Southern California Association of
Marine Invertebrate Taxonomists

May/June, 2004

SCAMIT Newsletter

Vol. 23, No. 1&2

SUBJECT:	**Slope fauna: 500-1000m**
GUEST SPEAKER:	**LACSD staff**
DATE:	**18 October 2004**
TIME:	**9:30 a.m. to 3:30 p. m.**
LOCATION:	**Los Angeles County Museum of Natural History** **900 Exposition Blvd**

Metridium farcimen
B'03 trawls CSD

The following newsletter is a May/June combination newsletter as there was no meeting in May. It was assumed that all good SCAMITeers attended the SCAS meetings in lieu of a SCAMIT gathering that month. There were many promises of a written critique/ review of the meetings, which would have made for a nice May newsletter, but since no such review has crossed my desk in the last few months, I shall go with what I have.
- M. Lilly

CAVEAT LECTOR [Reader Beware]

The minutes below are Megan Lilly's interpretation of the hydroid discussion from the June meeting. There is a great potential for error in this interpretation. Unfortunately, John Ljubenkov has been unable to wrestle time from his B'03 samples to edit the minutes. Therefore, use this information with caution. It is hoped that in a future newsletter we will be able to print an addendum with John's comments and edits.

For additional, helpful (and probably more accurate) information please see the Cnidarian issue of the Taxonomic Atlas Series, Volume 3. Some of the things discussed below are detailed and illustrated in this volume. In addition I have attached John's powerpoint presentation to the end of this newsletter.

JUNE 04 MINUTES

The Cnidarian meeting in June was held at Dancing Coyote Ranch and hosted by John Ljubenkov. It is always fun to have meetings at John's place where we can not only work on marine invertebrates of interest, but can also enjoy the varied and plentiful flora and fauna that call the ranch home.

With only one officer present (myself), and not much business to discuss, we dove right into the topic of the day, Hydroids.

We started with colonial forms which are found on mollusk shells. The key in identifying many of these species is to note the location of the reproductive structures.

The two common shallow water species are *Rhizorhagium formosum* and *Leuckartiara octona*.

R. fromosum is what we formerly called *Perigonimus formosum.* The reproductive structures will be found on the hydrorhiza ("hydroid root").

L. octona is what we formerly called *Perigonimus repens* and the reproductive structures are found on the hydrocaulus (stalk) of the hydroid.

If no reproductive structures can be observed then the identification of "*Perigonimus* sp" will suffice (John discussed that "*Perigonimus*", historically, has been a "catch all" genus. He will need to elaborate on this when his comments are published, as there is a good chance I misunderstood this discussion). It was also suggested and requested by John that we makes notes as to what mollusk species the hydroids are colonizing.

Next we discussed some of the deeper water species:

Perigonimus yoldiarcticae has the reproductive structures on the hydrorhiza, as in *P. formosum*, but in contrast it has a hydrocaulus which is long and jointed. This species is usually encountered on *Acila*.

Perigonimus abyssi has the reproductive structures on the hydrorhiza and the hydrocaulus. It is a very small animal, and is also found on *Acila*.

Clytia longitheca has reproductive structures on the hydrocaulus and also has a hydrotheca **(**not sure this is correct**)** present around the polyp. This animal is usually seen on *Cyclocardia*.

Oplorhiza gracilis has reproductive structures found off the hydroriza and has a hydrotheca which encloses the polyp. It is found growing among *Thesea* communities.

And finally, *Monobrachium parasitum* which is found usually at 60m or deeper, has reproductive structures which look like "striped balloons" and are found among the polyps. This species is usually found on *Axinopsida serricata*.

Finishing with colonial hydroids John then gave an overview of the more common solitary species we may encounter which fall in the grouping of Corymorphids. This topic has been covered in a previous SCAMIT newsletter, Vol. 15, no. 12, but I will do a brief overview to refresh our memories. Also there is a key to the Corymorphine hydroids as part of John's powerpoint presentation.

The two primary genera are *Euphysa* and *Corymorpha*. They can be separated by the location of the growth buds and the nature of the tentacles.

