Volume 34, Number 2 November, 2015

Message from the President...

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Message from the President...

It's often something of a cliché to talk of having an eventful year, but it has indeed been eventful for TCS. We've seen many changes over the past year, including new member benefits in the Student Travel Awards to attend TCS meetings, improvements to operations in the newly designed TCS website (though still being refined), and changes to our Journal of Crustacean Biology (JCB) with retirement of long time editor Fred Schram and entry of Peter Castro, whom we formally welcome as the new JCB General Editor. Fred deserves special kudos for his excellent editorship and great care of JCB over the past decade, during which he oversaw growth in both the numbers of papers published and impact of our journal. Few may know that Fred, in anticipation of standing down as General Editor, notified the Board some three years ago. This provided ample time for a considered search, followed by a 12 month handover period in which Fred would work alongside the new editor to ensure a smooth transition. For the past year, Fred and Peter have worked closely, and we now have a new General Editor. Thank you Fred (and Peter).

This year saw a very successful TCS Mid-Year Meeting in Sydney, Australia, jointly hosted by the IAA. This was also particularly close to my heart being on my home turf, so to speak. We hope joint meetings will also feature in the future. Some other good news — we've talked much about the need for growth and recruitment of new members. The need still remains, but I'm glad to report an upswing in membership for the first time in several years. One sparrow certainly doesn't make a spring, but hopefully this is a sign of things to come, so keep up the good work in promoting crustaceans and TCS.

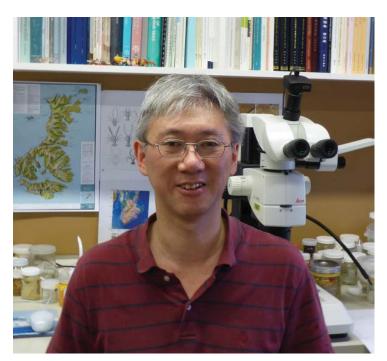
This is my final Ecdysiast address as President, so a few thanks are in order. First, I gratefully acknowledge the work of the TCS Executive and Board. All are committed to the well being of TCS – a diverse group with diverse ideas – a good thing. As always, I'm grateful to past presidents for sage advice, but I'm especially thankful to you as members for making TCS what it is, united by our shared enthusiasm for crustaceans.

I hope to see you at next year's TCS meetings, first in January in conjunction with the Annual Meeting of the Society for Integrative and Comparative Biology (SICB) in Portland, Oregon, and in July at our Mid-Year Meeting in Singapore. Of note at this years' SICB Meeting are two TCS sponsored symposia: Parasites and Pests in Motion: Biology, Biodiversity and Climate Change, hosted by Chris Boyko and Jason Williams, and Tapping the Power of Crustacean Transcriptomes to Address Grand Challenges in Comparative Biology, hosted by Don Mykles. The Mid-Year Meeting in Singapore will also be one not to miss, being held at new facilities at the National University of Singapore and with an excellent key-note line-up.

Finally, don't forget to vote in the upcoming TCS Board elections. Four positions are now open: President-Elect, Program Officer, Asian Governor and Latin American Governor (see inside for candidate profiles).

It's been an honour to serve you as President.

Cheers, Shane Ahyong (TCS President)



Introducing the new general editor of Journal of Crustacean Biology Dr. Peter (Pedro) Castro



After many years of dedicated service, Dr. Fred Schram is stepping down as general editor of JCB, and Dr. Peter Castro is stepping into the role. Dr. Castro, Professor Emeritus at California State Polytechnic University, Pomona, is the author of numerous articles on the biology of marine crustacean symbioses, co-editor of the recently published volumes on Brachyura for the Treatise on Zoology, and co-author of the text Marine Biology.

Four new associate editors were also named: Dr. Carola Becker (Humboldt-Universität zu Berlin), Dr. Ka Hou Chu (The Chinese University of Hong Kong), Dr. Rodney M. Feldmann (Kent State University, Kent, Ohio), and Dr. Eleni Mente (University of Thessaly, Volos, Greece). The new editorial board wants to broaden the scope of JCB by regularly publishing review articles of any aspect of the biology of crustaceans as well as the proceedings of scientific meetings and symposia involving crustaceans.

The Crustacean Society Board Members, 2015

President

Shane T. Ahyong
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President-elect

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Kareen Schnabel NIWA, Wellington, New Zealand email: Kareen.Schnabel@niwa.co.nz

Latin American Governor

Ingo Wehrtmann Universidad de Costa Rica, Costa Rica emal: ingowehrtmann@gmx.ed

North American Governor

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

Sarah Gerken, Department of Biological Sciences, University of Alaska, Anchorage, 3211 Providence Dr., Anchorage, Alaska, USA 99517

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The Crustacean Society Board Members, 2015

The Chinese Crustacean Society Liaison Officer

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International Association of Astacology Liaison Officer

Tadashi Kawai Wakkanai Fisheries Research Institute, Hokkaido, Japan Email: kawai-tadashi@hro.or.jp

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Rony J. Huys Natural History Museum, London, UK Email: r.huys@nhm.ac.uk

International Research Group on Ostracoda

Liaison Officer: Renate Matzke-Karasz University Munich, Germany Email: r.matzke@lrz.uni-muenchen.de

Latinoamerican Carcinologist Association Liaison

Officer: Michel Hendrickx Unidad Academica Mazatlan, Mazatlan, Mexico Email: michel@ola.icmyl.unam.mx

Colloquium Crustacea Decapoda Mediterranea Group Liaison Officer

Enrique Macpherson Centro de Estudios Avanzados de Blanes, Spain Email: macpherson@ceab.csic.es

Terrestrial Isopod Biologists Group Liaison Officer

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Large Branchiopod Working Group Liaison Officer

D. Christopher Rogers Kansas University, Kansas Email: branchiopod@gmail.com

Amphipod Group Liaison Officer

Wim Vader Tromsø Museum, Norway Email: wim.vader@uit.no

German Carcinologist Group Liaison Officer

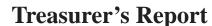
Sebastian Klaus Goethe University, Frankfurt, Germany Email: klaus@bio.uni-frankfurt.de

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 sci-entific, 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 proof-reading service use this link: www.JournalExperts.com?rcode=JCB1.

