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EXPERIENCES----REFLECTIONS: ONE THING LEADS TO ANOTHER, BUT PATHS DO DIVERGE IN THE WOODS, AND THE WHEEL DOES TURN

By Harold Heatwole

Editor in Chief, ICB 2006-present

When I was born into a rather conservative Mennonite community in the early 1930s, the chances of my becoming an academic were remote---a Sunday school teacher maybe---but a biologist teaching evolution!!?! My father was the first in our community ever to graduate from High School, my elder brother and sister, and I, were the first three to go to College. But, I had one singular advantage. My father, Elmer Heatwole, was an enquiring, open-minded person and deeply regretted that he never had the chance to get a college education. In his youth, Mennonite sons who took a job other than on their father's farm gave their wages to their father until reaching the age of 21. My father went to high school against pa-



Harold Heatwole, as a high school sophomore, lecturing to the Natural History Club of Eastern Mennonite High School, Harrisonburg, Virginia (1949)

rental opposition and he was determined that his children would have the best education possible. One year his expenditure of money for his four children's education exceeded his total income of that year, something I only discovered accidentally years later when browsing through his old income tax returns. It was his vision and support that gave me the opportunity to break out of an oppressive culture and follow my own dream. That dream was to be a naturalist.

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SPRING AHEAD!

By Billie J. Swalla, SICB President

Spring ahead! March came in like a Lion, but then the buds began appearing on the trees, flowers began poking out of the ground, and spring is officially here. Now that we are operating on Daylight Savings time, are you enjoying the longer days after the long hard winter that most of the U.S.A. endured? The winter storms affected SICB 2014 meetings in a harsh way, stranding East Coast speakers and leaving gaps in well-planned symposia. I heard stories of students in airports for 36 hours, only to be told that all flights were cancelled.

Nevertheless, for those who DID make it to the SICB 2014 Austin meetings, there was something for everyone. We had some awesome plenary speakers who were still fielding questions after the receptions were over. We had shortened talks to 15 minutes, to coordinate with the symposia and allow more speakers. There are those of you who really dislike this format, but when we polled SICB members after the meeting, most were overwhelmingly for it. We also went back to an hour and a half lunch, to allow participants to really go out, eat together and talk science in an informal atmosphere. This was also appreciated, as seen by the survey, so we'll keep these in our schedule for SICB 2015.

SICB is thriving and financially sound, but we are continuing to build our endowments so that the high level of support that students have experienced will continue to be possible. One new aspect of the meeting in Austin was the pub crawl to get students acquainted and raise a bit of money. I went and talked to many students who were first-time at the meetings, and their enthusiasm for science and for the SICB meetings was contagious.

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SICB EXECUTIVE OFFICERS

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DONATIONS TO SICB

A REPORT FROM THE DEVELOPMENT COMMITTEE

Your donations have a profound effect on this Society and the future of comparative biology. Prior to the 2014 meeting in Austin, the SICB Development Committee implemented a tiered donor recognition plan. Five levels of giving are recognized and acknowledge donations from January 2013 (including the San Francisco meeting) through the end of the Austin meeting this past January. The Society leadership wishes to extend sincere thanks to these individuals and encourages all members to consider donating to the Society's endowment. Several funds make up the Endowment and you can request that your donation be applied to the fund of your choice. The Society plans to continue to recognize donors in this fashion. Please know that the Endowment is crucial to the continued success of the Society and that every dollar counts. Again, many thanks.

Go to the [SICB home page](#) and click **Donate to SICB** on the lower left panel.

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SICB FINANCES

TREASURER'S REPORT, KAREN MARTIN

The finances of the Society are solid. The total assets have increased from \$1,650,445 in FY 2012 to \$1,766,371 in FY 2013, an increase of \$115,926.

Investments rose from \$1,102,475 as of 30 Nov 2012 to \$1,220,178 as of 28 December 2013, an increase of \$117,703. The investments were re-balanced mid-year. Of these investments, approximately 75% are in the endowed (restricted) funds and 25% are in the unrestricted funds.

Endowed funds received over \$22,000 in donations last year, including a major gift of stock to the Hyman fund, auction funds for the Hyman fund, donations to the Symposium Enhancement fund resulting from the wine tour, and donations to the Grants In Aid of Research

fund from the octopus travel mugs. In the coming year, new guidelines for fund maintenance and growth are being implemented so that the endowments will be able to support their missions sustainably and also grow in a sensible way.

Annual meetings continue operating in the black, as they have since 2009. In 2013 the annual meeting in San Francisco brought in revenues of \$431,011 against expenses of \$414,238. Travel support was provided to 452 students.

The budget approved for FY 2013 predicted revenue of \$748,525 against expenses of \$785,845, with an expected loss of \$37,320. The actual revenue was \$1,006,819 and expenses were \$950,107, with a positive balance of \$56,712. Over the past four fiscal years,

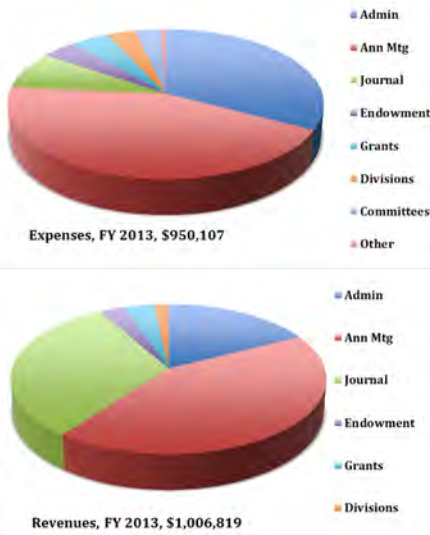
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"Thanks to your involvement, SICB is financially stable with an active, growing membership."

SICB FINANCES, CONTINUED
TREASURER'S REPORT, KAREN MARTIN

approved budgets have anticipated finishing in the red, but results for the past four years have been in the black.

Based on past performance and reasonable predictions, the budget for FY 2015 proposes expected revenues conservatively at \$872,625 and expenses of \$860,315. This results in a positive balance of \$12,310. This is the first time, in at least ten years, that the SICB Executive Committee has been asked to approve a balanced budget for the coming year. The budget for FY 2015 was approved at the SICB annual meeting in Austin.



In FY 2012, donations were \$5,860. In the current fiscal year, FY 2014, gifts have already exceeded \$22,750, thanks in large part to a generous donation of stock from Dr. Jarid Simons for the Libbie Hyman Fund. Again, eleven of the 12 funds received donations.

As a nonprofit organization, SICB depends on a budget with a narrow margin between expenses and revenues. Donations allow more support to be provided to student members and meeting activities benefitting a broad spectrum of the membership. Donations can be earmarked for any of the funds of the Society, or given unrestricted.

Please consider a donation when you reaffirm your membership, especially as you have enjoyed this extended membership year. Note that membership dues have been steady since 2007. Thanks to your involvement, SICB is financially stable with an active, growing membership.

DONATIONS REPORT

Endowment funds receive generous support from SICB members and friends over the past few years. A total of \$22,044 was donated to SICB in FY 2013, spread over 11 of the 12 funds.

Endowment Fund	2011	2012	2013	2014
Carl Gans Award	\$170	\$125	\$1,100	\$250
George Bartholomew Fund	\$535	\$585	\$1,170	\$95
Libbie H. Hyman Fund	\$205	\$1,655	\$14,564	\$17,622
Dwight D. Davis Fund	\$675	\$745	\$1,050	\$2,125
John A. Moore Lectureship Fund	\$100	\$25	\$75	\$1,190
Adrian M. Wenner Fund	\$100	\$0	\$0	\$0
Dorothy M. Skinner Fund	\$1,660	\$140	\$530	\$245
Symposium Enhancement Fund	\$165	\$155	\$580	\$225
Charlotte Mangum Fund	\$425	\$515	\$415	\$340
Grants-in-Aid-of-Research Fund	\$645	\$410	\$2,305	\$405
Howard Bern Lecture Fund	\$4,010	\$1,455	\$230	\$200
C. Ladd Prosser Symposium Fund	\$55	\$50	\$25	\$60
Total	\$8,745	\$5,860	\$22,044	\$22,757



"...the survey responses reaffirm what a great society SICB is and what a great resource this meeting is for students and postdocs."