Euphysa will have the growth buds located just below the hydranth and will have tentacles ranging from moniliform (beaded) to capitate. The *Euphysa* species include:
Euphysa sp A - has capitate oral tentacles and moniliform aboral tentacles. It is found offshore.
Euphysa sp B - has tentacles which are all moniliform. To date it has only been seen off Pt. Arguello.

Corymorpha, in contrast, has the growth buds located at the bottom of the hydrocaulus and will have tentacles which are all villiform (smooth).
The *Corymorpha* species include:
Corymorpha bigelowi - which is our common offshore species.
Corymorpha palma - which lives in bays and estuaries. *C. palma* has a cryptomedusa stage which looks like a banana. The cryptomedusae stay attached and planulae develop internally. Once developed they are released and drop to the sediment below.

It was at this point that John pointed out that the corymorphine lineages which have moved into bay and estuary habitats have evolved modified reproductive structures which eliminate the pelagic phase of development and keep the young nearby in a habitat which is suitable. A general discussion then ensued as to this pattern being seen across different phyla. An example was given by Megan Lilly who pointed out that the two octopus species, *Octopus bimaculoides* and *Octopus bimaculatus* show a similar pattern. The two species, externally, look very similar and are often confused. However, they prefer different habitats, with *O. bimaculoides* usually found in bays and estuaries and *O. bimaculatus* preferring rocky subtidal habitat. When looking at the reproductive strategies of the two, they are quite different, with *O. bimaculoides* producing few (in the hundreds), large eggs which hatch large, benthonic young who take up residence in local waters. *O. bimaculatus*, in contrast, lays thousands of very small eggs, hatching small paralarvae which spend time in the plankton before settling.

With that we broke for a lunch of home made sandwiches to be enjoyed outside with the hummingbirds and the lizards.

We spent the afternoon examining animals, and not all of them cnidaria. People had brought various B'03 miscellaneous phyla FID's for comparison. All in all it was a very informative and useful meeting.
- M. Lilly

DOIN' IT BY THE NUMBERS

D. Cadien – CSDLAC

In a recently circulated draft of a new key by Gary MacDonald of Moss Landing Marine Labs he finished his key with a list of the California nudibranch species. This list incorporated a number of changes over recent years in the nomenclature of well established species. Some, like the submergence of *Hopkinsia* within *Okenia* (see Gosliner 2004) seem regrettable, but unavoidable. Others seem less well founded. Among these is a change of long standing (see MacDonald 1983 p. 154) from use of the replacement name *Cadlina luteomarginata* MacFarland 1966 to use of the original name *C. marginata* MacFarland 1905. In his discussion, MacDonald (1983) states that MacFarland's reason for proposal of the replacement name is not well founded, and therefore it should be rejected in favor of the original name. A look into the Code of Zoological Nomenclature (Edition 4 1999) suggests otherwise. As presented by Turgeon et al (1998, p. 281) the case rests on the provisions of Article 57(c) [now Article 57.3.1 in the current edition of the Code] which stipulates that junior secondary homonyms are invalid. Provision of a substitute or

replacement name for *Cadlina marginata* MacFarland 1905 non *Doris* [now *Cadlina*] *marginata* Linnaeus 1767 is thus an appropriate and defensible act under the Code. Notwithstanding the lack of use of Linnaeus' name, or its current standing as a synonym of *Cadlina laevis* (Montague 1804), it remains nomenclatorally available and thus creates the homonymy to which MacFarland proposed a solution. MacFarland's replacement name *Cadlina luteomarginata* is therefore valid and should not be displaced by resurrection of the 1905 homonym *C. marginata*.

LITERATURE

Gosliner, Terrence M. 2004. Phylogenetic systematics of *Okenia*, *Sakishimaia*, *Hopkinsiella* and *Hopkinsia* (Nudibranchia: Goniodorididae) with description of new species from the tropical Indo-Pacific. Proceedings of the California Academy of Sciences 55(5):125-161.

