



The Ecdysiast

Newsletter of The Crustacean Society

Message from the President...

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Greetings to all in this, my first message to you as President of The Crustacean Society. The transfer of power became official when I received the (very tacky) "Presidential Tie" from our esteemed Past-President, Gary Poore, at the Williamsburg Meeting last June. However, I am inclined to think that once my term is over, I might pass on something more gender appropriate (from a female's point of view) to the next President. Be forewarned!

Seriously though, I extend sincere and heartfelt thanks to Gary Poore for his excellent service to TCS as President these past two years, and I will undoubtedly rely heavily upon his wise counsel (as well as that of our other fine officers) throughout my term. Gary has done well leading us into the 21st century, and I hope that I will serve you equally well. The new slate of officers elected last November round out an excellent governing body for our Society, and I especially want to thank all those who agreed to run for positions. It should give all a great sense of confidence to know that Jeff Shields, formerly our long-serving Secretary, is now President-Elect (and will continue, mercifully, as our webmaster). The Board has unanimously appointed Chris Tudge of American University and the Smithsonian Institution to assume the role of Secretary formerly held by Jeff. Akira Asakura, re-elected as Asian Governor, will undoubtedly continue to advance communication and interaction between TCS and our Asian colleagues. And we welcome Michel Hendrickx as our new Latin American Governor. Michel has already proven to be an earnest and active representative of his region. Our past Latin American Governor, Marcos Tavares, served two terms with distinction and was constitutionally ineligible to run for re-election. We all owe Marcos our gratitude for his service to TCS. I am also grateful for the service and counsel of our continuing governors Angelika Brandt (European Governor), Emmett Duffy (North American Governor), and Colin McLay (Indo-Pacific Governor). We hope to soon fill the important position of Program Officer pending an appeal for nominations via CRUST-SOC.

As important as the above officers are to the smooth functioning of our society, I can honestly say that TCS continues to improve *primarily* through the experience and dedication of our talented journal editor, David Camp, and our knowledgeable treasurer, Mary Belk. Because of their expertise, we hope to move TCS forward and *increase the benefits* that members receive. For example, Mary's wise investment policies have improved our financial status and the Board has now made it a main priority to consider instituting a number of annual student research and/or travel grants. More information on this matter will be forthcoming from the revived Award and Financial Committees. And faculty members: please inform your students that the new student membership category allows students to receive the journal below cost!

The Board also recognizes that it is a financial hardship for many institutions and colleagues to subscribe to JCB. For this reason, the Board is considering a set of criteria by which certain *institutions* may receive a complimentary subscription to JCB. Institutional subscriptions will potentially benefit a larger number of students and academics, and colleagues who cannot afford individual subscriptions may become members for a modest fee without receiving the journal. I also remind members that JCB abstracts are available on-line at the TCS website, and members who do not receive the journal may use this as a means of contacting authors for copies of articles in which they are interested.

Editor David Camp has been instrumental in establishing our relationship with BioOne, which generates some nice revenue for our society. However, the ever-rising cost of publication remains a serious concern and we have recently sought ways to defray these costs for members who submit articles to JCB. Members publishing in JCB already receive substantial benefits over

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non-members (e.g., waiver of the manuscript handling fee, page charges optional, and free PDF versions of their paper). The advantages of becoming a member seem obvious! But perhaps more of our colleagues who are not yet members are not aware of this and we need to spread the word. I fear that this may be one reason why the number of submissions may be slipping (please see the accompanying editor's report). I implore you to "kindly" confront your fellow carcinologists and convince them of the benefits of becoming a member of our fine society!

One option that the Board is considering as a means of generating additional revenue (to defray page charges, for example) is to solicit a modest amount of advertising that would be limited to a few pages at the end of each issue. Advertisements might be of the sort from publishers who wish to promote books on crustacean-related topics, software producers, scientific vendors, etc. However, the Board needs to gather more information on this matter before we proceed further.

President-Elect Jeff Shields has recently returned from a BioOne workshop that covered the perils of decreasing library subscriptions (please see his accompanying report). Many of you who subscribe to CRUST-L have probably followed the discussion concerning the impact of for-profit journals with great interest (and alarm!). The TCS Board is currently evaluating steps we may take as a society to address this concern. On a brighter note, the Board is seriously looking into the economics of making past and future volumes of JCB available on-line. Although this will be costly, we consider this to be a valuable benefit to members.

As many of you know, the association between TCS and SICB (the Society for Integrative and Comparative Biology, formerly "ASZ" for you old-timers!) has faltered in the past. One of my priorities as President-Elect was to amend this situation, in part because of the historical ties TCS has with its sister society, and in part because many SICB attendees are fine carcinologists and TCS members who are unable to attend the TCS mid-year meeting. SICB is also a good venue for promoting our own society and it is fertile ground for recruiting members, especially students. I attended the 2003 and 2004 SICB meetings to set up a TCS information booth, chair a TCS business meeting, and conduct best student paper and poster competitions with the assistance of other TCS members as judges. However, it is no longer reasonable to expect any or all of the TCS Board to attend every annual SICB Meeting (held every January 4-8). As a result, I am extremely pleased to report that Dr. Brian Tsukimura of California State University, Fresno, has graciously agreed to serve as "SICB Liaison Officer", an appointed position newly created by the TCS Board. Brian's diverse research interests include comparative physiology, invertebrate physiology, crustacean biology, reproductive endocrinology, and chemical mediators regulating yolk protein formation, and he has long been a member of TCS. Brian will have the full support of the TCS Board to conduct TCS business at future SICB meetings, and we anticipate a rewarding and productive relationship between the two societies.

As the Board ponders the many complex issues confronting us, we enlist the advice and suggestions of *you*, the members who make TCS the vibrant and international scientific society that it has become. The Board welcomes your comments via e-mail and you can be assured that your comments will be seriously considered, all with the intent of making the whole, our society, greater than the sum of its parts. The Board hopes to soon submit a membership questionnaire via CRUST-SOC (as opposed to CRUST-L), the society's "members-only" e-mail list, to solicit your opinions and comments. We suspect that the correct e-mail addresses of many TCS members are not entered on this important list, so *please* take a moment to subscribe (as detailed elsewhere in this newsletter). But don't wait if you now have some fresh ideas or concerns on your mind! For example, the Board has already heard from some of our more "youth-challenged" members that they can no longer read the fine red print in our journal's table of contents, so I suspect that a proposal for a change in the colors of our journal cover will soon be forthcoming!

I also want to thank members who submitted articles and other information to this issue of *The Ecdysiast*, and I especially thank our creative and enthusiastic new editor, Rachael King. Although past and current issues of the newsletter are always available on-line from the TCS website, I am committed to maintaining a print version to further insure that members "connect" by reading the words of fellow members concerning the events of the society and other matters related to crustacean research.

Finally, I urge all of you to start planning for our upcoming meetings, particularly our mid-year meeting to be held jointly with the Brazilian Crustacean Society this October in Florianópolis, Brazil, and the Sixth International Crustacean Congress in 2005 in Glasgow, Scotland. 2005 will mark our society's 25th anniversary, and hopefully some celebratory "silver jubilee" celebration can be incorporated with the Glasgow meeting. We have truly grown into an international society. However, come 2006, we hope to begin a meeting schedule where the TCS mid-year meeting will be held in North America at least every other year. By doing so, we hope to facilitate meeting travel for members from both North America and other continents.

In closing, I hope to serve you well in the coming two years, but I will need your input and most definitely your support to understand and enact what you, the heart and soul of this society, really want to make of it. Personally, I think we are a very "quiet" scientific society and perhaps it's time to let the scientific community know that "crustaceans rock!" So download the TCS poster and membership forms from our website and display it outside your lab, and display it at other scientific meetings you attend. Let me hear from you, and get out there and bring more colleagues into the fold!

I wish you all well,

Trisha Spears

President, The Crustacean Society





The Crustacean Society Board Members, 2004

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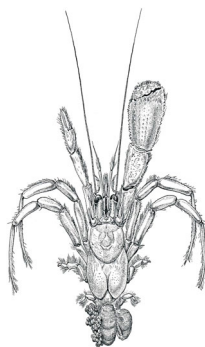
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The Ecdysiast is published twice yearly and mailed with the May and November issues of the *Journal of Crustacean Biology*. In addition, each issue, from May 1997 to present, is available to be downloaded as a pdf at The Crustacean Society's website (see <http://www.vims.edu/tcs/ecdyasiast.htm>).

Submissions for the May newsletter should be received by mid March, while those for the November newsletter should be received by mid September. All types of crustacean related contributions are encouraged, including announcements of upcoming workshops and meetings, regional updates, current research, meeting summaries (with pictures!), new publications and any other crustacean news.

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Treasurer's Report

The stock market did indeed bottom last year and started to rise. We invested additional funds that were languishing in Banks at that point. To date we have recouped all stock market losses from the two years or so before and are making nice progress toward the goal of starting to give scholarships from our Society to deserving students. The Board is in the early stages of setting up such scholarships. Once the Board has decided on the amount and number of scholarships an announcement will be made.

Our member numbers have dropped in recent years and I encourage every member to try and sign up one or two new members this year. We do offer several categories of membership so it is not necessary for every member to pay at the top most rate. However, those who can will help those who cannot. Generosity is an important human attribute. The more members we have, the better chance we have of reaching my goal of making The Crustacean Society self perpetuating. Encouraging students to join as student members broadens their horizons and gives us, as a Society, greater chance of lasting through the ages.

Mary Schug Belk, TCS Treasurer

JCB Editor's Report

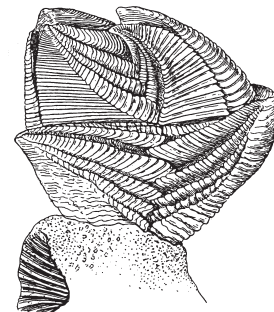
During 2003, *Journal of Crustacean Biology* (volume 23) published 83 research articles from 203 authors representing 25 countries. The countries represented and the number of articles in volume 23 contributed by authors from each country were: Argentina (3 articles); Australia (7 articles); Belgium (3); Brazil (6); Canada (3); Chile (3); China (4); Denmark (2); Germany (2); Indonesia (1); Ireland (1); Italy (2); Japan (11); Republic of Korea (6); Mexico (7); Norway (1); Philippines (1); Portugal (2); Republic of Singapore (1); South Africa (1); Spain (4); Sri Lanka (1); United Kingdom (7); United States of America (24); and Venezuela (1). Additionally, five book reviews were published that year.

During 2003, 87 manuscripts were submitted to JCB for consideration of publication. As of this writing (March 17, 2004), 35 of those manuscripts have already been published or are in press; one manuscript is undergoing a second review after revision by the authors; 22 manuscripts have been reviewed and are being revised by the authors; six manuscripts are still out for first review; and 23 manuscripts (23%) have been rejected by the reviewers.

The number of manuscripts submitted to JCB has steadily decreased over recent years. In 2000, 153 manuscripts were submitted. In 2001, 116 manuscripts were submitted. In 2002, 103 manuscripts were submitted. In 2003, only 87 manuscripts were submitted, as stated above. I suspect the decline may be the result of a global worsening of the economic climate plus an adverse reaction by some

authors to the society's requirement of mandatory fees assessed for publication in JCB. The society's Board of Governors partially ameliorated the impact of those fees on society members at the annual meeting in June 2003 by making page charges optional and waiving the publication fee for society members while making those charges and fee mandatory for nonmember authors. Mandatory costs for publishing figures and tables and for making unnecessary alterations in proof remain the same for both nonmember and member authors. The decline in submissions may be caused by many nonmember authors and some member authors who are unable or unwilling to pay the mandatory fees. Still, since that change in policy, the journal has received several manuscripts from nonmember authors who have stated their ability and willingness to pay the full page charges and the publication fee, so the adverse reaction to the policy may not be a significant threat to the journal. However, the decline in the number of manuscripts being submitted is having an impact on the journal. Because of the lag time between manuscript submission and publication, the impact has not yet been visibly manifested in any journal issues published before now, but it will soon. Volume 24, number 2, the May 2004 issue, has only 15 research articles instead of the usual 20–23 that appear in most regular issues. As of this writing, only three manuscripts have been accepted for publication in the August 2004 issue. Usually by this time in the publication cycle, more than a dozen manuscripts have been accepted. I fear the August issue will be a very slim one indeed. I have refused to hold a large backlog of accepted but unpublished manuscripts in the files in order to have a reserve upon which to draw should a circumstance such as this occur. Instead, I have work very hard in past years to reduce the backlog of accepted but unpublished manuscripts. Thus, there are no reserves at JCB. The acceptable manuscripts get published as soon as possible, which is the only fair policy for authors, in my opinion. The consequences of that policy and of the society's policy concerning publication fees remains to be seen.

