



**Southern California Association of
Marine Invertebrate Taxonomists**

3720 Stephen White Drive
San Pedro, California 90731

September, 2000

SCAMIT Newsletter

Vol. 19, No. 5

SUBJECT: An Insider View of the SCX - *Pholoe* and *Notomastus*

GUEST SPEAKER: Leslie Harris

DATE: Tuesday, 10 October 2000

TIME: 9:30 - 3:30

LOCATION: Los Angeles Museum of Natural History
Worm Lab
900 Exposition Blvd.



Limacina helicina var *pacifica* (Phipps 1774)
I-21(2), 7-10-00, 132 ft.
Photo by K. Barwick (CSDMWWD) 10/2000

NEXT MEETING

Leslie will present an overview, and a photo record, of activities during the recent Southern California Introduced Species Survey (SCX). She participated in the entire survey, hosted most of the participants at her home, and provided the lab in which each day's material was examined and identified. Problem specimens of *Pholoe* and *Notomastus* should be brought to the meeting for examination after they are discussed. The resources of the worm collection, including availability of types for examination, will be at hand.

EDITOR'S NOTE

Over the past few months I have had a number of inquiries following this general form, "When is the Newsletter coming out? I haven't gotten mine, did it get lost?" All have been very restrained and cordial (and most welcome,

since they indicate some readers miss the NL when it isn't there). My response has been invariably "as soon as possible". Little did I realize at the beginning that I was referring to a geologic timescale in making that statement. Smaller delays have led in the past to issuance of two Newsletter issues in relatively short succession in an attempt to catch up. Since no Newsletter had appeared since May of this year the Executive board, despite my protestations that I would catch up and produce a fast series of Newsletters, decided to provide one compendium issue containing the minutes of meetings between May and September. This June-July-August issue marks the first deviation from the one month-one issue pattern in force since the Newsletter's inception. This saddens me, particularly as I was the bottleneck preventing issues from appearing. I owe members and other readers an apology for this development. With better planning and some good fortune, it should not signal a pattern of future compendium issues. Thanks for bearing with these delays so gracefully, it was appreciated.

Don Cadien
Editor

MEETINGS

The November SCAMIT meeting will be held on 13 November at the Los Angeles County Museum of Natural History. Joining us will be Brian Edwards from the USGS. He will be showing ROV videos and/or still photos of various shelf fauna from the Southern California region. For those of us who rarely get to see these animals in situ this will be a welcome opportunity.

FIRST SCUM ANNOUNCEMENT

The first announcement of the Fifth Meeting of SCUM, the Southern California Unified Malacologists has come out ("SCUM one, SCUM all" - how true...how true). The meeting is scheduled for January 20, 2001 at the Times Mirror Room of the Natural History Museum

of Los Angeles County where so many SCAMIT meetings have been held. Those who have never attended one of these meetings are encouraged to do so; those who have, need no inducement. They are wonderful, relatively unstructured, gatherings at which one can catch up on what others are doing, renew old acquaintances, and forge new contacts. (Please see the attached announcement at the end of the newsletter.)

EPA SYMPOSIUM 2001

A free four day symposium "Coastal Monitoring Through Partnerships" will be held April 24-27 2001 at the Beachside Resort and Conference Center, Pensacola Beach, Florida. The main topic of discussion will be the EPA National Coastal Assessment (Coastal 2000) in its various program manifestations, how they have fared, and how they have fostered cooperative action at different administrative levels. Information on these meetings is available from Virginia Engle (U.S. EPA) via phone (850-934-9354), fax (850-934-2403) or e-mail (engle.virginia@epa.gov).

NEW LITERATURE

Cnidarians can be rather difficult to separate based solely on external characteristics once preserved. It is often necessary to examine the nature of their cnidae to choose between closely related species. This cnidom has sometimes been treated as a unique fingerprint, which can be used to definitively identify a troublesome species. In previous parts of this multi-article series Williams (2000) has tested this concept, and sometimes found it wanting. He has investigated and documented the variability in cnidae complement and measurements found in a number of species, casting some doubt on the nature of their identificatory uses. The present article consolidates the information presented previously, and reaches conclusions regarding the taxonomic relevance and applicability of cnidae measurements.



The reproduction of clams which, by choice, pump sulfide rich water through their pallial cavity, is examined by Le Pennec & Beninger (2000). *Solemya reidi* is among them, as are some lucinids, calyptogenids, and species of *Bathymodiolus*. One of the investigated aspects was transmission of endosymbiont bacteria to the next generation. Results were ambiguous, as no route of transfer was conclusively demonstrated. A general trend of transgonadal transmission in obligate, and postspawning acquisition in facultative symbionts was noted however. The article is suggestive, but stresses the need for further data gathering before the questions addressed can be fully answered.