Hochberg F. G., and John C Ljubenkov. 1998. Chapter 1. Class Hydrozoa. Pp. 1-54 *in* Scott, Paul H., and James A. Blake eds. Taxonomic Atlas of the Benthic Fauna of the Santa Maria Basin and the Western Santa Barbara Channel. Volume 3. The Cnidaria: Santa Barbara Museum of Natural History, Santa Barbara, California. 150 pp.

Internatijonal Commission on Zoological Nomenclature. 1999. International Code of Zoological Nomenclature, Fourth Edition. 306pp.

MacDonald, Gary R. 1983. A review of the nudibranchs of the California coast. Malacologia 24(1-2):114-276.

MacFarland, Frank Mace. 1966. Studies on opisthobranch mollusks of the Pacific coast of North America. Memoirs of the California Academy of Sciences 4:1-546.

Turgeon, Donna D., James F. Quinn Jr., Arthur E. Bogan, Eugene V. Coan, Frederick G. Hochberg, William G. Lyons, Paula M. Mikkelsen, Richard J. Neves, Clyde F. E. Roper, Gary Rosenberg, Barry Roth, Amelie Scheltema, Fred G. Thompson, Michael Vecchione, and James D. Williams. 1998. Common and Scientific Names of Aquatic Invertebrates from the United States and Canada. Mollusks (second edition). American Fisheries Society Special Publications 26:1-526.

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The SCAMIT newsletter is published monthly and is distributed freely through the web site at www.scamit.org**.** Membership is $15 for the electronic copy available via the web site and $30 to receive a printed copy via USPS. Institutional membership, which includes a mailed printed copy, is $60. All new members receive a printed copy of the most current edition of "A Taxonomic Listing of Soft Bottom Macro- and Megainvertebrates … in the Southern California Bight." The current edition, the fourth, contains 2,067 species with partial synonyms. All correspondences can be sent to the Secretary at the email address above or to:

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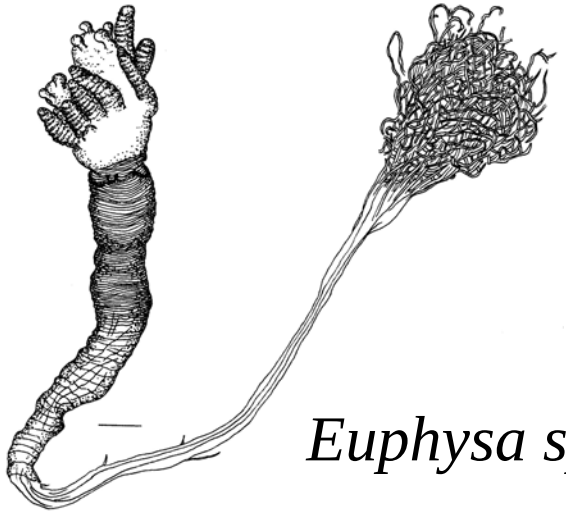
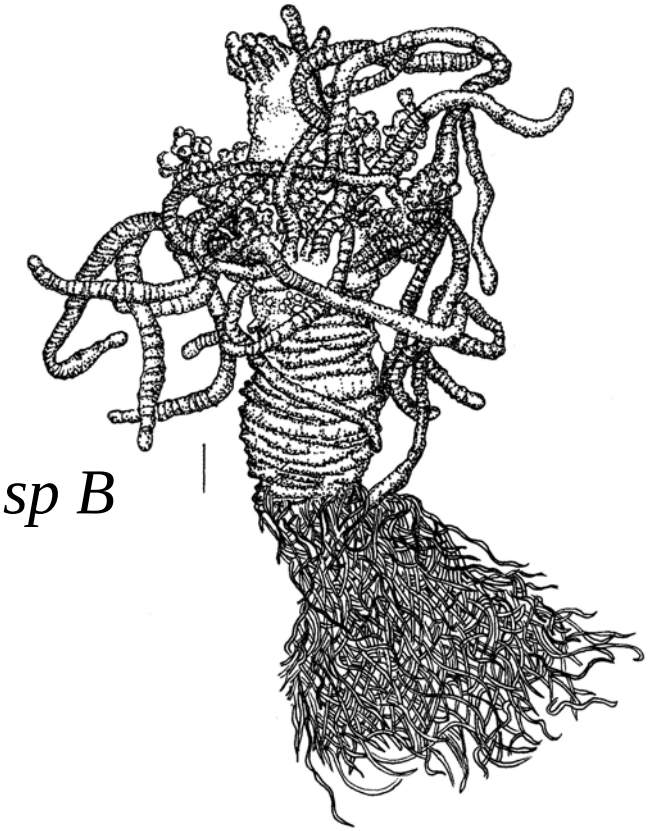
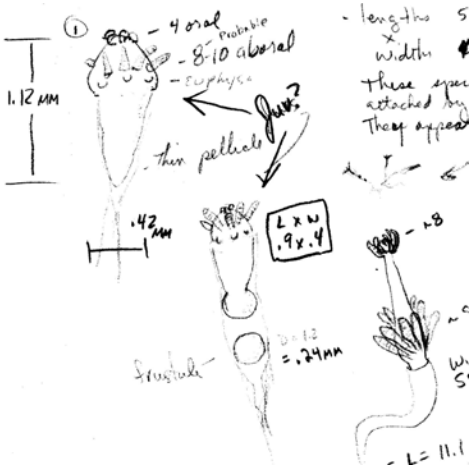


