Haydock rec 4-28-83



en en stratikele met selver bestaakste staar statuste began

SOUTHERN CALIFORNIA ASSOCIATION OF MARINE INVERTEBRATE TAXONOMISTS

April 1983

Vol. 2, No. 1

• . · ·

SCAMIT is now one year old and going strong thanks to all of your support!!

Now we are ready for year two to be even better.

Next Scheduled Meeting: May 9, 1983 Place: Marine Biological Consultants 947 Newhall Street Costa Mesa, CA 92627 Guest Speaker: Mary Bergen, Background information on Holothuroidea Specimen Exchange Group: Arabellidae, Lysaretidae, Iphitimidae, and Dorvilleidae Topic Taxonomic Group: Cnidaria and Holothuroidea

MINUTES FROM APRIL 11, 1983

Amphipod Atlas: The Amphipod is quite an undertaking which has left Don Cadien overwhelmed by the amount of work to be done. He has asked for volunteers to help out. The work that needs to be done includes assimilating descriptions, key characteristics, accumulate ecological information, distributional notes, and literature. So far he has one volunteer, Ann Martin for Lysianassids.

Elections: It's now officially completed. The officers for 1983-84 are:

. .....

President: John Shisko Vice-President: Tony Phillips Secretary/Treasurer: Ann Martin

- Literature Committee: John Dorsey stepped down from the literature committee. Ron Velarde has volunteered to take his place.
- <u>Video System:</u> Thanks to everyone who has contributed toward the video system. So far we have collected \$111.05 toward the system. With continued support from everyone we should have the video system by summer.
- Errata: Most likely many of you have noticed various errors committed on the voucher sheets. Ron Velarde was kind enough to compile them on one sheet. You will find the sheet enclosed. He will also be helping to eliminate such mistakes in the future.
- Station List: SCAMIT now has a list of station location, depth, and descriptions for each of the major sanitation districts in the Southern California Bight. These are available upon request to any one who would like the list.
- Charter Amendment: The SCAMIT charter was officially amended during the meeting. The amendment created a charter that is acceptable for qualification for the exempt status in Californía. The exempt status became official April 21, 1983 making SCAMIT an official non-profit organization (pending federal approval).

List of April 11, 1983 Topic Species

<u>Kurtziella beta</u> <u>Kurtzia arteaga</u> <u>Megasurcula carpenteriana</u> Bittium sp.

<u>Voucher Sheets:</u> This month's voucher sheets were compiled from a draft copy of a volume on Opisthobranchs from David Behrens.



APPLICATION	FOR	1983-84	MEMBERSHIP
	\$	5.00	

and a second

, <sup>1</sup> ;

Sugar

· ·

		ticipant [ ] Correspondent [ ]
		n a free-lance list? Yes [ ]
-		
	GEN	ERAL CONTRIBUTION
Amount:		
		o for Video System General Treasury Other [ ]
	COLOR	<u>T-SHIRTS</u>
	-	<u>T-SHIRTS</u>
Blue	COLOR lst 2nd <u>Choice</u> <u>Choice</u>	<u>T-SHIRTS</u> <u>Men's Women's Child</u>
Blue Yellow	COLOR lst 2nd <u>Choice Choice</u> [ ] [ ] [ ] [ ]	<u>T-SHIRTS</u> <u>Men's Women's Chilo</u> Small [] [] [ Medium [] [] []
Blue Yellow	COLOR lst 2nd <u>Choice Choice</u> [ ] [ ] [ ] [ ]	<u>T-SHIRTS</u> <u>Men's Women's Child</u>
Blue Yellow Tan	COLOR lst 2nd Choice Choice [ ] [ ] [ ] [ ] [ ] [ ]	<u>T-SHIRTS</u> Men's  Women's  Child    Small  []  []  []    Medium  []  []  []    Large  []  []  []    X-large  [] Not Available    XX-large  [] Not Available
Blue Yellow Tan Price: \$	COLOR 1st 2nd <u>Choice Choice</u> [ ] [ ] [ ] [ ] [ ] [ ] 8.00 plus .95¢ p	T-SHIRTS Men's Women's Child Small [] [] [ Medium [] [] [ Large [] [] [ X-large []Not Availabl XX-large []Not Availabl
Blue Yellow Tan Price: \$	COLOR 1st 2nd <u>Choice Choice</u> [ ] [ ] [ ] [ ] [ ] [ ] 8.00 plus .95¢ p	T-SHIRTS Men's Women's Child Small [] [] [ Medium [] [] [ Large [] [] [ X-large []Not Availabl XX-large []Not Availabl

