



The Ecdysiast

Newsletter of The Crustacean Society

Message from the President...

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Hearty greetings to all TCS members! I'm excited to be writing to you for the first time as incoming President, and I thank you all for your support as we continue to spread the word on all things Crustacea. To be incoming implies also an outgoing President, so I here's a very big thank you to Past President, Chris Tudge, who has capably led TCS for the past two years. Chris and the finance committee have seen TCS through a number of important major changes, such as our transition of our *Journal of Crustacean Biology* from Allen Press to Brill, and stabilization of our finances, brought to a tumultuous head by the GFC. We are not out of the woods yet, but we now have a much clearer picture of the path before us. Thank you Chris.

You will notice we have a new editor of the *Ecdysiast*, Sarah Gerken – welcome Sarah! Sarah takes over from Diego Maruzzo, editor of the *Ecdysiast* for the past five years. On behalf of TCS, I thank Diego for his excellent work and very important contribution to TCS. In other changes, congratulations go to the TCS officers newly elected or returned in the last Board Elections: Brian Tsukimura (President Elect), Shirley Lim (Asian Governor), Ingo Wehrtmann (Latin American Governor), Chris Boyko (Program Officer), and John Zardus (SICB Liaison Officer). We also welcome Jason Williams as Treasurer (formerly North American Governor and now filling the seat vacated by Brian Tsukimura), and Christopher Rogers as North American Governor (replacing Jason Williams' former role).

We still have more to do, and no doubt more changes to TCS are in store with the changing climate (excuse the pun) in the way research is done and communicated, the way professional societies are organized, and shifting patterns of membership. Science is increasingly communicated across all types of media, not just print, and models of publication are becoming more diverse. Membership of many professional societies is also shifting from specialist to generalist societies. None of this is news of course, but the question is what does it mean for TCS? An obvious issue is declining membership as our demographics changes - what do we do about it?

continued.....



Change is the theme of the day and how we adapt will be the key to our future as a professional society. Part of this means regularly evaluating how and why we do things, and how they could be improved. To this end, we are 'commissioning' a group (across a wide cross-section) to look into the future of TCS, to ask where do we want to be in the next decade and how do we get there? Obviously, this must involve students and early career researchers as the future backbone of the society, but also more seasoned members who can help traverse familiar territory and steer away from old barren ground. I hope to be able to report back in the near future.

In the meantime, there are a couple of things we all can do.

First, if you have any ideas or thoughts on how to improve TCS or on possible fruitful new directions the society ought to explore, please contact me, your Regional Governor or any other member of the TCS Board. Remember, this is your society, so do speak up. We always want to be strengthening the ways we can foster and encourage carcinology and carcinologists.

Second, there are many crustaceophiles out there who are not yet part of TCS. Do you know of potential members who we aren't reaching? Maybe they're not aware of us, or maybe nobody has asked them. Consider how you became a member – I'm guessing for most of us, it was probably through a colleague. If everyone in TCS invited a colleague or student to join, we'd surely see growth. And, apart from great colleagues, benefits of membership include free publication in the *Journal of Crustacean Biology* and opportunities for student fellowships.

We are living in interesting but potentially exciting times – let's make it so!

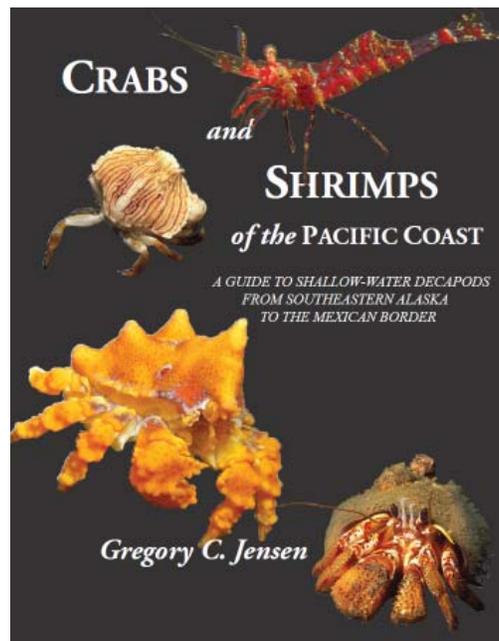
Cheers,
Shane



Crabs and Shrimps of the Pacific Coast: A Guide to Shallow-water Decapods from Southeastern Alaska to the Mexican Border. Gregory C. Jensen

