



Southern California Association of Marine Invertebrate Taxonomists

August, 2003

SCAMIT Newsletter

Vol. 22, No. 4

SUBJECT:	B'03 Ostracoda
GUEST SPEAKER:	none
DATE:	9 December 2003 (pending; double-check the SCAMIT website for final date)
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	Los Angeles Museum of Natural History



B'03 Station 4068, 182m, 22 July 03, CSD
Allocentrotus fragilis with a parasitic *Polygireulima rutila*
Photo an dID by K. Barwick

JULY MINUTES

The meeting began with SCAMIT business, the minutes of which have since been lost and therefore ignored here (if I ever find them, I will publish them in a future issue).

The speaker for the day was Megan Lilly (CSD) and she began the taxonomy portion of the meeting with a bit of information received via email from Rich Mooi (Cal Academy of Sciences). He warned that *Brisaster townsendi* is a valid species and may be the animal we are seeing in this area. However, according to Rich it is incredibly difficult to separate *B. townsendi* from *B. latifrons*. Megan will be looking into this further and will get back to the membership if she comes up with anything of interest. In the meantime, for the sake of data consistency, we shall continue to call our local species *Brisaster latifrons*.

With that being said, we started with an overview of ophiuroid anatomy and the terminology problems that arise in the literature (disclaimer: the following paragraphs are Megan's working interpretation of the literature. They in no way represent a thorough examination, or a necessarily correct interpretation, of said literature).

For instance, it is easy to confuse the terms oral papillae and teeth. For the most part (this does not hold true for all the literature), "oral papillae" or "mouth papillae" refers to the structures on the lateral sides of the jaw. The term "teeth" (or "tooth papillae") refers to the structures at the apex of the jaw leading down into the mouth (or "up" as the case may be; since we are viewing animals from the ventrum, we are actually looking dorsally when we look "down" into the mouth).

One of the other confusions that arose was references to the number of papillae per jaw. For instance, in some publications the author(s) would refer to an animal such as *Amphiodia urtica* (for example) as having "three pairs of oral papillae", and in others, the condition would be described as "6 oral papillae present" (often with the "per jaw" phrase missing).

Descriptions of the genus *Amphiura* give another example of multiple terms for the same structure. The jaw is some times described as having a pair of buccal scales, other instances refer to these structures as "sub-apical" mouth papillae.

The distal most pair of papillae is often referred to as "modified tentacle scales" and in other instances, they are just referred to as distal papillae.

The list of various terminologies for the same anatomical structure depending on which publication one is using is quite long. You would be cautioned when reviewing the literature to keep in mind the inconsistencies in terminology over the years and be sure you have a handle of what that particular author is referring to when trying to use a key, etc.

In preparation for the B'03 samples, we proceeded to review actual specimens from deeper areas (or in some instances, very shallow), many of which Gordon Hendler (LACMNH) was kind enough to loan for the presentation.

(Some of the following minutes are lifted directly from Lisa Haney's (CSDLAC) notes; her assistance in this matter is greatly appreciated.)

The following are easily confused species or are species that we should be looking out for while doing identifications:

Amphipholis pugetana vs. *Amphipholis squamata*: *A. pugetana* has median arm spines that are noticeably longer and somewhat spatulate compared to the surrounding arm spines. *A. squamata* does not possess these spatulate-like spines. As a note of caution, these large, spatulate median arm spines are not always found on all five arms, but can be found on only one or two. They are usually about half way down the arm in terms of location and there can be only one or two of them per arm when they do occur (personal observations from the few specimens I have seen). For a more detailed discussion see Hendler 1996. As the species can be difficult to separate, especially in the juvenile stages, we all agreed that a 3mm disk diameter was the minimum to make a species identification, anything less would be considered *Amphipholis* sp.

Amphiura diomedae vs. *Amphiura carchara*: These two species overlap in depth distribution and can be discerned by the number of tentacle scales that each possess. *A. diomedae* has two and *A. carchara* only has one. Also, *A. carchara* has interbrachial spaces that are bare (no scales) on the oral side thus making it easily identifiable from other species. To separate *A. carchara* from *A. arcystata*, again look at tentacle scales with *arcystata* having two, but also look at arm spines. *A. carchara* has 3 arm spines and *arcystata* has 6-7. See Hendler 1996 for more information.