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



Members of Financial Committee (President Ahyong, President-elect Tsukimura, Treasurer Williams, JCB Editors Fred Schram and Peter Castro) met at the TCS summer meeting in Australia and discussed several issues. In terms of membership, TCS is in a good standing, with the highest numbers since 2012. As of September 2015, TCS had 434 members (206 online members, 107 print and online members, 36 patron members, and 84 student members). Although membership is rebounding, it is insufficient to properly operate the society, which is currently running a deficit of approximately 25K. The Finance Committee had anticipated this shortfall and we will use earnings from the Schwab account investments (which totals approximately US\$ 480K) to cover the gap. In addition to the extra expenses in 2015 (two editors, more scholarships, and webpage expenses), Brill has not provided the income that was originally anticipated in the original agreements. The deficit is largely due to the fact that Brill share revenue does not compensate for the loss of BioOne and JSTOR profits. Therefore, the Finance Committee has been considering proposals from other publishers. President-elect Tsukimura has been working with these companies and the Finance Committee is seeking a long-term solution to be able to balance the budget. The Finance Committee anticipates making a decision on this important move during Fall 2015 and announcing any moves at the TCS Business meeting in January 2016.



Crustacean Society Patron Members

Members Shane T. Ahyong Franklin H. Barnwell Raymond Bauer Mary S. Belk David K. Camp Paul Frederick Clark Keith A. Crandall Neil Cumberlidge Darryl L. Felder Rodney M. Feldmann Michael Gable Bella S. Galil Sandra L. Gilchrist Joseph W. Goy Mark J. Grygier Hans-Jurgen Gunter Jens T. Hoeg Peter K.L. Ng Gary C.B. Poore Stefan Richter D. Christopher Rogers Bernard Sainte-Marie Frederick R. Schram Carrie E Schweitzer Roger Thoma Christopher Tudge Cynthia Venn Jose L. V. Hiriart Les Watling Jill Yager



TCS Election Slate

Candidate Statements

President-Elect

Dr. Shirley S.L. Lim – Natural Science & Science Education, National Institute of Education, Nanyang Technological University, Republic of Singapore

Dr. Amir Sagi – Professor in the Department of Life Sciences, Ben Gurion University of The Negev, Ben Gurion, Israel

Program Officer

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

Dr. Joanne Taylor – Senior Collection Manager, Marine Invertebrates, Museum Victoria, Melbourne, Australia

Asian Governor

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

Dr. Tadashi Kawai – Senior Researcher at Wakkanai Fisheries Research Institute, Hokkaido Research Organization, Hokkaido Japan

Latin American Governor

Dr. Ingo Wehrtmann - Associate Professor and Researcher in La Escuela be Biología de la Universidad de Costa Rica (UCR), Curator in the Museo de Zoología, Associate Researcher at Centro de Investigacion en ciencias del Mar y Limnología (CIMAR) and Director of the UCR Unidad de Investigación Pesquera y Acuicultura (UNIP) del CIMAR

Dr. Marcos Tavares – Associated Professor at Museum of Zoology, University of São Paulo, Brazil

President-Elect

Dr. Shirley S.L. Lim

Shirley received her Ph.D from The University of Western Ontario (Canada) and after a stint of post-doctoral work at the Huntsman Marine Laboratory (St. Andrews, New Brunswick, Canada), she returned to Singapore to join the Nanyang Technological University as a faculty member. She is currently an Associate Dean (Research Grants Management) at the Office of Graduate Studies and Professional Learning as well as Associate Professor in Natural Sciences & Science Education Academic Group, where she teaches invertebrate zoology, ecology, biostatistics and animal behavior courses. Her main research focuses on the ecology and functional morphology of ocypodid crabs and molluscs. With good grant support as well as strong international collaborations with fellow scientists, she has carried out extensive field work in Panama (Smithsonian Tropical Research Institute), The Bahamas (Gerace Research Centre), Taiwan and Thailand (Phuket Marine Biological Center). She has published over 50 publications (books, chapters, peer-reviewed papers) and regularly shares her research findings (together with her graduate students) at international meetings (70 conference presentations). She holds the distinction of being the first lady to be elected as the President (27th Council) of The Singapore Institute of Biology (a professional society for biologists and biology educators) in 2000, and has served five years in this capacity. In addition, she was also a member of the Singapore Science Centre Board and a Council member of the Singapore National Academy of Science for six and five years respectively. She was the convenor of the Symposium on ocypodid crabs at the recent TCS Summer meeting in Honolulu, Hawaii (2011). For the past 12 years, Shirley has organized the 1st to 10th Singapore Biology Olympiads and trained the Singapore team for competition at the International Biology Olympiads (IBO). She led 11 national teams to IBOs from 2001, often returning with top five rankings. In 2009, she was elected as one of the four Steering Committee members of the IBO fraternity for a four-year term; she was re-elected in 2012 for a second term by the international IBO community.

President-Elect

Dr. Shirley S.L. Lim, cont.

She successfully co-chaired the 23rd IBO Organizing Committee that Singapore hosted in July 2012, with 59 countries' participation. In January 2012, she was elected as the Asian Governor of The Crustacean Society (USA) as well as the Vice-President (Executive Board) of the International Union of Biological Science's Commission for Biological Education (USA) for a two-year and three-year term respectively.