This greatly expanded and updated version of "Pacific Coast Crabs and Shrimps" (Sea Challengers, 1995) is a combination book/e-book, now covering every shallow-water species of crab and shrimp found from the Aleutian Islands to the Mexican border. Nearly 300 species are included, in full color. This is the ideal guide for the beginner and the professional alike, offering a user-friendly introduction to these fascinating animals while also providing the detailed references and other resources needed by those specializing in the field. The unique print/e-book format allows readers to choose their own level, whether browsing the hundreds of photos that show the beautiful colors and interesting shapes of the varied species, or trying to identify the most challenging specimens under a laboratory microscope.

The print book includes numerous (and often humorous) sidebars covering all sorts of topics, from interesting tidbits on the behavior or biology of the animals to historical vignettes. The accompanying cd contains all of the species profiles in a convenient pdf, so it can be put on a phone or tablet to take anywhere. Every piece of information in the pdf is hyperlinked to the full reference (2,600 links), while hundreds of other links connect to additional photos that show particular features, comparisons to similar species, and even short video clips showing various behaviors. Interactive keys to many of the groups are also provided, including both a color key for identifying live hermit crabs and a separate one for preserved specimens that have lost their color.





The Crustacean Society Board Members, 2014

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The Ecdysiast is published twice yearly in May and November and it is available in electronic form at http://www.thecrustaceansociety.org/Ecdysiast_Newsletter.html. 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.

Send all material directly to the editor:

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The Crustacean Society Board Members, 2014

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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.

When you are sure about your text, manuscripts then can be submitted on line through the new link: www.editorialmanager.com/jcb.



JCB Editorial Report for volume 33 (2013)

Here is the report for the JCB publication year just concluded: volume 33 (2013), the burgundy red volume. The New Year brings in a new color – peach.

We have processed 156 submissions this past 12 months, two more than last year – looks like we are at a plateau, although we might get a few more by the end of the year. Our Impact Factor was flat, just under 1 this year. When a submission is received in the editorial office, I take on average 0.8 days to assign an Associate Editor. The AEs take on average some 6.8 days to assign reviewers. On average submission to first decision by the General Editor takes 33 days.

Other statistics that might be of interest. Of submissions with completed reviews: 5% had immediate acceptance, 36.2% required major revisions, 41.2% required minor revisions, 0.5% were adjudged to be out-of-scope, and 34% were recommended for rejection. The average turnaround time by the authors after receiving their reviews is 61 days.

Our rejection rate was 46.6% in 2013, 35% outright rejected and 11.6% sent back as ‘out-of-scope.’ Differences with the immediately above numbers are related to decisions the GE makes before ever deciding to send things on to an AE.

Volume 33 contains 905 pages (including the ToC for the whole volume. We published 1002 pages in 2012, slightly above our budgeted contractual allotment (900 pages), but that was due to the need to accommodate manuscripts coming over from the old AllenTrack site (Brill allowed that with no extra cost to TCS).

All our problems with online access to the entire JCB catalog on the Brill platform were solved this summer. For the first time, all of the papers since vol. 1(1): 1 to the present are now available in one place. In addition, several other sites have agreements with Brill to continue featuring JCB, such as JSTOR (after a 5-year embargo) and Ebsco (2-year embargo). In general, Brill is very pleased with how well JCB is doing, its income having exceeded projections. They have asked us to consider going to 8 issues, which would help their marketing (and our income). We will not do this in 2014, but it is likely we will do this beginning in 2015.

The subject spread of the 88 published pieces in volume 33 was:

	2010	2011	2012	2013
Review			1	2
Special Sections		5	4	3
Anatomy & Func Morph.	4	10	8	3
Aquaculture			1	8
Behavior	1	6	5	2
Ecology	18	24	19	23
Larvae & Development	7	7	6	4
Paleobiology	5	3	6	2
Physiology	6	1	10	6
Population Biol & Genomics	8	5	5	5
Systematics, Evol. & Biog.	6	10	9	8
Taxonomy	13	5	13	7
Conservation	3	0	1	4
Short Communications	7	5	6	5
Book Reviews	2	3	4	6
Total	80	84	98	88

Oddly, we had 10 fewer papers this year than last. This was due to two factors: fewer total pages in the 6 issues, more meaty submissions resulting in some longer papers.