Ophiura sarsi vs. *Ophiura luetkenii* vs. *Ophiura leptoctenia*: *O. sarsi* has two rows of arm combs and two round disks as tentacle scales. *O. luetkenii* has only one row of rounded arm combs and only one round disk as a tentacle scale. *O. leptoctenia* has a single row of spiny arm combs and 2-3 spiniform tentacle scales. There is a warning in Nielsen 1932 in which he discusses small juveniles of *O. sarsi*. At small sizes (1.5-3mm) they may be lacking the second row (or both rows) of arm combs and can be mistaken for *O. luetkenii*. Also see Hendler 1996 for an excellent discussion of *O. luetkenii* and *O. leptoctenia*.

Two species which could be confused at first glance would be *Ophiophthalma jolliense* and *Ophiomusium lymani*. However, *O. jolliense* will have three pairs of proximal tentacle pores whereas *O. lymani* will only have two pairs (the character upon which generic level separation is based, Clark 1941). For good images of *O. jolliense* see Hendler 1996.

There was also some discussion on the validity of the genus *Ophiophthalmus* for the species *normani*. Lisa Haney was kind enough to contact Gordon Hendler with regards to this subject and came up with the following: *Ophiacantha* is not an appropriate generic name to associate with *normani*, but neither is *Ophiophthalmus* as it is currently serving as a generic name for a reptile. However, since no one has worked on this problem the name currently stands as *Ophiacantha normani*. As for differentiating *O. normani* from *O. diplasia*, I have not, by any extent of the imagination, done an exhaustive search of the literature, but was having some difficulty finding good descriptive differences between the two. Upon comparing the two species there were some gestalt type differences but I would urge anyone who thinks they have one species or the other to research the literature thoroughly. I will try in the near future to take some comparative photos and produce a sheet outlining the two species. For the moment I can say that the radial shields on *O. diplasia* were

mostly obscured by granules, whereas those on *O. normani* were more obvious and less obscured by the superficial disk structures. In addition, on various sizes of *O. normani* there were 3-4 granules on the distal edges of the dorsal arm plates. In contrast, the granules did not seem to extend on to the dorsal arm plates of *O. diplasia* except for in the largest specimen examined (disk diameter approx 2 cm) and then there was only 1 granule seen on the distal edge of the plates (almost between successive plates). Comparative features, I know, but the best I can do for the moment. If anyone has better information please pass it along.

Amphichondrium laevis vs *A. granulatus*: These two species were compared at the meeting. The differences between the two can be subtle and are best described in Hendler 1996.

Ophiothrix rudis vs *Ophiothrix spiculata*: Depth range does overlap for the two species, but *O. rudis* only ventures from the intertidal to approximately 64m, whereas *O. spiculata* has been recorded from as deep as 2059m (Maluf 1988). In addition, *O. rudis* will have a disk covered with cylindrical spines, versus the thorny spines found on *O. spiculata*. *O. rudis* will have 5-6 minutely (or not at all depending on which description is being read) serrated arms spines and *O. spiculata* will have 7 obviously serrated arm spines. For a further discussion of these two species see Nielsen 1932.

Amphioplus strongyloplax is a concern for the author in its potential for confusion with *Amphioplus* sp LA 1 (or *Amphioplus hexacanthus* which is still being used as a "place holder" name by the City of San Diego). The voucher sheet for *Amphioplus* sp LA 1 has not yet been distributed, and until it can be compared with Hendler's discussion of *A. strongyloplax* in the MMS Atlas, I have no



advice on how to differentiate these two species. Perhaps one of our readers more familiar with this current situation can enlighten us on the differences.

Ophiopholis aculeata vs *Ophiopholis bakeri*: The most obvious difference between the two species is that the dorsal disk surface of *O. aculeata* is covered with rounded granules in contrast to the spines found on the dorsal disk of *O. bakeri*. In Nielsen 1932, he separates the two species on the basis of whether or not the small plates surrounding the dorsal arm plates form a closed ring. Nielsen also cautions that McClendon's figures of the mouth papillae are in disagreement with Clark's drawings as well as his own observations.

