Southern California Association of
Marine Invertebrate Taxonomists

3720 Stephen White Drive
San Pedro, California 90731

July, 1999

SCAMIT Newsletter

Vol. 18, No. 3

SUBJECT:	B'98 Non-polychaete problem ID's
GUEST SPEAKER:	None
DATE:	16 August 1999
TIME:	9:30 a.m. to 3:30 p. m.
LOCATION:	City of San Diego Marine Biology Lab 4918 N. Harbor Dr. #201 San Diego, CA 92106

Diopatra tridentata Hartman 1944
I-16 (2), 22 July 1997, 93 ft.
Image by K. Langan

Next meeting: Non-Polychaete problems from Bight'98 continued on 16 August at the San Diego Lab. The last Monday of the month, 30 August, a Polychaete problems meeting will be held, also at the San Diego Lab. Plan ahead, set aside specimens, and come prepared to amaze and be amazed by odd and unusual specimens from Bight'98 stations. Anticipated subjects for the 16 August meeting include juvenile Cancer, Photis (Part VIII), ...

NEW LITERATURE

We have recently discussed poecilogony with regard to cnidarians and mentioned articles dealing with evidence of poecilogony in polychaetes. Krug (1998) reports on poecilogony in the small estuarine opisthobranch *Alderia modesta*. The species produces eggs of different sizes which yield either planktotrophic veligers, or lecithotrophic veligers depending on their available yolk supply. Back-crosses of these two forms yield the same ratio of reproductive types seen

FUNDS FOR THIS PUBLICATION PROVIDED, IN PART BY
THE ARCO FOUNDATION, CHEVRON, USA, AND TEXACO INC.

initially, and give evidence of their conspecificity. Starved individuals which had previously spawned exclusively or primarily lecithotrophic larvae switched to production of planktotrophic larvae after a period of only 3 days without food. Adults producing both types of larvae were gene sequenced, and showed the same level of heterogeneity at cytochrome c oxidase I sites observed in other marine invertebrate species, virtually ruling out the possibility that cryptic sibling species are involved. This appears to be another verified case of poecilogony.

The assumption is always made that planktonic larvae are intended to, and do, provide wide dispersal of a population. This was tested by Todd et al (1998) who examined two co-occurring intertidal nudibranch species, one with planktotrophic *(Goniodoris nodosa*) and one with pelagic lecithotrophic larvae (*Adalaria proxima*). Larvae of the former can persist in the plankton for up to 3 months, while those of *Adalaria* can delay metamorphosis for only a few weeks and generally settle after only a day or two. A series of populations within the region were tested for genetic heterogeneity to quantify gene exchange in each species. Populations of *Goniodoris* examined came from an order of magnitude larger area than did those of *Adalaria*. Despite this the *Goniodoris* populations were not significantly differentiated genetically. Those of *Adalaria*, however, showed very significant differentiation. The authors conclude that in species with pelagic larvae, larval behavior can significantly change the dispersal potential of any spawning event. This can render any extrapolations of dispersal ability based on laboratory larval rearing experiments suspect, a possibility not considered in the past.

Just how wide is 'wide' anyway? Many species are characterized as having cosmopolitan, tropicopolitan, circum-subtropical, or circum-temperate distributions. Such claims have been viewed as increasingly suspect by many and have contributed to the on-going lumper vs. splitter debacle. While man's influence has certainly enabled many species to expand their ranges by overcoming geographic barriers, there are many cases where human aided transport seems unlikely or impossible. Boury-Esnault et al (1999) provide another recent example of the rejection of broad distribution on close examination, in this case with supposedly conspecific sponge populations from the Atlantic and Pacific coasts of Panama. They found the two very distinct on morphological, cytological and genetic grounds. Neither was conspecific with the animal they were initially identified as, both being new species. The addition of genetic examination in the form of enzyme polymorphism or actual gene sequencing has added significant new tools to the taxonomic arsenal which allow objective rating of the relatedness of any two given examples. "Oh, they're just variants" becomes a testable hypothesis, and the lumper vs. splitter debate becomes, at least locally, resolvable.