- Amphipod Atlas: Several people have volunteered to help with the Amphipod Atlas. In addition to accepting all offers of help, we would like some input on formatting the Atlas and subsequent projects. Here's some ideas:
  - 1) Should SCAMIT publish using a subscription format?
  - 2) Should the works come out as occasional contributions?
  - 3) Should large groups (such as marine gammarid amphipods) be split
  - into smaller groups to expidite publication?
  - 4) Is microfilm a desirable way to publish?
- <u>Picnic:</u> A summer SCAMIT picnic is being planned. The plans so far have the picnic at Pt. Fermin on July 23, or 30 with world famous master chef, John Ljubenkov, in charge of the barbeque. Others can donate their favorite dishes. This will be a good time for everyone to get together. Look for more details in the next Newsletter.
- <u>Anemone Workshop</u>: Dr. Eric Hochberg is hosting an Anemone Workshop at the Santa Barbara Museum of Natural History May 23 and 24, 1983. The Workshop will be two days of anemone dissection (with aetinian types). Interested persons may call Paul Scott at (805) 682-4711 for more information. The roster so far includes:

F.G. Hochberg (SBMNH) John Ljubenkov (LaMer) Mary Arai (UBC) Daphne Dunn (Cal. Acad. Sci.) Ron McPeak (Kelco)

<u>Guest Speakers</u>: John Ljubenkov on Cnidarians: John limited his talk to hydroids because of the upcoming workshop on anemones. John discussed the function of the perisarc, basal and oral tentacles, and gonophore structure in determining hydroid phylogeny for the athecate line. He suggested that <u>Corymorpha</u> is the prototype and may be very close to the anemone evolution line.

Mary Bergen on Holothuroids: Mary discussed the taxonomy of dendrochirotids. She noted that an easy way of distinguishing the bushy-tentacled dendrochirotids from anemones is to count the tentacles because holothuroids have tentacles in multiples of five (<u>Leposynapta</u> usually has 12 tentacles). This was much needed information in view of the results of the specimen exchange! Unfortunately time cut her discussion short, but she will finish sometime in the future.

List of May 9, 1983 Topic Species

<u>Chiridota</u> sp. <u>Molpadioa</u> <u>intermedia</u> <u>Leptosynapta</u> sp. Cnidarians will be listed next month.

### VOUCHER SHEET CORRECTIONS AND ADDITIONS

· · ·

,

•

,

•

Observation and a second second

~ .

