

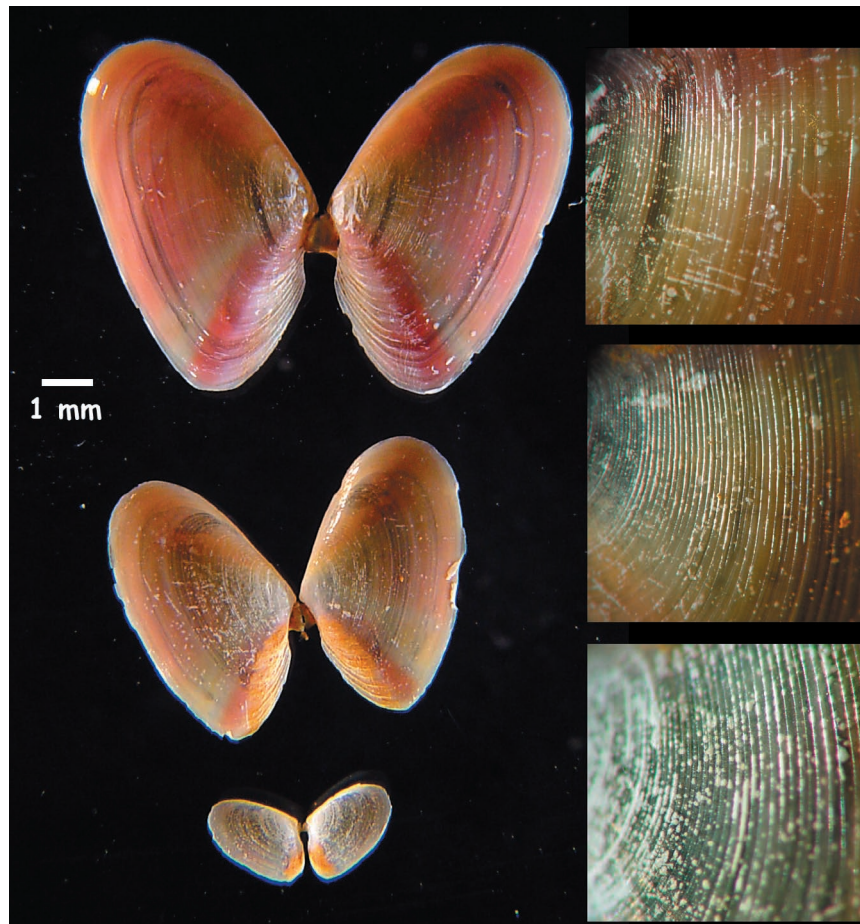
**S**OUTHERN  
**C**ALIFORNIA  
**A**SSOCIATION OF  
**M**ARINE  
**I**NVERTEBRATE  
**T**AXONOMISTS



July/August, 2005

SCAMIT Newsletter

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*Tellina carpenteri* shells – insets on right show microscopic detail of the corresponding shell surface (Image by K. Barwick))

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

**11 JULY 2005**

The SCAMIT meeting began with Cheryl Brantley (CSDLAC) telling us some good news; an anonymous source gave SCAMIT a \$5,000 donation. This statement was greeted with much enthusiasm as it is always nice to know SCAMIT has enough in its coffers to cover visiting lecturer expenses and publication stipends.

New literature was then passed around by both Don Cadien and Leslie Harris, with Leslie's contribution being a series of *Spiophanes* papers.

Then it was time for our speaker of the day, Boris Savic. Boris, who's education is in palaeontology, has a special fascination with echinoids, extinct and extant. He contacted some of the Southern California monitoring agencies last year and offered to help with the *Brisaster latifrons*/*B. townsendi* question (see SCAMIT NL Vol 23 no 5). CSDLAC took up his offer of assistance and he has since accompanied them on some of their trawl surveys. He "hit the jackpot" with their trawls bringing up *Brisaster* specimens numbering in the hundreds. He was able to take many specimens home and study them in detail. Below are the results of his examinations.

