



The Ecdysiast

Newsletter of The Crustacean Society

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As I write, the days are getting longer and warmer, at least in my (southern hemisphere) part of the world. All very nice, having not long come off the European summer and a very successful ICC-8 hosted by Michael Türkay in Frankfurt, Germany. Michael was a gracious and tireless host, and on behalf of TCS, I thank him and his team for their fine efforts. As with all of our meetings, a highlight was seeing old friends and colleagues, and making new ones, especially students. The scientific program had something for everyone, from very focused to very broad, on all aspects of Crustacea, from reproductive physiology to deep-water biogeography, evolutionary morphology and even 3-D printing of crustaceans. The ICC-8 was a great success and a fitting tribute to Michael Türkay's long career with Crustacea.

As mentioned in the last Ecdysiast, we are examining how we can best adapt to changing times and better serve our membership. The Future of TCS Committee, chaired by Neil Cumberlidge has been launched and will report back in a year with proposals for the longer term. We look forward to their findings. In the meantime, we've moved on some more immediate improvements. First, the website. Our current website, although functional, is greatly limited by its architecture. It has served us well by being very economical to set-up and operate, but its technical limitations make it quite inflexible and constrain the range of functions it can serve. These limitations will rapidly become more significant in the future as technology changes. Thus, we've commissioned designers to completely rework our website to provide flexibility and functionality into the future. Second, student travel. A important function of TCS is to bring people together and facilitate meetings of minds. What better place is there for this than our TCS meetings? Funding for conferences is always a challenge for students, so in the new year, we'll launch additional travel grants to enable more students to attend TCS meetings. Conferences remain a very important part of making us who we are at TCS, so we want as many to be able to attend as possible.

continued.....



While on the topic of conferences, our next TCS meeting is almost on us, this coming January as part of the Society for Integrative and Comparative Biology Annual Meeting in West Palm Beach, Florida, where we are sponsoring a Symposium “Breaking boundaries for evolutionary synthesis: an interactive, and integrative symposium linking crustacean and insect physiology”. In contrast to our mid-year meetings, SICB meetings are very large and bring together a whole range of workers from across biology (and sometimes outside as well). Don’t let the size and scale put you off. You’ll find people from a host of different fields most of whom don’t even work with crustaceans, which, paradoxically, are very good reasons to check out SICB. Its strongly multidisciplinary scope makes the SICB meeting an ideal venue to see established ideas applied in new ways and new ideas yet to reach full potential. Here is a great source of new angles for your research programs, new tools and methods, and a great way to meet new collaborators and students. It will help take your work in new directions. Who knows, you might even convince some hardcore vertebrate workers that there’s more to lobster than just the eating! I hope to see many of you there flying the crustacean flag.

Last, be sure to vote in this year’s board elections, for which the positions of Secretary, Treasurer, European Governor, North American Governor, and Indo Pacific Governor are open.

For all members attending the SICB Meeting in West Palm Beach in January!

We will be running another silent auction of crustacean and related curios, souvenirs and memorabilia at the SICB meeting. Remember those old crusty items you no longer need/want but were too good to throw away. Someone else is bound to want them. Please bring them to the TCS booth at SICB or mail them ahead of time to Mary Belk (tcs1938@yahoo.com). All proceeds will go towards TCS student support.

Cheers,
Shane Ahyong
(TCS President)

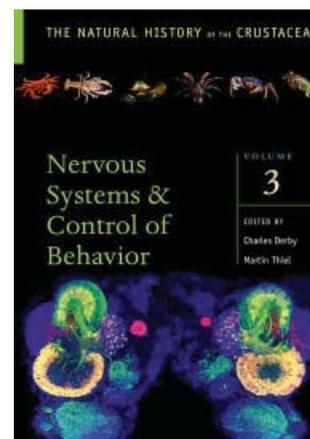


The Natural History of the Crustacea, Volume 3: Nervous Systems and Control of Behavior by Charles Derby and Martin Thiel

Nervous Systems and Control of Behavior is the third volume of the series *The Natural History of the Crustacea*. This volume is on the functional organization of crustacean nervous systems, and how those nervous systems produce behavior. It complements other volumes on related topics of feeding biology, reproductive biology, endocrine systems, and behavioral ecology. There is a rich history of the study of the neurobiology of crustaceans, going back over 150 years. This has included studies on how their nervous systems allow them to perform behaviors that are adapted to their particular environments, as well as studying them as model organisms to understand basic biomedical principles about neural function, such as sensory transduction and processing, synaptic transmission and integration, neuromodulation, and learning and memory.