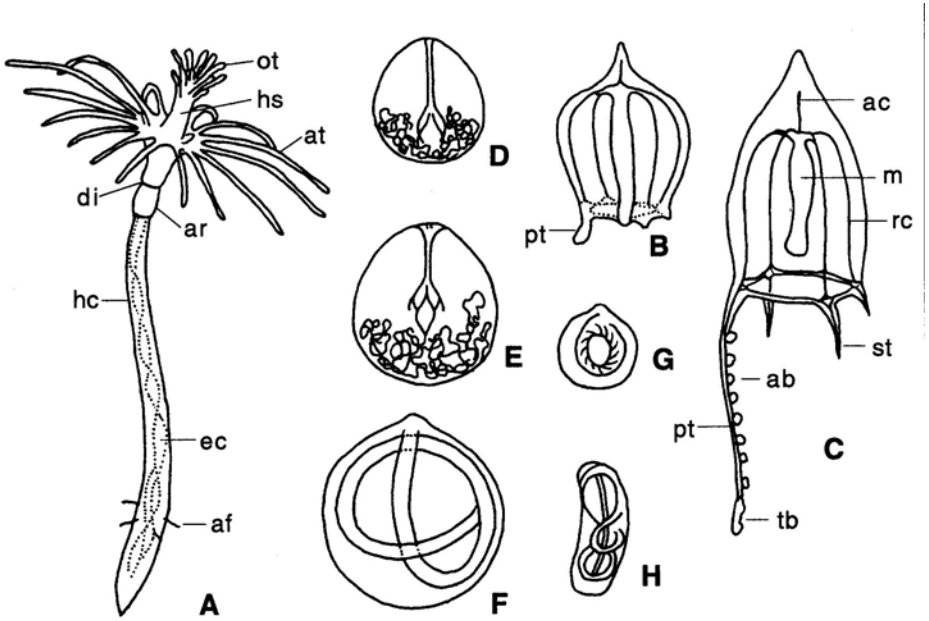
Euphysa sp A



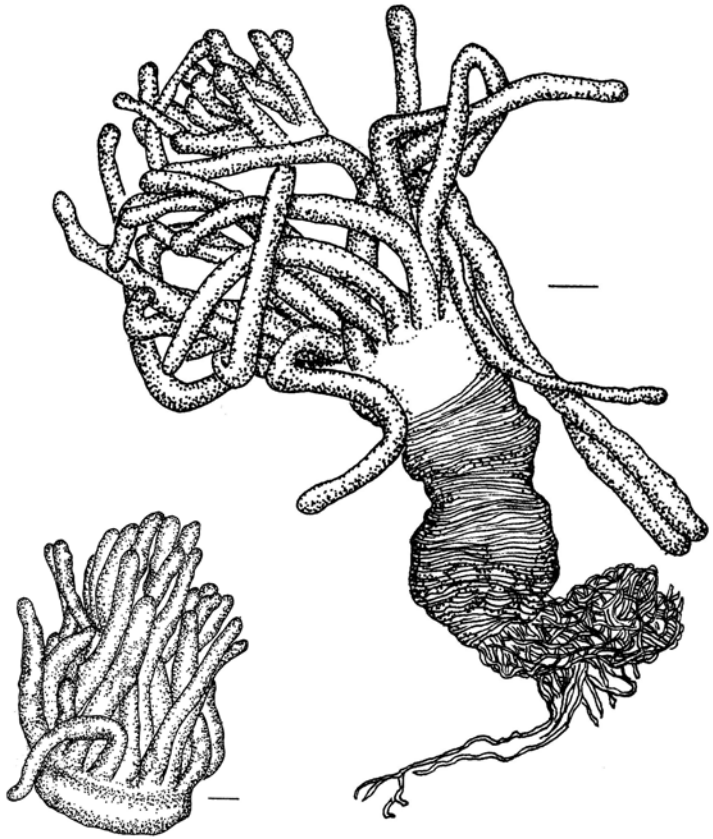
