

## HAWAII SUMMER MEETING 2011: BEST STUDENT PAPER AND POSTER AWARDS

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, June 6-9, 2011, in Honolulu, Hawaii. There were 31 high quality competitors.

The Best Student Oral Presentation Award was presented to **Alyssa Demko** (Roger Williams University, USA) for her talk entitled, "Is *Stenopus hispidus* a globally distributed species? A test of reproductive isolation in Atlantic and Pacific populations" (with co-authors B. D. Borque & A. L. Rhyne).

The Best Student Poster Award was presented to **Nikos Lessios** (Arizona State University, USA) for his poster entitled "Wavelength-specific behavior and compound eye spatial resolution of *Triops longicaudatus* (Notostraca) from the Sonoran Desert: Adaptive significance and constraints."

Each award consists of a certificate, US\$100 cash, and a one-year membership in The Crustacean Society, including subscription to *The Journal of Crustacean Biology*. TCS thanks those members who served as judges and all student participants.

In addition, through the courtesies of Michiel Thijssen from Brill Academic Publishers, a \$200 bursary was provided to two student attendees who wrote the best short essay stating the reasons why they should receive the award. The winners were **Chad Buxton** (Museum of Tropical Queensland, Australia) and **Ceiwen Pease** (University of New South Wales, Australia).

Christopher B. Boyko  
Program Officer

See Picture below:



[Photo Caption for DSC\_0260: “L to R: TCS President Akira Asakura, Ceiwen Pease, Chad Buxton, Michiel Thijssen of Brill, Nikos Lessios, Alyssa Demko, TCS Program Officer Christopher Boyko. Photo by Ole Møller.”]

**Is *Stenopus hispidus* a globally distributed species? A test of reproductive isolation in Atlantic and Pacific populations.**

Demko, A., B. D. Borque & A. L. Rhyne (Roger Williams University, Rhode Island, USA)

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Virtually all decapod species that appear in the Atlantic and Pacific have been demonstrated to be distinct species. *Stenopus hispidus* also is separated by the Panamanian Isthmus, but to date, has not been morphologically demonstrated to be distinct species. While the Atlantic and Indo-Pacific populations of *S. hispidus* have the same ancestry and are morphologically indistinguishable, in the laboratory, reproductive isolation has not been examined. Here, we present data on studies that compare the biological species concept against traditional conventions. For this study we assembled representatives from two populations of *S. hispidus* and examined if they would cross-breed. Shrimp were collected from Haiti and Bali because these populations were the furthest isolated. Thus, if interbreeding of these two populations is successful, it would

indicate that *S. hispidus* is likely to be a single species throughout its entire range. In this presentation we discuss the results of our study to date and provide some interesting data to support the idea that ancient decapods may evolve at slower rates than more recent taxa.

**Wavelength-specific behavior and compound eye spatial resolution of *Triops longicaudatus* (Notostraca) from the Sonoran Desert: Adaptive significance and constraints**

Lessios, C. (Arizona State University, Phoenix, USA)  
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*Triops longicaudatus* is a large branchiopod found in ephemeral freshwater pools. It is primarily a benthic forager, though it swims to the air-surface boundary, and is adapted to hypoxic conditions found in its habitat. This study aimed to characterize the photo-behavior and spectral sensitivity of *Triops longicaudatus* using whole-organism responsiveness to different wavelengths, and to infer spatial resolution based on ommatidial diameter. *Triops* eggs were collected from several sites near Phoenix, Arizona from late 2010 to early 2011 and were hatched in the laboratory. Light transmission of water from sites where eggs were collected was measured using spectrophotometry, at varying levels of turbidity. Phototaxis was studied using projected light and a Plexiglas trough. Light parameters were controlled using neutral density and 20 nm bandwidth interval filters. Photographs were taken of compound eyes using light microscopy to measure the size and number of ommatidia. My results suggest that wavelength-specific behavior is used for microhabitat choice, and phototaxis may be used to maintain depth. Based on a pilot study, the diameter of an ommatidium in a central row is approximately ~40  $\mu\text{m}$ . Future studies aim to investigate the surfacing behavior over a 24 hr cycle, and to determine if entrainment occurs using certain wavelengths of light. Moreover, studies of *T. longicaudatus* visual pigments will be studied.