David Camp, JCB Editor





The Crustacean Society and BioOne

BioOne is a joint effort between academic societies, libraries, and small printing houses, primarily Allen Press. BioOne is an electronic data aggregator that carries 70 journals for 55 societies, including TCS. There are 517 subscribing libraries, virtually all within the USA. (This number represents almost twice the library subscriptions of JCB at present and is largely made up of first tier universities.) Subscription costs to BioOne are on a sliding scale with smaller institutions paying around \$3000 per year and larger institutions paying \$8000 which is closer to the actual value of \$10,600.

BioOne sponsored a meeting on 15 March 04 to discuss their business plan given a significant change, the cancellation of print journals by libraries. The problem is that societies are losing subscriptions because libraries are canceling print versions of journals when they have electronic copies. Libraries have changed the paradigm and have accepted that the archiving problems surrounding digital files can and will be resolved. That is, libraries are going fully electronic. Most societies rely heavily on library subscriptions to offset the costs of printing journals so the problem facing societies like TCS is lost revenue and an inability to meet fixed costs. Fixed costs are those costs associated with the production of the journal; i.e., content creation (editorial office, SGML coding and composition) and publishing support (finance admin/management, electronic archiving and storage).

BioOne currently provides *incremental* revenue to societies based on the number and type of subscriptions sold. The problem is that given the cancellation of print versions and the lower cost of BioOne subscriptions, societies will lose significant monies because the incremental revenue stream cannot replace the loss of full library subscriptions. The workshop revolved around the questions of how BioOne could move to provide full *replacement* revenue to societies given that most libraries may not be willing to pay the full cost, \$10,500 per year, for electronic access, a value, by the way, that is far below that charged by Elsevier.

Another significant problem facing societies is that there is very little cost savings to produce electronic content. Savings were estimated at somewhere around 31% to 53% for a journal (37% for a journal like JCB) and most of that is in the variable costs (manufacturing and distribution). Several models were discussed but none fully resolved.

(1) Open Access: working together with BioOne and possibly Allen Press, societies could strive for open access. Costs are recouped by having authors pay to have their papers published. Societies could offset costs through

member subscriptions much like today, but costs could range from \$1200 to \$1500 per article. *Several librarians at the meeting said that they could and would support this model by using their subscription funds to pay for the cost to their authors!*

(2) Print-based pricing: essentially BioOne would charge libraries 80% of the full cost of subscription (~\$8,000) to recoup costs for the societies. Libraries would likely drop subscriptions but those retained would probably bring a net profit to the societies. The average cost to the libraries would be around \$127 per journal, still a considerable savings, but they have to buy a full subscription, getting journals they might not otherwise want.

(3) Fixed cost pricing: here BioOne attempts to recoup the fixed costs for societies by selling subscriptions at slightly above (\$11,600) the current rate. Fixed costs would average \$1000 to \$1200 per article and societies could save money by staying under the fixed price per article. Societies could also make more by publishing more articles. This generated discussion on quality vs. quantity. Here the cost to the libraries would be higher and thus there would be a loss of subscribers. This is essentially a mini-Elsevier model and it undermines the *raison d'être* of BioOne.

(4) An expanded role for BioOne: in this model BioOne would provide certain collective bargaining services to societies so the latter could obtain lower costs from printers. BioOne would also provide services such as copyediting and SGML markup. Many viewed this as direct competition with printers and thus of little added value, but the discussion did spark some interest in advertising, marketing and public relations.

BioOne could do some selected advertising to increase revenues. This would have to be done within some guidelines as societies generally limit advertising along very narrow limits if at all. For marketing, penetration to other libraries, into the private sector and into member organizations should be explored. Public relations could provide an opportunity for press releases, increased awareness to membership within societies, and as a source of communications between societies, libraries, and printers.

(5) Hosted journals: there has been considerable and growing backlash against the Elsevier model. Library organizations are trying to facilitate means to lower journal costs. Apparently there is a move afoot to have libraries to serve as hosts for journals. The Journal of Insect Science, <http://www.insectscience.org/>, is hosted by the Library of the University of Arizona which covers the conversion costs, archiving and electronic access. This model should be explored in more detail. There was some dissension about Open Access, but it was largely from the for-profit sector.

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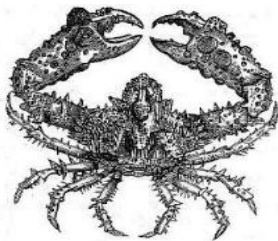
The Crustacean Society and BioOne

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Lastly, BioOne has been exploring the development of "legacy" journals with some consultants. The idea is that back issues of the societies' journals would be digitized and made available electronically. For the journals in BioOne that would amount to around \$2.5 to \$3 million. There was some discussion as to whether funding agencies or donors could be approached to offset the costs of the conversion. For a journal like JCB that could amount to \$50,000 to \$75,000.

As a society we must consider the future. Electronic copy is about to fully replace print copy as the medium for our scientific communications. This will affect our subscriptions, accessibility, membership and more. Membership is what worries me the most. Virtually all societies have reported decreasing membership presumably because libraries now have electronic access to most societies' journals obviating the need for a personal subscription. Please consider staying in the society in this uncertain future.

Respectfully submitted,
Jeffrey D. Shields, TCS President-Elect



The Crustacean Society Website

The Crustacean Society website, <http://www.vims.edu/tcs>, is designed to provide our members with information on meetings, society news, business, instructions for the Journal of Crustacean Biology, the *Ecdysiast*, and other helpful links. Noteworthy features include: (1) membership applications and new benefits to members; (2) society poster and page for recruitment (great pics!); (3) fliers and official info for upcoming meetings; (4) an official copy of Martin & Davis (2001) *Classification of the Crustacea*; and of course the classic (5) manuscript tracking page for JCB submissions (updated monthly). This website is designed to serve you and our society's diverse interests, if you have an idea, item, link, or information of general interest, please forward it to jeff@vims.edu for inclusion in our website. We're also looking for participants to help in maintaining this site, if you're interested, contact Jeff.

CRUST-SOC@VIMS.EDU, The Crustacean Society's Listserver

The Crustacean Society now has an email listserver that is only open to members of the society. The sole function of this listserver is to provide you with timely official society business and important society announcements. CRUST-SOC is moderated and closed and is not a forum for discussion. It is not meant to replace CRUST-L because the latter is open to nonmembers and is for broader discussion on Crustacea. For suggestions, contact jeff@vims.edu, your TCS President-Elect, or any member of the board (listed at our website <http://www.vims.edu/tcs>).

You can subscribe to CRUST-SOC by becoming a member of the society. Members who aren't subscribed can send SUBSCRIBE CRUST-SOC YOUR NAME (not your email address) as the message body to LISTPROC@VIMS.EDU. You can unsubscribe by sending UNSUBSCRIBE CRUST-SOC to LISTPROC@VIMS.EDU.

We have taken every effort to ensure that your email address has been correctly entered into CRUST-SOC. However, several members have changed email addresses or have made mistakes in entering email addresses. Thus, if you are a member and are not on the list, please enter your correct email address on the annual subscription form, and please subscribe as detailed above. Remember, CRUST-SOC is the official email listserver for society information and not a forum for discussion.



CRUST-L@VIMS.EDU, the Discussion List for Crustacea

CRUST-L@VIMS.EDU is the email listserver for those interested in Crustacea. It is an informal scientific forum for discussion on all aspect of the Crustacea. CRUST-L is a moderated, open list, but you have to be a member to post messages to it. You can subscribe to the list by sending SUBSCRIBE CRUST-L YOUR NAME (not your email address) as the message body to LISTPROC@VIMS.EDU. You can unsubscribe by sending UNSUBSCRIBE CRUST-L to LISTPROC@VIMS.EDU. Use LISTPROC@VIMS.EDU to post administrative commands such as SUBSCRIBE, INFO, HELP. Use CRUST-L@VIMS.EDU to post messages to CRUST-L. The listproc software includes several features such as searchable archives, and a digest mode for intermittent mailings.



Recent Crustacean Research

Mejía-Ortíz L. M. 2003. Comparative Study of Adaptations to Cave Life in Stygobite Decapod Crustaceans (Decapoda: Palaemonidae and Cambaridae). Ph.D. Thesis Dissertation, University of Liverpool, Faculty of Sciences 276 pp.

This thesis compares morphological, physiological, behavioural and reproductive adaptations to cave life between three stygobite crustacean decapods (*Macrobrachium villalobosi*, *Procambarus oaxacae reddelli* and *Procambarus cavernicola*) and their epigeal congeners (*Macrobrachium totonacum* and *Procambarus olmecorum*) in Oaxaca Mexico. A topographical description, with measurements of physical and chemical water variables, was made for each of the study sites (Gabriel Cave; San Antonio Cave and River; Mojarra Hill Stream): there are the clear dry and rainy seasons in the caves. The data was compared with other tropical and temperate caves.

A taxonomic review was made of stygobite crustaceans present in Mexico: two new species are described (*Procambarus cavernicola* and *Macrobrachium totonacum*), and a potential third new species recorded. Gabriel Cave has the greater species diversity, with copepods, isopods, amphipods, mysids and decapods, whereas the nearby San Antonio Cave has only mysids and decapods. Taxonomic keys were constructed for prawns and crayfish from this area, including the new species. The distributions of these decapods were examined in relation to geological history of study sites, colonisation, dispersation history, and water characteristics.

Morphometric structures (carapace, sensory and ambulatory appendages) were compared between the five species. Further comparisons included eye structure, setal abundance on the antennulae, antennae, carapace, antennal scale and eyes, and amount of calcium, phosphorus and pigments in the exoskeleton. Stygobite species have different degrees of adaptations to cave life, and the same species is never best adapted in all structures. Setae are found on the eyestalk apices in all three stygobites. This is examined in relation to progressive and regressive adaptation.

Physiological and behavioural aspects studied in crayfish species were: biochemical composition (lipids, proteins and carbohydrates), hepatopancreas morphology and lipid storage, oxygen consumption, circadian rhythms and feeding behaviour in crayfish species. Lipid content was lower than other components in all three crayfish species. Stygobite species develop tubules on the hepatopancreas to store lipids. Oxygen consumption for *P. cavernicola* was higher than epigeal species. The cave species showed circadian activity in ambulatory activity. Feeding behaviour was simpler in cave than epigeal crayfish.

Some reproductive characteristics of the *Macrobrachium* species were obtained. Data on egg size and number from cave and epigeal species are compared, and the initial larval stages of *Macrobrachium totonacum* described: it shows abbreviated larval development. Cave crayfish show more elaborate egg care than reported for epigeal species. The discussion includes the different theories to explain the colonisation, and regressive and progressive adaptations of cave organisms. The selective forces producing these adaptations are related to the results obtained.

The papers published from this thesis work are:

Mejía-Ortíz, L. M., F. Alvarez, and R. H. Hartnoll. 2003. A new species of freshwater prawn, *Macrobrachium totonacum* (Decapoda: Palaemonidae), with abbreviated development from Mexico.—*Crustaceana* 76(1): 77-86.

