



## Southern California Association of Marine Invertebrate Taxonomists

3720 Stephen White Drive  
San Pedro, California 90731

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### SCAMIT Newsletter

Vol. 20, No. 8

<b>SUBJECT:</b>	Parasites and Commensals
<b>GUEST SPEAKER:</b>	none
<b>DATE:</b>	15 April 2002
<b>TIME:</b>	9:30 a.m. to 3:30 p. m.
<b>LOCATION:</b>	City of San Diego Marine Biology Lab 4918 N. Harbor Dr. #201 San Diego, CA



Carcinonemertidae?  
SD Regional Station 2749 (1), 11 July 01, 54ft  
Photo by M. Lilly 3/02

No meeting minutes are available for the December 2001 meeting which wasn't held. The delay in completing recent Newsletters means that the next meeting will be the April Meeting.

#### NEW LITERATURE

The difficulties encountered by most of us in species level taxonomy of nemerteans is equaled by the problems of dealing with higher taxon relationships. Sundberg et al (2001) use 18S rDNA sequence data to address these relationships. Sequence data from fifteen species was used, with each of two currently recognized classes and the four recognized subclasses represented. Several outgroups were tested, with annelids being chosen for the final analysis.

The results indicate monophyly of both the Heteronemertea and the Hoplonemertea, and paraphyly in the Palaeonemertea. The aberrant Bdellonemertea were associated most consistently with the hoplonemertines. Resolution of the Palaeonemertea remains for the future. The Anopla and Enopla were not supported as clades. As in most studies, wider taxon sampling and/or inclusion of data from other sequences may provide better resolution in subsequent analyses.

During predation by fish, ophiuroids are usually transported off the bottom and into the water column. As the fish spit them out to find a more comfortable orientation for swallowing them, or as the ophiuroids autotomize arms and begin to escape, an opportunity for behavioral change is presented. Pomory (2001) has experimentally tested the value of the "tulip position" to an ophiuroid falling through the water column. In this position the legs are all held together above the disk, reducing drag, and allowing the animal to fall fairly rapidly towards the bottom. Animals adopting this posture (in *Ophiopteris papillosa*, the experimental animal) had better survivorship than those who did not. Continual fish predation on ophiuroids should make sure that this behavior is selected for.

Feeding in thalassinid shrimp can vary from deposit feeding, (through surface detritivory), filter feeding, to bacterial farming in burrows, and carnivory. Coelho & Rodrigues (2001a & b) and Coelho, Williams & Rodriguez (2000) report on feeding observations on a series of thalassinids in the families Laomediidae, Callianassidae, and Upogebiidae. In each case observations were made on gut contents, behavior, and morphology of the feeding appendages of the species examined. Special attention was paid to the microstructure of the setae which cover these appendages, as their structure, density, placement, and orientation held considerable information on particle handling. The authors carefully examine their

evidence, and in several cases provide alternative explanations of feeding mode or food substrate than those offered by previous authors.

While every organism has to feed, it isn't always easy. Conditions are so rough for one group of scavenging amphipods that they routinely have to brave anoxic conditions to feed. Experimental shipboard data indicate that *Orchomene obtusus* from Saanich Inlet (British Columbia) can survive up to 33 hours under anoxic conditions, and routinely survive 12 hour exposures. This allows them to make feeding excursions to the anoxic depths of the inlet. Saanich is a fjord with a shallow entrance sill backed by much deeper water further into the fjord. Lack of deep circulation and formation of a stable mid-depth oxycline leads to frequent complete anoxia inside the fjord. Within this environment food falls present both a unique resource and a serious challenge for mobile scavengers.

While high abundances of *O. obtusus* were found on the anoxic bottom of the fjord, a second area of elevated density was located in mid-water at 100 to 125m. At this depth oxygen saturation was 0.2 to 1.5%. De Robertis et al (2001) conclude from their data that the high resident population of *O. obtusus* utilizes the food resources provided by the deep anoxic waters, and their own tolerance of anoxia, to great advantage. After feeding in deep anoxic waters they vertically migrate back to the mid-depth oxycline and recover from their oxygen starvation before plunging again for another meal. The prevailing anoxia retards the decomposition of food falls and excludes both potential *Orchomene* predators and other scavengers with higher oxygen needs.

Dauby et al (2001) consider the ecological role of amphipods in the benthic community of the eastern Weddell Sea. They provide information on gut analyses of 29 species in 12 families. Amphipods have diversified in this



area, fulfilling a number of roles. Even the 29 species examined here are but a small portion of the over 820 species recorded from the Southern Ocean. Much additional investigation of amphipod dietary habits and guts will be needed before their contributions to benthic food webs in the Antarctic is clear. The discussion of gut contents for the species examined is of general interest, but not directly applicable to ecological studies in the North Eastern Pacific. The same families and many of the same genera occur in the Southern California Bight, but the species complement is completely different.

