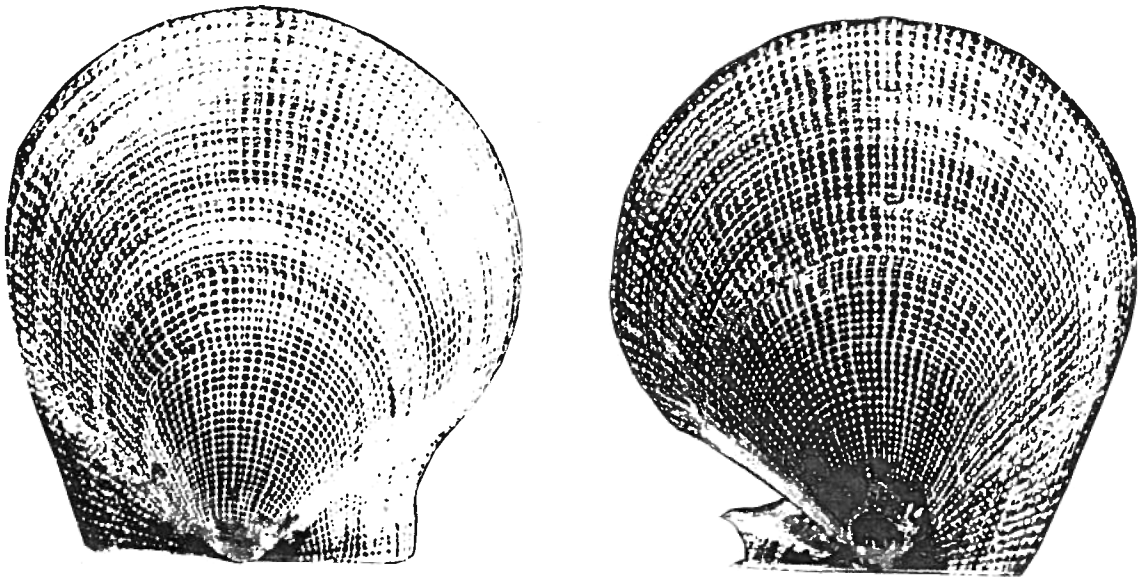


Illustration from Grau 1959

SCAMIT CODE: HYP58, PL70 Date Examined: June 9, 1986
Voucher by: D.B. Cadien

SYNONYMY: Leptopecten monotimeris (Conrad 1837)

LITERATURE: Grau 1959
McLean 1978
Clark 1971

DIAGNOSTIC CHARACTERS:

1. Both valves moderately convex with 12-16 external ribs.
2. Shell thin and translucent except in largest specimens.
3. Hinge line as long as or longer than disk.
4. Shape orbicular overall, usually only slightly oblique.
5. Sculpture variable ranging from poorly expressed concentric lamellae ("monotimerus" form) to strongly expressed concentric or imbricate ribbing over the 12-16 base radial ribs.
6. Colors usually orangish tan with white and brown chevrons or maculations. Red may replace the orange in some areas. Right valve usually slightly lighter colored than left.

RELATED SPECIES AND CHARACTER DIFFERENCES:

Leptopecten biolleyi (outer Baja Coast): every 3rd rib elevated and almost cylindrical.

Young Argopecten circularis: thicker and more inflated than L. latiauratus with 17-21 radial ribs. Hinge line shorter with umbo more central.

DISTRIBUTION: Point Reyes to Cabo San Lucas; 0-25 m

COMMENTS:

We accept the evidence presented in Clark 1971 as sufficient to demonstrate that L. monotimeris is only an ecophenotype of L. latiauratus.