Mejía-Ortíz, L. M., R. H. Hartnoll, and J. A. Viccon-Pale. 2003. A new stygobitic crayfish from Mexico, *Procambarus cavernicola* (Decapoda: Cambaridae), with a review of cave-dwelling crayfishes in Mexico.—*Journal of Crustacean Biology* 23(2): 391-401.

And other related papers:

Mejía-Ortíz, L. M., Palacios-Vargas, J., Cardona, L. & Viccon-Pale, J. A., 1997. Microartrópodos de la Cueva Gabriel y la Cueva del Nacimiento del Río San Antonio, Oaxaca, México. *Mundos Subterráneos UMAE*, No. 8: 21-28. In Spanish.

Cruz-Hernández, J., L. M. Mejía-Ortíz, M. Signoret-Poillon and J. A. Viccon-Pale. 2002. Distribution and abundance of *Diacyclops* sp. (Crustacea Copepoda) in Gabriel Cave, Oaxaca, Mexico. Pp. 91-94 in: E. Escobar-Briones, and F. Alvarez (Editors). *Modern Approaches to the Study of Crustacea*. Kluwer Academic/ Plenum Publishers, Amsterdam.

Those interested in this work should write to Dr. Luis Manuel Mejía Ortíz, Av. del trabajo No. 1306, Col. Vicente Guerrero, C. P. 43630, Tulancingo, Hidalgo, México. E-mail: lmmejia24@hotmail.com



Recent Meetings...

IBMANT/ANDEEP Symposium & Workshop

Biological Interactions between the Magellan Region and the Antarctic/

Antarctic Deep-Sea Biodiversity

Ushuaia, Argentina, October 19.-24, 2003

The IBMANT/ANDEEP Symposium & Workshop was organised jointly by the Alfred Wegener Institute for Polar and Marine Research (AWI, Bremerhaven, Germany), the Centro Austral de Investigaciones Científicas (CADIC, Ushuaia, Argentina) and the Zoological Institute and Museum of the University of Hamburg (ZIM/HH, Hamburg, Germany). It combined continental shelf and slope approaches (IBMANT) with recent deep-sea research in the Weddell Sea and Scotia Arc (ANDEEP). The meeting consisted of four days of oral and poster presentations and one workshop day on items of relevance to the two main topics of the symposium. A total of 117 scientists from 13 countries participated in the meeting, and presentations were offered from 17 countries (cf. Abstract booklet). Local organisation by the CADIC was very efficient, thus guaranteeing a smooth realization of the conference including various social events (cf. Programme). The very difficult financial situation of Argentina was overcome by an impressive effort of Dr. Gustavo Lovrich and his team at the CADIC, and had no impact on the success of the meeting.

The idea of combining Antarctic deep sea with shelf and slope studies and including a wider geologic and oceanographic background turned out to be very useful during this conference. The IBMANT/ANDEEP meeting has been the first where the two aspects were combined in this way, leading to novel insights and innovative perspectives for future research. The presentations and discussions during the meeting focused on various central issues, most of which emerged repeatedly. Some of these subjects are summarized here in no particular order and without aiming at a complete coverage.

One central issue was the final separation and isolation of the Antarctic continent, going along with the establishment of a vigorous circumantarctic current system and the origin of the Polar Front. These key events are supposed to have shaped evolution, biogeography and biodiversity of Southern Ocean waters around Antarctic and off the adjacent continents. Presently two alternatives are offered by geologists for the opening of the Drake Passage, corresponding roughly to 34 Ma and coinciding with the opening of the Tasman Rise on the Australian side and to <20 Ma, respectively. Unfortunately neither date coincides very well with molecular genetic data on major extinctions and radiations of Antarctic notothenioid fish and invertebrates, which seem to have occurred much later, between about 16 and 4 Ma. The molecular results also suggest several events to have been responsible for important faunal changes, e.g. a series of at least five events triggered polar submergence of serolid isopods. Furthermore, the much greater dissimilarity between the Antarctic and Australian present-day faunas as compared to Antarctic-South American relations is hard to reconcile with the concept of the earlier separation which is supported, however, on geological reasons.

Advances and retreats of the Antarctic and Patagonian ice caps were suggested as major driving forces on evolutionary time scales whereas the impact of sea ice, glaciers and icebergs seems to be responsible for much (but by no means all) of the present disturbance leading to ecological change. The "wall" effect of the Polar Front (Antarctic Convergence) is possibly reduced by eddies causing a certain amount of cross circulation at depth which may occasionally connect, e.g., the northern and southern branches of the Scotia Arc or even the two sides of the Drake Passage, as was indicated during the LAMPOS cruise by finds of Magellan elements in the south and Antarctic elements in the north. At the surface, the circumpolar current (West Wind Drift) is an efficient transport vehicle towards the east. As the Polar Front changes its course seasonally, South Georgia is a transition area for many taxa whereas the biological position of the South Sandwich group is not clearly determined due to very specific topographic and sediment conditions. The fauna of Bouvet Island, even further to the east, is very little known, as is the role of the Antarctic Divergence where deep water is upwelled to the surface.

The marine biota of the Magellan region still show much similarity to their Antarctic relatives, mainly on the genus and family level, however there are also clear relations to more northerly biogeographic provinces, particularly on the Pacific side. The inland waters (Straits of Magellan, Beagle and other channels) are very young ecosystems, which became ice-free only 12 ky, and fully marine only 7-8 ky ago. Despite increased research efforts in recent years, much of this area is less well studied than some parts off Antarctica, but it is evident that Pacific and Atlantic influences have led to distinct differences in species composition.

The broad picture of a predominantly circumantarctic benthic distribution pattern on the shelf seems to remain valid, but there are large undersampled areas (Bellingshausen and Amundsen seas, much of East Antarctica), and often distribution patterns and species richness values reflect the intensity of sampling rather than real differences. Sibling species have been detected recently in various taxa, suggesting that speciation processes are still under way.



Recent Meetings...

The Weddell deep sea does not appear to be a simple extension of the deep Atlantic Ocean but houses a particular fauna with a surprisingly high diversity in most taxa. While this fauna is predominantly endemic in some taxa (e.g., isopods and nematodes), endemism was found to be low in others (e.g., polychaetes). Polar submergence has contributed substantially to this fauna but emergence from the deep sea to the Antarctic shelf has also played a role. These exchange processes may be reflected by the many eurybathic species found in the present fauna. Contrary to the conditions in the Weddell Sea, only a small share of the Australian deep-sea fauna can be traced back to vicariant processes after the fragmentation of Gondwana, whereas Indo-Pacific influences are clearly visible.

Depth gradients are clear for most macro- and meiobenthic as well as demersal fish taxa and assemblages, but the limit between the true deep-sea and slope faunas is very deep (3000m) and sometimes obscure; there seem to be differences between taxa, too. Abundances and biomasses generally decrease with depth whereas diversity mostly increases.

Large data sets on benthic distribution and assemblage structure have been assembled in recent years in various parts of the Antarctic and the Magellan region. However, direct comparability of these data sets is hampered due to different sampling procedures. Various databases were presented during the Symposium which all demonstrated a high level of development. There is an urgent need, however, to make these approaches compatible.

The Symposium was followed by a Workshop on Friday afternoon. The original idea of splitting up into subgroups was abandoned because it was felt that the major items to be discussed are common ones and do only marginally refer to a particular depth zone. Perspectives developed during the workshop include the following points:

To better relate evolutionary processes with environmental data, a unifying concept must be developed to date major tectonic, glaciological and oceanographic events following the fragmentation of Gondwana. This implies increased cooperation and data exchange of taxonomists and molecular biologists with the respective disciplines. Similarly, deep-sea research in the Southern Ocean must enhance cooperation with scientists working in the adjacent ocean basins. Is the Polar Front also a northern limit for the distribution of the deep-sea fauna?

Circumantarctic distribution of biota has again become an issue because of the recent finds of sibling species. Circumantarctic cruises and intensified exchange between molecular research groups around the Antarctic can solve the question whether or not we are dealing with single species. Increased coverage of under sampled areas around Antarctica and in neighbouring ocean basins may also allow a check whether the very high endemism in some groups is an artifact. The upcoming International Polar Year will provide excellent opportunities for joint ventures under these subjects.

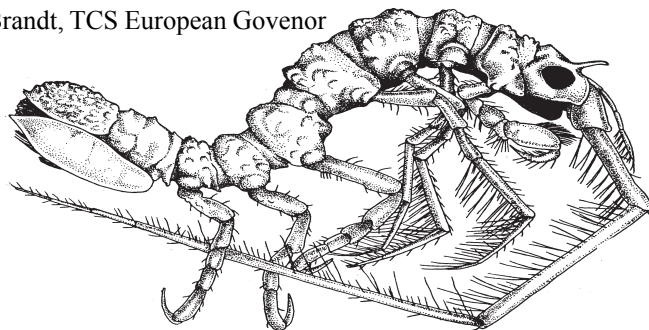
Despite many efforts in recent years the taxonomic inventory of many groups is insufficient for ecological purposes, and the fossil record remains meagre. Politicians and funding agencies must be reminded that these fields continue to be of outstanding importance if decent ecology is to be done, and cannot be restricted to molecular approaches (which are also necessary, see above).

Ecologists and physiologists should strengthen their cooperation. Physiology can often provide a causal explanation for empirical ecological findings.

There is a need for methodological workshops and rules for sampling and data analysis comparable to those created by the ICES Benthic Ecology WG, the Baltic Marine Biologists and similar organisations. Subjects to be discussed include scaled biodiversity approaches, the use of visual methods and landscape ecology, modelling and experiments in situ for growth and age validation, recolonisation and succession, etc. An attempt should also be made to make the various existing databases compatible and to coordinate these activities with ongoing procedures in SCAR and other entities.

The IBMANT/ANDEEP Symposium & Workshop is expected to have a strong impact on future ecological and evolutionary activities on the shelves, slope and deep sea in Antarctic and surrounding waters. The organisers would like to take the opportunity to express once again their sincere thanks to all those institutions and funding agencies that have made this event possible.

Submitted by Angelika Brandt, TCS European Governor





Recent Meetings...

The 41st Annual Meeting of the Carcinological Society of Japan

22-23 November, 2003

University of Ryukyu, Japan

The 41st Annual Meeting of the Carcinological Society of Japan (CSJ) was held at Nishihara campus, University of the Ryukyus, Okinawa. It was organized by Prof. Shigemitsu Shokita and his organizing committee (Y. Nakasone, H. Imai, Y. Fujita, T. Higa, T. Nagai, T. Naruse, A. Ito, T. Kawahara, H. Onaga, S. Sakai, H. Noho and H. Ikeda). Nishihara is situated in the heart of Okinawa, which is the southernmost prefecture of Japan. Okinawa consists of nearly 150 islands with well developed coral reefs and subtropical rain forests. The wonderful fauna has attracted many carcinologists and makes the University of the Ryukyus one of the centers of crustacean studies in Japan.

A total of 138 scientists were registered, but actually over 150 people attended the meeting including many students. Most of the participants were from Japan but also included three people from Korea, two from Singapore, one from New Zealand, one from Hong Kong and one from the U.S.A. This meeting was the largest in the history of CSJ annual meetings in terms of number of participants. From the board of TCS, Colin McLay (Indo-Pacific Governor) and Akira Asakura (Asian Governor) attended.

Two symposia were organized. The symposium "Portunid crab Biology and Aquaculture" (conveners: H. Imai & K. Hamasaki) dealt with genetic variability and population structure of portunid crabs (H. Imai); hyper-morphogenesis of zoea and larval mass mortality during metamorphosis to megalopa in seed production of the mud crab, *Scylla serrata* (S. Dan & K. Hamasaki); estimation of stocking effectiveness of mud crab, *Scylla paramamosain*, in Urado Bay (Y. Obata & H. Imai); ecological studies and stock enhancement of the blue swimming crab, *Portunus (Portunus) pelagicus* (L.), in Okinawa (T. Watanabe, F. Motonaga & H. Nakamura); a trial to identify artificial seed of *Scylla serrata* with improvement of the electrophoresis technique (M. Tamaki, T. Hayashibara & H. Shimizu); population genetics of the blue swimming crab, *Portunus pelagicus* (Linnaeus, 1758) (L. C. Yun, Joelle, C. W. Khiong & P. K. L. Ng).