Bioinvasion continues to be a hot-button topic and to generate much attention in the literature. Most excitement is in the detection and initial response to an invasion, with long-term or historical treatments less common. Palacios et al (2000) provide an examination of the latter type, and cover the fate of a group of invading clams (*Mya arenaria*) in Grays Harbor, Washington. They are able to demonstrate that the original invasion [actually an introduction] in 1870 was but the beginning of a sequence of perturbations - all consequent of the original introduction. A very fascinating and thought provoking article. This particular history documents a sort of system homoeostatic mechanism which came into play once the original introduction was well entrenched. One would like to believe that the complexity of the marine environment provides for many and redundant homoeostatic mechanisms which collectively confer a good measure of resilience on the system as a whole.

A series of papers have recently appeared dealing with that interesting isopod group, the gnathiids (Grutter et al 2000; Tanaka & Aoki 1998, 1999, 2000). Isopod workers are tormented, in areas where there are a number of similar gnathiid species co-occurring [as is the case in our waters], by the difficulties of connecting adult males, adult females, and juveniles of one species together. Grutter et al

(2000) do this for an Australian species via DNA analysis. Using the genetic data as a basis for establishing conspecificity, the authors are now establishing and describing morphological criteria which will allow separation of this species in the field. Tanaka & Aoki (1998), attempt to follow the life cycle of a species of *Gnathia* [later identified as *Elaphognathia cornigera*] on a sponge host. They hypothesize that the zuphea larvae are fish parasites, as is known for other gnathiids, but of bottom dwelling fishes which allow the larvae to remain on or near the host sponge. This proximity to the sponge allows them to directly note morphological connections between the juveniles and the sexually dimorphic adults. Having determined these connections they go on to examine spatial distribution (Tanaka & Aoki 1999) and reproduction (Tanaka & Aoki 2000) in the species.

Separation of cryptic species clusters using molecular methods is increasingly unraveling known or suspected cases where traditional taxonomy is inadequate or erroneous. One such is the freshwater amphipod *Hyaella*. Witt and Hebert (2000) analyzed specimens of *Hyaella azteca* s. l. from Ontario, Wisconsin, New Brunswick, and the Yukon to test for cryptic speciation in this glacial relict species. They found it. The examined material separated genetically into at least seven discrete species showing only minimal or no morphological divergence. Only one of these had previously been distinguished on morphological grounds, and that was synonymized with *H. azteca* by a later worker. Although the sequence data, also supported by allozyme data, delineates these taxa, there is still no morphological basis for their visual discrimination. In many cases two or more of these forms co-occur in a single collection indicating that they have either behavioral or ecological separation within the habitat. Were this a local marine form, our practice would be



to make it a CMPLX. As long as genetic and chemical analyses remain the exception rather than the rule, such stop-gap solutions must persist.

Williams (2000) applies the same combination of molecular (CO1 mitochondria DNA) and allozyme analyses to the problem of speciation in the starfish genus *Linckia*. Past proposals that the species of the genus were separated, among other characters, by color in life were evaluated in this paper. In one case where *L. laevigata* and *L. multiflora* were easily separable by color and relative arm length when live, the molecular data suggests there is no real difference between the species and that they are ecophenotypes of a single taxon. In *L. guildingi* the opposite was found, with two apparently cryptic taxa identified by deviations in genetic make-up. Our local Eastern Pacific representative, *Linckia columbiae*, seemed to be as genetically and enzymatically separate as its morphology had suggested. It was closest genetically to *L. bouvieri* from the Cape Verde Islands.

There is still plenty of room for traditional morphology based taxonomy, however. Although our strong El Niño has passed, we still need better information on the fauna just to our south and it is provided by Hendrickx (1999) for a number of brachyuran crabs. His focus, as in past volumes of this series, is on the Panamic fauna but some included species range into the southern California Bight. Among these are *Pyromaia tuberculata*, *Epiplatoides hiltoni*, *Pugettia dalli*, *Pugettia producta*, *Pugettia richii*, *Pugettia venetiae*, *Taliepus nutallii*, *Herbstia parvifrons*, *Loxorhynchus crispatus*, *Loxorhynchus grandis*, *Pelia tumida*, *Scyra acutifrons*, and *Heterocrypta occidentalis*. As usual for Dr. Hendrickx his work is thorough, informative, and well documented. The volume is in spanish but that is not too big a hurdle for most southern California workers. Keys are provided for families and speciose genera and nearly all taxa are illustrated in full. Another fairly recent

volume dealing with stomatopods (Hendrickx & Baragan 1996) applies the same standards to a different group. These volumes are available from Dr. Hendrickx. Contact him at **micHEL@mar.icmyl.unam.mx** for information or to place an order.

OLD LITERATURE

It was long my [editor's] dream to own a copy of that wonderful book, *Sea of Cortez* (Steinbeck, John & Ed Ricketts, 1941). John Ljubenkov and I used to pore over its pages in the library at California State University [then College], Long Beach. I had previously had the opportunity of examining S. S. Berry's copy - the only one known to have a dedication from each of the two authors. The same authors' later publication, *Log from the Sea of Cortez*, reissued the text of the original [largely Steinbeck's doing], but lacked the thing that made its predecessor most interesting - the "Annotated Phyletic Catalogue and Bibliography" of the animals of the Gulf of California.