### **WORMS AND TASTY FISH** **Tom Parker, CSDLAC**

In the August 2001 newsletter there was a brief mention of the publication by Fielman et al 2001 entitled: "Polychaete indicator species as a source of natural halogenated organic compounds in marine sediments". This paper, and others recently published, have investigated the formation and metabolism of bromophenols and other halogenated compounds in polychaetes. Ecological implications for these results have included microbial sediment control by infauna, protection from predators, and sensory cues for recruitment events. Several researchers have applied a somewhat different perspective.

Robert Lindsay and others have determined that saltwater and freshwater fish or shrimp have a clearly different flavor from each other due to the presence of bromophenols in the saltwater species. He has experimented with the addition of minute (nanogram) quantities of bromophenols to freshwater fish and shrimp food and found that flavor was clearly enhanced. Freshwater crayfish taste more like lobster and freshwater salmon or trout take on a more preferred seafood flavor. Lindsay has recognized that polychaetes naturally aggregate some bromophenols through enzymatic processes and has begun characterizing their constituents for future use as farmed fish food

additives. If you'd like to learn more about bromophenols from worms and tasty seafood please refer to Whitfield et al 1999, Raloff 1997, or Siderhurst 2001, and the further publications referenced in them.

### **WORMS IN ICE(land)** **7<sup>th</sup> International Polychaete Conference** **Reykjavik, Iceland, July 1-6, 2001**

The conference was held at the University of Iceland. The University of Iceland, the Marine Research Institute and the Icelandic Institute of Natural History organized the conference. Financial support was provided by the Ministry for the Environment, the Ministry of Science, Education and Culture and Landsbankinn (the National Bank of Iceland). There were 160 participants registered from 29 countries. There were 52 oral presentations and 99 posters listed in the program. UNESCO supported 12 students from Eastern Europe, Asia, and South America to attend the conference. The venue at the University of Iceland (the University cinema complex) was very nice with ample comfortable seating and multimedia available for presentations. The concession area was large enough for displaying posters and providing refreshments.

Registration began on Sunday afternoon, continuing Monday morning. Dr. Elin Sigvaldadottir opened the conference followed with remarks by representatives from the various sponsoring institutions and SCAMIT member Dr. Don Reish, President of the International Polychaetological Association. There were many wonderful talks and posters presented Monday, Tuesday, Thursday and Friday. They covered a variety of topics related to polychaetes including systematics, life history, genetics, cladistics, community studies, anatomy, and feeding. For those interested in specifics, a full listing of abstracts for oral and poster presentations can be found at the conference website at:

<http://www.ni.is/7IPCI/>



Of interest to SCAMIT members were talks dealing with scale-worm systematics, especially the Polynoidae (Fauchald and Barnich & Fiege). One paper, presented by Evind Oug, highlighted problems with taxonomy and name usage in environmental monitoring studies in the North Sea. Familiar names such as *Chaetozone setosa*, *Spio filicornis*, *Capitella capitata*, and *Cirratulus cirratus* were noted as problematic. Another presentation by Patti, Gambi & Palumbi related the change in status of *Owenia fusiformis* from cosmopolitan species to species complex by showing genetic differentiation related to larval dispersal.

Jim Blake and Brigitte Hilbig presented their Antarctic research on polychaetes in separate talks. Jim presented his work on reproductive biology, larval development and ecology, of selected benthic polychaetes from McMurdo Sound, Antarctica. Brigitte presented her initial work on polychaete communities from the Weddell Sea, Antarctica. SCAMIT member Don Reish, presented on radiocarbon dating and metal analysis of fossil and living calcareous tubes of local *Protula*.

The many posters were presented in two sessions (Monday-Tuesday and Thursday-Friday) and covered a variety of topics, including descriptions of new species. Of special interest to SCAMIT members were posters on *Chaetozone* species from the NE Atlantic by Chambers & Woodham; the status of the *Spiochaetopterus costarum* species complex by Bhaud; the local recruitment of *Owenia fusiformis* and erection of several new species of *Owenia* from the Mediterranean Sea by Koh & Bhaud; and the diversity and structure of the polychaete fauna of Todos Santos Bay, Baja California, Mexico by Díaz-Castañeda.

On Monday night, there was a very nice reception hosted by the Ministry of Fisheries at the Hotel Borg. I made the mistake of eating before the reception and did not have much

room for the wonderful hors d'ouvres provided. Beer and wine were freely available and you could hardly get your glass half-empty before a waitress would come by and fill it again. There was lively conversation in large and small groups of people. The two hours went by far too fast and soon our glasses were empty and it was time to go.

