

SOUTHEASTERN BIOLOGY



Volume 62

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Number 2

ASB **ASB 76TH ANNUAL MEETING** *ASB*

ASB **APRIL 1-4, 2015** *ASB*

University of Tennessee at Chattanooga

ASB **Meeting Site: Convention Center at the
Marriott, Chattanooga, Tennessee** *ASB*

See Page 103 and Consult Website
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Entrance to the University

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SOUTHEASTERN BIOLOGY

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PURPOSE

The purpose of this association shall be to promote the advancement of biology as a science by encouraging research, the imparting of knowledge, the application of knowledge to the solution of biological problems, and the preservation of biological resources. The ASB has representation in Section G Committee of the AAAS. Varying types of membership are available to individuals and institutions. See inside back cover.

TIME AND PLACE OF FUTURE MEETINGS

2015 April 1-4: Hosted by the University of Tennessee at Chattanooga and by the Tennessee Aquarium. Meeting site is the Convention Center at the Marriott.

THE VIEW FROM HERE

A MESSAGE FROM THE PRESIDENT

ZACK MURRELL

I come to the close of my two-year presidency with a bittersweet sense of accomplishment, sadness, confidence and concern. Many people have stood with me through some tough moments, worked with me through stressful and challenging efforts, and shared the joys of camaraderie, success and a sense of a job well done. I would particularly like to thank Joey Shaw, our incoming President, for being a friend, listening to my deepest fears and always being there when I needed assistance. The Officers and Executive Committee have sustained tremendous efforts to keep our Association strong. Several past Presidents spent countless hours hearing me out, offering advice and wisdom and sometimes a shoulder to cry on. John Herr, truly a giant in the history of this organization, provided a strong back and a laser focus to help me fully grasp and understand the importance of ASB in the past, present and future and how critical it was for us to make the necessary changes to move forward. Jim Caponetti, the quiet brains behind the organization, has toiled to keep us on track with a phenomenal institutional memory of what needs to be accomplished to keep ASB sound. Most people will never know the extent of the challenges faced by the leadership of ASB during the past two years and I will never be able to adequately thank those many people who stood by my side. Finally, my dear friends and family, supervisors and co-workers recognized the challenges we were facing as an organization and have graciously supported me when, due to the amount of effort needed to help ASB survive and grow, I was unable to give attention to my family, friends and my job due to the demands of leading ASB into a new day.

The most important thing I have learned about ASB during the past two years is that we are a sturdy and resilient organization that was built by volunteer efforts, sustained by volunteer efforts and can only survive into the future through young people stepping up to provide continuing volunteer support to this wonderful organization. The past two years have had the unexpected consequence of forging, as heat does to steel, a new generation of leaders in our organization who are tough, solid and well prepared to move us forward. I can report with confidence that the state of the Association of Southeastern Biologists is sound. We have a group of volunteers, officers and former officers, Executive Committee members, committee chairs and members, patrons and exhibitors, and an enthusiastic and loyal membership who understand the role of the Association and who have a pretty good understanding of what we need to do to move forward effectively, with a sense of history and an appreciation of our role in the future. This solid organizational foundation is a tremendous platform for building synergies and accomplishing great things.

We have significant challenges facing us as we move into the future. As the largest regional organization of life scientists, educators and state and federal biologists in the nation, we have a responsibility to the citizenry and the planet to uphold high professional standards and to help the public understand the importance of science, science education and conservation on our own health and on the health and wellbeing of our world. This is a critical role for the organization as we, as a community, try to understand how to support science and science education in the 21st century.

As long as we remember that the strength of our organization comes from the volunteer efforts of many and as long as we empower those volunteers to work toward the greater good of the group, we can look forward to a healthy and vibrant Association for another 76 years. We need to be welcoming of students and new members coming into our Association and we need to help them understand that our professional wellbeing is dependent upon a healthy and durable professional organization. I thank you all for your support, friendship and good will. I challenge you to recognize the role ASB has had in your own professional development, the development of your students and your colleagues, and to commit to supporting this organization over the course of your careers. The Association of Southeastern Biologists is a strong and vibrant organization and with your help we can accomplish great things regionally and nationally to make this world a better place.☺

ASB CANDIDATES FOR OFFICE—2015

The Nominating Committee composed of Donald H. Roush (Chair), Joey T. Shaw, and Ray S. Williams has selected the following slate of nominees for the ASB offices to be filled in 2015. Voting will take place at the annual business meeting which begins on Thursday, April 2, at 5:15 PM. Additional nominations will be accepted from the floor before voting is conducted. Please plan to attend and vote. Elections can sometimes be close. Therefore, your vote could make a difference on who gets elected to office.

Vice President **Judy Awong-Taylor** Georgia Gwinnett College
Lawrenceville, Georgia

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Associate Treasurer **Tracy L. Deem** Bridgewater College
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J. Christopher Havran Campbell University
Buies Creek, North Carolina

Heather Dawn Wilkins University of Tennessee
Martin, Tennessee



Dr. Judy Awong-Taylor



Dr. Edgar B. Lickey



Dr. Tracy L. Deem



Dr. Emily L. Gillespie



Dr. J. Christopher Havran



Dr. Heather Dawn Wilkins

VICE PRESIDENT

Judy Awong-Taylor – Dr. Judy Awong-Taylor is Associate Dean and Professor of Biology at Georgia Gwinnett College, Lawrenceville, Georgia. She received her bachelor's degree in Zoology and Botany from the University of the West Indies, Trinidad, and her master's and doctoral degrees from the University of Florida in the area of Environmental Microbiology. Prior to joining GGC, Dr. Awong was a Professor of Biology and Interim Department Head at Armstrong Atlantic State University and also served as Director of the University System of Georgia's STEM Initiative. She is also a PULSE Leadership Fellow. During her tenure at AASU, she was actively involved in undergraduate research, student-centered learning, and K-16 collaborative activities. Her current interests center on STEM Education and as a PULSE Leadership Fellow she is actively involved in efforts focused on departmental and institutional change. She is passionate about teaching and is the recipient of AASU's Kristina Brockmeier Faculty Teaching and Service Award, the H. Dean Propst Teaching Excellence Award, and the University System of Georgia's Board of Regent's Teaching Excellence Award. She has authored and co-authored several lab manuals, is the recipient of multiple grants, and has presented with her students at numerous professional conferences including ASB. Dr. Awong also served as a *Beta Beta Beta* Biological Honor Society advisor for fourteen years and has actively participated in numerous regional TriBeta Meetings. She has been an active member of ASB for many years, served on the Microbiology Awards Committee as both a member and Chair, and is currently serving as Member-at-Large.

TREASURER

Edgar B. Lickey – Dr. Edgar B. Lickey earned his B.S. in Biology from St. Andrews Presbyterian College, M.S. in Biology from Appalachian State University, and Ph.D. in Botany from the University of Tennessee, Knoxville. Since fall of 2007, he has been at Bridgewater College where he is an Associate Professor, herbarium (BDWR) curator, and TriBeta advisor. The courses he teaches are general biology, botany, plant taxonomy, biogeography, summer flora, and winter ecology. His current research interests include taxonomy, systematics, and biogeography of both vascular plants and basidiomycete fungi and everything from species inventories of natural areas to molecular analysis. Ed first attended ASB in 1991 as a TriBeta student and has been a member of both ASB and SABS since 1994 and the SHC since 2007. He was elected ASB Executive Committee Member-at-Large in 2013 and has served as Interim Treasurer since January 2014. He is an executive council member at large for SHC, serving on the Student Research Grant Committee, and has previously served as executive council member at large for SABS and as chair of the SABS student presentation awards committee. Other past service includes the SABS Nominations Committee, Southeastern Section BSA Student Presentation Award Committee, and chair of the ASB Graduate Student Support Award Committee.

ASSOCIATE TREASURER

Tracy L. Deem – Dr. Tracy L. Deem earned her B.S. in biochemistry from Marietta College, Marietta OH, and her PhD in Pathobiology and Molecular Medicine from the University of Cincinnati, Cincinnati, OH. Following her graduate work, she completed a post-doctoral position at the University of Virginia, where she continued her research in white blood cell trafficking. Tracy is currently an Assistant Professor of Biology at Bridgewater College, Bridgewater, VA where she teaches courses in immunology, histology, and introductory biology. Tracy's current area of research is in identifying white blood cell subsets involved in pathogenesis of malaria in collaboration with James Madison University. Other research interests include the scholarship of teaching and learning. As a transplant to the southeastern region of the United States, Tracy is a more recent member of ASB.

EXECUTIVE COMMITTEE MEMBERS-AT-LARGE

Emily L. Gillespie – Dr. Emily L. Gillespie has been an assistant professor of biology at Marshall University in Huntington, WV, since fall 2012. Emily holds a B.A. in Biology from the University of North Carolina at Asheville (2000), an M.S. in Biology from Appalachian State University (2005) and a Ph.D. in Biology from Wake Forest University (2010). Since discovering ASB as a Master's student, Emily has participated actively as a student and faculty presenter, facilitated student participation, and served on multiple committees. She served on the ASB 2013 Annual Meeting Arrangements Committee. She is currently the Botanical Society of America Southeastern Section chairperson and oversees the BSA-SE student award program at ASB. She also serves on the ASB Conservation Committee. As an undergraduate, Emily focused primarily on parasitology and vertebrate ecology, but shifted toward plant taxonomy as a graduate student. She has most recently taught formal courses in introductory cell / genetics / molecular biology, introductory evolution / diversity / ecology, plant taxonomy, and phylogenetic biology. Emily curates the 50,000-specimen Marshall University herbarium and she also maintains an active molecular phylogenetics lab. Emily has been active in the national and regional effort to digitize natural history collections since 2005, including organizational roles. Emily's current research interests include deep-time phylogenetics, species boundaries puzzles, and herbarium informatics, all somewhat loosely focused on the Ericaceae (Rhododendron family).

J. Christopher Havran – Dr. J. Christopher Havran is an Associate Professor in the Department of Biological Sciences at Campbell University in Buies Creek, North Carolina. Chris received a B.S. in Biology with a focus in Botany from Lebanon Valley College (Annville, PA) in 2002, a M.S. in Biology from The University of Louisiana at Monroe in 2004, and a Ph.D. in Environmental and Plant Biology from Ohio University in 2008. Chris has taught courses in Introductory Biology, Botany, Plant Physiology, Tree and Shrub Identification, and Hawaiian Natural History and Culture. The latter is a program taught for three weeks across Hawaii. Students in his Hawaiian field program have the opportunity to collaborate on original research. His research efforts focus on

southeastern floristics and the evolutionary history of endemic Hawaiian flowering plants. Since joining the faculty of Campbell University in 2008 Chris has mentored 13 undergraduate students. His students have presented their research at the ASB annual meeting since 2011 and three of his students have been recognized with the Young Botanist Award from the Botanical Society of America. He has received the Dean's Excellence in Research Award (2012) and the Walter S. Jones Sr. Alumni Award for Research Excellence (2013) from Campbell University. Chris is the founder and current curator of the Campbell University Herbarium (CAU). Chris has served on the ASB Education Committee for three years. In 2013 he became co-chair of the Committee with Kirk Stowe. He worked with Kirk to organize a symposium entitled: "Educational Opportunities at Biological Field Stations in the Southeastern United States" held at the 2014 annual meeting of the ASB in Spartanburg, SC. He thoroughly enjoys the annual ASB meetings and has fond memories of presenting his first research presentation at the 2004 meeting of the ASB in Memphis.

Heather Dawn Wilkins – Dr. H. Dawn Wilkins is a Professor of Biology in the Department of Biological Sciences at the University of Tennessee at Martin. Dawn received a B.S. in Natural Resources Management with a concentration in Wildlife Biology from the University of Tennessee at Martin (1993). She continued her education under the direction of Dr. Gary Ritchison at Eastern Kentucky University where she earned a M.S. in Biology with a concentration in Applied Ecology (1996). Dr. Wilkins then earned a Ph.D. in Biological Sciences from Mississippi State University under the direction of Dr. Ronn Altig (2001). Dawn was an Assistant Professor of Biology at Quincy University in Quincy, Illinois for three years prior to obtaining her current position in 2004. Dawn has mentored and co-mentored over thirty undergraduate research projects, many of which have been presented at the ASB annual meetings. Dawn's undergraduate research program investigates different aspects of the life history and ecology of common birds in northwest Tennessee. She is primarily interested in woodpecker community structure in bottomland hardwood forests, but she has often been convinced to expand her research to include other species such as chickadees, titmice, owls, herons/egrets, osprey, and owls. In addition to field work, Dawn works in collaboration with a microbiologist, Dr. Linda Husmann, Professor of Biology at the University of Tennessee at Martin, on the possibility that Yellow-bellied Sapsuckers have bacteria in their gut that are cellulolytic and may help contribute to the overall nutrition of wintering birds. Dr. Wilkins teaches a number of classes including Animal Ecology, Ecological Methodology, Field Investigations in Biology, Conservation Biology, and Ornithology. During the summer she teaches Field Ornithology at the Reelfoot Lake Environmental Field Station located in Samburg, Tennessee. Dawn is a member of several scientific organizations and is a life member of ASB, the Tennessee Academy of Sciences, and the Tennessee Ornithological Society. In addition she serves as the Scientific Advisor to the Tennessee Bluebird Society and has served as Chair of the ASB Senior Research Award Committee. ☺

76th Annual Meeting Program
Association of Southeastern Biologists



Hosted by

University of Tennessee – Chattanooga



and

Tennessee Aquarium



Chattanooga Marriott and

Chattanooga Convention Center

April 1-4, 2015

Celebrating 77 Years of Serving the Southeast!

To Better Serve You

An Experiment on the Annual Meeting Time

Next year (2016), ASB will shift its traditional meeting time of Wednesday – Saturday to Thursday – Sunday. The traditional meeting time originated to provide schools with a convenient time to meet without interfering too much with classes. However, today, spring breaks occur earlier and a shift to later in the week will hopefully reduce the impact on classes for many people.

ASB will try out this new arrangement for one year, and then assess the suitability of this change with the ASB membership. If a majority favor this new schedule, ASB will make it routine each year. If not, ASB will go back to the original schedule in 2017.

Establishing a HARD Deadline for Abstracts

Beginning in the spring of 2016, there will be a hard deadline for the submission of abstracts. Late submissions put pressure on the program committee members and make it difficult to finalize the program before it has to be sent to the printers. Therefore, we will strictly enforce a firm deadline next year and there will not be any deadline extensions. Late abstracts can still be submitted, but will not appear in the formal, printed program. Instead, they will be added to a late submission file that will be available online for download.

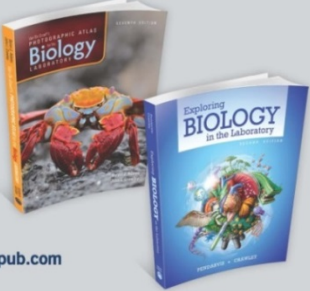
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SUBJECT: PRESENTATION TITLE
MESSAGE BODY: PRESENTATION ABSTRACT (IF ANY)
ATTACHMENT: YOUR PRESENTATION FILE (PDF PREFERRED)

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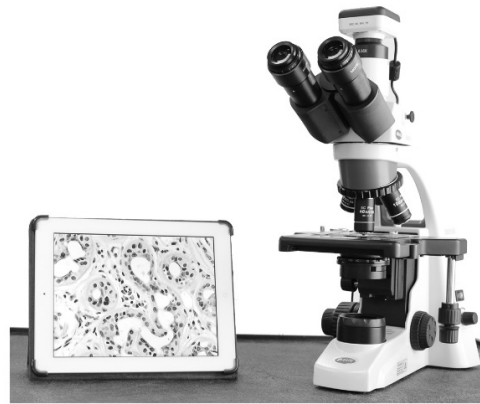


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Appalachian State University

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Georgia Gwinnett College

Christopher Brown
Georgia Gwinnett College

The program committee wishes to thank Mark Suggs, *abi*GRAPHICS, for his help in creating the abstract submission form and for formatting the program and list of abstracts. We also thank Chris Fleming for creating the Mobile App that enables you to search the program on your mobile device. Finally, we express our sincere appreciation to Ashley Morris, Middle Tennessee State University, for her excellent maintenance of the ASB webpage.