Euphysa sp B



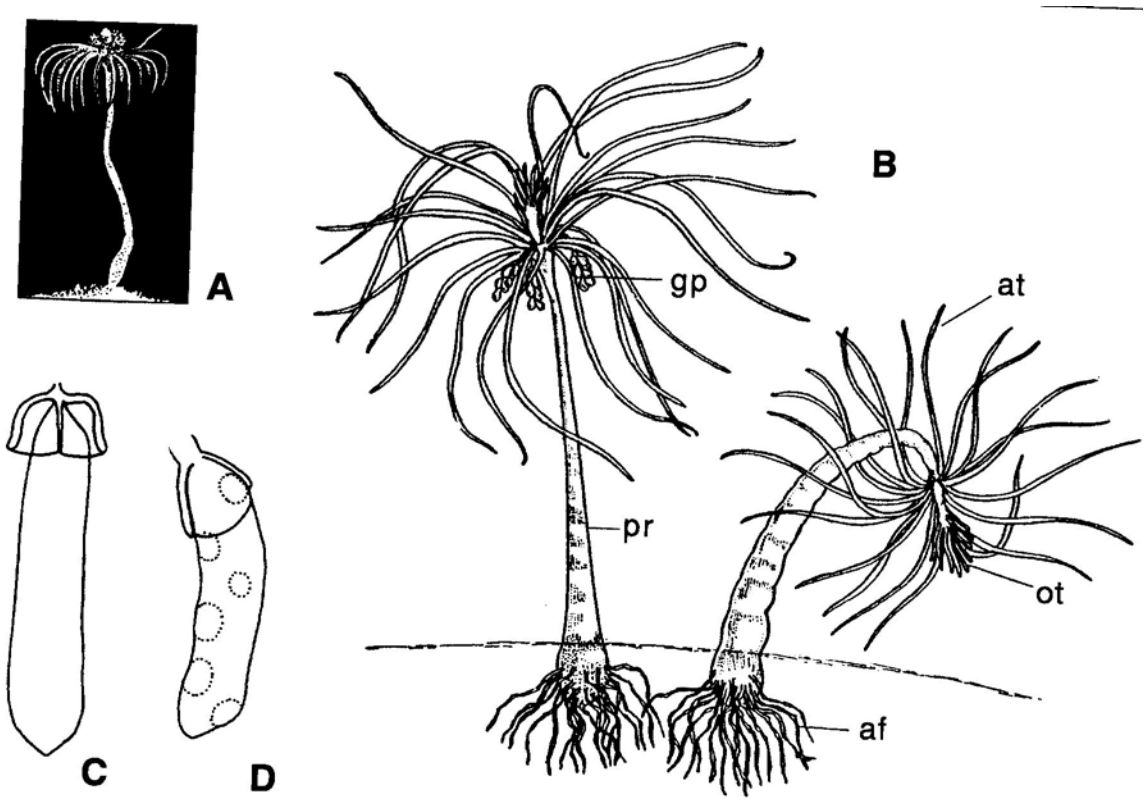
Euphysa sp C



Corymorpha bigelowi
(Maas, 1905)