Boris started initially with a review of the original descriptions and type specimens. In some of the original descriptions by Agassiz (1898 and 1904) Boris felt that the graphs and text had become somewhat intermixed and confused with regards to the two similar species. The type material he examined was small/juvenile and therefore problematic. After much investigation, Boris concluded that below a 40 mm test size one can't distinguish the two species.

However, some characters which do separate the species are discussed:

- The periproct on *B. latifrons* is visible from a dorsal view as the apical system is more centrally located. On *B. townsendi* the periproct is not seen dorsally as the apical system is shifted towards the posterior, pushing the periproct just ventral to the posterior edge of the test.
- The indentation (or lack thereof) of the posterior edge of the peripetalous fasciole is an important separating factor. This edge is indented into an "inverted U-shape" above the periproct in *B. latifrons* and is almost straight/horizontal in *B. townsendi*.
- The posterior petaloids and their relative proportion to the anterior petaloids is also a factor. In *B. latifrons* the posterior petaloids are long (at least ½ the length of the anterior petaloids) and wide. In contrast, the posterior petaloids in *B. townsendi* are short and narrow.

### Upcoming Meetings

**October 10** - Nemertea at CSD Lab with Megan Lilly & Dean Pasko (CSDMWWD)

**November 14** - Polyclad flatworms at Hyperion Lab with Tony Phillips (CLAMED)

**December 12** - No Meeting

**January 9** - TBA

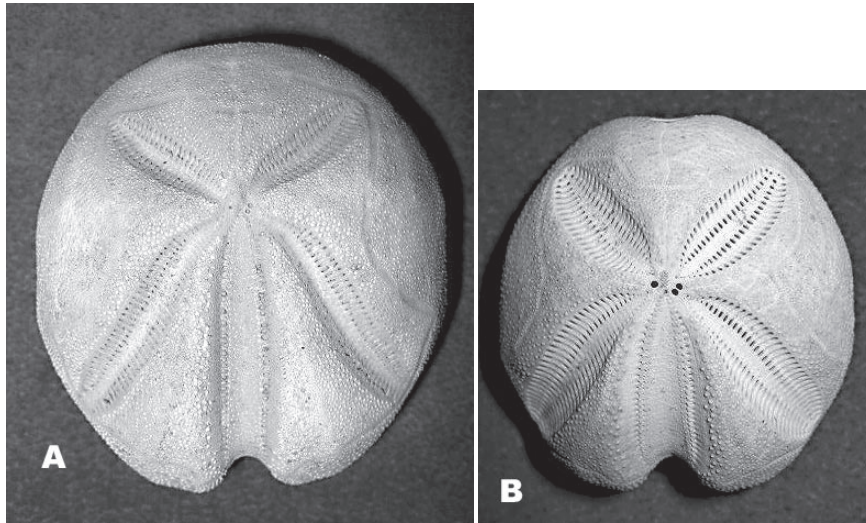
**February 13** - TBA

**March 12** - TBA

**April 10** - TBA

**May 8** - TBA





**Figure 1 – A. *Brisaster townsendi*, B. *Brisaster latifrons***  
(Images by Boris Savic)

Another character to note was that some of the specimens had 4 genital pores which is contrary to the description for the genus which describes 3 genital pores.

In one of the samples examined approximately 5% of the animals were *B. townsendi* and the remainder were *B. latifrons*. It will be interesting to see if, as one travels further south, *B. townsendi* will be the more dominant species. Examination of animals from the City of San Diego should provide some data for that question. It's nice to know that the species do co-occur... not.

Boris showed us a wonderful powerpoint presentation comparing both species side by side and high-lighting the differences. After seeing the presentation most people felt confident they could separate the two. However, Boris warned that he picked the best animals, meaning those with characters at the extreme end of the ranges for both species. He then passed around boxes containing lots with good examples of both species, and a box with animals which were a bit more difficult to determine. It often took comparing these “middle-grounders” to a more obvious animal in order to attempt an ID. Boris’s powerpoint presentation is available on the SCAMIT website under the Taxonomic Tools Section.

Although the two species will probably continue to be problematic, thanks to Boris we now have better tools to help us in our efforts at identifying them. Boris recently went out on trawls with OCSD and will hopefully get a chance to go out with the City of San Diego in the near future. These further explorations should shed some more interesting light on the situation.