Welcome from the ASB President

Dear ASB Community,

Welcome to the 76th annual meeting of the Association of Southeastern Biologists (ASB) at the Chattanooga Marriott in Chattanooga, Tennessee. ASB is dedicated to supporting science and science education in the region. We will have over 570 posters and presentations, making it one of our largest meetings in recent history. There will also be two symposia and five field trips, providing our community with a grand opportunity to learn, exchange ideas, and form collaborations. We are excited to have the University of Tennessee at Chattanooga and the Tennessee Aquarium supporting our meeting this year. Our Exhibitors and Patrons also have booths and I encourage you to visit with them and learn about their products and services.



The Association of Southeastern Biologists is a volunteer organization. The ASB Officers, Executive Committee, Committee Chairs, Committee Members, Editorial Boards and our members all work very hard to make our meetings, our journals (Southeastern Naturalist and Eastern Biologist) and our information packed bulletin (Southeastern Biology) successful. Please take the time to visit the ASB booth in the Exhibit Hall to learn more about your organization and to consider volunteering.

We hope you will enjoy the meeting, our Wednesday evening plenary speaker and welcoming social, our Thursday evening social and our Awards Banquet on Friday evening. The ASB meeting is a great time to renew acquaintances and friendships, form new friendships and discover new opportunities. I hope you enjoy your meeting and thanks for helping make our Association successful.

Sincerely,

Zack Murrell
President, Association of Southeastern
Biologists

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Registration Hours

Wednesday, April 1, 2015

11 am – 9 pm



Thursday, April 2, 2015

7 am – 7 pm



Friday, April 3, 2015

7 am – noon

Exhibit Hall Hours

Wednesday, April 1, 2015

9 am – 4 pm		Exhibitor Move-In
12 noon-2 pm		Exhibitor Pizza Party (<i>Exhibitors Only</i>)

Thursday, April 2, 2015

8 am – 5 pm		Exhibits and Poster Displays Available
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Friday, April 3, 2015

9 am – 2 pm		Exhibits and Poster Displays Available
2 pm – 4 pm		Exhibitors Move-Out

Symposia

The Botany of Extreme Habitats

Southern Appalachian Botanical Society Symposium

8:00 am – 12:15 pm • Thursday, April 2 • Room 15

Organizer Katherine Mathews, President of SABS
(kmathews@wcu.edu)

On a regional scale, the environment of southeastern North America is often viewed as temperate and mesic. However, on a finer scale there are many examples of climatically or edaphically extreme habitats, including those that are xeric, acidic, hypersaline, nutrient-poor, high-elevation, or found on bare rock. This symposium will include contributions exploring the botany of extreme habitats in the southeast from a variety of perspectives, including physiology, ecology, systematics, and evolution. By looking at a range of habitat types and research approaches, we hope to reveal common themes that transcend traditional specialized disciplinary boundaries.

Ecology and Evolution of Glade Systems of the Southeast

8:30 am – noon • Friday, April 3 • Room 14

Organizer Ashley B. Morris (amorris.mtsu@gmail.com)

The purpose of this symposium is to highlight research in both plant and animal systems within glade habitats of the Southeast. There is growing interest in these unique habitats, particularly as it relates to conservation and climate change. Additionally, the location of the ASB 2015 meeting is within a one-two hour drive of the cedar glades of Middle Tennessee. Finally, with the recent passing of Dr. Elsie Quarterman, who was a pioneer of cedar glades research, as well as a Fellow of ASB, we feel the time is right to highlight the important work ongoing in this field of research at our annual meeting. Speakers will be discussing different glade systems, from Tennessee to Texas, and the Ozarks, with organismal foci from plants to reptiles and amphibians.

PULSE: Transforming Undergraduate Life Sciences

Organizers: Southeast Regional PULSE Fellows

Ellen Goldey (GoldeyES@wofford.edu)	Alix Fink (finkad@longwood.edu)
Judy Awong-Taylor (jawongta@ggc.edu)	Mary Smith (smithma@ncat.edu)
April Hill (ahill2@richmond.edu)	Chris Finelli (finellic@uncw.edu)
Jung Choi (jung.choi@biology.gatech.edu)	Nitya Jacobs (njacob@emory.edu)
Melanie Lee-Brown (mleebro@guilford.edu)	

**Southeast PULSE Poster Discussion: Progress Reports From
20 Institutions Engaged in Departmental Transformation**

**9:00 am – noon • Friday, April 3 • Room 5
(morning session by invitation only)**

The Partnership for Undergraduate Life Sciences Education (PULSE) is a national initiative developed by leaders at NSF, HHMI, and NIGMS designed to inspire whole departments to undertake the types of reforms called for in Vision and Change in Undergraduate Biology Education: A Call to Action. This region's PULSE Leadership Fellows organized the first summer Southeast Regional PULSE (SERP) Institute in June, 2015, which was held on the University of Richmond campus. Representing a diverse spectrum of institution types, teams from twenty institutions participated in the three-day Institute. Participants attended a diversity of workshops and sessions and developed a plan of action to target improvements to their programs. This morning's session is a poster discussion session in which the teams will share the progress, challenges, and insights from their work these past nine months. As part of our IRB for this work, this session is by invitation only in order to collect data on the project's progress and ensure frank and open discussion among teams.

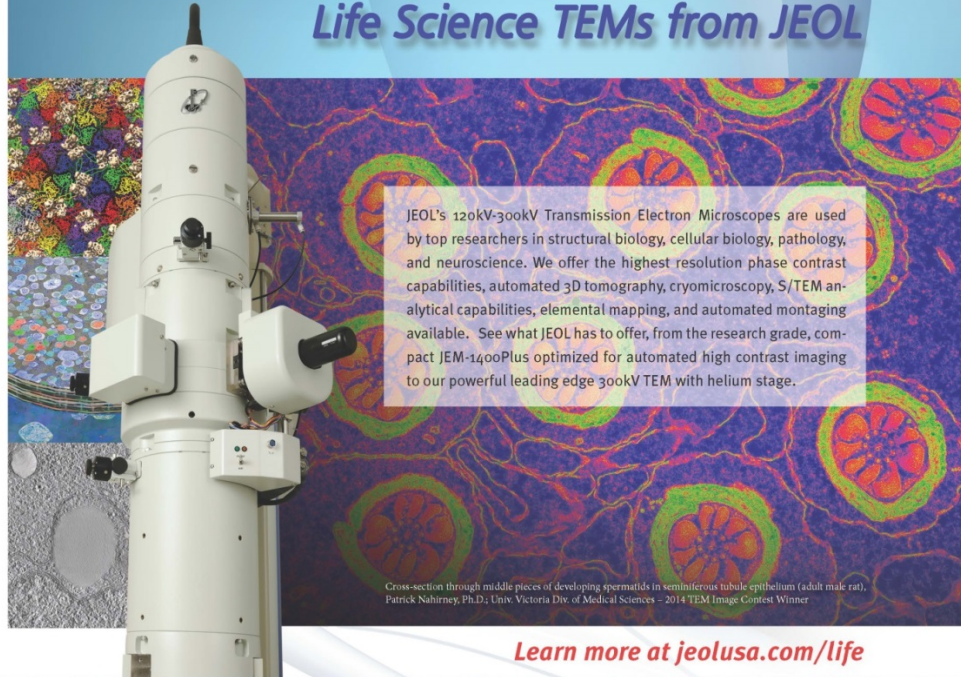
**Crafting and Implementing a Shared Vision for Department-
wide Improvement of Undergraduate Life Sciences Education:
Lessons from 20 Southeast Departments Engaged in PULSE**

**1:30 pm – 4:00 pm • Friday, April 3 • Room 5
(afternoon session open to all ASB attendees)**

This session is open to all ASB attendees interested in learning more about PULSE, hearing practical advice from twenty teams engaged in department-level reform, and sharing the good work in your own department to improve undergraduate biology education. During the first hour of the session participants will work with the same rubric that was used at the SERP Institute (see description of PULSE morning session) to identify the current strengths of your department, other areas that may receive little attention, and determine possible priorities for improvement. The remaining time will be devoted to dynamic discussion among ASB participants, members of the teams that attended the SERP Institute, and the PULSE Fellows. Come share your own good work and learn lessons from those engaged in the process of departmental change. ☞

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Cross-section through middle pieces of developing spermatids in seminiferous tubule epithelium (adult male rat).
Patrick Nahirney, Ph.D.; Univ. Victoria Div. of Medical Sciences - 2014 TEM Image Contest Winner

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Bacteriophage Epsilon 15, Wah Chiu, Ph.D.,
Baylor College of Medicine (top image)
Rabbit Retinal Connectome volume: Robert Marc, Ph.D.,
Marc Lab, Moran Eye Center, Univ. of Utah (middle image)
Neuron, 200nm, tomography: Greg Ning, Ph.D.,
Penn State University College of Agricultural Sciences
(bottom image)



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Meeting-At-A-Glance

Numbered Rooms • Exhibit Hall C • Room H, I, J in Convention Center

All other rooms are in the Marriott Hotel

Tuesday, March 31st

Time	Event	Location
8:00 AM – 5:00 PM	Displays Unlimited Move in	Exhibit Hall C
10:00 AM – 11:00 AM	ASB EC VIPs Pre-Convention Mtg. with Marriott	TBA
11:00 AM – 12:00 PM	ASB EC VIPs Pre-Convention Mtg. with Chattanooga Convention Center	TBA
12:00 PM – 1:00 PM	ASB EC & Displays Unlimited- Exhibit Hall lay out	Exhibit Hall C

Wednesday, April 1

Time	Event	Location
9:00 AM – 4:00 PM	Exhibitor Move-in	Exhibit Hall C
11:00 AM – 9:00 PM	Registration Open	Area Next to Room 1
11:00 AM – 2:00 PM	Exhibitor Pizza Lunch (exhibitors only)	Exhibit Hall C
NOON – 10:00 PM	PowerPoint and Preview Check	Room 7
	ASB Logistics Room	Room 1
1:00 PM – 6:00 PM	ASB Executive Committee Meeting	East Room – Marriott
1:00 PM – 6:00 PM	SABS Executive Council Meeting	West Room - Marriott
7:00 PM	Pre-Plenary Cash Bar Open	Room H
7:30 PM – 9:00 PM	Plenary Welcome and Speaker <i>Welcome</i> from Provost Jerald Ainsworth, University of Tennessee at Chattanooga <i>Plenary Speaker</i> Dr. Kenneth C. Catania, Stevenson Professor of Biological Sciences, Vanderbilt University, Nashville, TN “Stars, Whiskers, and Brains: The Neurobiology and Behavior of Some Specialized Southeastern Predators”	Rooms I & J Convention Center
9:00 PM – 10:30 PM	Plenary Welcoming Social <i>Ticket required to attend</i>	Banquet Room H Convention Center

Thursday, April 2

Time	Event	Location
7:00 AM – 7:00 PM	Registration Open	Area Next to Room 1
7:00 AM – 5:00 PM	ASB Logistics Room PowerPoint and Preview Check	Room 1 Room 7
8:00 AM – 5:00 PM	Exhibits Open	Exhibit Hall C
7:00 AM – 8:30 AM	ASB Past President's Breakfast Patrons/Exhibitors Breakfast	West Room - Marriott East Room – Marriott
POSTER SESSIONS		
7:00 AM – 8:00 AM	ASB Poster Sessions 1 & 2 Setup (Poster numbers 1-191; PULSE Posters)	Exhibit Hall C
8:00 AM – 5:30 PM	ASB Poster Sessions 1 & 2	Exhibit Hall C
9:45 – 10:45 AM	Presenters of odd-numbered posters must be present at this time.	
2:45 – 3:45 PM	Presenters of even-numbered posters must be present at this time.	
5:00 PM	Poster Removal	Exhibit Hall C
8:00 AM – 12:15	Symposium: SABS – Botany of Extreme Habitats	Room 15
8:30 AM – 9:45 AM	ASB Paper Presentations Ichthyology and Herpetology A Community & Population Ecology A Conservation Biology A Microbiology A Scholarship of Teaching A	Room 14 Room 13 Room 12 Rooms 9 & 10 Rooms 16 & 17
9:45 AM – 10:45 AM	Break • No talks at this time <i>Please visit the Posters and Exhibits. Presenters of odd numbered posters (1-211) should be with their posters.</i>	
10:45 AM – NOON	ASB Paper Presentations Ichthyology and Herpetology A Community & Population Ecology A Conservation Biology A Microbiology A Scholarship of Teaching A	Room 14 Room 13 Room 12 Rooms 9 & 10 Rooms 16 & 17

Time	Event	Location
NOON – 1:30 PM	Lunches (Individuals and Organizations) Snacks/Fast food Concessions Box Lunch (pre-order with ticket) ASB Diversity Committee Lunch (pick up box lunch by East Room in Marriott) SHC SE Chapter Luncheon/Business Meeting (pick up box lunch by West Room in Marriott) Roland Roberts Presentation on NSF Funding of Natural History Collections and Luncheon	Convention Center Registration Area East Room – Marriott West Room – Marriott Room 11
1:00 PM – 5:00 PM	β β β Field Trip (members only)	Entrance – Convention Center
1:30 PM – 2:45 PM	ASB Paper Presentations Floristics and Plant Systematics A Ichthyology and Herpetology B Community & Population Ecology B Conservation Biology B Microbiology B Scholarship of Teaching B	Room 15 Room 14 Room 13 Room 12 Rooms 9 & 10 Rooms 16 & 17
2:45 PM – 3:45 PM	Break • No talks at this time <i>Please visit the Posters and Exhibits. Presenters of even numbered posters (2-210) should be with their posters.</i>	Exhibit Hall C
3:45 PM – 5:00 PM	ASB Paper Presentations Floristics and Plant Systematics A Ichthyology and Herpetology B Community & Population Ecology B Conservation Biology B Microbiology B Scholarship of Teaching B	Room 15 Room 14 Room 13 Room 12 Rooms 9 & 10 Rooms 16 & 17
5:00 PM	Poster Removal	Exhibit Hall C
5:15 PM – 6:00 PM	ASB Business Meeting (NOTE NEW START TIME!)	Room 14
6:00 PM – 7:30 PM	Thursday Night Social - Buffet Dinner	Rooms H•I•J
7:00 PM – 11:30 PM	Thursday Night Social <i>2 Live Bands!</i> Shuttles begin at 6:30 and bars open at 6:30 at Aquarium	Tennessee Aquarium