A similar result was obtained when specimens from widely separated populations of a supposedly cosmopolitan interstitial polychaete were examined by Schmidt and Westheide (1999). Along the way they were able to demonstrate that a related fresh-water species (*Hesionides riegerorum*) was most closely related genetically to the proximal geographic form. Based on their analyses several new taxa should be erected from *Hesionides gohari*, but the authors do not do so in the present paper.

Variations of feeding rates are often reported to be related to concentration of available food, or temperature, but not usually to population density. In cases of resource limitation feeding rates are limited by competitive interactions, although such interactions are usually manifest in changed feeding efficiency rather than rate changes. Wheatcroft et al (1998) tested deposit-feeding rates in the polychaete *Mediomastus ambiseta* at different population densities and found that worms fed about an

order of magnitude more slowly in high-density treatments. The authors suggest that physical or chemical interference is the probable cause of the observed differences. Resource limitation may also be involved. Although particle availability was unaffected, the nutrient content of the particles with regard to carbon and nitrogen was not evaluated in the study. Though causation remains unresolved, the results clearly indicate that extrapolations of laboratory rate information to field bioturbation estimates must take population density into account.

A number of years ago, while preparing a proposal to the State of Florida for monitoring of coral reef areas, Jerry Bernard asked me to provide an iron-clad rationale for use of limited funds to monitor the marine environment. Much to my surprise and chagrin I could not do so, at least to my own satisfaction. The question has been rephrased by Karr & Chu (1997) to evade the monetary issue and only address information need. They argue that biological monitoring, with results expressed in some easily interpretable index value, is an essential underpinning of informed decision making. To evaluate the impact and advisability of human activities, we need to monitor how man's activity affects our natural surroundings. They insist that monitoring efforts "should stay focused on human impact". I disagree. I think there is also a real need for continued appraisal of natural variability, for which continued monitoring of un-impacted areas is also required. Either way both the "pure" ecological research questions and the "applied" risk monitoring efforts are mutually informative. The authors' commentary on why we need monitoring provides good and thought-provoking reading.

If we monitor, how much definition in the taxonomy is enough? This perennial question has been answered differently by different authors. Several analyses had suggested that identification to family level is sufficient, and that additional work to take collected specimens to species level is largely wasted. This is based on power analyses which show that conclusions drawn from samples identified to species do not differ significantly from those based on samples identified to family. Myers (1997) approached the question from a different angle in an examination of biological diversity at different scales. He found that family level diversity showed no predictable relationship to species diversity in several tropical lagoons. He concluded "at least as far as concerns amphipods, there appears to be no simple way of assessing biodiversity without actually counting species." And the debate continues...

The isopod species *Eurydice truncata* is reported from a number of areas, including California. Macquart-Moulin (1998) provides some autecological data on the species from the eastern Atlantic. He found the species to migrate between the bottom and the surface during the night, apparently feeding on living neuston, particularly 'passive' neuston that doesn't fight back. In this category are things like animals caught in the surface meniscus, fish eggs and other reproductive propagules. Gut fullness declined from inshore to offshore, so the individuals at the deep edge of the population may be at risk of starvation.

Recent reviews of the subject have concluded that although scavenging is widespread in the marine environment, there is no evidence that obligate scavengers exist. Kaiser & Moore (1999) revisit this question and conclude the opposite. They single out the case of a small lysianassoid amphipod *Orchomene nanus*, which evidence suggests is a specialized and obligate scavenger on crustacean carrion. Others have previously described a guild of marine large food-fall scavengers, but these are not confirmed as being restricted to scavenging. It may not matter much what the ultimate outcome is, a scavenger is just a predator who has the habit of letting his prey die before eating it.