•••

---

	. CHAEPA	SCAMIT	
•	vilizioze (Anaitides) groenlandica (Oerstedi, 1943) Should be: Oerstedi, 1843 (no parenthesis)	Vol. 1 No. 5	5
	Aylloippe (Anaitides) papillosa (Uskhakov and Wu, 1959) Should be: Uskhakov and Wu, 1959	Vol. 1 No. 5	5
	Phyllodoce (Anaitides) hartmanae (Blake and Walton, 1977) Should be: Blake and Walton, 1977	Vol. 1 No. 5	5
	Micropodarke dubia (Hessle, 1925) Add: fig. A - <u>Neopodarke woodsholia</u> Synonyms: <u>Kefersteinia dubia</u> Hessle, 1925 <u>Micropodarke amemiyai</u> Okuda, 1938	Vol. l No. 6	6
	<u>ixogone</u> cf. <u>gemmifera</u> (Pagenstecher, 1862) Should be: Pagenstecher, 1862 Add: OCSD 11 to Date Examined and Code	Vol. 1 No. 1	10
	<u>Geminosyllis</u> ohma (Imajima and Hartman, 1964) Add: November 8, 1982 to Date Examined and Code Synonym: <u>Trypanosyllis</u> ohma Imajima and Hartman, 1964	Vol. 1 No. 1	10
	isplosyllis spongicola (Grube, 1855) Add: AHF7 to Date Examined and Code	Vol. 1 No. 1	10
	<u>Typosyllis</u> <u>adamanteus</u> (Treadwell, 1914) Add: Synonyms: <u>Trypanosyllis</u> <u>adamanteus</u> Treadwell, 1914 <u>Pionosyllis</u> <u>decorus</u> Annenkova, 1934 <u>Syllis</u> <u>spenceri</u> Berkeley and Berkeley, 1938 <u>Syllis</u> ( <u>Typosyllis</u> ) <u>decorus</u> Chlebovitsch, 1961	Vol. 1 No. 6	6
	Nereis procera (Ehlers, 1868) should be Ehlers, 1868	Vol. 1 No. 3	3
	Aglaophamus dicirris (hartman, 1950) Should be: <u>Aglaophamis dicirris</u> Hartman, 1950 Add: November 8, 1982 to Date Examined and Code	Vol. 1 No. 1	10
	<u>Nephtys caecoides</u> (Hartman, 1938) Should be: Hartman, 1938 Add labels to figs: figs. 1 and 2a - <u>N</u> . <u>caecoides</u> fig. 2b - <u>N</u> . <u>parva</u> fig. 3 - <u>N</u> . <u>californiensis</u>	Vol. 1 No. 1	10
	<u>dlycera</u> branchiopoda (Moore, 1911) Should be: 'Moore, 1911	Vol. 1 No. 1	12
	Hemipolus borealis (Johnson, 1901) Should be: Johnson, 1901	Vol. 1 No. 3	3
	Hemipodus <u>californiensis</u> (Hartman, 1938) Should be: Hartman, 1938	Vol. 1 No. 3	3
	<u>Slycinde armigera</u> (Moore, 1911) Should be: Moore, 1911 Add: OCl3 for Code to Date Examined and Code labels to figs: figs. 1 and 2 <u>G</u> . <u>armigera</u> -fig. 3 <u>G</u> . <u>polygnatha</u>	Vol. 1 No. 1	12
	Ioniada brunnea (Treadwell, 1906) Should be: Treadwell, 1906 Add: labels to figs fig. 1 G. brunnea-fig. 2 G. maulata	Vol. 1 No. 1	12
	Joniada littorea (Hartman, 1950) Should be: Hartman, 1950	Vol. 1 No. 1	
	Joniada maculata (Oersted) Should be: Oersted, 1843 Add labels to figs. : fig. l <u>G</u> . <u>maculata</u> -fig. 2 <u>G</u> . <u>brunnea</u>	Vol. 1 No. 1	12
	Hyalindecia juvenalis (Moore, 1911) Should be: Moore, 1911 Add: AHF 11 as Code to Date Examined and Code	Vol. 1 No. 1	12
	<u>Add to Keys Used:</u> Fauchald, K. 1982 - p. 56	Vol. 1 No. 3	3
	<u>Eunice vittata</u> (delle Chiaje, 1828) Add labels to figs fig. 1 - <u>E</u> . <u>cedroensis</u> - fig. 2 <u>E</u> . <u>vittata</u>	Vol. 1 No. 1	12
	<u>Marphysa</u> <u>stylobranchiata</u> (Moore, 1909) Should be: Moore, 1909	Vol. 1 No. 1	12
	Acesta horikoshii (Imajima, 1973) Under Common Synonyms: <u>Aricidea</u> <u>horikoshii</u> (Imajima, 1973) Should be: Imajima, 1973	Vol. 1 No. 3	3
	Myriochele gracilis (Hartman, 1955) Should be: Hartman, 1955	Vol. 1 No. 6	5
<u>.</u>	1 PODA		
	Ampelisca pacífica Add: Holmes, 1908	Vol. 1 No. 7	1
	<u>Ampelisca</u> <u>brevisimulata</u> Add: Barnard, 1954	Vol. 1 No. 7	1
	Ameplisca macrocephala Add: Liljeborg, 1852	Vol. 1 No. 7	
	Ampelisca pagetica Add: Stimpson, 1864	Vol. 1 No. 7	
	Foxiphalus obtusidens (Alderman, 1936) Under Common Synonyms Change: (Alderman, 1960) to (Alderman, 1936)	Vol. 1 No. 7	
	Foxighalus similus (Barnard, 1960) Under Common Synonyms: Change (Barnard, 1960) to Barnard, 1960	Vol. 1 No. 7	
	Heterophoxus oculatus (Holmes 1908) - Needs to be underlined	Vol. 1 No. 7	r
	Coxymius bicuspidatus (Barnard, 1960) period should be a comma Under Common Synonyms: (Barnard, 1960) should be Barnard, 1960	Vol. 1 No. 7	,
	<u>Rheopoxynius</u> <u>heterouspidatus</u> Should be: <u>Rhepoxynius</u> Add: (Barnard, 1960) Under Common Synonyms: Add Barnard, 1960	Vol. 1 No. 7	,
	Rhapoxymius menziese (Barnard and Barnard, 1982 Should be: Barnard and Barnard, 1982 Under Common Synonyms: <u>Trichophorus</u> should be <u>Trichophoxus</u> Add: <u>Rhepoxynius</u> epistomus (Shoemaker, 1938)	Vol. 1 No. 7	7

