



ATBI Quarterly

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



Science Advisory Panel

Dr. Dan Janzen,
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,
Alameda, California

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Chuck Cooper,
Database Technician
Heather MacCulloch,
Administrative Assistant/
Volunteer Coordinator

TAXA TALLY

New to Science =
890

New to the Park =
6,129

Becky Nichols
Park Entomologist

Notes from the Director

DLIA Funding

As with any non-profit these days, DLIA is trying diligently to raise enough money to fully fund this unique project. Over the last ten years our funding has come, almost solely, from the Friends of the Smokies and the Great Smoky Mountains Association by directive from the GSMNP. We have been asked by the park to begin, in earnest, to find new funding sources and to raise "new" monies to complete this great project. This is not a bad thing! By diversifying our funding sources we can ensure long-term survivability. The difficulty is finding those new sources and not competing with these other park fundraising entities. For DLIA this is a "whole" organizational shift in philosophy, and that takes time. DLIA has never focused on fundraising. Up to this point, we have focused on the creation of the organization and the project, the development of

educational tools, the promotion of the project, and, of course, the scientific research. Now the challenge is to balance continuing to do all these things as well as before, and to raise the funding needed to accomplish this task. I believe we can make this happen. With the hard work of the staff, board, and thousands of volunteers we can see this exceptional project to completion and leave a lasting legacy for our great National Park system.

New DLIA

Photo Exhibit

Please go by the Knoxville News Sentinel Gallery and visit the new DLIA Photo Exhibit starting Oct. 1, and running through the end of the year. There will be a special opening reception on Oct. 16th from 5—7 p.m. See website for more details, http://www.dlia.org/images/Poster_Displays/Display_2008/Pics.html

Todd Witcher



**CONFERENCE REGISTRATION
FORM INSIDE**

2008 DLIA/ATBI Conference

"ATBI More Than Just Numbers!"

The 12th ANNUAL DLIA/ATBI Conference will be held at Mills Auditorium in Gatlinburg, TN this December 3 – 5, 2008. Dr. Terry Erwin from the Smithsonian Institute will be the keynote speaker!

Please see conference information and registration form inside.

DISCOVER LIFE IN AMERICA

Summer 2008

UPDATE FROM THE BOARD CHAIR-“ATBI-More Than Just Numbers!”

12th Annual DLIA/ATBI Conference
“ATBI - More Than Just Numbers!”



It's that time of year again! December is just around the corner and our annual DLIA/

ATBI Conference is upon us. Colleagues from all across the country and all over the world will convene here in “our neck of the woods” for a meeting of the minds, a presentation of findings, a description of new species, and acknowledgement of fantastic scientist, educators and volunteers, a re-acquaintance with old friends, and introduction to new ones.

This conference was the preliminary planning phase of the Smokie's ATBI back in 1997, and continues to help define what the project is all about. Getting Everyone Involved!

This marks the 12th conference and we are planning the biggest and best to date. A new location, the fantastic Mill's Auditorium at the

Gatlinburg Convention Center, a remarkable keynote speaker, Terry Erwin, one of the “who's who” of biodiversity research, and schedule of workshops, field trips, concurrent sessions, and social activities un-matched in previous conferences. Please see the enclosed registration forms and sign up for this great DLIA event. I look forward to seeing everyone at the conference again this year!

Ernest C. Bernard
Chairman
Board of Directors
Discover Life in America

**Database and Technology Update**

Being involved as a data staff person at DLIA's “ATBI House” is a continual adventure in nature, paperwork and data about nature, and the computer/technology connected to nature. I could recount for you hours of pouring over computerized maps trying to relate sample site descriptions with coordinates. I could refer to numbers, such as the more than 6,120 species found that are new to the Park. I could focus on the diversity of animals and plants, and those things that scientists are divided on as to how to classify. However, the realization of new discoveries is the most fascinating aspect of my job. A case in point: last year our flatworm expert, Ben Glasgow, collected his favorite aquatic critters, most of which are known as planarians. However, when he sent in his data I noticed a

classification that looked a bit different, with the name “Nemertea.” When I looked into it I was excited to find that the data represented the first specimens of a whole Phylum new to the Park! The secretive Nemertean worms that he had captured are also known as ribbon worms or proboscis worms. The vast majority of them are sea creatures. However, there are a few known from freshwater habitats. At this point, the specimens that were found by Mr. Glasgow have been identified down to the genus Prostoma, and only measure around a millimeter (about 1/25th of an inch) in length. These minuscule worms are carnivores, preying on various microscopic animals. Currently specimens are being sent to a taxonomic specialist to determine species – perhaps

even a new species!

Many have said that after over 10 years of work, including the discovery of 890 species new to science, we should be closing in on the identification of all of the plants and animals in the Park. To be sure, the 16,570 species reported on our website at http://www.dlia.org/atbi/new_science/discoveries.shtml, as presently known from the Park is quite impressive. However, remember that Park staff and scientists estimated years ago that the species count may total up to 100,000. Let's see ... I guess that means that I will be in up to my ears in data for quite a while yet!