The volume has three sections that build progressively on each other. The first section is on the basic organizational features of the crustacean nervous system and the principles upon which it is built. The second section is on sensory ecology - the organization of each sensory system and how it is used in intra- and interspecific interactions, within an ecological context. The third section uses case studies of how crustacean nervous systems are organized to perform complex behaviors and interactions, such as walking, escape, social interactions, and memory and learning. Taken together, the 20 chapters synthesize our modern understanding of the neural control of behavior in crustaceans, based on the most recent technologies in physiological recording, molecular biology, and computational science. This volume will be useful to students and researchers as a concise summary of current knowledge of crustacean neuroscience.

Oxford University press is offering a 30% discount if you use the **PROMO code 33275**.





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.



Treasurer's Report

Members of the Financial Committee (President Ah-yong, President-elect Tsukimura and Treasurer Williams) met at the TCS summer meeting Frankfurt and discussed several issues that were then covered by all members during a Financial Committee meeting on 25 September 2104. At that time, the committee voted on two measures that would enhance benefits to TCS members. Specifically, TCS will be providing \$4500 to support student travel to TCS meetings and TCS will be hiring a company to overhaul the society's website. President-elect Tsukimura agreed to be in charge of overseeing the new website construction. The protocol for student applications for travel support will be developed in the upcoming months by Program Officer Boyko and a committee of regional governors. In addition, the Financial Committee voted to support two symposia that were proposed and have now been accepted for the 2016 SICB meeting in Portland, OR: "Tapping the Power of Crustacean Transcriptomes to Address Grand Challenges in Comparative Biology" by Donald Mykles, Karen Burnett, David Durica, and Jonathon Stillman and "Parasites and Pests in Motion: Biology, Biodiversity and Climate Change" by Christopher Boyko and Jason Williams. The Mykles et al. symposium was granted \$2000 by TCS and the Boyko & Williams symposium was granted \$1000 in support. Finally, the Financial Committee discussed other monetary issues, including ways to reduce JCB production costs (such as examining other typesetters under Brill). Currently the Financial Committee is working on the 2015 budget. The additional costs (student support, website construction) and losses (reduced income from Brill owing to interest rate fluctuations) will likely put the society at a loss and this difference will have to be covered with TCS Schwab account earnings.



Society for Integrative and Comparative Biology Annual Meeting, joint with TCS

The joint meeting with SICB will be held January 3-7, 2015 in West Palm Beach, Florida.
<http://www.sicb.org/meetings/2015/>

A symposium that will be of interest to TCS members is "Breaking Boundaries for Evolutionary Synthesis: An Interactive, and Integrative Symposium Linking Crustacean and Insect Physiology" organized by Sherry Tamone and Jon Harrison.
<http://www.sicb.org/meetings/2015/symposia/index.php>.

Also, come hear talks and view posters from 18 students competing for the Best TCS Student Presentation award. And join in a joint social with the American Microscopical Society and the divisions of Invertebrate Zoology and Evolutionary Developmental Biology on Monday, January 5 from 8:30 – 11 pm at the Convention Center.

For those attending the meeting it will be useful to know that the designated conference hotel is the West Palm Beach Marriott (1001 Okeechobee Blvd.) but the meetings will not be held there. Daily sessions, socials, and auxiliary meetings will be held at the nearby Palm Beach County Convention Center (650 Okeechobee Blvd.), about a 5 or 10 minute walk away. Some nights for the Marriott are already sold out but several overflow hotels have been made available at similar rates. The Downtown West Palm Beach Hyatt (295 Lakeview Ave.) is the next nearest hotel to the convention center. The Marriott is a little closer to the convention center but the Hyatt is closer to restaurants and shopping and overall may be even more convenient.





TCS Election Slate

Candidate Statements

Treasurer

Incumbent

Dr. Jason Williams – Full Professor at Hofstra University, New York

Secretary

Incumbent

Dr. Ole Sten Möller – University of Rostok, Germany

Dr. Benny K.K. Chan – Tenured Associate Professor in Academia Sinica, Taiwan

European Governor

Dr. Henrick Glenner - Full professor in organismal biology at the University of Bergen, Norway

Dr. Enrique Macpherson – Research Professor at the Center for Advanced Studies, Blanes, Spain (CE-AB-CSIC)

Indo-Pacific Governor

Dr. Claudia Arango – Research Manager, Griffith University, Brisbane, Australia

Honorary Research Fellow, Queensland Museum, Brisbane

Research Associate, American Museum of Natural History, NY

Dr. Karen Schnabel – Collections Manager, National Institute of Water Atmospheric Research, Wellington, New Zealand

North American Governor

Dr. Sarah Gerken – Full Professor in Biological Sciences, University of Alaska, Anchorage

Incumbent

D. Christopher Rogers – Invertebrate Zoologist, The University of Kansas, Kansas Biological Survey, and, The Biodiversity Institute, Lawrence, KS, USA