.

# Key to the Species of the Order Bullomorpha Body Characters

• 1 •

۰., ۰

.

, ,

, x

1	Shell appearing absent or internal	2
-	Shell external and visable	3
2	Parapodia well developed into wing-like lobes <u>Gastropteron</u> pacificum	
-	Parapodia not developed into wing-like lobes <u>Aglaja inermis, Aglaja ocelligera, Melaochlamys</u> <u>diomedea, Philinne bakeri</u>	
3	Shell bubble shaped, aperture wide	4
-	Shell elongate, aperture narrow	7
4	Shell with pit at apex; shell heavy, Bulla gouldiana	
-	Shell cylindrical, apex flat; head with 2 round lobes Diaphana californica	
-	Shell not cylindrical; head large, broad	6
6	Aperture 1/2 diameter of shell, <u>Haminoea</u> <u>vesicula</u>	
-	Aperture greater than 1/2 diameter of shell <u>Haminoea</u> <u>virescens</u>	
7	Shell with strong shoulder, Cylichnella harpa	
-	Shell with rounded shoulder	8
8	Shell with alternating narrow brown and white stripes, <u>Cylichnella</u> culcitella	

- Shell without transverse striping, Cylichnella inculta

• • • \*

## VOUCHER SHEET

## Aglaja inermis (Cooper, 1862)

Aglajidae

## Synonyms:

<u>Strategus inermis</u> Cooper, 1862 <u>Navarchus inermis</u> (Cooper, 1862); Cooper, 1863 <u>Doridium purpureum</u> Bergh, 1893 <u>Navanax inermis</u> (Cooper, 1862); Pilsbry, 1895 <u>Aglaja bakeri MacFarland 1924; Gosliner & Williams 1972</u> <u>Chelidonura inermis</u> (Cooper 1862); Marcus & Marcus 1970a Aglaja inermis (Cooper 1862); Rudman 1974

## Important Characters:

Its internal shell is covered with a fleshy tan to black notum with longitudinal yellow stripes along the edge of the parapodia. Variable yellow and blue spotting occurs over remainder of body. Two distinctive color phases have been noted, one having bold spots, the other having many smaller diffuse spots.