Friday, April 3

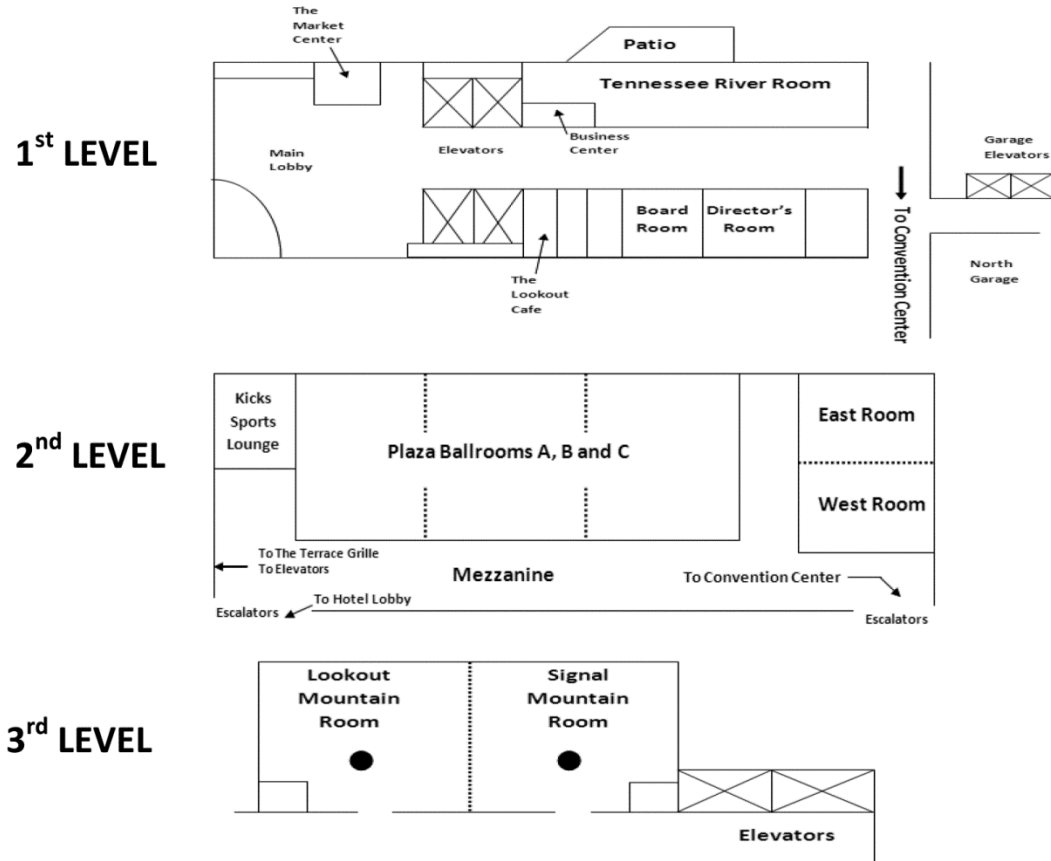
Time	Event	Location
7:00 AM – NOON	Registration Open	Area next to Room 1
7:00 AM – 5:00 PM	PowerPoint and Preview Check	Room 7
7:00 AM – 8:30 AM	SABS/BSA Breakfast	Plaza A - Marriott
8:00 AM – 6:00 PM	β β β Officers & Judges Room	Rooms 20 & 21
9:00 AM – 11:00 AM	β β β Joint Business Meeting	Rooms 20 & 21
POSTER SESSIONS		
7:00 AM – 8:00 AM	β β β and ASB Poster Session 3 Setup (ASB posters numbered 212-289)	Exhibit Hall C
8:00 AM – 5:30 PM	ASB Poster Session 3 (212-289)	Exhibit Hall C
9:30 AM – NOON	β β β Poster Presentations	
4:00 PM	Poster Removal	
8:30 AM – NOON	Symposium: PULSE: Transforming Undergraduate Life Sciences <i>This session by invitation only.</i>	Room 5
8:30 AM – NOON	Symposium: Ecology and Evolution of Glade Systems of the Southeast	Room 14
8:30 AM – 9:45 AM	ASB Paper Presentations Floristics and Plant Systematics B Freshwater & Aquatic Ecology A Physiological and Population Ecology Conservation Biology C Genetics/Cell/Molecular	Room 15 Room 3 Room 13 Room 12 Room 4
9:45 AM – 10:45 AM	Break • No talks at this time <i>Please visit the Posters and Exhibits. Presenters of ASB posters (212-289) should be with their posters.</i>	Exhibit Hall C
10:45 AM – NOON	ASB Paper Presentations Floristics and Plant Systematics B Freshwater & Aquatic Ecology A Physiological and Population Ecology Conservation Biology C Genetics/Cell/Molecular	Room 15 Room 3 Room 13 Room 12 Room 4
NOON – 1:30 PM	Lunch (Individuals and Organizations) Snacks/Fast Food Concessions Box Lunch (pre-order with ticket) PULSE (box lunches) Education Committee Luncheon (pick up box lunch by East Room in Marriott)	Convention Center Registration Area Registration Area East Room – Marriott

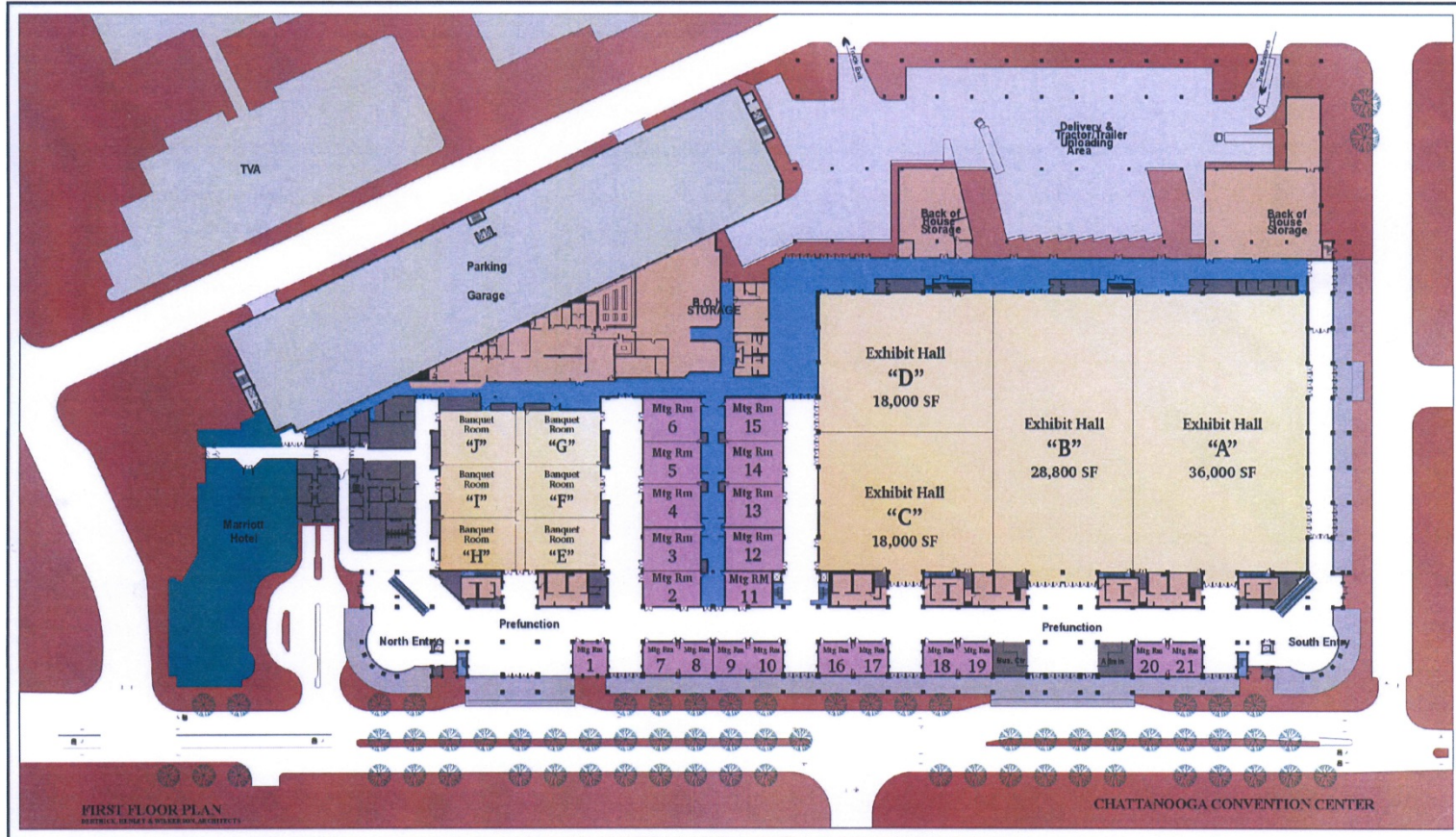
Time	Event	Location
	ESA Luncheon and Business Mtg. (pick up box lunch by West Room in Marriott)	West Room - Marriott
1:15 PM – 4:00 PM	β β β Paper Presentations A B C	Rooms 9 & 10 Rooms 16 & 17 Rooms 18 & 19
1:30 PM – 3:00 PM	ASB Paper Presentations Floristics and Plant Systematics C Freshwater & Aquatic Ecology B Ecosystem and Landscape Ecology Conservation Biology D Evolutionary Biology Entomology & Invertebrates	Room 15 Room 3 Room 13 Room 12 Room 4 Room 14
1:30 PM – 4:00 PM	Symposium: PULSE: Transforming Undergraduate Life Sciences <i>This session open to all</i>	Room 5
3:00 PM – 3:30 PM	Break • No talks at this time <i>Please visit the Posters and Exhibits</i>	Exhibit Hall C
3:30 PM – 5:00 PM	ASB Paper Presentations Floristics and Plant Systematics C Freshwater & Aquatic Ecology B Ecosystem and Landscape Ecology Conservation Biology D Evolutionary Biology Entomology & Invertebrates	Room 15 Room 3 Room 13 Room 12 Room 4 Room 14
4:00 PM – 5:30 PM	SABS/BSA Botany Students' Reception	Plaza A - Marriott
4:00 PM – 5:00 PM	β β β District Session Meetings	9/10; 16/17; 18/19
5:15 PM – 6:00 PM	β β β Joint Session and Awards	Rooms 20 & 21
7:00 PM – 9:30 PM	ASB Awards Banquet Dinner and Presentation of Awards	Rooms E•F•G Convention Center

Saturday, April 4

Time	Event	Location
7:30 AM – 8:30 AM	ASB Executive Committee Breakfast	TN River Room - Marriott
8:30 AM – NOON	ASB Executive Committee Meeting	TN River Room - Marriott
8:00 AM – 5:00 PM	ASB Field Trips (see page 134)	Consult Individual Trips for Departure Locations

Room Layout for Marriott Hotel





Chattanooga Convention Center First Floor Plan

Transportation and Parking at the Chattanooga Marriott Hotel

Two Carter Plaza ☒ Chattanooga, TN 37402 ☒ 423-756-0002

HOTEL PARKING

Parking is available on-site for \$3/hourly, \$10/day, or, \$14/day for valet parking.

Handicap parking is available on site.

Shuttle Bus Schedule

Transportation from the Convention Center to the Tennessee Aquarium on Thursday evening will be provided by the Chattanooga Ducks, an aquatic shuttle service. Shuttles will run from the valet area drop-off and pick up between the Marriott and Convention Center beginning at 6:45 PM on Thursday.





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Plenary Speaker

Dr. Kenneth C. Catania

Stevenson Professor of Biological Sciences

Vanderbilt University, Nashville, TN

***Stars, Whiskers, and Brains:
The Neurobiology and Behavior of Some
Specialized Southeastern Predators***

Wednesday, April 1 - 7:30 PM

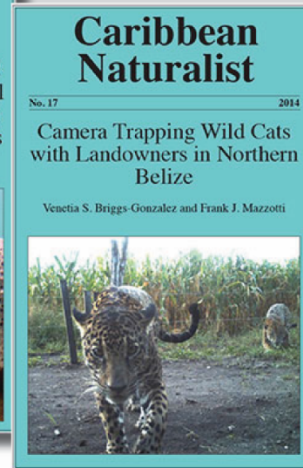
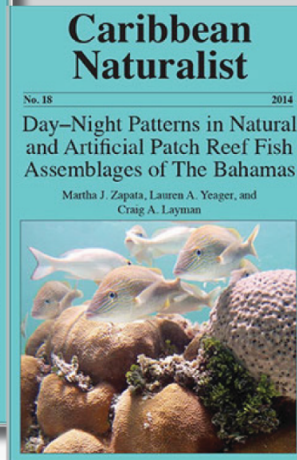
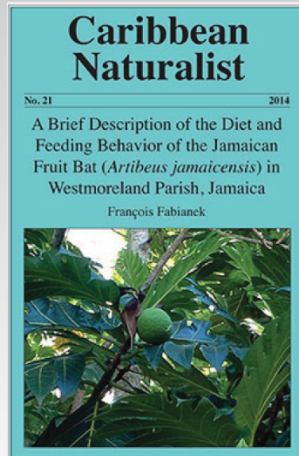
Rooms I & J Chattanooga Convention Center

Ken Catania has built a career around understanding the neurobiology and behavior of unusual organisms. His work has been featured in Science News, National Geo-graphic, the New York Times, ABC News, and BBC News, among other popular outlets. He is both a MacArthur (2006) and Guggenheim (2014) Fellow, as well as having received an NSF CAREER Award (2003). Ken and his colleagues have published more than 80 peer-reviewed articles and five book chapters, as well as had continuous funding from external agencies for nearly 20 years. We are delighted to welcome Ken as our Plenary Speaker for ASB 2015.

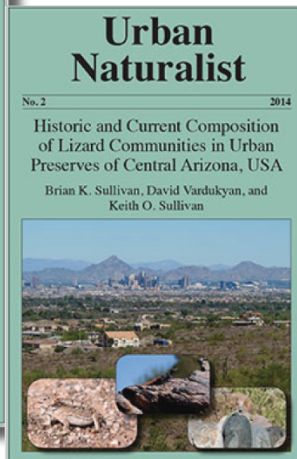
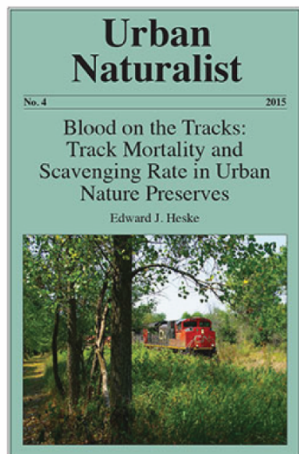


Dr. Kenneth C. Catania

For ASB members with Caribbean research interests ... www.eaglehill.us/cana

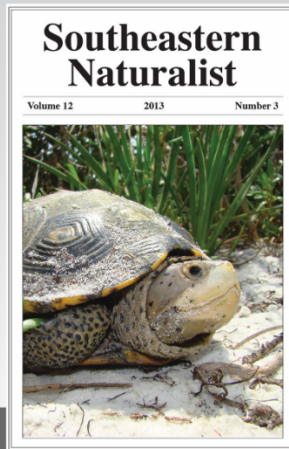


For ASB members with urban research interests ... www.eaglehill.us/urna



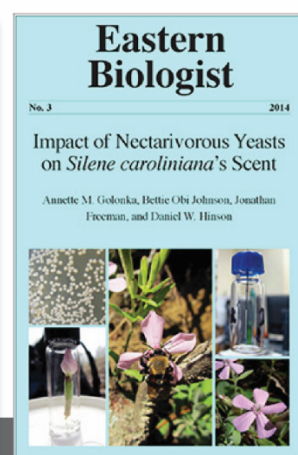
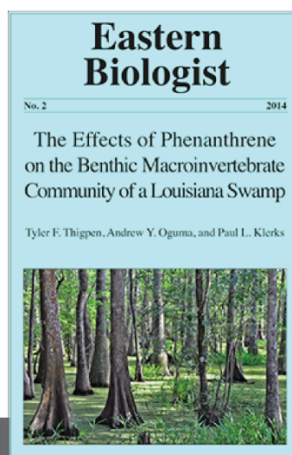
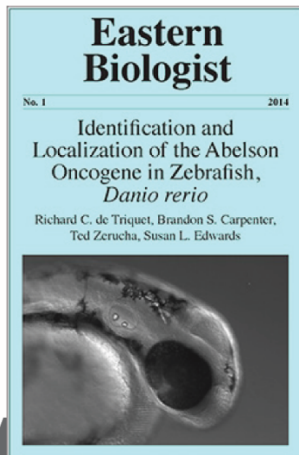
The two official journals of ASB . . .