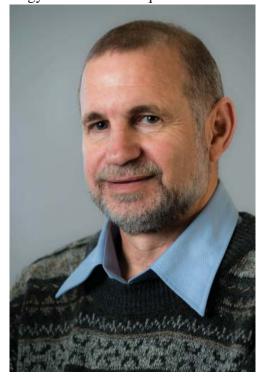


President-Elect

Dr. Amir Sagi

Amir Sagi is a Professor at the department of Life Sciences, Ben Gurion University of The Negev. Professor Sagi is Past President International Society for Invertebrate Reproduction and Development (ISIRD) and holds the Lily and Sidney Oelbaum Chair in Applied Biochemistry. He is also a Member of the National Institute for Biotechnology in the Negev (NIBN), co- Founder of Enzootic Ltd, and Former Dean of the Faculty of Natural Sciences. Professor Sagi is the recipient of the Global Aquaculture Alliance's inaugural Novus Global Aquaculture Innovation Award for 2013 and the 2014 Landau prize for Sciences and Arts. The awards were granted, among other achievements, for the discovery of the Insulin like androgenic gland hormone (IAG) in decapods and establishing the first RNAi-based biotechnology in aquaculture (crustacean monosex culture).

Crustacean models are employed in the laboratory of Professor Sagi for the study of genes and gene products related to processes of sexual differentiation and skeletal bio-mineralization. Control of the above events has been enabling the development of biotechnological tools for crop improvement via crustacean monosex culturing, such as the first application of RNAi-based biotechnology in the field of aquaculture.



Program Officer

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 MS was on the population ecology of a species of Nebalia (now *N. gerkenae* Haney & Martin 2000), and my PhD was on the systematics of the cumacean family Gynodiastylidae. My research is focused on the crustacean order Cumacea, particularly around Australia/ New Zealand and the North Atlantic. I have been a member of TCS since 1997, and am currently the editor of the Ecdysiast.





Program Officer

Dr. Joanne Taylor

The first conference I attended as an undergraduate was the 2nd European Crustacean Conference in Liège, Belgium (1996). At that point in my career I was thinking about doing a PhD, working as a research assistant in the Crustacea laboratory of Museum Victoria, and knew very little about crustaceans beyond basic morphology and how to identify some of the common decapods along the Victorian coast line. The conference was an absolute turning point in my career. It was here that I got to meet in person so many of the authors whose papers I was manually entering into our "database" or filing as hard copies in the dozens of reprint boxes that lined the walls of the offices and labs. These were the day's pre-pdf, pre-scanners and pre-online journals. Most of the delegates attending the conference were just starting to discover email and the web! My strongest memories of this meeting were the heated discussions, passionate arguments over posters and after talks and the feeling in general that whilst these colleagues were in each other's company, they were going to make sure they asked them absolutely everything they needed to know about their field of interest.

Times have changed of course but the value of conferences, especially for early career researchers have not. Now it is far more likely that you will have already had many email exchanges and the conference is a place to shake the hand of that colleague who sent you that hard to get pdf of an ancient publication or meet the recipient of a tissue sample you sent to assist in their research project. Conferences are particularly valuable for students to broaden their horizons and learn more about possible research projects beyond their lab.

For the past 14 years I have managed the Marine Invertebrates Collections at Museum Victoria. I get little time to conduct original research these days but continue to support the research activities of a wide network of local and international colleagues through the provision of specimens and data for loan and exchange. I attend as many meeting as is possible as I really enjoy fostering collegial relationships and helping others gain access to the treasure trove of material held in Museum Victoria collections.

Program Officer

Dr. Joanne Taylor, *cont*.

I am motivated to run for the role of TCS Program Officer as I would like to contribute to the fostering of new 'talent' in the field of crustacean biology by participating in the judging of student talks and posters and working with the TCS board to present programs that are inspiring and motivational.

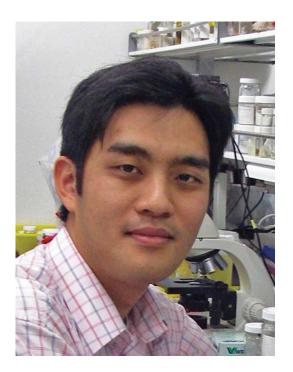




Asian Governor

Dr. Benny K.K. Chan

I am a tenured Associate Professor in the Biodiversity Research Center, Academia Sinica, Taiwan. My research interests focus on intertidal ecology, phylogeography and biodiversity of barnacles. From 2000-2015, I have published 5 books, 98 papers in international refereed SCI journals, focusing on intertidal and barnacle population ecology and biogeography. I have good international collaborations in Asia, especially in Japan, Hong Kong, Taiwan and Thailand. I have been invited speakers in Gordon Research Conferences in Hong Kong, SICB meeting in Charleston, USA and a marine biodiversity meeting in Hong Kong. I was the symposium organizer in barnacle symposium in the ICC8 in Frankfurt. I am really interested to contribute myself and passions to be the Asian Governor in the TCS and would like to promote memberships and participants in attending the TCS annual meetings from Asian countries.





Asian Governor

Dr. Tadashi Kawai

Tadashi Kawai is completing a PhD in crustacean biology and aquaculture at the Kyushu University, Japan, and is employed as a senior researcher at Wakkanai Fisheries Research Institute, Hokkaido Research Organization, Hokkaido, Japan. His expertise in field is various, aquaculture, biology, conservation, ecology, environment (climate change), evolution, fisheries, larval development, species diversity, physiology, phylogeny, social education, systematics of crustacean, particularly crayfish and freshwater decapods. He has more than 80 peer reviewed publications, 3 monographs, 3 senior edited monographs.

Tadashi has been a TCS member, has submitted to JCB since 2001. He is currently TCS liaison to the IAA (International Association of Astacology), has lead IAA and CSJ as board member since 2009. He promoted TCS by hosting various symposia or joint international meetings, Special Symposium "Crayfish Biology" in SICB 2013, San Francisco, U.S.A., Symposium "Conservation and biology of freshwater Decapoda" in ICC-8, Frankfurt, Germany, IAA & CSJ (Crustacean Society of Japan) Joint International Conference on Crustacea, IAA 20th meeting, Sapporo, Japan sponsored by TCS, TCS/IAA 2015, Sydney, Australia.