This was long before Rick Brusca came forward with a handbook on the invertebrate fauna of the Gulf and was really the only book to treat the invertebrate fauna of the area. The mollusks, of course, were later treated by Myra Keen in her massive *Seashells of Tropical West America*, but other groups had no such champion. Well, the original was a collector's item and too expensive for a biologist's salary. It remains rare, but if you have the cash you can find numerous copies listed on the internet; or you can buy a reprint - as I just did. Yes, the book has been reprinted - actually several times. Even so the reprints themselves remain scarce and are not particularly cheap. But you can, if you persist, find a copy for yourself. The nomenclature is woefully out of date but this can be dealt with. The anecdotal information on the animals covered is worth the price of admission.



The Catalogue of the Chitons of the World by Kaas and Van Belle has been a convenient place to look for the current status of chiton nomenclature since it was first introduced in 1980. The second edition (Kaas & Van Belle 1998) consolidates changes made in the interim. It remains the compact and easy source for the information although no comments are provided beyond limited citations of name use. For commentary and explanation of the status of each animal one must consult the series of monographs on the world chiton fauna by the same authors (Kaas & Van Belle 1985a, b; 1987; 1990; 1994).

The gastropod genus *Diaphana* was reviewed by Schiotte (1998), who in the process created an additional species from California. Previously we had only *D. californica*, now Schiotte adds *D. pacifica* from a single shell in the collection of the Natural History Museum of Los Angeles County. It was taken in 83m off Cherry Cove, on the inner shelf of Catalina Island. The shell certainly appears different from that of *D. californica* but without the animal it is difficult to be positive it is *Diaphana*. Despite all the sampling done in the area, this remains the only reported specimen. There is some possibility that this may be *Parvaplustrum* sp B. The type is in the Natural History Museum and will be examined to confirm or refute this hypothesis.

NICE VACATION?

During July and the beginning days of August of this year a group of southern California taxonomists subjected themselves to a vacation in the British Virgin Islands. Mostly associated with the Natural History Museum of Los Angeles, these 8 people participated in a month long field season on Guana Island, BVI, working with NSF grant support to inventory the microfauna of coral reefs and associated benthic habitats. The program is under the joint direction of Dr. Todd Zimmerman and Dr. Joel W. Martin and included Todd Haney and Don Cadien (all four associated with the

Crustacea Section), Dr. Gordon Hendler (Head of Research and Collections and Curator of Echinoderms), Leslie Harris (Worms Collections Manager), and Dr. Kirk Fitzhugh (Curator of Worms). The non-LACMNH participant was Rick Ware of Coastal Resources Management.

Leslie and Todd Zimmerman were on the island for the full month, while the remaining participants stayed for shorter periods. A team strength of six was maintained for all but the last few days, however. As in all biological vacations I am familiar with, the word vacation is hardly used in the normal context. Here it means an opportunity to work for 12-18 hours each day in the field and lab on tasks associated with the investigation. No laying on the beach, no cocktail parties under the stars, and no aquatic recreation. One of the goals of this project is to photographically record the live appearance of these small animals. Over 130 rolls of film were exposed of animals ranging in size from 1.5mm cumaceans to 25cm crabs, either directly through a dissecting microscope or through macrophotographic set-ups using trays or small aquaria.

Of course, our laboratory on Guana was far from primitive. We had six different dissecting scopes, several fiber-optic light sources, and plenty of equipment. Our physical facilities were also exemplary as we were staying in a large multi-room bungalow attached to the common area we modified as a laboratory. Like most islands in the area, Guana has little freshwater supply other than rain water. In consequence the plumbing in the bathroom uses saltwater for flushing, providing us a steady supply of fresh seawater which only required filtration to be ready for photography. Our hosts were the Falconwood Foundation who operate the Guana Island Resort. They provided our accommodations and fed us very well. Our three meals a day were, however, virtually the only time we were not "working" but since group planning meetings and discussion happened mostly over meals, we



often worked through them as well. Our one real vacation was a public outreach we did one Sunday with a Seventh Day Adventist Explorer club. Four of us met with them in an area adjacent to the airport on Tortola and spent several hours going over the local reef ecology and taxonomy with them. They were a very enthusiastic group, seemed to enjoy our efforts, and hopefully benefitted. So did I. This was the only time I was not either harvesting ARMs (Artificial Reef Modules) on the beach, or working in the lab during my 16 day stay.