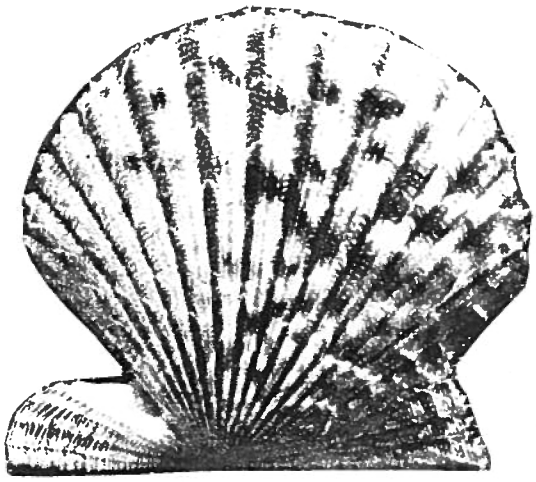
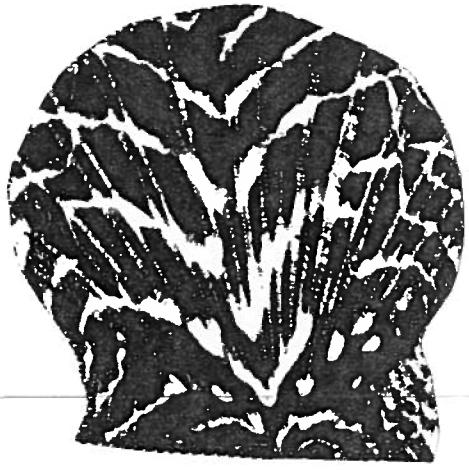


Fig. 1



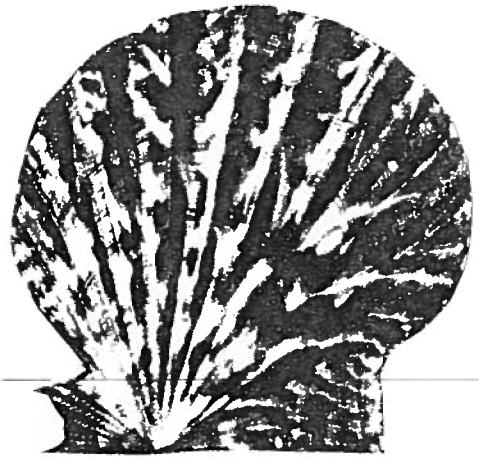


Fig. 2

Illustration from Grau 1959

Fig. 1. latiauratus typical form
Fig. 2. "monotimeris" form

SCAMIT CODE: MBC 47

Date Examined: June 9, 1986
Voucher by: D.B. Cadien

SYNONYMY:
Pecten circularis Sowerby 1835
Aequipecten (Plagioctenium) circularis (Sowerby 1835)
Argopecten aequisulcatus (Carpenter 1864)
Argopecten circularis aequisulcatus (Carpenter 1864)

LITERATURE:
Grau 1959
McLean 1978
Keen 1971
Bernard 1983

DIAGNOSTIC CHARACTERISTICS:

1. Both valves convex, inequivalve (left valve less inflated) with 17-22 raised ribs.
2. Interstices between ribs with fine imbricate sculpture.
3. Hinge line length 2/3 - 3/4 of disk diameter (except in juveniles less than 15 mm disk diameter).
4. Right valve usually lighter colored than left.
5. Color tan or pinkish and chocolate bands or maculations over white, waxy, yellowish, or orangish base.

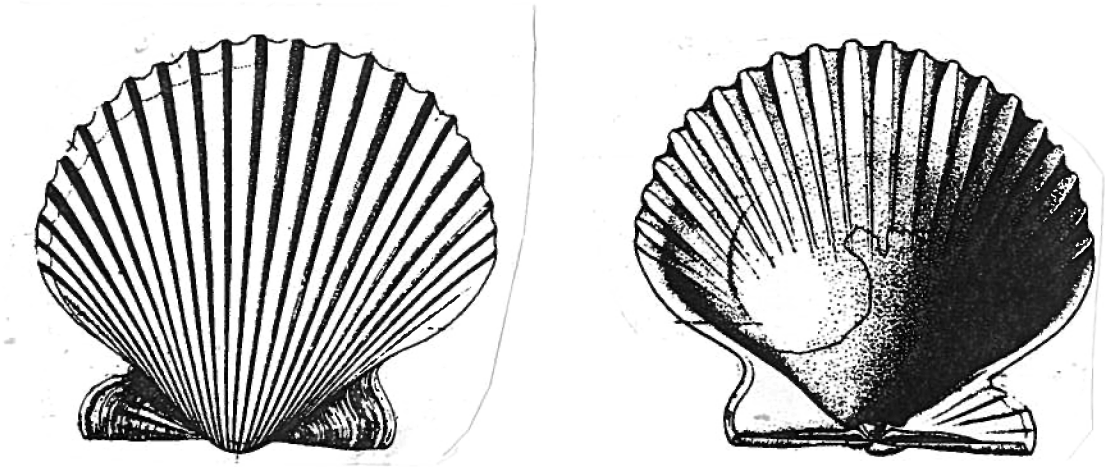
RELATED SPECIES & CHARACTER DIFFERENCES:

Leptopecten latiauratus: thinner and less inflated than Argopecten with 12-16 ribs. Hinge line longer with umbo shifted posteriorly.

DISTRIBUTION: Elkhorn Slough to Paita Peru; 0-150 m

COMMENTS:

This species is fully protected under California Department of Fish and Game regulations, and may not be taken without special permit. Recent data strongly suggest that the California population is neither specifically nor subspecifically distinct, and relies on influx of pelagic larvae from southern populations for its existance during many years.



Illustrations from Oldroyd 1924
Interior and exterior of right valve

SCAMIT Codes: PL-69A

Date examined: 9 June 1986
Vouchered by: Paul Scott (SBMNH)

Synonomy:

Cardium (?modestum var.) centrifilosum Carpenter, 1864
Cardium richardsoi Whiteaves, 1878

Literature:

There is little useful literature on this species. Abbott, 1974 (American Seashells), provides a brief description and an illustration.

Diagnostic characters:

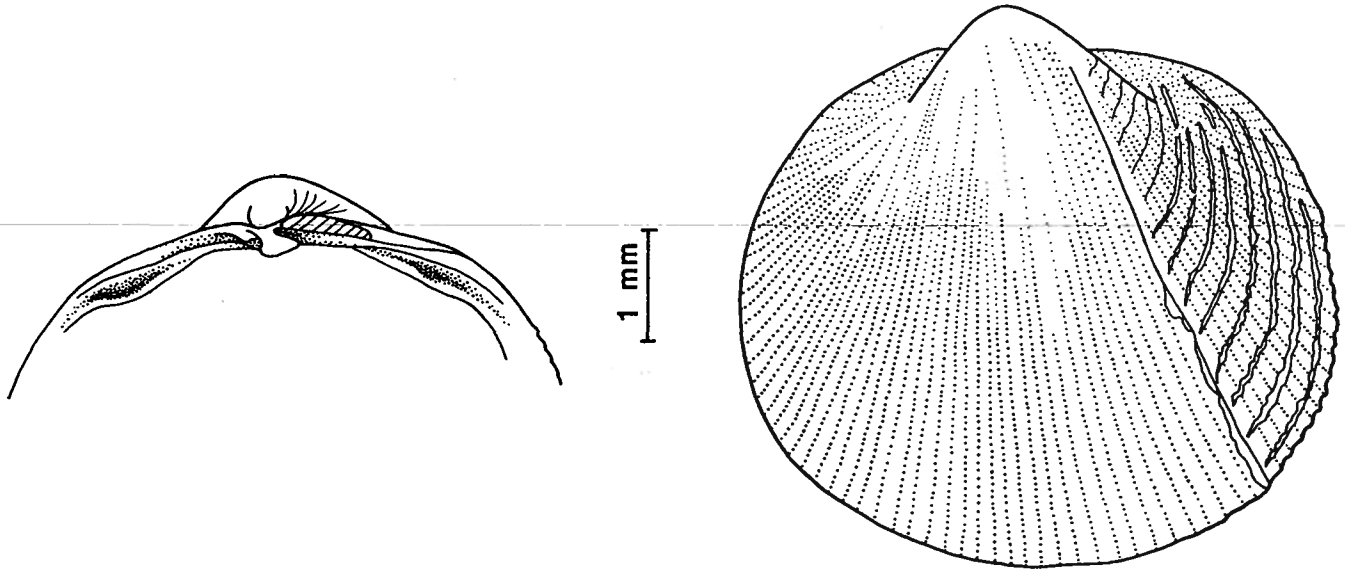
1. Shell of moderate size, less than 20 mm.
2. Anterior two-thirds of shell with prominent radial sculpture, posterior third of shell with cancellate sculpture.
3. Hinge typical of Cardiidae, with a central cardinal tooth, and posterior and anterior lateral teeth.