The symposium "Potamid Crab Biology and Geological History" (Conveners: S. Shokita & T. Naruse) dealt with a history of research of true freshwater crabs (H. Minei); molecular phylogenetics of natural populations of Japanese freshwater crab, *Geothelphusa dehaani* (R. Segawa & T. Aotsuka); taxonomy and ecology of Japanese potamid crabs (T. Okano); formation of the Ryukyu Islands (I. Oshiro); taxonomic study of true freshwater crabs of the Ryukyu Islands, Japan (T. Naruse & S. Shokita); molecular phylogeny of Japanese freshwater crabs (R. Segawa & T. Aotsuka).

In addition to the symposia, 62 contributions were presented, including 26 oral presentations and 36 posters. These covered all different biological fields of crustacean research, including taxonomy, genetics, phylogeny, evolution, fisheries, aquaculture, ecology, reproductive biology, larval biology, physiology, environmental science and the problem of introduced species.

This scientific meeting was accompanied by a wonderful social event, the "Get-acquainted social", an unforgettable evening with very nice Okinawan traditional cuisine and traditional alcoholic drink "Awamori" (a truly seductive drink that leaves no hangover!). The organizing committee did a great job in making everybody feel welcome and comfortable.

Many thanks to Prof. S. Shokita and the organizing committee for the wonderful meeting in Okinawa!

We hope this CSJ annual meeting will become more of an international one, rather than just a Japanese regional conference, and also hope that a firm link will be established between CSJ and TCS. Carcinology is alive and well in Japan! Thanks to Drs. Colin McLay, Keiji Baba and Shigemitsu Shikita for their valuable comments and suggestions on the earlier draft of the report.

Respectfully submitted Akira Asakura, Asian Governor of TCS





Recent Meetings...

**7th Symposium on Lobster
Biology and Management**
Hobart, Tasmania, Australia
8-13 February, 2004

The 7th Symposium on Lobster Biology and Management in Hobart, Tasmania, was a resounding success. There were over 150 participants giving more than 60 papers and 50 abstracts. Sessions included topics on post-harvest health, ecology, management, stock assessment, disease, physiology and aquaculture. Several commercially important lobsters were discussed: *Homarus*, *Panulirus*, *Jasus*, *Thenus* and *Nephrops*. Twenty nationalities were represented including scientist from Mexico, Venezuela, the USA, Canada, the UK, Spain, Portugal, Israel, Kenya, India, Papua-New Guinea, Australia, New Zealand, Japan, Namibia, South Africa, Iran, Vietnam, Norway and Ireland. Kudos to Stewart Frusher and Caleb Gardner for their hosting this excellent event in the vibrant city of Hobart.

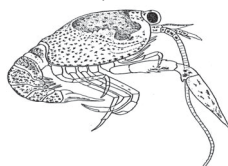
To a standing ovation, Prof. Jiro Kittaka received a well-deserved lifetime achievement award for work on larval development and culture. The award was given at a marvelous banquet that included lobster (*Jasus edwardsii*), cultured Atlantic salmon, and excellent Aussie wines. The Australian humorist at the banquet left many of us wondering whether Australians really do speak English! (no it's "Strine", mate!)

With tongue firmly in cheek, it was pointed out that the number of speakers presenting papers on the Caribbean spiny lobster at this meeting was indeed disproportionate to the value of the fishery. Having said this, *Panulirus argus* and *Jasus edwardsii* are not the largest lobster fisheries in the world, even when combined!

Interestingly, several American colleagues and I have only met in Australia. This is strange given that we live only 400 miles or so apart! I would have liked to have seen more of my colleagues, Hobart, and Tasmania, but I was cloistered during much of the meeting finishing a grant deadline. Nevertheless, I enjoyed the Salamanca district, the fresh seafood, and the marvelous water views of the Hobart coastline.

Mark your calendars! The 8th International Conference and Workshop on Lobster Biology and Management will be co-hosted by the Prince Edward Island Department of Agriculture, Fisheries, Aquaculture & Forestry and the Atlantic Veterinary College, Lobster Science Centre. It will be held in Charlottetown, Prince Edward Island, in September 2007.

Jeff Shields, TCS President-Elect



**EcoPhysiology and Conservation: The
Contribution of Endocrinology and Immunology**
SICB, New Orleans
January 5-6, 2004

A symposium held during the Jan 5-9, 2004 Annual meeting of the Society of Integrative and Comparative Biologists, New Orleans, LA. Organized by Shea R. Tuberty (Appalachian St. Univ.), Robert Stevenson (UMass, Boston), Peter deFur (VA Commonwealth Univ.), and John Wingfield (Univ. of Washington).

Maintaining biological diversity is perhaps the most important challenge facing organismal biologists and their allies today. This symposium comprised of 32 researchers from North America, Japan, and the United Kingdom was sponsored by the Society of Integrative and Comparative Biology and supported by grants and donations totaling \$33,000 from the National Science Foundation, the U.S. Environmental Protection Agency, and The Crustacean Society (a special thanks to Trisha Spears!). This very well attended symposium examined the contributions that ecophysiologicalists have made to conservation biology. The symposium focused on overviews of endocrinology and immunology topics with a special emphasis on endocrine disruptors in marine, aquatic and terrestrial invertebrates, an important need area of environmental monitoring. These physiological perspectives help conservation biologists manage important fisheries, identify stressed individuals, reproductions problems, source and sink populations, carrying capacity of specific sites, and landscape features that promote the survival of populations and new metrics to quantify ecosystem health. They provide a more mechanistic linkage across levels of the biological hierarchy of organization, centering on the individual organism.

The resulting manuscripts (slated for 2004 in a single issue of the journal Integrative and Comparative Biology) and website born from this symposium will serve to launch a new direction in organismal physiology called **Conservation Physiology**. Links to most of the symposium PowerPoint presentations, abstracts, summaries, and author contact information will be available soon at the symposium website (<http://www.sicb.org/meetings/2004/symposia/ecophysiology.php3>). Of special interest to the TCS membership will be the papers delivered by Milton Fingerman, Ernie Chang, Peter deFur, Charles McKenney, Shea Tuberty, Sandy Raimondo, Michael Horst, Enmin Zou, Geoff Scott, Matthew Sanders, Koji Arizono, Ian Callard, Eva Oberdörster, and Gerald LeBlanc. This group of papers will draw attention to the role that physiologists can play in conservation biology, spur conservation biologists to revise their text books to incorporate physiological perspectives and encourage ecophysiologicalists to undertake conservation problems. Examples from the symposium will form part

continued...



Recent Meetings...

of new teaching materials that will add fresh and inspiring examples to environmental physiology and ecophysiology topics for both undergraduate and graduate classes.

Submitted by Shea Tuberty
Biology Department,
Appalachian State University
Boone, NC
Email: tubertysr@appstate.edu

STUDENT AWARDS

The Crustacean Society (TCS) is pleased to announce the winners of the Best Student Paper and Poster Competition held during the Annual Meeting of the Society for Integrative and Comparative Biology, January 5-9, 2004, at the New Orleans Marriott, New Orleans, Louisiana. There were 23 competitors and the quality of entries was exceptionally high. The Best Graduate Student Oral Presentation Award was presented to **J. H. Cohen** (Duke University Marine Laboratory) for his talk entitled, "The role of light in diel vertical migration: field measurements of copepod migration behavior and the biologically relevant light environment" (with co-authors E. R. Sinkhorn and R. B. Forward, Jr.). The Best Graduate Student Poster Award was presented to **Arthur L. Martin** (Bowling Green State University) for his poster entitled, "Social communication in crayfish: a simultaneous recording of urine signals and flow fields during agonistic encounters" (with co-authors D. A. Bergman and P. A. Moore). And for the first time, a Best *Undergraduate* Student Poster Award was presented to **C.A. Tanner** (The College of New Jersey) for his poster entitled, "Effects of hypoxia and pH on phenoloxidase activity in the blue crab, *Callinectes sapidus*" (with co-authors K. G. Burnett and L. E. Burnett from the College of Charleston). Each award consists of a certificate, US\$50 cash, and a one-year membership in The Crustacean Society, including subscription to *The Journal of Crustacean Biology*. TCS thanks those members who served as judges and all student participants.

SICB 2004: A student's perspective

The 2004 Annual Meeting of the Society for Integrative and Comparative Biology (SICB) was held in New Orleans, LA, January 5-9, 2004. TCS was a co-sponsor of this meeting, and I am writing to you as winner of the TCS Best Student Oral Presentation competition. In the following lines, I would like to share with you my thoughts on this past meeting, and on the value of graduate student participation at SICB meetings in general. But first, I would like to thank TCS, and in particular Trisha Spears, for their recognition of my research. The work I presented at SICB is part of my doctoral dissertation research involving the role of light in marine copepod vertical migration. It is extremely rewarding to be honored for work that at times consumes the daily (and often nightly) life of a graduate student, and is simultaneously such fun to conduct.

At this year's meeting in New Orleans, ~7% of all abstracts listed in the program had 'crustacea' as a keyword (80 abstracts/1128 total abstracts). Considering the diversity of research areas represented by the society (10 societal divisions, from Animal Behavior to Vertebrate Morphology, and everywhere in between), this is a reasonable percentage. However, it is the diversity of subject matter that is perhaps the most exciting aspect of attending a SICB meeting as a graduate student. When so much of your time is devoted to critical consideration of a single set of experimental issues, there is something extremely rewarding about racing from a talk on the biochemical composition of snail mucus to catch another on evolutionary developmental endocrinology in amphibians.

SICB values both undergraduate and graduate student participation. The society provides free housing for students in exchange for one half day's worth of work during the meeting. This opportunity serves to minimize the cost of attending the meeting, as well as fosters interaction among fellow students. In addition, there are numerous receptions and panel discussions arranged by the society for the benefit of its student members.

One of the most memorable events for crustacean-types at this year's meeting was an auction held by the Division of Invertebrate Zoology to benefit the Libbie H. Hyman Memorial Scholarship Fund, an award program that helps support a first field station experience for a graduate student or advanced undergraduate. Most of the auctioned items, including handmade jewelry, pottery, and artwork, had invertebrate themes; there was even a carefully preserved ghost crab up for bids! A good time was certainly had by all.

I encourage all graduate students who may read this to consider attending the next SICB meeting (2005 in San Diego). Whether you present a paper or a poster, you will get excellent feedback on your work from thoughtful scientists. Who knows, you may even end up with a ghost crab in your luggage!

Jonathan H. Cohen, Duke University Marine Laboratory, Beaufort, NC (jhc6@duke.edu)



Taxonomic Workshop on the Identification of Decapod Crustacea from the Atlantic Coast of the Southeastern United States

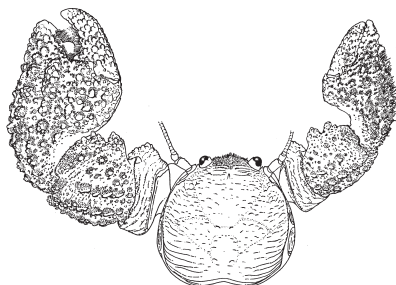
January 21-23, 2004, Charleston South Carolina

Twenty-five people from six eastern US states (Virginia, North Carolina, South Carolina, Georgia, Florida and Pennsylvania) took part in the Southeastern Regional Taxonomic Center's decapod taxonomy workshop held in Charleston, South Carolina on January 21-23, 2004. By all accounts, the workshop proved to be very useful to participants, who ranged from graduate students with little knowledge of decapod crustaceans to managers and professors requiring an updated refresher on regional taxa. Attendees were given a general overview of decapod systematics, various taxonomic procedures and the morphology of decapod crustaceans. They also took part in a collection cruise in the vicinity of Charleston Harbor, after which they sorted and identified fresh and preserved regional collection material, using published literature and a workshop manual with updated classifications and keys. During the practical sessions, they were able to closely examine and dissect diverse groups of decapods, while learning to interpret keys and descriptions from publications. Interaction and discussion between instructors (Darryl Felder, Richard Heard and Elizabeth Wenner) and attendees was extensive, giving attendees a chance to discuss their own research and the relevancy of the workshop material and exercises to that work, several participants gave impromptu accounts that detailed certain aspects of their research.

Overall, the enthusiasm (and work ethic!) of the entire group was excellent. The workshop dinner (with regional delicacies like Frogmore Stew, fried green tomatoes and chocolate bread pudding, along with more generic libations) gave the participants a chance to appreciate the more practical aspects of decapod dissection while relaxing and enjoying the pleasant surroundings of the Marine Resources Center at Fort Johnson!

SERTC has a series of workshops planned on a variety of taxonomic groups (<http://www.dnr.state.sc.us/marine/sertc/workshop.htm>). Watch for announcements of workshops related to Crustacea in future issues of the *Ecdysiast*.

Submitted by Rachael King



Revival of Zoea Newsletter

<http://www.uca.es/zoeanewsletter/>

The main goal of *ZOEa* Newsletter has been, and will be, to help keeping in touch within the crustacean "larvologist" community, and to spread information, especially on meetings and other events, recent publications, theses, and updated directories of colleagues working on crustacean larvae.

Vol. 9 with references until 2002, along with announcements for meetings in 2004, is found in PDF format under "Issues". The latest is Vol. 10, with literature mostly from 2003. It has just been released and can be downloaded as another PDF file from "Issues" too.

From now, we will hopefully stay up to date, and we are adding new features on our Internet homepage, for instance a "meeting point", where you can post your messages to other colleagues working with crustacean larvae, share information about ongoing projects, ask for help, etc. In summary, we hope that *ZOEa* is soon becoming again a source of useful information for all those who are interested in crustacean larvae.

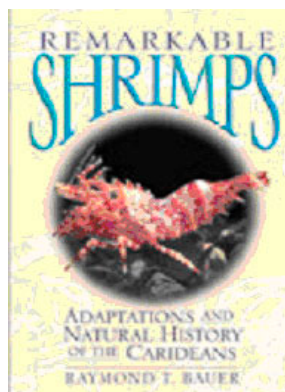
As always, *ZOEa* needs your help and participation to improve its service for you all. Please, send us your critical comments and suggestions, and do not hesitate to contact any of the editors, advisors or regional editors of *ZOEa* with your ideas and opinions.

Best wishes and regards,

Dr. José A. Cuesta, Instituto de Ciencias Marinas de Andalucía (CSIC) Avenida República Saharaui, 2 11510 Puerto Real (Cádiz) SPAIN
Dr. Klaus Anger, Biologische Anstalt Helgoland Stiftung Alfred-Wegener-Institut für Polar und Meeresforschung 27498 Helgoland GERMANY
Dr. J. Ignacio González-Gordillo, Centro Andaluz Ciencia y Tecnología Marinas Institutos de Investigación Universidad de Cádiz 11510 - Puerto Real (Cádiz) SPAIN



Recent Publications



"Remarkable Shrimps: Adaptations and Natural History of the Carideans." Raymond T. Bauer, March 2004. 316 pages, 109 figures, 3 half-tone and 8 color plates, 7 tables. University of Oklahoma Press. ISBN 0-8061-3555-7, \$59.95 (hardback).

The over 2800 species of caridean shrimps occur in a variety of marine and freshwater habitats from tropical to polar regions. Their morphological and ecological diversity encompasses a wide array of adaptations in body form and function, coloration, breeding biology, mating behavior, life histories, and symbiotic relationships with other invertebrates and fishes. Some groups are important in regional and global fisheries and aquaculture. The unique set of adaptations that characterize caridean shrimps are described and illustrated, with comparisons to other crustaceans termed "shrimps." The form and use of caridean body parts and appendages are compared among the various families with emphasis on their function in the natural environment. "Family Profiles" are given for each of the nearly 30 caridean families, each profile including the unique adaptations and lifestyles of that family. Carideans are fastidious animals, and their many grooming and other antifouling adaptations are revealed. The way in which camouflage is achieved via coloration is described, and its role as an anti-predator defense is analyzed. The basic breeding biology of these shrimps is covered, including gamete production, "breeding dress," mating, spawning, and female incubation of embryos. Variations in sexual systems, including hermaphroditism and sex change, are reviewed. Sex attraction and recognition, pheromones, mating behavior and strategies, and other aspects of sexuality are compared among different carideans and related to differences in sexual dimorphism and life history. Life history traits, such as larval development, fecundity, and seasonality of reproduction are compared among taxa in different habitats and latitudes. Many caridean species live in association with other invertebrate species, such as corals, sea anemones, sea urchins, and fishes, and these remarkable commensalistic and mutualistic symbioses are presented and

analyzed. Different hypotheses about the evolutionary history of caridean families, from the origin of a caridean ancestor to its radiation into the numerous caridean families, are compared and evaluated. The facts and figures of food production and fishing techniques for caridean species are presented. The caridean contribution to global fisheries and aquaculture is analysed in terms of life history traits, and future prospects for economic utilization of carideans are discussed.

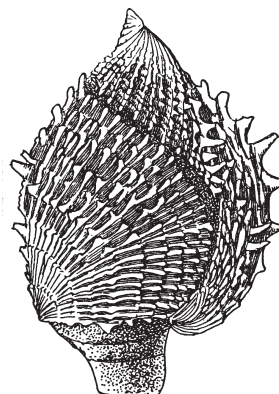
The book can be ordered from OU Press online (www.oupres.com), by telephone (800-625-7377 or 405-325-2000), fax (800-735-0476 or 405-364-5798), or mail (University of Oklahoma Press, 4100 28th Avenue N.W., Norman, OK 73069-8218).

Announcement

The second volume of Contributions to the Study of East Pacific Crustaceans is now in its final edition process. Vol. 2 is due in December 2003 and will contain 22 contributions from authors from Canada, Chile, Colombia, Mexico and the USA. Volume 3 is scheduled for 2004, between August and December. Manuscripts for this issue are now being received by the editor.

Volume one, with 25 contributions from authors from Brazil, Chile, Colombia, Mexico and the USA, is still available from the editor.

For further information please contact
Michel E. HENDRICKX at:
michel@ola.icmyl.unam.mx





Book Review

Cretaceous and Eocene Decapod Crustaceans from Southern Vancouver Island, British Columbia, Canada.

C. E. Schweitzer, R. M. Feldmann, J. Fam, W. A. Hessin, S. W. Hetrick, T. G. Nyborg, and R. L. M. Ross

(a publication of the National Research Council of Canada Monograph Publishing Program, NRC Research Press, Ottawa 2003)

In a fruitful collaboration of amateur and professional paleontologists, Carrie Schweitzer et al. have published an excellent 66-page monograph describing the newly and significantly expanded decapod fauna of the Cretaceous and Eocene rocks of Vancouver Island, British Columbia. Most of the book reports on decapods from the Cretaceous (Turonian-Maastrichtian) rocks of the Nanaimo Group, eleven formations comprised of mudstones, fine sandstones, and sandstone-conglomerates deposited in environments ranging from alluvial and fluvial to outer shelf and slope. Decapods are known from 7 of the 11 formations. Decapod taxa addressed include clawed lobsters (Infraorder Astacidea), mud shrimp (Infraorder Thalassinidea), spiny lobsters (Infraorder Palinura) and true crabs (Infraorder Brachyura). Emphasized is systematic paleontology. Most discussed are the Brachyura (32 pages vs. 5.5 pages for Astacidea, and 3 each for the Thalassinidea and Palinura). Descriptions of taxa are thorough, and are accompanied by 11 black and white photo plates, many supplemented with line drawing reconstructions. Remarks for many taxa are extensive and address evolution and, especially, biogeography.

Decapod material reported includes 1 new family, 3 new genera, 8 new species, 3 new combinations plus 7 previously described taxa. Also reported are 6 new combinations for material not described in the book but affected by taxonomic revisions presented therein. With these discoveries, Vancouver Island's Cretaceous decapod fauna now contains 17 genera in 14 families, represented by as many as 22 species – 4 astacids, 2 thalassinids, 2 palinurids, and 14 brachyurans. The Eocene fauna contains 6 families, 6 genera, and 7 species.

The book concludes with a synthesis of the significance of the British Columbian decapod fauna, particularly of paleobiogeographic (5 pages) and evolutionary and biostratigraphic (2 pages) implications. Below are some highlights from their synthesis.

“Cretaceous Areas of Origin and Dispersal Routes”

– Decapods of British Columbia generally appear to have had northern hemisphere, especially temperate to high latitude, areas of origin. The majority of British Columbian decapods originated in the North Atlantic with subsequent dispersal to the Late Cretaceous North Pacific Ocean, either through polar waters or through the Central Americas.

The North Pacific and Central Americas were also significant areas of origin. Decapod faunas of the Cretaceous Western Interior Seaway and the Pacific Coast of North America are distinct. The high degree of endemism indicates only modest faunal exchange between these regions, probably though a North Polar route.

“Implications for Baja British Columbia”—The Baja British Columbia model/hypothesis holds that the terrane now comprising coastal southern British Columbia, including Vancouver island, was >3000 km to the south of its current position during the Late Cretaceous Period. However, fossil decapod evidence corroborates paleomagnetic evidence and other fossil (rudistid bivalve) evidence in opposition to this model. The lack of shared taxa at the generic level between west coastal Mexico/southern-most California and southwestern British Columbia suggests a Late Cretaceous position for the Wrangellia terrane considerably north of the current position of Baja Mexico.

“Family-level Evolutionary Implications”—The long-held notion that the primary rise in the Brachyura occurred in the Eocene is being eroded as more Cretaceous crab families are discovered.

“Implications for Cretaceous/Tertiary Boundary Event(s)”—The number of decapod families and genera that span the Cretaceous-Tertiary boundary makes the effect of an end-Cretaceous extinction event on decapods more suspect. Fewer than half of the decapod genera present in British Columbia during the Late Cretaceous became extinct by the end of the Cretaceous.

This book will be useful to decapod specialists, both paleontologists and neontologists, and professionals and amateurs alike. It is a must-have reference for decapod taxonomists, not only for the number of taxa presented, but for the reviews of decapod taxonomies, and the syntheses, especially of biogeography. This book will also be useful for those with interest in the stratigraphy of the region, or with general paleontologic/paleoecologic interest in Mesozoic-Cenozoic strata of the Pacific Northwest, or in paleobiogeography.

My only general criticism of the book is no reflection whatsoever on its quality, only that the price, \$42.94 Canadian (other countries \$42.94), seems just a bit expensive for a soft-cover book of 66 pages. Other, much longer books in the NRCC monograph series sell for approximately the same or similar price. Nevertheless, this is an excellent and invaluable reference, a must-have for many of us.

Dale Tshudy

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Upcoming Conferences, Meetings and Workshops

FIFTH INTERNATIONAL LARGE BRANCHIOPOD SYMPOSIUM

16–20 August 2004, Toodyay, Western Australia

The 5th ILBS will be held in Toodyay, Western Australia, Monday–Friday, 16–20 August 2004. Toodyay, a country town about one hour's drive from Perth, is in a pleasant rural setting also with connections to Perth by train.

Those persons intending to register for the Symposium should do so by 07 May 2004. Those intending to read a paper to the Symposium should submit the Abstract by 07 May 2004.

Information concerning: Accommodations, Format of the Symposium, Format of papers, Registration + costs and methods of payment, Toodyay, is available on the web: www.zoology.uwa.edu.au/ilbs5/.