Our switch back to considering papers in Aquaculture and Fisheries has proven successful with 8 publications this year. It will bear watching in the coming years, but so far the articles are directed at matters dealing with basic biology, which is as we hoped.

Our tally of author origins indicates a stronger presence from the USA. A few other countries had notable increases such as Brazil, Costa Rica, Italy, Korea, and the PRC. Some new countries appear in the submissions, viz., Czech Rep. and Slovakia, but other nations remain low or dropped out entirely this year. Some of these are difficult to explain such as Denmark and France, which have strong carcinological communities, but these communities do publish widely elsewhere.



JCB Editorial Report for volume 33 (2013)

	2010	2011	2012	2013
Argentina	4	8	24	10
Australia	3	6	13	2
Austria	1			
Belgium	2	3		3
Bolivia		1		
Brazil	15	13	28	32
Canada	5	11	4	6
Chile		12	13	4
Costa Rica	1	2	2	5
Czech Republic			1	
Denmark		1	2	1
Egypt	2			
France	2	4	5	
Germany	3	10	17	14
Iceland	1	2		
India	5	3	4	1
Indonesia		1		
Iran	2			
Ireland	1			
Israel	1			1
Italy	3			12
Japan	14	31	27	5
Korea	2	3	7	22
Malaysia	1			
Mexico	6	5	21	7
Netherlands			1	1
New Zealand	1	2		6
Norway	1	1		1
Pakistan	1	1		
Panama			2	
Paraguay			3	
PR China	13	14		24
R China	6	10	9	2
Poland	1			
Portugal			4	4
Puerto Rico	1			
Russia			2	1
Serbia			2	
Singapore	2	4	3	
Slovakia				1
Slovenia		1		
South Africa		1	2	4
Spain	4	6	14	10
Sweden	1		3	
Tahiti			1	1
Thailand	2	3	4	2
UK	3	8	11	4
USA	46	70	74	99
Venezuela	1			

These data have me concerned. I ask myself, are we doing as well as we should in terms of encouraging and publishing high quality research on crustaceans and other aquatic arthropods in our journal. As TCS members attend various international meetings, they should encourage the authors of papers and posters they think especially noteworthy to consider submitting to JCB.

The big movement in the internet world is the emerging prominence of "The Cloud," i.e., independently maintained databases. The most prominent of these of course is GeneBank. Others, however, are coming on line: ZooBank, MorphBank, MorphoBank, Pangaea, as well as many, many more. The ultimate goal in these platforms is to facilitate data mining and e-science. Worthy as these goals are, nonetheless, there are issues that remain to be resolved. The most prominent is finding mutually agreeable standards for how data should be coded and uploaded. I am asking our board of Associate Editors to help me consider ways in which JCB might, or might not, utilize these, i.e., encouraging our authors to interact with these platforms. True, we already have available to our authors the opportunity to upload supplemental data and other materials onto the Brill platform. I am not sure whether we editors, and our authors, are using this capacity as effectively as they could; we will examine this as well. The goal in this would perhaps result in smaller papers in JCB, but ones that are more 'pithy.'

I sadly have to acknowledge that this year we lost one of our Associate Editors, Francesca Gherardi, who had served the journal for many years with her expertise in behavior, invasive species, and crayfish biology. For those of us who knew Francesca personally this was sad news indeed, especially because she had been a participant in the San Francisco SICB meeting. My other Associate Editors must also be thanked for their volunteer service: Shane Ahyong, Antonio Baeza, Ray Bauer, Keith Crandall, Mark Grygier, Magnus Johnson, Won Kim, Rafa Lemaitre, Christopher Rogers, Bernard Sainte-Marie, Gerhard Scholtz, Patrick Sorgeloos, Gilbert van Stappen, Brad Stevens, Martin Thiel, and Roger Thoma. Shane Ahyong and Roger Thoma will be stepping down from the board this year. I continue to say to one and all that their efforts are responsible for the quality of our journal.