Additional notes:

1. This is possibly the easiest of all small northeastern Pacific bivalves to identify. The unusual external sculpture is unique to this species.

Depth range: 2 - 150 m (Bernard, 1983)

Distribution: 58°N to 28°N (Bernard, 1983)



Drawings by Laurie Marx, Santa Barbara Museum of Natural History

Nemocardium centrifilosum (Carpenter, 1864)
Cardiidae

SCAMIT Codes: PL-69A

Date examined: 9 June 1986
Vouchered by: Paul Scott (SBMNH)

Synonomy:

Cardium (?*modestum* var.) *centrifilosum* Carpenter, 1864
Cardium richardsoi Whiteaves, 1878

Literature:

There is little useful literature on this species. Abbott, 1974 (American Seashells), provides a brief description and an illustration.

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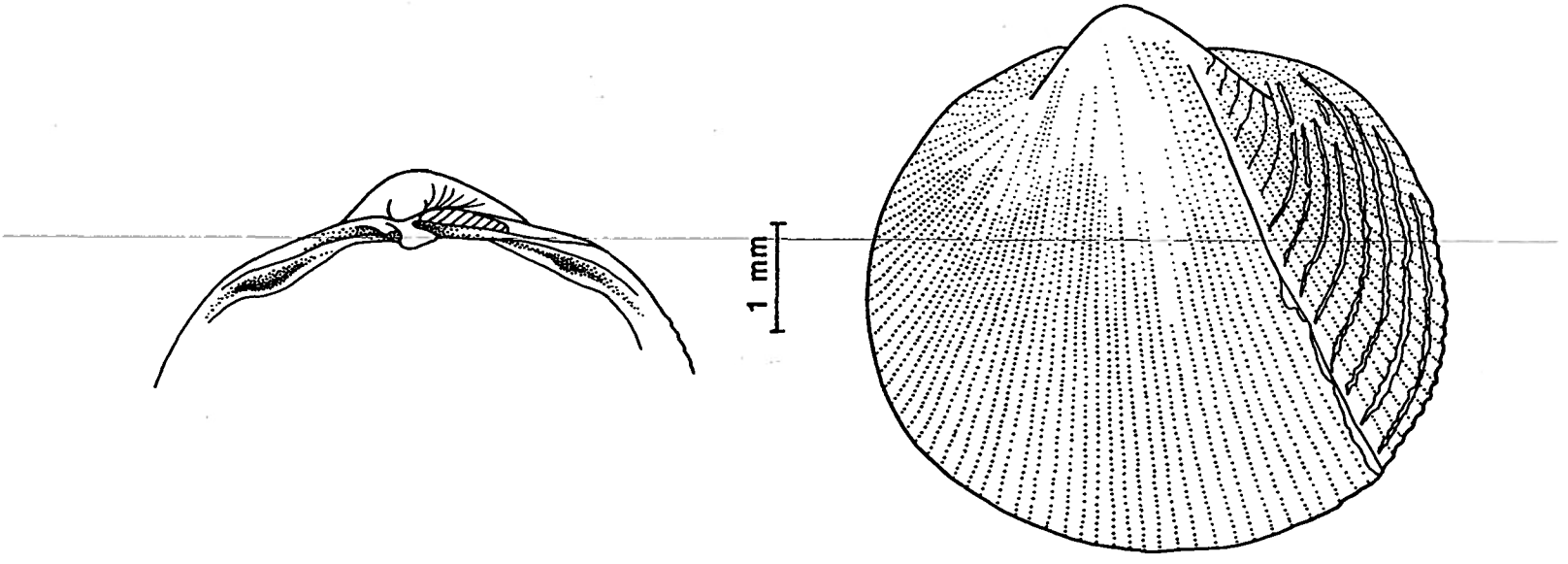

Drawings by Laurie Marx, Santa Barbara Museum of Natural History

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Larry Lovell, Marine Ecological Consultants
and
Leslie Harris, MBC Applied Environmental Sciences