It will be nearing the end of winter in August across the southwest corner of Australia. Winters are mild (temperatures usually in the range 10–20°C). There may be short periods of heavy rain interspersed with sunny periods. Consequently, we intend to conduct the Symposium with an eye on the weather: the schedule of talks may be moved about to minimise the risk that any field experiences occur in the middle of a frontal system and so that we can visit branchiopod habitats in sunny conditions. We plan to have an evening meeting with the local community, and participants of the Symposium should expect to be called upon to give a brief account of their research interests.

In order to reach Toodyay, travellers arriving by air will perforce need to pass through Perth. The organising committee will arrange (closer to the time) to meet Symposium delegates at the airport and organise transport to Toodyay. Delegates arriving before Monday, therefore, will need to organise accommodation in Perth (pre- and post-Symposium).

Anyone requiring information at any stage can contact the organising committee (Magdalena Zofkova or Brenton Knott) via e-mail at the address: ilbs5@cyllene.uwa.edu.au.

CRAYNET – Conference in Innsbruck, Austria

European native crayfish in relation to land-use and habitat deterioration: a special focus on *Austropotamobius torrentium*

Innsbruck, Austria, September 8 - 11, 2004

The EU Thematic network CRAYNET focuses on the European crayfish as keystone species linking science, management and economics with sustainable environmental quality. The network consists of a core group of scientists from 11 European countries with the co-ordinator Catherine Souty-Grosset from the Université de Poitiers in France.

“The effect of land-use and habitat deterioration on autochthonous and alien crayfish in general” is a specific topic of particular importance, since the European Water Framework Directive defined guidelines towards unified freshwater assessment methodologies and required member states to commit to the ecological, catchment-orientated management of freshwaters.

The Innsbruck meeting will be the third thematic meeting, focusing on one of the three most endangered European crayfish species: *Austropotamobius torrentium* the stone crayfish. Nevertheless, in bringing together not only the core scientists but also other crayfish researchers and managers, general aspects of crayfish ecology and conservation will be discussed – helping to develop recommendations for optimal management strategies at a European scale.

The aim of the Innsbruck meeting is to gather crayfish researchers and managers from the Alpine countries (Austria, Northern Italy, Bavaria, Switzerland) and to associate some partners from circum-Alpine regions (Bosnia, Croatia, Czech Republic, France, Herzegovina, Hungary, Slovenia, Slovakia, Yugoslavia, etc). The main objectives of the meeting will be:

- * to define the status of *Austropotamobius torrentium* in the individual countries
- * to discuss necessary research activities and management strategies for crayfish protection (species protection programmes).

Among suggested roundtable discussions will include a specific focus on

- * crayfish conservation projects in Europe,
- * EU-directives and crayfish,
- * crayfish as surrogate species – Is *A. torrentium* a special case?

Organising Committee: Leopold Füreder & Daniela Sint (Institute of Zoology and Limnology, University of Innsbruck, Austria); Ralf Schulz & Holger Schulz (Department of Zoology, Technical University Braunschweig, Germany)

Scientific Committee: Leopold Füreder (Austria), Ralf Schulz (Germany), Catherine Souty-Grosset (France), David Holdich (Great Britain)

Papers from the meeting and recommendations from the roundtable discussions will be published in a special edition of the *Bulletin Francais de la Pêche et de la Pisciculture*.

For more information about CRAYNET, the different meetings, Innsbruck registration form and programme, visit the website <http://labo.univ-poitiers.fr/craynet/index.htm>



Upcoming Conferences, Meetings and Workshops

THIRD BRAZILIAN CRUSTACEAN CONGRESS AND 2004 TCS MIDYEAR MEETING

Florianópolis, Santa Catarina State, Brazil

October 24 to 28, 2004

<http://sites.ffclrp.usp.br/tcsbc2004>

We would like to invite you to attend the 3rd Brazilian Crustacean Congress and the 2004 TCS Midyear Meeting at the Hotel Costão do Santinho Resort in Florianópolis, Santa Catarina State, on the southeastern coast of Brazil.

This congress will convene from October 24 to 28, 2004. English is the official language for activities that will commence on Sunday afternoon (Oct 24) with registration and an evening welcome ceremony. The formal sessions will begin on Monday morning and continue through Wednesday (Oct 27) when the meeting will be concluded with a banquet. The option for post meeting excursions is planned for Oct 28. Informal dress is the order of the day. It can be quite hot in Florianópolis this time of the year, and shorts and other informal attire are acceptable just about anywhere, including at meeting sessions and social events.

IMPORTANT DEADLINES

- First day subscription: February 1st, 2004
- Submission of Abstracts: June 30, 2004
- Registration fees including special discount: June 30, 2004
- Registration cancellation: September 30, 2004
- Meeting registration: from 4pm - 7pm on Sunday 24 October 2004

OFFICIAL TRAVEL AGENCY

TURISAN Turismo Agency (Ph/Fax: (55) (48) 224-1411; e-mail: eventos@turisan.com.br; web site: www.turisan.com.br) is located in the heart of Florianópolis. The TURISAN is recognized as an incoming/outgoing specialist and their staff provides to each client personal care, from one person up to a group. For this reason, they will support the 3rd CBC/2004 TCS Congress and are ready to offer you what ever is needed for your comfortable stay in Brazil, specifically travel services as hotels reservations, airport transfers, air tickets, economic travel packages, optional activities, local and Brazilian tours. There are several facilities and discounts for your meeting travel. Please, to make reservations or for additional travel information, contact TURISAN directly.

VISA REQUIREMENTS

A valid passport is required for all international travelers. The visa requirements for Brazil vary according to your country of origin. Citizens of some countries do not require a visa to visit Brazil for tourism purposes, which means a stay of up to 90 days, but we recommend that you bring your passport with you. As a matter of reciprocity a visa is required for U.S. citizens wishing to visit Brazil. Additional information and extra fees may apply, depending on the specific details of your trip. Please, contact your local Embassy or consulate of Brazil for further information. Remember to start this process at least three months before the trip. To find out which Brazilian Consulate or Consular Office you should contact, Visa Application form, documents, as well as any other information, please go to <http://www.braziltourism.org/visas.shtml>.

We hope to provide you an enjoyable and informative meeting along with the opportunity to visit this beautiful and comfortable part of Brazil. Please join us for some interesting science and the opportunity to make new friends and contacts in the crustacean research community. We look forward to hosting you in 2004.

Fernando L. Mantelatto President,
Brazilian Crustacean Society and Meeting Chairman.
E-mail: flmantel@ffclrp.usp.br

INTERNATIONAL WORKSHOP ON CULTURE, FISHERIES AND STOCK ENHANCEMENT OF PORTUNID CRABS

First announcement and invitation to participate

Hotel del Rio, Iloilo, Philippines
20-22 January, 2005

Hosted by Aquaculture Department Southeast Asian Fisheries Development Center (SEAFDEC), & University of Wales Bangor, Can Tho University, University of Gent. Supported by the European Commission (INCO).

For further inquiries, please e-mail INCO_CAMS@bigfoot.com.

Oral and poster sessions on: Broodstock Nutrition, Larval Culture and Nutrition, Nursery Grow-out, Fisheries and Stock Enhancement, Genetics and Taxonomy.

Registration fee: \$150 (includes kit, lunch, snacks and banquet).

Proceedings will be published in special edition of a peer-reviewed journal.



Upcoming Conferences, Meetings and Workshops

SICB AND TCS WINTER MEETING

San Diego, January 4-8, 2005

The Society of Integrative and Comparative Biology (SICB) and The Crustacean Society Winter Meeting will be held at the Town & Country Hotel in San Diego, California, January 4-8, 2005. The Crustacean Society is a co-sponsor of this meeting and TCS members are entitled to a reduced registration fee. TCS members are encouraged to submit abstracts in the hope that one or more Crustacean Society Sessions may be organized. In addition, TCS will co-sponsor a symposium on "Crustaceans of Ephemeral Wetlands and Crustacean Diapause in Variable Environments", organized by Marie Simovich, Judith Williams, and Andrew Bohonak. The talks will focus on the adaptations of crustaceans to the challenges of these unique, bi-phasic environments, the complex genetic structure created by habitats that are patchy both spatially and temporally and the consequences of habitat loss. Weather permitting, a field trip to local vernal pools will be offered. Graduate students are encouraged to participate in The Crustacean Society's Best Graduate Student Oral Presentation and Poster Competition, and undergraduates are encouraged to participate in The Crustacean Society's Best Undergraduate Student Poster Competition (check the TCS student competition box when submitting your abstract). Additional meeting details can be found at <http://www.sicb.org>.

ICC6

University of Glasgow, Scotland
July 18-22, 2005

The Sixth International Crustacean Congress will take place at the University of Glasgow, Scotland UK from July 18th – 22nd 2005. The conference is organised on behalf of the International Crustacean Council by The Institute of Biomedical and Life Sciences, University of Glasgow. The Meeting will also host the 5th European Crustacean Conference, the 4th Crustacean Larval Conference, and the 2005 Summer Meeting of the Crustacean Society.

A related meeting for amphipod biologists will take place in Cork, Ireland from July 24th-27th 2005.

On behalf of the organising committee I invite you to attend the ICC6 Congress, and look forward to meeting you in Glasgow in 2005. To pre-register for ICC6, please complete and return the Expression of Interest webform.

Dr D.M. Neil, Institute of Biomedical and Life Sciences, Graham Kerr Building, University of Glasgow, Glasgow G12 8QQ, Scotland, UK.

Conference website: <http://www.gla.ac.uk/icc6/>

AMPHIPOD MEETING

Cork, Ireland, July 24-27.

Presentations and/or posters are invited, and all interested in amphipods are invited to attend the meeting, which will be hosted by the National University of Ireland, Cork. It is not intended that papers will be published from the meeting, which will be an informal forum for exchange of ideas and discussions of ongoing research.

In addition to talks and poster presentations, there will be the opportunity to collect in marine and fresh-water habitats and at least one excursion will be organised.

Expressions of interest are requested so that numbers of participants can be estimated.

Please contact: Prof. Alan Myers, Email: alanmyers@crustacea.net

HOST NEEDED FOR 2006!

The Board of The Crustacean Society is seeking a host for the Society's 2006 "Mid-Year" Meeting. **This is a great opportunity to show off your program, your town and your institution!** A North American meeting site is preferred because the 2004 meeting will be held in Brazil, the 2005 meeting will be a part of ICC VI in Scotland, and the 2007 Mid-Year Meeting will be held in Chile. Mid-Year meetings attract roughly 100-200 participants and typically take place in May, June, or July (although this year's meeting in Brazil will be held in October). They extend over five days (day 1: registration and evening reception; days 2-4: oral and poster presentations; day 5 optional post-meeting excursion and/or field trip). One evening is reserved for a meeting banquet.

The location for the meeting should be relatively accessible to travelers with reasonably priced accommodations within a short distance of the meeting venue. An inexpensive housing option for students would be a bonus, but not absolutely necessary. The meeting venue should accommodate oral and poster sessions, coffee breaks, easy access to lunch and have a sufficient number of meeting rooms for symposia and at least two concurrent sessions if necessary. Meeting rooms should support the standard audio visual aids (including power -point presentations). It would be nice if there were a few points-of-interest in the surrounding area for meeting participants and their families to visit, either on their own or as part of a post-meeting excursion.

It is expected that conferences financially "break even", but the Crustacean Society can provide seed money to help get the program started.

If you're interested in hosting a Mid-Year Meeting, we encourage you to discuss the matter with hosts of previous meetings, TCS officers, and past TCS officers. Please notify Jeff Shields, who organized an EXCELLENT 2003 meeting in Williamsburg if you have specific questions. Thank you for considering the task!