2014 - SICB AUSTIN RECAP AND 2015 UPDATES

PROGRAM OFFICER, SHERRY TAMONE

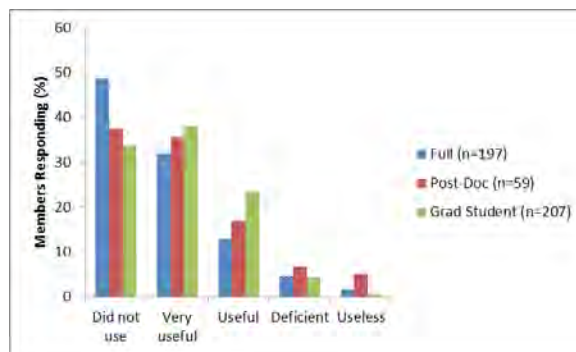
As the incoming SICB Program Officer, I want to congratulate the outgoing Program Officer, Jon Harrison, for putting together an excellent program for the 2014 SICB meeting in Austin, Texas, this year. What a great venue! I hope you were able to get out, visit historical Austin, and listen to live music at some point during the meeting. I spent much of the meeting learning the ropes of being a Program Officer and attending SICB committee meetings and workshops. Nevertheless I was able to attend many talks, visit posters, get together with many colleagues, and walk the streets of Austin. The 2014 SICB meeting in Austin was the second largest SICB meeting ever with over 2000 registrants (2013 in San Francisco holds the record).

We were able to accommodate 877 talks in 130 sessions because of the recent change to allot 15 minutes instead of 20 minutes for oral presentations. While fewer than 10% of SICB members disapproved of this change (online SICB meeting survey) most meeting participants (70.2%) were enthusiastic about the change. Members overwhelmingly appreciated the longer lunches and the ability to move seamlessly between regular talks and symposium presentations. Members noted that speakers often used the entire 15 minutes and there was no time remaining for questions, a negative consequence of the 15 minute oral presentation time. I was guilty of this myself and will make appropriate changes next year so that there remains at least 2 minutes for questions and discussions.

Over 600 members contributed to the post-meeting survey which provides us with important information about our meetings. Most members (87.3%) rated this meeting as very good to excellent. It is encouraging to read the responses of members to this question because the survey responses reaffirm what a great society SICB is and what a great resource this meeting is for students and postdocs.

SICB is particularly supportive of its members with families. Having children should not preclude members from attending and actively participating at SICB meetings. For over 5 years, SICB has arranged for childcare services at each meeting and past surveys revealed general satisfaction with this service. This year, SICB opted to subsidize over 50% of the cost to members, and participants who used the child care service in Austin were extremely satisfied and expressed their thanks for the significant SICB subsidy of costs. Some members would not have been able to attend and present at SICB if not for the available childcare services.

There was excellent attendance during all 4 days of the scientific program and the evening lectures (Bartholomew, Bern and Moore Lectures) were also well attended. The program committee makes a point of providing a meaningful program through the entire 4 days of meetings and, while some members do



choose to leave early on the final day, oral sessions and symposia still attracted a sizable audience.

For the second year, we incorporated a meeting App (Core-Apps) for use with mobile phones and tablets. Approximately 40% of the members did not use this app at all (see figure below). In fact, more full members than graduate students or post docs chose not to use the app. Of those that did find the app useful, graduate students and post docs found it more useful than did full members. We received many excellent suggestions that we will consider for next



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West Palm Beach, Florida

2014 & 2015, CONTINUED PROGRAM OFFICER, **SHERRY TAMONE**

year's meeting app. The meeting app will not replace the hard copy program that many members feel is most useful.

The symposia for the 2015 West Palm Beach meeting have been selected and are posted on the SICB web site (<http://sicb.org/meetings/2015/>). There are excellent symposia during each of the 4 days of the meeting (see below).

January 4, 2015

- **Towards a General Framework for Predicting Animal Movement Speeds in Nature**

Organizer: Robbie Wilson; Sponsors: SICB wide; DAB, DCB, DCPB, DEE, & DVM

- **Physiology in Changing Landscapes: An Integrative Perspective for Conservation Biology**

Organizers: Christine Madliger & Glenn Crossin & Oliver Love; Sponsors: DCE & DCPB

- **Integrative Biology of the Crocodilia**

Organizer: Valentine Lance; Sponsors: DAB, DCPB, DEDB, DNB, DEE & DPCB

January 5, 2015

- **Soft Bodies, Hard Jaws: Phylogenetic Diversity of Prey Capture and Processing in Jawed, Soft-bodied Invertebrates**

Organizers: Rick Hochberg & Elizabeth Walsh; Sponsors: DIZ, DPCB & AMS

- **Origins of Neurons and Parallel Evolution of Nervous Systems: The Dawn of Neuronal Organization**

Organizer: Leonid Moroz; Sponsors: DEDB, DIZ, DNB and DPCB, & AMS

- **Thinking About Change: An Integrative Approach for Examining Cognition in a Changing World**

Organizers: Timothy Roth II & Zoltan Nemeth; Sponsors: DAB, DCE & DEE

January 6, 2015

- **Unsteady Aquatic Locomotion with Respect to Eco-Design and Mechanics**

Organizers: Frank Fish & Paolo Domenici; Sponsors: DCB, DVM & DIZ

- **Neurohormones, Brain and Behavior: a Comparative Approach to Exploring Rapid Neuroendocrine Function**

Organizers: Rebecca Calisi & Colin Sandanha; Sponsors: DCE, DAB & DCPB

- **Leading Students and Faculty to Quantitative Biology Through Active Learning**

Organizers: Laura Miller & Lindsay Waldrop; Sponsors: SICB Wide; DAB, DCB, DCPB, & DVM

January 7, 2015

- **Chemicals that Organize Ecology: Towards a Greater Integration of Chemoreception, Neuroscience, Organismal Biology, and Chemical Ecology**

Organizers: James Murray & Russell Wyeth; Sponsors: DNB, DCPB and DIZ

- **Linking Insects and Crustaceans: Comparative Physiology of the Pancrustacea**

Organizers: Jon Harrison & Sherry Tamone; Sponsors: TCS, AMS, DIZ, DEDB, DPCB, & DCE

- **New Insights into Suction Feeding Biomechanics and Evolution**

Organizers: C. Darrin Hulsey & Steven Day & Tim Higham & Peter Wainwright; Sponsors: DCB, DIZ, & DVM

In addition to the symposia there will be regular talks and workshops throughout the meeting. Dr. Ken Sebens (Friday Harbor Laboratory, University of Washington) will give the opening plenary talk as Past President of the SICB. Plan to come to the meeting early and enjoy a few days at the beach or in the Bahamas. I know that I will be enjoying a week away from the weather in Alaska.

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OPEN SEARCH FOR EDITOR OF
INTEGRATIVE AND COMPARATIVE BIOLOGY

Hal Heatwhole, the Editor of the Society journal *Integrative and Comparative Biology (ICB)*, will be stepping down after 10 years of service. We thank Hal for his unparalleled dedication, and now open the search for a new Editor, to assure a smooth transition.

Integrative and Comparative Biology (formerly *American Zoologist*) is one of the most highly respected and cited journals in the field of biology. Its Impact Factor has shown steady increases over the last several years, and the journal continues to be ranked within the top ten journals in Zoology. With this strong foundation, we would like to encourage interested individuals who have both a strong sense of the journal's relevance to the SICB community, and who have ideas for innovative expansion of the journal's scope, to apply for the Editor position.

The successful candidate will take up the post on 1 January, 2016 following a transition period of ten months working with the current Editor, starting in March 2015. The initial term of the position is five years, which can be extended by mutual agreement and approval of the SICB Executive Committee. Financial compensation and assistant support will be provided.



FROM THE RESEARCHERS DATABASE:
DNB - Neuroendocrine mechanisms of social and reproductive behaviors, *Lisa Mangiamele*

The primary areas of responsibility for the Editor include the overall editorial responsibility for the journal in maintaining and improving the Journal's scientific quality; implementation of editorial policies as identified in the Journal's mission statement; service as an ambassador and spokesperson for the Journal, promoting it at relevant meetings and workshops; management of submissions through Scholar One Manuscripts; to work within an annually approved page budget; to work closely with the *ICB* Editorial Board (divisional representatives), the SICB Executive Committee, and the Publisher.

We seek interested individuals who have knowledge and experience with scientific journal management and publication, appropriate oral and written communication skills, scientific expertise, scientific review expertise and objectivity, evidence of leadership, creativity, and innovation related to scientific publication, fiscal experience and administration skills related to scientific enterprises, and a willingness to attend the annual SICB meetings. A history of active involvement in SICB would be preferred.

We will welcome personal applications and nominations. For the former, please provide a cover letter of no more than two pages with a summary of qualification and experience; a concise curriculum vitae of no more than 4 pages; a two-page vision statement for the journal addressing personal ideas/philosophies on the operation of a journal like *ICB*, ideas for future development of the Journal, and estimated assistance needs for running the Journal.

Please email applications materials to the Chair of the ICB Editor Search Committee (Rich Satterlie – satterlier@uncw.edu) no later than 15 August, 2014. Nominations or letters identifying potential candidates can be sent as well. Evaluation of applications will take place in the Fall, with the final decision scheduled for the Annual Meeting in January, 2015.