Sampling the organisms of a moving habitat can be a problem. It has been one for those attempting to sample intertidal beach swash animals quantitatively. Sampling based on beach position will never appropriately track the population, which is in constant motion in response to the tides. Jones et al (1998) propose a methodology which would allow accurate depiction of the population density and distribution for animals moving with the tide.

Eusocial insects have attracted a great deal of attention from researchers, but most fail to realize that there are crustacean analogs to bee, termite, and ant societies. Duffy (1998) describes eusociality in snapping shrimps, and describes a second eusocial species of *Synalpheus*. Some past records of unusual social structures may indicate eusociality in other species, but this remains speculative. Eusocial species have reproductive effort concentrated in a single female [the "queen"], have multi-generational social aggregations, and engage in mutual nest defense. In the case of the crustaceans, the 'nest' is a large sponge which forms the microcosm within which the eusocial aggregation exists. No local species are known to exhibit this social structure, but the possibility that one of our crustaceans might be found to be eusocial is intriguing.

5 JULY MEETING

A select group of SCAMIT members and guests met for the 5 July meeting adjacent to the Worm Lab of the Natural History Museum of Los Angeles County. We had a brief business meeting, and then adjourned to a small adjacent room for a presentation by our guest speaker Dr. Michel Hendrickx, Director of the Mazatlan Marine Station.

He summarized and discussed the work undertaken at the station over the past two decades. These efforts have concentrated on trawling investigations in the Gulf of California, and south of the Gulf along the coast of Nayarit and Jalisco. Students from the lab have also pursued research on the megafauna along the rockier coasts of Colima and Oaxaca further south. Trawling investigations were also undertaken in the Gulf of Tehuantepec, but on a more limited basis. Prior to these investigations there was virtually no information to be had from scientific sources, although a great deal of anecdotal information was available in the shrimp fishery community.

The huge collections from these investigations were maintained at the Station, but their contents had not been reported in the scientific literature. To remedy this Dr. Hendrickx and his students began production of a large number of faunal listings (i.e. Hendrickx 1990b, 1992, 1996a; Hendrickx & Estrada-Navarette 1989; Hendrickx, Wicksten & van der Heiden 1983; Paul & Hendrickx 1980; Salgado-Barragán & Hendrickx 1997; Wicksten & Hendrickx 1991). Later the opportunity arose to have faunal monographs published, and the collections formed the basis of these efforts. A series of valuable monographic treatments were produced through the UN/FAO (Hendrickx 1995a,b,c,d,e,f,g), and through CONABIO (Hendrickx 1996b, 1997; Hendrickx & Estrada-Navarette 1996). Smaller papers dealing with description of individual taxa (Hendrickx 1989, 1998; Hendrickx & Espinosa-Perez 1998a, b; Hendrickx & Salgado-Barragán 1987; Wicksten & Hendrickx 1986), small groups of species (Hendrickx 1984, 1987; Hendrickx & Wicksten 1989), or range data (Hendrickx 1980, 1990a; Hendrickx, Sanchez-Vargas & Vázquez-Cureño 1990; Hendrickx & van der Heiden 1984). This is only a partial list, many more papers have been published, a number in the Mexican "grey literature" of institutional reports [for a complete listing see their website @ http://ola.icmyl.unam.mx/default.htm].

In addition to the numerous new species encountered, and the large number of range extensions, ecological information on the trawl caught animals was also provided. CTD casts in association with most of the trawls have yielded bottom temp., bottom DO levels, and sediment type information for the first time for most areas. These have been reported, where available, in the published papers. Synthesis of the distributional data has yielded several interesting patterns, including one of very low oxygen or anoxic conditions at and below 250 m depths on the upper slope off much of West Mexico. Catches in these depths were not very diverse, although the animals able to tolerate these low-oxygen conditions were often relatively abundant. A large gap in reports of many soft bottom species occurs off Colima and Oaxaca, where rocky bottom is the rule. Effort has been low in this area relative to others, so there have been few reports of any kind. Dr. Hendrickx is confident that ongoing field efforts in association with local captains and pilots will help locate the more scattered soft bottom habitat for sampling. South of this rocky intrusion the sandy bottom is again encountered, as are much the same suite of invertebrates which were seen north of it.