Corymorpha sp A
and actinula larva



Corymorpha palma
Torrey, 1902

A KEY TO CORYMORPHINE POLYPS

1. Both whorls filiform to serially bulbous, tips bulbous; papillae at base of hydrocaulus .....*Corymorpha* 2

1. Aboral whorl moniliform, capitate; oral whorl capitate, sub- to moniliform; papillae at top of hydrocaulus, below line of demarcation..... *Euphysa* 3

2. Gonangia are cryptomedusae (elongate, fusiform bodies) ..... *Corymorpha palma*

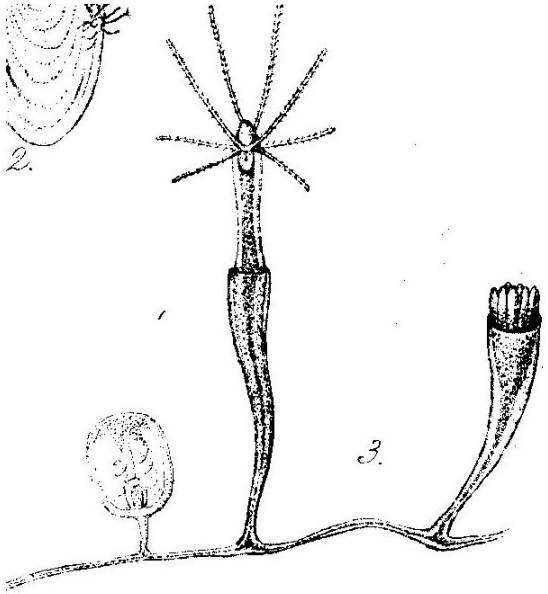
2. Gonangia are quadrate eumedusoids with one tentacle longer...*Corymorpha bigelowi*

2. Hydranth equal to or larger than hydrocaulus...*Corymorpha sp A*

3. Oral whorl tentacles profuse, long, sub- to moniliform, capitate; quadrate eumedusoids with 4 equal tentacles .... *Euphysa sp B*

3. Oral tentacles 4-9, short and capitate; hydrocaulus tapering; hypostome short and blunt; quadrate hydromedusa with 1 longer tentacle; about 1mm.....*Euphysa sp A*

3 Oral tentacles 3-7, short and capitate; hydrocaulus thin with uniform diameter; hypostome ovoid; buds polyps not hydromedusae.....*Euphysa ruthae*



Perigonimus serpens from Hincks 1868

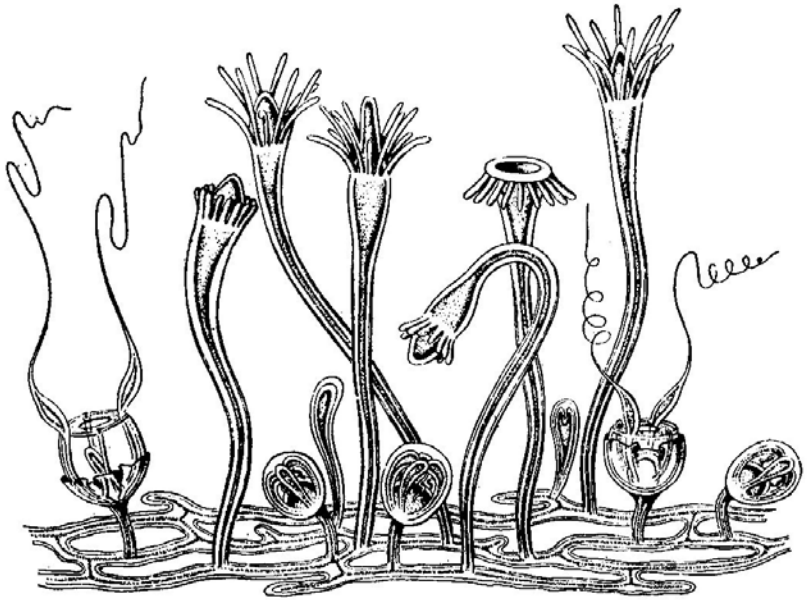
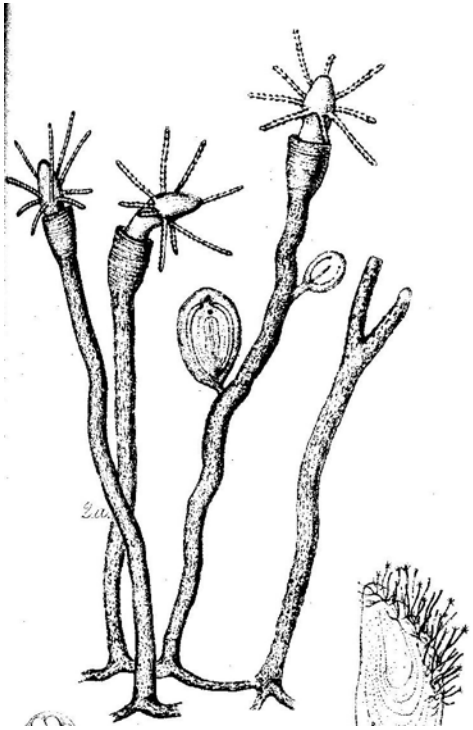


