

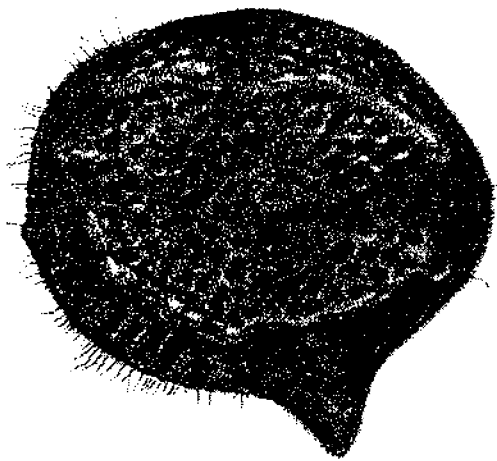
September, 1997

## SCAMIT Newsletter

Vol. 16, No.5

<b>NEXT MEETING:</b>	MMS Taxonomic Atlas Vol. 14 Pt. 2 - Authors & Ed. 3 of Taxonomic List -Echinoderm Review
<b>GUEST SPEAKERS:</b>	Dr. Mary Bergen, SCCWRP/Dr. Andrew Lissner, SAIC/Dr. Gordon Hendler, NHMLAC
<b>DATE:/TIME:</b>	Tuesday, 7 October 1997, 9:30AM - 3:30PM
<b>LOCATION:</b>	Conference Room, Orange County Sanitation District 10844 Ellis Ave., Fountain Valley, Ca

### 7 OCTOBER MEETING



*Eusarsiella thominx* (from Kornicker 1987)

Earlier this year we held a meeting to review and comment on the contents of Volume 14 of the MMS Taxonomic Atlas series, which dealt with echinoderms and several other phyla. As a follow up to that meeting we will meet in October to discuss the results of that examination with several of the major authors. We are hoping to elicit from them answers to some of the questions we encountered during our earlier review. We also plan to undertake a review of the echinoderm section of the SCAMIT Taxonomic Listing Ed. 2, and the synonymies listed in the draft of Ed 3.

**Please note:** the November meeting will be held on Monday the 17th, not Sunday the 16th, and the December meeting on the 8th not the 7th as indicated in the August Newsletter.

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

*SCAMIT Newsletter is not deemed to be a valid publication for formal taxonomic purposes.*



## PLAN NOW

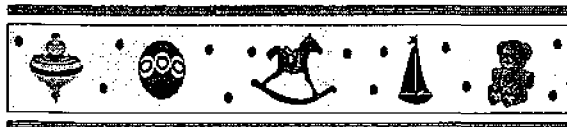


The 1997 SCAMIT Christmas Party has been scheduled for Saturday the 13th of December between 6 pm and approximately 9 pm at the Cabrillo Marine Aquarium. Repeat attendees know what to anticipate, a family oriented dinner gathering with emphasis on socializing in truly congenial surroundings. Please bring a pot-luck dish (salad, side-dish, or desert) with SCAMIT providing the main course and beverages (contact Don Cadien or Cheryl Brantley at CSDLAC to coordinate dishes). Children of all ages are both welcome and encouraged. They will never have a better opportunity to experience the Aquarium than during our annual festivities.

We will once again join in "making a joyful noise" - instrumentalists are asked to bring their instruments (pianos, organs and bagpipes excepted), and all others are asked to raise their voices in communal caroling. All signs point to a visit by the guy in the red suit with the white beard, who will have both sage words and small gifts for anyone willing to sit in his lap.

Now that the Newsletter is more broadly distributed I must add that this is limited to SCAMIT members, their families, and a few guests. Arrangements have been made to have the Museum Gift Shop open for interested shoppers. They carry things not available elsewhere, and sales benefit the institution.

Vice-President Don Cadien will ask members prior to the event the number in their party so we can plan enough for everyone. Last minute changes can be accommodated, but any advance notice is appreciated. Hope you all can make a hole in your busy December schedules large enough to fit us in.



## NEW LITERATURE

By all reports the El Niño event now underway will be both intense and prolonged. We will be seeing much more of our friends to the south, that is of species which are occasional visitants to our area rather than permanent residents. Some of these may become relatively entrenched due to the expected persistence of elevated sea-surface temperatures for a multiyear period, and continued northward flow of southern water. One possible outcome of this is reestablishment of a benthic population of *Pleuroncodes planipes* in our area. If such a benthic phase establishment occurs we can begin to gauge the effect on the resident biota with the information provided by Aurióles-Gamboa & Pérez-Flores (1997). They found the primary food of the benthic population is benthic diatoms, with some admixture of pelagic diatoms and zooplankton from the surrounding benthic boundary layer. They do, however, also report sand grains and crustacean fragments. They interpreted the later as remnants of zooplankton, but benthic microcrustaceans may also be involved.

Hendrickx (1996) provides an interesting summary of decapod species distributions among habitats in the Gulf of California. Some of these may show up as a result of northward larval transport, so we should keep in mind both the diversity of species found just to the south of the Southern California Bight, and the sorts of habitats in which we might find them.

Interpretation of the Platyhelminthes as primitive is further brought into question by Balavoine (1997). He follows two widely differing lines of evidence; 18S ribosomal RNA sequence evolution, and HOX cluster gene duplications. Although his results allow differing interpretations of the position of the platyhelminths, they definitely point to a non-basal tree location, and to flatworms not being the sister group to the bilaterians.

The data seem to support earlier analyses which group the Platyhelminthes with other phyla with spiral cleavage as the Spiralia. In any case, the

### AMPHIPACIFICA, AN EXAMINATION OF IT'S BRIEF RUN

SCAMIT members had advance notice that a group of Canadian amphipod workers led by E. L. Bousfield had been working on a huge collection of material from the Pacific Northwest accumulated by a series of expeditions to the area beginning in the 1950's. Several monographic revisions of particular groups were released as publications of the National Museums of Canada, and a comprehensive book type treatment was rumored to be in the offing. With the arrival of *Amphipacifica* Volume 1 No. 1 in January 1994 a new direction was established. The work was much the same, with many of the same formats and all the same revisionary aims, but the venue had been changed.

The new journal had the stated aim of providing an outlet for major revisionary systematic papers, which were becoming increasingly difficult to publish as institutional (usually governmental) support for such publications dwindled. The journal was envisioned to perform this function for all groups, but as it developed in practice, only papers dealing with arthropods were published. Originally envisioned as a quarterly, publication problems eventually led to publication in volumes dissociated from the calendar year. Thus, by issuance of the final number in May of 1997, only seven issues had been released in 3½ years.