Respectfully submitted,

Frederick R. Schram
General Editor, JCB



Treasurer Report for Fiscal Year 2013

I am happy to act as interim TCS treasurer, replacing President-Elect Brian Tsukimura until the next election in December 2014. Brian's excellent guidance of TCS finances has allowed the society to balance the books in difficult times. The service of previous TCS treasurers should also be acknowledged: Denton Belk (1980-1996), Alan Harvey (1997-2002), and Mary Belk (2003-2011), the latter of which continues her vital work as Executive Director of TCS. I thank Brian and Mary for their help during my transition into this position.

As of April 2014, there were 380 members in TCS. In 2013 TCS had a surplus of ~11.5K, compared to a loss of ~31K in 2012 (see Financial Standing Statements below). However, we still have to carefully manage money (see Profit and Loss Statement for 2014 below) and monitor how finances change based on our partnership with Brill. The Finance Committee will continue to look for ways where costs can be cut, but the society is running pretty lean at this point (there are not many places where things can be cut from the budget). Hopefully we can grow membership and income from JCB will remain strong so that the society can maintain good financial standing. We ask all members to do their part in recruitment and if anyone has ideas on improving membership or raising additional funds for TCS, we encourage you to let us know.

Jason Williams

Financial Standing Dec. 31, 2013 for The Crustacean Society

	2013	2012
Charles Schwab Acct Total	498,892.85	377,361.71
US Bank / 2012 Chase Bank	0.00	3.87
Wells Fargo Savings	25,529.22	8,510.44
Wells Fargo Checking	17,389.47	23,894.46
Wells Fargo CD	0.00	31,660.85
Douglas County BK CD's	0.00	36,793.58
Douglas County BK Checking	0.00	closed (0)
PayPal	2,272.00	3,026.89
Editor's office prepaid expenses	606.28	2,069.59
Treasurer's office prepaid expenses	0.00	0.00
Total TCS Funds	544,689.82	483,321.39

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.thecrustaceansociety.org>), indicating the amount (in U.S.U.S. Dollars) that you are willing to contribute on the appropriate line, and mailing the form to the Business Office at this address:

Business Office, The Crustacean Society
P.O. Box 1897, Lawrence, Kansas
66044- 8897 U.S.A.

For additional inquiries, please contact Mary Belk, TCS Executive Director, by email:
tcs1921@hotmail.com





Treasurer Report for Fiscal Year 2013

JCB Expenses	2013	2012
Editor's Stipend	15,000.00	15,000.00
Editor's Office	2,000.00	8,000.00
Allen Track	0.00	0.00
PDF files bought/Color Plates	3,000.00	7,200.00
Printing, Distribution	82,100.00	80,890.59
Shipping Charges/print issue charges for members	8,700.00	12,845.47
Silo Site	0.00	0.00
Total	110,840.40	123,936.06

Expenses paid	2013	2012
Dues/Refunds/adjustments	55.06	1,735.00
Other officer Travel	7,265.56	9,891.62
Society Operations/other	4,483.42	5,351.83
JCB total	110,840.40	123,936.06
Executive Director's Office	30,734.48	32,959.53
SICB Contribution	3,779.60	3,370.09
Awards	7,003.75	9,166.03
Summer Meeting(exp.&advances)	819.00	2,248.27
Banking Fees	2,674.64	4,040.17
Tax Preparation (within ED)	3,500.00	581.55
Website	458.95	2,333.74
<i>Total Expenses</i>	<i>168,114.86</i>	<i>195,613.89</i>