Another area with fewer species taken than expected is the Gulf of Tehuantepec. In investigation after investigation fewer taxa are taken there than expected. Ranges of numerous species extend through the area, but diversity in any sample is always higher either north or south of the Gulf. No explanation is yet forthcoming.

Current and future projects involve a broadening of his focus to accommodate the needs of his students. He is currently undertaking a complete inventory of the isopods of the western coast of Mexico. He and a student have already published the first papers on the group (Hendrickx & Espinosa-Perez 1998a,b), although the specimens on which the first of these papers is based have been siting on his desk since the 70's: just too much to do. Fortunately in the next year or so his stint as director [along with all the associated administrative duties] will come to an end, and he will have a bit more time for research. The station is also deeply involved in increasing the computer-based accessibility of their collection data. Dr. Hendrickx indicated his hope that shortly their database will be fully accessible over the internet. Published lists of the holdings of the station museum have also been prepared and are available. Specimen resources so detailed become easily available to distant workers, at least in theory. Movement of specimens across international borders from Mexico to the U.S. and/or from the U.S. to Mexico remains difficult and involved.

Most of the effort over the years has been expended on the decapods, and secondarily on the stomatopods (Dr. Hendrickx' main interest when he first arrived in the late 1970's). He showed us a table on the known biota of the Gulf of California, evaluation of which is an ongoing effort. Effort will gradually shift to fill in some of the "blanks", the areas where little or nothing is known. The majority of the reported amphipods, for instance, were hyperiids (due to the efforts of a graduate student and a thesis project), plus those listed by Jerry Bernard in his Gulf paper. This list of gammarids is undoubtedly very incomplete, but no other information on the amphipod fauna of the Gulf is available. Leptostracans are even more poorly known; there are no species recorded from the Gulf. Small peracarid groups such as the cumaceans, tanaids, etc. are virtually unknown from the Gulf. Non-arthropods are poorly known, the exception being the mollusks, and to some extent the polychaetes. Larger cnidarians and echinoderms are relatively well known, but the small species in these phyla are largely unknown. Efforts will continue towards documenting the biota of this body of water in future.

It is fortunate for us that most of the publications of this group were available to us before we began the Bight'98 sampling. We found a number of southern species in our area for the first time, and having references for this southern fauna was most helpful. At the end of his presentation Dr. Hendrickx showed us slides of a number of species taken over the years in trawls. Various crabs and shrimp, plus the occasional stomatopod graced the screen. Some of the shrimp, in particular, were amazingly brightly colored for large non-palaemonid species. We then returned to the meeting area for a review of some specimens, although little time remained. He confirmed the *Plesionika carinirostris* specimen, then examined a series of drawings prepared by Todd Zimmerman of the Crustacea Section showing southern species Todd collected in southern California during the recent El Niño. Some were recognized, including a majid species described originally from Peru, found in the Gulf by Dr. Hendrickx, and intertidally at La Jolla by Todd. Others were not recognized, and may be new. We wrapped up the meeting with cordial handshakes and sent him off to rejoin his family, busy exploring the museum all day.

SPECIMEN CONSERVATION

At the Bight'98 polychaete problem meeting on 21 June, Leslie Harris brought to the attention of attendees a recent article on the pH of preservatives and how it is affected by Resistall labeling paper (Andrei & Genoways 1999). Resistall is specially treated to coat each of it's fibers with a resin which markedly increases it's wet strength, a most desirable quality for long term archival. The treatment also, however, yields a paper with a pH ranging from 4.5 to 5.2. For long term archival acid-free papers should be used, and Resistall is far from acid-free. The authors examined the actual impact of use of various sized labels of several paper weights in several fluids to determine if the acidity of the paper was a significant problem for long-term storage. Their tests show clearly that it is. They recognize in their report that the absolute pH of the solution cannot be measured because alcohol gives a skewed reading, but they found the trend of decline in preservative pH, due to the labels, identical in alcoholic and aqueous media.