These seven issues provided a feast for workers in the area covered, with major revisionary papers on a number of amphipod families. A few papers on other related subjects were also published, notably one on higher classification of amphipods (Bousfield & Shih 1994), one evaluating J. L. Barnard's impact on regional amphipod taxonomy (Bousfield & Staude 1994), and one on nutrition in fossil arthropod-like organisms (Bousfield 1996). It is not likely that articles on other groups were actively excluded, or that they were so heavily edited as to be withdrawn. It is more likely that the journal did not attract manuscripts from a broader base. During the period of publication a good portion of a backlog of major monographic or family-level taxa within the amphipods were released. A number of manuscripts, end, 13 of which are listed at the end of the last page of the last issue. These manuscripts are being offered by Dr. E. L. Bousfield to other workers with a r completion. They include partial or complete illustrations of the species. sted in taking over one or more of these projects should contact him at elbow

The journal was originally set up with L. Bousfield, and two other members of the editorial board (Craig Staude and [redacted]). At the end of volume one, strains had appeared in this relationship, leading to [redacted] the two associate editors. While it is only supposition, the publication of the special supplement to Volume 1 containing description of *Cadborosaurus willsi* seems to have catalysed the departure of the two (they discuss it in an editorial comment in the supplement). SCAMIT members had seen much of the material presented in that supplement during a workshop with Dr. Bousfield and Craig Staude in 1993.

Regardless of the merits of that publication, the departure of the two associate editors placed an even greater onus on Dr. Bousfield, who continued to function as managing editor, as well as primary author on most of the articles published. For the first two numbers of Volume II a new Associate Editor, Marianne Wilkinson, was in place. She too departed, and by the final issue the editorial staff was again reduced to one. Many cast a jaundiced eye on this situation, a journal whose editor is also it's major author, and in which peer-review of submitted articles was the responsibility of the author, not of the journal. This seemed a situation ripe for a "vanity press" sort of product, in which the ideas and performance of the authors received no creditable peer review prior to publication. To a

certain extent, the pressure of publication deadlines (during the period in which quarterly publication was attempted) did negatively affect the product. Numerous errors snuck through, more numerous and more serious than might be expected of a journal publication. These tended to support the critics who viewed the articles produced as poorly quality controlled and of dubious value as a result. A larger view, taking into account the fact that Dr. Bousfield was working in parallel on probably 15 monographic revisions at any one time in addition to his editorial mantle at *Amphipacifica*, leads to a better understanding of the greater than normal rate of error in the published product. This is small solace to those frustrated by a defective statement in a key couplet, by a mismatch between text description and figure, or other discrepancies, but it provides needed perspective.

To add further to the perspective let us examine the content of the 17 articles which constitute those seven slim issues. Three non-monographic articles were mentioned above, of the remaining 14 all but two involved Dr. Bousfield directly (Conlan 1994 and Staude 1995). Of these 12 he was primary author on 9 and secondary author on 3 (Jarrett & Bousfield 1994a and b, 1996). Main emphasis was on the amphipod families Phoxocephalidae (Jarrett & Bousfield 1994a and b), and Pleustidae (Bousfield & Hendrycks 1994 a & b, 1995b), but the families Eusiridae (Bousfield & Hendrycks 1995a), Pontogeneiidae (Staude 1995), Melitidae (Jarrett & Bousfield 1996), Oedicerotidae (Bousfield & Chevrier 1996), Corophiidae (Bousfield & Hoover 1997), Calliopiidae (Bousfield & Hendrycks 1997), Haustoriidae (Bousfield & Hoover 1996), Isaeidae (Conlan 1994), and Atylidae and Dexaminidae (Bousfield & Kendall 1994) were also treated. Staude (1995) dealt with a single genus (*Paramoera*), and Conlan (1994) with new species in two (*Photis* and *Gammaropsis*), but the other papers were monographic revisions of related genera within a family, or of an entire family.

This continued the string of monographic publications begun by Bousfield (1979) in a Bulletin of the Biological Society of Washington, and continued at the National Museum of Canada by Dickinson (1982) in the Publications in Biological Oceanography series and later in the Publications in Natural Sciences series. These publications were in effect an update based on additional data and specimens and covering a wider geographic area of the series of monographs on North East Pacific amphipod taxonomy begun in 1954 by J. L. Barnard. This series included the articles in Pacific Naturalist in 1962, and continued into the early 1980's when he began the long march to the 1991 Barnard and Karaman world-wide treatment. This was acknowledged in the appreciation of J. L. Barnard presented by Bousfield at the Barnard Memorial meeting at the Smithsonian in 1992, and in the inaugural issue of *Amphipacifica* (Bousfield & Staude 1994).

A monographic review at any level is a major undertaking, and the series in *Amphipacifica* represents a tremendous effort. As it always does, the publication of this series has stimulated further investigation and much criticism and difference of opinion. This is all to the good, and forms a major contribution of itself. Critical examination of the monographs has turned up errors, some due to haste, others due to the virtual lack of consideration of material from southern collections. In most cases the literature reports of J. L. Barnard were substituted for examination of specimens. Since the purpose of the series was to report the results of examination of the massive National Museums of Canada collections, the lack of examination of materials from other areas was an unfortunate necessity. Materials from the Southern California Bight were offered to the participants several times, but these offers were not taken up. One of the results was that many of the new species described from the Puget Sound area have listed distributions which cover only part of their ranges. Another, most prominent in the genus *Heterophoxus*, is clinal variation largely bridging the character separation between close species which was not considered in the descriptions.

**TAXONOMIC ACTIONS INTRODUCED IN AMPHIPACIFICA WHICH AFFECT  
THE SOUTHERN CALIFORNIA BIGHT FAUNA**

Many of the new species introduced were nominally restricted to the boreal or arctic areas of the North East Pacific. A number have been found to occur in the Southern California Bight, extending the range indicated for them in their original descriptions. This number will doubtlessly increase as old identifications are reexamined in the light of the new descriptions. Resurrections of older taxa from synonymy, redefinition of limits to established taxa, and other taxonomic actions were also undertaken in various journal articles. A list of the taxa introduced, resurrected, or modified in *Amphipacifica* which are known to occur in the Southern California Bight follows; if the animals were known under another name in our area before their treatment, the name is provided (if known)