Income	2013	2012
Money from Meetings	0.00	0.00
Contributions	2,907.00	8,690.00
General Fund	977.00	8,455.00
Endowment Fund	0.00	0.00
Student Scholarship Fund	1,680.00	115.00
D Belk M Sch Fund	250.00	120.00
JCB	130,031.28	100,405.32
JSTOR	5,821.25	5,938.52
BioOne	45,422.00	43,823.00
Color Plates	6,300.00	5,250.00
Figures & handling fee	0.00	0.00
Page Charges	35,612.75	45,037.00
Revisions	0.00	140.00
Single Issue Sales	135.00	200.00
Submission fees	0.00	0.00
Shipping	17.25	16.80
Brill Sharing	36,723.03	0.00
Library Subscriptions	0.00	0.00
Membership Dues	39,835.00	55,150.00
Bank and CD interest	4,404.31	452.16
Refunds	2,054.91	135.00
<i>Total Income</i>	<i>179,523.32</i>	<i>164,832.48</i>
<i>Total Expenses</i>	<i>168,114.86</i>	<i>195,613.89</i>
Difference	11,408.86	-30,781.41



Crustacean Society Patron Members

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 Les Watling
 Jill Yager

Library cleanout!

Print issues from the journals listed below are available. I'd like to find a home for them rather than put them in recycling. I don't know if I can cover shipping costs -- it would depend on the destination. If interested, please contact Pam Jensen (Pam.Jensen@noaa.gov).

Journal of Aquatic Animal Health
 1989, Vol 1(1) through 1999, Vol 11(4)
 Approx. 40 journal volumes

Diseases of Aquatic Organisms
 *1986 Vol 1(1) through 1999, Vol 35(3);
 *1999 Vol 38(1) through 2003, Vol 56(3)
 Approx. 180 journal volumes
 *a few are missing

Journal of Invertebrate Pathology
 1965, Vol 7(3) through 1990, Vol 56(3)
 Approx. 130 journal volumes



IAA & CSJ Joint International Conference on Crustacea

Dear all crustacean biologists in the world,

Now the registration and abstract submission are open online!

Call for papers (oral and poster presentations)!

We are pleased to invite you to this international conference.

International Association of Astacology and Carcinological Society of Japan will hold the Joint International Conference on Crustacea on 20 and 21 September in Sapporo, Japan, this year. See the following for details.

http://2014.the-carcinological-society.jp/top_e

Registration and Abstract submission pages are now open online.

Papers (oral and poster presentations) are invited on any fields of crustacean biology as well as the symposium-related subjects.

Plenary Symposium: "Conservation and Biology of Freshwater Decapoda: A Global Overview"

This symposium is dedicated to the late Francesca Gherardi (University of Florence) who was the President of IAA. The symposium is organized by Neil Cumberlidge (Northern Michigan University) and Tadashi Kawai (Wakkanai Fisheries Institute, Japan).

Elena Tricarico (Università degli Studi di Firenze, Italy). Francesca Gherardi: Memories and her story.

Amir Sagi (Negev Ben Gurion University □ Israel): RNAi-based biotechnologies to control sexuality in crustaceans: environmental implications.

Paolo Veza (Universidad Politécnica de Valencia, Spain): Quantitative habitat models for the conservation of the endangered crayfish *Austropotamobius pallipes* complex.

Sérgio Bueno (University of São Paulo, Brazil). Remarkable anomurans: the family Aeglidae Dana, 1852

Neil Cumberlidge (Northern Michigan University, USA). Biology and the conservation of freshwater crabs.

<http://2014.the-carcinological-society.jp/symposium>

See you in Sapporo in September!

Organizing Committee, IAA & CSJ Joint International Conference on Crustacea:

Tadashi Kawai (Chair), Wakkanai Fisheries Institute, Japan.

Kazunori Tanaka, Hokkaido University.

Hiroyuki Yamada, Pacific Consultants, Co., Ltd.

Kousuke Ikeda, Pacific Consultants, Co., Ltd.

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International Association of Astacology

Carcinological Society of Japan

Cosponsor:

The Crustacean Society.

Respectfully submitted,

Akira Asakura (President, Carcinological Society of Japan; Past President, The Crustacean Society)



TCS Best Student Paper and Best Student Poster Awards SICB, Austin 2014

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 3-7, 2014, in Austin, TX. There were 17 high quality competitors. The Best Student Oral Presentation Award was presented to Suzanne Cox (University of Massachusetts, Amherst) for her talk entitled, “Does cavitation limit the speed of mantis shrimp?” (with co-author S. N. Patek). The Best Student Poster Award was presented to Evelyn Dickinson (Bowdoin College) for her poster entitled “Cardiac muscle in *Homarus americanus* responds differently to loading in transverse and longitudinal directions” (with co-authors A. S. Johnson, O. Ellers, and P. S. Dickinson). 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*. TCS thanks those members who served as judges and all student participants.