Size: 75 to 225 mm.

Radula absent.

## Comments:

Natural History: This animal abounds in mudflats and bays and feeds voraciously on paper bubbles, Haminoea spp.

Range: Monterey Bay, California to Laguna Manuela, Mexico. Also throughout Gulf of California; Nyarit, Mexico, Bay of Panama.



Shell of Aglaja inermis (from Marcus 1961)

• • • •

### VOUCHER SHEET

Aglaja ocelligera (Bergh, 1893)

Aglajidae

Date Examined and Code: March 13, 1983, OC16

## Synonyms:

Doridium ocelligerum Bergh, 1893: Figs. 2, 14 Aglaja ocelligera (Bergh, 1893); Pilsbry, 1896 Doridium adellae Dall, 1894; Gosliner, 1980 Chelidonura phocae Marcus 1961; Gosliner, 1980 Aglaja phocae (Marcus, 1961); Rudman, 1974

## Important Characters:

The head of this <u>Aglaja</u> is short with lateral lobes. The tails are long conspicuous and equal to unequal in length. The body color is brown-black with yellow and white spots. A white mark is usually found on the lateral head lobe. Very similar in general appearance to Diomede's aglajid.

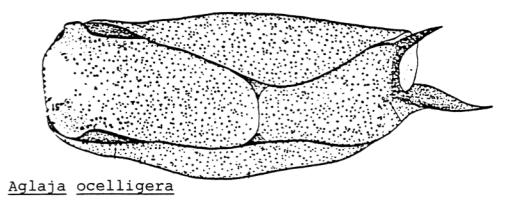
Size: To 20 mm.

Radula absent.

### Comments:

Natural History: Lives on mud bottoms to 60 feet in oceanic and estuarine habitats.

Range: Sitka, Alaska to San Diego, California.



· 、 / \*

### VOUCHER SHEET

Melanochlamys diomedea (Bergh, 1893)

Aglajidae

Date Examined and Code: March 13, 1983, MBC 11

Synonmys:

Doridium diomedeum Bergh, 1893 <u>Aglaja diomedea</u> (Bergh, 1893); Pilsbry, 1896 <u>Aglaja nana</u> Steinberg & Jones, 1960; Gosliner & Williams, <u>1975</u> <u>Melanochlamys diomedea</u> (Bergh, 1893); Rudman, 1972 <u>Melanochlamys nana</u> (Steinberg & Jones, 1960); Rudman, 1972

Important Characters:

Its head is rounded and is without lateral processes. The lobes of the tail are short and of equal length. The body is light cream colored with brown to black mottling which, when dense, can give a very dark appearance. Brownish-yellow internal organs may show through body wall. Sometimes confused with the spotted aglaja.

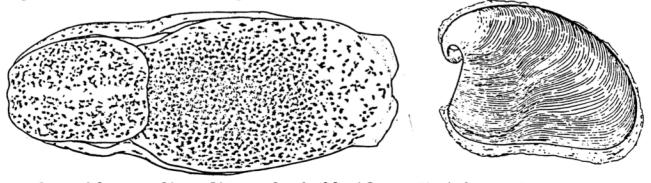
Size: Reaches 15 mm.

Radula absent.

Comments:

Natural History: Occurs on mud surfaces in bays and offshore to 370 feet. Feeds on nematode worms.

Range: Alaska to San Diego, California.



Melanochlamys diomedia and shell (from Steinberg & Jones, 1960)

• < • •

#### VOUCHER SHEET

# <u>Rictaxis punctocaelatus</u> (Carpenter, 1864)

Acteonidae

.

,

Date Examined and Code: March 13, 1983, MBC 7

Synonyms:

Acteon punctocaelatus Carpenter, 1864 Rictaxis punctocaelatus (Carpenter, 1864)

Important Characters:

Very often confused for a prosobranch snail, the solid spiral sculptured shell has two revolving bands of white and black alternating stripes.