*Experiences - Part 16
in a series of
articles about the
research experiences
of members of SICB.*

*“SICB members
like a good story about
an expedition,
a lab experiment
or another
researcher.”*



REFLECTIONS: ONE THING LEADS TO ANOTHER, BUT PATHS DO DIVERGE IN THE WOODS, AND THE WHEEL DOES TURN - HAROLD HEATWOLE

[*continued from page 1*](#)

My first introduction to evolution was at the age of five, and strangely enough, it took place in a Mennonite evangelistic revival meeting. A visiting evangelist had come to hold a week-long revival meeting at our church. In one of his sermons, he ranted “If people think they came from monkeys, why don’t they go live with them?” I didn’t have any idea what evolution was, but his aggressive stance against monkeys repelled me. Monkeys were cute and anyone who was mean to them couldn’t be a very nice person. Whatever evolution was, it couldn’t be all that bad!

The second person to have a profound influence on my later life was my high-school literature teacher, Elizabeth Wenger. Although a conservatively dressed teacher in a Mennonite high school, she taught me that there was more to life than the

stern authoritarianism of fundamental Christianity---there was humor in literature, beauty in language, and noble emotions in poetry. She also pled my case in front of the high school discipline committee when I ran afoul of strict regulations. Years later, in her late '90s, she confided to me that she “had more time for the mischievous students who loved poetry, than for the pious ones who didn’t.” She revealed to me glimpses of a secular life that had meaning and excitement. The fact that I became a voracious reader and later wrote books and became an editor stems directly from the gentle nudges she gave me in that direction during my formative high school years.

“After five cold, snowy winters in Michigan, and realizing that 95% of the biology is in the tropics but only 5% of the biologists, I made the decision to seek a job somewhere in the tropics.”

My third mentor was Prof. Samuel Witmer, of Goshen College¹, a Mennonite college. He taught practically everything--general botany and zoology, comparative anatomy, mycology, bacteriology, heredity; in fact he would assemble the five, non-premed, biology majors near the end of the semester to ask what courses we would like the following semester. After discussion, we would agree upon a topic, and he would teach it. He never once mentioned the word evolution. Toward the end of my senior year, I asked Prof. Witmer: “You have never told us what you think about evolution. What is your opinion?” He eyed me quizzically and said: “Mr. Heatwole you mean to say that you have studied biology under me these years, and you still don’t know what I think about evolution?” I did know, of course. He had taught it, but just didn’t use the word. Thanks to that gentle man, I was well-prepared to launch into my professional career.

In looking forward to graduate school, I was peering down two different forks in the paths, simultaneously. One was whether to follow my original intention and go for a PhD in Zoology and study herpetology, or to change course and pursue a PhD in Botany (then including mycology). Prof. Witmer had inspired an intense interest in the higher fungi in me and I seriously considered making that change. The other choice was where to go for my PhD. The two decisions were intertwined. I applied to, and was accepted, both at Harvard and at the University of Michigan (UM) for a PhD program in Zoology, with a declared interest in herpetology. The decision to select UM, rather than Harvard was because the renowned authority on the higher

[*continued on page 8*](#)

¹Please note that my references to Goshen College, Mennonite high schools, and the Mennonite church in general relate to a particular place and time. Today, the church varies geographically in its degree of conservatism from something similar to the Amish on one hand to congregations one could scarcely distinguish from, say, Methodists, on the other. Temporal change has been enormous as well. In the congregation in which I grew up, most of the members wore distinctive clothing, women wore prayer head coverings, you could be excommunicated for the sin of owning a radio, and movies, bowling, jewelry (even wedding rings), and men appearing without a shirt in public were serious matters. Now, in the same congregation only the elderly wear distinctive clothing and everybody has a TV set. During my lifetime, apparently an immutable God changed his mind.

REFLECTIONS: ONE THING LEADS TO ANOTHER, BUT PATHS DO DIVERGE IN THE WOODS, AND THE WHEEL DOES TURN - HAROLD HEATWOLE

fungi at that time, Prof. Alex Smith, was located at the University of Michigan. I reasoned that if I went there, I could do my PhD in Zoology and at the same time take a course in the higher fungi under Prof. Smith, which is what I did.

Jobs

My first job after my PhD didn't really involve a choice of alternatives. My major professor, Prof. Frederick Test, was going on sabbatical for the year following the completion of my PhD degree, and he asked whether I would take a year as Instructor at UM and teach his courses while he was away. That instructorship was the first time I had full responsibility for lecturing. One of my courses was a graduate course and my students were my peer graduate students of the previous year; most were senior to me in age. When that year was up, I opted out of making a choice and left the finding of my next job to fate. After five cold, snowy winters in Michigan, and realizing that 95% of the biology is in the tropics but only 5% of the biologists, I made the decision to seek a job somewhere in the tropics. What I left to chance was where. I shot-gunned applications for every available job around the world's tropics, wherever one could begin in English, and decided to accept the first offer made. It came from the University of Puerto Rico (UPR).

The third of my four university appointments was unanticipated and also based on chance. One day in the biology building at UPR, I crossed paths with a visitor who enquired whether this was the biology department. It was Prof. John Brereton from the University of New England (UNE) in Australia who had just completed a sabbatical in Jamaica and on his return to Australia had detoured to several other islands for a brief holiday. I gave him a tour of the department and spent the rest of the afternoon discussing water balance of frogs (my research) and the languages of parrots (his research). That led to cocktails and dinner at my house and subsequently a regular exchange of reprints. Several years later, I unexpectedly received an invitation to apply for a position that had become vacant at UNE--one thing leads to another.

My final academic appointment was a consequence of the passage of time. When I took up my post at UNE my contract included the then standard requirement of retiring on the 31st of December following one's 65th birthday. Although Australian law had changed and such agreements were no longer made for new hires, 25 years later my contract may still have been valid and I decided to examine alternative possibilities. The result was that I accepted an appointment at North Carolina State University (NCSSU) carrying an obligatory five-year term as Head of Zoology. Having fulfilled that, I returned to the more satisfying primary roles of teaching and research.

Research

The topics of my research were decided not only as choices of paths diverging in the woods, but also of one thing leading to another. The resulting pattern was a rather tortuous path, much like the branching of a phylogenetic tree.

Although a dedicated herpetologist, I couldn't squelch the temptation to look into other mysteries. My PhD thesis was a comparison of habitat use by amphibians in tropical and temperate forests, and part of it involved a study of terrestrial salamanders in a beech-maple-hemlock forest in northern Michigan. Every day I passed a large decaying log on which three species of ichneumonid wasps simultaneously were going through an elaborate contortion of their ovipositors to drill into the wood and deposit their eggs on wood-boring sawfly larvae. Why the elaborate means of oviposition? Did these species compete? Males of all three species aggregated around a future emergence site of a female boring from the wood but two left before she emerged. How did they know she was there, and how did the two inappropriate species detect her specific identity before they could see her? I got a small grant to study this problem simultaneously with my PhD program---already I had diverged slightly from herpetology. I hired two fellow graduate students (one being Adrian Wenner, later of honeybee fame and whose name graces one of SICB's

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FROM THE RESEARCHERS DATABASE:

Nereis virens burrowing in gelatin by crack propagation, *Kelly Dorgan*

“A scorpion attracted my attention by stinging me and my fourth project was research on scorpion behavior.”

REFLECTIONS: ONE THING LEADS TO ANOTHER, BUT PATHS DO DIVERGE IN THE WOODS, AND THE WHEEL DOES TURN - HAROLD HEATWOLE

awards) and we completed a small research project. We didn't solve all the mysteries, but we satisfied our curiosity on some points. The next divergence

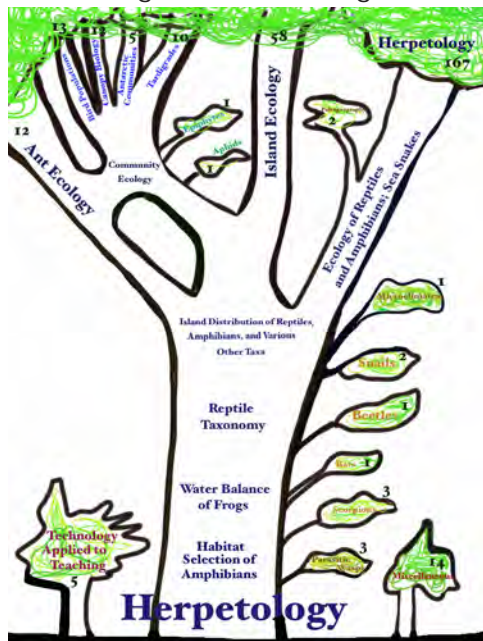
from my professional trajectory came while at UPR and during a herpetological survey of the islands and cays (keys) of the Puerto Rican-Virgin Island archipelago. I became intrigued with island biogeography and collaborated with Richard Levins on a grant to investigate that topic, expanding our taxonomic coverage to a variety of taxa, especially ants. Those were the days when Robert MacArthur and E. O. Wilson were in the early stages of developing their subsequently famous theory of island biogeography. MacArthur was a visitor to our laboratory and we were stimulated by his ideas.