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SCMAIT Code: OC 66

Date Examined: 14 April 1986
Voucher By : Larry Lovell (MEC)

Literature:

Bush, 1904
Fanchald, 1977
Hartman, 1944
Hartman, 1969
Hobson and Banse, 1981
Knight-Jones, 1983
Pettibone, 1954
Rowe, 1980

Diagnostic Characters:

1. Dorsal edges of vadiolar bases not cleft.

2. Number of eyes variable 1 to 6 per radiole, usually found midlength on lateral radioles.

3. Number of uncini in last 1 or 2 thoracic setiger conspicuosly reduced in number and nearly twice as large as uncini from previous setigers.

Related Species and Differences:

The following table is based on information from adult animals and provided by Leslie Harris.

	No. of uncini 1st Thoracic Setiger	No. of uncini Last Thoracic Setiger
P. socialis	25-30	8-12
P. occelata	45	30
P. intermedia	60	40-45

P. occelata is easily seperated by its cleft dorsally on the radiolar bases.

Additional Remarks:

The generic definition of Pseudopotimilla in Knight-Jones, 1983 is followed here.

Distribution:

Central and Southern California, rocky or mixed sediments, intertidal to shelf depths.

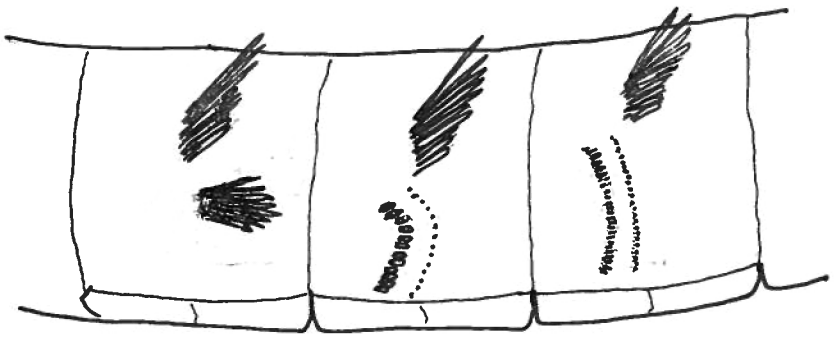

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Figure a. Lateral view, showing last two thoracic and first (transitional) abdominal setiger.

SCAMIT Code: OC 65

Date Examined: 14 April 1986
Voucher By: Larry Lovell(MEC)

Literature:

Banse, 1972 (syn. C. ecaudata)
Hartman, 1944
Hartman, 1969
Rowe, 1980

Diagnostic Characters:

1. A short tumid species of Chone.

2. Collar stains lightly with a ventral unstained cresent shaped area just anterior of setiger one, no stain on the collar dorsally.

3. Ventral shields present.

Related species and Differences:

1. C. ecaudata is a slimmer bodied animal and is found in finer sediments.

2. C. sp. B (sensu Harris) is very small (Euchone sized) and has very dark lateral staining on the collar and setiger one.

3. All other species of Chone from California lack ventral shields.

Additional Remarks:

Banse, 1972 considered C. minuta a synonym of C. ecaudata, but local taxonomists consider them as separate species. C. minuta is found in rocky and mixed sediment, while C. ecaudata is found in mud and sand.

Distribution:

Baja to Pt. Conception, intertidal to 60m.

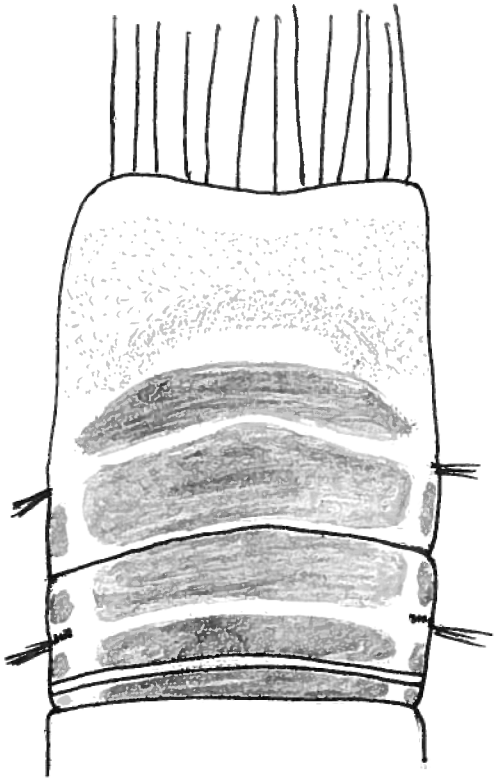

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Figure a. Anterior end, ventral view showing methyl green staining pattern.