Tadashi is an active member of several conservation oriented organizations and has worked on committees of local and government of Japan, far-east Russia on various alien species issues and designation of endangered species.



Latin American Governor

Dr. Ingo Wehrtmann

During the last years, I have had the pleasure to serve as Latin American Governor for The Crustacean Society (TCS). One of the highlights was organizing the TCS Summer Meeting, for the first time in conjunction with the Association of Latin American Carcinologists (ALCARCINUS), in July 2013 in San José, Costa Rica. This meeting was well attended and carcinologists from 36 countries travelled to Costa Rica. For the first time, we allowed oral presentations in Spanish but with English slides, which worked perfectly and probably encouraged many young colleagues from Latin America to share the results of their ongoing research with the audience. In fact, 44% of the 175 participants were students, and several of them published their work in the conference proceedings in ZooKeys (http://zookeys.pensoft.net/browse_ journal_issue_documents.php?issue_id=628).

During my period as Latin American Governor, TCS has increased the focus on recruiting new student members, and I am totally supporting this process, especially in Latin America. This is not an easy task, because TCS is still seen as a mostly North American society, and many (young) colleagues from the Latin American region are not completely aware of the benefits to be a TCS member. Therefore, my primary objective is to encourage Latin American carcinologists to join TCS, for example in order to participate in the different awards from TCS. Most applications (70%) come from the USA, and we have to promote these excellent student opportunities also in other regions such as Latin America.

My principal research areas are decapod diversity in aquatic habitats, reproduction of marine and freshwater decapods, and fishery-biology of deepwater shrimps. I have published roughly 115 papers, one book about the marine biodiversity of Costa Rica, and I am referee of numerous journals. Since 2001, I am professor at the School of Biology of the Universidad de Costa Rica (UCR) and researcher at the Center of Marine Sciences and Limnology (CIMAR) of the UCR.

Latin American Governor

Dr. Ingo Wehrtmann, cont.

I am founder and coordinator of the Unit for Fishery Research and Aquaculture (UNIP) of the CIMAR, curator of the Zoological Museum of the UCR, co-founder and treasurer of the Latin American Association of Carcinologists (ALCARCINUS), associated/subject editor of Latin American Journal of Aquatic Research (Chile), Nauplius (Brazil), Marine Biology Research, and ZooKeys.





Latin American Governor

Dr. Marcos Tavares

Marcos Tavares received his M.S. in Zoology from the National Museum, Federal University, Rio de Janeiro in 1989 and a Ph.D. in Zoology from the Université Pierre et Marie Curie and Muséum national d'Histoire naturelle, Paris, in 1994. Dr. Tavares is presently Associated Professor at Museum of Zoology, University of São Paulo, where he is also the Museum's director. Beginning in 1999, he is Correspondent du Muséum national d'Histoire naturelle, Paris, and Research Associate with the National Museum of Natural History, Smithsonian Institution since 2010. He is a member of a number of professional societies, including the Sociedade Brasileira de Carcinologia, Associacion Latino-Americana de Carcinologia, The Crustacean Society, and The Brazilian Zoological Society. He has served on the Crustacean Society Nomenclature Committee, as TCS Latin American Governor (2001-2003), on the TCS Review Committee to review the policies and workings when our society turned 20-years old, the Brazilian Government Department "Ministério do Meio Ambiente" (REVIZEE), the Zoology Committee of the Brazilian National Research Council, 2013-2016 (CNPq). Dr. Tavares has served as Guest Editor, Zoosystema, Paris; Editor of Nauplius, 2006-2010 (Brazilian Journal of Carcinology); and is current Associated Editor of Zoologia (Brazilian Journal of Zoology). His research interests include the systematics, zoogeography, and biology of decapod crustaceans, world-wide. He has published widely, including numerous peer-reviewed papers, abstracts, technical reports and book articles. He has been an active participant at a number of international meetings.



Proposed By-law Amendment

Proposed TCS By-Law Change:

In order to expand the scope of the role of Secretary, the TCS Executive and Board propose an amendment providing for oversight of the TCS website. The current by-laws provide Points 1-4 under the duties of Secretary, to which we propose addition of Point 5.

E. Secretary. The Secretary shall have the responsibility of seeing that complete records of the Society are kept, and that minutes of meetings of the Executive Committee and of the annual business meeting of the Society are recorded.

Duties of the Secretary:

- 1. The Secretary shall make a record of all Board and busi¬ness meetings of the Society.
- 2. The Secretary shall be responsible for all arrangements for meetings not specifically assigned to the Program Officer.
- 3. The Secretary shall be responsible for reporting to the press the important activities of the Society (if deemed appropriate).
- 4. The Secretary shall be responsible for such activities as organization of the Society-wide elections and the Society's newsletters (this activity may be delegated to a newsletter editor).
- 5. The Secretary shall edit the Society website, or shall supervise this activity if it is delegated by the Secretary to a webmaster

Francesca Gherardi Memorial Prize 2016

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

TCS Best Student Paper and Best Student Poster Awards Sydney, 2015

The Crustacean Society (TCS) is pleased to announce the winners of the Best Student Paper and Poster Competition held during the summer meeting of the society, July 19-23, 2015, in Sydney, Australia. There were 29 high quality competitors. The Best Student Oral Presentation Award was presented to Cara Van Der Wal (University of Sydney) for her talk entitled, "Phylogeny and evolution of the mantis shrimp" (with co-authors S. Ahyong, S. Ho and N. Lo). We also awarded "highly commended" status to three additional talks by Adnan Shahdadi (University of Regensburg, Germany), Justin Ng (Nanyang Technological University, Singapore) and Chun-Chieh Wang (National Taiwan University). The Best Student Poster Award was presented to Jennifer Chandler (University of the Sunshine Coast, Australia) for her poster entitled "Closing the gaps in the male sexual-development pathway of the Eastern spiny lobster, Sagmariasus verreauxi" (with co-authors J. Aizen, N. Gandhi, R. Mancera, A. Elizur, S. C. Battaglene and T. Ventura). A "highly commended" status was awarded for the poster presented by Raquel Buranelli (University of São Paulo, Brazil). Each Best Oral Presentation or Poster 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