Treasurer

Dr. Jason Williams

From May 2011 until March 2014, I served as the North American Governor for The Crustacean Society. Since that time I have acted as interim TCS treasurer, replacing President-Elect Brian Tsukimura. I am happy to be considered for continuing in the role of Treasurer and working with the TCS Finance Committee. TCS faces many challenges but I hope to help the TCS Board in strengthening the society over the next decade. During my time as North American Governor and as Treasurer, I regularly attended TCS meetings and helped promote the society. I would enjoy the opportunity to continue this work and expand the reach of the society, especially with a new generation of students. My studies on crustaceans began as an undergraduate at Franklin and Marshall College. Afterwards I went to the University of Rhode Island, earning a M.S. in Zoology and a Ph.D. in Biological Sciences. I am currently a Full Professor at Hofstra University and my research focuses on the symbioses between crustacean hosts (mainly hermit crabs) and their symbionts such as boring barnacles and parasitic isopods. I have published over 40 peer-reviewed papers on these topics and was awarded the Douglas Nolan Award for academic achievement in the sciences (University of Rhode Island) and the Lawrence A. Stessin Prize for outstanding scholarly publication (Hofstra University). My work has been funded by the National Science Foundation, the National Oceanic and Atmospheric Administration, the Sigma-Xi Scientific Society, and the Lerner-Gray Fund for Marine Research.





Candidate Statements

Secretary

Dr. Ole Sten Möller

The last four years, I have had the honor and privilege to serve as the Secretary of TCS. Having done my master's thesis in the renowned lab of Prof. Jens T. Høeg (Former TCS President), I was introduced to the Society at a very early stage. When I was asked to step in as Secretary, I did not hesitate for long. I see it as my primary objective to continue the mission started by Past-President Chris Tudge, of turning our Society into the main hub and scientific network for all researchers of any field of carcinology, while strongly promoting the students and young researchers of our field. During my time as Secretary, I have been attending all the meetings my budget has allowed, which included every ICC held in the period. Chris Tudge started TCS onto the path towards a new and improved on-line presence, and admittedly, we are not there yet, but I have strongly supported this. I have been the main driving force behind TCS' move from paper-based to on-line polls and questionnaires, and co-instigated the new "liason officers" initiative. During my period as Secretary, the Board has also increased the focus on recruiting new student members and generally trying to improve the value of TCS in particular to students and younger researchers. I have always seen it as one of my most important roles to act as a connector between more experienced researchers and the young students, and will continue to do so.

I consider myself a modern evolutionary morphologist, and my carcinology research interests stretch from my "old love" the Branchiopoda, over the fantastic Rhizocephala, but with a main focus on Branchiura and parasitic Copepoda.



Secretary

Dr. Benny K.K. Chan

I am a barnacle taxonomist and ecologist and have > 15 years research experience in the field of barnacle biology. I would like to contribute myself as the Secretary position in the TCS and involve in the administrative affairs and to keep the TCS activities running in an active and continuous manner.





Candidate Statements

European Governor

Dr. Henrick Glenner

Research profile: My special expertise is within barnacle phylogeny (mostly the parasites), taxonomy, morphology and life cycle biology. Despite the fact that my research, as a starting point, addresses questions originating in the classical morphology, the answers I look for rely on a multidisciplinary approach.

Objectives as a European governor of The Crustacean Society: As European governor for the crustacean society my focus would be to strengthen cooperation between European carcinologists. Crustacean taxonomy is a declining discipline, despite intense public attention on anthropogenic influences and effects of a rapidly changing climate on the biodiversity. Experienced crustacean taxonomists are retiring and there is a great need for a supportive network of especially younger European crustacean taxonomist researchers. The establishment of such a network would be my major goal as European governor. The existence of the network would increase the visibility of European taxonomists and facilitate cooperation both with carcinologists from other parts of the world and other research fields not exclusively confined to carcinology.



European Governor

Dr. Enrique Macpherson

Dr. Macpherson has been working on fish management, fish ecology, including population genetics, as well as taxonomy, phylogeny and biogeography of crustacean decapods. He has coordinated some projects related with fish conservation, mostly on settlement and mortality patterns in protected and unprotected areas. Author of more than 200 international papers.