The Southeastern Naturalist covers aspects of the biology and ecology of terrestrial, freshwater, and marine organisms and the environments of the southeast United States.



www.sebiologists.org/publications ... www.eaglehill.us/sena

The Eastern Biologist covers laboratory-based biological research including but not limited to biochemistry, biotechnology, cell biology, developmental biology, evolution, genetics and genomics, immunology, microbiology, neurobiology, parasitology, physiology, and toxicology.



www.sebiologists.org/publications ... www.eaglehill.us/ebio

Silent Auction

The silent auction was established in 2006 to raise money to help defer travel costs for graduate student members presenting papers or posters at the ASB Annual Meeting. Since 2006, ASB has granted more than \$35,000 to qualifying students. Of that, the silent auction has added over \$11,000 (36%) to the graduate student travel fund. Donated items include books, handcrafts, memorabilia, nature photography, t-shirts, gift baskets, gift cards, jewelry, wine, fishing tackle, insect nets, and much more.

For those that have items to donate to the silent auction, please bring your donation to the Silent Auction Area in the Exhibit Hall before 10:00 am on Thursday, April 2, and one of the committee members will be available to receive it.

We want to thank you for participating in this worthwhile event. If you have any questions, please feel free to contact one of the Committee Members below.



Patricia Cox

*and the Fabulous Silent
Auction Sisters*

Kim Marie Tolson

Pat Parr

Eloise Carter

Bonnie Kelley

Diane Nelson

Field Trips

β β β Field Trip

Rock City and the Incline Railroad, Chattanooga

Thursday, April 2

Open only to Tri-Beta Members.

Cost: \$10/student

Trip leader: Lee Sutton (SUTTONLE@ecu.edu)

Rock City will amaze you! Located atop Lookout Mountain, just 6 miles from downtown Chattanooga, Rock City is a true marvel of nature featuring massive ancient rock formations, gardens with over 400 native plant species, and breathtaking "See 7 States" panoramic views. Take an unforgettable journey along the Enchanted Trail where each step reveals natural beauty and wonders along the woodland path.

The Incline's trolley-style cars climb through the natural beauty surrounding historic Lookout Mountain at a breathtaking 72.7% grade – straight up! Sit back, and enjoy the scenic views of the mountains and valleys from the observation windows on the train as well as the panoramic views from the observation tower at the Incline's top station.

Meet at the Chattanooga Convention Center bus stop on W. 11th Street (near the corner of 11th and Chestnut Street) at 1:00 PM. We will return by 5:00 pm. Transportation provided.

Limit 22

ASB Field Trips

Saturday, April 4

Cost for each trip: \$15 per regular member, nonmember or guest; \$10 per student. Box lunches may be purchased separately.

Trip 1: Ichthyological Explorations of South Chickamauga Creek

just outside of Chattanooga, TN

Trip Leader: **Bernie Kuhajda** (brk@tnaqua.org ; 423-785-3072) from the Tennessee Aquarium Conservation Institute

Less than a half-hour from downtown Chattanooga, South Chickamauga Creek is home to over 40 species of fishes including Stargazing Minnows,

Mountain Madtoms, and Blueside Darters. Historically there were over 60 species of fishes that inhabited this watershed, including the now extinct Harelip Sucker. Fishes will have their best spring-time colors and male minnows and suckers will be all decked out in breeding tubercles. Seines, viewing tanks, and some chest waders will be provided, but please bring your own waders if you have them. Please purchase a box lunch or bring a lunch, snacks and water. Photos are welcome, but all fishes will be released.

Meet at the Chattanooga Convention Center bus stop on W. 11th Street (near the corner of 11th and Chestnut Street) at 9:00 AM. We will return by 1:00 pm. Transportation provided.

Limit 12

Trip 2: Sequatchie Cave State Natural Area & Town Creek Tour, Marion County, TN

Trip Leaders: **David Ian Withers** (david.withers@tn.gov ; 615-532-0441) of the Tennessee Division of Natural Areas and **Stephanie Chance** (stephanie_chance@fws.gov) of the U.S. Fish & Wildlife Service

Enjoy this in-depth examination of two spring-fed stream systems, home to the only known populations of the federally endangered Royal snail (*Marstonia ogmorhappe*) and including one of only two known locations for the federal candidate Sequatchie caddisfly (*Glyphopsyche sequatchie*). Examine the history of Sequatchie Cave (Owen Spring) and Town Creek (including the Blue Hole) and the life histories of the Royal snail, Sequatchie caddisfly, and other species. Learn simple techniques for diagnosing these taxa in the field. We will start by visiting Sequatchie Cave State Natural Area in Sequatchie, Tennessee. This biologically significant area is located where Owen Spring Branch flows from the mouth of Sequatchie Cave Park – the type of locality for both the snail and the caddisfly. At Sequatchie Cave we will discuss the restoration work that preceded its recognition as a State Natural Area in 2001, more restoration work to come, and then we will carefully examine the Royal snail and the caddisfly, their habitat, and sympatric species.

We will break for lunch at Sequatchie Cave, so please purchase a box lunch or bring a bag lunch with you, as well as snacks and water. From Sequatchie we will travel south to the Blue Hole, the head of Town Creek in Jasper, home to the other known population of the royal snail. A recent cave dive expedition has revealed over 10,000 feet of submerged passage feeding the Blue Hole, which provides the majority of the drinking water for the residents of Jasper (<http://nickajack-naturalist.typepad.com/files/jasper-blue-spring-16mar13.pdf>). Wear shoes

and clothes you do not mind getting a bit dirty, and bring hand lenses to see Royal snail and Sequatchie caddisfly features up close.

Meet in the parking area at Sequatchie Cave State Natural Area, immediately north of Sequatchie on Valley View Highway, approximately 3.8 road miles north of Jasper, TN, via U.S. 41 and Valley View Highway. Turn left onto Park Street to enter.

Limit: 20

Trip 3: Lula Lake Land Trust, Lookout Mountain, GA.

Trip Leaders: **Austin Prater** (Austin-Prater@mocs.utc.edu ; 423-667-5424) and **Hill Craddock** (hill-craddock@utc.edu ; 423-290-8924)

The Lula Lake Land Trust includes areas of striking natural beauty including high bluffs and steep canyons, waterfalls and deep, cold splash pools that harbor several very interesting and diverse plant communities. We will visit LLLT core property, starting at Rock Creek, hiking up to and along the Cumberland Escarpment (locally known as the East Brow) northbound to Eagle Point (offering spectacular vistas of the Escarpment itself and the adjacent ridges and valleys), then down through the talus slope and rich cove forest to the base of Lula Falls. Exposed sandstone glades along the Brow include *Phemeranthus* and *Gelsemium*, among the rare species. The upland river scour cobble bar community contains *Spirea virginiana*, and recently discovered populations of *Calamovilfa arcuata* and *Solidago arenicola* (new state records). The hike is moderate, along well marked trails with several steep ascents and possible creek crossings. Please purchase a box lunch or bring a lunch, snacks and water.

Meet at the Chattanooga Convention Center bus stop on W. 11th Street (near the corner of 11th and Chestnut Street) at 9:00 AM. Return to Convention Center at 3:00 PM. Transportation provided.

Limit 20

Trip 4: Exploring Ecological Communities of the Cumberland Plateau

on the campus of the University of the South in Sewanee, TN

Trip Leaders: **Jon Evans** (jevans@sewanee.edu ; 931-598-1304) and **Kevin Hiers** (jkhiers@sewanee.edu ; 931-598-1885)

This tour will highlight the Cumberland Plateau and Sewanee's campus Domain, a 13,000 acre living laboratory that serves as a hub for biological

and conservation-related research and is home to over 1,100 species of vascular plants. We will lead a 3-4 hour hike that will visit a variety of communities including: an ephemeral pond, a sandstone rockhouse, a sandstone outcrop, chestnut oak woodlands and an old-growth, cove forest. After the hike, there will be an optional tour of the Sewanee Herbarium and lunch can be purchased at the self-operating McClurg dining hall -- serving locally grown produce. The hike will be moderately strenuous, so wear appropriate footwear.

Please meet at the Bookstore on the Sewanee campus at 8:30 AM central time (note: Chattanooga is on Eastern Time).

Limit 20

Trip 5: Visit the Tennessee River Gorge Trust Bird Observatory, Marion County, TN

Trip Leaders: **Rick Huffines** (rickh@trgt.org ; 423-266-0314), **John Diener** (johndiener@yahoo.com) **Lizzie Goodrick** (lizziegoodrick@hotmail.com)

The Tennessee River Gorge Trust was established in 1981 as a community based non-profit organization devoted to protecting the unique biological diversity encompassed within the 27,000 acres that make up the Tennessee River Gorge. In addition to the Trust's long-standing land acquisition and protection efforts, they also have a strong and active history in stewardship and research. The Trust is currently conducting two independent neo-tropical bird research projects; the first is a post fledgling foraging habitat study of *Setophaga cerulean*; and the second is a long-term inventory of the avian species of the river gorge. The tour will highlight the bird banding laboratory, which serves as the hub for the Trust's avian research activities. Visitors will travel to the remote lab facility and spend the morning with the bird banders as they collect spring migratory bird inventory data. Participants will be able to engage with the research team, observe the banding techniques and have an opportunity to walk about the property and bird watch on their own.

Meet at the Chattanooga Convention Center bus stop on W. 11th Street (near the corner of 11th and Chestnut Street) at 9:00 AM. We will return by 1:00 pm. Transportation provided.

There will be a one half mile non-strenuous hike to the lab. Ticks will be present and repellents will be available, or, you can provide your own measures accordingly.

Limit 20

Oral Presentations

See the Presentation Abstracts published separately for complete authors listing with affiliations.

Thursday AM, April 2

Time	SABS – Botany of Extreme Habitats Room 15	Ichthyology and Herpetology Room 14	Community & Population Ecology Room 13	Conservation Biology Room 12	Microbiology Rooms 9 & 10	Scholarship of Teaching Rooms 16 & 17
8:00 AM	[1] Katherine G. Mathews • Introduction to Botany of Extreme Habitats Symposium					
8:15 AM	[2] Alan S. Weakley • Life on the Edge: Vascular					
8:30 AM	Plant Speciation in Small Patch Communities in the Southeastern United States	[8] Kristin A. Bakkegard • The Yawning Behavior of the Red Hills Salamander (<i>Phaeognathus hubrichti</i>)	[17] Eric L. Margenau et al. • Breeding Bird Community Response to a Gradient of Forest Canopy Reduction in an Upland Hardwood Forest	[27] Renee Fortner, Claudia L. Jolls • Insights into the Habitat and Reproductive Biology of the Federally Endangered, Cooleys Meadowrue (<i>Thalictrum cooleyi</i>)	[37] Bianca Garner et al. • Iron and Temperature Regulation of <i>Bacillus cereus</i> Group Microbes Physiology	[46] Jennell Talley et al. • A Three-Tiered Approach to Improve Program Assessment for the Undergraduate Curriculum
8:45 AM	[3] Bruce A. Sorrie, Janet B. Gray • Canebrakes of the Carolina Sandhills	[9] James R. Kerfoot, Jr. et al. • Scaling the Feeding Mechanism of Captive <i>Alligator mississippiensis</i> from Hatchling to Juvenile	[18] Marae C. Lindquist, Ray S. Williams • The Role of Terpenes in Aphid Colonization of Multiple Species and Genotypes of <i>Solidago</i>	[28] Caryn D. Ross, Sujan M. Henkanathgedara • The Effects of Urbanization on Birds of the Southeastern United States	[38] Adrianna E. Eder et al. • Exogenous Fatty Acids from Lotion Affect Phospholipid Structure and Alter Permeability Characteristics in <i>Acinetobacter baumannii</i>	[47] Christopher Brown et al. • What We Can Know About Our Students Without Really Trying: A Longitudinal Study of Student Progress Reveals Some Surprising Information
9:00 AM		[10] Annalee M. Tutterow	[19] Brian K. Bonville, Ray	[29] Laura K. Marsh et al. •	[39] Saba A. Munir et al. •	[48] Christopher E.

Time	SABS – Botany of Extreme Habitats Room 15	Ichthyology and Herpetology Room 14	Community & Population Ecology Room 13	Conservation Biology Room 12	Microbiology Rooms 9 & 10	Scholarship of Teaching Rooms 16 & 17
		et al. • Factors Affecting Survivorship in North Carolina Bog Turtle (<i>Glyptemys muhlenbergii</i>) Populations	S. Williams • Effect of Genotype and Environment on the Abundance of a Specialist Aphid in <i>Solidago altissima</i>	Effects of Human Disturbance on Avian Body Mass: Do Recreationists Hinder Birds Ability to Acquire Fat During Migration?	Exposure to Exogenous Fatty Acids Impacts Phospholipid Composition, Membrane Permeability, and Virulence Phenotypes in <i>Acinetobacter baumannii</i>	Barton • Using <i>DNA Barcoding</i> to Supplement Classical Taxonomic Methods in Undergraduate Science Courses
9:15 AM	[4] James T. Morris • Life and Death of the Salt Marsh Redux	[11] Scott P. Jones, David R. Chalcraft • To What Extent Do Larval Predators Affect the Morphology and Performance of Juvenile Toads?	[20] Julie A. Ragsdale, Ray S. Williams • Effects of Spatial Scale and Genotype on the Associated Pollinator Community of <i>Solidago altissima</i>	[30] John A. Jones et al. • Ecological and Behavioral Consequences of Sympatry Between Golden-Winged and Chestnut-Sided Warblers in the Southern Appalachians	[40] Mai H. Tran, Joong-Wook Park • Effect of Freshwater Exposure on Tarballs Bacterial Community	[49] Victoria L. Turgeon • Inquiry-Based Teaching of Human Anatomy Moves Learning Beyond Memorization
9:30 AM		[12] Matthew R. E. Erickson, David C. R. Rostal • Influence of Diet on Growth and Health of Captive Hatchling Gopher Tortoises (<i>Gopherus polyphemus</i>)	[21] Christopher J. Payne • Long-Term Forest Growth in a North Carolina Piedmont Forest: Species-Specific Patterns Influencing Stand-Level Biomass Trends	[31] Adam K. Morgan et al. • Evaluation of Genetic Structure of <i>Spiraea virginiana</i> Using Microsatellite Markers	[41] Benedict C. Okeke et al. • Biomass Conversion by a High Beta-Glucosidase Producing <i>Trichoderma</i> Species SG2	[50] James R. Rayburn • A Comparison of Student Response System Quizzes to Conventional Paper Tests (Multiple Choice) for General Biology Courses at Jacksonville State University
9:45 AM – 10:45 AM	BREAK – Please visit the Posters During This Time in Exhibit Hall C					
10:45 AM	[5] Jonathan L. Horton, Katherine E. Culatta • Influence of Cloud Immersion on High Elevation Rock Outcrop Plants	[13] Anastacia Marcus • Frog Call Survey from Clay County, Alabama	[22] Peter A. Wilfahrt et al. • Plant Community Assembly in an Experimental Old Field System: The Role of Soil Nutrients, Trophic Controls, and Priority Effects	[32] Paige F. Phillips et al. • A Frightening Future Without Honey Bees; What Will We Do?	[42] Kristin A. Keith, Amanda D. Williams • The Involvement of the JAK/STAT Pathway in the Regulation and Induction of Immunoproteasomes Following IFN-Stimulation	[51] Amy M. Wiles • Figure Analysis: An Active Learning Technique Promoting Visual Literacy in Biology
11:00		[14] Lauren M. Bonee •	[23] Dennis D. Tarasi •	[33] Jaclyn N. Inkster,	[43] Matthew J. Heard et	[52] Kevin M. Drace •