SCAMIT code: LACO 73 (as Chone ecaudata)

Date Examined: 14 April 1986
Voucher By: Larry Lovell (MEC)

Literature:

Banse, 1972
Rowe, 1980.

Diagnostic Characters:

1. Absence of ventral shields, presence of a greatly broadened postsetal glandular girdle ventrally on the second setiger.

2. Branchiae crown long with high basis. Six to seven pairs of radioles with filiform free ends and palmate membrane reaching beyond distal pinnules.

3. Pre and postsetal whitish glandular rings of tissue in posterior thoracic and anterior to median abdominal setigers.

Related Species and Differences:

C. veleronis is the only known species of Chone with a greatly broadend postsetal glandular girdle ventrally on the second setiger.

Distribution:

San Diego to Ft. Bragg, Ca in shelf and nearshore depths.

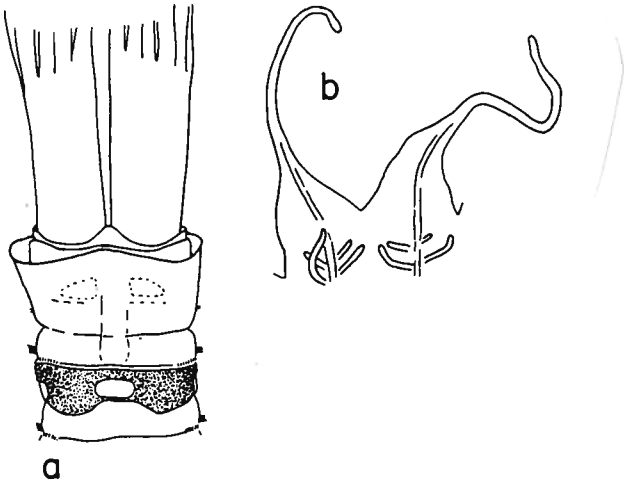

Figure a. Anterior end, ventral view, showing glandular girdle;

Figure b. Tips of radioles, showing palmate membrane.

Figures are from Banse, 1972.

SCAMIT Code: OC 64, PL 68

Date Examined: 14 April1986
Voucher by: Larry Lovell (MEC)

Literature:

Banse, 1972
Rowe, 1980

Diagnostic Characters:

1. Absence of ventral shields, presence of a slightly broader postsetal glandular girdle on the second setiger.

2. Collar slightly oblique with eight to ten pairs of radioles connected by palmate membrane extending to origins of distal pinnules. Pinnules abruptly tapering to filiform free ends.

3. Pore and postsetal whitish rings of glandular tissue in thorax and anterior to median abdominal segments.

4. Upon staining with methyl green a whitish triangular area ventrally at the base of the collar just anterior of setiger one.

Related Species and Differences:

C. albocincta can be distinguished from other Californian species of Chone by the ventral whitish triangular area at the base of the collar after staining with methyl green and by the whitish pre and postsetal rings of tissue in the thorax and abdomin in unstained material. C. veleronis also has these rings of tissue, but the postsetal girdle of C. albocincta is not broadened ventrically as in C. veleronis.

Distribution:

San Diego to Ft. Bragg, Ca., in shelf and nearshore depths.