While at UPR, I spent three summers (1961-1963) in Panama working on a joint research project with Owen Sexton on a study of the herpetofauna in a rainforest straddling the proposed route of the PanAmerican Highway. The plan was to study the herpetofauna prior to the building of that section of highway, with a follow-up study after the road was completed to assess the changes wrought by opening the area to the onslaught of human influence. The road took decades to build and by the time it had reached our study area, I had gone to Australia and Owen had moved on to other things. I understand the change in the habitat has been enormous, and if anyone wants to conduct the follow-up, the project is available.

There were four short-term divergences in research topics while at UPR, that attracted my attention. One was a study of the energetic advantage accruing to cattle egrets by following large animals, another was a study of the conservation status of mangroves in Puerto Rico, and a third was the comparative ecology and physiology of tree snails. A scorpion attracted my attention by stinging me and my fourth project was research on scorpion behavior.

In Australia, at UNE, I pursued my herpetological interests, primarily on reptilian thermoregulation initially, but later concentrating on diving physiology, behavior, ecology, and taxonomy of sea snakes. In the early days, I relied heavily on opportunistic means to conduct my fieldwork: as an expert consultant for published articles (National Geograph-

ic), a volunteer diver for underwater television films (Crawford Productions, Wild Kingdom, Ron and Valerie Taylor, Ben Cropp); I also hitch-hiked aboard an Australian naval minesweeper, HMAS Teale, on a sovereignty cruise in the Coral Sea, and aboard a supply ship of the Queensland Lighthouse Service. My sea snake work was put on a more professional footing that allowed for laboratory work by participation in two Alpha Helix expeditions and an Acheron Expedition, both led by William Dunson (Ashmore Reef, Caroline Islands, Timor Sea, Philippines, Great Barrier Reef, Chesterfield Reef), the Belgian Expedition to the Great Barrier Reef, and two Japanese expeditions led by the late Nobuo



My tortuous foray into science, illustrated as a branching tree. The trunk was, and is, herpetology with some major limbs into island ecology, ant ecology, and various aspects of community ecology. Separate saplings grew up under that tree such as the applications of technology to teaching, and a miscellaneous one, dealing mainly with methods. There are also cauliflorous twigs dealing with side projects (not all described in the text). The numbers indicate the numbers of publications arising from these endeavors, and hence are a rough guide to the time spent engaging in those studies. Artwork by Suzanne Miller



continued on page 10

REFLECTIONS: ONE THING LEADS TO ANOTHER, BUT PATHS DO DIVERGE IN THE WOODS, AND THE WHEEL DOES TURN - HAROLD HEATWOLE

Tamiya to the southwestern Pacific. These were followed by working on sea snakes in Prof. Tamiya's laboratory at Tohoku University in Japan, and in the laboratory of the late André Ménez at the French Nuclear Centre (Centre d'Etudes Nucleares), Gif-sur-Yvette, France. In later years, I financed my own expeditions from grants, and most recently collaborated with Harvey Lillywhite on his project on water balance of sea snakes. A highlight of my sea snake research was a dissertation on the role of Cenozoic paleogeography in the

distribution and speciation of sea kraits, for which in 2012 I earned a PhD in Earth and Environmental Science (Geography) from James Cook University. My sustained work in ecological herpetology over the years also led to a thesis-based D.Sc from UNE.

the subject of a dissertation for a PhD in Botany (University of Queensland), and in the other direction to a long-term banding project on gannets that detailed their population changes and responses to instability. This emphasis on the ecology of insular communities, as well as my sustained interest in ant assemblages, developed into a general fascination with how communities are structured. I reasoned that the best approach to understanding such a complex topic was to start with the simplest communities available and try to develop basic principles that might then be applied toward understanding more complex communities. The simplest naturally occurring biotic communities on earth are those in Antarctica, so I carried out fieldwork at all three of the major Australian Antarctic bases and by camping for several months in a tent in the Prince Charles Mountains. One of the main components of Antarctic communities is the Phylum Tardigrada and because of the exceptional attributes of these animals, such as ability to survive practically any environmental insult while in a deeply dormant state (anhydrobiosis), and because they are personally endearing, I began a still-continuing research interest in them in collaboration with a former PhD student, Randy Miller. We expanded the



Harold Heatwole having a conversation with an olive sea snake, *Aipysurus laevis*, at Mystery reef, Swain Reefs, Great Barrier Reef, Australia, 1982.

In Australia I followed several of the divergent paths I had begun to tread in Puerto Rico. I continued my studies of island biogeography by an intensive investigation of the community ecology of a small cay, One Tree Island, and a survey of the biota of the islands and cays of the Great Barrier Reef. Both of these projects not only involved me in biogeography, per se, but increasingly in the community ecology of insular biota, e.g., the impact of sources of instability such as erosion and prograding of islands, disturbance to vegetation by nesting seaturtles, washover during storms, and modification by sea birds of soils and vegetative succession on islands. This path also diverged; in one direction it led to the study of vegetation dynamics on small islands that became



A nunatak range in the Prince Charles Mountains, interior of Antarctica, 1990. Heatwole's tent is located slightly to right of center of the picture.

geographic range studied to include the Subantarctic Islands.

continued on page 11

REFLECTIONS: ONE THING LEADS TO ANOTHER, BUT PATHS DO DIVERGE IN THE WOODS, AND THE WHEEL DOES TURN - HAROLD HEATWOLE

A further spin-off from my interest in community ecology was in the interaction of grazing insects and eucalypt trees. That interest was stimulated by Meg Lowman. Her first job after her PhD was a postdoctoral fellowship under me at UNE and we spent six years studying this plant-herbivore interaction, including its role in the die-back of trees in the New England region of Australia.

I also continued my work on ants while at UNE, looking especially at the change in assemblage structure across environmental and elevational gradients. Thanks to that University's generous allowance for overseas research, I extended the project



Harold Heatwole and research assistant Elizabeth Broese van Groenou on Saharan sand dunes at Ksar Rhilane, Tunisia, 1978.

geographically to include sampling across tundra-birch forest-conifer forest ecotones in Finland; running transects from rainforest to above tree-line at Mt. Kinabalu in Sabah; comparing rainforests in Suriname and Malaysia; and comparing various deserts (Atacama, Patagonian, Namib, Kalahari, Kara-Kum, Gobi, Taklamakan, and Arabian) with Australian ones. I was able to take part in the program of the US/IBP Desert Biome Project, 1974-1978, spending 2.5-8.5 months per year in the Sahara, examining the role of ants in that ecosystem.

When I took up a professorship at NCSU, I maintained some of the major threads of my skein of research: reptiles, amphibians, insect-plant interactions, ants. Perhaps I should add another

cliché to the title of this article: "What goes around, comes around." You may recall that Meg Lowman was a postdoctoral fellow under my supervision for six years in Australia. Now, fast-forward a decade

"Thus, over several decades, we went from me being boss (Australia), to the two of us being collaborators (canopy biology in Madagascar), to her being boss (church forests in Ethiopia)."

or so. In the meantime she had moved to the United States and had taken up an academic position there. She called my attention to the opening at NCSU that I subsequently filled. I subsequently became part of a French expedition to Madagascar, of which my part was to study the grazing of canopy leaves by insects, in collaboration with her and with Sybille Unsicker from Germany. Meg and I further

collaborated on another project. She was in charge of a study of the biodiversity of remnant church-forests in Ethiopia, of which my part was to do an ecological survey of ants. Thus, over several decades, we went from me being boss (Australia), to the two of us being collaborators (canopy biology in Madagascar), to her being boss (church forests in Ethiopia). The wheel does turn.

One of the transitions in my research career was a shift from pure, curiosity-based research to more practical applications such as conservation and management. My first excursion in that direction was the mangrove study in Puerto Rico and a study of the effects of radiation on snails in their natural habitat. Howard Odum, then of the Puerto Rican Nuclear Center, headed a project in which a patch of rainforest was to be studied first as its own control, then irradiated from a Cesium-137 source, and the effects assessed by follow-up investigations. My task was to mark the tree snails and assess death rates and compare various attributes before and after radiation. Although trees and some other biota were killed within a certain radius of the source, my snails survived, including one whose home range included the source.

Later, in Australia, several of my papers on sea snakes were directed toward [continued on page 12](#)

REFLECTIONS: ONE THING LEADS TO ANOTHER, BUT PATHS DO DIVERGE IN THE WOODS, AND THE WHEEL DOES TURN - HAROLD HEATWOLE

questions of sustainability or management. My work on the island ecosystems of the Great Barrier Reef revealed to me how interdependent the insular and marine ecosystems are, and how fragile they are in the face of threatening changes in the global system. I was a Council Member (later President) of the Great Barrier Reef Committee, and participated in a consultancy to the Australian Federal government to recommend a conservation strategy and zoning plan for the Great Barrier Reef. The broad outlines of the plan we proposed are still intact today, about 35 years later. As universities and governmental agencies took over many of the functions of the Great Barrier Reef Committee, I disbanded it and in its place founded the Australian Coral Reef Society.