Time	SABS – Botany of Extreme Habitats Room 15	Ichthyology and Herpetology Room 14	Community & Population Ecology Room 13	Conservation Biology Room 12	Microbiology Rooms 9 & 10	Scholarship of Teaching Rooms 16 & 17
AM		Effects of Various Basking Substrates on the Body Temperature of the Bonaire Whiptail Lizard (<i>Cnemidophorus murinus</i>)	Invaded Communities Differ in Composition and Structure from Uninvaded Communities	Claudia L. Jolls • An Organic Insect Deterrent Does Not Affect Visitation by Native Insects to a Threatened Great Lakes Dune Endemic Plant	al. • Assessing the Abundance and Distribution of <i>Escherichia coli</i> on Oceanic Beaches in South Carolina	Implementing Authentic Research as the Introductory Biology Laboratory
11:15 AM	[6] A. Joseph Pollard • Heavy Metal Tolerance and Accumulation in Southeastern Plants	[15] Barry P. Stephenson et al. • Assessing Temperature-Dependent Color Change in Eastern Fence Lizards (<i>Sceloporus undulatus</i>) with Spectrophotometry: Implications for Badge Function and Color Production	[24] Mercedes M. M. Bartkovich, Yong Wang • Determining Breeding Origins and Stopover Patterns of Four Migrant Songbird Species in Northern Alabama Using Stable Isotope and Molecular Methods	[34] Kevin Trostel, Ashley B. Morris • Reproductive Ecology of the Rare Cedar Glade Endemic <i>Astragalus bibullatus</i>	[44] Blake W. Nelson et al. • Cricket Mummies in Caves and Identification of the Causative Entomopathogenic Fungus	[53] Kunsiri Chaw Grubbs • Thinking Outside of the Book: Taking Biology Students Outside of Class
11:30 AM		[16] Alyssa A. Hoekstra et al. • Timber Rattlesnake (<i>Crotalus horridus</i>) Movement Patterns in Middle Tennessee	[25] Jacquelyn Fitzgerald et al. • Seasonal Effects of Climate Warming on Forest-Floor Arthropod Communities	[35] Carlen Hussey et al. • Determining the Fire History for Pilot Mountain State Park, North Carolina	[45] Anna R. Moravec et al. • Polyunsaturated Fatty Acids (Pufas) Affect Phospholipid Composition, Membrane Permeability, Stress Resistance and Biofilm Formation in Pathogenic <i>Vibrio</i> Species	
11:45 AM	[7] C. Theo Witsell et al. • Rare Plants with a Pinch of Salt: Extreme Botanizing in the Saline Barrens of the Arklatex		[26] Christine A. Ricci et al. • The Effects of Fire and Other Habitat Characteristics on Habitat Selection of <i>Exyra ridingsii</i> , the Riding Pitcher Plant Looper Moth	[36] Margaret Bliss, Kristen K. Cecala • Implications of Behavioral Plasticity on Habitat Use by Appalachian Stream Salamanders Following Riparian Disturbance		

Thursday PM, April 2

Time	Floristics and Plant Systematics Room 15	Ichthyology and Herpetology Room 14	Community & Population Ecology Room 13	Conservation Biology Room 12	Microbiology Rooms 9 & 10	Scholarship of Teaching Rooms 16 & 17
1:30 PM	[54] C. Theo Witsell • The Breath of the South Blows Through This Valley: Southeastern and Coastal Plain Influence in the Interior Highlands Flora	[64] Alexis B. King et al. • Re-Interpreting Geographic Variation in the Wood Frog, <i>Rana sylvatica</i>	[72] Lori Tolley-Jordan et al. • The Distribution of Trematode Parasites of Freshwater Periwinkles (Pleuroceridae: <i>Elimia</i>) in Alabama Streams	[82] Andre L. Lorenz et al. • Tree Hive Colonies as a New Approach to Beekeeping and Its Implications for Enhancing Beneficial Fungi	[92] Victoria A. Roy, Kimberly A Hays • Antimicrobial Effects of Yarrow (<i>Achillea millefolium</i>) Essential Oil	[97] David A. Beamer • Undergraduate Research in a Community College Setting
1:45 PM	[55] Kelly A. Anderson, Dwayne Estes • Floristics and Biogeography of Riverscours Communities on the Locust Fork of the Black Warrior River, Blount County, Alabama	[65] Ethan J. Royal et al. • The Effect of Prey Species on Caudal Luring in Pigmy Rattlesnakes (<i>Sistrurus miliarius</i>)	[73] G. Neil Douglas et al. • Differences Between Barn Owl (<i>Tyto alba</i> L.) Pellet Remains Collected in 1988 and 1996 from a Silo Roost in Claiborne County, Tennessee	[83] Jessica L. Allen • High Elevation Endemics and Climate Change: The Future of Rare Lichens in the Southern Appalachians	[93] Kimika Tsukide et al. • Evaluating Bioremediation Methods Efficacy for Degradation Rate of Hydrocarbons Using Bioaugmentation Among Various Soil Textures	[98] Valerie A. Burnett • Enhancing Student Engagement and Active Learning in Face-to-Face and Online Classroom Settings
2:00 PM	[56] Zach Irick, Joey Shaw • Preliminary Vascular Plant Flora of the Big Soddy Creek Gorge	[66] Carlos D. Camp et al. • Genetic Divergence in Populations of Slimy Salamanders (<i>Plethodon glutinosus</i> Species Complex) Across the Lower Piedmont and Coastal Plain of Georgia	[74] Chelsea R. Hinton, Renee Yetter • Foraging Behaviors of the Bumble Bee (<i>Bombus</i> sp.) with the <i>Lobelia siphiliticus</i> Population: A Closer Look at Thieving Versus Legitimate Foraging Frequencies	[84] Joshua F. Hashemi et al. • The Impact of Mycorrhizal Colonization on the Growth of American Sycamore (<i>Platanus occidentalis</i>) and Black Willow (<i>Salix nigra</i>) Under Drought Conditions	[94] Kaitlin Pearce et al. • Effects of Phytoremediation on Contaminated Soils from Urban Gardens	[99] Marlee B. Marsh • Who Killed Yew? Development, Implementation and Assessment of a New Case Study to Teach Mitosis

Time	Floristics and Plant Systematics Room 15	Ichthyology and Herpetology Room 14	Community & Population Ecology Room 13	Conservation Biology Room 12	Microbiology Rooms 9 & 10	Scholarship of Teaching Rooms 16 & 17
2:15 PM	[57] Austin Prater, Joey Shaw • The Vascular Flora of the Lula Lake Land Trust on Lookout Mountain in Walker County, GA and a Biogeographical Analysis of the Coastal Plain Element on the Cumberland Plateau	[67] Caitlin T. Rumrill et al. • Chronic Effects of Larval Exposure to Multiple Stressors in Southern Toads, <i>Anaxyrus terrestris</i>	[75] Christopher P. Randle et al. • Explaining Local Host Preference in <i>Phoradendron leucarpum</i> : Response to Host Cues in Leafy Mistletoe	[85] Ismael Gomez et al. • Diversification of Seepage Salamanders (<i>Desmognathus aeneus</i>) Across a Complex Geological Landscape	[95] Kimika Tsukide et al. • Evaluating of the Efficacy of Different Bioremediation Methods for the Degradation of Waste Motor Oil Added to Soil	[100] Erica R. Krimmel et al. • Connecting Students to Citizen Science and Curated Collections
2:30 PM	[58] O. Rayne Leonard, Ashley B. Morris • The Search for the Holy Grail: Comparative Plastomics of Noncoding Chloroplast Regions in Basal Angiosperms, With a Focus on <i>Illicium</i>	[68] Stacey L. Lance et al. • Prevalence of Two Amphibian Diseases, Ranavirus and Chytridiomycosis, in Contaminated and Uncontaminated Wetlands on the Savannah River Site	[76] Christopher Adams et al. • Dormancy-Breaking and Germination Requirements for Seeds of the Kentucky Endangered Yellow Gentian <i>Gentiana flavida</i> A. Gray (Gentianaceae)	[86] Eric Byrd et al. • Determination of Serum Amyloid A Ranges in Clinically Healthy Anesthetized Grevy Zebra (<i>Equus grevyi</i>) and Somali Wild Ass (<i>Equus africanus somaliensis</i>)	[96] Henry G. Spratt, Jr. et al. • Potential for Deep Tissue Bacterial Contamination as a Result of Dry Needling	[101] Pratima C. Darr, Wendy A. Dustman • Engagement of High School and College Students in Authentic Research Through Investigation of a Deadly Pathogen of Hibernating Bats
2:45 PM – 3:45 PM	BREAK – Please visit the Posters During This Time in Exhibit Hall C					

Time	Floristics and Plant Systematics Room 15	Ichthyology and Herpetology Room 14	Community & Population Ecology Room 13	Conservation Biology Room 12	Microbiology Rooms 9 & 10	Scholarship of Teaching Rooms 16 & 17
3:45 PM	[59] Rebecca A. Dellinger-Johnston, Bruce K. Kirchoff • <i>Creating a Visually Based Plant Identification Key</i>	[69] Timothy E. Baldwin et al. • <i>The Influence of Environmental Conditions and Land Cover on Pool Breeding Amphibian Diversity Within Northern Alabama</i>	[77] Kevin S. Burgess et al. • <i>Determination of Grasshopper Diets Using DNA Barcoding</i>	[87] Angela K. Burrow, Melissa Caspary • <i>Plant Pollinator Networks of the Coosa Valley Prairies</i>		[102] Rebekah J. Ward et al. • <i>Implementation and Impacts of the Small World Initiative: Hypothesis-Driven Undergraduate Research to Crowdfund New Antibiotics</i>
4:00 PM	[60] Joshua Hamrick, Emily Gillespie • <i>Using Herbarium Specimen Data: An Herbarium Informatics Study of the Order Ranunculales Within West Virginia with Emphasis on Plants of Key Ethnobotanical Importance</i>	[70] Joshua R. Ennen et al. • <i>The Where and Why of North American Turtles: An Explanation of Species Richness Patterns</i>	[78] Zachary Masters, Kunsiri Grubbs • <i>A Study of the Pollinators of Schweinitz Sunflower (<i>Helianthus schweinitzii</i>), Asteraceae</i>	[88] Nathan M. Hoover, Eric Holzmueller • <i>Succession Over 34 Years in an Oak-Dominated Forest in Southern Illinois</i>		[103] Jeffery W. Bonner • <i>Thinking Critically About Yellow Fever in West Tennessee: A Historical Case for Teaching Principles of Microbiology</i>
4:15 PM	[61] Daniel M. McNair et al. • <i>Plant Fossils from the Miocene of Mississippi: Reconstructing a Deltaic Wetland</i>	[71] Sarah J. Kirkpatrick, Vincent A. Cobb • <i>Digestive Thermoregulation in Free-Ranging Timber Rattlesnakes (<i>Crotalus horridus</i>)</i>	[79] Madelyn N. Woods, Daniel A. McCarthy • <i>The Development of a Baseline for Spatiotemporal Variability in Planktonic Communities of the Lower St. Johns River Estuarine System</i>	[89] Richard W. Nessler et al. • <i>Mowing as a Management Tool in Rehabilitating Giant Cane (<i>Arundinaria gigantea</i>)</i>		
4:30 PM	[62] Charlie Williams et al. • <i>Andre Michaux in Tennessee 1789-1796</i>		[80] Michael E. Held et al. • <i>Long-Term Recovery Dynamics of a Tornado-Damaged Forest in Boone County, Kentucky</i>	[90] Brent T. Baker, C. Theo Witsell • <i>Arkansas Status Assessment and Monitoring Summary for the Federally Threatened <i>Geocarpon minimum</i> Mack. (Caryophyllaceae)</i>		

Time	Floristics and Plant Systematics Room 15	Ichthyology and Herpetology Room 14	Community & Population Ecology Room 13	Conservation Biology Room 12	Microbiology Rooms 9 & 10	Scholarship of Teaching Rooms 16 & 17
4:45 PM	[63] Charles N. Horn • Geographical Variation in <i>Heteranthera multiflora</i> (Pontederiaceae)		[81] Bailey A. Hunter, Brian C. McCarthy • Challenges to American Chestnut Restoration: Allelopathic Effects of Three Invasive Plant Species (<i>Ailanthus altissima</i> , <i>Alliaria petiolata</i> , <i>Lonicera maackii</i>)	[91] Robert H. Floyd et al. • Using GIS to Predict Habitat for Two Endangered Wetland Species at Fort A.P. Hill, VA: <i>Helonias bullata</i> and <i>Juncus caesariensis</i>		

Friday AM, April 3

Time	Floristics and Plant Systematics Room 15	Freshwater & Aquatic Ecology Room 3	Physiological and Population Ecology Room 13	Conservation Biology Room 12	Genetics / Cell / Molecular Room 4	Ecology and Evolution of Glade Systems of the SE Room 14
8:20 AM						[152] Ashley Morris • Brief Introduction to Symposium Including Comments on Dr. Elsie Quarterman
8:30 AM	[104] J. Richard Carter • Contributions to the Southeastern Flora	[114] Lacey M. Genard et al. • Ecoregion-Specific Patterns in the Distribution and Abundance of Introduced Redbreast Sunfish (<i>Lepomis auritus</i>) and Native Longear Sunfish (<i>L. megalotis</i>) (Centrarchidae) in Mainstem	[124] Scott T. Cory et al. • Ecophysiological Responses of Fraser Fir (<i>Abies fraseri</i>) Christmas Trees Along an Elevational Gradient	[132] Kesley J. Gibson et al. • Acute Toxicity Testing on Freshwater Mussels (Bivalvia: Unionidae) and Freshwater Snails (Gastropoda: Caenogastropoda)	[143] Beshoy Fahmy et al. • Investigating Endothelial Cell Activation and Angiogenesis by Glutamate Carboxypeptidase II-Derived Peptides	[153] Dwayne Estes • A Review of the Ecology, Flora, and Phytogeography of Southeastern US Glade Communities
8:45 AM	[105] Ralph L. Thompson et al. • Orange-Eye Butterfly Bush (<i>Buddleja davidii</i> , Scrophulariaceae) Naturalized in Tennessee	[115] Kaitlyn D. Peters, Kenneth Fortino • Terrestrial Leaf Litter Alters Nutrient and Oxygen Flux in the Sediments from a Small Man-Made Pond in Central Virginia	[125] Taylor E. Spillman et al. • An Isotopic and Molecular Study of Mycoheterotrophy in the Southern Blue Thread (<i>Burmannia capitata</i>)	[133] John Enz et al. • A Comparison of the Population Dynamics of the Gopher Tortoises at 2 Distinct Sites Within the Timucuan Ecological Historic Preserve in Northeast Florida	[144] John M. Herr, Jr. et al. • A Method for Air-Drying Fresh Stem Sections of <i>Plectranthus amboinicus</i> (Lour.) Spreng and <i>Coleus blumei</i> Benth for Scanning Electron Microscopy (SEM)	8:50 AM [154] Kimberly R. Taylor, Robert J. O'Kennon • Characteristic Flora of Walnut Limestone Glades: A Little Known Glade System in North Central Texas
9:00 AM	[106] Jesse C. Harris, Joey Shaw • Phylogeographic Study of <i>Castanea ozarkensis</i> Ashe to Determine the Geographic Distribution of Genetic Variability Across the Ozarks	[116] Jessica L Littlefield et al. • Implications of Freshwater Browning on Zooplankton: Using Superhume as an Artificial Source of Dissolved Organic Carbon for Experimentation	[126] Kimberly C. Smith et al. • Redefining How Biologists Analyze Data: Augmenting the Two-Dimensional Proportional Contribution Model with a Three-Dimensional Approach to Enhance Analysis of Stable Isotope Data	[134] Howard S. Neufeld • Not Quite Like Making Sausage: How the EPA Sets National Ambient Air Quality Standards for Ozone and Other Criteria Pollutants	[145] Victor Hong, Benjamin J. Thornton • Differential Protein Expression During Tail Regeneration of <i>Anolis carolinensis</i>	9:10 AM [155] Matthew A. Albrecht, Quinn G. Long • Effects of Habitat Structure and Herbivory on the Reintroduction of an Endangered Glade Plant: <i>Astragalus Bibullatus</i> (Pynes Ground-Plum)