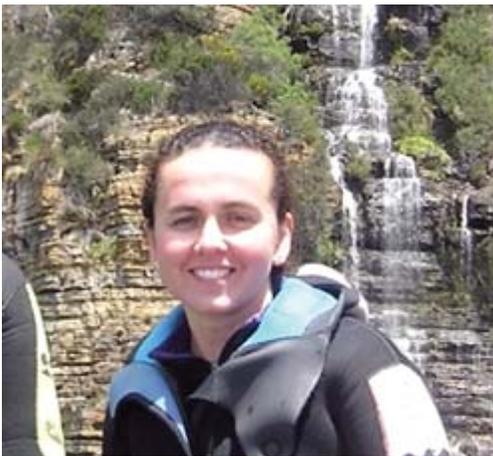


Candidate Statements

Indo-Pacific Governor

Dr. Claudia Arango

Claudia is one of the few world specialists in sea spiders or pycnogonids and has been working on Australian fauna since 1998. Claudia was awarded a PhD in Zoology and Marine Biology from James Cook University with a dissertation on phylogenetics and taxonomy of pycnogonids from the Great Barrier Reef. She received a two-year Lerner Gray Fellowship from the American Museum of Natural History External in New York to work on the molecular and morphological systematics of sea spiders, their internal phylogeny and to provide data to understand their position in the arthropod Tree of Life. In 2005, Claudia returned to Australia as a Research Fellow at the Australian Museum first and then at the Queensland Museum, to work on documenting the diversity of Australian pycnogonids. Through her research, Claudia has sampled diverse marine habitats and has described many new species of sea spiders with many more to be processed. The Australian Antarctic Territory harbours an incredible diversity of sea spiders and Claudia has recently led a research project with an international team of researchers studying the diversification and evolution of sea spiders in Antarctica.



Indo-Pacific Governor

Dr. Kareen Schnabel

I have been the Collection Manager of the National Institute of Water and Atmospheric Research (NIWA) Invertebrate Collection in Wellington for 9 years where I primarily support science across all invertebrate phyla. However, my heart lies with the decapods and my research focuses on squat lobster taxonomy, biogeography and phylogeny.

I seek the position as Indo-Pacific governor. To echo the words of TCS president Shane Ahyong, societies still fulfil an important function for us as researchers, and for the young scientists coming into the field. Meeting face-to-face at conferences is still the best way for scientific exchange and being able to put a face to a name makes it easier to share news, highlight issues or ask questions. The governors are the conduits between the local community and the TCS board and I am all for communication and flow of information in both directions. My door and mail box are always open and I look forward to becoming more engaged with the members of The Crustacean Society.





Candidate Statements

North American Governor

Dr. Sarah Gerken

I have been interested in crustaceans since my undergraduate degree in marine biology, which included courses in invertebrates, intertidal organisms and kelp forest ecology at UC Santa Cruz, in the wonderfully diverse marine environment of Monterey Bay. My master's thesis was on the population ecology of a species of *Nebalia* (now *N. gerkenae* Haney & Martin 2000), and my PhD dissertation was on the systematics of the cumacean family Gynodiastylidae. An enduring research focus for me is the crustacean order Cumacea, particularly around Australia/ New Zealand and the North Atlantic. I serve as the associate editor for Cumacea from Zootaxa and WoRMS. I have been a member of TCS since 1997, and have recently become the editor of the Ecdysiast.



North American Governor

D. Christopher Rogers

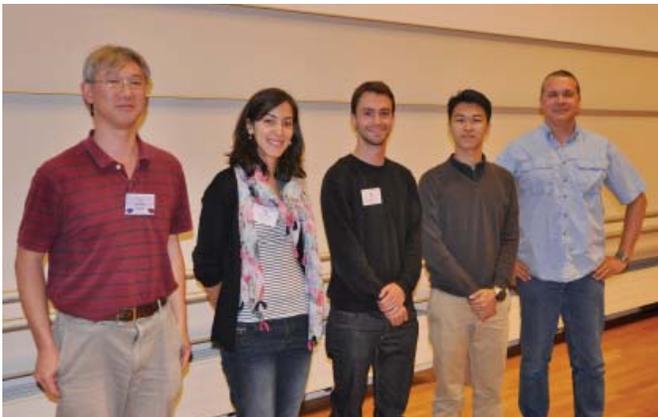
D. Christopher Rogers is completing a Ph.D. in crustacean biogeography and evolution at the University of New England, NSW, Australia, and is employed as a research invertebrate zoologist at the University of Kansas, USA. His specific interests are the systematics, biodiversity, biogeography, conservation and ecology of the Branchiopoda and freshwater malacostraca. He has more than 70 peer reviewed publications, and has described more than 30 new species and genera. Christopher has been a TCS member since 2000, has served as an associate editor of JCB since 2005, and has functioned as interim North American Governor this past year. He promotes TCS at various meetings in the US and Canada annually. He is currently TCS liaison to the International Large Branchiopod Society. Christopher is an active member of several entomological, carcinological and conservation oriented organizations, and has worked with local, state and federal policy makers in the US, Australia, Brazil, Mexico, Chile, and the Marianas Islands on various water quality and conservation issues. Christopher has lead or helped organize taxonomic workshops for the Southwest Association of Freshwater Invertebrate Taxonomists.