The emergence of the decline and extinction of amphibians pushed me much further in the direction of management, and the most recent four of the 11 volumes of the series of books I edit on Amphibian Biology dealt with that topic, as have some of my individual papers. I was amazed to find in preparation for this article that 34

(about 10%) of my 335 total publications to date are directly related to conservation or other practical issues, most of these in recent years.

The partial transition from pure science to conservation was not intended. Although interested in physiology, anatomy, histology, and various other medically related aspects of biology, I never had an interest in pursuing a medical career. I simply am not interested in that, worthy though it is. In a similar way, I am fascinated by ecological interactions and how animals and plants function and are adapted to their natural environments; I have an esthetic appreciation for the symmetry between organisms and environment, but I am not interested in crippled ecosystems or in how to repair them. My studies in that direction have been driven

more my duty and urgency, than by curiosity or pleasure.

Editing

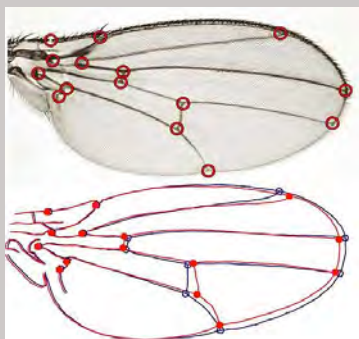
Editing has been an important, and enjoyable part of my career, beginning with serving on editorial boards, later becoming an editor of the Australian Journal of Ecology, then of a series of books on Amphibian Biology, and finally Editor of ICB. The main challenge to editing ICB is the broad coverage of topics and taxa. My delving into different fields, formally receiving training in several disciplines, and taking a wide range of courses, has served me well.



Harold Heatwole using a helium balloon over rain forest in Madagascar to sample leaves from the canopy, 2001.

The diversity of the journal has been not only a challenge, but a delight and an educational experience. It is extremely difficult to keep up with the fast-moving pace of modern biology. The literature has burgeoned and there are now whole fields of study that didn't even exist when I was a graduate student. Integrative and Comparative Biology is a most effective way of keeping abreast of developments in a broad range of biological disciplines at a high level. Each symposium is like taking a short-course on the prograding edge on an exciting field, but without having to pay tuition.

One of the great challenges to responsible editing is to expand the "compact" style characterizing modern science [continued on page 13](#)



FROM THE DEE RESEARCHERS DATABASE:

What influence do developmental processes have on evolution?,
Christian Peter Klingenberg

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REFLECTIONS: ONE THING LEADS TO ANOTHER, BUT PATHS DO DIVERGE IN THE WOODS, AND THE WHEEL DOES TURN - HAROLD HEATWOLE

tific writing into grammatically correct, meaningful, precise language. Do you know, for example, that there are "larval ecologists"---perhaps named Tad Pohl or Mag Ott; I wonder whether they will ever metamorphose into adult ecologists. The "living language" and the coining of new scientific terms should contribute to, not detract from, the effectiveness of communication.

What Next?

As I moved through my 70s, I decided that, despite a family history of longevity, I should be prudent and reduce my primary research to more modest levels and begin paring down and publishing my rather voluminous backlog. Consequently, I am not applying for any

more major grants but will concentrate on publishing results of the data I already have and on writing reviews and books. I will continue my teaching and strive to improve the quality of education at my university. In 2016, I will have served ten years as editor of ICB and have declined to consider a further term.

I will reach my 80th birthday this year and will not celebrate further ones. Rather, from now on, on the appropriate day I will celebrate having reached another year beyond my life expectancy (assessed as 78.3 years at the time I was born). I have adopted a personal mascot who I try to emulate: the pink, drum-beating energizer bunny that advertises batteries on TV, and who "keeps on keeping on."

SPRING FORWARD

PRESIDENT'S REPORT, BILLIE SWALLA

[continued from page 1](#)

Thank you to the SICB officers who work tirelessly to make the Society and the meetings run smoothly. The better they do their jobs, the less you notice, because it seems effortless. I feel privileged being involved with such a wonderful group of scientists and educators.

So, what's my biggest challenge for SICB in the 2013-14 year as SICB President? Finding a new editor for the society's journal Integrative and Comparative Biology (ICB).

EDITOR SEARCH

Current ICB Editor Hal Heatwole has been in this post since 2006. Hal is well into his second five year term and wishes to step down when his appointment ends in January 2016. Under Hal's leadership the journal has thrived. Strong symposia have been published in a most timely way, the journal's reputation has grown and the impact factor is up.

THANK YOU HAL!!!

We have established a search committee for Hal's replacement, chaired by Richard Satterlie (Past President), with Mike Alfaro, Alice Gibb, Sandra Shumway, Ian Sherman, and Peter Wainwright (President-Elect). Please contact Rich Satterlie if you are interested in this position or know someone that

would be excellent. Richard Satterlie satterlier@uncw.edu. Thanks!

BE A SICB DONOR

We have been carefully looking at our various funds and deciding whether to keep those that are not endowed to the \$25,000 mark. You'll be hearing more about this in the coming year. In the meantime, please consider giving some extra donations to your favorite fund when you renew your dues. Your contributions are carefully managed and used to support SICB activities, and we are grateful for them. We would like to concentrate on increasing donations to our Moore fund this year, in order to sponsor educational speakers. If you would like to get involved with this aspect of SICB, please let me know, we can use your help.

ON TO WEST PALM BEACH

Finally, plans are underway for the meeting next year in West Palm Beach, Florida. We have chosen twelve interesting symposia and are busy helping the organizers look for funding, and otherwise be sure that we have a dynamite program. We have some of the best symposia and symposia organizers to be found, and I would like to thank all of those involved in the effort, but especially our Program Officer, Sherry Tamone.

Happy Spring!

Candidates for President:

- *Lou Burnett*
- *Dianna Padilla*

Ballots will be issued later in the spring.

Special thanks to the Nominating Committee:

- *Donal Manahan, Chair*
- *Sarah Berke*
- *Patricia Hernandez*
- *Amy Moran, SICB Member-at-Large*

CANDIDATE PROFILES - SPRING ELECTIONS

Louis E. Burnett

Current Position: Professor of Biology, College of Charleston, SC.

Education: B.S. College of William and Mary (1973); Ph.D. University of South Carolina (1977); Postdoctoral Fellow, University of Aarhus, Denmark (1978).

Professional Experience: Assistant through Full Professor, University of San Diego (1978-1991), Dept. Chair (1988-1991); Professor and Dept. Chair, College of Charleston (1991-1996); Director, Grice Marine Laboratory (1991-2011); Associate Editor, *The Biological Bulletin* (1996-present); Editorial Boards, *Comparative Biochemistry & Physiology* (2002-present) and *Journal of Experimental Marine Biology & Ecology* (1997-2002).

SICB Activities: Member for over 35 years; Secretary (2006-2015); Program Officer, DCPB (1989-1990); Chair, DCPB (1993-1995); associate editor, *American Zoologist* (1998-1999); International Union of Physiological Sciences representative for SICB (2006-2009); International Union of Biological Sciences, Section of Comparative Physiology and Biochemistry, representative for DCPB; co-organized a number of symposia for SICB.

Other Memberships: American Physiological Society; Council on Undergraduate Research; Coastal & Estuarine Research Federation; National Shellfisheries Association; Southeastern Estuarine Research Society; Southern Association of Marine Laboratories (President 2014-2015).

Research Interests: Environmental physiology of animals; influence of environmental variables, especially hypoxia and CO₂, on the physiology, immunology, and disease resistance of animals; the transition from water breathing to air breathing.

Statement of Goals: As SICB President, I will work to strengthen our voice in public forums on things that we as biologists know something about and especially biological issues associated with climate change and species diversity and resilience. I will also work hard to continue to build our endowments which will enable us to continue our excellent meeting programs and at a reasonable cost. SICB has grown and evolved because integrative and comparative biology resonates with the community. But SICB is also strong because of its emphasis on students and young professionals and its efforts to broaden the participation in biology of underrepresented people. Our tradition of strong scientific meetings and our recent public stands on important educational and scientific issues have gained us national attention. SICB played an important role in how I view the world as a scientist starting in the 1970s when I was a graduate student; it is why I bring my students to SICB each year. I have had the honor and pleasure of being involved in the leadership of this society working with some really great people. My service to SICB, most recently as society secretary, have allowed me to give back to SICB. I would be honored to be your president.



Candidates for President:

- Lou Burnett
- Dianna Padilla

Ballots will be issued later in the spring.

Special thanks to the Nominating Committee:

- Donal Manahan, Chair
- Sarah Berke
- Patricia Hernandez
- Amy Moran, SICB Member-at-Large

CANDIDATE PROFILES - SPRING ELECTIONS

Dianna K. Padilla

Current Position: Professor of Ecology and Evolution and Affiliated Professor, School of Marine and Atmospheric Sciences, Stony Brook University, NY.