The animal has an operculum and is opaque white in color.

Size: To 20 mm.

Comments:

5 . . t

Natural History: Common on shallow sand and mud bottoms gliding just under the surface of the sediment.

Range: Ketchikan, Alaska to Magdalena Bay, Baja California, Mexico.

• • • •

## VOUCHER SHEET

## Diaphana californica Dall, 1919

Diaphanidae

1

,

## Important Characters:

The shell is similar in shape to the bubbles, transparent white, with a wide aperture. It differs from the others by being flat at the apex; barely calcified.

A small shelled bullomorphid, the only part of the body visible from above is the head which is made up of two round lobes. The body and foot are white.

Size: Shell to 5 mm in length.

### Comments:

, , *, , , ,* 

Natural History: Found in the rocky intertidal and in shallow subtidal holdfasts of kelp.

Range: Santa Barbara, California to Coronados Islands, Baja California.

• • • •

### VOUCHER SHEET

Haminoea vesicula (Gould, 1855)

Haminoeidae

.

.

## Important Characters:

The thin oval shell of this snail is exposed. Translucent, the shell has a sunken spire and the opening is half or less of the shell length. The shell surface is covered with a thin brown to yellow-orange speckled periostracum.

The body is tan to brown, partially enveloping the shell. Similar to the green paper bubble.

## Comments:

5 C , 4

Natural History: Restricted to bays, and seasonally abundant on mudflats and in eel grass beds, this snail is heavily preyed upon by navanax.

Range: Ketchikan, Alaska to Magdalena Bay, Gulf of California

### VOUCHER SHEET

Haminoea virescens (Sowerby, 1833)

Haminoediae

2

1

Important Characters:

The exposed shell is opaque white to pale green. Differs from Gould's paper bubble in that the aperture is larger than half the length of the shell and the spire is sunken.

The body is green, and there are yellow dots on the head shield and yellow and white mottlings on the parapodia.

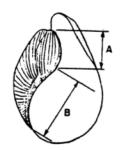
Size: To 18 mm.

Comments:

· • • \*

Natural History: A rocky open coast species, it sometimes occurs in bays.

Range: Alaska to Panama.



# Shell of <u>Haminoea</u> <u>virescens</u>

e . . \*

### VOUCHER SHEET

Cylichnella culcitella (Gould, 1852)

Scaphandridae

## Synonyms:

1

.

Bulla culcitella Gould, 1852:375 Bulliuna eximia Baird, 1863 Tornatina culcitella (Gould, 1853); Pilsbry 1895:188, pl. 50, fig. 38 Acteocina culcitella (Gould, 1852); Oldroyd, 1927:217, pl. 2, fig. la-c. Ultriculastra culcitella (Gould, 1852); Marcus, 1977 Ultriculastra eximia (Gould, 1852); Marcus, 1977 Cylichnella culcitella (Gould, 1852); Gosliner, 1979:87

Important Characters:

The shell is oblong, whitish, with a brown periostracum showing fine spiral lines or striae. The apex is high and the suture or crease between spirals is deep.

This animal has an opaque white notum with white spots. The head is rounded with a central cleft.

Size: The shell reaches 22 mm in length.

Comments:

S . . .

Natural History: Lives subtidally on sand and mud bottoms to 950 feet.

Range: Kodiak Island Alaska to San Ignacio Lagoon, central Baja California.



Cylichnella culcitella

## VOUCHER SHEET

Cylichnella harpa (Dall, 1871)

Scaphandridae

Synonyms:

•

,

<u>Retusa harpa</u> (Dall, 1871) <u>Acteocina harpa</u> (Dall, 1871) <u>Cylichnella harpa</u> (Dall, 1871)

## Important Characters:

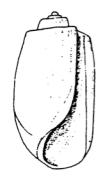
This shelled opisthobranch has a small white shell with a strong keeled shoulder and axial, or length-wise, striations on its upper half. The shell is shorter in dimensions than that of the western barrel-bubble.