New Name	Previously as	<i>Amphipacifica</i> #
Thorlaksonius depressus	Pleustes depressa	I no. 2
Thorlaksonius platypus	Pleustes platypa	I no. 2
Parametaphoxus quaylei	Metaphoxus fultoni	I no. 2
Heterophoxus affinis	Heterophoxus oculatus	I no. 2
Heterophoxus ellisi	Heterophoxus oculatus	I no. 2
Photis linearmanus	Photis sp D of Myers	I no. 3
Eusirus columbianus	Eusirus longipes	I no. 4
Rhachotropis barnardi	Rhachotropis clemens [in part]	I no. 4
Eohaustorius barnardi	Eohaustorius washingtonianus	II no. 1
Incisocallope newportensis	Parapleustes pugettensis	II no. 1
Incisocallope bairdi	Parapleustes pugettensis	II no. 1
Gnathopleustes den	Parapleustes den	II no. 1
Chromopleustes oculatus	Parapleustes oculatus	II no. 1
Chromopleustes sp 1	Parapleustes oculatus	II no. 1
Micropleustes nautilus	Parapleustes nautilus	II no. 1
Micropleustes behningi	Parapleustes nautilus	II no. 1
Micropleustes nautiloides	Parapleustes sp A of Barnard 1969	II no. 1
Commensipleustes commensalis	Parapleustes commensalis	II no. 1
Dulichella spinosa	Dulichella appendiculata	II no. 2
Megamoera subtener	Melita dentata	II no. 2
Desdimelita desdichada	Melita desdichada	II no. 2
Desdimelita californica	Melita californica	II no. 2
Hartmanodes hartmanae	Monoculodes hartmanae	II no. 2
Deflexilodes norvegicus	Monoculodes norvegicus	II no. 2
Pacifoculodes barnardi	Monoculodes spinipes	II no. 2
Monocorophium acherusicum	Corophium acherusicum	II no. 3
Monocorophium insidiosum	Corophium insidiosum	II no. 3
Monocorophium uenoi	Corophium uenoi	II no. 3
Laticorophium baconi	Corophium baconi	II no. 3

Numerous other actions were taken on species from adjacent areas to the north or south of the Southern California Bight, and several of the treatments were worldwide.

A LISTING OF ARTICLES PUBLISHED IN *AMPHIPACIFICA*

- BOUSFIELD, EDWARD L. 1995. A contribution to the natural classification of Lower and Middle Cambrian arthropods: food gathering and feeding mechanisms. *Amphipacifica* 2(1):3-34.
- BOUSFIELD, EDWARD L., and Andrée Chevrier. 1996. The amphipod family Oedicerotidae on the Pacific coast North America. Part 1. The *Monocolodes* and *Synchelidium* generic complexes: systematics and distributional ecology. *Amphipacifica* 2(2):75-147.
- BOUSFIELD, EDWARD L., and Edward A. Hendrycks. 1994a. A revision of the family Pleustidae (Crustacea: Amphipoda: Leucothoidea). Part 1. Systematics and biogeography of component subfamilies. *Amphipacifica* 1(1):17-57.
- . 1994b. The amphipod superfamily Leucothoidea on the Pacific coast of North America. Family Pleustidae: subfamily Pleustinae. Systematics and biogeography. *Amphipacifica* 1(2):3-69.
- . 1995a. The amphipod superfamily Eusiroidea in the North American Pacific region. I. Family Eusiridae: systematics and distributional ecology. *Amphipacifica* 1(4):3-60.
- . 1995b. The amphipod Family Pleustidae on the Pacific coast of North America. Part III. Subfamilies Parapleustinae, Dactylopleustinae, and Pleusirinae: systematics and distributional ecology. *Amphipacifica* 2(1):65-133.
- . 1997. The amphipod superfamily Eusiroidea in the North American Pacific region. II. Family Calliopiidae. Systematics and distributional ecology. *Amphipacifica* 2(3):3-66.
- BOUSFIELD, EDWARD L., and Phillip M. Hoover. 1995. The amphipod superfamily Pontoporeioidea on the Pacific coast of North America. II. Family Haustoriidae. Genus *Eohaustorius* J. L. Barnard: systematics and distributional ecology. *Amphipacifica* 2(1):35-63.
- . 1997. The amphipod superfamily Corophioidea on the Pacific coast of North America. Part V. Family Corophiidae. Corophiinae, new subfamily. Systematics and distributional ecology. *Amphipacifica* 2(3):67-139.
- BOUSFIELD, EDWARD L., and Jane A. Kendall. 1994. The amphipod superfamily Dexaminioidea on the North American Pacific coast; families Atylidae and Dexaminidae: Systematics and distributional ecology. *Amphipacifica* 1(3):3-66.
- BOUSFIELD, EDWARD L., and Paul H. LeBlond. 1995. An account of *Cadborosaurus willsi*, new genus, new species, a large aquatic reptile from the Pacific coast of North America. *Amphipacifica* 1(Supplement 1):3-25.
- BOUSFIELD, EDWARD L., and C. t. Shih. 1994. The phyletic classification of amphipod crustaceans: problems in resolution. *Amphipacifica* 1(3):76-133.
- BOUSFIELD, EDWARD L., and Craig P. Staude. 1994. The impact of J. L. Barnard on North American Pacific amphipod research: a tribute. *Amphipacifica* 1(1):3-16.
- CONLAN, KATHLEEN E. 1994. New species of the amphipod crustacean genera *Photis* and *Gammaropsis* (Corophioidea: Isaeidae) from California. *Amphipacifica* 1(3)
- JARRETT, NORMA E., and Edward L. Bousfield. 1994a. The amphipod superfamily Phoxocephaloidea on the Pacific coast of North America. Family Phoxocephalidae. Part 1. Metharpiniinae, new subfamily. *Amphipacifica* 1(1):58-140.
- . 1994b. The amphipod superfamily Phoxocephaloidea on the Pacific coast of North America. Family Phoxocephalidae. Part II. Subfamilies Pontharpiniinae, Parharpiniinae, Broiginae, Phoxocephalinae, and Harpiniinae. Systematics and distributional ecology. *Amphipacifica* 1(2):71-150.
- . 1996. The amphipod superfamily Hadzioidea on the Pacific coast of North America. Family Melitidae. Part I. The *Melita* group: Systematics and distributional ecology. *Amphipacifica* 2(2):3-74.

STAUDE, CRAIG P. 1995. The amphipod genus Paramoera Miers (Gammaridea: Eusiroidea: Pontogeneiidae) in the eastern North Pacific. *Amphipacifica* 1(4):61-102.

Other publications mentioned in the above discussion are:

BARNARD, J. LAURENS. 1954. Amphipoda of the family Ampeliscidae collected in the eastern Pacific Ocean by the *Velero III* and *Velero IV*. *Allan Hancock Pacific Expeditions* 18(1):1-137.

---. 1962. Benthic Marine Amphipoda of Southern California: 1. Families Aoridae, Photidae, Ischyroceridae, Corophiidae, Podoceridae. *Pacific Naturalist* 3(1):3-72.

---. 1962. Benthic marine Amphipoda of Southern California; 2. Families Tironidae to Gammaridae. *Pacific Naturalist* 3(2):73-115.

---. 1962. Benthic marine Amphipoda of Southern California; 3. Families Amphilochidae, Leucothoidae, Stenothoidae, Argissidae, Hyalidae. *Pacific Naturalist* 3(3):116-163.

---. 1962. Benthic marine Amphipoda of Southern California: Family Oedicerotidae. *Pacific Naturalist* 3(12):351-371.

---. 1980. The genus Grandifoxus (Crustacea: Amphipoda: Phoxocephalidae) from the northeastern Pacific Ocean. *Proceedings of the Biological Society of Washington* 93(2):490-514.