They made no recommendations as to what to do about the situation, sticking to just reporting the results. Because of fluctuation in preservative pH with temperature cycling, residual acidity of alcohol manufacture, leaching of alcohol soluble compounds from specimens, and leaching of fixative from specimens into the preservative medium, marble chips are being used in containers holding taxa with calcareous tests at CSDLAC. We will begin using the buffering capacity of marble chips to combat the acidity coming from labels in all samples now that we have been informed that it is a problem. We recommend that others follow suite. They are a cheap and readily available way of countering the acidity introduced by use of Resistall labels, without losing the benefit of the added label-strength such use provides.

Thank you Leslie, for bringing the problem to the attention of the membership. Tom Parker (CSDLAC) has also provided a reference to a website (Society for the Preservation of Natural History Collections) that deals with a number of similar problems of specimen conservation and storage. Connect with them at

http://www.geo.ucalgary.ca/spnhc/indextestside.htm

-Don Cadien (CSDLAC).

ANOTHER *Plesionika*

We have added another pandalid shrimp to our local fauna as a result of the collections made on the recent Intercalibration cruise. On a trawl at about 150 m we brought up a single specimen of a shrimp that was unrecognized in

the field. It was viewed as a *Plesionika*, and bore a long upswept rostrum as do most in that genus, but was much larger than other local species and brightly colored. We returned it to the laboratory, where Dave Montagne took it to *Plesionika carinirostris* Hendrickx 1990 in the Hendrickx 1995d key.

This was rather shocking, since the only known specimen of this species was taken in the Gulf of California. To find another was wonderful, and for that collection to be off California was unexpected. Despite damage in the tank after collection, the specimen was clearly identifiable based on the presence of only 2 movable spines at the base of the rostrum, by the carination and shape of the ventral rostral teeth, by the number of subdivisions of the carpus of the second legs, and by the large size (over 10cm). Our collection at 150 m was much shallower than the 360-380m depth at which the holotype was taken in the central Gulf of California. Dave's identification was confirmed by Dr. Michel Hendrickx when he visited the Natural History Museum and spoke at the 5 July SCAMIT meeting. Color notes were taken on the animal, and may prove useful in recognizing it again. Other local *Plesionika* species have not been brightly colored when captured.

29 JUNE INTERCALIBRATION CRUISE

Representatives from 11 groups met on board the CSDLAC monitoring vessel R/V Ocean Sentinel for an intercalibration cruise on 29 June. The first such cruise in June 1998 was made as one of the many quality assurance steps in preparation for the Bight'98 field season. This year the impetus was the positive experience of the first cruise. We anticipate that the series will continue on an annual basis between and during regional monitoring years.

A series of stations along a transect crossing the western edge of the San Pedro Sea Shelf were occupied. We started at the deepest station(200 m) and worked shoreward sampling at 140, 80, 60, 40, and 20 m. Since we experienced no gear-related delay we also had time to visit a nearby station and sample at 150 m in the throat of a slight defile leading down to the shelf edge. This nearly proved disastrous as we caught a string of abandoned crab traps, but the net was not damaged and an interesting trawl catch was recovered.

Each tow followed the standard monitoring trawl protocol of 10 minute bottom time with a standard Marinovich net, and the same bridal length stipulated for the Bight'98 trawls. Once the catch was out of the net on deck it was divided into two holding tanks, one for fish and one for invertebrates. The participants were similarly divided, although a few individuals split their time between the two sides. Processing was as usual for monitoring trawls except that weights and measurements were not taken, and specimen number was estimated. All taxa taken were identified, and participants found little to differ over. Few new things were taken (the *Plesionika* mentioned above was a notable exception), but everyone saw at least a few things new to them. The fish catch was also pretty standard, providing good intercalibration material.