TCS Best Student Paper and Best Student Poster Awards ICC8

The Crustacean Society (TCS) is pleased to announce the winners of the Best Student Paper and Poster Competition held during the Eighth International Crustacean Congress, August 18-23, 2014, in Frankfurt, Germany. There were 61 high quality competitors. The Best Student Oral Presentation Graduate and Undergraduate Awards were presented to, respectively, Laura Michie (University of Portsmouth, UK) for her talk entitled, "Sympatry in Fiddler Crabs (genus *Uca*) at their Wallacean Hotspot of Diversity" (with co-authors S. Cragg, R. Barnes & S. Armbruster) and Kenny Chua (National University of Singapore) for his talk entitled "Habitat characteristics of freshwater crabs (Decapoda: Brachyura) in Singapore" (with co-authors D. Ng, Y. Zeng & D. Yeo). The Best Student Poster Award was presented to Anders Ommundsen (University of Bergen, Norway) for his poster entitled "From suspension feeding to parasitism: The feeding mode of the shark barnacle *Anelasma squalicola* (Lovén, 1844)" (with co-authors C. Noever & H. Glenner). Honorary mentions were given to Torben Göpel (Universität Rostock, Germany) for his talk entitled "Digging deep: the circulatory system of Xiphosura enlightened" (with co-author C. S. Wirkner) and Ligia Sousa (Instituto Português do Mar e Atmosfera) for her poster entitled "Redescription of the larval development of *Lysmata amboinensis* (De Man, 1888) (Decapoda: Caridea) reared under laboratory conditions" (with co-authors D. Marques, S. M. Leandro, M. N. Correia & A. dos Santos). Best Oral Presentation and Poster awards consist of a certificate, US\$100, 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, helped in tabulating the results, and all student participants.



From left, Shane Ah Yong, Laura Michie, Anders Ommundsen, Kenny Chua, and Chris Boyko

Sympatry in Fiddler Crabs (genus *Uca*) at their Wallacean Hotspot of Diversity

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Fiddler crabs are intertidal crustaceans of the genus *Uca* that are characterized by extreme cheliped asymmetry in males (Crane 1975). They are gregarious animals that are often found living in groups of hundreds or thousands. The level of alpha diversity seen at this particular research site has never before been recorded, with eleven fiddler crab species seen coexisting. The aim of this project is to determine how sympatric species manage to coexist.

Quantitative sampling reveals that although all species may occur on the same shore, populations of each species remain discrete. The main factors controlling species distribution appear to be shore height, sediment type and habitat structure. Sediment and mouthpart analysis suggests feeding preferences differ between species allowing for niche separation. This is supported by behavioural observations, showing limited competition between species despite territory overlaps.

For an environment to sufficiently sustain a population the number of coexisting species cannot exceed the amount of resources present and species cannot be too similar in their resource utilization (Levins, 1979). The high levels of alpha diversity seen at this research site are likely to be driven by factors specific to the habitat. Anthropogenic factors are directly altering the ecosystem, allowing crabs to dwell in places otherwise uninhabitable by the species'. These changes increase the site heterogeneity, therefore contributing to a greater range of niches.

References

- CRANE, J. (1975) Fiddler crabs of the World. Ocypodidae: Genus *Uca*. Princeton University Press: Princeton, New Jersey.
 LEVINS, R. (1979) Coexistence in a Variable Environment. *The American Naturalist*, 114(6): 765-783.



TCS Best Student Paper and Best Student Poster Awards ICC8

From suspension feeding to parasitism: The feeding mode of the shark barnacle *Anelasma squalicola* (Lovén, 1844)

ANDERS OMMUNDSEN¹, CHRISTOPH NOEVER¹,
HENRIK GLENNER¹
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The barnacle *Anelasma squalicola* is found embedded in the flesh of various deep-water sharks of the family Etmopteridae, or lantern sharks, and has therefore been of high interest to scientists over the years. Due to the infrequent occurrence at which it is found, *A. squalicola* is, however, rarely studied. The barnacle was first described in the mid 18th century, yet several questions regarding its biology remain unanswered. Amongst them, the barnacle's feeding mechanism, and whether or not it is to be considered a true parasite. Although *A. squalicola* is equipped with mouth- and thoracic appendages, which are used for suspension feeding in normal barnacles, its stalk has evolved into a potentially feeding device, which is embedded as a globular peduncle into the flesh of its host. Through morphological comparisons of the feeding apparatus in *A. squalicola* to normal suspension feeding barnacles, and stable isotope analyses, this study aims to investigate whether it is feeding only from its host, or if it is still capable of suspension feeding.