Best Student Oral Presentation Award Phylogeny and evolution of the mantis shrimp

Van Der Wal, C.1, S. T. Ahyong2, Simon Ho1 & Nathan Lo1

1University of Sydney, Australia 2Australian Museum cara_vanderwal@live.com

Mantis shrimps (Stomatopoda) are an ecologically and economically significant crustacean group, acting as dominant predators in coastal ecosystems and serving as an important fishery resource in many coastal communities. Despite their importance, the

phylogeny and evolution of stomatopods is subject to ongoing study. Accurate taxonomic and systematic knowledge underpins our ability to manage and conserve biodiversity, but many stomatopod species await description. Although phylogenetic analyses of mantis shrimp have been conducted in the last two decades, these were based primarily on morphological data. Therefore, previous hypotheses have not been extensively testing using molecular methods. To this end this study performs the first molecular phylogenetic analysis of the largest stomatopod family, Squillidae, describing new squillid species and assessing the monophyly of genera. This was performed through the use of mitochondrial and nuclear markers. Additionally, we estimate the timeframe for the evolution of the Stomatopoda as a whole, through the use of fossils and molecular clock analyses. These analyses will provide significant insights into when/how the remarkable mantis shrimps evolved. This project will lead to an improvement in our understanding of squilloid evolution, via the description of new species, and possibly new genera in a refined higher-level classification.

Highly Commended Student Oral Presentations Phylogenetic reconstruction and taxonomic revision of the genera Parasesarma & Perisesarma (Brachyura: Sesarmidae)

Shahdadi, A. & C. D. Schubart (Universität Regensburg, Germany)

Adnan.shahdadi@biologie.uni-regensburg.de

The thoracotreme crab family Sesarmidae consists of 30 genera and is among the most diversified and ecologically important taxa of mangroves worldwide. Even if the family in its current composition seems to be a monophyletic taxon, intrafamilial taxonomy and phylogenetic relationships are far from being resolved. The genera *Parasesarma* de Man, 1895 and *Perisesarma* de Man, 1895 are among the most conspicuous and speciose taxa of the family. The two genera share a lot of morphological similarities and their distinction only depends on the absence (in *Parasesarma*) or presence (in *Perisesarma*) of an epibranchial tooth which may be of questionable phylogenetic value.

TCS Best Student Paper and Best Student Poster Awards Sydney, 2015

Accordingly, previous studies revealed that these genera are not morphologically and genetically homogenous. Preliminary molecular data also show that they are not reciprocally monophyletic groups. Our study is designed to evaluate the monophyly of the two genera and to document morphological and molecular heterogeneity within the genus Perisesarma. Initial results confirm that the epibranchial tooth is not a good diagnostic feature at generic level, because of its inconsistent presence and shape. Molecular evidence shows that most species of these two genera (except some morphologically aberrant ones) form a solid common clade. Our data also confirm heterogeneity in the genus Perisesarma both genetically and morphologically. These evidences call for some rearrangements and a new taxonomic classification concerning these taxa.

Different grooming and water-circulation rates in two fiddler crab species: evidence of adaptation to habitats?

Ng, J. & Shirley Lim (Nanyang Technological University, Singapore) justinnjj@hotmail.com

The grooming and water-circulation behaviour of two species of fiddler crabs, *Uca vocans* and *U*. annulipes collected from a lagoonal beach on Pulau Hantu Besar, Singapore, were studied. Sediment samples from the microhabitats of both crabs were collected to prepare three different sediment concentrations for the grooming behaviour study. A sediment layer was applied on the frontal area including the third maxilliped of each crab and the time taken for the crab to remove the sediment layer was taken as the rate of grooming. Crabs were then desiccated, placed in muddy or sandy substrate with a thin film of coloured water, and the time taken for the crab to expel water was determined to investigate the rate of water-circulation. Results indicate that if size is held constant, female *U. vocans* and *U. annulipes* groom faster than their male counterparts; evidence suggests this is due to the sexually dimorphic enlarged cheliped in males which rendered it useless in grooming. In general, for any given size of crab, U. vocans groom and expel water at a faster rate

compared with *U. annulipes*. These results provide evidence that *U. vocans* has a more efficient water-circulation system compared with *U. annulipes*. As *U. vocans* reside in more muddy habitats where they are consistently more exposed to higher fractions of silt and clay content, it is proposed that these fiddler crabs compensate by possessing a more efficient water-circulation system to better adapt to their particular habitat.

Life history variation of the fairy shrimp Branchinella kugenumaensis (Ishikawa, 1895) in Kinmen, Taiwan

Wang, C.-C., J.-Y. Liu & L.-S. Chou (National Taiwan University) webberpy@gmail.com

Large branchiopods have evolved specific life history adaptations to their stochastic habitats. They face a tradeoff between early reproduction to reduce abortive hatching and growing to larger size before reproducing to increase fecundity. A previous study demonstrated that the fairy shrimp Branchinella kugenumaensis in northern Taiwan utilizes both determinate and indeterminate growth patterns according to hydroperiod. Recently, we discovered a B. kugenumaensis population in Kinmen, with a generally stable and much longer hydroperiod. Field surveys were conducted during two hydroperiods, which lasted 49 and 58 days in spring and summer respectively. Thirty individuals were sampled randomly each day, and life history traits including the time to first clutch, longevity, length at first clutch, and maximum length, were recorded and compared between the two cohorts. We found that although the spring cohort matured later and survived longer, both the length at first clutch and maximum length were significantly smaller than in the summer cohort. As a whole, while the spring cohort showed indeterminate growth, whereas the summer cohort displayed determinate growth. Our results demonstrate that B. kugenumaensis cohorts in Kinmen have adopted different life history strategies under varied hydroperiods. In the longer hydroperiod, B. kugenumaensis was inclined towards increasing fecundity by reproduction after growing to an optimal size.