Time	Floristics and Plant Systematics Room 15	Freshwater & Aquatic Ecology Room 3	Physiological and Population Ecology Room 13	Conservation Biology Room 12	Genetics / Cell / Molecular Room 4	Ecology and Evolution of Glade Systems of the SE Room 14
9:15 AM	[107] Travis D. Marsico et al. • The Role of Small Natural History Collections in Contributing to Understanding Species Distributions: Case Studies from Arkansas and Michigan Herbaria	[117] Raquel A. Fagundo et al. • The Tree of Broken Dreams: A Molecular Analysis of <i>Elliptio</i>	[127] Leighanne R. Main et al. • Bioindicator of High Quality Water Based on Water Balance for Survival of the Parasitic Hairworm in Fresh Water Streams	[135] Martin L. Cipollini et al. • Changes in Vegetative Structure After 10 Years of Restoration Management in an Old Growth Mountain Longleaf Pine Forest	[146] Alexandra T. Barbour et al. • Exploring Corazonin Receptor Expression in the Fruit Fly and Its Relevance to Human Fertility	
9:30 AM	[108] Emily Gillespie et al. • Management of the Modern Herbarium: Building a Student-Centered Approach to Conducting Digitization Projects	[118] Cook F. English et al. • Relationships Between Total Heterotrophic Bacteria, Stream Water Chemistry, and Land Cover in the Piedmont Region of SC	[128] Jennifer L. Newbrey et al. • Seasonal Variation in Yolk Carotenoid Concentrations and Egg Metrics in Eastern Bluebirds Breeding in West-Central Georgia	[136] John E. Quinn et al. • Determinants of Forest Biodiversity Value in a Rapidly Urbanizing Area of Upstate South Carolina	[147] Roger A Sauterer, Linda A Major • Histone-Induced Cytochrome C Release from Mitochondria: A Broadly Conserved Process?	[156] Jesse E. D. Miller, Ellen I. Damschen • Long-Term Landscape Change in Ozark Dolomite Glades, 1939-2012
9:45 AM – 10:45 AM	BREAK – Please visit the Posters During This Time in Exhibit Hall C					
10:45 AM	[109] Eunjee Lee, Benjamin J. Thornton • The Effect of Caffeine on the Dry Mass of Mung Bean (<i>Phaseolus aureus</i>) 17 Days Post Germination	[119] Sarah Fishburne, John Hains • Metabolism of <i>Bellamyia japonica</i> : Hypothesis, Experimental Design and Results	[129] Glenn A. Marvin, Kayla Davis • Lower Temperature Limit for Feeding Behavior in the Semi-Aquatic Plethodontid Salamander <i>Desmognathus conanti</i>	[137] Betsy Cuenca, Michael Erwin • Haplotype Frequency of Cytochrome Oxidase 1 (CO1) Among Black Crappie Inhabiting Southeastern Lakes	[148] Nicole L. Vanderbush et al. • Expression and Characterization of Cytochrome C6 from <i>Chlamydomonas reinhardtii</i> Using a Designer Gene	[157] Matthew L. Niemiller • The Amphibian and Reptiles of the Cedar Glades and Barrens of the Central Basin of Middle Tennessee
11:00 AM	[110] Jay F. Bolin et al. • A Review of the Taxonomy and Phylogenetics of the Holoparasitic Hydnoraceae and Notes on a Potentially New Arabian <i>Hydnora</i> Species from the Sultanate of Oman	[120] James L. Wood • <i>Podostemum ceratophyllum</i> : What Is a Torrenticolous Macrophyte and What Might We Learn from It?	[130] Pieter A.P. deHart, Julie A. Lozier • Size May, in Fact, Matter: Breed-Specific and Ontogenetic Dietary Differences in Free-Ranging Dairy Goats	[138] James B. McGraw et al. • The Importance of Conserving Mutualists for Plant Conservation in a Changing Climate: A Case Study with Two Appalachian Icons	[149] Tsu-Yi Su, Wanda T. Schroeder • Effect of Exogenously Administered Estradiol and Progesterone on the Expression of Tgase1 Protein in Immature Mouse Vaginal Epithelia	11:05 AM [158] Christopher R. Herlihy, Jeremiah W. Busch • What Maintains the Flower Color Polymorphism in the Cedar Glade Endemic <i>Leavenworthia stylosa</i> ?

Time	Floristics and Plant Systematics Room 15	Freshwater & Aquatic Ecology Room 3	Physiological and Population Ecology Room 13	Conservation Biology Room 12	Genetics / Cell / Molecular Room 4	Ecology and Evolution of Glade Systems of the SE Room 14
11:15 AM	[111] Scott D. Silvis et al. • Documenting the Biodiversity of a Local Sandhill Flora Using DNA Barcodes: An Investigation into the Patterns of Resolution in Polytypic Taxa	[121] Amelia K. Atwell et al. • Environmental Correlates of Lotic Macroinvertebrate Diversity in the Lookout Creek Watershed (Tennessee River Drainage)	[131] Eric C. Niederhauser, Glenn R. Matlack • Secondary Dispersal of Forest Herb Seeds from Raccoon Dung	[139] Hana M. Henry • Reef Fish Populations and Coral Reef Health as Affected by Anthropogenic Impacts on Bonaire, Municipality of the Netherlands	[150] Joseph A. Tierno et al. • Dynamics of Sup35 Amyloid Aggregations Under the Effects of Cinnamon Extract	11:25 AM [159] Kim Cleary Sadler • Cedar Glades as Outdoor Classroom Experiences for Grade K-12 Students
11:30 AM	[112] Andrew P. Hart et al. • Inferred Phylogenetic Relationships Within <i>Rhododendron</i> Subsection <i>Ledum</i>	[122] Megan E. Gibbons • Six Years of Intensive Trapping and Removal of an Invasive Species of Crayfish from Roebuck Springs, Alabama: Impacts on Invasive and Native Crayfish Populations		[140] Gil Nelson, Kevin Robertson • Mobilizing Dark Data: Bringing Biological Field Station Biodiversity Collections into the Light	[151] Natalie J. Hargrave, Mijitaba Hamissou • Investigating Insulin-Like and Glucosidase Activities in Bitter Gourd (<i>Momordica charantia</i>) and Cucumber (<i>Cucumis sativus</i>) Extracts	
11:45 AM	[113] Ashley B. Morris et al. • The State of Plant Phylogeography: A Review of Methodological Approaches	[123] Alexander U. Edwards et al. • Effects of Feeding Frequency on Alligator Gar Mortality		[141] Ketaki Deshpande, DeEtta Mills • Major Histocompatibility Complex Genes as Additional Markers for Wildlife Conservation, as Modeled in <i>Equus caballus</i>		

Friday PM, April 3

Time	Floristics and Plant Systematics Room 15	Freshwater & Aquatic Ecology Room 3	Ecosystem and Landscape Ecology Room 13	Conservation Biology Room 12	Evolutionary Biology Room 4	Entomology & Invertebrates Room 14
1:30 PM	[160] Kunsiri Chaw Grubbs • <i>Eupatorium rotundifolium</i> Complex: Investigating Its Origin	[170] Neil Billington • A Review of the Frequency of Hybridization Between Walleye and Sauger in North America	[181] J. Andrew Arnold et al. • Assessing Avian Use of Forested Stopover Habitat Along the Mid-Atlantic Flyway During Fall Migration	[189] Robert E. Evans et al. • Differential Species Response to Severe Fire in a Carolina Bay Wetland in the Coastal Plain of North Carolina	[198] Ruthie Barbas, Matthew R. Gilg • Tests of Reproductive Isolation Between <i>Fundulus heteroclitus</i> and <i>F. grandis</i>	[210] Thomas M. Hart, Wade B. Worthen • The Effect of Water Mite Parasitism on Fluctuating Asymmetry and Immune Response of Two Dragonfly Host Species, <i>Argia fumipennis</i> and <i>Pachydiplax longipennis</i>
1:45 PM	[161] Randall L. Small, Jennifer L. Schilling • Genetic Diversity and DNA Barcoding in Invasive Chinese Privet (<i>Ligustrum sinense</i>)	[171] Todd A. Egerton et al. • Expansion and Toxicity of <i>Cochlodinium polykrioides</i> and <i>Alexandrium monilatum</i> Harmful Algal Blooms in Chesapeake Bay	[182] Margaret J. Pryatel et al. • Ecosystem Services Associated with Switchgrass Plantings in Agricultural Landscapes	[190] Edward Schwartzman • Montane Red Cedar Glades of Western North Carolina	[199] Whitaker M. Hoskins, Randall L. Small • The Role of Polyploidization in the Spread of <i>Hibiscus</i> Section <i>Furcaria</i>	[211] Joseph M. Taylor et al. • Stable-Isotope Analysis Reveals Trophic Differentiation of Lycosids Feeding in Fields and Forests
2:00 PM	[162] Alexander Krings et al. • Image Sort Visual Learning for Field Botany Courses: Facilitating Higher-Level Active Learning in the Field Through First Exposure Pattern Recognition Exercises in the Classroom or at Home	[172] Gabriel I. Herrick • Response of Floating Aquatic Plant Communities to Nutrient Loading in Florida Waters	[183] Chloe Connolly, David Vandermast • The Impacts of Ice Storm Damage to the Structure and Composition of Elon University Forest	[191] Patrick A. Smallwood et al. • Investigation of Genetic Structure of Louisiana Bluestar (<i>Amsonia ludoviciana</i>) Populations in Georgia	[200] Macy Key, Fengjie Sun • A Phylogenetic Study of Molecular Structures in <i>Tmra</i>	[212] Christopher J. Paradise • Effect of Sticky Tree Bands on Accumulation of Non-Target Arthropods and Reduction of Defoliation from Cankerworms (<i>Alsophila pometaria</i>)
2:15 PM	[163] Nathan D. Howell et al. • The Littoral Zone Flora of Carolina Bay Lakes in	[173] Stefania M. Ward, Lori Tolley-Jordan • Comparing Parasite Communities of the	[184] Barry E. Edgar, Heather P. Griscom • The Effect of Controlled Burns on	[192] Michael A. Erwin • Haplotype Diversity Analysis of Black Crappie, <i>Pomoxis</i>	[201] Rebecca E. Hale et al. • Does Parental Care Alter Selection on Developmental	[213] Andrew Bennett et al. • Flies and Butterflies Use Capillarity for Fluid Uptake

Time	Floristics and Plant Systematics Room 15	Freshwater & Aquatic Ecology Room 3	Ecosystem and Landscape Ecology Room 13	Conservation Biology Room 12	Evolutionary Biology Room 4	Entomology & Invertebrates Room 14
	Southeastern North Carolina	Freshwater Snail, <i>Elimia comma</i> , Among Tributaries of the Upper Black Warrior River, AL	Abundance of Woody Species at Buck Mountain, WV	<i>nigromaculatus</i> (Family Centrarchidae), Inhabiting Lake Sydney Lanier, Georgia	and Life History Traits? A Case Study in Two Ambystomatid Salamanders	from Porous Surfaces: Evidence Supporting the Limiting-Pore Size Hypothesis
2:30 PM	[164] Kipp P. Callahan et al. • The Vascular Flora of Pondberry Bay Preserve (Sampson County, North Carolina)	[174] Ellen Winant, William Ensign • Conchological and Life History Differences in Three Species of <i>Elimia</i> from the Lower Etowah River Basin	[185] Ryan Dorkoski, Jared L. DeForest • Does Phosphorus Luxury Uptake Occur in Soil Microbial Communities?	[193] Sunny A. Fleming et al. • An Update on the Status of the Federally Endangered <i>Xyris tennesseensis</i> in the State of Tennessee	[202] Curtis J. Hansen, Leslie R. Goertzen • Wildflower Genomics Within the Genus <i>Marshallia</i> (Asteraceae)	[214] Valerie R. Kramer et al. • Studies of Allometry Among Structures of the Lepidopteran Proboscis in Relation to Fluid Uptake Abilities
2:45 PM	[165] Gerald L. Smith et al. • An Intriguing Population of <i>Hymenocallis</i> in the Pittman Creek System in the Central Florida Panhandle	[175] Troy R. Mutchler et al. • Nitrogen Cycling in Coastal Ecosystems: A Case of Too Much Recycling?	[186] Richard R. Borthwick, Yong Wang • Bird Diversity and Abundance on Reclaimed Surface Coal Mines in Alabama: Temporal and Habitat Related Variations	[194] John B. Taggart • Distribution and Management of Invasive Plant Populations in State Park Properties of the North Carolina Coastal	[203] Eleanor Diamant et al. • Factors in the Ejection of Parasitic Eggs by Eastern Bluebirds (<i>Sialia sialis</i>)	[215] Ashley L. Lash, Matthew S. Lehnert • Feeding Abilities of Butterflies with Split Mouthparts
3:00 PM – 3:30 PM	BREAK – Please visit the Posters During This Time in Exhibit Hall C					

3:30 PM	[166] Karen P. Fawley et al. • The Taxonomic Status of <i>Cardamine dissecta</i> (Brassicaceae) in Arkansas	[176] Natalia L. Traver, Dave Unger • Impact of a Small Woodlot on Biotic and Chemical Stream Quality	[187] Victoria A. Peters et al. • Influences of a Filled Valley and Deep Soil Water Saturation on Tree Growth in the Green River Floodplain	[195] Jason R. O'Bryhim et al. • Forensic Identification of Sharks and Rays Being Caught and Sold in Costa Rica	[204] John B. Reese • Effect of Genome Duplication on Male Gametophyte (Pollen Tube) Development	[216] Danielle D'Amato, John Enz • A Survey of Dragonflies and Damselflies (Order <i>Odonata</i>) in the Timucuan Ecological Historic Preserve of Northeast Florida with an Analysis of Mercury Levels in the Preserve Using Dragonfly Larvae as Indicators
3:45 PM	[167] Wendy B. Zomlefer et al. • Patterns of Biodiversity Documented by Four Herbaria in Georgia: Do Small Collections Data Make a Difference?	[177] Dalisa R. Kendricks, Barry K. Rhoades • Effects of Lithium Chloride on Synaptic Efficacy in <i>Procambarus clarkii</i>	[188] Thilina D. Surasinghe, Robert F. Baldwin • Historical Land Use Drives Community Composition of Stream-Associated Salamanders	[196] Claudia L. Jolls • Panacea, Pandoras Box, Anna Karenina, and a Double-Edged Sword: Perceived Rewards and Risks of Biological Control	[205] Alex T. Edwards • A Comparison of the External Microbial Assemblages Between Native Southern and Wild Northern Strain Brook Trout, <i>Salvelinus fontinalis</i> , of Hatchery Ancestry	[217] Peter A. Van Zandt et al. • Night Movers: An Investigation of Moth Species for the Presence of Pollen as a Measure of Their Potential Role in Pollination
4:00 PM	[168] Megan Scholer, Brad Ruhfel • Phylogenetic Placement of the Newly Described Clover <i>Trifolium kentuckiense</i> (Fabaceae)	[178] Caitlin E. Elam • Tennessee Wetlands: Rapid Assessment and Future Directions			[206] Li-Jun Yan et al. • Evaluating the Role of Asymmetric Introgression in Potential Hybrid Speciation Between Two <i>Rhododendron</i> Species in Yunnan, China	[218] Matthew S. Lehnert et al. • The Architecture of the Butterfly Proboscis in Relation to Feeding Habits
4:15 PM	[169] Justin Hendy et al. • Using Genetic Data to Distinguish <i>Hibiscus dasycalyx</i> from Its Closest Relatives, <i>H. laevis</i> and <i>H. moscheutos</i> , and to Assess Patterns of Interspecific Hybridization	[179] Amelia K. Atwell et al. • Relationships Between Benthic Macroinvertebrate Assemblages, Stream Habitat, and Catchment Landscape Features in the Lookout Creek System (Tennessee River Drainage)			[207] Victoria A. Burgess, James E. Russell • The Cost of Sex and <i>Wolbachia</i> Infection in <i>Trichogramma</i> Wasps	
4:30 PM		[180] Tatiana Tatum Parker, James Rayburn • Toxicity of			[208] Loren D. Hayes, Luis A. Ebensperger • Mammalian	

		Cigarette Butts and Electronic Cigarette Cartridges, and Their Chemical Components, to <i>Xenopus laevis</i> Embryos			Plural Breeding: Why Bother?	
4:45 PM					[209] Jennifer R. Mandel, David E. McCauley • Pervasive Mitochondrial Heteroplasmy in Natural Populations of Wild Carrot, <i>Daucus carota</i> spp. <i>carota</i> L.	