BARNARD, J. LAURENS, and Charline M. Barnard. 1981. The amphipod genera Eobrolgus and Eyakia (Crustacea: Phoxocephalidae) in the Pacific Ocean. *Proceedings of the Biological Society of Washington* 94(1):295-313.

---. 1982. The genus Rhepoxynius (Crustacea: Amphipoda: Phoxocephalidae) in American Seas. *Smithsonian Contributions to Zoology* (357):1-49.

---. 1982. Revision of Foxiphalus and Eobrolgus (Crustacea: Amphipoda: Phoxocephalidae) from American oceans. *Smithsonian Contributions to Zoology* (372):1-35.

BARNARD, J. LAURENS, and Gordan S. Karaman. 1991. The Families and Genera of Marine Gammaridean Amphipoda (except Marine gammaroids)[parts 1 and 2]. *Records of the Australian Museum Supplement* 13:1-866.

BOUSFIELD, EDWARD L. 1979. The amphipod superfamily Gammaroidea in the northeastern Pacific region: systematics and distributional ecology. *Bulletin of the Biological Society of Washington* (3):297-359.

DICKINSON, JOHN J. 1982. Studies on amphipod crustaceans of the Northeastern Pacific region. I. 1. The systematics and distributional ecology of the family Ampeliscidae (Amphipoda: Gammaridea) in the Northeastern Pacific Region. I. The genus Ampelisca. *National Museums of Canada, Publications in Biological Oceanography* (10):1-39.

## Synonymy Entries

Entries occurring in the synonymy of names in Edition 3 are of several discrete types  
[examples fictitious entries for *Pagurus granosimanus* (Stimpson 1859)]

Type	Description	Name	Entry Appearance	Authorship
I	name as in original description [always first entry] if different from primary entry	example - <i>Eupagurus granosimanus</i>	<b>different genus/orthography</b>	<b>lack of parentheses</b> Stimpson 1859
II	synonymy	example - <i>Pagurus pebblipes</i>	<b>different species name</b>	<b>same or different authorship</b> Weyprecht 1871
	[special case - homonym in synonymy]	example - <i>Pagurus inconstans</i>	<b>different species name</b>	<b>authorship excluding non-synonymy</b> Schmitt 1921 non Benedict 1879
III	partial synonymy	example - <i>Pagurus varians</i>	<b>different species name</b>	<b>authorship + in part</b> Smith 1916 in part
IV	variant generic placement [regional usages]	example - <i>Trigonocheirus granosimanus</i>	<b>different genus</b>	<b>of + usage citation</b> of Holmes 1900
V	variant orthography [regional usages]	example - <i>Pagurus granosimana</i>	<b>different orthography</b>	<b>of + usage citation</b> of Rathbun 1918
VI	literature misidentification [regional references]	example - <i>Pagurus haysi</i>  example - <i>Pagurus bagrus</i>  example - <i>Pagurus armatus</i>	<b>different species name</b>	<b>of + citation + non + taxon author</b> of Schmitt 1921 non Blazor 1899 <b>aucct + non + taxon author</b> aucct non Linnaeus 1757 <b>aucct NEP + non + taxon author</b> aucct NEP non (Benedict 1892)



blind-end gut and other supposedly primitive features of the flatworms are apparently not primitive at all, but are derived characters.

Evolution within a group was also examined for the case of the sacoglossan mollusks by Jensen (1997). These animals are strongly associated with green algal diets, and include both shelled and unshelled forms. Limited fossil evidence is available for the shelled forms and for some of the algae, but the history of the unshelled clade must be inferred from other evidence.

With her own recent cladistic analysis of the group in hand, and drawing on a variety of other evidence, Jensen attempts to determine if the snails and the algae have co-evolved, or if dietary and consequent morphological changes in the Sacoglossa are due to host-switching. Answers to a number of intriguing questions are attempted, usually with some success, but ultimately the lack of a cladistic analysis of the host algae leaves most answers only speculative.

Collin and Wise (1997) describe the larval and juvenile development of a local pyramidellid mollusk, *Odostomia columbiana*. They also review the available information on pyramidellid development, a surprisingly small amount considering the number of pyramidellid species. Our local fauna was confused so severely by over-description that SCAMIT has had to recommend that its members not even attempt species level identifications of monitoring derived specimens. Dr. Jim McLean (NHMLAC) has recently reexamined this group (excluded from his Santa Maria Basin Taxonomic Atlas section) and should be clarifying much of the confusion within a few years. In the mean time additional information on the biology of the animals, such as the present contribution, are very helpful.

The introduced mytilid bivalve *Musculista senhousia*, which occurs abundantly in local bays and mudflats, has provoked examination in several areas it has invaded. A recent report from our area was mentioned in an earlier

newsletter (Crooks 1996), and a new report on the animal in New Zealand (Creese et al 1997) allows comparisons of its behavior in different invasions. The New Zealand study, which used a treatment (*Musculista* bed present) vs. control (*Musculista* absent) design, reinforced the conclusions drawn by other investigators based on observational data. Both the behavior and ecological impact of the species seemed very similar in the California and New Zealand reports, and hinge on the animals habit of establishing communal byssal thread mats covering the bottom. As long as these remain undisturbed they produce anoxia in the underlying sediments, and reduce or eliminate many preexisting benthic populations (especially clams). Errant polychaete worms seem much less affected, and may actually benefit from the shelter provided by the byssal mat. Creese et al indicate that these effects are likely to be short-lived, although mats consisting exclusively of dead clams persist for an undetermined period in San Diego Bay (pers. obs. -Cadien).

In a related examination of biological effects on benthic conditions Graf & Rosenberg (1997) review bioresuspension and biodeposition. Their main concern is to establish if (and/or when) the biological contribution to particle movements in and around the benthic boundary layer is large enough to merit consideration in particle budgets. They examined both indirect and direct effects of bioresuspension and biodeposition. The reported magnitudes of several of these processes were more than adequate to require biological effects to be accounted for in particle budgets. The literature cited in this paper is an eye-opening indication of the amount of effort expended in this area in recent years.

The linkage between ecosystem health and community or population level indications of that health (or lack thereof) are reviewed by Attrill & Depledge (1997). Many aspects of their review parallel the paths taken during the development of the BRI (benthic response index) during analysis of the SCBPP benthic data. The authors

also consider the fish community and its alteration in their review. Although this is a useful review it does not produce any new insights or explore any new territory. The authors do, however, suggest (as have others) that much the same analytic result can be obtained from identification only to family or higher taxonomic level. This, of course, depends on the analysis undertaken.

Without the most complete identification possible the BRI would not be nearly the tool it currently appears to be (the paper describing its derivation and capabilities is still in preparation). Particularly in cases where subtle effects are examined for, the additional information available from species level identifications is invaluable. This requires an experienced cadre of taxonomists generating the data, and rigorous QC of the produced data. In cases of catastrophic effects and/or limited available expertise, higher level identification can suffice, and is more cost-effective when coupled to the appropriate analysis.

