

SOUTHERN  
CALIFORNIA  
ASSOCIATION OF  
MARINE  
INVERTEBRATE  
TAXONOMISTS



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SCAMIT Newsletter

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Bursid larval shell. Probably juvenile *Crossata californica*.  
Collected at OCS station SM\_31, 26 July 2010, 59m.  
ID by Dr. Beu. Photo by K. Barwick. Scale bar = 1mm.

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

### 16 MAY 2011, CYLINDROLEBERIDIDAE, CSD

Larry Lovell started by announcing upcoming meetings: 13 June will be a meeting on Oligochaeta with Dr. Joshua Mackie from SJSU. The meeting will be held at the NHMLAC and Dr. Mackie will be speaking on the taxonomy, barcoding, and ecology of oligochaetes. There will be no meeting in July due to field sampling.

On 15 August members will meet at SCCWRP in the large conference room for a Morphbank image submittal workshop. Deb Paul will lead sessions on both Morphbank online, and spreadsheet, submittal systems. This will be a hands-on workshop and attendees are asked to bring 10-20 images to upload.

The 12 September meeting will be at Lilly Pad Environmental. Megan Lilly will conduct an Enteropneusta workshop. She asked potential attendees to collect specimens during their July survey work so that fresh material would be available for study.

17 October will be a presentation by Tony Phillips on the B'08 Ecnoplana fauna. We will be meeting at OCSD.

Ron Velarde will continue this theme at the 14 November meeting at CSD, where he will review the Syllidae of the Bight'08 project.

After upcoming meetings it was time for other announcements of interest. There will be an Ed 5 update meeting by the Species List Review committee. The initial meeting for this purpose was held Feb 28 at SCCWRP where Don Cadien was elected project lead. July 1 was set as the target date for release of the new edition, Ed 6.

SCAMIT continued its tradition of having an information table at the SCAS meetings this year (May 2011). Larry and Cheryl were able to recruit a few new members as well as catch up with current members who stopped by.

Other professional meetings include the WSM and SMMAC who will be having a combined meeting in La Paz, Mexico on June 27-30.

The WSN will be holding their annual meeting from November 10-13 in Vancouver, WA.

A call went out for future meeting suggestions. Don Cadien said he was working on recruiting Jim Thomas for a meeting on Leucothoidae. Dean Pasko suggested a meeting for establishing protocols and conventions for level of taxonomic effort for specific groups. This would address differing levels of expertise which can make it difficult to reach consensus amongst the agencies.

#### UPCOMING MEETINGS

**27 August 2012. 9:30-3:30.** Spionidae at NHMLAC (education classroom, second floor). Meeting lead visiting scientist Dr. Vasily Radashevsky.

**10 September 2012. 9:30-3:30.** Crustaceans and crustacean biodiversity at NHMLAC (Collaboratory / Marine Biodiversity Center, Ground Floor). Meeting lead visiting scientist Dr. Gary Poore from Museum Victoria in Melbourne (Australia).

**22 October 2012. 9:30-3:30.** Sponges at NHMLAC. Meeting lead visiting scientist Dr. Dave Elvin, co-author of "*The Sponges of California*".

**5 November 2012. 9:30-3:30.** Mollusks - *Lirobittium* and *Tellina* at OCSD. Meeting lead Kelvin Barwick.

**10 December 2012. 9:30-3:30.** Echinoderms - Amphiuroidae, Phylloporidae, and *Parastichopus* spp, at CSD. Meeting lead Megan Lilly.

**14 January 2013. 9:30-3:30.** Flatworms of the SCB at OCSD. Meeting lead Tony Phillips.



The Cyndroleberididae workshop at CSD was a review of species taken in the SCB, tools used to distinguish them, and character states to be evaluated. Ron Velarde provided some hand outs. The presentation began with the WoRMS website on the family. Subfamilies are in use, and will be added to the Ed 6 SCAMIT listing. Genera found locally include *Bathyleberis*, *Xenoleberis*, *Diasterope*, *Leuroleberis*, *Parasterope*, and *Postasterope*. The details of individual limbs, the general body proportions, and details of carapace ornamentation, are all needed for ID. Differences in male/female antennae and mandibles present a problem in defining species. Ron has investigated these differences and has files available for distribution (these will be posted in the Taxonomic Toolbox). Additionally, problems exist in the literature with regards to figures and defining views presented. There are also differences in setation of the inner and outer faces of the mandibles, and it is seldom clear in the literature which view is represented. Are setae on both sides or not??? Ron suspects that they are for some species, but the lack of view definition in the literature leaves this open to question. As a start, he will produce a matrix for people to fill in data for both sides (R and L) of local species. We can all contribute to confirmation of the R/L character symmetry or asymmetry. Please help complete the character table matrix. For additional information on these ostracods consult the Taxonomic Toolbox.

### 13 JUNE 2011, OLIGOCHAETA, NHMLAC

The first order of business was upcoming meetings, which were the same as those announced the previous month and are not repeated here.

Dr. Mackie of SJSU was then introduced as the guest speaker of the day. He gave a presentation titled, "Uncanning Worms – biodiversity and change in aquatic oligochaete communities". His PowerPoint presentation is available on the website in the Taxonomic Toolbox. His presentation was based on his published study, (Mackie, JA, *et al*, 2010) and the abstract from the paper is presented below.