Chuck Cooper,
Data Technician

**DLIA Volunteers**

As another summer comes to an end it is time to say goodbye to most of our field work. I would like to thank everyone for their participation in this year's work. Most recently, we had a very successful watermite workshop at Twin Creeks. The event was a lot of fun and well attended. With our field season leaving us, it brings the onset of getting things ready for our annual conference! What an event we have planned! There are several events and activities that I could use a lot of your help. If you can help in any way, please get in touch with me. The conference will be at Mills Auditorium this year, and is being held Dec. 3-5. So mark your calendars! Just a reminder to sign-up for our yahoo group, dliavolunteers. It's really simple and you'll always know what's coming up and when help is needed. One last thing, I'm encouraging all of you to receive the ATBI newsletter electronically. Let's save paper and be green! Send me an e-mail with the subject e-newsletter. Looking forward to seeing all of you at the conference! Heather MacCulloch-Volunteer Coordinator



The Largest Sustained Natural History Inventory in the United States

Excerpts taken from the Dr. Peter White's testimony at the ATBI Senate Field Hearing in July



On July 21, 2008 United States Senator Richard Burr from North Carolina presided over a field hearing about the Smokie's ATBI. There were four witnesses presenting testimony about this fascinating project. Dale Ditmanson, Superintendent from Great Smoky Mountains National Park, Dr. Tim Watkins from National Geographic Society, Glenn Bogart from Pi Beta Phi Elementary in Gatlinburg and Dr. Peter White, Board Member, Discover Life in America. The following are excerpts from Dr. White's testimony regarding the Smokie's ATBI.

"This . . . Great Smoky Mountains National Park . . . all species project, called ATBI (for All Taxa Biodiversity Inventory), has enlisted experts on different kinds of organisms from all over . . . Assisted by volunteers, and with only a shoestring budget, they have built it into a major enterprise of biological research, as well as teaching center for students at every level from grammar school to PhD and postdoctoral programs."

-- World Famous Harvard biologist E.O. Wilson writing in his recent book, *The Creation*

The world around us is rich in undiscovered and unexplored biological diversity. Great Smoky Mountains National Park's rugged landscape, old growth forest, climate, unglaciated history, and diverse habitats produce

a park that is teeming with life.

The All Taxa Biodiversity Inventory in Great Smoky Mountains National Park, North Carolina and Tennessee is commemorating the 10th year of operation, and is celebrated as the largest sustained natural history inventory in the United States and one of the largest in the world. We make this claim based on the number of individuals who have been involved (over **1,000 scientists, educators**, and university students from across the United States and 20 foreign countries.). Dozens of universities and museums have taken part in this project. The project has generated seven National Science Foundation grants (totaling



\$1,876,347) as well as many smaller grants and a large in-kind contribution of time and effort. We have trained over **800 volunteers** (scientists, students, teachers, and citizens) in our Citizen Science program and have logged over **50,000 volunteer hours**. In-kind support has averaged **\$120,000** per year, and leveraged support has averaged **\$400,000** per year.

The results have been remarkable! To date, we have documented **890** species new to science and **6,129** species previously unknown from the Park. In addition we have a digital library with over 10,000 photos and a database with over 250,000 records.

The species new to science have in-

cluded **74 butterflies and moths, 41 spiders, 70 algae, 314 bacteria, 34 beetles, 27 crayfish and other crustaceans, 37 fungi, 19 bees and their relatives, and 14 tardigrades.**

Why is an ATBI important? Take for instance, the decline in managed bees across the country due to disease, pests, and Colony Collapse Disorder. Because of these factors the role of native bees in pollination becomes even more important than previously realized. The U.S. has approximately 4,000 native bees that pollinate about \$3 billion worth of agriculture each year (Xerces Society). The ATBI has documented 121 species of native bees previously unknown in the Smokies and four previously unknown to science. These little known or previously unknown species could play an important role in reducing the impact of the managed bee decline. They certainly play a key role as pollinators of many of the rare plant species in the park.

The All Taxa Biodiversity Inventory, a project of the nonprofit Discover Life in America, is currently funded through Friends of the Smokies and Great Smoky Mountains Association. We are currently looking for additional funding sources to finish this amazing project. If you have suggestions, want to make a donation or need more information about the ATBI project and Discover Life in America, or to volunteer, visit www.dlia.org.



CALENDAR OF EVENTS 2008-2009

Mark these events on your calendar and stay tuned for more details and other programs. See the website at www.dlia.org for more detailed information. To learn about DLIA's volunteer opportunities and to sign up for activities, contact Heather MacCulloch, 865-430-4756 or Heather@dlia.org.

Wednesday, October 1– Wednesday, December 31, 2008: DLIA/ATBI Exhibit “Documenting Life.” The Knoxville News Sentinel Gallery will host this wonderful exhibit of high resolution scans documenting life in the Great Smoky Mountains National Park.

Thursday October 17, 2008: News Sentinel/DLIA Exhibit Opening Reception from 5 p.m.—7 p.m.

Wednesday, December 3- Friday, December 5, 2008: 12th Annual DLIA/ATBI Conference. Please mark your calendars for this most important event. This gathering of scientists, volunteers, teachers, students, and park managers will celebrate twelve years of accomplishments in biodiversity research and education. This year's event will be held at Mill's Auditorium in Gatlinburg, and promises to be bigger and better than ever. Please call 865-430-4756 for more information.

Saturday, December 6, 2008: DLIA Board Meeting.

Friday, January 2, 2009: DLIA/ATBI Exhibit “Documenting Life.” Opens at Bliss on Market Square in Knoxville

Saturday, February 21, 2009: DLIA Board Meeting.

Wednesday, April 1 - Saturday, April 4, 2009: Biodiversity Days in the Smokies. Part of the Park's 75th Anniversary Celebration. More information to come.

Thursday, April 30, 2009: DLIA Open House at Twin Creeks. Part of the Park's 75th Anniversary Celebration. More information to come.

Saturday May 16, 2009: Citizen Science Training.

WISH LIST:

*Microwave oven

*Digital camera

*Refrigerator for office

*Silent auction items

*Newer computers for the office, and for data entry

*A projector for Powerpoint presentations

ATBI Quarterly

Discover Life in America

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www.dlia.org

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