Christopher B. Boyko
Program Officer

Does cavitation limit the speed of mantis shrimp?
Cox, S. M., & S. N. Patek (University of Massachusetts, Amherst & Duke University, USA)
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With one of the fastest feeding strikes in the animal kingdom, mantis shrimp strike prey with a raptorial appendage that can reach velocities of 30 m/s with accelerations of 1×10^5 m/s² in water. Fast movement can lower local pressure causing cavitation bubbles that collapse and emit shockwaves powerful enough to erode holes in metal. Some mantis shrimp generate cavitation while using hammer-shaped appendages to smash hard-shelled prey. Cavitation bubbles form upon impact with their prey and may enhance prey processing. However, cavitation is rarely produced during the extremely fast rotation preceding impact, a time when cavitation bubble collapse would damage the exoskeleton and not provide benefits. Thus, mantis shrimp may have features that reduce cavitation during forward rotation, yet little is known about the conditions for cavitation formation in biological systems. Here we test whether mantis shrimp operate at an upper boundary of speeds that do not produce cavitation. We measured the maximum speeds for 7 individual *Odontodactylus scyllarus* striking under naturalistic conditions and noted cavitation presence before impact. In addition, *O. scyllarus* appendages (10 individuals) were

attached to a mechanical model of the mantis shrimp strike called ‘Ninjabot’ and rotated at and above animal strike speeds. When rotated at the same and higher speeds than in natural animal strikes, the appendages cavitated regularly. A stainless steel cylinder of same scale as *O. scyllarus* appendages rotated with Ninjabot also cavitated above, at and well below mantis shrimp maximum strike speeds. These results suggest that cavitation is difficult to avoid in these conditions and mantis shrimp may indeed be circumventing cavitation through shape and kinematics.

Cardiac muscle in Homarus americanus responds differently to loading in transverse and longitudinal directions
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Central pattern generators (CPGs) are neural networks that generate stereotyped outputs, which drive rhythmic behaviors. CPGs can be modulated by neurotransmitters and feedback systems; in *Homarus americanus*, the neurogenic heart is controlled by a CPG: the cardiac ganglion, which generates bursts of action potentials that drive cardiac contractions. There are over 80 different identified neurotransmitters in the lobster; however, the effects of the stretch feedback system on CPG are less well understood. Since the heart is naturally loaded in three dimensions by pressure, uniaxial and biaxial (longitudinal and transverse) stretches of 2.5 mm were imposed on the heart muscle to understand the effects of stretch in cardiac modulation. The active force (force of contraction) increased in response to both transverse and longitudinal uniaxial stretching; however, the increase in force of contraction was greatest under transverse loading. The passive forces increased in response to both transverse and longitudinal uniaxial stretching, but longitudinal loading resulted in the greatest increase. Transverse but not longitudinal uniaxial loading had a state-dependent effect on frequency. Biaxial loading increased both the force of contraction and the passive forces during stretch and additionally had a state-dependent effect on frequency. These initial results suggest that the different muscle characteristics in the longitudinal and transverse direction, in conjunction with the stretch that occurs during normal cardiac function, is important in determining overall contraction parameters in the heart. Supported by NSF Grant IOS-1121973, and NIH Grants 5P20RR016463-12 and 8P20GM103423-12.