Specimens were collected to fulfill requests from Dr. Gordon Hendler (NHMLAC), and Dr. Eric Hochberg (SBMNH), and Larry Lovell (SIO) was on hand to make representative collections of invertebrates from each trawl. Our main purpose was to examine together fresh trawl-caught animals hoping to benefit from each others experience, and make sure we were not using different field cues in our identifications. Several groups which are planning to undertake new trawling efforts in the near future were represented (OCSD, MLML), and were glad to gain some experience before venturing out on their new programs. It was particularly gratifying to have the Moss Landing folks down. Few links have been forged between the central-northern California monitoring community and their southern California counterparts. Distances separating them are considerable, and the effort

to bridge the distance sizeable. Benefits can also be great, and our visitors from the north (Cassandra Roberts and Alex Cully) were enthusiastic about the experience. The prize for greatest distance traveled went, however, to Lianna Jarecki, a college marine biology teacher from Tortola in the British Virgin Islands. She was visiting the Natural History Museum for her thesis research and found a berth on the cruise.

12 JULY MEETING

The meeting was held in the Worm Lab at the Los Angeles County Museum of Natural History. President Ron Velarde opened the business aspect of the meeting by announcing the dates of the August meetings. There will again be two meetings. The non-polychaete meeting will be held August 16th, and the polychaete meeting will be held August 30th. The location for both meetings is the Marine Biology Laboratory in San Diego. Vice-President Leslie Harris said she welcomes ideas for future meeting topics and guest speakers. So if you have any ideas, please pass them along.

Leslie Harris then passed around three books that she has recently acquired:

1) Hawai'i's Sea Creatures: A guide to Hawai'i's marine invertebrates, by John P. Hoover, 1998.

2) The Fossils of the Burgess Shale, by Derek E.G. Briggs, Douglas H. Erwin, Frederick J. Collier, 1994.

3) Southeast Alaska's Rocky Shores Animals, by Rita M. O'Clair and Charles E. O'Clair, 1998.

Larry Lovell then passed around a reprint he just received from Elena Kupriyanova, 1999, The taxonomic status of *Serpula cf. columbiana* Johnson, 1901 from the American and Asian coasts of the North Pacific Ocean. Ophelia 50(1):21-34.

It was mentioned by Leslie Harris there is a new cartoon premiering on the Nickelodeon channel titled "Sponge Bob," featuring Sponge Bob himself and other invertebrate characters.

Leslie also drew our attention to a request appearing on the SCAMIT website. It is an e-mail from Dr. Sepalika Jayamanne in Sri Lanka. He is working on benthic invertebrates in estuaries there, and they do not have taxonomic keys. Dr. Jayamanne is also looking for a place to perform studies. If anyone can offer some assistance, you can e-mail him at nara@itmin.com.

We then dove into problematic polychaetes from the Bight'98 samples. The first family discussed was spionids. Leslie Harris gave us a review of dorsal organs and transverse intersegmental ciliated bands, continuing the discussion from last month's polychaete meeting. Leslie had examined the holotype and paratype specimens of *Spio maculata.* The shape of the dorsal organs and the methyl green staining pattern matched those of Leslie's *S. maculata* (=*S.* sp B) that she illustrated in her Taxonomic Discussion List posting of June 2. The dorsal organs were circular in shape, and there were two per segment. The prostomium stained dark and solid, both dorsally and ventrally. In addition, methyl green staining revealed ventral transverse, rectangular patches. At the meeting, we examined specimens of *Spio maculata* from San Diego. In contrast to the holotype and Leslie's specimens from Long Beach, the dorsal organs were straight, extending horizontally between intersegmental lines. There was faint brown pigmentation on the lateral and ventral surfaces of the peristomium. The methyl green staining pattern of the San Diego specimens were similar to that of the holotype with some subtle differences. The stain on the prostomium and peristomium was not as solid as in the holotype but was more accurately described as dense stippling. There were transverse patches on the ventrum and also some faint ones on the dorsum. The outlines of the branchiae stained

darkly on the San Diego specimens, in contrast to the holotype, which did not stain on the branchiae. It was decided that the San Diego specimens be described as a provisional species, *Spio* sp SD 1. Leslie retained some specimens for further examination.