A big thanks to Boris for his help in this matter.

MEGAN LILLY, CSD

### 8 AUGUST 2005

The business portion of the meeting began with Kelvin Barwick (CSD) announcing that the next SCUM meeting is coming up. Please see the announcement below.



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## SCUM X

The tenth meeting of the Southern California Unified Malacologists (SCUM) will take place on January 21st 2006 at the Santa Barbara Museum of Natural History.

SCUM is a loose association of mollusk workers in Southern California. SCUM meets annually for an informal information exchange and updates on current work in the region. Everybody is welcome to attend. This is the first announcement with the sole purpose of communicating the date of the meeting. If you want to ensure to obtain all subsequent updates, please send an e-mail to: Daniel Geiger at [geiger@vetigastropoda.com](mailto:geiger@vetigastropoda.com).

If you attended SCUM meetings in the past, you “should” receive e-mails. Updates will be sent in due time. See you all there!

Best wishes

*DANIEL GEIGER*

Santa Barbara Museum of Natural History-Invertebrate Zoology  
2559 Puesta del Sol Road  
Santa Barbara, CA 93105  
voice (805) 682 4711 x152  
fax (805) 563 0574

Don Cadien then had the floor. He had been in contact with Leslie Harris who at the time was in Panama working with Jim Thomas. Jim had stated he would be willing to come out for a special meeting on *Leucothoe*. Please let Leslie know if you are interested in having Jim come out for such a meeting. You may contact Leslie at [lharris@nhm.org](mailto:lharris@nhm.org).

Our guest speaker for the day was Dr. Susan Kidwell of the University of Chicago. She gave a very informative presentation. I’ve included a copy of her abstract below and it is posted on the SCAMIT website as well.

### **Testing the fidelity of molluscan death assemblages: a meta-analysis of “live-dead” studies.**

**Abstract:** How closely does the composition of sieve residues (dead shell material) match the local living community --not only in taxonomic composition, but species relative abundances, richness, evenness, spatial distribution, etc? Quantifying the direction and magnitude of offset between death assemblage information and that generated by standard live-benthos sampling, and quantifying the effective temporal acuity of such dead-data (extent of “time-averaging” by bioturbation and physical reworking of the sea floor), are critical to accurate paleoecological analysis (reading historical patterns down sedimentary cores) and also to developing death assemblages as a means of environmental assessment (complementing standard “live” data, or permitting rapid biodiversity counts in frontier areas). Results from meta-analysis of 85 live-dead data sets (database now expanded to 150) indicate remarkably high agreement, given the many kinds of post-mortem processes that might modify ecological signals in death assemblages.

Susan’s talk lead to much interested discussion about the potential for this type of analysis in studying the “shifting base line” theory. In other words, by using the fossil record we could get an idea of what an environment was like, long before we started our original monitoring



programs, and thereby get a more accurate representation of anthropogenic (or not) change over time.

After the talk we broke for lunch. In the afternoon we were first treated to a presentation by Don Cadien on a new nudibranch discovery. His excerpt follows.

### The nudibranch genus *Lomanotus* in Southern California Bight Waters

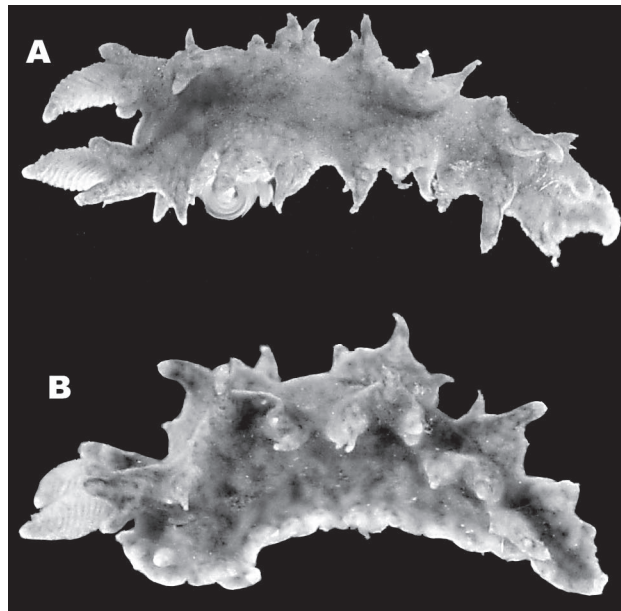
Our LACSD monitoring samples from January 2005 contained two specimens of a small nudibranch different from those taken previously. It was a dendronotacean, lacking both the cerata of aeolids and the branchial plume of dorids. The dorsal notum had a series of raised ridges instead.