β β β Paper Presentations • Friday PM, April 3

Time	Session A Rooms 9 & 10	Session B Rooms 16 & 17	Session C Rooms 18 & 19
1:15 PM	[219] Paul Frye, Costance Rogers-Lowery • The Effects of Increased Levels of CO ₂ on Photosynthesis and Respiration of <i>Favia fragum</i>	[227] Kathryn Gallman et al. • Cellular Organization of the Micro-Retina, and Projections to the Brain in the Brahminy Blindsnake, <i>Ramphotyphlops braminus</i>	[235] Paige Van de Vuurst et al. • The Effects of Hiking and Mountain Bike Trails on Stream Ecosystems in Oak Mountain State Park in the Southern Appalachian Mountains
1:30 PM	[220] Finn Fustenwerth et al. • Is the Southern Blue Thread (<i>Burmannia capitata</i>) Partially Mycoheterotrophic?	[228] Sean D. Clayton et al. • Drug and Sex Specific Alterations in Dopamine Receptor Expression Following Adolescent Exposure to Methylphenidate	[236] Rosmely Hernandez, Tina Hubler • Techniques for the Rapid Detection of KPC Gene Isolated from Bacteria Found in Sputum Samples Using PCR Amplification
1:45 PM	[221] Kimberly Smith et al. • Redefining How Biologists Analyze Data: Augmenting the Two-Dimensional Proportional Contribution Model with a Three-Dimensional Approach to Enhance Analysis of Stable Isotope Data	[229] Louis Penrod • The Influence of Climate Change on Invasive and Native Fish Performance	[237] Rebecca Moody • The Effects of Fluoxetine (Prozac) on the Growth and Viability of Rat (<i>Rattus norvegicus</i>) Cardiomyoblasts
2:00 PM	[222] Sarah Rooks et al. • Impact of Micronutrients on Tomato Spotted Wilt of Tobacco (<i>Nicotiana tabacum</i>) and Superoxide Dismutase and NPR1 Genes	[230] Sidney Nazerian et al. • An Exploratory Analysis of Methamphetamine-Induced Breakdown of the Blood Brain Barrier in C57Bl/6J	[238] Brittany D. Harry et al. • Caterpillar Saliva Mediates Herbivore Defense Gene Expression in Maize
2:15 PM	[223] Natalee Gordon et al. • Does Drinking Beer Influence	[231] Annette Narzynski • Visual Ecology of Invasive Red	[239] Michael Hamm • The Effect of Indole-3-Propionic Acid in Reduction of Reactive Oxygen Species Is a Frataxin-

Time	Session A Rooms 9 & 10	Session B Rooms 16 & 17	Session C Rooms 18 & 19
	Genes?	Lionfish	Deficient Mutant of Yeast, <i>Saccharomyces Cerevisiae</i>
2:30 PM	[224] Ronnie C. Funk et al. • Search for a Novel Molecular Basis of Split Hand Foot Malformation	[232] Robin White et al. • The Effects of Chronic Adolescent Methylphenidate Abuse on Brain Derived Neurotrophic Factor (BDNF) Expression	[240] Haley Lane • Central Pivot Irrigation and Upper Lethal Temperature for Freshwater Mussels
2:45 PM	[225] Stephanie Giangliuli, Kevin Drace • Comparison of Mera Isolated from Mercury Resistant Bacteria Isolated from Artisanal Gold Mining Sites in Mozambique and Ecuador	[233] Nathaniel Zbasnik • Divergent Feeding Biomechanics Reflects Divergent Feeding Ecology in Sympatric Fishes	[241] Alexis Rice • Removal of Microcystins Via Bioactive Sand Filtration Systems
3:00 PM	[226] April Smith, Jennifer Cannon • The Effects of Perfluorooctanoic Acid on Cell Viability and Peroxisome Proliferator-Activated Receptor Gene Expression in MCF-7 Cells	[234] Ashley Bullard, Ashley Chang-Story • The Effects of Various Concentrations of Caffeinated and Alcoholic Dietary Additives/Beverages (Caffeine Tablets, Energy Drinks, Alcoholic Drinks, and Ethanol) on Gene Expression in <i>Saccharomyces</i>	[242] Brittany D. Jones • Nighttime Inattentive Bouts by Incubating Female Caroline Chickadees (<i>Poecile carolinensis</i>)

Posters – Exhibit Hall C

	TITLE	AUTHORS
P1	Coyote Diet at Carolina Sandhills National Wildlife Refuge: Implications for Deer Recruitment	Tasha J. Stryker, Jennifer S. Borgo, Kelley Godbout, Kristen Oliver Coker College, Hartsville, SC
P2	Breeding Bird Populations of a Highly Fragmented Urban Habitat in Oxford, AL	Robert Carter, Logan Miller, Chris Pellecchia Biology, Jacksonville State University, AL
P3	Temperature Facilitates Longleaf Pine Persistence in Fire-Suppressed Montane Habitats	Nicole Huie¹, R. Malia Fincher¹, Scot Duncan², Dreshun Buford², Kevin Willson³, Hannah Gousse⁴ ¹ Biological and Environmental Sciences, Samford University, Birmingham, AL; ² Biology, Birmingham Southern College, AL; ³ University of Maryland, College Park; ⁴ University of Connecticut, Storrs
P4	Developing an Effective Edna Field Protocol for the Detection of Bog Turtles (<i>Glyptemys muhlenbergii</i>)	Kaitlin A. Anstrom¹, Leigh Anne Harden¹, Malcolm A. Campbell¹, Gabrielle J. Graeter², Michael E. Dorcas¹ ¹ Biology, Davidson College, NC; ² North Carolina Wildlife Resources Commission
P5	Caribbean Spiny Lobster (<i>Panulirus argus</i>) Dispersion Dynamics in the Sargasso Sea	Miranda L. Camp^{1,2}, Brandon O'Brien^{1,3}, Torey Bowser^{1,4}, Linda Amaral-Zettler^{5,6}, Erik Zettler¹, Amy Siuda¹ ¹ Sea Education Association, Woods Hole, MA; ² Stetson University, DeLand, FL; ³ Cornell University, Ithaca, NY; ⁴ University of Maine, Orono; ⁵ Josephine Bay Paul Center for Comparative Molecular Biology and Evolution, Marine Biological Laboratory, Woods Hole, MA; ⁶ Earth, Environmental, and Planetary Sciences, Brown University, Providence, RI
P6	Experimental Field and Greenhouse Trials on American Ginseng, <i>Panax quinquefolius</i> : Implications for Restoration in Appalachia	Emily C. Thyroff, Heather P. Griscom Biology, James Madison University, Harrisonburg, VA
P7	Why Do Non-Native Pipevine Host Plants Have Different Impacts on Two Native Butterfly Specialists?	Valentina Ochoa¹, Katie McDermott¹, Amanda Long¹ ¹ Biology, Florida Southern College, Lakeland; ² Integrative Biology, University of South Florida

	TITLE	AUTHORS
P8	Behavioral Response to a Novel Object Varies with Geographical Location in Tree Swallows	Alexandria N. Albers¹, Joshua T. Ackerman², Frances Bonier³, David W. Bradley⁴, Russell D. Dawson⁵, C. Alex Hartman², Robert W. Klaver⁶, Michael P. Lombardo⁷, Emma McIntyre⁸, Jim W. Rivers⁹, Dave Shutler⁸, Mark T. Stanback¹⁰, Carol M. Vleck¹¹, Lynn Siefferman¹ ¹ Biology, Appalachian State University, Boone, NC; ² Western Ecological Research Center, U.S. Geological Survey, Dixon Field Station, Dixon, CA; ³ Biology, Queen's University, Kingston, ON; ⁴ Bird Studies Canada, Port Rowan, ON; ⁵ Ecosystem Science and Management, University of Northern British Columbia, Prince George; ⁶ Iowa Cooperative Fish and Wildlife Research Unit, U.S. Geological Survey, Iowa State University, Ames, IA; ⁷ Biology, Grand Valley State University, Allendale, MI; ⁸ Biology, Acadia University, Wolfville, NS; ⁹ Forest Ecosystems and Society, Oregon State University, Corvallis, OR; ¹⁰ Biology, Davidson College, NC; ¹¹ Ecology, Evolution, and Organismal Biology, Iowa State University, Ames, IA
P9	Determining Genetic Variation Among Western North Carolina Ginseng (<i>Panax quinquefolius</i> L.) Populations	Marietta D. Shattelroe, Jennifer Rhode Ward Biology, University of North Carolina Asheville
P10	Avian Dispersal of Invasive Plants in the Southeastern United States	E. Natasha Vanderhoff, Jennifer R. Brehm Biology & Marine Science, Jacksonville University, FL
P11	Avian Species Richness, Abundance, and Diversity of Langan Park, Botanical Gardens and Japanese Gardens in Mobile, Alabama	Jared A. Elmore, Clinton S. Major, Joel Borden Biology, University of South Alabama, Mobile, AL
P12	Do American Robins Have the Gut? The Role of Gut Passage on Seed Germination of Invasive Camphor	Jennifer R. Brehm, E. Natasha Vanderhoff Biology & Marine Science, Jacksonville University, FL
P13	Microsatellite Primer Design for Population Genetic Studies of <i>Cuscuta rostrata</i> (Beaked Dodder)	Kendall S. Cooper, Gaius Augustus, Joel R. McNeal Ecology, Evolution, and Organismal Biology, Kennesaw State University, GA
P14	Genetic Structure of Populations of Mealybugs on Epiphytic Orchids of South Florida	Aaron Schrey, Jennifer Zettler, Kyle Adams, Bridget Frederick, Amy Gutting, Nicholas Ingebretsen, Alexandria Ragsdale Biology, Armstrong State University, Savannah, GA
P15	Does Colony Social Form of Invasive Fire Ants (<i>Solenopsis invicta</i>) Affect Microhabitat Choice in Wetlands of North Carolina?	Haylee A. Trotter, Mycah Sewell, Lisa Kelly Biology, University of North Carolina at Pembroke
P16	Determining Genetic Structure of Feral Pig Populations in Tennessee Using Microsatellite Markers	Allison E. Griffin, Anthony D. Tata, II, Mary Sledge, John Lewis Biology, Lipscomb University, Nashville, TN
P17	Invasive Potential of the Invasive Plant Species <i>Centaurea stoebe</i> in Competition with the Native Species <i>Lespedeza capitata</i>	Sean G. Kellogg, Edward Lowry Hampden-Sydney College, VA

	TITLE	AUTHORS
P18	How Well Does an Aggressive Invasive Plant Species, <i>Centaurea stoebe</i> (Asteraceae), Perform When Grown in Different Substrates	Erik W. Kellogg, Edward Lowry Hampden-Sydney College, VA
P19	Establishing a Web Presence for the Louisiana Environmental Research Center at McNeese State University	Lyle J. Hardee¹, William H. Dees², Lacie C. Petticrew¹, Caleb M. Ardizzone², Omar E. Christian³, Ning Zhang⁴, Sandesh Thapa⁴, Hannah G. Fogg¹, Janet R. Woolman¹ ¹ Office of Economic Development, McNeese State University, Lake Charles, LA; ² Biology and Health Sciences, McNeese State University, Lake Charles, LA; ³ Chemistry and Physics, McNeese State University, Lake Charles, LA; ⁴ Chemical, Civil, and Mechanical Engineering, McNeese State University, Lake Charles, LA
P20	Background Mercury Presence in Air, Soil, Duff, and Macro-Invertebrate Compartments of "Uncontaminated" Forest Ecosystems Located in Rockingham County, VA	Gail M. Moruza, Gregory E. Mansour, Dean Cocking Biology, James Madison University, Harrisonburg, VA
P21	Relative Abundances of the Recently Introduced Barnacles, <i>Megabalanus coccopoma</i> , and an Unidentified Species of <i>Megabalanus</i> , in the Southeastern US	Jennifer Tyson¹, Alicia Reigel¹, Daniel Gleason², Scott Harrison¹ ¹ Biology, Georgia Southern University, Statesboro, Georgia; ² Institute for Coastal Plain Science, Georgia Southern University, Statesboro
P22	Determining the Level of Carotenoids in Herbivorous Grasshoppers as Food for Insectivorous Birds	Caitlin M. Gallagher, Jennifer Newbrey Biology, Columbus State University, GA
P23	Arthropod Communities in Various Successional Forest Habitats	Calla L. Telzrow, Joshua W. Campbell Biology, High Point University, NC
P24	Determining the Effects of Herbivory on an Herbaceous Plant, American Bellflower (<i>Campanulastrum americanum</i> L.)	Lauren E. Whitehurst¹, Holly R. Prendeville², Laura F. Galloway², Kevin Burgess¹ ¹ Biology, Columbus State University, GA; ² Biology, University of Virginia, Charlottesville
P25	The Impacts of a Small Dam Removal on the Distribution of Parasitized Snails (Pleuroceridae: Elimia) in Choccolocco Creek, Alabama	Annie Slayton, Lori Tolley-Jordan Biology, Jacksonville State University, AL
P26	Investigation of Soil Seed Banks from Two Habitat Types in a Freshwater Wetland	Luisa Santiesteban, Allison Armstrong, Jordan Hartman, Thomas Lee, Christy T. Carter Biology, Wingate University, NC
P27	Colony Social Forms of Invasive Fire Ants (<i>Solenopsis invicta</i>) in Wetlands of North Carolina	Mycah Sewell, Haylee A. Trotter, Lisa Kelly Biology, University of North Carolina at Pembroke

