

ATBI Quarterly

DLIA
Discover Life in America

In partnership with Great Smoky Mountains National Park • Great Smoky Mountains Association • Friends of the Smokies

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University of Pennsylvania
Dr. Tom Lovejoy,
The Heinz Center
Dr. Ron Pulliam,
University of Georgia
Dr. Peter Raven,
Missouri Botanical Garden
Dr. Edward O. Wilson,
Harvard University
Dr. Sylvia Earle,
National Geographic Society

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CONFERENCE and SALAMANDER BALL 2011

Our Conference and Salamander Ball were held during the second week in April; the first time they've been held in the spring. Both were huge successes! The conference has always been an event where information is shared, and the "old" and new are brought together. These were some of the presentations:

- ATBIs from across the country and even a wonderful program from our new ATBI friends in France and Italy
- lectures documenting years of individual Smokies' research coming to a close
- and brand new information on Smokies' projects just beginning
- Dr. Tom Lovejoy's keynote speech was highly anticipated and wonderfully informative as expected

Our conference is always exhilarating, refreshing, and fun. The Salamander Ball, now in its second year, was a huge hit at Ripley's Aquarium of the Smokies. We look forward to doing it all again next year. We are planning the next conference and Ball and will be announcing some changes coming soon. Thanks for your support and participation.



Pictures from the Conference and Salamander Ball.



UPCOMING EVENTS

We are excited to have a spring, summer and fall full of events for anyone interested in this project. Please go to our website (www.dlia.org) to find out more details, but don't miss our firefly events this June or Biodiversity Days in the Smokies or our annual Biodiversity Hike to LeConte in September.

Notes from the Board Chair- Charles Maynard

This year we took our two granddaughters to the Salamander Ball. It was a fun evening and raised funds for the work of Discover Life in America. The girls (seven and five years old) were very excited to be going to a ball. After all, they have heard about balls, princesses, and princes. They enjoyed looking at the life in Ripley’s Aquarium and even dancing with their old granddad. At one point, the seven year old asked, “So why are we having this ball?” We explained that it was to raise money for DLIA. “What does DLIA do?” she asked. We told her about finding all the animals, bugs, fish, plants – ALL the life forms in the park. She contemplated that a moment and said, “That doesn’t sound very important.” And in that reply I heard voiced what some people think. “That’s not very important.” When air quality, exotics, climate change, development, and other pressures are rapidly changing the environment in which we live, what is the importance of finding new life forms?

I tried to tell our granddaughters that it is important because we can only protect that which we know exists. As John Muir once pointed out – pull on one strand and you will find that all the universe is connected. I’m amazed at what we *don’t* know. How can we make good decisions without good information? How do we manage parks and wilderness areas when we don’t know what we are managing? As Keith Langdon of the National Park Service says, “If your Uncle Harry dies and leaves you his hardware store, the first thing you’ll do is take an inventory of what is there. Then you can figure out what to do with it.”

As always, DLIA needs partners to accomplish anything. They come in many ways – through gifts, volunteers, research, grants, and countless other ways. My hope is that you see the importance of this work enough to do something about it.

My granddaughter does think that some things are important. I have been reflecting on how I can make sure that I help her and others understand the critical nature of knowing, learning, and discovering life.



Salamander Ball Photos courtesy of Kevin Fitzpatrick

Data and Technology Update: ATBI Conference 2011: A Science - Centered Success by Chuck Cooper



Data Technician-
Chuck Cooper

This year’s conference was a unique marriage of four major areas of natural science. First was the addition of the Park’s Science Colloquium talks, which covered a wide range of non-ATBI research in the Park. Subjects included fire effects, invasive organism impacts, ecological studies and watershed biogeochemical processes. This was the first time that the Colloquium talks were scheduled in coordination with the ATBI conference.