Unlike the first year of the NSF grant in 1999, this year we did not perform any regular airlift sampling of infauna. Our time was devoted to the harvesting of the ARMs we had emplaced around the island in 1999. After a year of exposure these proved to harbor a large assortment of reef animals, many of whom we had not been able to locate by hand collecting in previous efforts. The materials used in the construction of the ARMs were designed to provide a simulated reef environment. Various nooks and crannies were designed and the surfaces of the materials were not smooth. This last feature proved to be valuable and a problem at the same time. The surface rugosity encouraged the settlement of larvae but made the surface very difficult to scrape. Many of the small tube dwelling organisms settled along grooves and other surface features that made them impossible to scrape off.

As in the natural reef, each of the ARM elements stacked together provided refuge for many large ophiuroids. As we disassembled each structure they deserted it with alacrity and moved down to either the next level or to the bottom of the tub in which the process took place. Care was taken to minimize such movements, as the performance of the various portions of the array were to be individually examined during data analysis. A photo record was made of the appearance of each level of the stack as it was exposed by removal of the layer above. The last portion of each harvest effort was the search through the rubble basket

at the base of the array for photogenic items. This basket of natural coral rubble proved to be among the most productive of the divisions of the ARMs. A number of new species, new in the sense that they had not been encountered in two previous years of fieldwork in the area, were recovered from the rubble. One of the target groups sought in the rubble were small, agile crevice and hole dwelling decapods and stomatopods. They were well represented and the number of stomatopod taxa encountered rose considerably beyond what we had been able to catch in the open.

Processing of each array took several hours, with the fine fraction scraped and washed from each element separately, screened and preserved (after photo items were removed). Divers also brought up samples of promising substrate with each dive for live examination by the lab rats (consisting of Leslie Harris and myself during my 16 day stay). In some cases these were habitat samples from areas that had been productive in previous years, in others they were samples-of-opportunity from previously unexamined substrates. In previous years we had attempted to sample clumps of each of the various algal species observed, as well as samples of encrusting invertebrate substrates. These had yielded a broad cross-section of the area's microfaunal species diversity.

At the end of last field season, in an attempt to sample swimming peracarids, a brief test deployment of light traps was performed. It was moderately successful, enough for us to mount a more serious attempt this year. This effort was placed in Todd Haney's capable hands. Todd is working in the Crustacea section under a PEET grant studying leptostracans and hoped to find them in these near-bottom light traps. Last season we used small battery powered lights as the light source. This time a series of different colored cyalume sticks was used. Each was expected to last for only a short while and our deployments were much shorter than last year. We found



that with overnight deployments there was too much predation within the traps. Most of the cumaceans had, for instance, been decapitated - eaten like popsicles with the "stick" discarded. This was assumed to have been the work of the cirrolanid isopods in the samples, but based on observations this year, ostracods may also have been involved. Traps were left out for less than two hours this year, with very gratifying results. Large numbers of peracarids, ostracods, and decapod larvae were collected by the traps. Comparisons of attractiveness of various wavelengths of light in simultaneous deployment proved interesting and will probably be published. Although it was not easy chasing these animals around a dish alive, eventually most species were subdued, separated, and given to Leslie to photograph. The pictures are back and I look forward to seeing them. In most cases these will be the first macrophotographs of these animals.

After the last of the ARMs was harvested and the last samples processed it was time to disassemble the lab for another year. We hope to be back on Guana again next year. Before then there remains much laboratory work to be completed and publications to be produced.

NEW RECORD OF THE PELAGIC CRAB
PLANES CYANEUS IN CALIFORNIA
(BRACHYURA: GRAPSIDAE)

MARY K. WICKSTEN

Texas A&M University, College Station
TX, 77832

MICHAEL D. BEHRENS

Department of Ecology, Evolution and
Marine Biology

University of California, Santa Barbara
CA, 93117

On 24 August 1999, a green sea turtle (*Chelonia mydas*) was found at the intake cove of the Diablo Canyon Generating Plant, San Luis Obispo County. Living on the turtle was a small male crab (carapace width 18.1 mm), which we identified as *Planes cyaneus* Dana, 1851. The specimen was deposited in the

collections of the Natural History Museum of Los Angeles County (catalogue number 19990181). Williams et. al. (1989) gave this crab the common name of flotsam crab.

Planes cyaneus is widespread between 41° north and 35° S in the Pacific, Indian Ocean and southern Atlantic Ocean. It is rare in the northern Atlantic and Gulf of Mexico. In the eastern Pacific, it has been reported previously off British Columbia (Hart, 1963) south to Peru (Garth, 1946, as *P. minutus*). However, there are no previous documented records known to us of the species in California. Although older publications use the name *P. minutus* for this species, it is not the same species as *P. minutus* (Linnaeus, 1758), found in the northern Atlantic. See Manning and Holthuis, 1981, for a synonymy and discussion of the nomenclature.

