CENTER FOR SYSTEMATIC BIOLOGY & EVOLUTION

2010 ACTIVITY REPORT
STAFF MEMBERS (2010)

ADMINISTRATION
Dr. Ted Daeschler, Vice President
Steven Dilliplane
Kristen Kepics
Drew Lynford
Lori McCole
Andrew Schneider

BOTANY
Dr. Ernie Schuyler, Curator Emeritus
Dr. Tanya Livshultz, Assistant Curator
Elana Benamy
Alina Freire-Fierro
Amanda Labadie
Dr. Rick McCourt
Miguel Pérez
Lauren Spitz

DIATOM HERBARIUM
Dr. Marina Potapova, Assistant Curator
Jennifer Beals
Alys Kirsch

ENTOMOLOGY
Dr. Daniel Otte, Curator/Chair
Dr. Jon Gelhaus, Curator
Greg Cowper
Alain Maasri
Jason Weintraub

ICHTHYOLOGY
Dr. John Lundberg, Curator, Chaplin Chair
Dr. Katriina Ilves
Kyle Luckenbill
Dr. Mark Sabaj-Pérez

INVERTEBRATE PALEONTOLOGY
John Sime

MALACOLOGY
Dr. