

The Ecdysiast

Newsletter of The Crustacean Society

Message from the President...

Dear TCS members,

This is my first "State of the Society" report to you as President and I am delighted to say that the society is in great shape financially! Trisha Spears and Gary Poore served us well in their tenures in the society's leadership and we should all congratulate them on their successes. We must also recognize the hard work of Mary Belk, David Camp, and now Fred Schram as they continue to support the society's endeavors.

While the society is on sound fiscal footing, our membership continues to drop. The decrease has slowed somewhat over the last few years, but if we are to remain a vital and energetic society, we must continue recruiting colleagues and students into the society. Membership applications and recruitment information are available at our website. Please take a few minutes to subscribe if you haven't already or take the time to talk to your colleagues and students about joining TCS.

I am in a unique position as the moderator for both CRUST-L and CRUST-SOC. I have the memberships for both of these electronic mailing lists. Of the ~550 members in TCS, a little over 520 receive email through CRUST-SOC. Interestingly, CRUST-L has ~850 members with about 250 of these having joint membership with TCS. That is, CRUST-L has a larger and separate membership than CRUST-SOC. This is not surprising considering that CRUST-L is free and available to those with side interests in Crustacea; however, it does indicate that TCS can and should be doing more to recruit new members.

Over the last six months, the Executive Committee and the Board of the Society have been active on a number of issues. We have discussed our continuing relationship with SICB, our relationship with BioOne, support of carcinology at other meetings, support of carcinology at other institutions, and of course, the role of the Journal of Crustacean Biology (JCB) and our newsletter, the Ecdysiast in meeting the society's mission. I expound on each of these below.

We have strengthened our relationship with SICB by having a presence there. This year, TCS sponsored the symposium entitled "Genomic and proteomic approaches to crustacean biology." It was well attended and well organized. There were also many other abstracts on Crustacea and I was thrilled to see a large number of undergraduate and graduate students giving presentations. I personally thank Brian Tsukimura, our SICB Liaison Officer, for his facilitation with the SICB organization and Trisha Spears for her efforts to re-establish our historical connection with SICB. I look forward to additional symposia on Crustacea at future SICB meetings.

We continue to have a strong relationship with BioOne. Our losses of institutional subscriptions have been ameliorated by BioOne's marketing of aggregated journals to many American libraries, including those in my own state of Virginia. BioOne's marketing has actually increased the number of institutions that carry JCB, thereby enhancing our coverage. In fact, if your library doesn't have BioOne, you may want to ask it to purchase access. It is quite reasonable, particularly when compared to Elsevier or other printing houses. BioOne is currently expanding into international libraries as well, which should further enhance access to JCB. I have attended several BioOne workshops, and I am now a member of the Publishers Advisory Committee; our next meeting will be in late April.

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The Board recently received requests to support carcinology at other meetings. The Board decided to review such requests on an ad hoc basis, with the requirement that such meetings have some degree of carcinological content. In addition, the Board reviewed a request to support the distribution of carcinological materials to several Latin American countries. This request was inexpensive and fit within the mission of the society; it was approved.

For the 25th Anniversary Jubilee we changed the format of JCB to a larger format. In addition, we changed editors, with Fred Schram now serving in that role. Fred continues to make some changes to the journal's format and review procedures; and those of you publishing in the journal may notice these changes. Earlier this year the Board reviewed the content of submissions to the *Ecdysiast*. We thank Rachael King for her work in editing and layout of the *Ecdysiast*. As you can see, she does a marvelous job of this!

The 2005 election results are now official. Rafael Lemaitre will serve as President-Elect, Christopher Boyko as Program Chair, Akira Asakura retains his seat as Asian Governor, and Michel Hendrickx retains his as Latin American Governor. Please welcome them in their new or continuing roles as officers in the society. I personally know each of these officers and they have already contributed to our mission and I thank them for agreeing to serve the society. If you are interested in serving the society, please let one of us know.

There is currently no venue for the International Crustacean Conference VII. Given that there have been four to five years between ICCs, now is the time to start forming the committee for the next meeting. If you haven't been to one, they're a lot of fun. ICCs are large, well-attended meetings. If you are interested in hosting ICC VII, please let us know.

Jeffrey D. Shields

President, The Crustacean Society

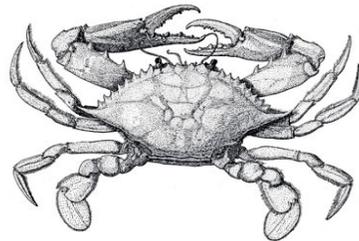


CRUST-SOC@VIMS.EDU, the Crustacean Society's List server

The Crustacean Society now has an email list server that is only open to members of the society. The sole function of this list server 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 Secretary, or any member of the board (listed at right and on 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 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. 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.



The Crustacean Society Board Members, 2006

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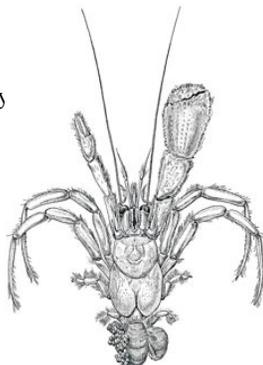
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The Ecdysiast is published twice yearly and mailed with the May and November issues of the *Journal of Crustacean Biology*. In addition, each issue, from May 1997 to present, is available to be downloaded as a pdf at The Crustacean Society's website (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.

Send all material directly to the Editor:

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Treasurer's Preliminary 2005 Report

Income

Past Meeting Recouped	\$5669.05
T-Shirts	172.00
Dividends	5762.00
Donations	1333.30
JCB (includes BioOne \$16tho)	41,359.95
Library Subscriptions	43,532.00
Membership Dues	48,572.00
Label Sales	400.00

Total **\$146,800.30**

Expenses

Treasurer's office (plus honorarium)	\$6,479.44
Refunds	1,367.25
Bank Service charges	1,724.32
SICB	400.00
Society Operations (AMM)	16,056.15
JCB (plus editor's Stipend)	87,292.89
Misc.	2,479.62
Newsletter	1,141.01
Meetings	2,355.00
Awards	5,643.00

Total **\$124,938.68**

Ordinary Income – Ordinary Expenses = \$21,861.62

Schwab Account:

December 31, 2005 - December 31, 2004 = \$45,170.22
(some money was moved from checking accounts to Schwab during year)

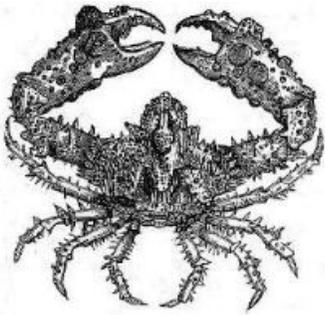
Society value: December 31, 2005

Schwab	\$341,097.40
Wells Fargo	52,015.43
Douglas County	37,244.25
CD's	62,000.00

Value 2005 \$492,357.08

Respectfully submitted,

Mary Schug Belk, TCS Treasurer



The Crustacean Society Website
<http://www.vims.edu/tcs>

The Crustacean Society website is designed to provide our members with up-to-date 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 a list of benefits to members**, (2) a **poster for recruitment to the society** (good for related meetings and great pics!); (3) **fliers for and offical info on upcoming meetings**; (4) **downloads** such as **Martin & Davis's (2001) Classification of the Crustacea**; and of course, (5) **timely tracking of your manuscripts in review at JCB.**

The TCS website is designed to serve you. 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 maintain this site, so get involved!



Recent Meetings, Conferences and Workshops...

TCS "Winter" and SICB 2006 Annual Meeting

January 4-8, 2006
Orlando, Florida

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 4-8, 2006, at the Buena Vista Palace Resort and Spa, Orlando, Florida. There were 50 competitors and the quality of entries was both highly diverse and exceptionally high. The Best Graduate Student Oral Presentation Awards were presented to **J. M. Head** (University of Oregon) for his talk entitled, "Crustacean responses to hypoxia: the role of HIF-1" (with co-author N.B. Terwilliger) and **Dan Curtis** (University of Nevada, Las Vegas) for his talk entitled "Feeding and digestion in response to low salinity in the dungeness crab, *Cancer magister*" (with co-author I.J. McGaw). The Best Graduate Student Poster Awards were presented to **Kandice Fero** (Bowling Green State University) for her poster entitled, "Social status induces variability in shelter use and forging behavior in crayfish" (with co-author P.A. Moore) and **Beth Moore** (San Francisco State University) for her poster entitled "Latitudinal variation in transcriptome profiles following heat and cold stress of the porcelain crab, *Petrolisthes cinctipes*" (with co-authors M. Tagmount and J. Stillman). A special Best Undergraduate Student Poster Award was presented to **Nishad Jayasundara** (Mount Desert Island Biological Laboratory) for his poster entitled "Salinity-induced changes in isoform-specific Na⁺K⁺-ATPase gene expression in the European shore crab *Pachygrapsus marmoratus*" (with co-authors C. Spanings-Pierrot and D.W. Towle). Each graduate 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*; the undergraduate award includes a certificate and US\$50 cash. Copies of the winning abstracts with student contact e-mail information are given on pages 5-7 of *The Ecdysiast*. TCS thanks those members who served as judges and all student participants.

Christopher B. Boyko
TCS Program Officer



Abstracts of Student Prize Winners SICB, 2006

Best Graduate Student Oral Presentations:

Head, Jennifer M., N.B. Terwilliger (University of Oregon);
jhead1@uoregon.edu

Crustacean responses to hypoxia: the role of HIF-1.

The habitats of aquatic crustaceans are highly variable with respect to conditions such as temperature, salinity, and oxygen tension. We are investigating the possible role of the hypoxia-dependent transcription factor, Hypoxia Inducible Factor-1 (HIF-1), in the response of crustaceans to hypoxia. In other organisms, the alpha subunit of HIF-1 dimerizes with the beta subunit under hypoxic conditions and translocates to the nucleus to regulate genes involved in abrogating the negative effects of hypoxia, including genes involved in oxygen transport. We had previously discovered a HIF-1a homologue in the brachyuran crustacean *Cancer magister*. Southern blots and Northern blots have been performed to further characterize HIF-1a in *C. magister*. We have demonstrated *hif-1a* expression in normoxic crab anterior gill, hepatopancreas, heart, VTG, and hypodermis via PCR. We have also identified a *hif-1a* homologue in another brachyuran crab, *Callinectes sapidus*, which is 93% similar to the *C. magister* amino acid sequence. In addition, several consensus *hif-1a* binding sites have been identified in the promoter regions of several hemocyanin (Hc) subunits of *C. magister*, indicating that HIF-1a may play a role in its regulation in hypoxic conditions. Comparisons with the recently published HIF-1a homologues in *Palaemonetes pugio* and *Apis mellifera*, as well as with vertebrate species *Xenopus laevis* and *Oncorhynchus mykiss*, suggest that the gene is highly conserved. We hypothesize that, in crustaceans, the HIF-1 system plays a significant part in regulating gene expression in an oxygen-dependent manner. Supported by TCS(JH), NSF IGERT(JH), Evonuk Fellowship(JH), Sigma Xi(JH), and NSF 9984202(NBT).

Curtis, D. L. & I.J. McGaw (University of Nevada, Las Vegas and Bamfield Marine Sciences Centre);
curtis4@unlv.nevada.edu

Feeding and digestion in response to low salinity in the dungeness crab, *Cancer magister*.

The Dungeness crab, *Cancer magister*, is classified as a weak osmoregulator. Nevertheless, this species often forages in estuaries where it may encounter episodes of low salinity. We hypothesized that the energy required for
continued...



Recent Meetings, Conferences and Workshops...

Abstracts of Student Prize Winners: SICB, 2006

osmoregulation in estuarine conditions may limit that available for feeding and digestion. In the present study, changes in the feeding behaviour of crabs exposed to decreased salinity were examined as a function of acclimation time and starvation time. The likelihood of feeding decreased with salinity, but increased with starvation time, suggesting a trade-off between starvation time and osmoregulation when feeding in low salinity conditions. In 50% seawater, the number of crabs feeding increased with acclimation time. Crabs did not feed in salinities below 30% seawater. Changes in digestive processes were examined by following the passage of a radio opaque meal through the gut system with a fluoroscope. Exposure to low salinity following feeding resulted in a decreased rate of foregut contraction, leading to an overall increase in gastric evacuation time. The results of this study suggest that there is a prioritization during low salinity exposure, whereby osmoregulatory processes may limit the amount of energy available for feeding and digestion.

Best Graduate Student Poster Awards:

Fero, K. & P. Moore (Bowling Green State University); kfero@bgsu.edu

Social status induces variability in shelter use and foraging behavior in crayfish.

Dominance hierarchies afford individuals varying access to resources such as food, shelter, and mates; thus, social status imposes direct consequences on individual fitness. During hierarchy formation in crayfish, the resulting dominant and subordinate exhibit disparate aspects of agonistic behavior. In conjunction with a behavioral change, a physiological change likely occurs. DPIV studies have indicated that social status may be communicable via urine. This study attempts to elucidate whether social status induces behavioral shifts in non-agonistic behaviors that are directly associated with fitness. Furthermore, we will examine whether resource use in crayfish is determined by direct contests over specific resources (direct competition) or by status specific behavior patterns resulting from agonistic interactions (indirect competition). Male, form I, *Orconectes rusticus* were used in two experiments testing each of these conditions. To test direct competition, shelter occupancy was recorded and dominance rank was determined for crayfish within groups of five. Dominant crayfish spent significantly less time in shelter than did all lower ranks. Subordinate crayfish spent significantly more time in shelter than did all higher ranks. To test indirect competition, crayfish were subjected to persistent status reinforcement, were placed in isolation, and monitored for

shelter use and feeding behavior. Dominant conditioned individuals were found to spend significantly more time in shelter than subordinates. Conversely, subordinate conditioned animals spent significantly more time out of the shelter. No variation in feeding was observed across status treatments. These results illustrate that shelter use in *O. rusticus* varies depending on social status and on the presence or absence of conspecifics. Variation in resource use of dominant crayfish in isolation may indicate a motivational shift away from status reinforcement.

Moore, E., A. Tagmount & J. Stillman (Romburg Tiburon Center, San Francisco State University); seastar625@hotmail.com

Latitudinal variation in transcriptome profiles following heat and cold stress of the porcelain crab, *Petrolisthes cinctipes*.

Organismal responses to thermal stress are an important determinant of how climate change may impact natural populations. Organisms vary in their response to thermal stress depending on previous thermal exposure, including mean body temperature and frequency of extreme temperatures. Across the California to British Columbia latitudinal gradient, mean temperatures of intertidal organisms are similar, but frequency of extreme temperatures varies. We hypothesize that organisms distributed across this latitudinal range will respond differently to thermal stress. We examined responses to acute heat or cold stress in three populations of the porcelain crab, *Petrolisthes cinctipes*, from Monterey, CA, Cape Arago, OR, and Bamfield, B.C. Crabs were collected from each site, and were thermally ramped over 4h to 30-31°C (heat stress), or 0-2°C (cold stress), or 10-15°C (control). Following the thermal ramp, crabs from all three treatments were held for 6h at 10-15°C, at which time hepatopancreas tissue was dissected into RNAlater (Qiagen) and stored at -20°C. RNA was purified using Qiagen RNeasy spin columns, and reverse transcription was used to synthesize amino-allyl cDNAs, which were labeled with Cy3 or Cy5 dye and hybridized on microarrays using a modified loop design. The microarray used for this study is constructed from a 13,824-clone cDNA library created from various types of *P. cinctipes* tissue from specimens exposed to diverse thermal conditions. Fluorescence data were log transformed and Loess normalized. These data were used in R/maanova and R/limma to identify genes that were differentially expressed between the thermally stressed (heat or cold) and control specimens for each site, and across the three collection sites. This research was supported by NSF IOB-0533920 and JGI CSP to JHS.



Recent Meetings, Conferences and Workshops...

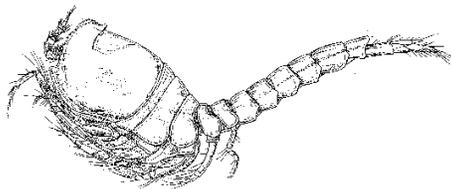
Abstracts of Student Prize Winners: SICB, 2006

Best Undergraduate Student Poster:

Jayasundara, N., C. Spanings-Pierrot & D.W. Towle (MDI Biology Laboratory, Salsbury Cove, ME; Universite Montpellier, France); njayasun@mdibl.org

Salinity-induced changes in isoform-specific Na^+K^+ -ATPase gene expression in the European shore crab *Pachygrapsus marmoratus*

The grapsid crab *P. marmoratus* is strongly euryhaline, regulating hemolymph osmolality by absorbing NaCl across the gills from low salinity and excreting NaCl into high salinity. Gene transcript levels measured in gills by quantitative PCR show significant changes with environmental salinity. Beginning within 2 hours after transfer of crabs from 36 to 10 ppt salinity, Na^+K^+ -ATPase alpha-subunit mRNA increases 8-to-20-fold in all analyzed gills and remains high for at least 48 hours. However, transfer from 36 to 45 ppt induces Na^+K^+ -ATPase alpha-subunit mRNA expression only in gill 7, increasing 10-fold by 6 hours, suggesting that gill 7 may be specialized for NaCl excretion. A closer examination of alpha-subunit transcripts demonstrated the presence of two isoforms, which we have labeled C and D, identical to each other except that the D isoform contains an in-frame insert of 81 nucleotides near the 5' end, resulting in the encoding of 27 additional amino acids. Transcriptional response to salinity change is exhibited primarily by the C isoform, which is present at particularly low levels in animals acclimated to 36 ppt but becomes strongly induced upon salinity change. The expression of the D isoform is also enhanced but only modestly. Analysis of genomic DNA indicates that both C and D isoforms are encoded at the genomic level and are likely not the result of alternative splicing. Supported by NSF IBN-0340622.



JCB Online!

Subscribers are reminded that on-line access to the Journal of Crustacean biology is now available through BioOne. Online access to JCB is available from 2000 to the present.

To access JCB online, go to <http://www.bioone.org>; after choosing a full-text article from JCB, you will be prompted for your username and password. Your username can be obtained from the journal mailing label (CRUS#####) and your password is likely to be your last name (first letter capitalized, all other letters lower case). If you have any trouble logging on, please contact our friendly and helpful representative at Allen press, Kay Rose (krose@allenpress.com).





Upcoming Meetings, Conferences and Workshops...

TCS Annual Summer Meeting in Juneau, Alaska May 22-26, 2006



Registration: Registration for the Summer TCS meeting is open and is proceeding smoothly! Please register early (before **May 1st**) so that we can make the appropriate plans and arrangements. You can register at the following website

www.uas.alaska.edu/biology/tamone/tcs

For more information contact Sherry Tamone, Department of Natural Sciences, 11120 Glacier Highway, Juneau, AK (907) 796-6599. Email: sherry.tamone@uas.alaska.edu.

Full registration includes admission into all talks and poster sessions, attendance to all socials and receptions (the University of Alaska Southeast reception is FREE), complimentary light breakfast each morning before talks, refreshments, a commemorative T-shirt and more).

Abstracts: Abstracts for posters and oral presentations are being accepted until **April 10th**. Those received later may not appear in the printed schedule. You can easily submit your abstract through the following website www.uas.alaska.edu/biology/tamone/tcs. Please check the box if you are a student and would like to be considered for the Best Student Paper Award.

Agenda: A preliminary schedule is available online (www.uas.alaska.edu/biology/tamone/tcs) and includes plenary talks by Bernard Sainte-Marie, Nora Terwillinger, Daryl Felder, Gerhard Sholtz, Jody Martin, and others. Oral presentations will begin on May 23rd and continue through the 25th. The 26th of May is reserved for an all-day no-host cruise to view Alaska's wilderness and continue collegial discussion. Tickets for this cruise will cost \$137.00 (includes a lunch) and can be purchased through http://www.goldbelttours.com/travel/cruises/tracy_arm.html. Mention the following code to get the reduced rates (GB36485).

Venue: The meeting will be held at the **Centennial Hall** in Juneau. There will be ample room for presentations, posters, and social activities including coffee, tea, and refreshments. Centennial Hall is located in downtown Juneau and within walking distance of local attractions and hotels.

Accommodations: Blocks of rooms have been reserved at two local hotels (see website for details). Both hotels are located in downtown Juneau within walking distance of the meeting facilities, restaurants, museums, and great hiking.

Travel: Alaska Airlines flies into Juneau and there are approximately three flights from either Seattle or Anchorage each day. Check www.alaskaair.com for flight times and reservations.

Weather: The weather is usually the topic of discussion in Juneau. Our best weather occurs during May and June and one can expect cool sunny days (55°F), but not be surprised by clear and sunny 75°F days or stormy rainy 50°F days. Juneau is a temperate rainforest, which by definition includes a lot of precipitation. Last May was one our warmest on record. Pack sensibly with some rain protection and good walking shoes.





Upcoming Meetings, Conferences and Workshops...



Crayfish experts from around the world will gather at the

**16th Symposium of the
International Association of
Astacology**
Surfers Paradise, The Gold Coast,
Queensland, Australia
July 30 -August 4, 2006

The symposium is open to everyone. For further details, to submit abstracts and register please visit the symposium website: [Http://www.griffith.edu.au/conference/iaa2006/](http://www.griffith.edu.au/conference/iaa2006/)

Please direct any questions to the Symposium team:
IAA16@griffith.edu.au

IAA 16 is being hosted and supported by:



The Centre for Innovative Conservation Strategies,
Griffith University



**International Workshop
“Chemical ecology in aquatic
systems”**

Florence (Italy),
October 16-18, 2006

An increasing interest is directed today to the understanding of the role of chemical communication in aquatic systems. It seems axiomatic that, in aquatic organisms, the use of vision may be reduced by high habitat complexity and poor light transmission, especially in turbid waters. Chemical communication may aid the location of prey, predators, food, and partners and may be used in kin recognition. Also, waterborne chemicals are important for navigation among long-distance migrating organisms, such as salmonids. Finally, the use of chemicals, e.g. sexual pheromones, may facilitate the control of the several nuisance species that have invaded natural waterbodies throughout the world.

Notwithstanding the flood of studies centered on several aspects of chemical ecology, there is still a general lack of theories explaining mechanisms of action and functioning of chemical substances in the aquatic medium. The international workshop “Chemical ecology in aquatic systems” aims at assessing the state-of-the-art of our knowledge in this area, stimulate discussion, and identify future research directions and collaborations. This workshop will be held in Florence (Italy) between 16 and 18 October, 2006 under the auspices of the University of Florence. It will gather scientists from all over the world working within different disciplines that range from ethology and sensory physiology to conservation biology.

For those scientists intending to attend the Workshop and to present papers and/or posters, please contact the organizers (Roberto Berti, Francesca Gherardi) via e-mail at the address: roberto.berti@unifi.it as soon as possible before June 30, 2006. Pre-registrations would greatly help in the early planning stage. Deadline for registration and abstract submission is July 31, 2006. More information will be soon available in the website <http://www.dbag.unifi.it/> (under Eventi).



Upcoming Meetings, Conferences and Workshops...

TCS Mid-Year Meeting 14-19 October, 2007 Coquimbo, Chile

Plan ahead! TCS is very happy to announce that our Mid-Year Meeting in 2007 will be held in October (14-19 October 2007) in Coquimbo-La Serena, Chile, organized by 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 (~ 300,000 inhabitants) 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 Serena Club Resort, right in front of the beach (cost will range from US\$50 for a single room to US\$70 for a double). The hotel is located on 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. Many hotels and cottages 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. Martin Thiel: thiel@ucn.cl

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

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.

The 8th Lobster Conference, Charlottetown, Prince Edward Island, Canada September, 2007

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.

Contact Jean Lavallee, jlavallee@upeu.ca, for more details.

Crustaceologentagung March 15-18, 2007 Frankfurt, Germany

The next meeting of German speaking crustaceologists will take place on March 15-18, 2007 at the Senckenberg-Museum in Frankfurt, Germany.

The conference homepage can be reached through:
www.senckenberg.de/crustaceologentagung
or
www.crustaceologentagung.de

International participation will be appreciated.



Upcoming Meetings, Conferences and Workshops...

SICB 2008 - Request for symposia proposals

The SICB Program Officers are requesting proposals for symposia for the 2008 SICB meeting in San Antonio, TX (January 2-6). As SICB Liaison Officer for The Crustacean Society, I hope to encourage TCS members to organize a symposium for the 2008 meeting. This year was very successful, with a symposium entitled: “*Genomic and proteomic approaches in crustacean biology*”. We will not be sponsoring a program in Phoenix in 2007. Thus, it would be great to again have a presence in San Antonio in 2008.

I urge you to start thinking creatively and develop plans now. Organizing a symposium can be fun! You have the chance to ask speakers to talk about topics you find interesting, and it's a great way to make new friends and contacts. You will enjoy working with Harold Heatwole, the Editor of “*Integrative and Comparative Biology*” (formerly called *American Zoologist*), in getting your symposium papers published in a peer-reviewed volume that can be used for reference and seminars.

Please note that the SICB has revised the procedure for developing symposia, mainly to insure the involvement of the divisions and to make the process easier and more straight-forward. The symposia at San Antonio will be broken into three groups: (1) divisional or co-sponsoring society symposia, (2) society-wide symposia, and (3) mini-symposia. Regardless of what type of symposium you are planning, please do not plan for more than 11 speakers or you may be in the awkward position of having to uninvite individuals.

Symposia acceptance can be enhanced with co-sponsorships from divisions of the SICB. In addition, when the organizers apply for symposia sponsorship, the SICB will waive the registrations fees for the speakers. Information on submitting symposia for the 2008 meeting in San Antonio is now a link on the home page of the SICB web site: (<http://www.sicb.org/meetings/2008/index.php3#form>). Deadline for submissions is **August 18, 2006**.

I am willing to assist any group in developing a proposal. In addition, please contact Chris Boyko (cboyko@amnh.org) to coordinate the development of your proposal.

Brian Tsukimura
SICB Liaison Officer for TCS

Recent Publications...

William Stimpson's journal from the North Pacific Exploring Expedition, 1853–1856

Vasile, R. S., R. B. Manning, & R. Lemaitre, 2005. **William Stimpson's journal from the North Pacific Exploring Expedition, 1853–1856**. Crustacean Research, Special Number 5: i-v, 1-220. [Hardcover]

This publication is the long awaited work by the late R. B. Manning and the historian R. S. Vasile. The former left the manuscript unfinished at the time of his death (Jan. 18, 2000), and it fell upon his Smithsonian colleague R. Lemaitre to team with Vasile to complete the copious notes and files left by Manning. William Stimpson (1832-1872) was the chief naturalist aboard the North Pacific Exploring Expedition. He was the first curator of crustaceans at the Smithsonian Institution, and one of America's greatest invertebrate zoologists. This publication is of utmost historical and biological importance for it brings to print, for the first time, William Stimpson's original hand-written notes from that famous Expedition, so rich in natural history observations. An introduction to the history and scientific significance of the Expedition is included, together with an annotated list of Crustacea, and lists of ships and names of people mentioned in the Journal. Color illustrations of several decapods from the Expedition found among Stimpson's original notes preserved in the Smithsonian Archives, are presented. Stimpson's landmark work was his *Prodromous*, an 8-part series published in Latin from 1857-1860; the sections that deal with Crustacea are reproduced for the benefit of modern workers. Stimpson's original description of the gall crab *Hapalocarcinus marsupialis* is also reproduced.

Copies can be obtained at the cost of JY 3,000, including postage, from the office of the Carcinological Society of Japan (Dr. Seiichi Watanabe, Secretary, society-watanabe@s.kaiyodai.ac.jp). Visa or Master card can be used. Or write to: Dr. Seiichi Watanabe, Secretary, Carcinological Society of Japan, Department of Marine Biosciences, Faculty of Marine Science, Tokyo University of Marine Science and Technology, 4-5-7 Konan, Minato-ku, Tokyo 108-8477, Japan. Fax: +81-3-5463-0684, e-mail: watanabe@s.kaiyodai.ac.jp.





Recent Publications...

Decapod Crustaceans from Hydrothermal Vents and Cold Seeps

Martin, J. W., and T. A. Haney. 2005. Decapod crustaceans from hydrothermal vents and cold seeps: An update through 2005. *Zoological Journal of the Linnean Society* 145 (4): 445-522.

The compilation, which includes more than 125 species in 33 families, also includes tables of all known species at all known vent sites and information on the location(s) of all known specimens through the year 2005. The paper is available as a pdf (along with most of Jody's other publications) at the following web site:

<http://crustacea.nhm.org/people/martin/publications/>



Milwaukee Public Museum *Insight* publishes on West Indian Oniscidea

Insight is an online Milwaukee Public Museum sponsored academic publication that publishes peer-reviewed papers in biology and geology. Its aim is to make scholarly articles widely available.

The most recent title in this series is "Terrestrial Isopods (Crustacea: Isopoda: Oniscidea) of the West Indies" by Joan Jass and Barbara Klausmeier, a summary of distribution data for 116 Recent terrestrial isopod species reported from the West Indies. Publications with diagnostic illustrations are cited and island checklists are generated based on records in the literature. *Insight, A Milwaukee Public Museum Series in Natural History*. No. 3, 36 p. <http://www.mpm.edu/collections/pubs/insight/pubs/TerrestrialIsopodsifWI.pdf>

Submission of manuscripts to *Insight* is welcomed. Authors may use high-quality illustrations, both in black and white and in color, and may include supplementary materials such as phylogenetic data matrices, and geographic databases used in research. If desired, articles may be accompanied by links to the author's home pages. See Author Instructions on the web under *Insight* Home. Publications in *Insight* are under an open access Creative Commons License.



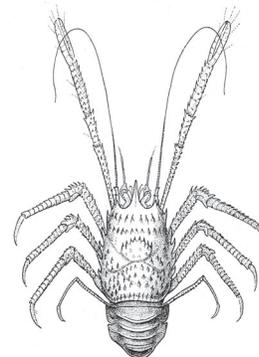
DVD - A nest of water: the caring crabs of Jamaica; by Rudolf Diesel, published by IWF (www.iwf.de)

Review submitted by Martin Thiel

I just had the chance to watch a wonderful new video on Jamaican crabs. In a 43 minute long video, Rudi Diesel, who has studied these crabs for over 15 years now, retraces the evolution of terrestrial life in these crabs. In 7 subchapters he presents an overview of the principal steps during the evolution of the Jamaican crabs. Many of you probably have already read about these crabs and their reproductive behaviors in the papers by Diesel and his collaborators. Now you have the chance to see them in real-life scenes in this video. Beautiful sequences of snail species breeding in rock-pools, snail-shells, bromeliads are shown in this video. In each subchapter the author relates in easily understandable terms the most important life history adaptations of these crabs. Most fascinating are the descriptions of the extraordinary parental care behaviors exhibited by the females of some of these species.

This DVD also can be a very valuable educational resource, and I actually plan to use it in the future in both my classes in invertebrate zoology and in behavioral ecology. The video is distributed by the IWF Goettingen (www.iwf.de) and info can be obtained at vertrieb@iwf.de - with a price of €56 the DVD is a bit expensive, but it is well worth its money. Given that it can also be used in invertebrate zoology classes or labs, you may be able to convince your librarians or department heads to support the acquisition of this DVD. I can highly recommend this interesting DVD, which provides an extensive and vivid overview on the evolution of parental care behaviors of the Jamaican crabs.

Martin Thiel
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Larrondo 1281
Coquimbo, Chile
email: thiel@





Upcoming Publications...

The Crustacea, revised and updated from the Traité de Zoologie, Volume 2

Edited by J. Forest and J.C. von Vaupel Klein. Advisory
Editor: F.R. Schram

Not yet published. Expected August 2006
See <http://www.brill.nl>
ISBN 90 04 13791 2, *Hardback* (500 pp.),
List price: EUR 195/US\$ 279

With this edition, access to the texts of the famous *Traité de Zoologie* is now available to a worldwide readership. Parts 1, 2, and 3A of volume VII, i.e., the Crustacea, were published in French in, respectively, 1994, 1996, and 1999. Brill recognized the importance of these books and arranged for a translation to be made. However, some of the manuscripts dated from the early 1980s and it was clear from the beginning that in many fields of biology a mere translation of the existing text would not suffice. Thus, all chapters have been carefully reviewed, either by the original authors or by newly attracted specialists, and adequate updates have been prepared accordingly.

This second volume of *The Crustacea, revised and updated from the Traité de Zoologie* contains chapters on:

- *The circulatory system
- *The digestive tract: anatomy, physiology, biochemistry
- *Osmoregulation: morphological, physiological, biochemical, hormonal and developmental aspects
- *The endocrine organs
- *The ontogeny of sex and sexual physiology
- *The origins of crustacean larvae.

Life and work of Dr. Johannes Govertus de Man (1850-1930)

Gerrit Karssen

Not yet published. Expected April 2006
See <http://www.brill.nl>
ISBN 90 04 14969 4
Hardback (70 pp.)
List price: EUR 70/US\$ 95

This book describes the life and work of Dr. Johannes Govertus de Man (1850-1930), a remarkable Dutch invertebrate zoologist. J.G. de Man worked on the systematics of both the Crustacea, in particular on Decapoda (i.e. crabs, crayfish, lobsters and shrimps), and the microscopically Nematoda or roundworms.

The biographic part describes his years of childhood and youth, student days and the time he was working at the National Museum of Natural History, Leiden, the Netherlands and the period after he resigned at the museum. Within appendices his publications, described Crustacea, Nematoda and other taxa, species named after de Man and the de Man archive is presented. A selection of his drawings and a CD-ROM with his 1884 Nematoda monography is included.



Lobsters: Biology, Management, Aquaculture and Fisheries

Edited by: Bruce Phillips (Department of Environmental Biology & Aquatic Science Research Unit, Curtin University of Technology, Perth, Australia)

See <http://www.blackwellpublishing.com>
ISBN: 1405126574

Not yet published. Expected USA: Aug 2006; rest of world: Jun 2006.

Lobsters are one of the most commercially important groups of animals harvested and farmed throughout the world. Bringing high prices on the market and the table, the results and yields of farmed species has seen continued growth. Under the Editorship of Bruce Phillips an international team of authors provide exhaustive coverage of these fascinating creatures, stretching from growth and development to management and conservation.

Fisheries scientists, aquaculture personnel, aquatic and invertebrate biologists, physiologists, ecologists, marine biologists and environmental biologists will all find this a vital source of reference. Libraries in universities and research establishments where biological and life sciences and fisheries and aquaculture are studied and taught will find it a valuable addition to their shelves.

US/Canada, \$224.99
Europe / Rest of World, £125.00
Australia / New Zealand, A\$383.00

Format

246 x 189 mm, 7.5 x 9.75 in

Details

528 pages, 178 illustrations.



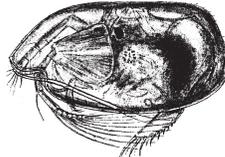
Recent Research and Publications...

A tabular key to the subclasses of Ostracoda and families of the subclass Myodocopa

<http://home.comcast.net/~fireflea2/OstracodeKeyindex.html>

It is hoped that this key will be helpful to researchers and encourage more identifications of ostracods. The format is somewhat limited, however, the key includes a list of papers helpful for further identifications. Comments are welcome.

Anne C. Cohen
Email: ancohen@comcast.net



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Recent Research: Biology and fishery of the deep-water shrimps *Aristaeomorpha foliacea* and *Aristeus antennatus*

Two species of Red shrimps, *Aristaeomorpha foliacea* and *Aristeus antennatus*, are commercially very important decapods in the deep waters of the Western and Central Mediterranean. However, they are almost unknown in the Eastern Mediterranean and only scarce data exist on their distribution and biology in the Greek waters. This research was the first systematic attempt in the Eastern Mediterranean to study the fisheries biology of the two species. Red shrimp species were found in important quantities in the Greek Ionian Sea, a hopeful sign for the development of a deep-water fishery in Greece.

In Greece, the commercial fishery is exercised mainly down to 400-500 m of depth. This is a result of the narrow continental shelf, the lack of experience of the professional fishers to fish in deep waters and their ignorance concerning the existence of commercially important deep-water resources. Taking into account the recommendations of the E.U. for reduction of the fishing effort and the low productivity of the Greek seas, the discovery of new fishing grounds and new resources could play an important role in the sustainability of all exploited Greek marine fishing resources. However, it should be taken into account that some of the deep-water resources are particularly sensitive to overexploitation.

The absence of fishing pressure in depths beyond 500 m in the Greek Ionian Sea, makes the red shrimp populations dwelling mainly at depths >400 m an unexploited resource. Certain biological characteristics of the species, i.e. the growth, carapace length by sex, sex ratio, as well as the low frequencies of young recruits and the time of recruitment do not seem to differ significantly, from other Mediterranean areas. The size structure of the populations in the study area consisted of a relatively higher percentage of large specimens in relation to other regions in the Mediterranean, reflecting the unexploited status of the populations. Based on the biology and population structure, the red shrimp stocks of the Greek Ionian Sea appear to have the potential to support a commercial fishery in the area. The results of the present work showed relatively high CPUE values of both species in relation to those that have been mentioned in other Mediterranean areas

Concerning the biological data, few differences exist between the populations of both species in the Eastern Mediterranean and the Central and Western part of the same basin. In the Greek Ionian Sea, the two species present a sexual dimorphism in carapace length and the body weight: in both species, females are larger and heavier than males. Also, the recruitment of the two species occurs in different periods.

The increased occurrence of adult and young individuals of *A. foliacea* in the shallower zone studied, where the trawl fishery could expand, makes this species more vulnerable than *A. antennatus*. The wider vertical distribution and the higher reproductive potential of *A. antennatus* render this species more resistant to the fishing pressure. Further studies related to stock identification, factors affecting distribution, larval ecology and the identification of the main predators could be very important in order to improve our knowledge regarding these significant species.

Kapiris Kostas, 2004. **Biology and fishery of deep-water shrimps *Aristaeomorpha foliacea* (Risso, 1827) and *Aristeus antennatus* (Risso, 1816) (Decapoda: Dendrobranchiata)**. Ph. D. Thesis, University of Athens.

Contact Dr. Kapiris Kostas for more information:
Hellenic Centre for Marine Research, Institute of Marine Biological Resources,
Aghios Kosmas- Hellinikon, 166 04, Athens, Greece
Email: kkapir@ncmr.gr, or kkapir@ath.hcmr.gr



The Crustacean Society



T-shirt Order Form

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NB: We are planning to order more small and medium T shirts this fall, but currently have none in stock.

HAT (navy only): TCS members: US \$3 Non-members: US \$6

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Send checks made out to The Crustacean Society. If paying by VISA or Mastercard, include card number, expiration date, type of card, and please sign the form. Other cards are not accepted.

Card details:

Send orders to: Dr. Jeffrey Shields, POB 1346, VIMS, Gloucester Point, VA 23062, USA



Denton Belk Memorial 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 (dbelk@texas.net), phone (210-224-7743) or fax (210-222-0360).