Morphological examination of the original feeding apparatus in *A. squalicola* show that *A. squalicola*'s mouth- and thoracic appendages are reduced, and that they appear to be incapable of any feeding activity. Its digestive tract is also consistently empty, which indicates that feeding via the mouth does not occur. Isotopic results also exclude the possibility of suspension feeding in *A. squalicola*, as its trophic level is more similar to that of its host than to normal suspension feeding barnacles. *A. squalicola* has therefore abandoned suspension feeding, and is solely obtaining nutrition from its host shark, on which it is a true parasite.

Habitat characteristics of freshwater crabs (Decapoda: Brachyura) in Singapore

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Despite the importance of freshwater crabs in stream ecosystems, little is known about their habitats, making

it difficult to implement conservation and management measures. This study aims to characterise the habitats of the four primary freshwater crabs of Singapore—*Irmenegardia johnsoni*, *Johora singaporensis*, *Parathelphusa maculata* and *Parathelphusa reticulata*. Important habitat characteristics were identified using non-metric dimensional scaling analysis, and physicochemical ranges of each species were identified. The results provide quantitative evidence to support existing anecdotal accounts. The differential habitats of the four species might reflect differences in physiological tolerances. The findings of this study can thus provide useful baseline data for formulating conservation plans.

Digging deep: the circulatory system of Xiphosura enlightened

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Horseshoe crabs (Xiphosura) have been an object of zoological research for almost 200 years. Their unique morphology, their phylogenetic position as sister taxon to arachnids and an evolutionary history in which they seem to have gone through almost no major changes for 400 million years have attracted the interest of a number of researchers. Although some morphological work on the circulatory system has been done, however, the three-dimensional structure of this complex organ system has never been shown satisfactorily and some crucial questions remain unanswered. We investigated the circulatory system using a powerful combination of an injection method and micro computer tomography (μ CT). Data were processed and 3D-visualized using reconstruction software. Furthermore, some features of the circulatory system were investigated ultrastructurally via transmission electron microscopy. Our results show the high degree of complexity of the Xiphosuran circulatory system and provide insight into its three-dimensional structure and relationship to other organ systems such as the central nervous system. We were able to reveal structures which have not been described before and show that the major sinuses, previously described as vessel-like, though indeed highly ramified are clearly distinguishable from arteries as their ultrastructural appearance differs explicitly. Similarities and differences between the Xiphosuran species and arachnids are highlighted and possible phylogenetic implications and evolutionary scenarios discussed.



TCS Best Student Awards ICC8

Redescription of the larval development of *Lysmataamboinensis* (De Man, 1888) (Decapoda: Caridea) reared under laboratory conditions

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Complete larval descriptions are only known for three of the 43 currently existing worldwide species of the genus *Lysmata*. The present study describes and illustrates the larval development of *Lysmataamboinensis* (De Man, 1888), reared in laboratory conditions. *L.amboinensis* larval development is composed by a total of nine zoea and a decapodite stage. The number of stages will be discussed according to the “Cleaner” clade group species. All larval stages are described and illustrated according to modern standards.

The larvae were reared in 2 litre tanks at a density of 30 larvae per litre. Temperature was kept at 25±1°C, salinity 35 and nitrogenous compounds were kept below detectable levels. The water was continuously renewed, and larvae fed on newly hatched *artemia nauplii* ad libitum conditions.

Morphological characters will be compared with *L.seticaudata*, *L.ensirostris* and *L.wurdemanni*, which are the ones for whose completed larval descriptions are known.

References:

BARTILOTTI, C., CALADO, R., RHYNE, A., DOS SANTOS, A. (2012) Shedding light on the larval genus *Eretmocaris*: morphological larval features of two closely related trans-isthmian *Lysmata* species (Decapoda: Caridea: Hippolytidae) described on the basis of laboratory cultured material. *Helgoland Marine Research* 66: 97–115.

DE GRAVE, S., FRANSEN, C. H. J. M. (2011) Carideorum Catalogus: The Recent species of the dendrobranchiate, stenopodidean, procarididean and caridean Shrimps (Crustacea: Decapoda). *Zoologische Mededelingen, Leiden* 85: 427-430.

TCS Scholarship Awards

Thanks to the stellar efforts of the Judging Committee, we have selected winners for the 2014 TCS scholarship awards.

Denton Belk Memorial Scholarship: The Committee decided not to award a scholarship in this category in 2014 due to the low number of applicants and the feeling that the quality could have been higher.

Population Genetics: Joann Cowles is the winner.

Ecology and/or Behavior: Sarah Jane Wofford is the winner.