The mid-conference tour took us to the geyser district east of Reykjavik via high-clearance all wheel drive buses. About two hours out of town we headed off the main road and went off-roading. At this point one could begin to see why the buses had such high clearance and all wheel drive as we forded several glacier feed streams, some of which were 2-3 feet deep and flowing swiftly. At the end of the road there was a park office and lodge with simple indoor overnight accommodations. The conference photo was taken before lunch along a stream near the lodge. It made for a nice picture. We lunched at the lodge and then had the choice of three nature hikes. One hike to the top of a nearby mountain (hill) with views, another along the river with views of waterfowl, and a third along a trail to the next valley with many wildflowers along the way. I took the valley trail and enjoyed the hike and views of nature. On our way back we stopped at a glacier fed lake and a glacier fed waterfall.

The conference banquet was held at Versalir on Thursday night. It was a nice hall with casual seating before dinner and plenty of tables for seating at dinner. A no host bar helped relax the crowd while people mingled and chatted with each other. After opening comments from Elin Sigvaldadottir, everyone was treated to a smorgasbord of Icelandic dishes. There were several ways to eat fish: pickled, fried, poached, and smoked. There was even seabird. Some report it was Guillimont and others say it was Puffin. Either way it tasted like fishy liver to me. It is always interesting to see the food preferences and presentations of other countries, with similarities and differences to your own.



After dinner, we were treated to some traditional Icelandic songs by a vocalist with piano accompaniment. They played 3-4 songs. Both were excellent musicians. Then things began to heat up as canned rock and roll music was played for dancing. These scientist-types can really shake it on the dance floor when properly motivated. Dan Dauer was especially "reserved" as he showed Maria Gambi some dance moves.

Friday afternoon brought discussion and presentations regarding the business of the association and closing ceremonies. Don Reish, association president, presented the first Presidential Address highlighting advances in polychaete work. A change to the bylaws was proposed to allow for the election of honorary members. Three honorary members of the association were then elected. They were Drs. Gesa Hartmann-Schroder, Marion Pettibone, and Raisa Levenstein. This was followed by a special presentation by Danny Eibye-Jacobsen honoring a member for their significant contributions to the association. The member honored was Geoff Read who initially organized *Chaetozone*, maintains the Annelida website, and monitors the annelid discussion group. Geoff received a standing ovation from the audience and was given a very nice book on the natural history of Iceland. The selection of the new association president was the next order of business. Maria Gambi and Jim Blake were nominated from the floor. Maria Gambi was elected to serve the next three-year presidential term. Selection of the venue for the 2004 conference followed next. Jim Blake presented a proposal to host the conference at Portland, Maine in August 2004. Guillermo San Martin presented a proposal to host the conference in Madrid, Spain the first week of July 2004. After the presentations and questions, the members present voted to hold the 8<sup>th</sup> International Polychaete Conference in Madrid, Spain. Guillermo and the other 8<sup>th</sup> IPC committee members will be working hard to organize the conference and distribute information during the next three years. Stay tuned! - Larry Lovell, SIO.

## NOMINATIONS

Although it hardly seems credible, it is again time to call for nomination of SCAMIT officers. I hope that some will see fit to put forward their names as potential candidates, or that others will do so for persons they feel would be both willing and able to serve. The existing slate of officers will run again, with one exception. The Treasurer, Ann Dalkey, who has served in that capacity since SCAMIT's inception, is finally laying down her ledger and passing the responsibilities of her position to another. All of us should honor her for her long and faithful service to the organization and its members. She retires as treasurer, but continues with duties at Hyperion. I am sure she will remain as active in SCAMIT as her time permits. Thanks Ann.

Nominations can be put forward at SCAMIT meetings, via letter to the Secretary, via e-mail to any of the officers, or via messages left on the website. They should be accompanied (or shortly followed) by a brief CV describing the candidate for inclusion with the election information. This should be sent to the SCAMIT secretary Megan Lilly at [mlilly@sandiego.gov](mailto:mlilly@sandiego.gov) or Megan Lilly, City of San Diego Biology Lab, 4918 N. Harbor Dr., #101, San Diego, CA 92106.

## LITTLE HELP?

On the front cover of this newsletter is an animal that Dean Pasko and I (Megan Lilly) refer to as Carcinonemertidae for lack of a better option (this animal was also seen at a 428ft station). If anyone else has an opinion on the identity of this beast, whether it be in agreement with our best guess, a rebuttal, or would just like more information regarding this animal, please contact me at [mlilly@sandiego.gov](mailto:mlilly@sandiego.gov). Any help would be appreciated.

- Thanks, Megan Lilly



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**Please visit the SCAMIT Website at: <http://www.scamit.org>**

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