The flotsam crab has been collected on driftwood and among stalked barnacles (*Lepas* spp.) It also associates with sea turtles. Steinbeck and Ricketts (1969, as *P. minutus*) found a male and a female at the base of the tail of a sea turtle taken off Magdalena Bay,

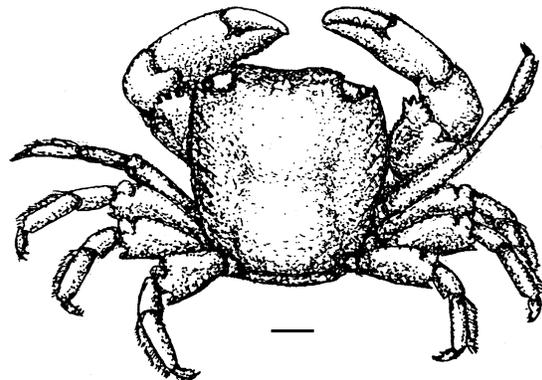


Figure 1. *Planes cyaneus*. Female from western Panama, Gyre station GO100/030, Texas A&M University teaching collection. Note characteristic fringe of setae along propodi of walking legs. Scale = 1 cm.

Baja California, Mexico. There are two color phases of the species: mottled with yellowish to dark brown blotches on a white background, or blue.



ED. 4

Edition 4 of the SCAMIT Taxonomic Listing approaches. Submissions are still welcome as are voucher sheets for provisional taxa to enable them to be included. It now appears that sheets which can be distributed with the October Newsletter should allow inclusion of those taxa in Ed. 4. Final corrections and additions are being made, but publication is not expected prior to the end of November. We will wait to include any changes introduced by the final volume of the Taxonomic Atlas series; Vol. 7 on Polychaetes. This has just been released and copies for us to review and compare with the taxonomy used in Ed. 3 will be available soon. We should also wait until the synoptic review of the B'98 sampling is concluded so taxa introduced during that effort can be fully evaluated and either accepted or rejected for inclusion. Comments on drafts distributed at recent SCAMIT meetings are also still welcome, as are new taxa encountered in routine monitoring. One such discovery is the flatworm *Hoploplana californica*, taken by OCSD in their most recent trawl effort. Contact Don Cadien at CSDLAC with any contributions to the list (dcadien@lacsds.org or 310-830-2400x403).

THE 1 SEPTEMBER MEETING

As seems to be the pattern this summer, the 1 September "August" meeting was canceled at the last minute due to scheduling problems. It had been planned that Dr. John Chapman would talk to us about introduced peracarids, with a summary of new records and occurrences from the just completed SCX. Flight schedules dictated that he leave early on the morning of the 1st, so we were denied the pleasure of his presentation. Similarly, our October speaker, Dr. Brian Edwards from USGS got tangled up in Jury Duty and his

program will be rescheduled to November. Leslie Harris stepped into the breach and will lead a substitute program on the same October date.

SEPTEMBER 11 MEETING MINUTES

SCCWRP will be hosting a workshop titled, Collection, Analysis, and Interpretation of Sediment Quality Data. The venue is the Queen Mary Hotel, Long Beach on 24 and 25 October. The registration deadline was 1 October. For more information contact Debbie Elmore at debbiee@sccwrp.org or 714-372-9204. We will have several members in attendance and a report on the proceedings will be included in a future NL

Ron Velarde passed around new literature he'd recently purchased and/or discovered. The first two dealt with molluscs: Kaas & Van Belle (1998) Catalogue of Living Chitons; and Chitons of the World (Slijker 2000) [both courtesy of Tim Stebbins]. Michel Hendrickx has been busy again with two more crustacean books out. These are, the second volume of his treatment of the brachyurans of west Mexico (Hendrickx 1999), and a volume on stomatopods (Hendrickx & Baragan 1996) we had overlooked in the past. Don Cadien circulated several articles, and donated one and 1/2 boxes of reprint duplicates to SCAMIT.

SCAMIT is pondering the subject of the annual Christmas Party. Should it be held at the Cabrillo Marine Aquarium as it always has in the past? Or should it be moved to a different location? Should it be an annual event or perhaps every other year? Does Santa Claus still need to drop by since the attendance of children has dropped considerably over the years? We are calling for suggestions from those interested.

Don then updated us on the current status of the B'98 project. Data submissions are virtually complete and the first run through of the taxonomy has been completed. A large



number of species were added during the survey, some of which will disappear during the synoptic data review planned for the end of this month and early November.

Ricardo Martinez-Lara (CSDMWWD) then had the floor and told us about an interesting project he had participated in the previous weekend. An invasive species survey (the SCX) which involved sampling organisms that settle and/or colonize hard surfaces such as pilings or piers. The survey sites, ranging from Southern California down into Baja Mexico, were each sampled for exactly one hour. The collected animals were then taken to a lab [the San Diego Lab] and identified to the lowest possible taxon. The participants were Brian Bingham, Jim Carlton, John Chapman, Andy Cohen, Leslie Harris, Gretchen Lambert, Charlie Lambert, Ricardo Martinez, Steve Murray, Linda Rao, Veronica Rodriguez, and Rebeca Vasquez. Ricardo documented their activities on the Baja California locations with a digital camera. He is posting the resultant images, as well as some through-the-microscope digital photos of collected animals on the web for others to enjoy at:

<http://www.dreamwater.net/biz/marteclab/SpeciesInvasion.htm>.