Upcoming Conferences, Meetings and Workshops

CALL FOR SYMPOSIA FOR THE 2006 SICB MEETING (CONCURRENT WITH THE TCS JANUARY MEETING) IN ORLANDO, FLORIDA

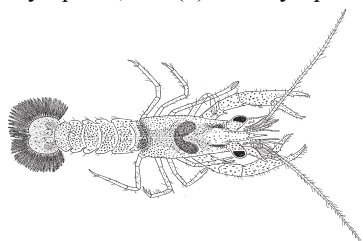
Plans are underway for the SICB Meeting in Orlando, January 4-8, 2006. Symposia are the heart of this meeting and the proceedings contribute to the SICB *Journal of Integrative and Comparative Biology*. TCS members are encouraged to start thinking creatively either on their own or jointly with colleagues to develop interesting and timely topics and potential speakers. Approved symposium organizers will work with John Edwards, the editor of "Integrative and Comparative Biology (formerly the *American Zoologist*)", in getting your symposium papers published in this peer-reviewed volume.

The deadline for receipt of symposium proposals to SICB is August 20th, 2004, but TCS requires your statement of interest by JULY 30th, so please start developing your ideas and talking with your colleagues and TCS Board members. Don't put it off! Many beneficial guidelines for planning symposia can be found at the SICB website (www.sicb.org).

If you think that that you (and perhaps a few helpful colleagues) are interested in organizing a symposium, PLEASE discuss your idea(s) with a TCS Board Member (e.g., your regional Governor, President, Secretary, Past-President, or President-Elect) by JULY 30th, 2004. If the TCS Board gives you the go-ahead, then we will assist you with completion of the symposium form on the SICB website and its submission by August 20, 2004. The SICB Program Committee will choose symposia at the Program Planning meeting in September, 2004. You will be notified regarding acceptance by the end of October, 2004.

TCS has assisted with symposia at the past (2004) SICB meeting in New Orleans and will do so again in 2005 at the SICB Meeting in San Diego. If TCS approves your symposium proposal for the 2006 SICB Meeting in Orlando, some financial assistance can be provided (e.g., to assist with travel for symposium participants).

If you have any questions contact Trisha Spears, TCS President (spears@bio.fsu.edu), or Kate Loudon, SICB Program Officer at loudon@ku.edu; or the meeting director, Sue Burk at sburk@burkinc.com. The symposia at Orlando will be broken into three groups: (1) divisional or co-sponsoring society (that includes TCS!) symposia; (2) society-wide symposia; and (3) mini-symposia.



CHILE, 2007

Plan ahead! TCS is very happy to announce that our Mid-Year Meeting in 2007 will be held in June at the Universidad Católica del Norte in Coquimbo, Chile. English will be the official language of the conference for both oral and poster presentations. One conference day will be set aside for collecting trips and classrooms with microscopes will be available, English-speaking student guides will also be available for additional sampling trips during the post-conference weekend.

The Coquimbo-La Serena region (pop. ~ 300,000) is one of the most famous tourist areas in Chile, located 470 km to the north of Santiago, on a beautiful sheltered bay of the Pacific Ocean. Its warm weather, fresh air, and beautiful landscapes make this region one of the best places in Chile to live. La Serena is on the Elqui River, with active commercial and agricultural centers in a region of orchards and vineyards. La Serena was founded in 1543, a city of Old World charm and noted for its churches, fine buildings, and gardens. Coquimbo is 10 km from La Serena, a lively and fascinating harbor city with diverse and fresh seafood. Universidad Católica del Norte is located on the southwestern shore of Coquimbo peninsula at the historic La Herradura Bay, where both Sir Francis Drake and the crew of the Beagle once anchored.

The conference will be held at a four-star hotel, the hotel Centro Turístico La Serena, Caja Compensación Los Andes, Chile, only 200 meters from the beach (cost will range from US\$50 for a single room to US\$70 for a double). The hotel is located close to the Avenida del Mar, the scenic coastal road along the beautiful beaches between La Serena and Coquimbo. It is a perfect place for all those who wish to combine business with pleasure! The center of La Serena can be reached in 5 minutes by car, and in 15-20 minutes by walking. Other hotels are available within 5-minute walking distance from the conference hotel. **To encourage student attendees, a student-host program will be arranged where participating students can stay with local students at no cost (just bring a sleeping bag!).**

The airport is a 10-minute drive to the conference hotel. Following air travel to Santiago, Chile, there are several daily connections to La Florida Airport in La Serena. Bus service is also available.

For further information, please contact Dr. Exequiel Gonzalez: egonzalez@ucn.cl

Organizing Committee: Dr. Exequiel R. González (Chair), Dr. Martin Thiel, Dr. Enzo Acuña, Mr. Enrique Dupré, Dr. Pilar Haye, Dr. Armando Mujica.

Scientific Committee: Dr. Klaus Anger, Dr. Akira Asakura, Dr. Ray Bauer, Dr. Georgina Bond Buckup, Dr. John Christy, Dr. Michel Hendrickx, Dr. Gary Poore, Dr. Les Watling, Dr. Gary Wellborn.



Spotlight on... The ALCA

The Latin-America Association in Carcinology (ALCA)

The ALCA began as an idea discussed in a meeting in Mar del Plata, Argentina, on the 26th of October 1995, during the VI Latin-America Congress in Marine Sciences. Many carcinologists attended the meeting and showed interest in this new idea: Alejandro Broco, Alfredo González Becerra, Ana Cristina Díaz, Angela Romanos Mangialardo, B. Suarez Moreira, Celia de Campos Toledo, Charles Gorri, Danilo Calazans, Eduardo Spivak, Enrique E. Boschi, Gonzalo Hernández G., Guillermo O. Alvarez Bejar, Gustavo Arencibia Carballo, Ingo Wehrtmann, Hugo W., José L. Palazón, Juan A. Bolaños, Juan Carlos Mayo, Juliana Blumer Gabriel, Laura Susana López, Liliana Forneris, Luis Albornoz, Marcelo Scelzo, María Fernanda Palanch, Paulo Ricardo Pezzuto, Ralf Schwamborn, Leonardo Romero Chumpitaz, Tagea Bjömberg, Tomás Luppi, Valeria Gomez Vilso, Vivian Stella, and Wilson Wasiglesky Jr.

Suggestions presented during this meeting were: 1) to promote an integral development of carcinological studies in Latin America; 2) to stimulate exchanges among carcinologists; 3) to plan activities and actions that would strength and stimulate communication and research related to all fields of carcinology in Latin-America; 4) to invite other specialists from Latin-America to join the association. During the same meeting it was decided to name a provisional organizing committee to publicize the founding of ALCA, to establish a list of members and to edit a Newsletter. Following the suggestion of Danilo Calazans, from Brazil, Enrique Boschi was designated as provisional President and some members were designated as provisional representatives of their respective countries: Brazil: Danilo Calazans; Chile: Ingo Wehrtmann; Venezuela: Juan Bolaños; Cuba: Gustavo Arencibia Carballo. From this moment, letters and e-mails were send around in Latin-America with a view to inform as many crustacean specialists as possible and to recruit more scientists to the ALCA.

The first Newsletter of ALCA was presented in 1996, and included a series of novelties related to regional carcinology. The second issue appeared in August 1997. During the VII Colacmar meeting in Santos, Brazil, on the 25th of September 1997, more than 60 people attended a meeting organized by the association. Topics discussed on this occasion included the possibility of charging a fee to members, to organize future meetings, and to establish updated lists of members and directives. Enrique E. Boschi remained as President for another year (to September 1998), Eduardo Spivak was designated Vice President and assumed the Presidency one year later. The third issue of the ALCA Newsletter was published in June 1998 and included the

minutes of the September 1997 meeting. ALCA Newsletter 4 was published in August 1999.

At the beginning of 1999, ALCA inaugurated its own web site, under the responsibility of Gustavo Lovrich de Ushuaia, Tierra del Fuego, Argentina (<http://www.tierradelfuego.org.ar/alca>). In October 2000, the first Brazilian Meeting of Carcinology took place San Pedro, State of San Pablo, Brazil. ALCA met during this meeting and an effort was made to reactivate the association. A provisional committee was named, with Guido Pereyra, Venezuela, acting as coordinator. However, since then the ALCA has not made significant progresses.

During the X Colacmar, celebrated in San José de Costa Rica, in September 2003, Ingo Wehrtmann organized a small meeting and responsibilities were assigned to some carcinologists that attended this meeting in order to intend to reactivate the association (Michel E. Hendrickx, Ingo Wehrtmann, Adilson Fransozo and Enrique E. Boschi). Since the end of 2003, an ALCA internet list has been available to all who wish to communicate with other specialists in the region.

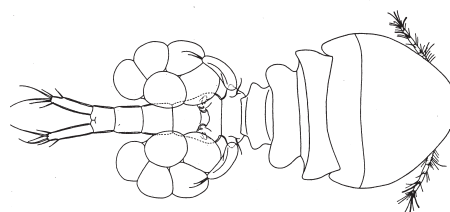
We believe that ALCA is an important step towards integration of research on crustaceans in Latin-America, and that it could benefit all persons in the region (scientists and students) involved in these studies. Increasing exchange of information, ideas and concepts, promoting mutual assistance and communication at all levels, would greatly benefit all members of the association and represents a significant step forward.

Persons who wish to join the ALCA please contact Enrique E. Boschi (Coordinator, Membership Registration) and Michel E. Hendrickx (Membership to the ALCA international internet list).

(Translated from an ALCA communication, 14 of October 2003).

Enrique E. Boschi, Mar del Plata, Argentina
(eboschi@inidep.edu.ar)

Michel E. Hendrickx, Mazatlán, Mexico
(michel@ola.icmyl.unam.mx)





Crustacean News from the Southern Hemisphere

Invasive crabs in New Zealand

Worldwide there is growing concern about marine invasive species that are transported by growing shipping traffic. In New Zealand the most visible invasive species is the brown seaweed *Undaria pinnatifida* (Harvey) Suringar, from Japan, which was first noticed in Wellington Harbour in 1987. Since then this intertidal alga has spread to many other ports in New Zealand.

During 2001-2003 the National Institute of Water and Atmosphere (NIWA) undertook a baseline survey of New Zealand ports in search of new alien species of marine animals. The survey covered 14 ports from Whangarei in the north to Bluff in the south using a range of sampling methods including video transects, pile scraping, fish, starfish, crab and shrimp traps, benthic grabs, epibenthic sleds and cores for dinoflagellates.

Around 1000 samples containing 71 decapod Crustacea, from 21 families, were obtained during the survey. The largest groups were caridean shrimps (12), hermit crabs (10) and brachyurans (45 species). The most speciose families were the Paguridae (8), Majidae (6), Portunidae (5), Hymenosomatidae (13) and Grapsidae (7 species). Of the 71 species, 7 brachyurans were previously unknown in the New Zealand fauna. Some of these are new species or new records, but others are introduced aliens.

Amongst the portunids, *Ovalipes elongatus* Stephenson & Rees, 1968 is a new record while *Nectocarcinus* sp. is a new species. Two new species of hymenosomatids *Haliscarcinus* sp. and *Elamena* sp. were found from northern and southern New Zealand respectively. Almost all of the 14 species of Hymenosomatidae in New Zealand are endemic.

Alien crabs recorded in the survey included the diminutive *Pyromaia tuberculata* (Lockington, 1877) that was first collected in Auckland Harbour in 1978, but has now spread northwards to Whangarei. Another invasive species already known from Auckland Harbour is the large and aggressive *Charybdis japonica* (A. Milne Edwards, 1861) (from Japan-Korea-Taiwan-China) that was collected in 2000. One unknown species of *Pilumnus* was collected from Wellington Harbour, but by far the most interesting discoveries were two Asian species of the genus *Cancer*.

Cancer gibbosulus (de Haan, 1835) from China – Japan was recorded in Wellington, Lyttelton and Timaru Harbours, while *Cancer amphioetus* Rathbun, 1898 from Japan – North China (also known from California) was found in Gisborne and Bluff Harbours. While most specimens of these two species were small, there were two size classes, suggesting that they are already established, although no adults have yet been found. It is most likely that these species arrived amongst fouling on the hulls of Asian fishing vessels employed in the New Zealand EEZ, which frequent these ports.