TCS Best Student Paper and Best Student Poster Awards Sydney, 2015

In the shorter hydroperiod, *B. kugenumaensis* reduced the risk of abortive hatching by maturation at a smaller size, but kept growing and increased fecundity opportunistically as possible. Plastic life histories optimize *B. kugenumaensis* fitness in diverse hydroperiods.

Best Student Poster Award Closing the gaps in the male sexual-development pathway of the eastern spiny lobster, *Sagmariasus* verreauxi

Chandler, J. C.1, J. Aizen1, N. Gandhi2, R. Mancera2, A. Elizur1, S. C. Battaglene2 & T. Ventura1

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The eastern spiny lobster, Sagmariasus verreauxi, is a species of commercial importance in aquaculture. As a crustacean of the class Malacostraca, male sexual-differentiation is regulated by the male-specific androgenic gland (AG), which secretes the insulin-like AG hormone (IAG). Although the masculinising effect of IAG is well understood amongst Decapoda, there are significant gaps in our understanding of the entire, integrated male sexual-development pathway (SDP). Hence our research has focussed on characterising the endocrinology of IAG, as well as identifying the genetic determinants that act upstream of the hormone in sexual-development. Through targeted screening of a de novo assembled transcriptome, we have identified an insulin-binding protein (Sv-IGFBP) and additional insulin-like peptides (Sv-ILP1, Sv-ILP2) and characterised their binding interactions in silico. This highlights that IAG functions as part of an integrated insulin-signalling system. These targeted discoveries have been combined with a whole-organism level approach, using differential expression analyses to isolate up-regulated and specific transcripts with a putative function in the SDP. Comparisons between the mature AG and non-AG tissues did not highlight any key sex-determinants but did reaffirm the fundamental function of the AG in producing IAG and ensuring its bio-availability. However, inter-sex

comparisons demonstrated that the manifestation of masculinity is most pronounced in certain tissues: the testis and antennal gland. With this guidance, targeted screening enabled us to identify four Sv-Dmrt transcripts (genes known to have a conserved function in sex-determination). These distinct genetic regulatory elements warrant further investigation and highlight that the AG functions within a complex SDP.



Sydney TCS Mid-Year meeting Icebreaker Photo provided by Joanne Taylor.



TCS Best Student Awards Sydney

Highly Commended Student Poster Genetic variability among populations of the mangrove crab *Ucides cordatus*

Buranelli, R.1,2, D. L. Felder3 & F. L. Mantelatto1 1, 2University of São Paulo, Brazil 3University of Louisiana at Lafayette, Louisiana, USA

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Analysis of genetic variability can be considered as a central topic in conservation genetics as well as the preservation of the species as dynamic entities adaptable to environmental changes. Considering that populations with higher stocks of genetic variation have higher probabilities of including genotypes capable of withstanding extreme environmental changes, the aim of this study was to evaluate the population variability using the mangrove crab species Ucides cordatus as model to assess the quality of gene flow and the genetic differentiation between distant populations. Considering this species as economic importance the results can be useful for further management strategies. The genetic variability was analyzed by the construction of a haplotype network using partial sequences of the gene COI of 55 specimens sampled in 22 localities, including the latitudinal geographic limits of this species distribution (from USA to Brazil). The genetic differentiation was analyzed by means of an Analysis of Molecular Variation (AMOVA). The haplotype network revealed haplotype sharing, with no division of the haplotypes into groups. The AMOVA revealed that most part of the variation was found inside the populations and not between them. Our results indicate low genetic structure, no significant restriction of gene flow and low genetic differentiation between distant populations. The overfishing and the amount of resources extracted over the years, particularly in the Brazilian territory, have reduced the natural stocks of this species, which may have contributed to the loss of genetic variation, especially in South America.

Congratulations to all the best student paper and poster awardees!

TCS Scholarship Awards

The Crustacean Society congratulates all three recipients of the 2015 Graduate Scholarships and encourages students to apply for these awards.

The Crustacean Society (TCS) annually awards scholarships in graduate studies on crustaceans, one each in the areas of (1) Population Genetics and/or Physiology, (2) Ecology and/or Behavior (sponsored by Loligo Systems), (3) Systematics, Biogeography, and/or Evolution, (4) Anatomy or Paleobiology, and (5) Larvae and Development.

This year, we received applications in the first three categories and are very pleased to announce the recipients.

In the category of Population Genetics and/or Physiology, the awardee is **Magalie Valere-Rivet** (Department of Earth and Biological Sciences at Loma Linda University, California, USA), **Hypoxia Studies in** *Pagurus samuelis*.

The awardee in Ecology and/or Behavior is Christine Ewers-Saucedo, (University of Georgia), The evolution of androdioecy in an outcrossing crustacean.

The awardee in Systematics, Biogeography, and/ or Evolution is **Eleanor Caves** (Duke University), **Cleaner Shrimp and Client Fish: Using Phylogenetics to Understand the Evolution of Visual Signals, Signaling Traits, and Mutualistic Interactions.**

The Crustacean Society (TCS) annually awards one \$500 Denton Belk Memorial Scholarship in Graduate Studies (focusing on large branchiopod research) and five other \$500 scholarships in graduate studies on crustaceans, one each in the areas of (1) population genetics and physiology, (2) ecology and behavior, and (3) systematics, biogeography, and evolution, (4) anatomy or paleobiology, and (5) larvae and development.