The Cabrillo Monument is looking for volunteers to help in their annual intertidal survey. The intertidal sampling is from November 10 - 14 (mostly with the afternoon low tides). The work includes Owl limpet surveys and individual measurements, line transects, photo quadrats, bird counts, timed sampling, and more. For more information please contact Bonnie Becker, the Marine Biologist/ranger. Phone: 858-534-6740 or 619-557-7308 or via email at bonnie_becker@nps.gov. Volunteers are needed! Other projects where taxonomist volunteers would be welcomed include the development of an Invertebrate Species list for the monument and a settlement monitoring program.

SCAMIT is always looking for suggestions for meeting topics. If you have an idea or interest please contact either Ron Velarde or Leslie Harris with your input.

The first animal to be viewed was an ascidian brought by Don Cadien. The specimen, *Bathypora feminalba*, Young & Vasquez 1995 was discovered in a bottle from 137m off Palos Verdes. One of the distinctive features of this animal is the bilabiate apertures which are at a ninety degree angle to one another. When the animal is only half inflated it appears to have skirt and resembles a *Psolus* type holothuroid. The surface of the test consists of calcareous granules. In this species there is one major spine per granule, whereas in a similar species occurring in our area, *Bathypora ovoidea*, there are multiple spines per granule.

Kelvin Barwick (CSDMWWD) was next up with a strange looking Naticid that had been found at ITP Regional station, 2681 in 216 feet of water. Don Cadien and Kelvin took the snail through the key in Marinovich, 1977 and settled on *Euspira* sp. for an ID. The shell did not seem to match up with either *E. lewisii* or *E. draconis*, and no other described species seemed to fit it better than these two local choices. We then examined a small montacutid bivalve which Don thought might be a very small *Rhamphidonta retifera*. As this is not a species taken in the past by the San Diego lab, Don will bring some identified vouchers of the species to a future meeting. It is quite common on occasion off Palos Verdes.

Ron Velarde briefly demonstrated another specimen of *Philinoglossa* sp A, now retaken by the Pt. Loma lab at a different station, again in very coarse sediments. The finding of this additional animal from a different location suggests that specimens of this rarely encountered animal will accumulate as monitoring continues.



Ricardo Martinez had brought a *Dendraster* from a worker in Ensenada, Mexico and requested that it be identified to species if possible. There was some speculation that it was *D. vizcainoensis*, but upon further examination it proved to be *D. terminalis*. Although it was a juvenile, which caused some hesitation prior to ID, the absence of dorsal food groves confirmed it as *D. terminalis* since both *D. vizcainoensis* and *D. excentricus* have these structures. We also briefly examined a beautiful specimen of *Nacospatangus* that the San Diego lab provided as a voucher to CSDLAC, who so far has not encountered the species.

Time was then expended in considering local nemertean taxonomic practices. A recent communication with Ray Gibson by Dean Pasko had raised some concerns. Dean has discussed on the taxonomic list server the problems related to characters we use in separation of genera in the Lineidae. Gibson has offered to examine material from our sampling. Such an examination would be particularly useful for some of the species to which we apply the names of European described taxa. Tony Phillips has already commented on the list server regarding the problems with *Tubulanus nothus*; our form does not match what Gibson has from Europe. It is becoming increasingly clear that we need to once again meet to consider these problems and others related to nemertean identification.

HAVE WE BEEN INTRODUCED?

A local species introduction has recently attracted the attention of both the press and the authorities to one particularly notorious customer, the green alga *Caulerpa taxifolia*. This organism has been causing an uproar in

the Mediterranean area for the last few years (see for instance Meinesz & Thibaut 1998, Thibaut & Meinesz 2000, Thibaut et al 1998), where its spread has created environmental problems. It has now been recorded from at least two sites in southern California and local agencies have responded in alarm, notifying the public of the potential threat and distributing leaflets that give a course of action if the species is sighted.

The debate over use of grazers on this alga, in an effort to control it in the Mediterranean, has raged and continues to be unresolved. At present no plans are in place for the rearing and distribution of either grazers from the algal home range, or native Mediterranean species which find it palatable. The question of use of grazers from the Panamic region in an attempt to control the present southern California outbreak is under consideration. So far however, the algal introductions are very limited in extent and probably can be handled without introducing another organism as a control. It appears likely that local occurrences of the alga are traceable to its use as an ornamental plant in the salt-water aquarium trade. This parallels the pattern seen in the Mediterranean where the source of the introduction was traced genetically to an escape of display algae from the Institute Oceanographique, Monaco.