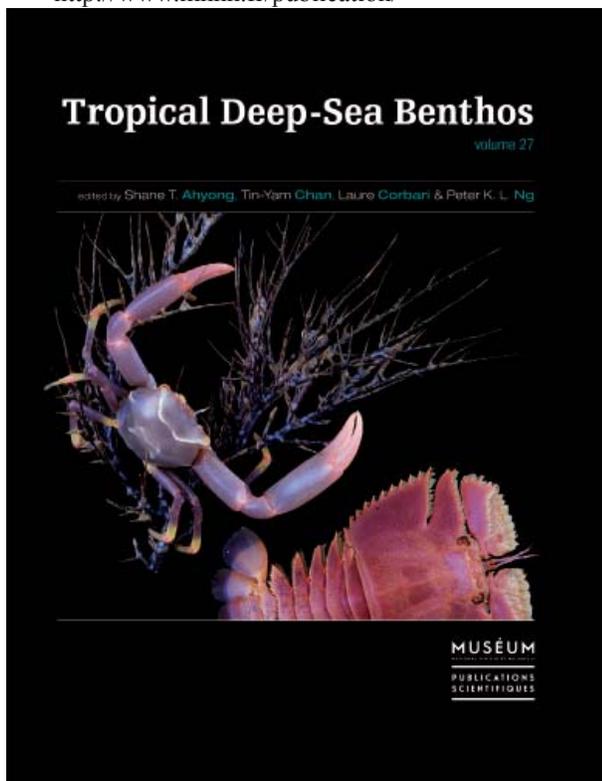
Tropical Deep-Sea Benthos, Vol. 27.

Ahyong, S.T., Chan, T.Y., Corbari, L. & P. K.L. Ng.

Mémoires du Muséum national d'Histoire naturelle 204. 501 pp.
Euro 99. ISBN 978-2-85653-692-6.

Tropical Deep-Sea Benthos, a continuation of Résultats des Campagnes MUSORSTOM, is a series dedicated to the inventory and description of the deep-sea fauna of the world, with special emphasis on the most extensive, yet remote and least explored, region — the Indo-West Pacific. The comprehensive series of marine expeditions undertaken by the French Muséum national d'Histoire naturelle and the Institut de Recherche pour le Développement (IRD) continue to collect many new, strange and sometimes colourful crustaceans. The present volume includes results from expeditions to the Philippines, Taiwan and for the first time results from recent expeditions off Mozambique, South Madagascar, and Papua New Guinea. Research on this expedition material rests on a worldwide network of carcinologists at the front line of taxonomic research. Indeed, the list of authors of Tropical Deep-Sea Benthos volume 27 reads like a “who’s who” of crustacean biodiversity research. Altogether, the volume comprises 14 contributions with descriptions and new occurrences for more than 200 species, of which 27 are new species, including cirripedes, stomatopods brachyurans, carideans, lobsters, squat lobsters, and hermit crabs. Many are illustrated by spectacular colour images of freshly caught specimens. Tropical Deep-Sea Benthos is available from:

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Atlas of Crustacean Larvae

eds. Joel W. Martin, Jørgen Olesen, and Jens T. Høeg

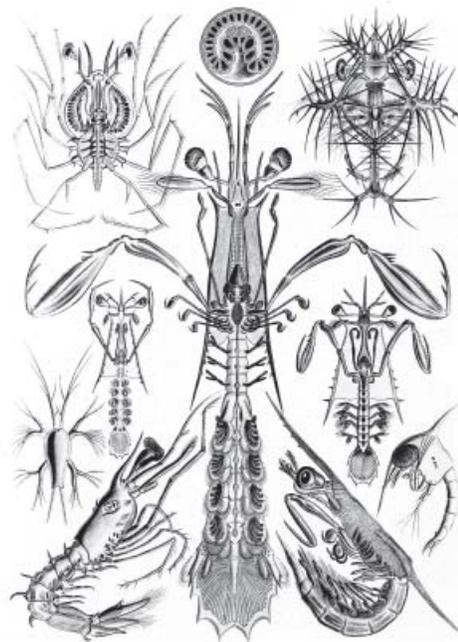
Johns Hopkins University Press.

In the Atlas of Crustacean Larvae, more than 45 of the world's leading crustacean researchers explain and illustrate the beauty and complexity of the many larval life stages. Revealing shapes that are reminiscent of aliens from other worlds—often with bizarre modifications for a planktonic life or for parasitization, including (in some cases) bulging eyes, enormous spines, and aids for flotation and swimming—the abundant illustrations and photographs show the detail of each morphological stage and allow for quick comparisons. The diversity is immediately apparent in the illustrations: spikes that deter predators occur on some larvae, while others bear unique specializations not seen elsewhere, and still others appear as miniature versions of the adults. Small differences in anatomy are shown to be suited to the behaviors and survival mechanisms of each species.