#### Abstract

"The oligochaete *Limnodrilus hoffmeisteri* at Foundry Cove (FC), New York evolved genetic resistance to cadmium (Cd) and lost resistance after contaminated sediments were removed by dredging. Selection (on survival time in dissolved Cd) was used to generate tolerance to evaluate fitness cost, the commonplace expectation for evolutionary reversal. The hypothesis that gene flow from neighboring populations could "swamp" resistance was addressed by 16S rDNA sequences. In disagreement with the cost hypothesis, selected-Cd tolerant worms and controls showed no difference in total fecundity or growth rate in environments. Highly-Cd-tolerant worms of the FC-selected population grew rapidly at different temperatures and showed no growth impairment in the presence of Cd, indicating metabolically efficient resistance. Genetic structure at FC was consistent with invasion of genotypes from an adjacent population in the time since dredging. Applying selection to lines from FC and a reference site, demonstrated a more rapid increase in Cd tolerance in FC-origin lines, indicating standing allelic variation for resistance at FC (despite phenotypic erosion). The selection experiment supports the view that resistance is simply controlled--probably by one allele of large effect. Whether such rapid "readaptation" could occur naturally is an important question for understanding broad effects of pollutants."



Following his talk Dr. Mackie made some general comments regarding oligochaete diversity and systematics (which are also present in his PowerPoint presentation). There are about 5,000 described species of clitellates (earthworms, leeches), and around 3,700 megadrile oligochaetes, mostly terrestrial with the rest being aquatic. It is an open question as to how many undescribed aquatic species might exist.

Useful somatic characters for identification can be found in several papers by Erseus or Christofferson. Dr. Mackie commented on genetic work on oligochaetes; it is moving forward with 16s, 18s, and CO1 being the most used sites. Erseus now examines genetics with every new species he describes. So far, CO1 barcoding efforts with oligochaetes are promising. Kvist *et al* have a series of papers reporting well supported groupings with the CO1 locus only. A Mackie *et al* paper in prep will present work on California marine oligochaetes using CO1. He suspects there are at least 70 marine oligochaete taxa present in California, with 80-90 possible.

Examination of specimens brought by Dr. Mackie took place in the afternoon. We also reviewed local material of *Grania inserta*, and *Tubificoides* species.

## BIBLIOGRAPHY

Mackie JA, Levinton JS, Przeslawski R, Delambert D, Wallace W. 2010. Loss of evolutionary resistance by the oligochaete *Limnodrilus hoffmeisteri* to a toxic substance –cost or gene flow? *Evolution*. 64(1): 152-65.

## JULY 2011

There was no meeting in July due to the heavy field schedule for most of the local monitoring agencies.

## 8 AUGUST 2011, MORPHBANK, SCCWRP

Attendance: Larry Lovell – LACSD; Katie Beauchamp – CSD; Laura Terriquez – OCSD; Ken Sakamoto – OCSD; Tony Phillips - Independent; Kelvin Barwick – OCSD; Cheryl Brantley – LACSD; Wendy Enright – CSD.

SCAMIT was happy to have Deb Paul from Morphbank come in from Florida to talk about processing image submittals from the web and also how to use the bulk upload worksheet. She reminded us that the morphbank website has links for presentations from previous workshops.

Got to: [www.morphbank.net/docs/Presentations](http://www.morphbank.net/docs/Presentations)

Deb started with some news items: Morphbank is working with Australia to catalog the life-forms of the entire country (Atlas of Living Australia). This will be a comparatively static site. The second news item was that Morphbank received a new grant to fund digitization of biocollections and to ensure that the data are interoperable. There are now 3 mirrors for Morphbank; Sweden, Finland, and Australia. Another change is that now there are fewer required fields and objects when submitting images via the web. Also there has been improvement on the name query feature. They are working on a new workbook validation tool which is almost ready! Future goals include allowing users to convert workbooks to xml themselves; Morphbank is also looking into further open source options.



With that Deb started the main topic of the meeting, image submittal best practices:

- gather your data beforehand
- make sure your file names are appropriate
- documents on SCAMIT workshop: manual, names/tsn/scamit\_id
- be sure uid #s are truly unique as appropriate
- try to put your EXEMPLAR image first in the list (this will be your thumbnail) and you may choose to submit it to the Encyclopedia of Life
- when submitting via the web, be sure you show as being part of the SCAMIT group (you can change your default group in your account settings)
- you can upload accessory data first and then your images or you can add the data from within the image upload form

For the workbook bulk image submittal, be sure to fill out all the stippled fields (these are required). Deb has written a very helpful instruction manual that will be placed on the SCAMIT site in the Taxonomic Toolbox along with the SCAMIT/Morphbank unique identifier worksheet and the station list for all Bight projects and regular stations from each major POTW.

To submit a workbook, go to the ftp site:

- hostname: [ftp.morphbank.net](ftp://ftp.morphbank.net)
- username: morphbank5
- password: LersarbOk6

Upload all images and your workbook. Deb will check them and let you know if there are significant edits to be made or if they are good to go.



Please visit the SCAMIT Website at: [www.scamit.org](http://www.scamit.org)

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Hard copy back issues of the newsletter are available. Prices are as follows:

Volumes 1 - 4 (compilation).....	\$ 30.00
Volumes 5 - 7 (compilation).....	\$ 15.00
Volumes 8 - 15 .....	\$ 20.00/vol.

Single back issues are also available at cost.

The SCAMIT newsletter is published every two months and is distributed freely to members in good standing. Membership is \$15 for an electronic copy of the newsletter, available via the web site at [www.scamit.org](http://www.scamit.org), and \$30 to receive a printed copy via USPS. Institutional membership, which includes a mailed printed copy, is \$60. All correspondences can be sent to the Secretary at the email address above or to:

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