#### WEBSITE UPDATE

SCAMIT has recently purchased a computer software program from Adobe called Acrobat. This software will allow the newsletter staff to create PDF (portable document format) files that will be put on our website and may then be downloaded to your own directory on your personal computer via a free software program called Acrobat Reader. The Acrobat Reader software is easily downloaded (by following a few simple directions) from the Adobe products website in a few minutes (approx. 15 - 20 min. depending on the speed of your modem) and takes up less than 3MB of space on your hard drive. Members will only have to download the Reader to their machines once. A link will be put on the SCAMIT website to the Adobe site for this purpose. While retrieving a newsletter will now involve a little more effort on the readers/SCAMIT members part the resulting

product will be a newsletter, voucher sheet, table, etc. that looks exactly as it was intended, regardless of format or style. Acrobat will take files created in any application and maintain their distinctive typefaces, color, graphics and photographs. We have already experimented with several newsletter files from WordPerfect and Excel and the PDF files are created in seconds by the click of the mouse. This will save the newsletter staff, and webmaster Larry Cooper, valuable time that they can then devote to the content of the newsletter and other important SCAMIT business. It should also allow members to receive their monthly newsletter electronically at quality equal to their current printed copy, thus allowing SCAMIT to save on printing and mailing costs.

Before purchasing this software SCAMIT officers did some research to find out if this product was indeed what was needed for not only ease in publishing our electronic newsletter on the web, but for obtaining a printed copy on individual PC's while maintaining the same format and quality of our current newsletter.

Most businesses and government agencies on the web that have documents for the consumer to print from their website, like the IRS for instance, use downloadable PDF files, rather than constructing files in HTML, which does not allow for complicated format structure. SCAMIT officers were also told by several website consultants that Adobe Acrobat was the product to use to meet our needs. Now that we have been able to use the product we're sure that we have spent SCAMIT money wisely.

We envision that in the next few months many changes will take place on the website. We hope to have all of SCAMIT's printable products, such as newsletters, voucher sheets, character tables, taxa lists, etc., available in a catalogue format where each product resides as a downloadable PDF file. In this way members will be able to tailor the products they receive to their particular invertebrate group(s) of study. We will still only

maintain the three most recent newsletters at the website, but of course, will archive all past PDF files so they will always be available to members. So continue to visit the website and don't hesitate to provide any comments or suggestions.

Feedback in any form is always welcome. In fact, we recently received some from member Jay Shrake (KLI). He got excited about the prospect of designing a modified homepage for the website, and set out to do it. He is now done, and the fruits of his labor will soon be under review by the officers. Knowing Jay he will have given it his all, and we can look forward to an esthetically pleasing but still utilitarian page.

#### MINUTES OF SEPTEMBER 17 MEETING

Before we began to review the status of the Edition 3 draft (and included synonymies) it was necessary to lay out the types of synonym which were intended for inclusion. A Table was prepared listing six types of entry, with examples of each type, to help participants determine whether an entry was correct or not (see attached table). As we examined it we found that one potential case was missing, and the special case of a synonym which is a homonym of a non-synonymous animal was added.

Each of the included synonymies was to be referenced, providing a paper trail to connect the entry in the Ed 3 list with a source document. A source list for the draft as circulated was also distributed. Each circulated draft should have in association a source list so that the indicated source numbers can be identified. This is a composite list (currently at 55 entries) which will be used for all included species. There will not be separate lists for polychaetes, crustaceans, mollusks, etc.

Each person who comments on the draft, and adds any additional synonymy sources to the list,

needs to indicate who is adding it (i.e. 59tp - meaning the reference is to the #59 source provided by Tony Phillips, not the #59 source provided by Ron Velarde). Staff at CSDLAC, where the list is maintained electronically, will collate the responses and perform suggested additions or deletions to the draft which were deemed appropriate.

During the meeting we proceeded to examine the draft document and, although only a few members were able to attend, made a number of corrections. Errors of both omission and commission were found and fixed. Although a full listing of them will not be attempted here, a paper trail was maintained by Secretary Cheryl Brantley, and it can be drawn on to answer questions from those not in attendance. If the remaining meetings to evaluate the draft go as smoothly, we will be able to keep to our schedule for production of Ed 3.

Several specific points regarding crustacean nomenclature or taxonomy came up during the meeting which require discussion beyond that which took place during the meeting. These are presented below.

The use of *Leptochelia savignyi* in recent literature was begun by Holdich & Jones (1983) who listed *Tanais dubius* Krøyer, 1842 in the synonymy of that species. Both were described in the same paper (along with three other tanaids and numerous amphipods) and separated on bases which have often been judged inadequate. Holdich & Jones (op cit) also treat *Tanais Edwardsii* Krøyer, 1842 as a synonym of *L. savignyi*. They do not, however, either comment on or give the basis for the synonymies. As mentioned in the last newsletter the question of usage of the name *Leptochelia savignyi* was begged by Dojiri and Sieg (1997) who did not provide a synonymy under *L. dubia*. I contacted Dr. Dojiri to request information on this case and was given the history of the treatment used in the Atlas.

He informed me that he had asked Jürgen Sieg about the usage prior to his death. Dr. Sieg was strongly opposed to the use of *L. savignyi* over *L. dubia*, but did not elaborate on the basis for this choice. Even though *L. savignyi* has page priority over *L. dubia* (see Stebbing 1888, who lists the contents of the paper, including the order of presentation of the new tanaid species), we must believe that Dr. Sieg had made a reasoned choice involving other factors. Mas is not aware of these, and with the death of his co-author, will never be able to further pursue the matter. As the Atlas presentation is likely to be the single reference used for area tanaids in the foreseeable future, we should continue *L. dubia* usage in the SCAMIT Taxonomic Listing Ed. 3.

While working on the draft prior to the meeting the question of gender for the genus *Photis* came up. No evidence of an explicit statement of the gender of the name was found, either in its separate or combining form (i.e. in compound names like *Ampelisciphotis*). The genus was erected by Krøyer in 1842. He did not indicate the gender of the name in the description, but did indicate that *Photis* was a maidservant's name in Apulius' "Golden Ass". Although Krøyer 1842 has not been examined, the original description was repeated by Stebbing (1888) and the etymological commentary was presented in Stebbing (1906).

At issue is the appropriateness of either the -a or -us ending on species within the genus. Usage so far has favored the -a formulation, but as has been frequently demonstrated, usage is not always correct.

In the absence of a definite indication by Krøyer we could use the ending of the type as a guide to his intent, but it is a patronymic (*P. reinhardti*) and provides no help. We can, however, reach the conclusion that the genus is feminine based on the etymological information reported by Stebbing. As such, the -a ending does seem appropriate within the genus and associated genera with *Photis* compounded names.

With the last issue of the journal *Amphipacifica* in hand it seemed a good time to evaluate its short run. It was hoped that alternative key couplets, and other patches to deal with some of the problems in the papers published in the journal could be provided at the meeting. Time did not allow such preparation, however. A note by Don Cadien on *Amphipacifica*'s brief history, listing the taxa introduced which occur in the Southern California Bight, and providing a listing of published articles was distributed (attachment).