Education: B.A. University of Washington (1978); M.S. Oregon State University (1982); Ph.D. University of Alberta (1987); Postdoctoral Fellow, Cornell University (1987-1989).

Professional Experience: Professor and Associate Professor, Stony Brook University (1999-present); Associate and Assistant Professor, University of Wisconsin Madison (1989-1998); Program Director, Integrative Organismal Systems, Biology, National Science Foundation (2006-2007).

SICB Activities:

Chair, DIZ (2010-2013); Editorial Board, Integrative and Comparative Biology (2004-2012); Nominating Committee (2004, Chair 2013); Member-at-Large (2001-2004); Committee to Increase Diversity (Broadening Participation) (2000-2007, Chair 2000); Chair, DEE (1997-1999); NSF-funded workshop with Dr. F. Thomas in 1998 to develop plan for broadening participation in SICB and the field of Integrative and Comparative Biology, which led to the standing committee and current activities on Broadening Participation; co-authored (with Schwenk, Bakken and Full) the first paper in ICB articulating the Grand Challenges of Organismal Biology; participated in several subsequent workshops and papers on Grand Challenges of Organismal Biology; lead organizer of NSF-funded workshop and recent symposium (with Swalla and



Tsukimura) on developing a research agenda to address the Grand Challenge of "How animals walk the tightrope between stability and change."

Other Memberships: Ecological Society of America; AAAS (AAAS Fellow 2013); American Association of University Women; American Malacological Society; American Microscopical Society; National Shellfisheries Association; Sigma Xi.

Research Interests: Functional Ecology; Functional Morphology; Evolutionary Ecology; Phenotypic Plasticity; Marine and Freshwater Ecology of Invertebrates and Plants; Invasion Biology.

Statement of Goals:

I am honored to be considered to run for SICB President, and excited by the prospect of leading our Society. We are in the midst of a renaissance in organismal biology. Each of the Divisions in our Society is of growing relevance across biology. Recent efforts developing Grand Challenge questions and pursuing a forward-thinking research agenda has placed our Society at the leading edge of our field. The past leadership of SICB has kept our Society financially secure and growing. My goals are to keep SICB sound, serve the needs of its membership, and keep us at the forefront of organismal biology. The members of SICB are clearly poised to be important intellectual leaders, as well as leaders in science policy and impacts of our science on society at large. One of my goals is to see that we do just that.

Candidates for Treasurer:

- Lara Ferry
- Karen Martin

Ballots will be issued later in the spring.

Special thanks to the Nominating Committee:

- Donal Manahan, Chair
- Sarah Berke
- Patricia Hernandez
- Amy Moran, SICB Member-at-Large

**CANDIDATE PROFILES - SPRING ELECTIONS****Lara A. Ferry**

Current Position: Associate Director and Associate Professor, School of Mathematical and Natural Sciences, Arizona State University, Glendale, AZ.

Education: B.S. California Polytechnic State University San Luis Obispo (1991); M.S. Moss Landing Marine Laboratories, San Francisco State University (1994); Ph.D. University of California Irvine (1998); Postdoctoral Scholar, University of California Irvine (1998-99), University of California Davis (1999-2002).

Professional Experience: Associate Professor (2010 to present) and Associate Director (2014 to present), School of Mathematical and Natural Sciences, Arizona State University; Research Faculty, Moss Landing Marine Laboratories (2002-2010).

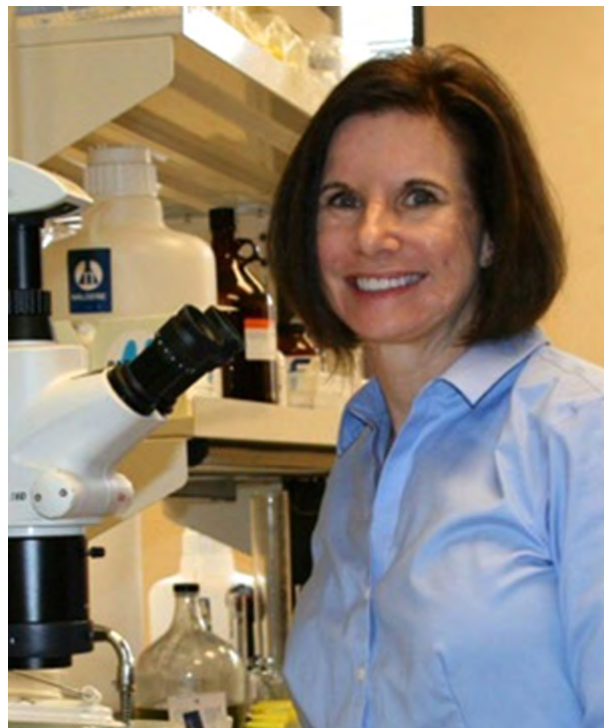
SICB Activities: Member of DVM since 1995; Secretary of DVM (2010-2012); ICB Editorial Board member (2012 to present); judge of DVM Best Student Papers at two meetings.

Other Memberships: American Society of Ichthyologists and Herpetologists (Gibbs Award and Broadening Participating Committees); American Elasmobranch Society (Grant Funds Award Committee, President 2012-2013, Executive Board 2013 to present); Western Society of Naturalists (Treasurer 2004-2007); Arizona Nevada Academy of Sciences.

Research Interests: Biomechanics/Functional Morphology of fish jaws, particularly jaw innovations for feeding in the aquatic realm.

Statement of Goals: Having served as the Treasurer for two different non-profit organizations, one of which was a scientific society, I am keenly aware of the importance of the society's finances. This is not just safeguarding our funds so we can pay the bills, but

includes planning for the future and ensuring that our goals as a society can continue to be met for the long term. This is an exciting time for SICB as our membership numbers are fairly strong (compared with many societies right now), and our finances are sound. However, that does not mean it is time to sit back and relax. This means it is time to plan, and to secure our strength heading into the next decade, and beyond. Our endowments could be shored up, and many divisions are looking to create new endowments. Endowments are lasting legacies that SICB can provide to honor some of our greatest members posthumously. I hope to work with our excellent finance committee members and with our professionals in this arena, as well as in meeting our other financial needs. SICB remains, to me, the standard of excellence by which I measure other societies. I am



committed to helping to make sure that SICB can continue to provide the excellent programming, mentoring, and personal development opportunities for which it is so well known.

Candidates for Treasurer:

- Lara Ferry
- Karen Martin

Ballots will be issued later in the spring.

Special thanks to the Nominating Committee:

- Donal Manahan, Chair
- Sarah Berke
- Patricia Hernandez
- Amy Moran, SICB Member-at-Large

CANDIDATE PROFILES - SPRING ELECTIONS**Karen L. Martin**

Current Position: Professor of Biology and Frank R. Seaver Chair in Natural Sciences, Pepperdine University, Malibu, CA.

Education: B.S. and M.S. University of Oklahoma; Ph.D. University of California, Los Angeles (1990); Friday Harbor Postdoctoral Fellowship, University of Washington (1990-1991).

Professional Experience: Assistant through Full Professor, Pepperdine University (1991-present; Frank R. Seaver Chair awarded in 2000); Research Associate, Scripps Institution of Oceanography (2007-2013).

SICB Activities: Treasurer (2013-2015); Life member of SICB; Secretary, DCPB (1996-1998). Publica-

were funded by NSF and many divisions of SICB, and published in our journal. Judge for student awards in DCPB and DEE multiple times.

Other Memberships: American Society of Ichthyologists and Herpetologists (Life Member, also on Board of Governors since 2010); American Institute of Fishery Research Biologists (Fellow; former Vice-Director of Southern California district); American Fisheries Society, Cal-Neva Division; Southern California Academy of Sciences (formerly on Board of Governors); Society for the Study of Sandy Beaches; Beach Ecology Coalition (Board of Directors and Secretary).

Research Interests: I am a physiological ecologist at the interface between water and land, particularly in coastal marine ecosystems. I study intertidal and air-emerging fishes, beach spawning fishes, and terrestrial embryo development of marine and aquatic animals. I work with over 4000 citizen scientists in the Grunion Greeters program and am developing a new outreach for conservation of the sandy beach ecosystem in southern California.

Statement of Goals: As Treasurer, I am committed to supporting student research and travel, along with the many activities that encourage professional growth and development of SICB members. I endeavor to increase transparency of the budget process and sensibly grow the endowment funds.



tions Committee (1998-2004, Chair, 2002-2004); co-organized symposia "Aquatic Organisms, Terrestrial Eggs" with Richard Strathmann (1998) and "Environmentally Cued Hatching Across Taxa" with Karen Warkentin and Richard Strathmann (2011). Both



Candidates for Program Officer:

- Rick Blob
- Jonathon Stillman

Ballots will be issued later in the spring.