Kathy Langan-Cranford has examined other San Diego species of *Spio* and reported the shapes of dorsal organs of *S. filicornis* and *Spio* sp A. The dorsal organs of *S. filicornis* are sideways-U- shaped and discontinuous (not quite reaching the intersegmental lines). They closely resemble those of Leslie Harris's *Spio* sp A which are figured in the SCAMIT June newsletter and the June 2 posting to the Taxonomic Discussion List. The dorsal organs of San Diego's *Spio* sp A are sinuous in shape and continuous from segment to segment.

We then examined some specimens of *Dipolydora* brought by Kathy Langan-Cranford. These were found from several stations at the Channel Islands and did not seem to match any described species. These specimens had an incised prostomium, the branchiae started on setiger 9, there was black pigment spots on some specimens, there was a collar on the convex side of the spines on setiger 5, notosetae were present on setiger 1, there was a superior and inferior fascicle present on setiger 5, and the pygidium had 2 rounded lobes and 2 elongate, tapering lobes. The methyl green staining pattern was small, paired patches starting on setiger 7, increasing in size posteriorly. These specimens had many shared characters with *Dipolydora bidentata*, so Leslie pulled the holotype for examination and comparison with the Channel Island specimens. We were particularly interested in viewing the so-called "needle packets" described in Blake and Woodwick 1971 and Radashevsky 1993, because no one at the meeting had seen these structures before. Radashevsky 1993 writes about them, "From setigers 20-30, notopodia with tight packets of needle-like double-edged spines, besides capillaries. The packets not protruding through cuticle, at first small and with short spines, but on succeeding setigers number of spines in packets increasing and spines becoming longer." The needle packets on the holotype were located with close examination and were not nearly as apparent or distinct as illustrated in Blake and Woodwick 1971 or Radashevsky 1993. Kathy re-examined the San Diego specimens back at the lab and did find a few specimens with structures similar to the needle packets. However, most of the specimens examined did not have them. Additional characters that differentiate the Channel Island specimens from *D. bidentata* are: 1) the branchiae start on setiger 9 and 2) the hooded hooks are bidentate throughout the length of the animal. These specimens will be described as provisional species *Dipolydora* sp SD 1.

Tony Phillips brought some specimens of *Scolelepis* sp Hyp 1 for us to examine. They were from Anaheim Bay, Bight station 2164, at a depth of approximately 6 meters. This species had an erect, occipital tentacle, 4 eyes in a trapezoidal arrangement, a broad prostomium ending in an anterior point, and palps that extended to setiger 20 and had a basal sheath bearing 8+ elongate, narrow papillae. These papillae were interesting and novel for some of the participants to see since palps are often missing from specimens of *Scolelepis*. The neurosetae on Tony's specimens started on setiger 15 and were multidentate (one large fang with 3 smaller ones). They were very similar to those figured for *S. geniculata* in Imajima 1992. The broad prostomium on Tony's specimens were similar to those figured for *S. (Parascolelepis) yamaguchii* in Imajima 1992. There was one specimen though that did not have a broad prostomium, and it was noted that this specimen also did not have the proboscis everted as did the other 3 specimens that did have a broad prostomium. It was hypothesized that perhaps the broadening of the prostomium is a result of the proboscis being everted. We stained one of Tony's specimens with methyl green, and it had a "halo" of stain around the

edge of the prostomium. It was also noted that there was faint brown pigment around the base of the prostomial point. Leslie had some notes by Sue Williams that described a few characters of *Scolelepis* sp A. The characters matched Tony's specimens; however, due to the minimal description, it was judged not to be prudent to identify them as Williams' *S.* sp A at this time.