The deadline for applications is FEBRUARY 28, 2016.

MICHAEL TÜRKAY (3 APRIL 1948 TO 9 SEPTEMBER 2015)



Prof. Dr. Michael Türkay at the Senckenberg Research Institute and Natural History Museum, Frankfurt am Main, Germany, left us far too prematurely this September. Michael was a giant in the world of carcinology. Author of a large and influential body of work spanning some four decades, an expert on brachyuran crabs, mentor to a new generation of carcinologists, wonderful teacher, guest and research sponsor to carcinologists the world over, expedition leader, organizer of memorable meetings and world congresses on carcinology, oceanographer, prolific source of information on the marine world, and gourmet par excellence, Michael's wit, knowledge, and hearty laughter will be missed around the world. A full tribute to Michael will be published in the next issue of the Journal of Crustacean Biology. (Photo: Moritz Sonnewald)

Peter Castro

TCS Mid- Year Meeting, Sydney 2015

The Crustacean Society and International Association of Astacology 2015 Mid-year Meeting, Sydney, Australia.

From the 19th-23rd July TCS President Shane Ahyong was a wonderful host for the joint TCS-IAA mid-year meeting in his home town of Sydney. With the assistance of Tadashi Kawai (IAA Secretary) and the organising committee, the delegates were warmly welcomed at the icebreaker held in the Skeleton Gallery of The Australian Museum; the perfect setting for the meeting. Established in 1827 it is the oldest museum in Australia, with a long history of crustacean research and the most extensive crustacean collection in the Southern Hemisphere. Needless to say the collection staff in the Marine Section were run off their feet with many delegates using the opportunity to examine the collections before, during and after the conference. Many thanks to Steve Keable and his team for expertly hosting these visitors throughout the week.

Delegates were formally welcomed to the Museum by the affable Director and CEO Kim McKay. She acknowledged the traditional owners of the land; a ceremony at the start of public meetings in Australia that acknowledges the traditional custodians and caretakers of the land and waterways, and thanks the Elders past and present. After this formal welcome the first of the invited keynote speakers took to the podium. Justin Marshall from the University of Queensland spoke on the topic of vision in Stomatopods: comparisons with other crustaceans and lesser animals. He discussed how the rapid and comprehensive visual sensor used in Stomatopods is analogous to but far better than a satellite! Shane had an "I told you so" look when most of the crowd were forced to agree that Stomatopods really are one of the coolest crustaceans. The remainder of the day was devoted to talks on the themes of "Biodiversity and Climate Change", "Crustacean Fisheries", "Biology of Peracarids" and "Biodiversity".

The Monday evening was dedicated to the poster session. All of the posters were displayed for the duration of the meeting in the Chapman Gallery where the beautiful Albert Chapman Mineral Collection is displayed. Many of the posters were presented by students who all did a fabulous job of presenting their research and I'm sure they appreciated the feedback and encouragement from the attendees. The posters were available for the general public to view for the remainder of the meeting and it was great to see High School groups filtering through and absorbing the content.

On Tuesday morning the second invited keynote speaker, Ronald Jenner, from the Natural History Museum, London, presented the talk "Chasing neglected venomous invertebrates: tales of convergent toxin evolution". A confident and highly entertaining talk followed with Ron having the enviable ability to present a highly complex subject in such an absorbable way. It was great to see the humble Remipede almost upstage Stomatopods! The remainder of Tuesday saw presentations on "Decapod and Stomatopod Phylogenetics", "Biogeography" and "Population Genetics". The free evening gave everyone the opportunity to catch up with old friends and make new connections.

Our final keynote speaker of the meeting, Alistair Richardson from the University of Tasmania, gave a thoroughly interesting account of Australian Crayfish. He compared Australasia's freshwater crayfish to the radiation in North America. Having spent 30 years studying freshwater crayfish Alistair's talk was full of imagery of many field trips where he spent hours pondering over burrows. The scene was set for the following session devoted to Freshwater Crayfish. After lunch we enjoyed sessions on "Evolutionary Ecology", "Biochemistry and Ultrastructure" and "Branchiopods". Special mention must be made to the high standard of student talks given throughout the meeting. Around a third of the talks were given by undergraduate and graduate students and the quality of the research and presentation was high.

TCS Mid- Year Meeting, Sydney 2015

cont.

The evening Conference Dinner was held on the Museum Rooftop Annex, from which there are spectacular views across the city, St Mary's Cathedral and the Royal Botanic Gardens. We were treated to an exquisite menu designed by Chef Sebastien Lutaud especially for the conference using the finest sustainably harvested Australian seafood. It was a memorable evening and for me, the main course of spanner crab lasagne was the highlight! Some of the attendees managed to recover from the evening's festivities early enough to head next morning to the Sydney fish markets with their guide Lauren Hughes. Some chose to sleep-in before heading off on a Sydney Harbour cruise to take in the sights and visit the Sydney Institute of Marine Sciences at Chowder Bay. Alistair Poore was the perfect host who gave us some fascinating historical facts about the harbour. Lunch was served on board and a great morning was had by all attendees. Thanks Shane for a great meeting and to all of those Aussies who rallied together to assist with whatever was needed to help the conference run so smoothly.

Joanne Taylor

Sydney Conference Photo



Photo provided by Joanne Taylor

TCS Mid- Year Meeting Pre- Announcement for Singapore 2016

The Crustacean Society Mid-Year Meeting 2016 (TCS 2016) 11–13 July 2016, Singapore

The Crustacean Society Mid-Year Meeting 2016 will be held on 11–13 July 2016, in Singapore, at the National University of Singapore (NUS).