**Editors Note:** The following is a contribution I requested of Megan Lilly. It reflects her interactions with some of the premier cephalopod workers in the world who gathered this summer for a workshop in Santa Barbara. This is not intended to extend our knowledge base on the group, but to remind us that the great names in the field are as human as those of us who labor in the trenches of applied biology.

#### "THE DANCE OF GHENGIS KHAN"

-Megan Lilly (CSDMWWD)

As indicated in the July newsletter, I did indeed attend the cephalopod talks on the 26th and 27th of June at the AMU/WSM meetings this year in Santa Barbara. I also remained behind after the conference to attend three days of the "Northern Pacific Cephalopod Taxonomy Workshop" being conducted by Dr. Eric Hochberg. Instead of reporting on the talks, albeit fascinating, Don has requested I tell a bit about the social aspect of the meetings.

One of the first opportunities I had to interact with the visiting scientists was Friday night, the 27th, at Eric Hochberg's home where a small, intimate and wonderful birthday party was held for Susan Hochberg. As I casually glanced around I realized I was surrounded by some of the world's greatest cephalopod workers. I noted not just the American counter-parts, Mike Sweeney, Clyde Roper and Eric Hochberg (to name just a few), but also Dr. Kubodera from Japan, and a large contingency of well known

Russians, including Dr. Kir Nesis and Dr. Chingis Nigmatullin. "Time for a stiff drink", I thought to myself, not sure how to act around the gathered "cephalopod royalty". However, I was to quickly learn that the Russians love a good time and have an easiness of attitude and quick sense of humor that is all pervasive.

It started when I noted Chingis casually wander over to one of Eric's orange trees, take his time selecting the perfect orange, walk to a nearby bench in the garden, call the family cat over to his lap, and happily engulf the fruit in two bites, all the while petting the cat and humming a soft tune; this in the midst of a well-catered affair. "Now there's a man I have to meet", I thought to myself. Over the next few hours, (and not just a few "Cape Cods"), I had not only met Chingis, but was witnessing his first-hand demonstration of the dance of "Ghengis Khan". The dance involved much shuffling, chuffing, hooting, hand clapping, foot stomping, and of course, boisterous laughter. I was told, however, that it could not truly be performed without a large sword which the lead dancer waves around while yelling. An extensive search was conducted, but sadly, there were no such swords to be found in the Hochberg residence.

Around 9:00pm the party started winding down and some of the "younger types" were restless for more fun. I escorted Dr. Slava Bizikov from the Russian Federal Research Institute of Fisheries and Oceanography, Unai Markaida, a Ph.D. student at CICESE in Ensenada, and Dr. David Scheel from the Prince William Sound Science Center, to a jazz club called Soho's in downtown Santa Barbara. Over the course of the rest of the evening, I learned that Unai was not originally from Mexico but grew up in the Basque region of France. By observation I learned that the Basque have no problems dancing wildly without a partner in the middle of a dance floor all while holding a beer and not spilling a drop. I also learned that the Russians have a slightly different dance style, let's just say, "enthusiastic" and leave it at that.

Saturday the 28th I did not see many of the Russians at the Museum, and was later to learn that they had a rented a car, driven to the Monterey Bay Aquarium for "the day" and returned to Santa Barbara late that evening (the things some people do for fun...).

Sunday afternoon officially kicked off the Cephalopod Taxonomy Workshop. A brief opening speech was given by Dr. Hochberg and the rest of the afternoon was spent organizing specimens which had been brought from all areas of the Northern Pacific. As the day was drawing to a close I asked Dr. Tsunemi Kubodera ("Ku") and Dr. Kotaro Tsuchiya (both of whom I've know since my days of working at the SBMNH) to join me for dinner. Probably much to their chagrin, I insisted on sushi. Once at the sushi bar Ku and Kotaro gave me their orders (although both of them spoke excellent English, they were hesitant about using it) and I relayed their requests to the sushi chef. After a few minutes of this, I suggested that the sushi chef might understand perfectly well if they made their requests in Japanese. As it turned out, the chef understood their Japanese much better than my English and within seconds all sorts of "specialities" (ordered in Japanese) were being set in front of me. The orders flew fast and furious from that point on, and while I have no idea what I actually consumed, it was delicious.

Monday was spent at the Museum dissecting cephalopods from assorted regions of the Northern Pacific. The hot, and at times, tedious work (gill lamellae counts, sucker counts, etc) was made tolerable by the presence of Dr. Mike Sweeney (Smithsonian) who I discovered shared a similar sweet-tooth to my own - a few clandestine trips were made to the vending machines.

That evening was to be my last in Santa Barbara and the gathered Russian entourage made a big show of insisting on dinner and dancing. At dinner Chingis stood and offered me a gift on behalf of the "Russian/Basque Alliance" (Unai

was present at any and all social activities). I received a beautifully hand painted small wooden bowl, and was told it was a traditional Russian gift. Deeply pleased, I took "the Alliance" back to Soho's (some had been present the previous Friday night, and some had not), and promptly brought a round of drinks to show my appreciation. There was an excellent jazz band playing and I was to witness first-hand a rapture of the likes I'd never seen when Chingis first heard the music. Turns out he was an avid jazz fan and proceeded to croon, cheer, dance wildly, applaud, and howl through the remaining evening. After dissections on Tuesday morning and a pleasant picnic lunch on the museum grounds, I said a sad farewell to the gathered Russian/ Basque/Japanese/Spanish collection and drove home to San Diego, thinking I'd probably not see any of them again for some time. Oh was I wrong...

Two days later, on Thursday evening, I received a cheerful phone call in broken English from Slava Bizikov asking if he, and a few others, could come visit me in San Diego the coming weekend, as they very much wanted to see Sea World. I was over-joyed at the prospect and gave them directions to my house. Saturday morning arrived and so did a small compact rental car, stuffed with Russians. They spilled out onto the side-walk with as much enthusiasm as always and proceeded into my house where they promptly entered into wrestling matches with my 60lb dog.

As enjoyable as this was to watch, I rounded them up and drove them to Sea World. Turns

out that Sea World is very famous in Russia and they had all seen advertisements and feature clips in Moscow. The day was spent getting sun-burned, eating ice-cream and caramel corn, and listening to them argue madly in Russian about every exhibit and display. All in all they seemed to love it.

Much to my surprise at approximately 3:00pm, they asked if they could go to the Zoo. I was shocked as I knew that they still had to drive back to Santa Barbara that evening (they had a flight to catch the next morning). However, they insisted (I'm telling you, these people are tireless), and that afternoon and evening they enjoyed the zoo with as much gusto and relish as everything else. Finally, at approximately 10:00pm that evening, after a fancy and well catered meal at Wendy's, they squeezed me near to death with massive bear-hugs, piled back into their tiny car, and waving merrily headed back towards Santa Barbara. As I wearily shuffled towards my front door all I could do was smile and think "Wow!".