Systematics, Biogeography and/or Evolution: The Committee voted a tie between Conni Siabalok and Pierre Armand Mvogo-Ndongo so are awarding two Scholarships in this category. As we have no winner for the Belk award, we have a budget to cover two awards in this category.

Anatomy or Paleobiology: Laura Bagge is the winner.

Larvae and Development: Lisa Scarano is the winner.

The Crustacean Society wishes to thank each applicant for their entries and hopes that the research you propose will be accomplished even if we were not able to assist you financially.

Winners will receive a Certificate signed by the President of TCS and the Chairman of the Scholarship Award Committee, in addition to the scholarship.

Congratulations to all the scholarship and best student paper and poster awardees!





The Crustacean Society Excellence in Research Award

On the evening of August 21st, 2014, Dr. Shane Ahyong, president of The Crustacean Society, welcomed the gathered audience at the ICC-8 conference dinner in Frankfurt, Germany and welcomed Dr. Volker Storch, Senior Professor at Universität Heidelberg, to the lectern. Dr. Storch provided the audience with a comprehensive overview of the long career of Klaus Anger, from his early school days to his diverse body of research carried out in the laboratories of the Alfred Wegener Institute in Helgoland and at locations around the globe. Dr. Storch emphasized Klaus' ability to work in collaboration with other scientists and this was echoed during Dr. Anger's acceptance speech, in which he spent more time thanking those colleagues who he has worked with over the years than on any other topic. Dr. Anger's long career working on a wide variety of marine taxa, principally crustaceans, of course, has covered aspects of the anatomy, development, physiology (to name a few) of his "beloved creatures." Dr. Anger's edited book "The Biology of Crustacean Larvae" (A. A. Balkema 2001) is just one example of his important synthetic contributions to our understanding of crustacean lives and to biology in general. For this remarkable and accomplished body of work, Dr. Klaus Anger was presented The Crustacean Society Excellence in Research Award for 2014.

Chris Boyko, TCS Program Officer



Dr. Klaus Anger



Shane Ahyong presenting the award



Klaus enjoying the award



Shane Ahyong, Klaus Anger, and Volker Storch



ICC 8 Conference Photo



Francesca Gherardi Memorial Prize 2015

The Francesca Gherardi Memorial Prize of 5,000 Euro is an annual award, given by the Department of Biology, University of Florence, Italy, to a young researcher who demonstrates outstanding ability in the fields of Crustacean Behaviour and/or Invasion Biology.

The late Professor Francesca Gherardi passed away suddenly on February 14th 2013. Before her death, she had been in the process of conducting outstanding, internationally recognised research on Crustacean Behaviour and the Biology of Invasive Alien Species. She taught Zoology and the Conservation of Natural Resources at the University of Florence, and deserved the title of Full Professor, which unfortunately arrived too late. Her friends' hope is that the research she began will continue, and that her name and friendly, enthusiastic personality can serve as an example to young researchers at the beginning of their scientific careers.

The prize money is donated by the Gherardi family in memory of their beloved relative. The prize commemorates Prof. Dr Francesca Gherardi, and is in recognition of the fine example that she set for young scientists.

Detailed information on the Francesca Gherardi Memorial Prize is on the web at:
<http://www.bio.unifi.it/vp-118-francesca-gherardi-prize.html>



Minutes of the Crustacean Society Board Meeting

Present: Shane Ahyong, Ingo Wehrtmann, Chris Boyko, Jason Williams, Brian Tsukimura, Christopher Rogers, Joanne Taylor, Sarah Gerken, Ole Moeller
Absent: Mary Belk, Fred Schram, Christopher Tudge, Elena Mente, Shirley Lim, John Zardus

The meeting was called to order at 10:30 am in room 454 in the IG-building, Westend campus, Goethe University, Frankfurt am Main.

Ad 1: After his welcome, Shane informed the board that Tadashi Kawai from the Carcinological Society of Japan will join the meeting later to present a potential symposium proposal.

Ad 2: Jason presented the treasurers report (detailed report available separately), as he has now fully taken over from Brian. Issues on the “day-to-day” business of TCS were touched upon. The general financial situation for TCS appear good now, and the “austerity measures” implemented in the preceding years have worked. Some issues regarding the transition to Brill remain unclear. In particular, the full JSTOR income (ca. \$5000) had not yet been received. However, at a later meeting with Michiel Thijssen from Brill, it was reported that TCS would receive ~\$4000 from JSTOR. Regardless, it is likely that our revenue from this source will be reduced, partly as a result exchange rate fluctuations between the Euro and USD. A key point mentioned was that the journal is an increasingly important part of the revenue side. Basically, it will turn into the mainstay of the revenue stream, as the membership component is relatively small, and will probably remain so also in the future. These income side issues have to be discussed in detail with BRILL to clarify the still uncertain points.