FIG. 59.—*Perigonimus "serpens,"* after Allman, in Ray Society, 1871–72.

Perigonimus serpens after Allman 1871-1872

Rhizorhagium formosum (Fewkes, 1889)



Perigonimus repens
from Hincks 1868

Oceania octona from Forbes 1847

Leuckartiara octona (Fleming, 1823)

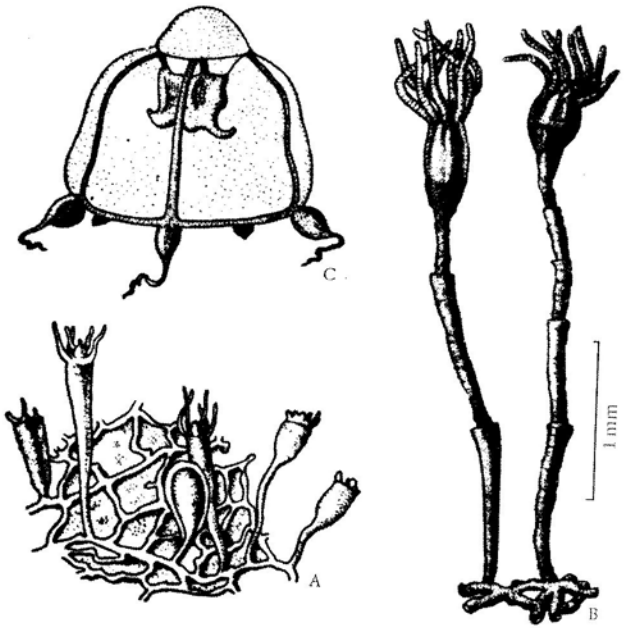


FIGURE 67. Perigonimus yoldia-arcticae Birula:

A — young colony from Baltic Sea; B — two polyps of old colony from White Sea; C — young medusa (A, C — after Hartlaub, magnified?; B — after Jäderholm).

Perigonimus yoldiarcticae Birula, 1897

Medusae budded off hydrorhiza

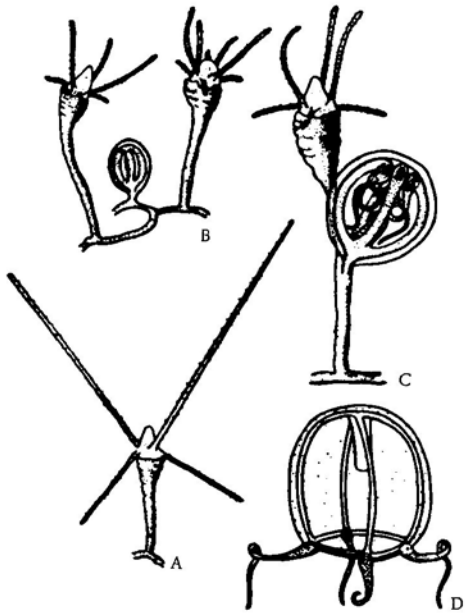


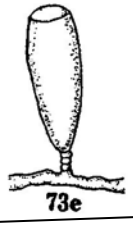
FIGURE 70. Perigonimus abyssi G.O. Sars:

A — sterile polyp; B — section of colony with two polyps and gonophore on the hydrorhiza; C — polyp with gonophore; D — young medusa. (After Rees, magnified?).