My initial thought was that this was *Hancockia californica*, a well-known local dendronotacean which we had never seen.

It is well illustrated in Behrens' Pacific Coast Nudibranchs (Pg. 74, #139). While there was some similarity in the arrangement of the notal structures between our specimens and *Hancockia*, the clavus of the rhinophores was totally different. Our specimens bore a perfoliate clavus, which tapered evenly to an obtuse pointed end. In *Hancockia* the clavus of the rhinophores is described as a "fluted pulpit" by Behrens (1991, figure 3h) and differs markedly from the structure on our specimens.

Abandoning the idea that we had an odd *Hancockia*, I moved on to check if we had an odd *Dendronotus*. All members of that genus, however, have simple or dendritically branched processes on the notum which arise from pedicels or stalks directly from the notal surface. Our specimens had raised lateral ridges with some low papilla-like extensions suggested in the preserved specimens. These ridges, which form an undulate notal margin, finally clicked in my head with a remembered image of similar structure in European animals. I turned to my copy of Thompson & Brown (1984 - Biology of Opisthobranch Molluscs Vol. II) and found what I was looking for in Plate 3.

Two species were illustrated there which had very similar undulate notal borders topped by papillae, *Lomanotus genei* and *Lomanotus marmoratus*. Our specimens seemed clearly congeneric. The genus *Lomanotus* is, however, not known from temperate or boreal waters in the NEP. There is a Panamic representative of the genus, *Lomanotus vermiformis* Eliot 1908 (see Behrens 1991, pg. 80 #155). This species was originally described from the Red Sea and is now known from other wide-flung locations in the tropical west Atlantic (Clark & Goetzfried 1976, as *L. stauberi* n. sp.) and in the tropical east Pacific (Gosliner & Bertsch 1985 as *L. stauberi*). Willan (1988) recognized *L. stauberi* as a synonym of the little known *L. vermiformis*, and it was so treated by Turgeon et al 1998. As such it was a candidate for our animal, being a species introduced into various locations along with its prey hydroid, *Lytocarpus* (probably on ship fouling or perhaps passive debris drift).



**Figure 2** – *Lomanotus* sp. **A.** Dorsal view (5mm), **B.** Right lateral view (3mm) of second specimen (Images by LACSD)



Comparison with the image in Behrens quickly discounted that possibility. *Lomanotus vermiformis* has very poorly developed notal ridges for a member of the genus, and is much longer than seemed possible for our preserved specimens. While I am confident (even without dissection) that our specimens belong to this genus, the specific identity remains obscure. We will continue to investigate, and if it proves likely to be new rather than described, we will give it a provisional designation and circulate a voucher sheet. For now we are just calling our two specimens *Lomanotus* sp.

D. CADJEN LACSD, 3 August 2005

After Don's presentaion Ron Velarde had the floor and he brought up the much debated topic of the *Tellina* spp. Basically there are two camps with regard to these animals. One believes that *T. cadieni* and *T. sp B* are the same animal, and the second believes they are distinct, with *T. sp B* occurring offshore and *T. cadieni* occurring in bays and estuaries. We still were unable to resolve this issue completely. Specimens of *T. sp B* and *T. cadieni*, from those agencies that are separating them, need to be compared and reviewed before a consensus on this issue can be reached.