Ad 3: Nothing to report (but see last point on the tasks and assignments of the ED)

Ad 4: (Detailed Editor’s report also available separately). Four issues have been published so far this year, and there will be a special section with contributions from the ICC8 in the next issue. Chris and Ole commented positively on the way that the JCB online system now works; Chris from his own experience and Ole based on feedback from several colleagues. Ingo inquired into the rigidity of the limitation of 1000 pages per year for JCB; Shane & Brian replied that the limit is not set “in stone” and there is a possibility for JCB to go to eight issues per year. JT inquired into the possible succession planning for the position as JCB Editor. This question was to be treated under 5a, but was covered here and the minutes

thus reflect this. Shane and Brian updated the Board on the progress made by the “Editor search” committee, led by Chris Tudge, with shortlisting currently taking place. It is considered of primary importance that the future editor is based in the US, an English native speaker and an expert in the crustacean research field; generally not an easy task. The Board expressed its appreciation for the effort put in.

Ad 5A: The “Future of TCS Committee” has been officially set up with Neil Cumberlidge (Northern Michigan University) in the lead in addition to Heather Bracken-Grissom, Sebastian Klaus, Kareen Schnabel, Darren Yeo and possibly a few more at the discretion of Neil. The committee is tasked to consider where TCS wants to be in the next decade and how it can get there. All options are open for consideration. The committee will report back to the board one year from now.

Ad 5B: The pros and cons of joining the American Association of Zoological Nomenclature as a society member were discussed. The Board decided against it at this time.

Ad 5C: The TCS Summer meeting will be held in Sydney, 19th – 23rd July 2015, at the Australian Museum. Shane will be presenting a short Powerpoint slideshow at the closing session of ICC8. Shane received feedback, comments and suggestions from the Board on several issues, e.g., the pros and cons of conference hotels in terms of room bookings / special rates on rooms, special students accommodation (easily set up using FB), participant numbers (100-150 approx) and possible interesting in- and post conference events. Some very creative ideas were aired and a lively discussion ensued.

Ad 5D: Various possible venues and hosts for the ICC9 were discussed. The general consensus was that the ICC9 should probably take place in four to five years time, and in the US. For the 2016 TCS mid-year meeting, Singapore was suggested as a venue, and for 2017, Spain.

Ad 5E: TCS involvement for upcoming SICB meetings were listed: 2015: West Palm Beach (TCS sponsored theme: Pancrustacea), 2016: Portland (Oregon) (TCS sponsored Theme: Parasites, Invasive species & Climate Change).

Some issues on “TCS organization” at the current meeting were raised: The lack of a TCS table, the TCS poster on display, sign-up forms, as well as the lack of lapel pins for sale! Unfortunately, this was due to some miscommunication between the organizers and the Board.

The Board discussed the possible ways of avoiding such problems in the future; one suggestion was to give some of these tasks to the regional governors.

At 12:20 pm the meeting was adjourned temporarily, as the Board moved to the lunching area.

Several other issues were discussed over lunch, especially the specific tasks of the officers and Board members.



Minutes of the Crustacean Society cont.

Ad 5E *cont.*

In light of the experiences with the current search for a new JCB editor, it is clear that the Board needs to fully understand and realize the specific tasks and assignments of all officers and other TCS officials. Also the need for a more transparent organization of the official TCS archives was discussed, in addition to a clear description of the day-to day duties of the Executive Director for robust contingency planning. As a final point, it was decided to go ahead with the complete revamping of TCS' on-line profile. Money should be set aside for making a homepage designed and programmed from scratch as per our specifications (instead of a "ready made one" as the current one). The role of "Webmaster" should also be created in some way, not as a member of the Board, but with an officer permanently in contact with this person (e.g. the secretary). It was also suggested that the homepage included an easy "photo-upload" function for e.g. identifications and sharing of crustacean related pictures. The meeting was finally adjourned at 1:45 pm.

Outside the agenda:

Tadashi Kawai (Carcinological Society of Japan) joined the meeting and presented his suggestion for a special symposium on freshwater crayfish at the TCS Summer meeting in Sydney. As there is only a bi-annual meeting of the CSJ, it will be a good opportunity for the large Australasian group of crayfish specialists to meet. The IAA (International Association of Astacology) could be co-sponsors for the event, and this has already been discussed and pre-approved by the IAA. TK expected ca. six to eight contributions / researchers from Australia and four or five from Japan. The Board expressed its whole-hearted support for the suggestion.

Respectfully submitted, September 2014
TCS Secretary
Ole S. Møller

Crustacean Society Patron Members

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