	TITLE	AUTHORS
P28	Delayed Emergence Dynamics in Emydid Neonate Turtles of North America	Waydon T. Yates¹, Mickey Agha¹, Joshua R. Ennen², Jeffrey E. Lovich³, Carl H. Ernst⁴, Evelyn M. Ernst⁴, Steven J. Price¹ ¹ Forestry, University of Kentucky, Lexington; ² Tennessee Aquarium Conservation Institute, Chattanooga, TN; ³ Southwest Biological Science Center, US Geological Survey, Flagstaff, AZ; ⁴ Division of Amphibians and Reptiles, Smithsonian Institution, Washington, DC
P29	Using Motion-Sensor Camera Technology to Infer Seasonal Activity and Thermal Niche of the Desert Tortoise (<i>Gopherus agassizii</i>)	Mickey Agha¹, Benjamin Augustine², Jeffrey E. Lovich³, David Delaney⁴, Barry Sinervo⁵, Mason O. Murphy⁶, Joshua R. Ennen⁷, Jessica R. Briggs⁸, Steven J. Price¹ ¹ Forestry, University of Kentucky, Lexington; ² Fish and Wildlife Conservation, Virginia Tech, Blacksburg; ³ Southwest Biological Science Center, US Geological Survey, Flagstaff, AZ; ⁴ US Army Construction Engineering Laboratory, Champaign, IL; ⁵ Ecology and Evolutionary Biology, University of California Santa Cruz, Santa Cruz, CA; ⁶ Biology, University of Kentucky, Lexington; ⁷ Tennessee Aquarium Conservation Institute, Chattanooga, TN; ⁸ Warner College of Natural Resources, Colorado State University, Fort Collins, CO
P30	Exploring the Spatial Dynamics of Tortoise Burrow Placement in an Industrial Landscape	Mickey Agha¹, Jeffrey E. Lovich², Joshua R. Ennen³, Benjamin Augustine⁴, Terrence R. Arundel⁵, Steven J. Price¹ ¹ Forestry, University of Kentucky, Lexington; ² Southwest Biological Science Center, US Geological Survey, Flagstaff, AZ; ³ Tennessee Aquarium Conservation Institute, Chattanooga, TN; ⁴ Fish and Wildlife Conservation, Virginia Tech, Blacksburg; ⁵ Southwest Biological Science Center, US Geological Survey, Flagstaff, AZ
P31	Multi-Year Investigation of a Turtle Community in a Northwest Georgia Lake and Wetland Prior to Restoration	Crispian F. Shelton, Christopher B. Manis, G. John Lughart Biology, Dalton State College, GA
P32	Understanding the Population-Level Consequences of Copper Toxicity and Climate Variability on Amphibians Inhabiting Contaminated Environments	Scott M. Weir¹, David E. Scott¹, Christopher J. Salice², Stacey L. Lance¹ ¹ Savannah River Ecology Laboratory, University of Georgia, Aiken, SC; ² Environmental Science and Studies, Towson University, MD
P33	Walleye Population Trends from 2002-2012 in Lake Roosevelt, WA	Justin Seibert, P. Brent Nichols Spokane Tribal Fisheries
P34	Bacterial Growth Inhibition Ability of Uropygial Gland Secretions of Passerines Based on Foraging Behaviors	Kristen Oliver¹, Jennifer S. Borgo¹, Jennifer McCarthy Tyrrell² ¹ Coker College, Hartsville, SC; ² The Center for Birds of Prey, Awendaw, SC
P35	Activity Patterns of Nesting Male and Female Wood Storks During the Breeding Season	A. Lawrence Bryan¹, John R. Robinette² ¹ Savannah River Ecology Laboratory, Aiken, SC; ² Savannah Coastal Refuges, USFWS, Savannah, GA

	TITLE	AUTHORS
P36	Morphologic and Genetic Data from a Northern Mississippi Population of Cricket Frogs	Nathan R. Webb, Sydney Richards, Nicholas Spalsbury, Richard Phillips, James Welch, Jennifer L. Ison Biology, Wittenberg University, Springfield, OH
P37	Population Genetic Analysis of <i>Trichogramma kaykai</i> Using Molecular Markers	Amber M. Kincaid, James E. Russell School of Science and Technology, Georgia Gwinnett College, Lawrenceville
P38	How Ecological Variables Influence Social Network Structure and Fitness in <i>Octodon degus</i>	Kathleen A. Carroll¹, Loren Hayes¹, Luis Ebensperger² ¹ Biological and Environmental Science, University of Tennessee at Chattanooga; ² Departamento de Ecología, Pontificia Universidad Católica de Chile, Santiago
P39	Water Relations and Tracheid Anatomy of Fraser Fir (<i>Abies fraseri</i>) Christmas Trees Along an Elevation Gradient	Lauren K. Wood, Howard S. Neufeld, Scott T. Cory, Jessica N. Stevens Biology, Appalachian State University, Boone, NC
P40	Comparison of Newly Developed Microsatellite Markers to Previous Allozyme Diversity Analysis in Select Southern Populations of <i>Thuja occidentalis</i>	Clay S. Crippen, Matt C. Estep, Gary L. Walker Biology, Appalachian State University, Boone, NC
P41	Investigating the Function of Leaf Inclination in the Sand Dune Herb <i>Hydrocotyle bonariensis</i>	Joshua Grier, John Counts, Heather M. Joesting Biology, Armstrong State University, Savannah, GA
P42	Temperature Ranges for Dormancy Loss and Germination Between Species Differing in Dispersal Strategies	Ridma Bandara¹, Jeffrey L. Walck¹, Siti N. Hidayati¹, Kayri Havens² ¹ Biology, Middle Tennessee State University, Murfreesboro; ² Plant Biology and Conservation, Chicago Botanic Garden, Glencoe, IL
P43	An Unusual Succulent in the Appalachian Understory: Leaf Morphology and Light Capture in <i>Sedum ternatum</i>	Catherine J. Cole, William Hutchinson, Howard S. Neufeld Biology, Appalachian State University, Boone, NC
P44	Using the Stress Response Along an Elevational Gradient to Understand Habitat Suitability of the Southern Grey Cheeked Salamander (<i>Plethodon metcalfi</i>)	Molly F. Nielsen, Rachel Manchester, Matthew T. Stewart, Eric Riddell, Michael Sears Biological Sciences, Clemson University, SC
P45	Molecular Analysis of Gut Content in the Striped Bark Scorpion <i>Centruroides vittatus</i>	Melissa Green¹, Demetrius Geiger¹, Paige Henley¹, C. Neal McReynolds², Eric A. Albrecht¹, Thomas McElroy¹ ¹ Kennesaw State University; ² Texas A&M International University
P46	Methyl Jasmonate Applied to Host Plants Reduces Invasive Herbivore Growth	Katie Nelson, John Kilmer, Travis D. Marsico Biological Sciences, Arkansas State University, Jonesboro
P47	Potential Environmental Causes for Central Appalachia's Thyroid Disorder Hotspot	Maddison S. Couch, Walter H. Smith Natural Sciences, The University of Virginia's College at Wise

	TITLE	AUTHORS
P48	Landscape Scale Plant Communities in Oak Mountain State Park, Alabama	Robert Carter¹, Thomas Warren² ¹ Biology, Jacksonville State University, AL; ² Snead State Community College, Boaz, AL
P49	Quantifying the Impact of Avian Guano as a Nutrient Input to Cliff - Face Ecosystems in Western North Carolina	Angela Langevin E., Michael Madritch, Gary L. Walker Biology, Appalachian State University, Boone, NC
P50	The Effect of Slope Position and Gap Size on Chestnut Hybrid Performance Relative to Tulip Poplar and Chestnut Oak: Implications for Reintroduction	Olivia F. Vito, Ben T. Pisano, Megan E. Budnik, Anna E. Nordseth, Heather P. Griscom Biology, James Madison University, Harrisonburg, VA
P51	Climate Change Vulnerability Assessment of the Ecological Systems of the Tennessee River Gorge	David Jacobs, Jim Graves Masters Science in Environmental Science, Green Mountain College, Poultney, VT
P52	Relationships Between Water Quality, Rural Land Covers, and Watershed Topography in the South Carolina Piedmont	Daniel T. Talley, Gregory P. Lewis, Cook F. English Biology, Furman University, Greenville, SC
P53	Wetland Assessment of a Blackwater Swamp Along the Black River, Georgetown County, South Carolina	Johnathan M. Overcash, Erik C. Usher, Joel M. Gramling Biology, The Citadel, Charleston, SC
P54	Biological Illustration	Anastacia L. Marcus Biology and Art, Jacksonville State University, Jacksonville, AL
P55	Spatio-Temporal Analysis and Predictive Modeling of Rabies in Tennessee	Nyssa R. Hunt University of Tennessee at Chattanooga
P56	Using Social Media and Web-Based Platforms to Collect Scientific Data on Human-Coyote (<i>Canis latrans</i>) Interactions in Metro Atlanta, GA, USA	Jeremy W. Hooper¹, Christopher B. Mowry², Lawrence A. Wilson³, Randal J. Hale⁴ ¹ Biological and Environmental Sciences, University of Tennessee at Chattanooga; ² Biology, Berry College, Rome, GA; ³ Environmental Sciences, Emory University, Atlanta, GA; ⁴ North River Geographic Systems, Athens, GA
P57	Georgia Plant Conservation Alliance Safeguarding Database - Tracking and Reporting Conservation Activities for Rare Plant Species	Carrie A. Radcliffe¹, Jennifer M. Cruse-Sanders¹, Lisa M. Kruse², Joanne E. Baggs³ ¹ Science and Conservation, Atlanta Botanical Garden, GA; ² Wildlife Resources Division (Nongame Conservation Section), Georgia Natural Resources, Social Circle, GA; ³ Southern Region, USDA Forest Service, Atlanta, GA
P58	Multivariate Analysis of Nematode Communities in Northern Gulf of Mexico Continental Shelf Sediments Following the Deepwater Horizon Oil Spill	Ceil C. Martinec¹, Jyotsna Sharma², Jonathan M. Miller¹, Paul M. Stewart¹, Stephen C. Landers¹ ¹ Biological and Environmental Sciences, Troy University, AL; ² Biology, University of Texas at San Antonio

	TITLE	AUTHORS
P59	Long-Term Population Dynamics and Trends of Common Wintering Birds in Central Virginia	Kala J. Quinn, Caryn D. Ross, Mark L. Fink, Sujan M. Henkanaththegedara Biological & Environmental Sciences, Longwood University, Farmville, VA
P60	Analysis of Wood Thrush (<i>Hylocichla mustelina</i>) Movement Patterns to Explain the Spatial Structure of American Ginseng (<i>Panax quinquefolius</i>) Populations	Michael C. Elza, James B. McGraw Biology, West Virginia University, Morgantown
P61	Diet Analysis of Wintering Waterfowl in Agricultural and Natural Wetlands	Justin A. Walley Biological and Environmental Sciences, University of Tennessee at Chattanooga
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Besides sending abstracts of papers and posters to the Program Committee by February 8, 2015, anyone wishing to be considered for an award must send an abstract to the respective award committee chairperson in order to be considered. An abstract must be sent to the chairperson by February 8, 2015.

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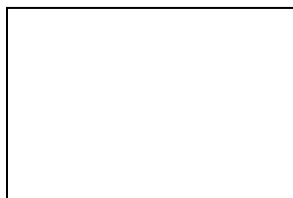
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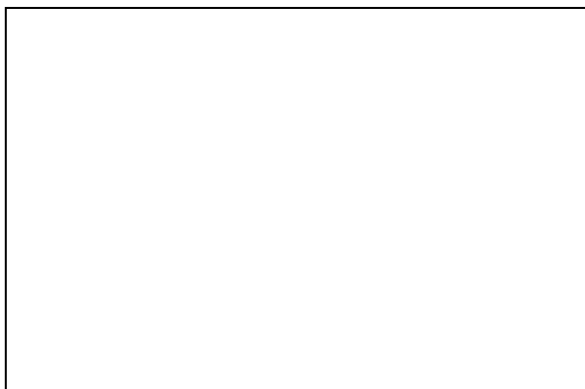
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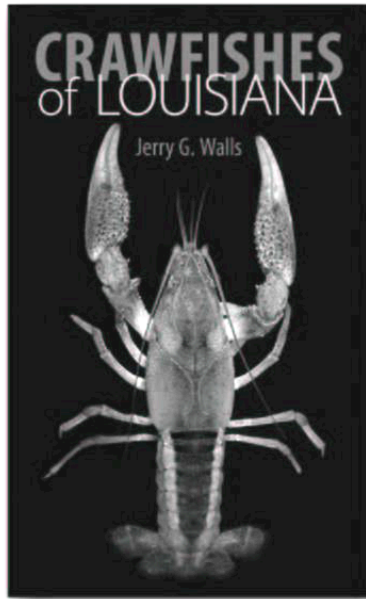
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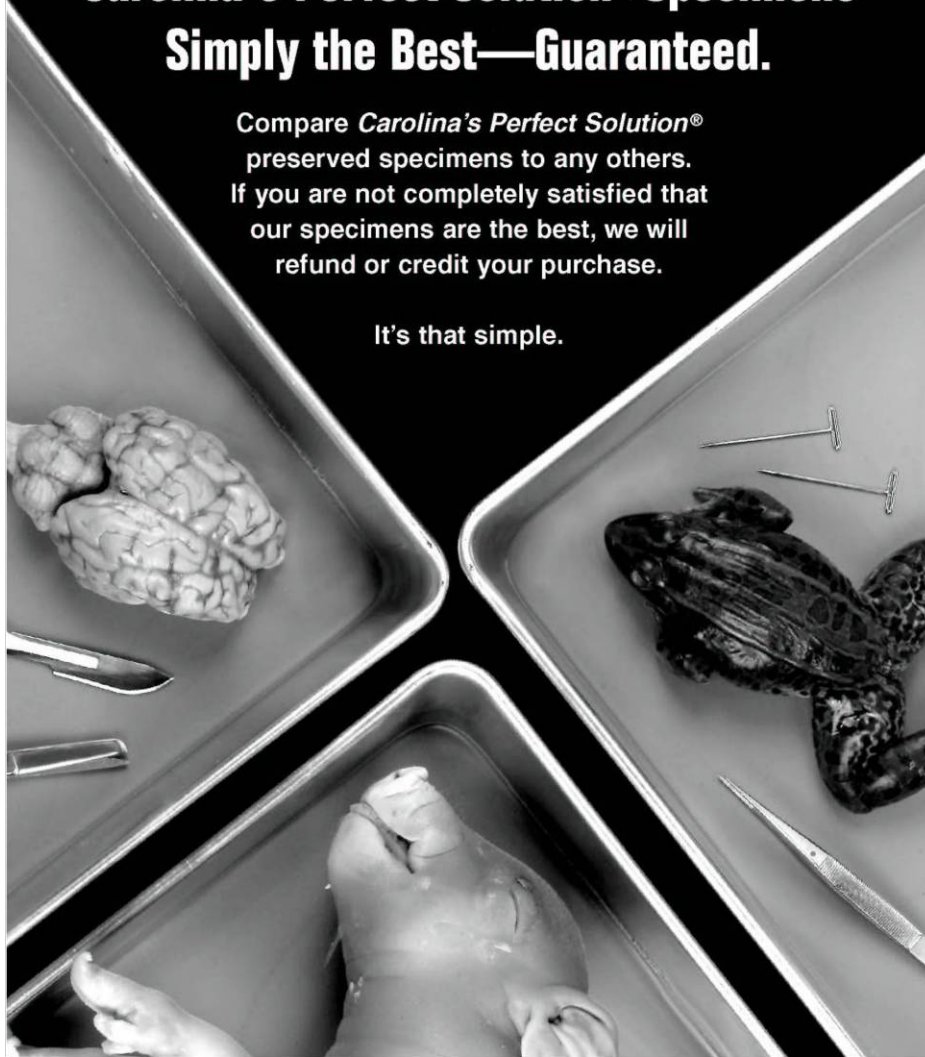
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