With that we were out of time for the day. There are many more ophiuroid species that could be encountered in the B'03 samples and it is the author's hope to find the time to schedule a second ophiuroid meeting.

SPELLING ERROR

Following is an email from Eric Hochberg (SBMNH) with a spelling correction for the last newsletter:

"Just went through the latest newsletter (July) and the cnidarian section. When John & I published the octocoral section of the Taxonomic Atlas we made a mistake in spelling which was reversed by an ICZN ruling. The correct generic spelling for *Ombellula magniflora* is *Umbellula*. Here are references to name conservation for *Umbellula*.

Opinion 1903: *Umbellula* Cuvier, [1797] (Cnidaria, Anthozoa): conserved as the correct original spelling, and corrections made to the entries relating to *Umbellularia* Lamarck, 1801 on the Official Lists and Indices of Names in Zoology. Bulletin of Zoological Nomenclature, 55(3): 187-188 [September].
Bayer, F.M. & M. Grasshoff. 1997. Original application. Bulletin of Zoological Nomenclature, 54: 14-18 [March].
Cornelius, P.F.S. 1997. Comment. Bulletin of Zoological Nomenclature, 54: 183 [September]."

VOUCHER SHEET

Attached at the end of the newsletter you will find a voucher sheet for *Laomedea calceolifera* produced by John Ljubenkov.



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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:

SCAMIT

C/O The Natural History Museum, Invertebrate Zoology

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Laomedea calceolifera (Hincks, 1871)

Cnidaria: Hydrozoa: Family Campanulariidae

SCAMIT CODE: None

SYNONYMY: *Obelia* sp A MEC 1990 § in SCAMIT, 3rd and 4th Editions

LITERATURE:

Antsulevitch A.E. 1987. Hydroids of genus *Laomedea* Lamouroux, 1812 in USSR Fauna. Vestnik Leningradskogo Universiteta; Ser.3, Vol.4(24), pp.11-18 (in Russian).

Chapligina S.F. 1999. Hydroids Fauna in the foulings of the mooring constructions in North-Western part of the Sea of Japan// Biologija Morja Vol.25 (2), pp. 170-172 (in Russian).

Chapligina S.F. 1992. Introduction of two species *Laomedea flexuosa* and *L. calceolifera* (Cnidaria, Hydrozoa, Campanulariidae) into the Sea of Japan. Zool.Journ. 71(9), pp.5-10 (in Russian).

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Lonko A.K. 1911. Hydraires (Hydrozoa). Volume 1. Haleciidae, Lafoeidae, Bonneviellidae et Campanulariidae. St. Petersburg. Faune Russie. pp.I-XLVIII, 1-251 (In Russian).

Medel, M. D. and Vervoort, W. 2000. Atlantic Haleciidae and Campanulariidae (Hydrozoa, Cnidaria) collected during the CANCAP and Mauritania-II expeditions of the National Museum of Natural History, Leiden, The Netherlands. Zoologische Verhandelingen Vol. 330, pp. 1-68.

DIAGNOSTIC CHARACTERS (see figure by Carol Paquette):