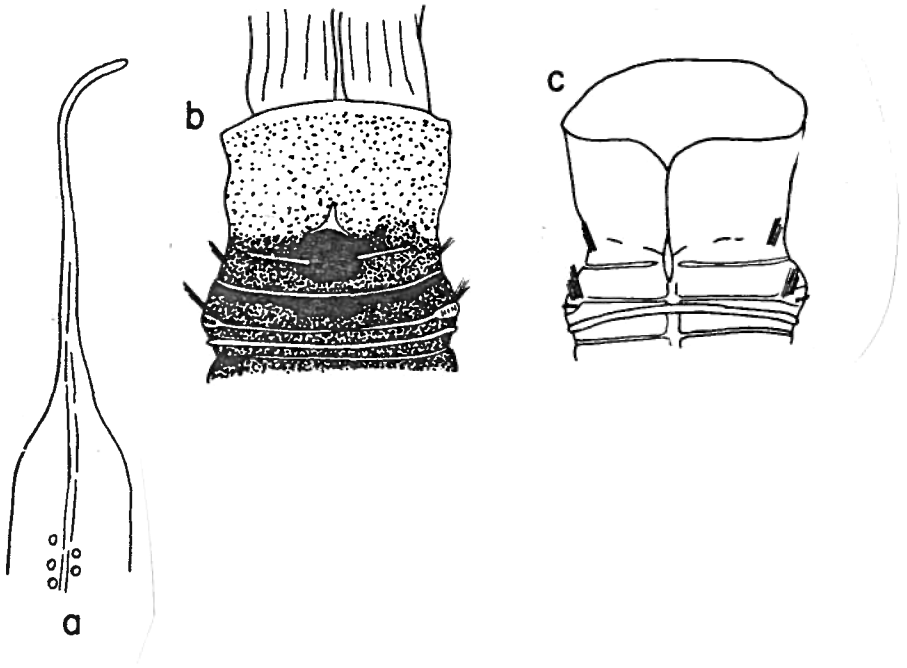

Figure a. Distal end of median radiole;

Figure b. Ventral view of anterior end, showing staining pattern;

Figure c. Dorsal view of anterior end, showing relative width of glahdular girdle.

All figures are from Banse, 1972.

SCAMIT Code: LACO 74 (as Melinna exila)

Date examined: 14 April 1986
Voucher By: Larry Lovell (MEC)

Literature:

Fauchald, 1972
Hartman, 1969
Moore, 1923 (as M. cristata heterodonta)

Diagnostic Characters:

1. Eighteen thoracic setigers.

2. Branchiae four pairs of equal length, subulate, somewhat greenish colored in freshly preserved material.

3. Nuchal hooks yellow, slightly curved.

4. Transverse membrane extends from notosetae to notosetae, with 11 to 16 triangular lobes (some bilobed).

Related Species and Differences:

1. M. oculata differs in that the branchiae are cross-barred with black pigment and the nuchal hooks are more recurved.

2. M. exila differs by the transverse membrane being narrow. (This species is questionable, examination of type material revealed a folded transverse membrane. Sue Williams-pers. comm.)

3. M. plana differs by having fifteen thoracic setigers and a smooth transverse membrane.

4. M. tentaculata differs by having oral tentacles and branchiae of more than one length.

Distribution:

Central and Southern California, the Gulf of California; in shelf, slope and abyssal depths.

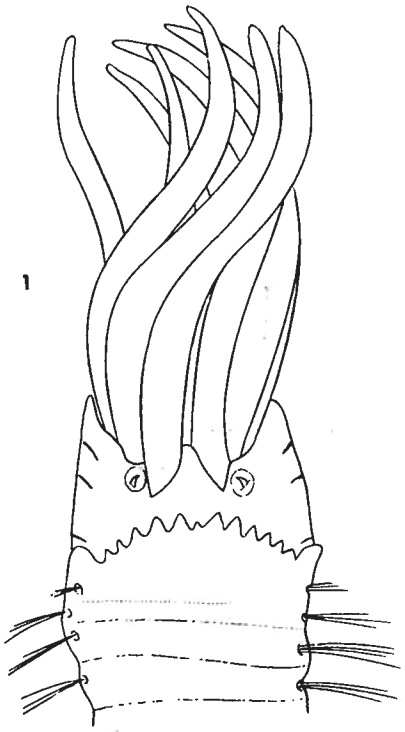

Figure 1. Anterior end, showing branchiae, nuchal hooks, and transverse membrane.

Figure is from Hartman, 1969.