



# The Ecdysiast

Newsletter of The Crustacean Society

## *Message from the President...*

Dear TCS members,

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I write this, my last message as President, still under the effects of jet lag after returning from our recent meetings held at the Tokyo University of Marine Science & Technology campus. The meetings were a complete success, with over 340 in attendance! With a plenary each day, 13 symposia going on, and 260 total presentations, we were all quite busy moving our pereopods to get from one room to another. Once again, I wish to thank the leadership of the Carcinological Society of Japan, in particular President Seiichi Watanabe, Past-President Keiji Baba, and Vice-President Akira Asakura, for working with their Council and membership to organize this historic meeting, the first TCS annual meeting held in Asia. The Organizing Committee, headed by Dr. Akira Asakura as Secretary General, aided by colleagues and a legion of enthusiastic local students, did a superb job. On behalf of TCS I hereby extend thanks and congratulations to the CSJ, the Organizing Committee, the various Japanese societies that supported the meetings, and the co-sponsors that contributed logistics and other resources. As part of the opening ceremony, I was asked to prepare a brief presentation on TCS's "Past, Present and Future", and I would like to take the opportunity to summarize my presentation here.

**The Past.** As many of you know, TCS had its beginnings when a small group of mostly US carcinologists founded the "Crustacean Club", as a way to gather informally and exchange ideas. The exact date when this "Club" was born was unfortunately not mentioned by Ray Manning [1990, JCB 10 (4)] in his *"History of The Crustacean Society"*, but probably was sometime in the early 1970s. The "club" would meet and socialize during large professional meetings such as those of the American Society of Zoologists [now SICB]. There was a newsletter edited first by Betty Wenner, and then by Mary Wicksten. It was during the 1977 ASZ meetings in New Orleans that Manning tells us that the subject of a Society was first discussed, although not without some skepticism. In 1979, during the "Club" meeting at the ASZ meetings in Tampa, FL, a motion was approved to establish a "Society" to be named "The Crustacean Society", whose mission was to: "... to advance the study of all aspects of the biology of the Crustacea by promoting the exchange and dissemination of information throughout the world". An Organizing Council was formed and officers were installed. The first business meeting was held at the ASZ in Seattle on the 27th of December 1980, and TCS started with 450 paid members. An editor, Arthur G. Humes, was appointed for a journal to be named *"Journal of Crustacean Biology"*, and a press selected to publish the journal, Allen Press. The first number came out on February 1981, which means that JCB will turn 30 years in 2011!! (stay tuned for celebratory events). The impact of JCB has grown over the years, thanks to the work of 3 outstanding editors (Art Humes, David Camp, and now Fred Schram), associate editors, and of course the quality of research by authors. It moved to a larger and multicolored format in 2005, to celebrate JCB's silver anniversary.

A newsletter with a new name was also authorized, *"The Ecdysiast"* and began production in 1982. For many years this newsletter was published on paper, and inserted with issues of the journal to the members. Several years ago, it began to be distributed also online on our web site, and starting with the issue of May 2009 [27(1)], exclusively online. There have been 5 editors of this newsletter: Paul Haefner (1981-1985), Jr., Ray Bauer (1986-1995), Tim Stebbins (1996-2002), Rachael King (2003-2008), and now Diego Maruzzo (2009-present).

*continued...*

**The Present.** During the first 15 years or so of TCS, officers were mostly from the US, and annual meetings (except for those joint ones with the ICCs) were held within the confines of US. However, things changed as membership expanded to other countries, and interest in TCS activities and mission grew. As is the case of economies, science is also a global matter, and TCS has not been immune to globalization. Today, we are proud to say that TCS has evolved into a truly international Society devoted to the study of all aspects of biology of Crustacea, with members from many countries, and a multinational Board of Executives, Governors, and editors. Current officers and editors come from: Chile, China, Denmark, Germany, Italy, Japan, Mexico, New Zealand, and U.S.A. This, along with the development of a prestigious journal, is the most important achievement in TCS history. Authors that publish in JCB come from virtually all corners of the world. Just for volume 28, there were authors from 25 countries (Fig. 1). The submissions and editorial work are now handled completely electronically, using the Allen Track system, something that facilitates and speeds up processing and saves on costs. The impact factor has gone up in the last 4 years from 0.823 for volume 25 [2005], to 1.11 at last check.

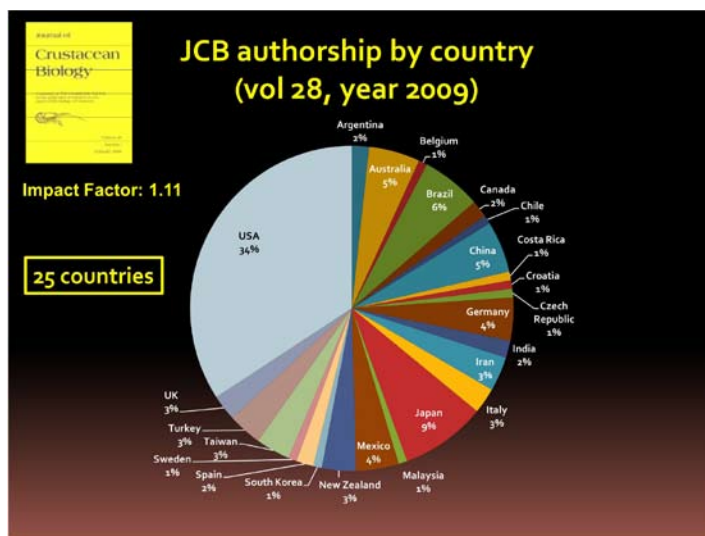


Figure 1

There was recently an exchange in CRUST-L where some colleagues expressed misconceptions about our Journal, i.e., JCB is seen as “dominated by taxonomists”... Actually, the range of topics covered in JCB is wide, as demonstrated by the number of topics covered (Fig. 2). For the period 2006 to 2009, JCB covered 11 major topics, with most articles published on Ecology (26%), followed by Taxonomy (15%), and Larval and Development (9%). JCB also publishes book reviews, obituaries, and needed TCS business announcements.

Of course, TCS offers much more than just the Journal, as you all know from the list of benefits in our web site. Among other things, we support meetings, give out student awards for best papers, provide fellowships, and make available internet resources (thanks to Jeff Shields and VIMS). Much of this is possible because despite the recent market crash, TCS is in good financial form thanks to the outstanding financial management over the

years of our Treasurers [Denton Belk (1980-1996, Alan Harvey (1997-2002), and recently Mary Belk (2003-present)]. Soon after its founding, TCS established the prestigious award known as TCS Excellence in Research Award (TCSERA) “to honor outstanding contributions towards the furthering of carcinology as a science”. The 21st TCSERA was given in Tokyo at the meetings banquet to Dr. Darryl L. Felder.

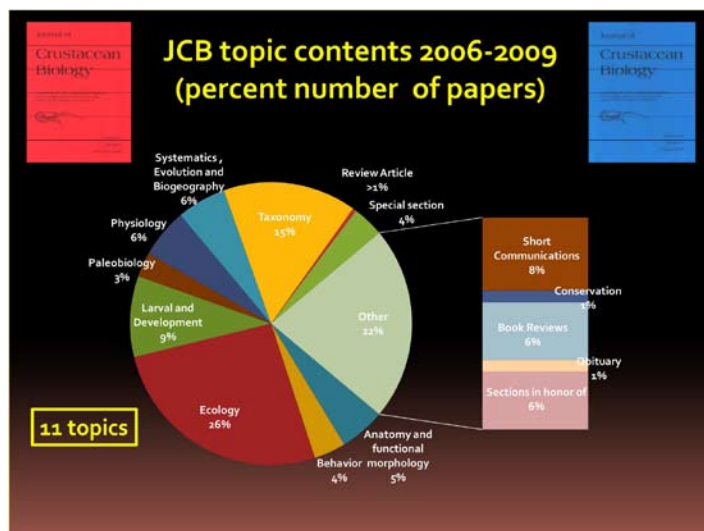


Figure 2

Less known, perhaps, are some factoids that you may find of interest:

1. TCS now has ~\$442K invested to generate interest that are used to support our mission and activities, and the goal is to reach \$1 million.
2. Since JCB began accepting manuscripts in 1980, about 3200 manuscript submissions have been received.
3. Submissions are on the increase, and so is the rejection rate, recently clocked at 29%.
4. The cost of a volume went up 11% from 2005 to 2008 (the 2008 volume cost nearly \$73,000).
5. At last check, TCS has a total membership of 734 (551 individuals + 183 institutional subscriptions), although membership has been decreasing steadily since 2006 (Fig. 3).
6. In 1980, membership dues were \$25 (North America), and \$30 (all other), whereas we now (2009) have a tiered system of \$35 (no journal), \$65 (student with journal), \$95 (regular with journal), \$125 (patron).

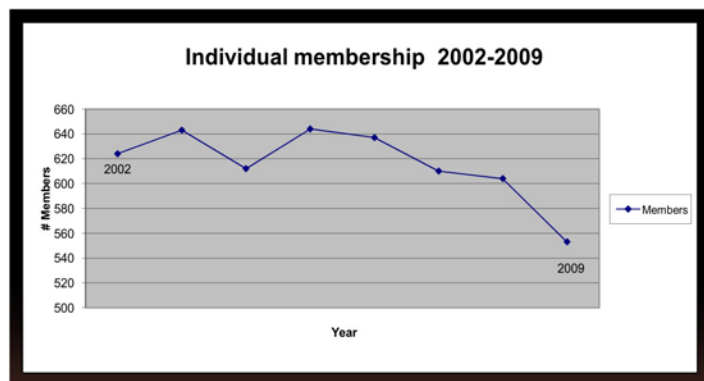


Figure 3



**The Future.** What will the future of TCS and JCB look like? It is clear that the electronic age is going to continue to have a greater and greater impact on everything we do. Journals are facing great pressure to contribute to the globalization of science publishing (see for example W. Gever's editorial in *Science*, vol. 325, 21 Aug 2009). Most of the changes will of course be driven by economics. I would like to mention 5 thoughts that easily show in my crystal ball:

1. JCB will continue its trajectory towards increasing on-line access, and it may not be long before we will need to move to a complete on-line publication, although still hard copies will probably need to be printed and TCS could still offer members the option of hard copy. The ability to make available ancillary files (raw data, videos, images, etc.) for papers in JCB, is already possible although this has not yet been implemented.

2. A rather interesting thought is to anticipate what could happen to some of our meetings: at least some meetings might become "virtual", with live or delayed streaming of sessions through the internet. This happens all the time in our workplaces, and it potentially provides access to much larger audiences, and could lead to increased participation in the Society.

3. In 2008, a whopping 22% of TCS revenue came from BioOne and JSTOR royalties, and hopefully this same upward trend will continue. This income has been a much welcome development because of falling membership and the downturn in the markets. This fortunate situation might lead to lowering the cost of TCS business, and thus lowering or at least restructuring of membership fees.

4. Membership has been a continued preoccupation since the beginning of TCS because dues provide—at least historically—the financial base to run the Society. Our tiered system of membership fees has helped, but still membership goes up and down almost unpredictably. Societies are competing for membership and it is therefore difficult to expand the base. Is it time to think more deeply about what members really need in the modern world, and redefine membership accordingly?

5. Rather than target individuals to become members, is it time to think instead of collaborating more closely with other crustacean societies, including professional and amateur societies, or even organizing a "Federation of Crustacean Societies" by bundling memberships, or by some arrangement of reciprocity in membership that could offer mutual benefits at reduced costs? A larger membership, combined with the reduced costs that might be possible from new electronic technologies, could lower dues and fees for services to members.

These thoughts may be off base, but I hope they will at least motivate some discussions on the future of TCS, and even other sister crustacean societies which surely face similar problems. Our Board is always open to suggestions and new ideas.

Many thanks for giving me the opportunity to serve as TCS President. One last presidential abrazo a todos,

Rafael Lemaitre  
President, The Crustacean Society

## **CRUST-SOC@VIMS.EDU, the Crustacean Society's Listserver**

The Crustacean Society has an email list server that is only open to members of the society. This list server is designed 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](mailto:jeff@vims.edu), your TCS Secretary, 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](mailto:LISTPROC@VIMS.EDU). You can unsubscribe by sending UNSUBSCRIBE CRUST-SOC to [LISTPROC@VIMS.EDU](mailto: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 list server 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 list server 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](mailto:LISTPROC@VIMS.EDU). You can unsubscribe by sending UNSUBSCRIBE CRUST-L to [LISTPROC@VIMS.EDU](mailto:LISTPROC@VIMS.EDU). Use [LISTPROC@VIMS.EDU](mailto:LISTPROC@VIMS.EDU) to post administrative commands such as SUBSCRIBE, INFO, HELP. Use [CRUST-L@VIMS.EDU](mailto: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.



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The Ecdysiast is published twice yearly in May and November and it is available in electronic form at <http://www.vims.edu/tcs/ecdyasiast.htm>. All the past issues are also available from the same web site. 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, meeting summaries (with photos!), new publications and any other crustacean news.

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# JCB Editorial Report

September 2009, Tokyo, Japan

# TOP 10 MOST-ACCESSED ARTICLES IN JCB DURING 2009

Things are going well with the journal. The 2008 IF has risen to 1.11. Volume 29 will have around 619 pages, down from last year's 764 pp. Page costs [\$93.38] last year went down from the year before [\$95.25], but so far this year they are running at [\$98.18].

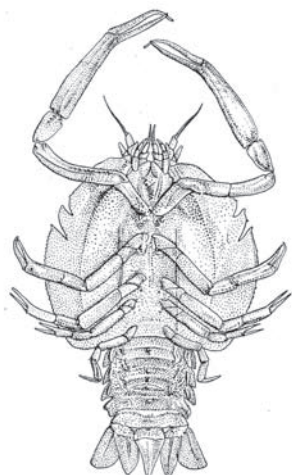
We've had some really good stuff this year. The last issue features a special Ray Manning commemoration and it will appear on 11 October, which would have been Ray's 75<sup>th</sup> birthday. Paul Clark at the NHM, London, spearheaded this, and I helped a little. We also did a blockbuster genomics piece about problems with bar-coding that is already getting heavy hits.

This year, with Allen Press guidance, we made a transition to digital production. This did not affect the regular processes of submission, review, and revisions. It has speeded up the production, and I think as a result instead of a February-May-August-November calendar, we will shift to a January-April-July-October schedule. Digital production should result in some savings for TCS, and it also allows more flexibility for authors in ordering reprints and PDFs.

We plan with volume 30 to shift first-page-proof from posted hardcopy to electronic PDF. That means the entire author/editorial interaction will be done on-line. This should squeeze out some additional savings for TCS. More importantly, it should provide for quicker turn-around in the first-proof process. One of the greatest delays in that stage of the process still involves the speed and efficiency of local postal services. Some countries are slow in getting things delivered in; other countries seem to have delays in getting things out. With luck, maybe e-mail can do better. The editor, however, will continue to deal in hardcopy since it is critical to see proofs of figures in order to insure quality and be able to check on page layout.

For general information I attach a list – complements of Jeff Shields – of the current “Top 10 Hits” in JCB for 2009. It has some surprises, but I believe the take home message is to keep doing whatever we are doing.

Frederick R. Schram  
Editor General, JCB



With the help of our associates at BioOne, we are now able to track reader interest in specific articles in the Journal of Crustacean Biology. We list here the top 10 accessed articles for 2009. We offer no comment on these, but find the content of this list nonetheless of interest. It certainly puts to rest the redent Crust-I discussion about JCB being a “taxonomy journal.” Congratulations are in order for the authors of these articles that have obviously found considerable interest among our readership. Perhaps these authors may wish to cite their achievement in their CVs and yearly evaluation reports. The editorial staff plans to include these rankings on a yearly basis in the journal. The members of the editorial board of the Journal of Crustacean Biology are grateful to all our authors for submitting interesting and stimulating articles to the journal, all of which have contributed to our overall journal Impact Factor – currently at 1.11.

- 1 Susan D. Gerhart and Theresa M. Bert. 2008. Life-history aspects of stone crabs (genus *Menippe*): size at maturity, growth, and age. *Journal of Crustacean Biology* 28(2): 252-261.
- 2 Jennifer E. Buhay. 2009. “COI-like” sequences are becoming problematic in molecular systematic and DNA barcoding studies. *Journal of Crustacean Biology* 29(1): 96-110.
- 3 M. S. R. B. Figueiredo, J. A. Krickler, and A. J. Anderson. 2001. Digestive enzyme activities in the alimentary tract of redclaw crayfish, *Cherax quadricarinatus* (Decapoda: Parastacidae). *Journal of Crustacean Biology* 21(2): 334-344.
- 4 Melike Erkan, Yasemin Tunali, and Serap Sancar-Bas. 2009. Male reproductive system morphology and spermatophore formation in *Astacus leptodactylus* (Eschscholtz, 1823) (Decapoda: Astacidae). *Journal of Crustacean Biology* 29(1): 42-50.
- 5 D. Christopher Rogers, Dana L. Quinney, James Weaver, and Jørgen Olesen. 2006. A new giant species of predatory fairy shrimp from Idaho, USA (Branchiopoda: Anostraca). *Journal of Crustacean Biology* 26(1): 1-12.
- 6 Alistair Richardson. 2005. The biology of terrestrial isopods. *Journal of Crustacean Biology* 25(2): 316-317.
- 7 Jennifer E. Buhay and Keith A. Crandall. 2009. Taxonomic revision of cave crayfish in the genus *Cambarus*, subgenus *Aviticambarus* (Decapoda: Cambaridae) with descriptions of two new species, *C. speleocoopi* and *C. laconensis*, endemic to Alabama, U.S.A. *Journal of Crustacean Biology* 29(1): 121-134.
- 8 A. J. Tierney, M. S. Godleski, and J. R. Massanari. 2000. Comparative analysis of agonistic behavior in four crayfish species. *Journal of Crustacean Biology* 20(1): 54-66.
- 9 Marcelo García-Guerrero, Ilie S. Racotta, and Humberto Villarreal. 2003. Variation in lipid, protein, and carbohydrate content during the embryonic development of the crayfish *Cherax quadricarinatus* (Decapoda: Parastacidae). *Journal of Crustacean Biology* 23(1): 1-6.
- 10 Francesca Pilotto, Gary Free, Giuseppe Crosa, Fabrizio Sena, Michela Ghiani, and Ana Cristina Cardoso. 2008. The invasive crayfish *Orconectes limosus* in Lake Varese: estimating abundance and population size structure in the context of habitat and methodological constraints. *Journal of Crustacean Biology* 28(4): 633-640.



## Recent Meetings...

### 14th “Crustaceologentagung”, Rostock, Germany, April 2-5, 2009

The 14th “Crustaceologentagung” (transl: Crustacean Conference) was held at the University of Rostock, 2-5th April 2009. Traditionally this symposium for carcinologists takes place every two years in a German or Austrian city. This time, after having hosted the international symposium “Advances in Crustacean Phylogenetics” with great success in October last year, Stefan Richter and his co-organizers Christian Wirkner and Ole Møller, again had the pleasure to welcome more than 80 participants in the old city on the Baltic coast. Although most talks are given in German in this conference series, it was again an enrichment to have participants and speakers coming in from around the world. This year Katsushi Sakai from Japan for example made the long trip to enlighten his colleagues on his research on the morphology of thalassinidean stomachs. Altogether 46 talks which covered nearly every aspect of crustacean research were held at the conference. After the typical 15 minutes of presentation there was five minutes time for brisk discussions, often continuing into the coffee breaks. The authors of each of the 31 posters shown at this symposium were asked to give a brief one-minute presentation of their results to the audience, before we commenced the classical poster session. This gave everyone an opportunity to get a first impression and was highly stimulating and at the same time provided a good starting point for the discussions and fruitful scientific conversations taking place afterwards. One further positive aspect of this meeting (and a crucial point for the conference series) was fact that particularly graduate and PhD-students had the opportunity to present their work to a broad audience of both more experienced as well as peer-level scientists. This brought helpful feedback for many and aided their further research.

One of the scientific highlights of the conference was the public lecture by Christoph Schubart from the University of Regensburg, who gave a descriptive image of intra- and interspecific diversity in decapods and showed how exciting and also exhaustive the work in this area of research can be.

The impressive 3D-presentation (with red-green-3D-glasses provided for everybody in the audience) of fossil mantis shrimps in the talk by Joachim T. Haug (University of Ulm) is a good example of how new methods can inspire crustacean research more and more and also of what great advantage it is to use the newest technology, both for the research itself and its presentation.

The conference dinner was held in the rustic and charming restaurant “Pfeffersack” which is conveniently equipped with a bowling alley next door. So, the following bowling game gave the possibility to get to know many hitherto unknown colleagues and to create acquaintances in a funny and lax atmosphere; a true networking opportunity! The final social event of this conference was the visit of the Marine Science Center in Rostock, Hohe Düne at the Baltic Sea. Here, the research on harbor seals (*Phoca vitulina*) conducted by Prof. G. Dehnhardt was explained and demonstrated in the finest possible manner; including the amusing feeding of these playful marine mammals –which showed that there are other and also interesting subjects of research apart from Carcinology.



The participants of the 14th Crustaceologentagung in front of the Zoological Institute, in the Rostock city centre



The audience was equipped with red/green 3D glasses by Joachim Haug in order to get the full impression of his 3D-models

On behalf of the Organizers: Jonas Keiler & Ole Sten Møller (TCS Member)





## Recent Meetings...

### 14th "Crustaceologentagung" Student Winners

Although the "Crustaceologentagung" is a rather local European symposium The Crustacean Society kindly contributed with cash prizes for the best talks and posters of graduate and PhD-students. The two prizes in each category were judged as either "Best" or "Outstanding", and selected by a jury of five experienced and skilled conference participants. The organizers want to thank all the speakers and participants in the poster session as well as the members of the jury for their accurate and unselfish work. The organizers are happy to announce the following winners.

The "Best Poster" prize went to **Torsten Riehl**, Univ. Hamburg (Prize received by Prof. A. Brandt) for the contribution "Alike but unlike – Familiar morphological conformity vs. high species diversity in a deep Southern Ocean isopod family: Macrostylidae Hansen, 1916". The "Outstanding Poster" prize went to **Christian Bauer**, Univ. Rostock, for the contribution "Die Maxillipeden der Decapoda- Analyse homologer Merkmalszustände". The "Best Oral Presentation" went to **Caterina Biffis**, Humboldt Univ. Berlin, for the contribution "Cleavage and gastrulation of the dendrobranchiate shrimp *Penaeus monodon* (Crustacea, Malacostraca, Decapoda)". The "Outstanding Oral Presentation" prize went to **Ann-Katrin Lüders**, AWI, Helgoland, for the contribution "Multidrug resistance associated protein (MRP) transporter in marine crustaceans: lobster (*Homarus gammarus*), shrimp (*Crangon crangon*), and isopod (*Idotea emarginata*)"

#### Alike but unlike – Familiar morphological conformity vs. high species diversity in a deep Southern Ocean isopod family: Macrostylidae Hansen, 1916

Riehl, T., S. Kaiser, S. Brix & A. Brandt

Recent benthic sampling on the Southern Ocean deep-sea has revealed a remarkable biodiversity there, particularly in isopod crustaceans. Most of the species have been assigned to previously undescribed species (e.g. ~80% in Isopoda). Yet, this high rate of novelty provides the basis for continuative studies on deep Southern Ocean ecology and systematics. The isopod family Macrostylidae Hansen, 1916 is ubiquitous in the deep sea and holds the bathymetric record upon all isopods. Members of this family have been collected from shallow waters to hadal depths reaching almost 10.000 metres. During the ANDEEP (ANtartic benthic DEEP-sea biodiversity, colonisation history and recent community patterns) expeditions relatively few macrostylid individuals have been collected, yet showing a remarkable high diversity and high degree of endemism - with every haul discovering new species. Thus, macrostylids provide a fascinating group for systematic, ecological and biogeographic analyses. Generally, macrostylid species appear to have a very conservative, though unique appearance (compared to other isopod families). This is mirrored by their low generic richness (i.e. only two macrostylid genera have been described) which is in contrast to high species richness in this family. To date, worldwide 76 species are known to science. The description of all macrostylids collected during ANDEEP I-III in the Southern Ocean will most likely increase the number of known

macrostylid species by > 50%. The taxonomic effort describing all these species will be immense, but a big step forward to understand distribution patterns and evolution of this family in the Southern Ocean. Here we present initial systematic investigations on ANDEEP macrostylids, which includes, first of all, description of species new to science. For this purpose we apply classical microscopic and drawing techniques in combination with modern approaches such as digital drawing and microscopy. Taxonomic work on this understudied yet interesting group will help to evaluate global diversity patterns and allow further studies on deep-sea ecology, phylogeography and phylogeny.

#### Cleavage and gastrulation of the dendrobranchiate shrimp *Penaeus monodon* (Crustacea, Malacostraca, Decapoda)

Caterina Biffis, Frederike Alwes & Gerhard Scholtz

Crustacea not only show the greatest variety of early developmental modes at all levels, but they are also the arthropod group in which the most examples of the holoblastic or total cleavage type are found. Some of these cleavage patterns have been shown to be highly stereotypic. In particular among the Decapoda, several representative of the Dendrobranchiata have revealed a similar early developmental pattern. However, even though the cleavage pattern itself is constant within a species, the existence of different alternatives with respect to the cell lineage has been reported as the presence of mirror images and of different cleavage types due to the varying position of the two mesendoderm cells. In this work the cleavage pattern of the black tiger shrimp *Penaeus monodon* is analysed from the first division until gastrulation. Observations are based on microscopic investigations combined with the use of selective fluorescent dyes, histological techniques, and computer based three-dimensional reconstructions. Early cleavage is holoblastic and follows a stereotypic pattern which largely corresponds to what is known from other dendrobranchiate decapods. In addition, for the first time in this group, the presence of an RNA-containing intracellular structure is described. This intracellular body (icb) marks the lineage of one of the two enlarged and division-delayed mesendoderm cells that initiate gastrulation. The identity of the icb and its implications on the establishment of the body axes are discussed in order to contribute to the question of the ancestral pattern and the evolution of dendrobranchiate early development.



The "Best Presentations" Prize winners. Left to right: Prof. A. Brandt (for Torsten Riehl), "Best Poster"; Christian Bauer "Outstanding Poster"; Caterina Biffis "Best Oral Presentation"; Ann-Katrin Lüders "Outstanding Oral Presentation"



## Recent Meetings...

### The Crustacean Society Summer Meeting in Tokyo, Japan, September 20-24, 2009 Tokyo University of Marine Science and Technology, Shinagawa, Tokyo

The Crustacean Society Summer Meeting jointly held with the 47th Annual Meeting of the Carcinological Society of Japan, was held 20-24 September 2009 at Shinagawa Campus, Tokyo University of Marine Science and Technology, Tokyo, Japan. This meeting was a truly landmark event in the history of both the CSJ and the TCS, as it was the first time that TCS held its annual meeting in the Asian region and was likened to a happy marriage of the two crustacean societies.

Around 350 participants from 25 countries of all over the world came to Tokyo. It was very fortunate that representatives of major crustacean societies were assembled together. These included the president and past president of TCS, Drs. Rafael Lemaitre, Frederick R. Schram, Darryl L. Felder, Jens Høeg, and Gary C.B. Poore, and the officers and governors of TCS, Christopher Tudge (Secretary), Christopher B. Boyko (Program Officer), Brian Tsukimura (ICC7 and SICB Liason Officer), Frederick R. Schram (Editor, Journal of Crustacean Biology), Shane Ah Yong (Indo-Pacific Governor), Xiang Jianhai (Asian Governor), Jens Høeg (European Governor); the president and past president of the Brazilian Crustacean Society, Drs. Dra Paula Beatriz de Araujo and Fernando L. Mantelatto; the president and honorary president of the Chinese Crustacean Society, Drs. Jianhai Xiang and Ruiyu Liu.

About 260 papers were presented, including keynote addresses, symposium presentations, and symposium related and general contributed papers of both oral and poster presentations. The symposia held included: Life history migrations of freshwater shrimps – ecological and adaptive significance; Phylogeography

and population genetics in decapod Crustacea; Speciation and biogeography in non-decapod crustaceans; Biology of Anomura III; Crustacean chemoreception – identification of cues and their applications; Integrative biology – crustaceans as model systems; Ecology and behavior of peracarids – progress and prospects; Reproductive behavior of decapod crustaceans; The new perspective on barnacle research; Symbiosis in crustaceans – diversity and evolutionary trends; Current status of fisheries and biological knowledge of snow and tanner crabs genus *Chionoecetes* in the world; Diversity and ecology of thalassinidean shrimps; Impacts of human exploitation on large decapod resources; Conservation biology of freshwater crayfishes – new challenges from Japan, Eastern Asia.

During the meeting, Dr. Darryl L. Felder was presented with “The Crustacean Society’s Excellence in Award Research” acknowledging the outstanding contributions he has made to crustacean biology, including evolution, ecology, physioecology, development, functional morphology, and systematics of marine decapod crustaceans.

My special gratitude must go to TCS Past and Current Presidents, Drs. Frederick R. Schram, Jens Høeg, Gary C.B. Poore, Trisha Spears, Jeffrey D. Shields, and Rafael Lemaitre, as well as the board of the governors of TCS for their help, efforts and encouragement to the council of Carcinological Society of Japan and myself to make this conference possible.

Respectfully submitted,  
Akira Asakura

Organizing Committee, TCS Summer Meeting in Tokyo



Three pictures from  
symposium presentations

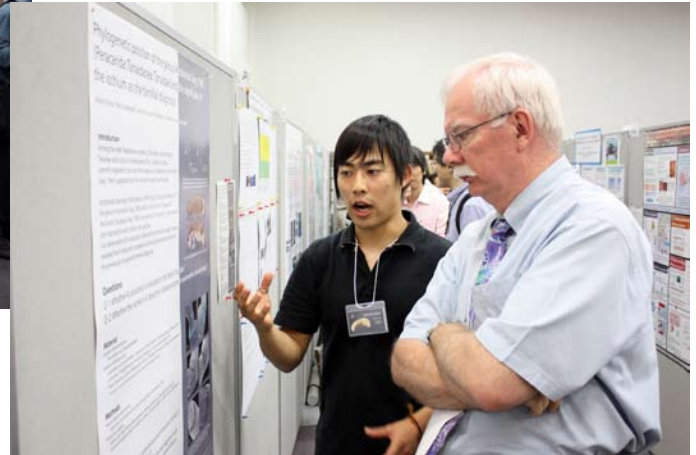




## Recent Meetings...



Two pictures from poster presentations



Meeting with lunch for TCS, CSJ, BCS, and CCS Executives



The Crustacean Society Excellence in Research Award was presented by TCS President Rafael Lemaitre to **Dr. Darryl L. Felder** on September 23, 2009, at the banquet ceremony



The banquet ceremony



## Recent Meetings...

### TCS 2009 Student Winners

The Crustacean Society (TCS) is pleased to announce the winners of the Best Student Paper and Poster Competition held during the annual mid-year meeting of the Society, in conjunction with the 47th annual meeting of the Carcinological Society of Japan, from September 20-24, 2009, in Tokyo, Japan. There were 69 high quality student competitors. Because of the large number of excellent papers, two awards were given in each category. The Best Student Oral Presentation Awards were presented to **Adriana Radulovici** (University of Quebec at Rimouski, Canada) for her talk entitled, "Speciation patterns and dispersal potential: inference from DNA barcoding" (with co-authors B. Sainte-Marie & F. DuFresne) and **Fumio Takeshita** (Hokkaido University, Japan) for his talk entitled "Mate guarding and reproductive cost to female in skeleton shrimp *Caprella penantis*" (with co-authors Y. Henmi & S. Wada). The Best Student Poster Awards were presented to **Maria Celia (Machel) Malay** (Florida Museum of Natural History, University of Florida, USA) for her poster entitled "Peripatric speciation drives diversification and distributional pattern of reef hermit crabs (Decapoda: Diogenidae: *Calcinus*)" (with co-author G. Paulay) and **Yuki Ozaki** (Nara Women's University, Japan) for her poster entitled "Sperm competition among dwarf males of *Scalpellum stearnsii* (Cirripedia: Lepadomorpha) as revealed by microsatellite markers" (with co-authors S. Iwaguchi & Y. Yusa). Each award consists of a certificate, US\$100 cash, and a one-year membership in The Crustacean Society, including subscription to *The Journal of Crustacean Biology*. Copies of the winning abstracts with student contact e-mail information are given below. TCS thanks those members who served as judges and all student participants.

Christopher B. Boyko  
Program Officer

#### Speciation patterns and dispersal potential: inference from DNA barcoding

Adriana E. Radulovici<sup>1</sup>, Bernard Sainte-Marie<sup>2</sup>, & France DuFresne<sup>1</sup>

(<sup>1</sup>Department of Biology, University of Quebec at Rimouski, Canada & <sup>2</sup>Maurice Lamontagne Institute, Department of Fisheries and Oceans, Mont-Joli, Canada)  
adriana.radulovici@gmail.com

DNA barcoding based on a small fragment of mitochondrial DNA from the 5'-end of cytochrome c oxidase 1 (COI) gene was proposed as a useful tool for species identification for the whole animal kingdom. For marine crustaceans, a DNA-based approach would have fundamental and practical applications, for example: reliable diagnosis across all life stages, permanent species tags unchanged during taxonomic revision, detection of invasive species, and estimation of stock size of harvested species based on larval abundances. Moreover, large-scale sequencing would provide useful data for inferring patterns of molecular evolution in different groups. Here we present results from a regional-scale approach

to barcoding marine amphipods in the northwestern Atlantic. In order to determine the geographic extent of intraspecific variation, we included multiple specimens per species and sampled across a vast geographical area. Morphological species were usually resolved as monophyletic clades and with at least 10× greater divergence between than within species. Cases of deep intraspecific variation (3.5-19.5%) were considered to be cryptic species. At a large spatial scale, a major genetic break was found between Gulf of Mexico and Gulf of St. Lawrence (e.g., talitrid amphipods). At smaller spatial scales, species with higher dispersal abilities showed weaker subdivision according to geography, while poor dispersers showed varied degrees of genetic structure culminating in cryptic speciation. In contrast to other crustacean groups, amphipods lack a pelagic larval stage, therefore the dispersal of juveniles and adults has major implications for population connectivity. This study confirms that DNA barcoding can have broader applications than just species identification, providing new opportunities for inferring species evolutionary histories.

#### Mate guarding and reproductive cost to female in skeleton shrimp *Caprella penantis*

Fumio Takeshita<sup>1</sup>, Yasuhisa Henmi<sup>2</sup> & Satoshi Wada<sup>1</sup>

(<sup>1</sup>Graduate School of Fisheries Sciences, Hokkaido University & <sup>2</sup>Center for Marine Environment Studies, Kumamoto University)  
caprella@fish.hokudai.ac.jp

Precopulatory mate guarding is known from many amphipods. Guarding may impose costs to females, because opportunity to obtain energy and other resources may be constrained by guarding. However, little is known about how costs derived from guarding affect female fitness and the life history traits involved. We investigated whether the costs reduce female fitness components in *Caprella penantis* that is an iteroparous species with fast reproductive cycle (approximately 5-8 days). From November to December in 2007, individuals were collected from cultivation raft in Ariake Sea, Kyushu, Japan. Adult males and immature females near the development a brood pouch were sorted. To manipulate guarding durations, 3 groups were established in which the number of each sex (male and immature female) was manipulated as follows: 3:1, 2:2 and 1:3. These sets were maintained during 50 days, and females of each group were marked to identify and record following variables: mature, guarding, oviposition, hatch out, body length (pereonite 2 length) and number of juveniles every day. As a result, the number of guarding pairs increased as the sex ratio was male biased for 50 days. Although female body length was not different among 3 groups at the start of experiment, the differences of body length between these groups became larger as the experimental period progressed. Females were smaller in the sex ratio male biased groups. And total number of juveniles decreased similarly. The result suggests that, when the sex ratio was male biased, the guarding duration increased and the costs to females were evident as low growth rate and less number of offspring. Our results also provide experimental evidence for sexual conflict.



## Recent Meetings...

### Peripatric speciation drives diversification and distributional patterns of reef hermit crabs (Decapoda: Diogenidae: *Calcinus*)

Maria Celia (Machel) Malay & Gustav Paulay  
(Florida Museum of Natural History, University of Florida, USA)  
malay@flmnh.ufl.edu

In this paper we examine patterns of speciation and distribution in a typical reef-associated clade – the diverse and colorful *Calcinus* hermit crabs – to address the origin of tropical marine diversity. What mechanisms of speciation gave rise to species? What role does ecology play in speciation? How is species richness distributed and what accounts for this pattern? We sequenced ~90% of 56 putative species, including 9 undescribed, ‘cryptic’ taxa, and mapped their distributions. Speciation is largely peripatric at remote locations. Allopatric species pairs are younger than sympatric ones, suggesting >2 million years are needed for secondary sympatry. Substantial niche conservatism is evident within clades, as well as a few major ecological shifts between sister species. Color patterns follow species boundaries and evolve rapidly, suggesting a role in species recognition or separation. Most species prefer and several are restricted to oceanic areas, giving rise to an ocean-centric diversity pattern. Unlike in most taxa, diversity peaks in the west-central oceanic Pacific, rather than in the Indo-Malayan “diversity center”. *Calcinus* speciation patterns do not match well-worn models put forth to explain the origin of Indo-West Pacific diversity, but underscore the complexity of marine diversification.

### Sperm competition among dwarf males of *Scalpellum stearnsii* (Cirripedia: Lepadomorpha) as revealed by microsatellite markers

Yuki Ozaki, Shin-ichi Iwaguchi, & Yoichi Yusa  
(Nara Women’s University, Japan)  
bay.ozaki@cc.nara-wu.ac.jp

Dwarf males are extremely tiny males (<50% of the body length of females or hermaphrodites) known in barnacles, anglerfish, spiders, etc. They are expected to evolve when small body size is not disadvantageous in mating as males, but no studies have investigated fertilization success of each dwarf male. The pedunculate barnacle *Scalpellum stearnsii* Pilsbry (Lepadomorpha: Scalpellidae) lives in 100 – 500 m deep from Japan to Indonesia. Large individuals are female, and on average six dwarf males live in “receptacles” (small cavities) on the female. We assessed fertilization success of each dwarf male by determining paternity of embryos. We used eight females, and dissected out all dwarf males on them, and 16 embryos from each brood after recording their positions. We developed five microsatellite markers, and decided genotypes of females, dwarf males, and embryos to identify the genetic father of each embryo. Broods of most females were fertilized by more than one male. Embryos from the same position in the brood lamella (upper/lower or left/right) tended to be fathered by the same dwarf male, suggesting that sperm mixing is incomplete. Most males had fertilized some of embryos, indicating that monopolizing a female by a certain (e.g., large) male did not occur. Conversely, there was a negative relationship between volume of the dwarf male and its fertilization success. This suggests that smaller males are not disadvantageous, and possibly even advantageous, over large ones in fertilization. Since growing large generally requires some costs such as longer time required or low survival to maturity, the lack of large size advantage might have promoted male dwarfing in barnacles.



Picture from the closing ceremony where winners were announced. Left to right: Program Officer Christopher Boyko, President Rafael Lemaitre, and winners Maria Celia (Machel) Malay, Yuki Ozaki, Fumio Takeshita & Adriana E. Radulovici



## Upcoming Meetings...

### 7th International Crustacean Congress (ICC7) June 20th-25th, 2010 Qingdao, China

It is our great pleasure to announce and invite you to attend the 7th International Crustacean Congress (ICC7), to be held on June 20-25, 2010 in Qingdao, China. The meeting is organized on behalf of International Crustacean Council and hosted by the Chinese Crustacean Society. The Conference will cover all aspects of crustacean research, including taxonomy, phylogeny, ecology, zoogeography, biochemistry and physiology, genetics and molecular biology, fisheries and aquaculture etc. The meeting will be comprised of plenary lectures, poster sessions, symposia and general sessions. Please be on the watch for further information regarding registration, accommodations and post-meeting tours through the following website: <http://www.crustacea.org.cn>.

Qingdao possessing attractive beaches, is cited as China's "capital of sailing", and was host to the regattas of the 29th Olympic Games and 13th Paralympic Games, and is also a center for marine science research.

We look forward to meeting colleagues from all over the world and to offer an interesting and productive environment with plenty opportunities for a fruitful exchange of ideas.

For inquiries, please contact Dr. Fuhua Li & Ms. Hui Yan by email [icc7qd@gmail.com](mailto:icc7qd@gmail.com).

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Chinese Academician  
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Jianhai Xiang  
President, Chinese Crustacean Society  
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Chinese Academy of Sciences  
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P.R. China



#### Scientific Committee of ICC7

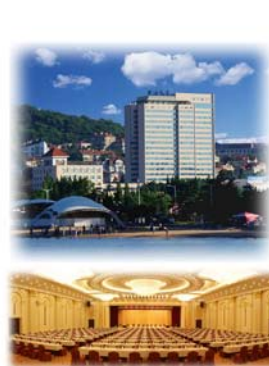
**Chairpersons**  
Rafael Lemaitre, Smithsonian Institution, Washington, USA  
Akira Asakura, Natural History Museum and Institute, Chiba, Japan  
**Members**  
Shane Ahoyong, Niwa, Wellington, New Zealand  
Christopher B. Boyko, Dowling College, New York, USA  
John Buckenridge, RMIT University, Australia  
Kahou Chu, Chinese University of Hong Kong, Hong Kong  
Michel E. Hendrickx, Instituto de Ciencias del Mar y Limnología, Mexico  
Jens Hoeg, University of Copenhagen, Denmark  
Ruiyu Liu (J.Y. Liu), Institute of Oceanology, CAS, China  
Joel W. Martin, Natural History Museum of Los Angeles, USA  
Douglas Neil, University of Glasgow, U.K.  
Peter K. L. Ng, National University of Singapore, Singapore  
Gary C. B. Poore, Museum Victoria, Australia  
Nigel Preston, CSIRO, Australia  
Frederick R. Schram, University of Washington, Seattle, USA  
Jeffrey D. Shields, Virginia Institute of Marine Sciences, USA  
Brian Tsukimura, California State University, USA  
Christopher Tudge, Smithsonian Institution, Washington, USA  
Regina Wetzlar, Natural History Museum, Los Angeles, USA  
Jianhai Xiang, Institute of Oceanology, CAS, China

#### Call For Papers

ICC7 encourages the submission of high quality oral and poster presentations. The contributed papers for the oral and poster presentation sessions are welcome for any subject of crustacean including systematics, taxonomy, phylogeny, evolution, ecology, behavior, development and larval biology, physiology, biogeography, genetics, molecular biology, fisheries, culture, etc..

#### Local Organizing Committee of ICC7

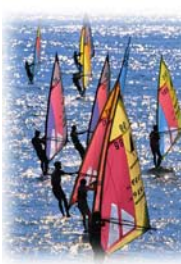
**Honorary Chairperson**  
Ruiyu Liu (J. Y. Liu), Institute of Oceanology, CAS, China  
**Chairperson**  
Jianhai Xiang, Institute of Oceanology, CAS, China



Huanghai Hotel  
The venue of the ICC7  
more information: [www.huanghaihotel.com](http://www.huanghaihotel.com)

#### About Qingdao

Qingdao, the host city for the 29th Olympic Sailing Regatta in 2008, which is surrounded by the sea on three sides, attracts many tourists with its charming seascape, sunshine and fresh air.



Type of registration	Register by March 15, 2010	Register between March 16 to April 15, 2010	Register after April 15, 2010
Association member rate	US \$ 370	US \$ 450	US \$ 530
Students member rate (Include copy of Student I.D.)	US \$ 210	US \$ 250	US \$ 290
Non member rate	US \$ 420	US \$ 500	US \$ 580
Students Non-member rate (Include copy of Student I.D.)	US \$ 240	US \$ 280	US \$ 320
Accompanying person	US \$ 150	US \$ 180	US \$ 210
Gala dinner (Banquet)	Students US \$ 40, others US \$ 50		

Association members include The Crustacean Society (TCS) members and Chinese Crustacean Society (CCS) members.

Registration rate contains meeting pass for all the symposia and sessions, welcome reception, meeting program with abstracts of all presentations, refreshment breaks and lunch for congress days. There will be a wonderful performance during the Gala dinner.

#### Contact us

ICC7 Management Office, 7 Nanhai Road, Qingdao, China The Institute of Oceanology, Chinese Academy of Sciences  
E-mail: [icc7qd@gmail.com](mailto:icc7qd@gmail.com) TEL: 86-532-82898568 FAX: 86-532-82898578  
Any questions or inquiries, please contact Dr. Fuhua Li & Ms Hui YAN

## Upcoming Meetings...



### CRAYFISH MEETING!

#### WHO: YOU!

**WHAT: International Association of Astacology**  
biennial meeting + field trips +  
workshops on crayfish ID and tagging

**WHEN: July 18-23, 2010**

**WHERE: Columbia, Missouri, USA** (U of MO campus)

**WHY: To learn about cutting edge crayfish research and have a great time**

**HOW: Go to meeting website for details:**

<http://muconf.missouri.edu/IAA18/Index.html>

\*\*\*\*\*  
*A truly international meeting – 1<sup>st</sup> time in USA in 20 years!*



Photo by C. Lukhaup

We hope to provide STUDENT TRAVEL  
SCHOLARSHIPS

*Topics: all aspects of freshwater crayfish, including physiology, behavior, ecology, conservation, toxicology, diseases, aquaculture, genetics, education, and policy.*

## VI Congresso Brasileiro sobre Crustáceos / 6th Brazilian Crustacean Congress November 7-10, 2010

Dear colleagues:

On behalf of the Sociedade Brasileira de Carcinologia it is a great pleasure to invite you to participate in our VI Congresso Brasileiro sobre Crustáceos (6th Brazilian Crustacean Congress), which will be held in Ilhéus, Bahia State, Brazil, from 7th to 10th November 2010. The Congress will be hosted at hotel Praia do Sol which has all facilities necessary for the completion of the meeting and also will be able to host all participants. The preliminary information on the meeting is available at the web site:

<http://www.ufrb.edu.br/vicbc/>

The Organizing Committee is strongly committed to prepare a high-level and attractive Scientific Program that will cover all of the major disciplines of Carcinology.

In addition, the Southern Bahia is one of the most beautiful destinations in Brazil. Its natural beauties and historical importance is worthy knowing. We hope that the mixture between the rich and challenging scientific atmosphere of the VI Congresso Brasileiro sobre Crustáceos and the natural beauty of Ilhéus will convince everyone to attend this Congress.

The Organizing Committee looks forward to see you in Ilhéus in November 2010!

Best regards,

Alexandre Oliveira de Almeida (Universidade Estadual de Santa Cruz)

Rodrigo Johnsson (Universidade Federal da Bahia)

Sergio Schwarz da Rocha (Universidade Federal do Recôncavo da Bahia)

(Meeting Chairs)

### The Crustacean Society Website

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





## Items of Interest...

The Society for the History of Natural History is the only international Society devoted to the history of botany, zoology and geology, in the broadest sense, including natural history collections, exploration, art and bibliography. Everyone with an interest in these subjects – professional or amateur – is allowed to join.

Twice a year, the Society publishes its prestigious refereed international journal (*Archives of natural history*) and, several times a year, it circulates an informal newsletter. It organises meetings both in the UK and overseas (the latter through nominated international representatives). A small, friendly band of enthusiasts, we are always pleased to welcome new members.

The Society's membership is now administered through its publishers (see [www.eupjournals.com/ANH](http://www.eupjournals.com/ANH)) to whom enquiries should be directed.

Professor Geoff Moore  
President, SHNH ([pmoore@millport.gla.ac.uk](mailto:pmoore@millport.gla.ac.uk))

### JCB language service

Before you submit a manuscript to JCB, and if you are not fully fluent or a native speaker of English, we recommend the following. American Journal Experts (AJE) provides professional language editing services to authors around the globe who wish to publish in scientific, technical, medical, and humanities journals. We urge authors who are not well versed in the English language to use this service to improve a paper's English and, therefore, its overall quality. Seeking this assistance is suggested before an article is submitted to JCB for peer review and certainly before it is finally accepted for publication.

AJE has over 500 editors from Harvard, Stanford, MIT, Berkeley, and Duke; these editors are native English speakers and subject-matter experts in a wide variety of fields. They will check your manuscripts not only for terminology and language specific to your field but also for proper English usage, grammar, punctuation, spelling, verb tense, and phrasing. In addition, AJE's professional editors will make sure the text reads naturally and the sentences are well constructed. The cost for this service is very reasonable. Visit AJE's website for more information, or to submit a document for their scientific proofreading service use this link: [www.JournalExperts.com?rcode=JCB1](http://www.JournalExperts.com?rcode=JCB1).

When you are secure about your text, manuscripts then can be submitted on line through the regular link: [www.jcb.allentrack2.net](http://www.jcb.allentrack2.net).

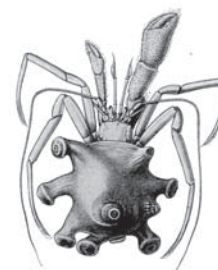
## New Publications...

### A Classification of Living and Fossil Genera of Decapod Crustaceans

A major contribution to the systematics and taxonomy of the Decapoda should be in print and on-line by the time this newsletter appears. Authored by Sammy De Grave and a team of 17 other workers, most of whom are preeminent systematists in this field, and funded primarily by the Decapod Crustacean Assembling the Tree of Life (AToL) Project, the paper is the first-ever catalog of all families and genera of the entire Crustacea Decapoda, including both extant and fossil superfamilies, families, and genera. Additionally, the authors have included, for every genus, a very close approximation of the number of described species in that genus (published up until their cutoff date of July 31, 2009), broken down according to whether they are extant only, fossil only, or extant with fossils known. The list therefore also provides, for the first time, accurate estimates of the total number of all species (living and fossil) of the Decapoda (17,597), the total number of extant species (14,618), the total number of decapod families (233) and genera (2,725), and other interesting and useful metrics. A further highlight, the first of its kind for any major group of Crustacea, is that all electronic (pdf) versions of the publication contain embedded links for each taxon that connect the user to the correct and verified literature citation wherein the taxon was first described. These links currently direct the reader to the bibliography (including, in some instances, the actual pdf of the paper) on the Decapod Crustacea AToL web site; eventually these same links will point users to the taxon entry on the World Registry of Marine Species (WoRMS) database. The catalog draws on the recently published list of the crabs of the world (Ng et al., 2008, *The Raffles Bulletin of Zoology*) and on upcoming lists of all fossil decapods (Schweitzer et al. in press, *Crustaceana Monographs*), extant shrimps (De Grave and Fransen, in prep.), and extant lobsters (Chan and Crandall, in prep.), as well as on recently published lists of other decapod groups (e.g. Baba et al., 2008, *Zootaxa*, on squat lobsters of the world). The catalog is being published by *The Raffles Bulletin of Zoology*.

The full citation will be:

De Grave, S., N. D. Pentcheff, S. T. Ah Yong, T.-Y. Chan, K. A. Crandall, P. C. Dworschak, D. L. Felder, R. M. Feldmann, C. H. J. M. Fransen, L. Y. D. Goulding, R. Lemaitre, M. E. Y. Low, J. W. Martin, P. K. L. Ng, C. E. Schweitzer, S. H. Tan, D. Tshudy, and R. Wetzer. 2009. A Classification of Living and Fossil Genera of Decapod Crustaceans. *The Raffles Bulletin of Zoology*, Supplement No. 21.





## New Publications...

### Gulf of Mexico Origin, Waters, and Biota Volume 1, Biodiversity – Edited by Darryl L. Felder and David K. Camp

This landmark scientific reference undertakes a monumental complete biodiversity inventory of the Gulf of Mexico. Presenting a comprehensive summary of knowledge for Gulf biota, the book includes seventy-nine chapters that list over fifteen thousand four hundred species representing forty traditional phyla. This first volume of *Gulf of Mexico Origin, Waters, and Biota*, a multi-volumed set edited by John W. Tunnell Jr., Darryl L. Felder, and Sylvia A. Earle, provides information on each species' habitat, biology, and geographic range, along with references and a narrative introduction to the group that opens each chapter. Specialist participation from the three countries surrounding the Gulf of Mexico (Cuba, Mexico, USA) was essential to the effort, but coverage of the biota would be far less complete were it not for contributions of qualified taxonomists in twelve others. Each chapter is introduced by a short text including a summary overview of the biotic group under treatment. The work includes generalized descriptions (defined abbreviations) of habitats (and hosts where relevant), depth ranges, world ranges, and selected references to applicable literature. Non-indigenous and endangered or threatened species are noted. Selected taxa are depicted in color. Sixteen of the included chapters treat crustacean groups:

**Cephalocarida and Mystacocarida (Crustacea) of the Gulf of Mexico**--J. W. Martin

**Cirripedia (Crustacea) of the Gulf of Mexico**--S. R. Gittings

**Branchiura (Crustacea) of the Gulf of Mexico**--W. J. Poly

**Free-Living Copepoda (Crustacea) of the Gulf of Mexico**--E. Suárez-Morales, J. W. Fleeger, and P. A. Montagna

**Myodocopan Ostracoda (Crustacea) of the Gulf of Mexico**--E. Harrison-Nelson and L. S. Kornicker

**Podocopan Ostracoda (Crustacea) of the Gulf of Mexico**--R. F. Maddocks, M. L. Machain-Castillo, and F. R. Gío-Argáez

**Leptostraca (Crustacea) of the Gulf of Mexico**--J. W. Martin and T. A. Haney

**Stomatopoda (Crustacea) of the Gulf of Mexico**--M. L. Reaka, D. K. Camp, F. Álvarez, A. G. Gracia, M. Ortiz, and A. R. Vázquez-Bader

**Lophogastrida (Crustacea) of the Gulf of Mexico**--W. W. Price, R. W. Heard, P. Aas, and K. Meland

**Mysida (Crustacea) of the Gulf of Mexico**--W. W. Price and R. W. Heard

**Amphipoda (Crustacea) of the Gulf of Mexico**--S. E. LeCroy, R. Gasca, I. Winfield, M. Ortiz, and E. Escobar-Briones

**Isopoda (Crustacea) of the Gulf of Mexico**--M. Schotte, J. C. Markham, and G. D. F. Wilson

**Tanaidacea (Crustacea) of the Gulf of Mexico**--R. W. Heard and G. Anderson

**Cumacea (Crustacea) of the Gulf of Mexico**--R. W. Heard and D. Roccatagliata

**Euphausiacea (Crustacea) of the Gulf of Mexico**--I. A. Castellanos and E. Suárez-Morales

**Decapoda (Crustacea) of the Gulf of Mexico, with Comments on the Amphionidacea**--D. L. Felder, F. Álvarez, J. W. Goy, and R. Lemaitre

Citation: Felder, D. L. and D. K. Camp (Editors). 2009. *Gulf of Mexico Origin, Waters, and Biota. Volume 1, Biodiversity*. Texas A&M University Press, College Station. 1384p + 32 color plates.

978-1-60344-094-3 cloth \$95.00s

LC 2008025312. 81/2x11. 1,312 pp. 225 color illus. 248 line art. Index. Natural History. Gulf of Mexico. Marine Science. June 2009.

### Salt Marshes: A Natural and Unnatural History

Judith S. Weis and Carol A. Butler

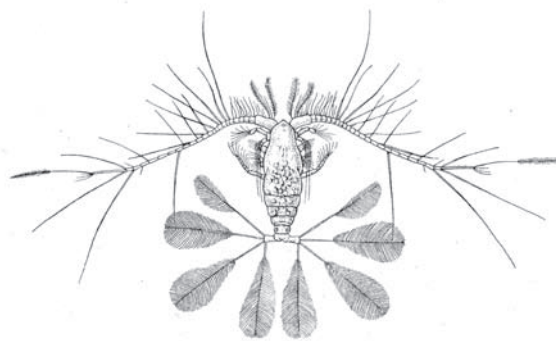
Paperback. Rutgers Univ. Press and sells for ~\$24.

It covers basic natural history and ecology of marsh plants and animals, then chapters on how humans have messed up the marshes, then discusses restoration and use of marshes in environmental clean-up. The final chapter is about the decline and resurrection of the Hackensack Meadowlands.

Lots of illustrations, not highly technical but accessible to the interested general public, naturalists, environmentalists, undergraduate and graduate students, etc. It cites lots of current research.

More information:

[http://rutgerspress.rutgers.edu/acatalog/Salt\\_Marshes.html](http://rutgerspress.rutgers.edu/acatalog/Salt_Marshes.html)



## News from ALCARCINUS

### ALCARCINUS best student paper reward

Since 2007, ALCARCINUS (Asociación Latino-Americana de Carcinología) offers a reward to the best three publications authored by graduate students from the region on any subject related to crustaceans. The reward includes 50 US\$, a one year membership to ALCARCINUS, and a one-year subscription to *NAUPLIUS* (The journal of the Brazilian Crustacean Society) and to the Mexican serie *Contributions to the Study of East Pacific Crustaceans*. To compete, students must be first author of their contribution which should be based on a significant part of their graduation thesis. The thesis director may appear as a coauthor and the paper must be published (or officially accepted) in a refereed journal no more than a year after graduation date. The candidates are evaluated by a panel of 10 international experts on crustaceans, all of them from outside the Latin-America region.

In 2007-2008, only two students competed and both received the award. The price was received by these two students, both from Brazil, during the V Brazilian Crustacean Congress in 2008, in Gramado, Brazil. The winners, **Marina Fantucci** (right on the photograph above) and **Fernanda Vergamini** (left), are both graduate students of Dr. Fernando Mantelatto (also on the photograph) at the University of Sao Paulo, Departamento de Biologia, FFCLRP. The title of their contribution are:



Vergamini, F.G. & F.L. Mantelatto. 2008. Continuous reproduction and recruitment in the narrowback mudcrab *Panopeus americanus* (Brachyura: Panopeidae) in a remnant human impacted mangrove area. *Invertebrate Reproduction and Development* 51(1): 1-10.

Fantucci, M.Z., R. Biagi & F.L. Mantelatto. Shell occupation by the endemic western Atlantic hermit crab *Isocheles sawayai* (Diogenidae) from Caraguatatuba, Brazil. *Brazilian Journal of Biology* 68 (4): 859-867.

In 2008-2009, unfortunately only one student competed. But he won the price!! **Leonardo E. Miranda Guerra** (photograph below), a graduate student from Chile, Universidad Católica del Norte, Coquimbo, and student of Dr. Martin Thiel, was declared the winner of the 2009 reward with the contribution entitled:

Miranda Guerra, L.E. & M. Thiel. 2008. Active and passive migration in boring isopods *Limnoria* spp. (Crustacea, Peracarida) from kelp holdfasts. *Journal of Sea Research* 60: 176-183.



On behalf of ALCARCINUS and The Crustacean Society it is my pleasure to congratulate all of them for their good work and their interest in publishing the results of their research, not a very common event among graduate students in Latin-America. We also sincerely hope that this action will motivate more students to follow the example of Marina, Fernanda and Leonardo, and we expect more candidates for the 2009-2010 competition.

Sincerely,

Mazatlán, México, 10th of June 2009.

Michel E. Hendrickx  
President, ALCARCINUS  
Governor of TCS for Latin-America  
E mail: michel@ola.icmyl.unam.mx



## TCS fellowship winners

The TCS Graduate Student Fellowship was awarded to five finalists in 2008 and two finalists in 2009. Each application consisted of a cover letter, a statement of research objectives, a CV and a letter of reference from a mentor within the Society. Applications were evaluated for their potential contribution to crustacean biology, clarity, and clear statement of hypotheses. The applications were evaluated by three Society members in good standing. Congratulations to the award winners listed below.

Systematics/biogeography/evolution:

**Morgan Kilgour**, 2009

The Belk Award:

**Thomas Hegna**, 2008

**Christine Shanney**, 2008

Population genetics/physiology:

**Richard Seidel**, 2008

**Romina Ituarte**, 2008

**Katrina Pagenkopp**, 2009

Ecology/behavior:

**Jason Goldstein**, 2008

The Crustacean Society sponsors several fellowships in support of graduate student research. Fellowships can be used to purchase supplies, travel for research, participation in off-campus research experience or training, or to take a specialized course of study to advance the awardee's knowledge and skills. Scholarships are awarded annually and may be received only once per awardee. For details go to <http://web.vims.edu/tcs/students.htm>. Deadline is 15 February annually.

Jeffrey D. Shields

Crustacean Society Awards Committee



## Become a Member NOW

There are many benefits to being a member in The Crustacean Society:

- Members receive savings on page charges in the Journal of Crustacean Biology (JCB).
- Members receive online access to JCB through [www.BioOne.org](http://www.BioOne.org) and electronic access to back issues of the journal through JSTOR!
- Members receive complimentary pdf files of their publications in JCB.
- Members can receive the Journal at a great price, essentially at cost!
- Members receive lower registration fees at SICB and regular TCS functions.
- Members receive biannual mailings of the society's newsletter, the Ecdysiast.
- Members receive breaking news on CRUST-SOC, a members-only list for the society.
- Student members are eligible for two different fellowships for research or travel.
- Students are also eligible for Best Student Paper and Poster awards at several scientific meetings (e.g., SICB, TCS, ECC, ICC).
- Students receive the journal at an excellent price, below cost!

But best of all, members enjoy the camaraderie of their fellow crustaceophiles!

If you are a NPR listener, you know the bi-annual pledge drive drill. Just like supporters of NPR, you'd be surprised how many of our crustacean colleagues are not members. In your lab, are your crustacean colleagues members of this venerable society? Are the students? How about your crusty colleagues outside your institution? Encourage them to become a member today. Print out the membership form (<http://www.vims.edu/tcs/form.html>) and leave it on their chair.

If you don't need another copy of JCB in your lab, sign up for membership without the journal – only \$35 – and such a bargain.

Regina Wetzter  
TCS North American Governor  
[rwetzer@nhm.org](mailto:rwetzer@nhm.org)





## TCS Board Elections, 2009

The Crustacean Society officers and governors serve for two-year terms, half being elected each year. The term of the President and President-Elect is limited to a single term, but other officers and governors may serve multiple terms. Five positions are now open for the period 2010-2011; President-Elect, Latin American Governor, Asian Governor, Program Officer, and SICB Liaison Officer.

Names and brief biographies of the nominees for each office as of September 2009 are given below. Voting for the election will be done electronically at [www.tcs.allenmm.com](http://www.tcs.allenmm.com). Please take the time to vote for the candidates nominated, or you may write-in a candidate of your choice.

Ballots will start in November, and an announcement will also be sent through CRUSTSOC to remind people to vote. The voting will close on 25 December 2009.

### President-Elect: Christopher Tudge

*Biology Department, American University, and National Museum of Natural History, Smithsonian Institution, U.S.A.*

Primarily a reproductive biologist, Chris has particular interests in the reproductive biology of invertebrates. His research focuses on the reproductive cells and associated structures, evolutionary mechanisms, and reproductive behaviors of marine decapod crustaceans, although he also has experience dealing with other invertebrate and vertebrate groups. Using computer aided cladistic methodologies, the data gleaned from investigations of reproductive structures and molecular sequences, he constructs evolutionary trees of relationship among various decapod taxa. He has additional interests in the taxonomy, systematics, and biogeography of marine and freshwater crustaceans, with emphasis on anomuran crabs (hermit crabs and their relatives) and thalassinidean mud shrimp and lobsters.

### Latin American Governor: Fernando Mantelatto

*Department of Biology, University of São Paulo, Brazil*

Born in Piracicaba (São Paulo, Brazil), married and currently lives in Ribeirão Preto, Brazil. His degrees include: B.Sc. Biology (1988), M.Sc. Zoology (1991), and Ph.D. Zoology (1995), all three in the Paulista State University (UNESP), Botucatu, Brazil; and Post-Doctoral (2001), University of Louisiana at Lafayette, USA. Currently he is a full time tenured researcher in Invertebrate Zoology and Comparative Biology Postgraduate Program teacher at the Department of Biology – Faculty of Philosophy, Science and Letters of Ribeirão Preto (FFCLRP), University of São Paulo (USP), and head of the Laboratory of Bioecology and Crustacean Systematics, where he has worked since 1993. His research interests focus range broadly across on the decapod crustaceans (swimming crabs, hermit crabs, shrimps and prawns) under biological and ecological aspects to provide information about their life history, population dynamics, reproductive behavior, growth, and larval development.

Since 1999, his research interests include species divergence phylogenies and comparing regional populations by molecular and morphological analysis. Aiming this target, he has visited over 20 museums, institutions and field expedition all around the world, and was supervisor of many theses of Bachelor (24), M.Sc. (14), Ph.D. (8), and Post Doc (4). Dr Mantelatto has been member of the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) in Brazil since 1997. He has been benefited from national and international research grants during the last years, making some important collaborative works with carcinologists from USA, Mexico, Costa Rica, Panama, Venezuela, Chile, Argentina, Spain, Germany, South Africa and Egypt. His publication record includes 110 peer-reviewed papers, 8 book chapters, in addition to many abstracts, congress edited volumes, technical reports, and popular articles. In addition, he is a frequent reviewer for over 50 national and international journals. As a member since 1990, he serves on the Board of the Council of the Brazilian Crustacean Society (SBC), previously as Secretary (1998-2001), as President (2002-2006), lastly as Treasurer (2007-2008), as a member of the organizer committee for the Brazilian Crustacean Meetings (2000, 2002, 2004 and 2006), and as a member of the Editorial Board of Nauplius journal (1998-2008). He is presently the Vice-President of the ALCARCINUS association (Asociación Latinoamericana de Carcinólogos), which hosts ca. 290 members. As a member of TCS since 1993, he was a frequent participant of the TCS meetings and honored for being the organizer/chair of the TCS Summer Meeting 2004, in Florianópolis, Brazil.

### Asian Governor: Jianhai Xiang (Incumbent)

*Institute of Oceanology, Chinese Academy of Sciences, China*

Professor Jianhai Xiang is now the president of the Chinese Crustacean Society and, from 1998 to 2006, was the Director of the Institute of Oceanology, Chinese Academy of Sciences (IOCAS), which was established in 1950 and is presently one of largest and oldest oceanographic institutes in China. He graduated from the Nankai University in Tianjin in 1969. From 1980 to 1982, he studied in University of Konstanz, Germany, afterwards he moved to IOCAS and worked as head of Department of Invertebrate Zoology and then became the Director of the key Laboratory of Experimental Marine Biology. Meanwhile as visit scholar, he worked in USA, Canada and Australia. His major is cytological and molecular biology especially for shrimp and crab and has supervised over 40 graduated students. He has published 180 papers and written 8 monographs since 1993. He was the Head of Expert Commission of Marine Biotechnology, National High-Tech Program in China from 1998 to 2005. And he has been the chief scientist of a national fundamental research project on the disease control in mariculture in China for ten years. As the Editor-in-Chief of the *Oceanologia et Limnologia Sinica*, he has contributed for the publish journals. In 2010, the ICC7 will be held in Qingdao of China, he is the Chairman of the local organizing committee.



### Program Officer: Christopher Boyko (Incumbent)

*Division of Invertebrate Zoology, American Museum of Natural History, U.S.A.*

Christopher Boyko received his B.S. in Biology from the State University of New York at Binghamton; his M.S. in Marine Biology from the University of Massachusetts at Dartmouth; and his Ph.D. in Biological Sciences from the University of Rhode Island. His interests include the taxonomy, ecology, and phylogenetic systematics of crustaceans, with a growing appreciation for the diverse world of the parasitic Crustacea. He is also interested in the biodiversity of invertebrates in general and has headed or participated in invertebrate surveys in coastal Georgia, USA, and on Easter Island in the south Pacific Ocean. He has published over 50 papers on a variety of invertebrate subjects, presented at national and international scientific meetings, and has served as a consultant for the American Museum of Natural History (AMNH), the Newark Museum, the Institute for Exploration at Mystic Aquarium, CT, and the Yale Peabody Museum. He currently teaches at both the City College of New York and York College and is a Research Associate at the AMNH.

### SICB Liaison Officer: Sherry Tamone (Incumbent)

*Department of Natural Sciences, University of Alaska Southeast, U.S.A.*

Sherry Tamone was born on the coast of California (Santa Monica) and migrated to San Francisco where she received her B.S. in Biochemistry in 1984. After a class in Comparative Endocrinology with Dr. Howard Bern at U.C. Berkeley, she pursued her Ph.D. in Endocrinology at UC Davis with Dr. Ernest Chang at the Bodega Marine Laboratory. Dr. Tamone studied the regulation of steroid hormones from crab y-organs and received her degree in 1993. Sherry currently is an Associate Professor of Marine Biology at the University of Alaska Southeast in Juneau. She teaches courses in General Biology, Comparative Physiology, Physiology of Marine Animals, and Invertebrate Zoology and conducts research concerning the reproductive and metabolic physiology of commercially important crabs. She and her graduate students contribute important knowledge for the management of Alaskan crab stocks. She has been attending the annual winter meeting for TCS held in conjunction with SICB for over 20 years and hosted the summer TCS meeting in 2006 in Juneau. She is currently and Associate Editor for JCB and has over 25 peer reviewed and formal reports on crustacean topics.

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Akira Asakura  
President-Elect, The Crustacean Society  
Zoology Department, Natural History Museum and Institute,  
Chiba

### The Denton Belk Fund

The Crustacean Society would like to remind our readers that it is 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).

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: ([marybelk@att.net](mailto:marybelk@att.net))