#### CORRECTION

It was incorrectly reported in the previous newsletter volume 16 no. 4 that *Mooreonuphis stigmatis* is commonly reported by Hyperion in their benthic monitoring program. The species that does occur is *Mooreonuphis exigua* (Shisko 1981). It is found at 80m stations in coarser sediments. Polychaete workers please change your notes. The secretary apologizes for this error.

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### AMPHIPACIFICA, AN EXAMINATION OF IT'S BRIEF RUN

SCAMIT members had advance notice that a group of Canadian amphipod workers led by E. L. Bousfield had been working on a huge collection of material from the Pacific Northwest accumulated by a series of expeditions to the area beginning in the 1950's. Several monographic revisions of particular groups were released as publications of the National Museums of Canada, and a comprehensive book type treatment was rumored to be in the offing. With the arrival of *Amphipacifica* Volume 1 No. 1 in January 1994 a new direction was established. The work was much the same, with many of the same formats and all the same revisionary aims, but the venue had been changed.

The new journal had the stated aim of providing an outlet for major revisionary systematic papers, which were becoming increasingly difficult to publish as institutional (usually governmental) support for such publications dwindled. The journal was envisioned to perform this function for all groups, but as it developed in practice, only papers dealing with arthropods were published. Originally envisioned as a quarterly, publication problems eventually led to publication in volumes dissociated from the calendar year. Thus, by issuance of the final number in May of 1997, only seven issues had been released in 3½ years.

These seven issues provided a feast for workers in the area covered, with major revisionary papers on a number of amphipod families. A few papers on other related subjects were also published, notably one on higher classification of amphipods (Bousfield & Shih 1994), one evaluating J. L. Barnard's impact on regional amphipod taxonomy (Bousfield & Staude 1994), and one on nutrition in fossil arthropod-like organisms (Bousfield 1996). It is not likely that articles on other groups were actively excluded, or that they were so heavily edited as to be withdrawn. It is more likely that the journal did not attract manuscripts from a broader audience. During the period of publication a good portion of a backlog of major monographic treatments of genus or family-level taxa within the amphipods were released. A number of manuscripts remained at the end, 13 of which are listed at the end of the last page of the last issue. These partially completed manuscripts are being offered by Dr. E. L. Bousfield to other workers with a bona fide interest in their completion. They include partial or complete illustrations of the species covered. Parties interested in taking over one or more of these projects should contact him at [elbousf@islandnet.com](mailto:elbousf@islandnet.com).

The journal was originally set up with a managing editor - E. L. Bousfield, and two other members of the editorial board (Craig Staude and Phil Lambert). By the end of volume one, strains had appeared in this relationship, leading to the resignation of the two associate editors. While it is only supposition, the publication of the special supplement to Volume 1 containing description of *Cadborosaurus willsi* seems to have catalysed the departure of the two (they discuss it in an editorial comment in the supplement). SCAMIT members had seen much of the material presented in that supplement during a workshop with Dr. Bousfield and Craig Staude in 1993.

Regardless of the merits of that publication, the departure of the two associate editors placed an even greater onus on Dr. Bousfield, who continued to function as managing editor, as well as primary author on most of the articles published. For the first two numbers of Volume II a new Associate Editor, Marianne Wilkinson, was in place. She too departed, and by the final issue the editorial staff was again reduced to one. Many cast a jaundiced eye on this situation, a journal whose editor is also it's major author, and in which peer-review of submitted articles was the responsibility of the author, not of the journal. This seemed a situation ripe for a "vanity press" sort of product, in which the ideas and performance of the authors received no creditable peer review prior to publication. To a



certain extent, the pressure of publication deadlines (during the period in which quarterly publication was attempted) did negatively affect the product. Numerous errors snuck through, more numerous and more serious than might be expected of a journal publication. These tended to support the critics who viewed the articles produced as poorly quality controlled and of dubious value as a result. A larger view, taking into account the fact that Dr. Bousfield was working in parallel on probably 15 monographic revisions at any one time in addition to his editorial mantle at *Amphipacifica*, leads to a better understanding of the greater than normal rate of error in the published product. This is small solace to those frustrated by a defective statement in a key couplet, by a mismatch between text description and figure, or other discrepancies, but it provides needed perspective.

To add further to the perspective let us examine the content of the 17 articles which constitute those seven slim issues. Three non-monographic articles were mentioned above, of the remaining 14 all but two involved Dr. Bousfield directly (Conlan 1994 and Staude 1995). Of these 12 he was primary author on 9 and secondary author on 3 (Jarrett & Bousfield 1994a and b, 1996). Main emphasis was on the amphipod families Phoxocephalidae (Jarrett & Bousfield 1994a and b), and Pleustidae (Bousfield & Hendrycks 1994 a & b, 1995b), but the families Eusiridae (Bousfield & Hendrycks 1995a), Pontogeneiidae (Staude 1995), Meitidae (Jarrett & Bousfield 1996), Oedicerotidae (Bousfield & Chevrier 1996), Corophiidae (Bousfield & Hoover 1997), Calliopiidae (Bousfield & Hendrycks 1997), Haustoriidae (Bousfield & Hoover 1996), Isaeidae (Conlan 1994), and Atylidae and Dexaminidae (Bousfield & Kendall 1994) were also treated. Staude (1995) dealt with a single genus (*Paramoera*), and Conlan (1994) with new species in two (*Photis* and *Gammaropsis*), but the other papers were monographic revisions of related genera within a family, or of an entire family.

This continued the string of monographic publications begun by Bousfield (1979) in a Bulletin of the Biological Society of Washington, and continued at the National Museum of Canada by Dickinson (1982) in the Publications in Biological Oceanography series and later in the Publications in Natural Sciences series. These publications were in effect an update based on additional data and specimens and covering a wider geographic area of the series of monographs on North East Pacific amphipod taxonomy begun in 1954 by J. L. Barnard. This series included the articles in Pacific Naturalist in 1962, and continued into the early 1980's when he began the long march to the 1991 Barnard and Karaman world-wide treatment. This was acknowledged in the appreciation of J. L. Barnard presented by Bousfield at the Barnard Memorial meeting at the Smithsonian in 1992, and in the inaugural issue of *Amphipacifica* (Bousfield & Staude 1994).

A monographic review at any level is a major undertaking, and the series in *Amphipacifica* represents a tremendous effort. As it always does, the publication of this series has stimulated further investigation and much criticism and difference of opinion. This is all to the good, and forms a major contribution of itself. Critical examination of the monographs has turned up errors, some due to haste, others due to the virtual lack of consideration of material from southern collections. In most cases the literature reports of J. L. Barnard were substituted for examination of specimens. Since the purpose of the series was to report the results of examination of the massive National Museums of Canada collections, the lack of examination of materials from other areas was an unfortunate necessity. Materials from the Southern California Bight were offered to the participants several times, but these offers were not taken up. One of the results was that many of the new species described from the Puget Sound area have listed distributions which cover only part of their ranges. Another, most prominent in the genus *Heterophoxus*, is clinal variation largely bridging the character separation between close species which was not considered in the descriptions.