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ATLAS OF CRUSTACEAN LARVAE

EDITED BY Joel W. Martin, Jørgen Olesen & Jens T. Høeg



Minutes of the Crustacean Society

Present: Shane Ahyong, Mary Belk, Jens Hoeg, Fred Schram, Sherry Tamone, Brian Tsukimura, Chris Tudge, and John Zardus

President Chris Tudge opened the meeting at 5:30 pm and welcomed all present. He then moved directly to agenda items:

1. Mary Belk confirmed that TCS Schwab accounts have an appropriate level of security. Brian Tsukimura and Mary Belk presented 2013 budget documents including a summary for the business meeting and a comparison of our 2013 budget with 2013 actuals.
2. The 2014 Budget was presented, discussed and adjusted some. The scholarships were returned to \$1000 each instead of the proposed \$500 each.
3. Chris Tudge reported that he remains in contact with potential benefactor to discuss potential ways to assist TCS
4. Potential invited Bioscience article (by Ronald Jenner) to assist with TCS promotion was discussed. Would this be acceptable to current JCB publisher, Brill? TCS is waiting on input from Brill on this issue.
5. The issue of signing DORA was discussed. Shane Ahyong will be looking into this further and will be the one to sign if we do. All execs were charged with reading the DORA manifesto by January 30. And return comments to Shane.
6. Creation of an approximately five-member "future of TCS" committee was discussed. The board is keen to include a wide cross-section, but especially younger TCS members to explore what they want to see in the future for TCS and how to get there. Some names were suggested. The exec should all submit names to Shane Ahyong who will approach individuals.
7. The Program Officer needs to have a TCS symposium arranged for Portland SICB 2016 Meeting.
8. ICC 8 in Germany. On behalf of TCS, Shane Ahyong will contact the organizer, Michael Türkay, about adding TCS name and advertising (logo) to the website. Chris Tudge to contact Michael Türkay and get a second contact for the meeting.
9. English language services are still under discussion. TCS did not receive money last year.
10. Future meetings are under discussion. TCS will be meeting regularly with SICB and hold Board and Business meetings at SICB. Mid-year meetings are in Germany for 2014 and in Australia for 2015. After 2015 we need to decide on whether to hold mid-year meeting annually or biennially. This is partly dependent on membership numbers and interest.

11. 2013 TCS Board elections were held voting in Chris Boyko as Program Officer, John Zardus as SICB Liaison Officer, Shirley Lim as Asian Governor and Ingo Wehrtmann as Latin-American Governor. A special election will be held for President-Elect (following withdrawal of Bella Galil). Any potential new nominees for President-Elect to be forwarded immediately to Shane.
12. All changes to Constitution and By-Laws were accepted with a 99% vote.
13. TCS social media/web master? Mary is operating the current website and Facebook pages. Luana Lins has volunteered to assist on the social media effort. Shane Ahyong to contact Luana.
14. The Board is seeking a replacement for Jeff Shields for judging the Scholarship Applications. Several names were proposed, to be followed-up by Chris Tudge.
14. Ecdysiast editor of five years, Diego Maruzzo, has indicated the need to withdraw from the position. Potential replacement candidates were discussed, to be followed-up by Shane Ahyong. The TCS Board acknowledged Diego's service.
15. TCS will again seek support from Loligo Systems to fund the \$1000 Loligo Scholarship. A commitment was received from the Loligo representative at SICB. Mary Belk will coordinate.
16. TCS sent a small write up to the International Research Group on Ostracoda, which included information on ICC-8. The Contact is Dr. Finn Viehberg IRGO - chair

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17. The Board discussed the composition of the new Committee for the TCSERA. Also several names were mentioned as possible recipients and committee members. Chris Tudge is now the Chair of this Committee. Due to the close dates of the Frankfurt meeting TCS may skip this year. No decision has been made. Chris Tudge to solicit nominations immediately and also to assemble a 3 or 4 person committee to judge the nominations.

Meeting was adjourned at 9:30 pm by President Tudge.

Respectfully submitted,
 Chris Tudge