The second area of science was the array of DLIA-supported, ATBI research presentations from recent fieldwork and specimen determinations, such as fascinating information on fish parasites, crayfish worms, the evaluation of the use of DNA analysis on water mites, surveys of flatworms, bacteria, slime molds, plant viruses, algae, and small mammals, and an update on millipede taxa.

Thirdly, the conference provided major talks and workshops. These centered on topics such as the overwhelming evidence for global climate change (including our keynote address by Dr. Tom Lovejoy and an update by Dr. Tom Peterson from NOAA), a workshop on nature photography, new iPod nature field guide apps, educator-oriented science class support on biodiversity, curriculum and phenology, and special ATBI research into fungi, water bears, and nematodes. All of these could have spawned their own conferences.

Lastly, there was a session reporting on the activities of ATBIs, not only from around the country, but from a major program in Europe.

Those who attended these four major areas of the 2011 ATBI Conference, as well as the six optional field trips, I’m certain, came away with a new appreciation for the complexity and coordination necessary in the world of ATBI research and application.

Volunteer Coordinator-Heather MacCulloch

DLIA/ATBI Conference 2011 = SUCCESS!! Thank you so much to those of you who were able to participate in this year’s conference. It was great. I would also like to send a special thank you out to the volunteers that not only helped with the preparation of the conference; but those that were able to continue donating time and effort during the conference! The conference would not have happened without you! We had a lot of extra special requests this year, including transportation issues to/from the Knoxville Airport, an event within an event, the Salamander Ball, and numerous tasks throughout the various concurrent sessions and daily happenings. Thank you, thank you, and thank you! As the conference is now behind us; we look forward to our summer 2011 Calendar of Events. I encourage all of you to keep a watchful eye on this summer’s happenings. June, especially, is full of events and volunteer opportunities. I look forward to seeing you all this summer! Check the DLIA website for future events.

Volunteer
Coordination-
Heather
MacCulloch



FOCUS ON SCIENCE

The DLIA staff, board and science committee, working closely with Park staff, continue to develop a plan for moving forward on this project. This Smokies' ATBI is a huge success with more information, new species and data than most planners could have anticipated, but we have been struggling with funding, with what completion looks like, and with what "products" are fashioned from an ATBI. The complexity of what questions we don't even know to ask adds to our challenges, but also adds to the intrigue of what we may end up with. All of this must produce the outcomes that were the intention of this project from the beginning, which is to help Park management better care for this great Park for generations to come, to involve citizens in "real" science as a mechanism to heighten awareness of ecological issues, and for the overall conservation of one of the greatest national parks in the park system. To this end we do know that there are many groups that we still need to studied, and many more that we need completed from work started earlier. We also need specific "at risk" communities studied, and we must pull all of this together to produce reports, maps, graphs and predictions that will help answer all the above mentioned questions. We are still searching for scientists and citizens that can help us make this happen. We have developed a list of priorities, and if you or anyone you know would like to help us please send them our way. Here is the list of high priority taxa/communities:

HIGH – Introductory

- **Diptera** (not including crane flies, mosquitoes, tephritids, tabanids and a few other groups that have already received work)
- **Parasitic wasps** (ichneumonids, braconids, etc.)
- **Terrestrial Hemiptera**, especially reduviids, pentatomids, fulgoroids, etc.
- **Crustaceans**, especially ostracods, fairy shrimp, etc.
- **Mites** – free living and parasitic
- **Pseudoscorpions**
- **Nematodes** (PENDING WORK)
- **Fungi**, especially aquatics and ascomycetes
- **Protozoa**
- **Microbes**: archaea, bacteria, microsporidia, viruses