Special thanks to the Nominating Committee:

- Donal Manahan, Chair
- Sarah Berke
- Patricia Hernandez
- Amy Moran, SICB Member-at-Large

CANDIDATE PROFILES - SPRING ELECTIONS**Richard W. Blob**

Current Position: Professor, Department of Biological Sciences, Clemson University, Clemson, SC.

Education: B.A. University of Pennsylvania (1992); Ph.D. University of Chicago (1998); NIH-NRSA Postdoctoral Fellow, Field Museum, Chicago (1999-2001).

Professional Experience: Assistant (2002-2007) and Associate (2007-2012) Professor, Clemson University.

SICB Activities: Member of DVM and DEE since 1994; member of DCB since its founding in 2007; DVM Program Officer (2010-2012); chair of DVM Davis Award for Best Student Presentation (2004), and judge for student presentations in DVM (2003, 2008, 2009, 2012) and DCB (2008, 2009); DVM (2001) and SICB (2013) Nominating Committees; SICB ad hoc Committee for review of Oxford University Press as ICB publisher (2009-2010); organized

Other Memberships: Society of Vertebrate Paleontology (Predoctoral Fellowship Committee 2003-2014; Chair, Awards Committee 2013-2014); Society for Experimental Biology; International Society of Vertebrate Morphologists; American Society of Ichthyologists and Herpetologists; Herpetologists' League; Society for the Study of Amphibians and Reptiles; Sigma Xi.

Research Interests: Evolutionary and ecological morphology and biomechanics, including: Comparative musculoskeletal function during locomotion and feeding in vertebrates; Functional correlates of evolutionary and ontogenetic changes in habitat and behavior; Biomechanical modeling of fossil taxa to gain insight into the evolution of function.

Statement of Goals: The richness and diversity of the SICB program has helped the Society to grow even through the difficult economy of recent years. I will work to keep us building from these strengths. During program organization, I will facilitate communication across divisions, and help divisional program officers to coordinate sessions that maximize integrative opportunities for attendees. Symposia form the core of our journal as well as a major cross-disciplinary focus of the meeting. I will work with divisional program officers to recruit forward-looking symposia, and provide advice to members who are developing symposia and seeking funds to support them. I will encourage members to advance creative ideas for strengthening the program, such as new presentation formats, particularly as our meetings become larger. And to ensure a strong future for SICB, I will promote workshops and other efforts that enhance student training, broaden participation, and reach out to the public.



Southeast Regional Joint DVM-DCB Meeting at Clemson (2008); co-organized SICB symposia "Going with the Flow: Ecomorphological Adaptations to Aquatic Flow Regimes" (2008), "Vertebrate Land Invasions: Past, Present, and Future" (2013), and "Terrestrial Locomotion: Where Do We Stand, Where Are We Going?" (2014).

**Candidates for
Program Officer:**

- Rick Blob
- Jonathon Stillman

**Ballots will be issued
later in the spring.**

**Special thanks to the
Nominating Committee:**

- Donal Manahan,
Chair
- Sarah Berke
- Patricia Hernandez
- Amy Moran, SICB
Member-at-Large



CANDIDATE PROFILES - SPRING ELECTIONS

Jonathon H. Stillman

Current Position: Associate Professor, Romberg Tiburon Center and Department of Biology, San Francisco State University, CA; Adjunct Assistant Professor of Integrative Biology, University of California Berkeley, CA.

Education: B.S. University of Minnesota (1991); Ph.D. Oregon State University (1998); Postdoctoral Fellow, Johns Hopkins University (1999-2000), Hopkins Marine Station, Stanford University (2001-2003).

Professional Experience: Assistant, then Associate, Professor, San Francisco State University (2005-present); Adjunct Assistant Professor, University of California Berkeley (2009-present); Assistant Professor, University of Hawaii Manoa (2003-2005); Visiting Assistant Professor, Occidental College (2000-2001).

SICB Activities: Member since 1990; Program Officer DCPB (2013-2014); Secretary DCPB (2006-2007); co-author of two Grand Challenges in Organismal Biology manuscripts (2010, 2011); organized symposia, including

“Physiological Responses to Simultaneous Shifts in Multiple Environmental Stressors: Relevance in a Changing World” (2013) and “Recent Advances in Crustacean Genomics” (2008); organized SICB workshops, including Macrophysiology (2013) and Grand Challenges in Organismal Biology (2011).

Other Memberships: past member of AAAS, Sigma Xi, American Physiological Society (APS); Society for Experimental Biology; Protein Society; AIBS. Co-organizer of the 2014 APS Comparative Physiology meeting.

Research Interests: Marine environmental physiology; thermal biology; ocean acidification; multi-stressor, integrative genomics.

Statement of Goals: Since 1987, when I attended my first ASZ meeting as a freshman undergraduate, SICB has been an important mainstay of my professional career. The strengths of SICB as a broad and student-postdoc friendly meeting that still draws notable mid-career and senior researchers are important to maintain. I feel that many comparative biologists have chosen to attend society meetings other than SICB (e.g., comparative physiologists who solely attend Experimental Biology), which is a loss for SICB. Elizabeth Pennisi described the SICB flight phenomenon in her Science article following the 2014 meeting (<http://www.sciencemag.org/content/343/6167/129.summary>), but noted that SICB is now again on a steady growth trajectory. As SICB program officer I will focus my efforts on two goals: First, I will work towards ensuring that the SICB annual meetings remain a core high-priority meeting for comparative biologists to attend because of the importance to the field and the attractiveness of the venues, paying particular attention to retaining the many young and diverse scientists who have recently joined the society. Second, I will strongly encourage the development of interdivisional symposia that reflect the multi-disciplinary nature of comparative biology, that meet the grand challenges in organismal biology that SICB members have outlined, and that promote fruitful future directions for strengthening the field of comparative biology so that SICB's growth and prominence continues to increase.

Candidates for Chair of the Educational Council:

- **Bram Lutton**
- **Erika Iyengar**

Ballots will be issued later in the spring.

Special thanks to the Nominating Committee:

- **Donal Manahan, Chair**
- **Sarah Berke**
- **Patricia Hernandez**
- **Amy Moran, SICB Member-at-Large**

CANDIDATE PROFILES - SPRING ELECTIONS

Bram V. Lutton

Current position: Associate Professor of Biology and Biotechnology, Endicott College, Beverly, MA.

Education: B.A. Colby College (1995); Ph.D. Boston University (2007). Post-doctoral investigator in transplantation immunology, Massachusetts General Hospital and Harvard Medical School (2007-2008)

Professional Experience: Associate Professor of Biology and Biotechnology, Endicott College, (2009-2014); Visiting Professor, Franklin W. Olin College of Engineering, Needham, MA (2008-2009).

SICB Activities: Member of DCE and the DCPB since 2003, and I'm looking forward to the new Division of Ecoimmunology!; member of the Education Council (2010-2014); coordinated the first Ecoimmunology symposium, "Recent Advances and Applications for Conservation and Public Health," with

from both basic science and clinical perspectives (2006); judge for many SICB poster sessions; represented SICB Education Council at the 2012 AAAS meeting focused on involving professional societies with STEM education reform in the U.S., which led me to coordinating the inaugural SICB Teaching and Learning Workshop: Introductory Biology - a huge success!

Other Memberships: Mount Desert Island Biological Laboratory Alumni Association (President); North Shore Chapter of Sigma Xi (Secretary); Developmental and Comparative Immunology; Transplantation Society; Society for Experimental Hematology; American Society for Reproductive Immunology.

Research Interests: Comparative cellular and molecular mechanisms of neuroendocrine-immune interactions in tissue regeneration. Through collaborations with the Cat Cove Marine Laboratory (Salem State University) and the Mount Desert Island Biological Laboratory, my students and I are able to conduct in vivo, in vitro, and in situ studies in elasmobranchs (sharks, skates and rays). These marvelous species offer novel insight regarding the evolutionary mechanisms governing physiological systems.

Statement of Goals: If elected Education Council Chair for SICB my aim would be to continue working diligently with the other members on the Council, who I know from experience are highly motivated to continue in the footsteps of Bob Podolsky, Chair for the past two terms. I have had the privilege to serve with Bob since 2010, and his innovative approach to guiding society decisions that emphasize undergraduate and graduate student training need to continue as a priority for SICB. Luckily, SICB has a rich history of supporting education, along with the leadership necessary to continue with this goal.



colleagues at Princeton, to foster interdisciplinary collaborations among colleagues studying various model species

Candidates for Chair of the Educational Council:

- **Bram Lutton**
- **Erika Iyengar**

Ballots will be issued later in the spring.

Special thanks to the Nominating Committee:

- **Donal Manahan, Chair**
- **Sarah Berke**
- **Patricia Hernandez**
- **Amy Moran, SICB Member-at-Large**

CANDIDATE PROFILES - SPRING ELECTIONS

Erika Iyengar

Current Position: Associate Professor of Biology, Muhlenberg College, Allentown, PA.

Education: B.S. Stanford University (1993); Ph.D. Cornell University (2002).