BIBLIOGRAPHY

- Dana, James D. 1851. Crustacea Grapsoidea, (Cyclometopa. Edwardsii): Conspectus Crustaceorum quae in Orbis Terrarum circumnavigatione, Carolo Wilkes e Classe Reipublicae Foederatae Duce. 8. Proceedings of the Academy of Natural Sciences of Philadelphia, 5: 247-254.
- Garth, John S. 1946. Littoral brachyuran fauna of the Galapagos Archipelago. Allan Hancock Pacific Expeditions 5(10): 341-601.
- Grutter, A. S., J. A. T. Morgan, & R. D. Adlard. 2000. Characterizing parasitic gnathiid isopod species and matching life stages with ribosomal DNA ITS2 sequences. Marine Biology 136:201-205.
- Hart, Josephine F. L. 1963. Oceanic crabs found off the coast of British Columbia. Canadian Field-Naturalist 77(2): 127.
- Hendrickx, Michel E. 1999. Los Cangrejos, Braquiuros, (Crustacea: Brachura: Majoidea y Parthenopoidea) del Pacifico Mexicano. CONABIO/UNAM. 157 pp.
- Hendrickx, Michel E. and J. Salgado-Barragan. 1986. Los estomatopodos (Crustacea: Hoplocarida) del Pacifico mexicano. Publicaciones Especiales, Instituto de Ciencias del Mar y Limnologia, UNAM. 200 pp.
- Kaas, Piet, & Richard A. Van Belle. 1985a. Monograph of living chitons, Volume 1. Order Neoloricata: Lepidopleurina. E. J. Brill, Leiden.
- & —. 1985b. Monograph of living chitons, Volume 2. Suborder Ischnochitonina Ischnochitonidae: Schizoplacinae, Callochitoninae and Lepidochitoninae. E. J. Brill, Leiden.
- & —. 1987. Monograph of living chitons, Volume 3. Suborder Ischnochitonina Ischnochitonidae: Chaetopleurinae, and Ischnochitoninae (pars). Additions to Vols 1 and 2. E. J. Brill, Leiden.
- & —. 1990. Monograph of living chitons, Volume 4. Suborder Ischnochitonina: Ischnochitonidae: Ischnochitoninae (continued). Additions to Vols 1, 2, and 3. E. J. Brill, Leiden.
- & —. 1994. Monograph of living chitons, Volume 5. Suborder Ischnochitonina: Ischnochitonidae: Ischnochitoninae (concluded), Callistoplacinae; Mopaliidae; additions to Vols 1-4. E. J. Brill, Leiden.
- & —. 1998. Catalogue of living chitons (Mollusca, Polyplacophora). Second [revised] edition, Backhuys Publishers, Leiden. 204pp.
- Le Pennec, Marcel, & Peter G. Beninger. 2000. Reproductive characteristics and strategies of reducing-system bivalves. Comparative Biochemistry and Physiology, Part A 126:1-16.
- Linnaeus, Carolus. 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Edition 10, vol. 1. Holmiae.
- Manning, Raymond B. and Holthuis, Lipke B. 1981. West African brachyuran crabs (Crustacea:Decapoda). Smithsonian Contributions to Zoology no. 306: 1-379.
- Marincovich, Louie Jr. 1977. Coenozoic Naticidae (Mollusca: Gastropoda) of the Northeastern Pacific. Bulletins of American Paleontology 70(294):169-494.
- Meinesz, Alexandre, & Thierry Thibaut. 1998. The biological control of an invasive species in the open sea: need of an international decision. Pp. 112-116 IN: Boudouresque, C. F., V. Gravez, A. Meinesz, & F. Palluy (eds.) Third International Workshop on *Caulerpa taxifolia*. GIS Posidonie Publishing, France.