The next problematic polychaete was also brought in by Tony, *Naineris* sp Hyp 1. The animal was collected at Bight station 2149 in Dana Pt. Harbor at a depth of approximately 6 meters. The sediment was coarse shell debris. The characters of this specimen were: 1) a truncate prostomium, 2) branchiae started on setiger 6 and were equal in size to the branchiae of the other setigers, 3) the thoracic neurosetal lobe started on setiger one and was very long, spanning the entire length of the parapodia. Each lobe had a single papilla in a dorsal position, 4) the dorsal organs were roundish, 5) the transition took place at approximately setiger 25, and 6) the thoracic setae were geniculate and hooded acicular hooks. These specimens did not correspond to any of the species in Blake 1996. We referred to these as *Naineris* sp Hyp 1.

Tom Parker shared 3 new species of syllids with us. The first was from the genus *Proceraea*. This specimen was collected from Bight station 2396 located off San Pedro at a depth of 31 meters. The animal had long, unsegmented antennae, 2 pairs of eyes, ventral cirri absent, the dorsal cirri were moderate in length and unarticulated, the setae were thick-shafted, simple bayonet, and the ventral lobe of the parapodia were expanded. This specimen will be described as *Proceracea* sp LA 1.

The second syllid was *Autolytus* sp LA 1 collected from Bight station 2482 located S. of Santa Rosa Island at a depth of 44 meters. In this specimen, the antennae lacked articulation, the nuchal epaulettes were angled and large on the anterior dorsum, and there were no ventral cirri. Ron Velarde commented that there are hundreds of species of *Proceraea* and *Autolytus* worldwide, and they are very difficult to speciate. One reason is due to the fact that many species have been erroneously described from the stolen phase of the life cycle. Studies need to be done to observe and document the entire life cycles of this group of animals in order to begin sorting out the taxonomy.

The third syllid brought in by Tom was a *Sphaerosyllis*. It was collected from Bight station 2490 located W. of San Miguel Island at a depth of 75 meters. The animal had 4 orangish-red eyes in a slightly arced transversed series, 2 very small orangish-red anterior eyes, compound setae that were unidentate and smooth, a proventriculus in 4-5 segments, the dorsal cirri were weakly inflated at the base with irregular swellings, the dorsal cirri were absent from setiger 2, there was one pair of moderately flask-shaped tentacular cirri, and there were 2 ciliated dorsal flaps on the antero-lateral part of the prostomium. We concluded that this animal be referred to as *Sphaerosyllis* sp LA 1.

Rick Rowe distributed two identification sheets containing colorful digital images. The first is *Polycirrus* sp OC 1 fide Phillips and Lovell, 1999. This species has 19 notosetigers, the uncini begin on setiger 9, there are cirriform postsetal lobes on the notopods, the lateral ventral scutes are separated by small midventral pads, the notosetae are hirsute, the peristomial pad is grooved, and the dorsal surface of the thorax is rugose. The methyl green staining pattern of this worm is also illustrated on the sheet. The second identification sheet is *Chaetozone* sp SD 3 fide Rowe, 1997. This species has a long pointed prostomium that is often directed upward, there are small dark eyes, the neuropodial spines start on setigers 40-65, segments are relatively long and uncrowded throughout, capillary setae progressively thicken, becoming spines posteriorly, dorsal tentacles are present on the

second pseudoannulation in front of the first setiger and the first branchiae on pseudoannulation are present in front of the first setiger. The methyl green staining pattern of the animal is illustrated on the sheet as well as a computer autotracing showing placement of tentacle and branchial scars.

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