Size: Shell length is 6 mm.

Comments:

Natural History: Common in gravel and mud at low tide to subtidal.

Range: Forrester Island, Alaska to San Geronimo Island, northern Baja California.



Cylichnella harpa

1 c e \*

C 1 1 1

### VOUCHER SHEET

## Cylichnella rolleri (Marcus, 1977)

Scaphandridae

## Synonyms:

Utriculastra rolleri Marcus, 1977:29, Figs. 82-84 Cylichnella rolleri (Marcus, 1977); Gosliner, 1979:92

## Important Characters:

The photographed shell (Fig. 82) is 8.5 mm high and 3.5 mm wide. It is ovoid, tapering gradually towards both ends. The protoconch is broken. There are about three whorls, separated by the deep suture. The periostracum shows about 50 wavy brown spiral lines, disposed rather equally over the whole shell, but leaving a white band under the suture.

The head shield is notched in front and bilobed behind. The radula has 17 rows of 1.0.1. teeth. On the inner border of the laterals stands a dense row of about 70 long denticles, as in the other species of <u>Tornastra</u>. The gizzard plates are opaque white with a narrow brown line around the cap. They are nearly semicircular, 1.6 mm long and 0.7 mm broad. The unpaired plate is round, 0.4 mm in diameter. The digestive tract contained prosoranchs, still with their soft parts, classified as <u>Litiopa</u>.

#### Comments:

. . . .

Of the known species of "<u>Tornatina</u>" this is the only Pacific one with narrow, mirror image paired plates. The three gizzard plates resemble those of the Atlantic U. (<u>Tornastra</u>) <u>bullata</u> (Thiele, 1925, pl. 34, fig. 8), whose radula is not known. The species is named for the collector, Mr. Richard A. Roller.

👻 r - n 🅈

#### VOUCHER SHEET

## Cylichnella cerealis (Gould, 1852)

Scaphandridae

#### Synonyms:

<u>Acteocina</u> <u>cerealis</u> Gould, 1852 <u>Bulla</u> <u>cerealis</u> (Gould, 1852) <u>Utriculastra</u> <u>cerealis</u> (Gould, 1852); Gosliner 1979:92 <u>Cylichnella</u> <u>cerealis</u> (Gould, 1853); Gosliner 1979:88

## Important Characters:

The six present specimens measure from 5.5 to 8.0 mm in length and 2.6 to 3.5 mm in greatest width, which lies in front of the middle (Fig. 77). The ratio of width to length is 44-47%, independent from the size of the shell. The spire is of different height, the apex and the outer lip are damaged in all specimens. The periostracum is light cream with fine light brown spiral lines on the outer half of the body whorl. These correspond to interrupted wavy grooves of the shell. The aperture widens forward gradually to the second third, where the concave columella bends to the left. It forms a strong fold covered by a thin, broad callus on the inner lip (Fig. 80). The height of the aperture is 90% of the total. Of the soft parts only the short and broad head shield was recognizable, a well developed cloacal tentacle (Fig. 79, c), and the infrapallial lobe (i). The radulae of - 3 specimens were 340 um long. There are 22-24 rows of lateral teeth 68 um long, with 20-35 slender denticles on their inner side (Fig. 78). I did not find any traces of rhachidian teeth.

The three gizzard plates are of different shape (Fig. 81). The roundest measures 1.8 x 1.2 mm, the narrowest 2.02 x 0.8 mm, and the unpaired smallest one 1.08 x 0.57 mm. The smallest is flat, 0.35 mm high, and not pinched together as that of <u>A</u>. <u>eximia</u>. The narrower of the paired plates is variable in shape, in two specimens it is pointed at one end, in one narrowed towards the end, and in three it is round at both ends.

#### Comments:

....

Natural History: Depth 11-15 m.

Range: Kodiak Island, Alaska to San Diego (Marcus, 1977).