Professional Experience: Assistant, then Associate, Professor, Muhlenberg College (2003-present); Visiting Assistant Professor, The College of Wooster (2002-2003); summer course instructor, Shoals Marine Laboratory, Maine (2002, 2003).

SICB Activities: Secretary of DIZ (2011-2013); Broadening Participation Committee (2006-2008); auctioneer for two DIZ Libbie H. Hyman auctions.

Statement of Goals: Cutting-edge research is critically important, but equally important is the ability to convey those findings and their implications, the scientific process, and a general excitement for science to the next generation of scientists, voters, and the general public. Therefore, SICB has an imperative to assist its members in examining, discussing, and disseminating the most effective ways to intermesh science in all aspects of education. As a graduate student, SICB encouraged me to continue my research, helped hone my scientific communication skills, and provided me with an extensive network of scientific advisors/friends. As a professor, my students and I have benefited tremendously from my continued involvement in SICB through its extensive network of scientists and educators. I am committed to benefit SICB members and the students they reach through facilitating activities that promote understanding the issues facing science education today, current best practices, and new ideas, and creating a supportive structure where educators can discuss failures and frustrations and seek advice, as well as celebrating successes. I have taught two courses a semester over the past 11 years at a primarily undergraduate institution, and these classes span the range: the first semester of Introductory Biology (180 students, in both large lecture and weekly groups of 20 for interactive hands-on activities), small (<15) upper-level courses with laboratories (both field-based and indoors), field-based intensive residential courses, capstone courses for our majors, non-majors courses, and first-year writing seminars. For all of these courses, I am constantly investigating new ways to alter and improve my pedagogy. Currently, I am in the second of my 3-year term on the board of the Faculty Center for Teaching at Muhlenberg College, and served a 3.5 year term on this board previously.



Research Interests: Ecology of invertebrates, especially gastropod and isopod feeding and predator-prey interactions.

Candidates for Member-At-Large:

- Jennifer Burnaford
- Jimmy Liao

Ballots will be issued later in the spring.

Special thanks to the Nominating Committee:

- Donal Manahan, Chair
- Sarah Berke
- Patricia Hernandez
- Amy Moran, SICB Member-at-Large

CANDIDATE PROFILES - SPRING ELECTIONS

Jennifer L. Burnaford

Current Position: Assistant Professor of Biological Science, California State University, Fullerton, CA.

Education: B.A. Dartmouth College (1992); Ph.D. Oregon State University (2001); NSF International Postdoctoral Fellow, Arizona State University, Inter-cultural Center for the Study of Deserts and Oceans, Puerto Peñasco, Mexico (2001-2003).

Professional Experience: Visiting Instructor, University of Washington Friday Harbor Laboratories (2003); Visiting Assistant Professor, University of Puget Sound (2003-2009); Assistant Professor, California State University, Fullerton (2009-Present).

SICB Activities: SICB member since 2000 (DEE and DIZ); Chair, Libbie H. Hyman Memorial Scholarship Committee, DIZ (2010 – present); DIZ Student Poster Judge.

Other Memberships: Phycological Society of America (Science and Public Policy Committee 2011-2013); Society for the Advancement of Chicanos and Native Americans in Science; Western Society of Naturalists.

Research Interests: Plant-Herbivore Interactions; Physiological Ecology; Community Ecology; Habitat Modification; Invasive Species.

Statement of Goals: I am strongly committed to all three prongs of SICB's mission to foster "research, education, and public awareness." My period of service to the society began only recently, but my experiences have made me eager to become more involved and I welcome the opportunity to represent and work with members from all divisions as member-at-large. At the annual meeting and year-round through the web site, SICB provides opportunities for connections and collaborations which are critical to advancing our understanding of our changing world. Our annual meetings set a remarkably high standard in scheduling events that inspire interaction across study systems and sub-disciplines, as evidenced by the fact that more than 90% of the symposia in our last three meetings were sponsored by three or more divisions. The society's long-standing commitment to supporting student research is shown through the large number of student grants, and I would work to continue and expand these funding opportunities which are so important to our new members and subsequently to the future of the society. I also support the large number of programs designed to enhance the experience of students at our meetings, including the travel scholarships and the Broadening Participation Committee activities. SICB's continued commitment to science education and outreach, so evident with the recent establishment of the Morse Award and the expansion of the digital library, are important aspects of the society. As member-at-large my priority would be to make and strengthen connections across divisions to support and expand all of these activities to help the society grow.



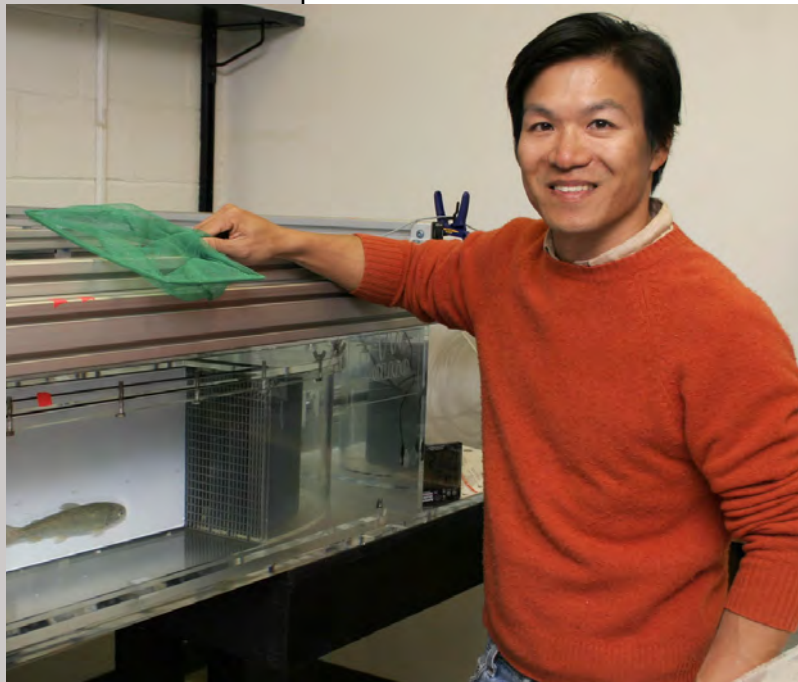
Candidates for Member-At-Large:

- Jennifer Burnaford
- Jimmy Liao

Ballots will be issued later in the spring.

Special thanks to the Nominating Committee:

- Donal Manahan, Chair
- Sarah Berke
- Patricia Hernandez
- Amy Moran, SICB Member-at-Large



CANDIDATE PROFILES - SPRING ELECTIONS

James C. Liao

Current Position: Assistant Professor of Biology, The Whitney Laboratory for Marine Bioscience, University of Florida, Gainesville, Saint Augustine, FL.

Education: B.A. Wesleyan University (1996); M.A. Harvard University (2003); Ph.D. Harvard University (2004); Postdoctoral Fellow, Cornell University (2004-2008).

Professional Experience: Assistant Professor of Biology, The Whitney Laboratory for Marine Bioscience (2009-present); Research Associate, Division of Vertebrate Zoology, American Museum of Natural History (2011-present); Affiliate Assistant Curator of Ichthyology, Florida Museum of Natural History (2009-present); Research Associate, Department of Neurobiology, Cornell University (2007-2008); NIH NRSA

Postdoctoral Fellow, Cornell University (2004-2007); Visiting Research Faculty, Undergraduate and Graduate Tropical Field Biology, Organization for Tropical Studies, Costa Rica and Panama (2000-present).

SICB Activities: Member of DVM since 1998 and, in the past several years, DCB and DNB. Best Student Presentation Judge DCB (2014); organizer and Best Student Presentation Judge DVM (2013); Best Student Presentation Judge, DVM, DNB (2011).

Other Memberships: Association for Research in Otolaryngology; Society for Neuroscience; International Society for Neuroethology; Society for Experimental Biology; American Society of Ichthyologists and Herpetologists.

Research Interests: Neurobiology of vertebrate sensory and motor systems; biomechanics of aquatic locomotion; ecology, evolution and behavior of fishes.

Statement of Goals: The professional opportunities that a young biologist has at SICB are unrivaled in today's scientific societies. From precocious high school students to wide-eyed assistant professors, SICB has always provided a fertile ground to advance questions in the diversity of biological life. The fabric of science is experiencing some ripples, and among my interests are to keep the type of science we do relevant to the public. This comes through not only innovative techniques but a desire and understanding of how to connect our work with the society at large. I would also like to attract and maintain energetic and talented students from non-traditional backgrounds, as science progresses fundamentally by the invitation and vetting of creative ideas. SICB does a lot that is right; where else can a first year graduate student rub elbows with MacArthur Fellows, or discuss a peculiar finding with a leading expert in the field over dinner? I hope my cross-disciplinary research approach and experience at small liberal arts universities as well as large research institutions will help me continue SICB's noble mission of training and developing the next generation of biologists.