Perigonimus abyssi G.O. Sars, 1874

Medusae budded off from both pedicel and hydrorhiza

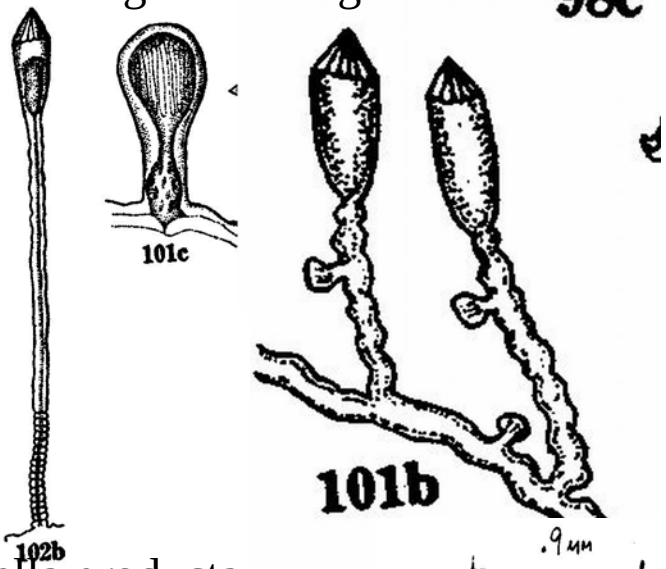
Both Species on *Acila castrensis*



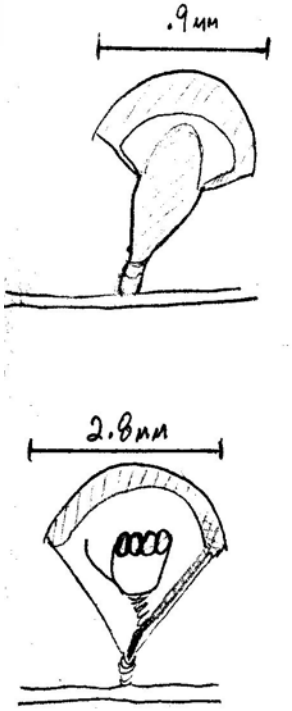
Clytia longitheca (Fraser,1914) on Cyclocardia sp

from Fraser 1938

Egmundella gracilis



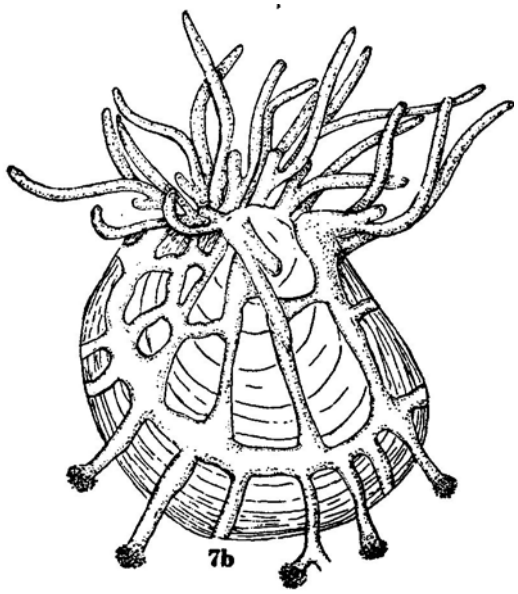
Lovenella producta



Oplorhiza gracilis (Stechow, 1921) in Thesea community

Reproductive structures : Young

Old developing medusa



Monobrachium parasitum
Mereschkowsky, 1877