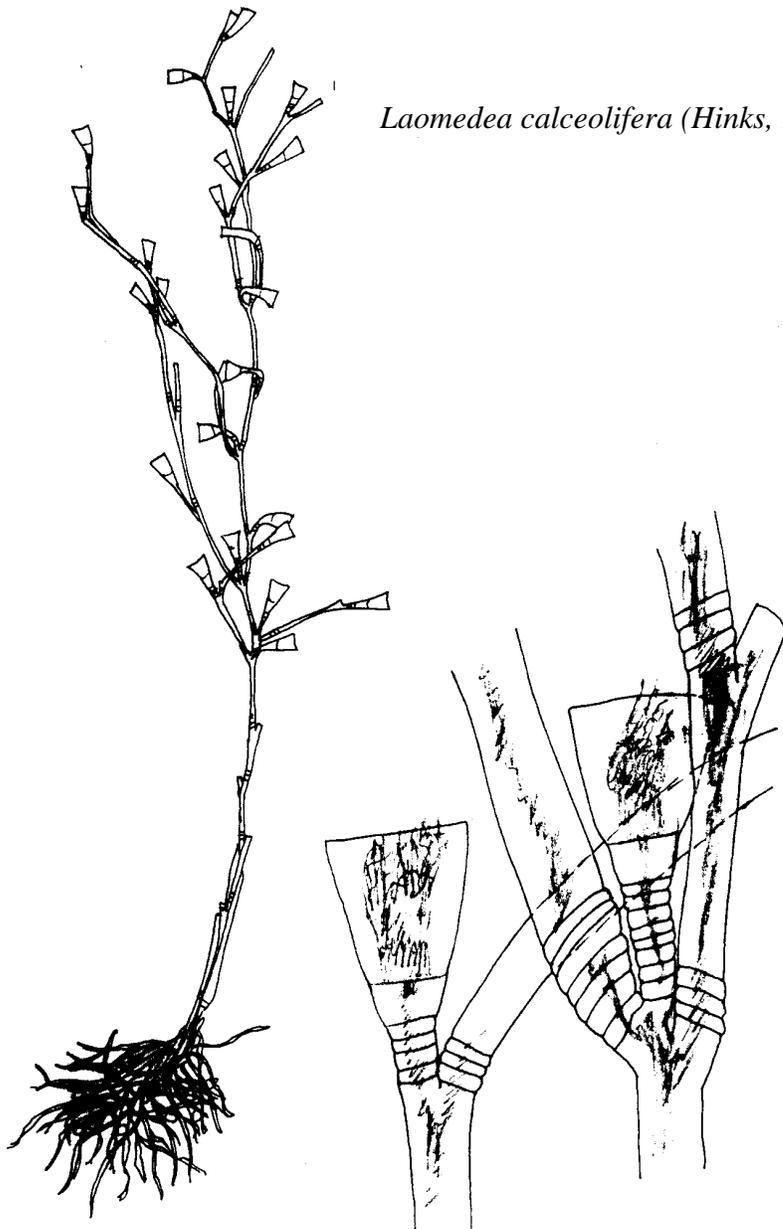
1. colony to about 3 cm in height
2. proximal part of stem polysiphonic, distal part and branches (hydrocladia) monosiphonic
3. attachment a tuft of rhizoids
4. rim of hydrotheca poorly defined, but typical Campanularian bell shape
5. so far all specimens are without any reproductive structures

RELATED SPECIES AND CHARACTER DIFFERENCES: There are two other strongly fascicled Campanularians on the Pacific Coast: 1) *Rhizocaulus verticillatus* (Linnaeus, 1767), which has branches with hydrothecae arranged in irregular whorls; and 2) *Obelia gelatinosa* (Pallas, 1766), a stunning colony with a strongly fascicled central stem [up to 25 cm] and V-shaped pairs of branches whose origins whirl around the stem. See Fraser (1937) for images as *Campanularia verticillata* and *Campanularia gelatinosa*.

DEPTH RANGE: subtidal to offshore, common around the 60-meter mark.

DISTRIBUTION: Found commonly throughout the Southern California Bight, but not recorded from the northern Pacific Coast of the United States. This is a boreal species also noted from the Atlantic and Western Boreal Pacific. Like much of the hydrozoan fauna of our region, this species has a very wide distribution.

NOTES: For years this species has been enigmatic because no reproductive structures have ever been found. However a good specimen collected off Orange County and illustration (by Carol Paquette [MBC] (see below) were sent to Dr. Sofia Stepanjants of the Russian Academy of Sciences, who has published extensively on Family Campanulariidae and on the genus *Obelia*. She has determined that this species is so close that it is essentially identical to *Laomedea calceolifera* (Hincks, 1871). However, since reproductive structures have never been found in our specimens, illustrations of the reproductive structures from Pacific specimens are presented in publications by Antsulevitch and Chapligina.



Laomedea calceolifera (Hincks, 1871)