Meeting Venue

The meeting will be held in the Education Resource Centre of University Town, NUS (Kent Ridge campus), an educational hub with residential spaces, teaching facilities and study clusters. For more information, please refer to the links below:

Education Resource Centre: http://utown.nus.edu.sg/about-university-town/education-resource-centre/overview/

University Town: http://utown.nus.edu.sg/

Accommodation

Participants attending TCS 2016 can choose between staying in guest accommodation at NUS or in hotels near to the university. For more information, please refer to the links below:

Guest accommodation in NUS

Overview of guest accommodation in NUS: http://nus.edu.sg/ohs/guests/index.php NUS guest accommodation booking system

*Hotels within 1 km of NUS Kent Ridge campus

- Fragrance hotel Waterfront and Fragrance hotel Ocean View
- Santa Grand Hotels West Coast @ Pasir Panjang Road
- Park Avenue Hotels & Suites @ Rochester Park

Accommodation in the city (~10 km from NUS Kent Ridge) or another part of Singapore

- www.agoda.com
- www.booking.com/
- http://www.trivago.sg/
- https://www.expedia.com.sg
- www.singaporehotelbooking.com

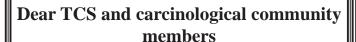
Visa and entry into Singapore

For more information regarding visa application, please refer to the following link: http://www.mfa.gov.sg/content/mfa/consular_information/foreigners_visiting_singapore.html

If the participants need a Letter of Invitation for the visa application, please email Dr NG Ngan Kee at tcs.2016.secretariat@gmail.com as early as possible, so that the original Letter of Invitation can be sent out by Registered Airmail (which will take an average of 10 days for delivery, depending on region).

^{*}Booking forms for some of these hotels with conference rates may be made available shortly





We are pleased to announce the IX Brazilian Crustacean Congress to be held in Crato, Ceara State, Brazil between 6th and 9th November of 2016. This is the first time that our conference will be held in the northeast region of Brazil and the main purpose of the organizing committee is to lead a high quality conference as seen in previous versions of the event. The theme for this conference is "Biodiversity of Crustacea: Evolution and Conservation Challenges". We hope to give everyone a different view of the state of Ceara, with activities that show the beauty and importance of this paleontological Lagerstätte for the Northeastern region and to our country. The IX CBC page is under construction and will soon be released with relevant information about the event and the region. The program of the congress is already in preparation. In this regard, we would like to invite our colleagues to give suggestions about potential participants who they would like to see at the event and whose research is related to the theme of the congress. We would also like to point out that the organizing committee is working at its utmost to bring everyone a high level conference, not only scientifically but also in cultural and social events. Therefore, we invite everyone to attend this event and hope to see you in November 2016 at the IX Brazilian Crustacean Congress in Crato, CE, Brazil.

Sincerely,

Allysson Pontes Pinheiro (allyssonpp@yahoo.com.br) Chairman of the Organizing Committee Universidade Regional do Cariri – URCA

William Santana (william_santana@yahoo.com.br)
Head of the Scientific Committee
Universidade do Sagrado Coração – USC



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

The joint meeting with SICB will be held January 3-7, 2016 in Portland, Oregon. http://www.sicb.org/meetings/2016/

Two symposia that will be of interest to TCS members:

"Parasites and Pests in Motion:Biology, Biodiversity and Climate Change" organized by Christopher Boyko and Jason Williams, January 4, 2016.

"Tapping the Power of Crustacean Transcriptomes to Address Grand Challenges in Comparative Biology" organized by Donald Mykles, Karen Burnett, David Durica, and Jonathon Stillman, January 7, 2016.

For all members attending the SICB Meeting in Portland 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 that you no longer need/want but are too good to throw away. Some else is bound to want it. 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.



Minutes of TCS Board Meeting, Kreft Room, Australian Museum 19 July 2015

Present: Shane Ahyong, Peter Castro, D. Christopher Rogers, Kareen Schnabel, Fred Schram, Brian

Tsukimura, Jason Williams

Apologies: Chris Boyko, Shirley Lim, Enrique Macpherson, Elena Mente, Ole Sten Moller, Ingo Wehrt-

mann, John Zardus

The meeting was opened by President Shane Ahyong at 3:15 pm. Shane gave a brief overview of the financial position, attendance and administration of the TCS Mid-Year Meeting, commencing that day. The meeting was in a good financial position expecting to break-even or result in a small surplus.

Treasurer Jason Williams presented the current financial standing of the Society, who noted that lower than projected income from Brillshare coupled with additional expenditure to support the transition to a new General Editor of the Journal of Crustacean Biology (JCB) placed us in deficit. This deficit will be covered by earnings from our investment accounts (see Treasurer's Report).

General Editor of JCB, Fred Schram presented the editor's report and focussed on the transition to the new editor, Peter Castro. Fred and Peter have been working closely during 2015 to manage the transition, including a specific focus on the Editorial Manager software during the week of the conference. Peter Castro also discussed the possibilities for streamlining and targetting types of journal content for special issues, including conference symposia. Given that the current publishing contract with Brill is soon to expire, the board then discussed future publishing options including a scheduled meeting with a potential alternative publisher to be held in the coming week.

President-Elect Brian Tsukimura, who spearheaded the redesign of the TCS website, reported on progress to that end, and that we are on target to launch during the week of the conference. We thanked Brian for his hard work.

The board then discussed recommendations of the report from the Future of TCS Committee (chaired by Neil Cumberlidge), among which were improved website presence, including links to social media, improved member benefits, especially to students and postdocs, and reduction of back-office costs. Of the recommendations, we noted some were already being addressed through the redesigned website and student travel bursaries, many of which were taken-up for travel to the Mid-Year Meeting. A brief discussion followed on the roles of TCS officers, particularly regional governors, and how communication can be improved. There being no other matters arising, the meeting was adjourned at 5:45 pm, from which the board joined the other conference delegates at the "mixer" in the Australian Museum Long Gallery.