**TAXONOMIC ACTIONS INTRODUCED IN *AMPHIPACIFICA* WHICH AFFECT  
THE SOUTHERN CALIFORNIA BIGHT FAUNA**

Many of the new species introduced were nominally restricted to the boreal or arctic areas of the North East Pacific. A number have been found to occur in the Southern California Bight, extending the range indicated for them in their original descriptions. This number will doubtlessly increase as old identifications are reexamined in the light of the new descriptions. Resurrections of older taxa from synonymy, redefinition of limits to established taxa, and other taxonomic actions were also undertaken in various journal articles. A list of the taxa introduced, resurrected, or modified in *Amphipacifica* which are known to occur in the Southern California Bight follows; if the animals were known under another name in our area before their treatment, the name is provided (if known)

New Name	Previously as	<i>Amphipacifica</i> #
<i>Thorlaksonius depressus</i>	<i>Pleustes depressa</i>	I no. 2
<i>Thorlaksonius platypus</i>	<i>Pleustes platypa</i>	I no. 2
<i>Parametaphoxus quaylei</i>	<i>Metaphoxus fultoni</i>	I no. 2
<i>Heterophoxus affinis</i>	<i>Heterophoxus oculus</i>	I no. 2
<i>Heterophoxus ellisi</i>	<i>Heterophoxus oculus</i>	I no. 2
<i>Photis linearmanus</i>	<i>Photis</i> sp D of Myers	I no. 3
<i>Eusirus columbianus</i>	<i>Eusirus longipes</i>	I no. 4
<i>Rhachotropis barnardi</i>	<i>Rhachotropis clemens</i> [in part]	I no. 4
<i>Eohaustorius barnardi</i>	<i>Eohaustorius washingtonianus</i>	II no. 1
<i>Incisocalliope newportensis</i>	<i>Parapleustes pugettensis</i>	II no. 1
<i>Incisocalliope bairdi</i>	<i>Parapleustes pugettensis</i>	II no. 1
<i>Gnathopleustes den</i>	<i>Parapleustes den</i>	II no. 1
<i>Chromopleustes oculus</i>	<i>Parapleustes oculus</i>	II no. 1
<i>Chromopleustes</i> sp 1	<i>Parapleustes oculus</i>	II no. 1
<i>Micropleustes nautilus</i>	<i>Parapleustes nautilus</i>	II no. 1
<i>Micropleustes behningi</i>	<i>Parapleustes nautilus</i>	II no. 1
<i>Micropleustes nautiloides</i>	<i>Parapleustes</i> sp A of Barnard 1969	II no. 1
<i>Commensipleustes commensalis</i>	<i>Parapleustes commensalis</i>	II no. 1
<i>Dulichella spinosa</i>	<i>Dulichella appendiculata</i>	II no. 2
<i>Megamoera subtener</i>	<i>Melita dentata</i>	II no. 2
<i>Desdimelita desdichada</i>	<i>Melita desdichada</i>	II no. 2
<i>Desdimelita californica</i>	<i>Melita californica</i>	II no. 2
<i>Hartmanodes hartmanae</i>	<i>Monoculodes hartmanae</i>	II no. 2
<i>Deflexilodes norvegicus</i>	<i>Monoculodes norvegicus</i>	II no. 2
<i>Pacifoculodes barnardi</i>	<i>Monoculodes spinipes</i>	II no. 2
<i>Monocorophium acherusicum</i>	<i>Corophium acherusicum</i>	II no. 3
<i>Monocorophium insidiosum</i>	<i>Corophium insidiosum</i>	II no. 3
<i>Monocorophium uenoi</i>	<i>Corophium uenoi</i>	II no. 3
<i>Laticorophium baconi</i>	<i>Corophium baconi</i>	II no. 3

Numerous other actions were taken on species from adjacent areas to the north or south of the Southern California Bight, and several of the treatments were worldwide.

A LISTING OF ARTICLES PUBLISHED IN *AMPHIPACIFICA*

- BOUSFIELD, EDWARD L. 1995. A contribution to the natural classification of Lower and Middle Cambrian arthropods: food gathering and feeding mechanisms. *Amphipacifica* 2(1):3-34.
- BOUSFIELD, EDWARD L., and Andrée Chevrier. 1996. The amphipod family Oedicerotidae on the Pacific coast North America. Part 1. The Monoculodes and Synchelidium generic complexes: systematics and distributional ecology. *Amphipacifica* 2(2):75-147.
- BOUSFIELD, EDWARD L., and Edward A. Hendrycks. 1994a. A revision of the family Pleustidae (Crustacea: Amphipoda: Leucothoidea). Part I. Systematics and biogeography of component subfamilies. *Amphipacifica* 1(1):17-57.
- . 1994b. The amphipod superfamily Leucothoidea on the Pacific coast of North America. Family Pleustidae: subfamily Pleustinae. Systematics and biogeography. *Amphipacifica* 1(2):3-69.
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## Synonymy Entries

Entries occurring in the synonymy of names in Edition 3 are of several discrete types  
[examples fictitious entries for *Pagurus granosimanus* (Stimpson 1859)]

Type	Description	Name	Entry Appearance	Authorship
I	name as in original description [always first entry] if different from primary entry	<b>different genus/orthography</b> example - <i>Eupagurus granosimanus</i>	<b>lack of parentheses</b>	Stimpson 1859
II	synonymy	<b>different species name</b> example - <i>Pagurus pebblipes</i>	<b>same or different authorship</b>	Weyprecht 1871
	[special case - homonym in synonymy]	<b>different species name</b> example - <i>Pagurus inconstans</i>	<b>authorship excluding non-synonymy</b>	Schmitt 1921 non Benedict 1879
III	partial synonymy	<b>different species name</b> example - <i>Pagurus varians</i>	<b>authorship + in part</b>	Smith 1916 in part
IV	variant generic placement [regional usages]	<b>different genus</b> example - <i>Trigonocheirus granosimanus</i>	<b>of + usage citation</b>	of Holmes 1900
V	variant orthography [regional usages]	<b>different orthography</b> example - <i>Pagurus granosimana</i>	<b>of + usage citation</b>	of Rathbun 1918
VI	literature misidentification [regional references]	<b>different species name</b> example - <i>Pagurus haysi</i>  example - <i>Pagurus bagrus</i>  example - <i>Pagurus armatus</i>	<b>of + citation + non + taxon author</b>	of Schmitt 1921 non Blazor 1899 <b>aucct + non + taxon author</b> aucct non Linnaeus 1757 <b>aucct NEP + non + taxon author</b> aucct NEP non (Benedict 1892)