HIGH – Finish up group of any size

- **Crustaceans** – crayfish (FIELD WORK AND STATUS REPORT NEEDED)
- **Chilopods** (centipedes) (FIELD WORK AND STATUS REPORT NEEDED)
- **Earthworms** (FIELD WORK AND STATUS REPORT NEEDED)
- **Mecoptera** (scorpionflies) (CHECK STATUS)
- **Ticks** (STATUS REPORT NEEDED –SIGNIFICANT WORK COMPLETED)
- **Aquatic snails** (FIELD WORK AND STATUS REPORT NEEDED)
- **Odonata** (dragon & damselflies)-(DATA ENTRY AND SPECIMEN CONFIRMATION)
- **Platyhelminthes** (FIELD WORK AND STATUS REPORT NEEDED)

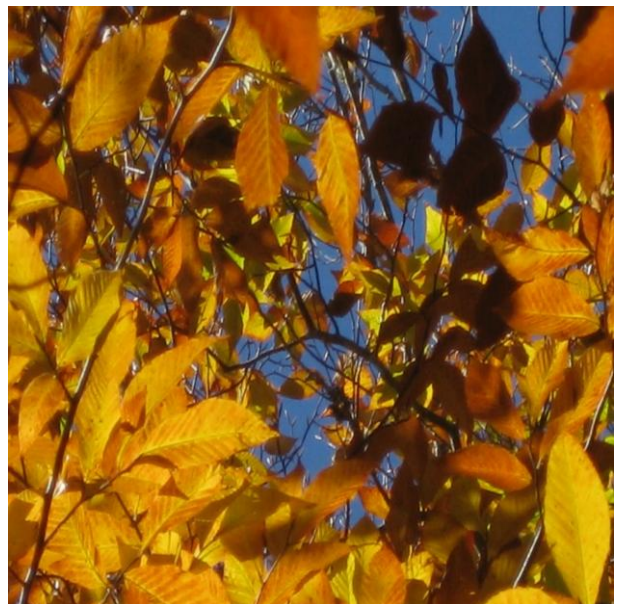
HIGH – At Risk Communities

- **Fraser fir remnant areas, high elevation beech stands, hemlock stands, black walnut stands, xeric cliffs/new lands on TN side of Rt. 129 corridor, globally imperiled wetlands/other communities.**

WHAT WE STILL NEED TO STUDY- Beech Gaps-An at risk community!

Beech gaps are one of the many unusual, high elevation communities in the Smokies. The term "beech gap" refers to forests of beech trees, which are usually found on south facing slopes in east-west or northeast-southwest ridges. Their boundaries are very sharply marked. The dominant forest type is spruce-fir and these "beech gaps" occur as small, deciduous islands in this spruce-fir forest. American beech (*Fagus grandifolia*) trees have suffered a decline in the park, and in 1993 it was confirmed that the beech bark scale insect from Europe and the *Nectria* fungus together cause beech bark disease. Large areas of New England have lost entire populations of beech trees, and park officials see the disease as a threat in the Smokies. We need to know more about this unique habitat in order to protect it.

Todd Witcher



CALENDAR OF EVENTS 2011

DISCOVER LIFE IN AMERICA

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We're on the Web!

See us at:
www.dlia.org

May:
28- DLIA/Nantahala Outdoor Center (NOC)Event, Gatlinburg, TN

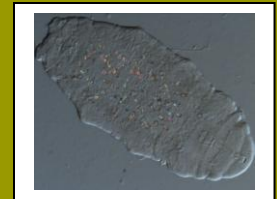
June:
2- New Species Exhibit at Ijams Nature Center, Knoxville, TN
5- Firefly Event, Gatlinburg, TN
10 and 11 – Firefly Event, Gatlinburg, TN
11- Firefly Festival, NOC, Gatlinburg, TN
22- 25- Biodiversity Days in the Smokies, Gatlinburg, TN

July:
16 – Fern Foray (TBD)

August:
6 – DLIA Event, NOC, Gatlinburg, TN

September:
3 -4 –Biodiversity hike and overnight to Mt. LeConte and LeConte Lodge
4 – Fern Foray (TBD)
17- DLIA/NOC Event, NOC, Gatlinburg, TN

October:
8- DLIA/NOC Event, NOC, Gatlinburg, TN



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