- Palacios, Raul, David A. Armstrong and José (Lobo) Orensanz. 2000. Fate and legacy of an invasion: extinct and extant populations of the soft-shell clam (*Mya arenaria*) in Grays Harbor (Washington). *Aquatic Conservation: Marine and Freshwater Ecosystems* 10:279-303.
- Schiotte, Tom. 1998. A taxonomic revision of the genus *Diaphana* Brown, 1827, including a discussion of the phylogeny and zoogeography of the genus (Mollusca: Opisthobranchia). *Steenstrupia* 24(1):77-140.
- Slijker, Frans J. A. 2000. Chitons of the World. An illustrated synopsis of recent Polyplacophora. 160pp.
- Steinbeck, J. and E. F. Ricketts. 1969. *The log from the Sea of Cortez*. Viking Press, New York. 7th printing. [originally published 1951]
- Steinbeck, J. and E. F. Ricketts. 1993. *Sea of Cortez. A leisurely journal of Travel and Research*. Paul P. Appel, Mount Vernon N.Y. 598pp. [reprint of the 1941 Viking Press edition]
- Tanaka, Katsuhiko, & Masakazu Aoki. 1998. Crustacean infauna of the demosponge *Halichondria okadai* (Kadota) with reference to the life cycle of *Gnathia* sp. (Isopoda: Gnathiidea). Pp. 259-267 IN: Watanabe, Y. & N. Fusetani (eds.). *Sponge Sciences - Multidisciplinary Perspectives*. Springer Verlag, Tokyo.
- & —. 1999. Spatial distribution patterns of the sponge-dwelling gnathiid isopod *Elaphognathia cornigera* (Nunomura) on an intertidal rocky shore of the Izu Peninsula, southern Japan. *Crustacean Research* 28:160-167.
- & —. 2000. Seasonal traits of reproduction in a gnathiid isopod *Elaphognathia cornigera* (Nunomura, 1992). *Zoological Science* 17:467-475.
- Thibaut, Thierry, & Alexandre Meinesz. 2000. Are the Mediterranean ascoglossan molluscs *Oxynoe olivacea* and *Lobiger serradifalci* suitable agents for a biological control against the invading tropical alga *Caulerpa taxifolia*? *Comptes rendus de l'Académie des Sciences, Paris, Sciences de la vie* 323:477-488.
- , —, Laurent Burtaire, Stéphane Charrier, Luisa Mangialajo, Santina Ierardi, & Valérie Vidal. 1998. Biological control of *Caulerpa taxifolia* in the Mediterranean Sea: use of tropical and Mediterranean ascoglossans. Pp. 105-111 IN: Boudouresque, C. F., V. Gravez, A. Meinesz, & F. Palluy (eds.) *Third International Workshop on Caulerpa taxifolia*. GIS Posidonie Publishing, France.
- Williams, A. B., L. G. Abele, D. L. Felder, H. H. Hobbs Jr., R. B. Manning, P. A. McLaughlin, & I. Pérez Farfante. 1989. Common and scientific names of aquatic invertebrates from the United States and Canada: decapod crustaceans. *American Fisheries Society Special Publication* 17: 1-77.
- Williams, R. B. 2000. Measurements of cnidae from sea anemones (Cnidaria: Actiniaria), III: ranges and other measures of statistical dispersion, their interrelations and taxonomic relevance. *Scientia Marina* 64(1):49-68.
- Williams, S. T. 2000. Species boundaries in the starfish genus *Linckia*. *Marine Biology* 136:137-148.
- Witt, Jonathan D. S., & Paul D. N. Hebert. 2000. Cryptic species diversity and evolution in the amphipod genus *Hyalella* within central glaciated North America: a molecular phylogenetic approach. *Canadian Journal of Fisheries and Aquatic Sciences* 57(4):687-698.



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

SCAMIT OFFICERS:

If you need any other information concerning SCAMIT please feel free to contact any of the officers e-mail address

President	Ron Velarde	(619)758-2331	rgv@mwharbor.sannet.gov
Vice-President	Leslie Harris	(213)763-3234	lharris@bcf.usc.edu
Secretary	Megan Lilly	(619)758-2336	mssl@mwharbor.sannet.gov
Treasurer	Ann Dalkey	(310)648-5544	cam@san.ci.la.ca.us

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.



**FIRST CALL!
SCUM ONE! SCUM ALL!
FIFTH ANNUAL GATHERING OF SCUM OF SOUTHERN CALIFORNIA
(SOUTHERN CALIFORNIA UNIFIED MALACOLOGISTS)**

**Saturday January 20
Times Mirror Room - 10 AM
Natural History Museum of Los Angeles County
900 Exposition Blvd., Los Angeles, CA 90007**

Hosts: George Davis and Lindsey Groves

SCUM is an informal association of Southern California professional, amateur, and student malacologists & paleontologists, who are active or interested in research on mollusks. The purpose of the annual gathering is to facilitate contact and keep one another informed of research activities and opportunities. There are no dues, no officers, and no publications. SCUM is patterned after the Bay Area Malacologists (BAM), which is hosted by malacologists at different institutions each year.

This year's meeting will be hosted at the Natural History Museum of Los Angeles County. All persons interested in recent and/or fossil mollusks are invited to attend. Presentations and discussions are encouraged but should be informal and briefly cover current research interests. (Attendees will have a surprise presentation — to be further elaborated on in the next announcement.) A slide projector and/or overhead projector will be available for those wishing to present visual information. Coffee, tea, and breakfast somethings will be provided. We will break for lunch at noon. The Curator's Cafe (the museum cafeteria) will be open along with many other local food establishments within walking/short driving distance. Parking in the Museum's east Lot will be free, please mention at the staff entrance that you are with SCUM.

Please phone, FAX, or e-mail your RSVP so we can have enough 'breakfast somethings' on hand for everyone.

For further information, contact:

George E. Davis, Collections Manager - Crustacea. Ph.: 213 763-3450;
FAX: 213 746-2999; e-mail: gdavis@nhm.org

Lindsey T. Groves, Collections Manager - Malacology and Invertebrate Paleontology.
Ph.: 213 763-3376 (Malacology), 213 744-3485 (Invert. Paleontology); FAX: 213 746-2999;
e-mail: lgroves@nhm.org