All these alien species have arrived during the last 20-30 years. It is interesting to look back to the early days of European arrival in New Zealand. A fish hatchery was established at Portobello, Dunedin, so that European species of fish and crustaceans could be acclimatized to New Zealand waters. For some obscure reason the native species were considered inedible! Between 1890 -1920 about 30 million larvae, as well as some adults of *Homarus gammarus* and *Cancer pagurus*, were released into the sea near Otago Harbour never to be seen again! Fortunately a similar fate befell all the fish species released during the same period. So an obvious question arises: How did 5 species of foreign Brachyura, arriving accidentally on ships in small numbers, become recently established when the deliberate liberation of large numbers of larvae and adults of 2 species of decapods failed 100 years ago?

Part of the explanation may well lie in the effects that humans have had on the New Zealand marine environment during the last century. Chief amongst these is the over exploitation of fish stocks to low levels: both amateur and commercial fishermen are very aware of this fact. This change must have resulted in much lower levels of predation on the invertebrate food supply, perhaps allowing the easier establishment of alien species.

Colin McLay, TCS Indo-Pacific Governor.

Museum Victoria – the other Australian museum

Natural history collections in Australia are distributed throughout several museums, at least one for each of the seven states that comprise the federation of Australia. The two largest state museums are Australian Museum in Sydney, New South Wales, and Museum Victoria in Melbourne, Victoria. There is in fact no national natural history museum as can be found for example in Washington or Paris.

On 9 March this year Museum Victoria celebrated its 150th birthday. Its first two directors from 1854 to early 1900s were biologists with a strong interest in collecting. But neither they nor any of the early curators had a particular fascination with Crustacea. This had to wait until towards the end of the twentieth century with a new emphasis on marine biology. Today, Museum Victoria's collection of crustaceans is exceptionally diverse. It also holds special interest to taxonomists and biogeographers because it represents an area of the world not represented in other institutions.

continued...



Crustacean News from the Southern Hemisphere

Museum Victoria...

The marine fauna of southern Australia is quite different from that of the broadly distributed Indo-West Pacific tropical fauna that extends into northern Australia. Its affinities are, at least in part, with other Gondwanan elements, New Zealand and southern South America. These affinities are reflected in high levels of endemic species in the collections.

The Crustacea collection has grown, especially since 1979, to an estimated 250 000 specimens (70 000 lots). Much of the collection, about 51 500 lots, is registered on a computerised database which can be interrogated to provide taxonomic and distributional information. Museum Victoria catalogues its collections on TexPress but is moving to new software, EMu. Parts of the collection are sorted only to major taxon (genus, family or higher). Much is identified to species level and named but many species have been recognised in surveys but as yet unnamed. The collection is notable for the large numbers of species held; over 5500 have been differentiated. It is representative of many, but not all, environmental habitats, geographical areas and systematic groups. From an environmental point of view, marine shore and benthic shelf habitats are best represented and its collection of crustaceans from deepwater habitats is rich. The fauna of southeastern Australia is best represented but, for some taxa, collections from other areas of Australia and elsewhere are excellent. Collection policy over the last 25 years has been to fill in gaps in knowledge by sampling and research on the smaller lesser-known groups such as non-malacostracans and peracaridans (isopods, amphipods, ostracods, copepods etc.). Environmental surveys in soft sediment bays, shelf and continental slope have contributed numerous taxa. Collections made with scuba from algal substrates have also contributed a diverse fauna.

Key groups include all crustacean taxa from southern Australia, the subantarctic islands and Australian Antarctica; world representation of marine Isopoda; excellent representation of marine Peracarida, Ostracoda and harpacticoid Copepoda; good representation of deep sea taxa; and a representative collection of yabbies and spiny crayfish.

Types of 956 species are held. These include:

- 366 species of isopods (described by G.C.B. Poore, N.L. Bruce, B. Cohen, L. Cookson, R.A. King and others)
- 208 species of amphipods (described by J.L. Barnard, M.M. Drummond, J.K. Lowry, J. Just, T. Krapp-Schickel and others)
- 144 species of ostracods (K. McKenzie, L. Kornicker)
- 58 species of parastacid crayfish (E. Clark, E. Riek, G. Morgan and P. Horwitz)

· 51 species of copepods (L. Hamond, G. Walker-Smith)

· 39 species of cumaceans (S. Gerken)

· 13 species of Anomura (R. Lemaitre, P. McLaughlin, S. Ah Yong) and other taxa such as Spelaeogriphacea, Mictacea and Leptostraca.

The nature of the collection provides numerous opportunities for taxonomic, evolutionary and biogeographic research. Research on the collection is encouraged and visiting scientists and research students make significant contributions to description of the fauna and documentation of the collection. More detail on the scope of the collection is available – the database can provide answers to well-refined questions. Loans to foreign taxonomists are encouraged.

Gary C. B. Poore, TCS Past-President

Website <http://www.museum.vic.gov.au/crust/>

Upcoming publication

Marine Decapod Crustacea of Southern Australia (A Guide to their Identification)

Gary C.B. Poore

Museum Victoria

Publication date: 1 July 2004

This guide to the identification of lobsters, prawns, crabs and shrimps from southern Australia covers more than 700 species from intertidal, continental shelf and deep sea environments. Decapod crustaceans live on beaches and rocky shores, under stones, in the sediment and nestled amongst algae. They also inhabit the open ocean and deep-sea sediments. All are difficult to identify for the specialist and amateur naturalist alike.

The book is liberally illustrated with approximately 1000 line drawings giving good views of many representatives as well as diagnostic illustrations. It discusses the biology of each group and gives many literature references. The book includes 32 colour plates and will appeal to anyone needing to understand this diverse group of animals.

Chapter contents include: Key to suborders and infraorders; Dendrobranchiata – prawns and midwater shrimps; Caridea – shrimps; Stenopodidea – coral shrimps and venus shrimps; Polychelida – deep-sea lobsters; Astacidea – scampi and crayfish; Thalassinidea – ghost shrimps and sponge shrimps; Achelata – spiny lobsters and bugs; Anomura – hermit crabs, porcelain crabs and squat lobsters; Brachyura – crabs; Stomatopoda – mantis shrimps; Glossary.

Hardcover, 576 pp, 1000 line drawings, 32 colour plates. AU \$180, ISBN 0 643 06906 2.

Publisher CSIRO Publishing, contact Nick Alexander: Nick.Alexander@csiro.au



Wisconsin Crustaceans Homepage

The Wisconsin Crustaceans Homepage is an information resource based on Milwaukee Public Museum (MPM) collections and research. It can be accessed through the MPM website (www.mpm.edu) by going to Collections and Research, Invertebrate Zoology, MPM Crustacean Collection. The page has a primary focus on crayfishes and includes images and data from the out-of-print Hobbs & Jass (1988) book *The Crayfishes and Shrimp of Wisconsin* (Cambaridae, Palaemonidae). The webpage was initiated in 2003 with a grant from the Wisconsin Department of Natural Resources. Please send comments to: Joan P. Jass, Milwaukee Public Museum, 800 West Wells Street, Milwaukee WI 53233, Phone 414-278-2761, Fax 414-278-6100, Email jass@mpm.edu.

Online Tanaidacea Database

The Tanaidacea database, first posted in early 2003, enables users to perform customized queries of the species records and literature citations on which the Tanaidacea web pages are based. At present, the database consists of approximately 850 species records and 1,500 bibliographic entries, many of which are annotated. Compilation of additional relevant literature and validation of species names are the primary goals of the efforts underway. The relevant URLs for the database, instructions, and web site are:

Online database: <http://tanais.usm.edu/>

Database instructions: <http://tidepool.st.usm.edu/tanais/database.html>

Tanaidacea web pages: <http://tidepool.st.usm.edu/tanais/>

The database can be accessed using a networked computer and a web browser. Optimum performance requires use of a web browser which supports cascading style sheets.

The database includes two layouts, Taxonomy and literature. In the Taxonomy layout, each record represents one species and contains searchable fields for taxon names, authority names, TSN (Taxonomic Serial Number used at the ITIS website), synonyms, museums, type locale/depth, and notes. In the Literature layout, each record represents one citation and contains searchable fields for author and citation.

Hopefully active scholars of the Tanaidacea will provide additional input to improve the accuracy of the information compiled. Thank you in advance for emailing additions and corrections to Gary Anderson (gary.anderson@usm.edu).

The Denton Belk Memorial Fund

The Crustacean Society would like to remind our readers that they are soliciting contributions to an endowed fund to honor the memory of Denton Belk, a founding member and past treasurer of TCS. The endowment will be used to fund scholarships for students performing large branchiopod research, a field in which Denton excelled and made significant contributions. Students will be able to use funds to support research costs and/or travel (either to scientific meetings or for research purposes).

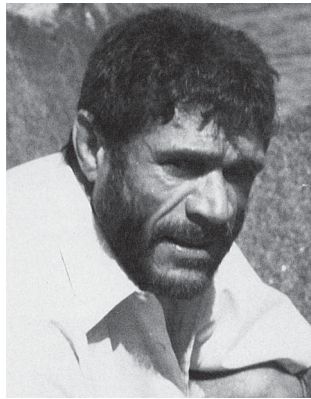
As reported in Dr Christopher Roger's moving remembrance (JCB 21(4): 1077-1081, 2001), Denton was exceptionally generous in his lifetime to students in need who expressed an interest and passion for large branchiopods. We feel it is a fitting tribute to our colleague and friend to continue this tradition in his passing. We encourage and appreciate your contribution!

Please note that you do not need to become a member of TCS to make a donation!

Personal checks (in U.S. Dollars) may be made out to "TCS – The Denton Belk Fund". Alternatively, contributions using Visa or Master Card can be made by printing out a copy of the membership application from the Society's website (<http://www.vims.edu/tcs>), indicating the amount (in U.S. Dollars) that you are willing to contribute on the appropriate line, and mailing the form to the Business Office at the address below.

Please send contributions to:
Business Office
The Crustacean Society
P.O. Box 1897
Lawrence, Kansas 66044-8897
U.S.A.

For additional inquiries, please contact Mary Belk (TCS Treasurer) by email (dbelk@texas.net) phone (210-224-7743) or fax (210-222-0360).



With great sadness we report that Dr. Brian F. Kensley, research zoologist, Invertebrate Zoology section of the National Museum of Natural History, Smithsonian Institution, died on January 19, 2004 after a long illness.

Dr. Kensley was born in Cape Town, South Africa on April 19, 1944, where he studied botany and zoology at The University of Cape Town and University of Stellenbosch. He received a Ph.D. in 1974 from the University of Cape Town for his work on South African Decapod Crustacea and a D.Sc. in 1984.

In 1977 Dr. Kensley came to the Museum as a post-doctoral fellow in the Division of Crustacea and was hired a year later as a zoologist to do research on decapod and isopod Crustacea. During his career he authored or co-authored three major field guides on invertebrates and more than 150 scientific papers dealing with systematics and ecology of Crustacea and fossil molluscs. While at the Museum he was a fierce defender of the importance of the national collections, and served as Editor of the Proceedings of the Biological Society of Washington (1981-1989) as well as member of the editorial board of the Atoll Research Bulletin (1994-present). From 1990-1992 he was director of the American Association for Zoological Nomenclature and concurrently the S. I. Representative to the Seychelles Islands Foundation (1984-present). In 1991- 1995 he served as chairman of the then Department of Invertebrate Zoology. In addition Dr. Kensley was a scientific advisor to the World Bank, U.S. Department of State, EPA, the National Academy of Sciences, and USAID. He was an avid collector, and his career fieldwork took him to the Indian Ocean, Australia, South America and the Caribbean.

Memorial donations can be made in his name to:
Christ House 1717 Columbia Rd. NW Washington, DC 20009

Sincerely,
Marilyn Schotte and Rafael Lemaitre,
Dept. of Zoology National Museum of Natural History,
Smithsonian Institution Washington, D. C.