The next topic for discussion was Scaphopods. Kelvin introduced the subject by discussing some preliminary findings and exhibiting images of our common species. See the Taxonomic Tools section of the web site for the complete presentation. The four species compared were: *Cadulus aberrans*, *Siphondentalium quadrifissatum*, *Compressidens stearnsii*, and *Dentalium vallicolens*. They each had their radulas removed for comparison. The dentailid radula has a relatively large crescent shaped rachadian tooth. The Gadilid rachadian tooth is much smaller in comparison often with a central cusp. Examples of each are illustrated on Ronald Shimek's web site at: <http://www.rshimek.com/Scaph1.htm>. It is unclear at this time as to whether or not radular comparison will be helpful for lower than order level identifications. More material needs to be examined.

The true identity of *Compressidens stearnsii* was also discussed. In Emerson's 1962 paper the shell of *Fustiaria (Compressidens)* spp is described as being "compressed between convex and concave sides, producing an elliptical outline in [cross] section." The CSD specimens examined are round in cross section. They do, however, look very similar to what is illustrated in Oldroyd, 1973 (Vol. 2, part 1; Plate 1, Fig 6) as *Cadulus stearnsii*. It was decided to retain the name, *Compressidens stearnsii* for now. It was postulated that this species has been overlooked in the CSD material. It has been primarily found offshore.

#### BIBLIOGRAPHY

- Agassiz, A. 1898. Reports on the dredging operations off the west coast of Central America to the Galapagos, to the west coast of Mexico, and in the Gulf of California, in charge of Alexander Agassiz, carried on by the U.S. Fish Commission Steamer "Albatross", during 1891, Lieut. Comm. Z.L. Tanner, U.S.N. Comm., 23, Preliminary report on the Echini. Bull. Mus. Comp. Zool., 32:71-86.
- \_\_\_\_\_, 1904. The Panamic Deep Sea Echini. Mem. Mus. Comp. Zool; 31:1-246.
- Behrens, David W. 1991. Pacific Coast Nudibranchs (2nd edition). Monterey, California, U.S.A.: Sea Challengers.
- Clark, Kerry B., and Andreas Goetzfried. 1976. *Lomanotus stauberi*, a new dendronotacean nudibranch from central Florida (Mollusca: Opisthobranchia). Bulletin of Marine Science 26, no. 4: 474-78.



- Emerson, W. K. 1962. A classification of the scaphopod mollusks. *Journal of Paleontology*. 36, no. 3: 461-482 pls. 76-80.
- Gosliner, Terrence M., and Hans Bertsch. 1985. Records and morphology of *Lomanotus stauberi* Clark & Goetzfried, 1976, from the Panamic Pacific. *Veliger* 27, no. 4: 397-405.
- Oldroyd, I. S. 1973. The marine shells of the west coast of North America. Stanford University Publications, University Series. Geological Sciences. Vol. 2 part I: 1-298 pls. 1-29.
- Thompson, Thomas Everett, and Gregory H. Brown. 1984. *Biology of Opisthobranch Molluscs, Volume II*. London, England: The Ray Society.
- Turgeon, Donna D., James F. Jr. Quinn, 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, Amélie 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*. Bethesda, Maryland: American Fisheries Society.
- Willan, Richard C. 1988. The taxonomy of two host specific cryptic dendronotid nudibranch species from Australia, including a new species description. *Zoological Journal of the Linnean Society* 94, no. 1: 39-63.



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### SCAMIT OFFICERS

If you need any other information concerning SCAMIT please feel free to contact any of the officers at their e-mail addresses:

President	Kelvin Barwick (619)758-2337	<a href="mailto:kbarwick@sandiego.gov">kbarwick@sandiego.gov</a>
Vice-President	Leslie Harris (213)763-3234	<a href="mailto:lharris@nhm.org">lharris@nhm.org</a>
Secretary	Megan Lilly (619)758-2336	<a href="mailto:mlilly@sandiego.gov">mlilly@sandiego.gov</a>
Treasurer	Cheryl Brantley (310)830-2400x5500	<a href="mailto:cbrantley@lacs.org">cbrantley@lacs.org</a>

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SCAMIT

C/O The Natural History Museum, Invertebrate Zoology

attn: Leslie Harris

900 Exposition Boulevard

Los Angeles, California, 90007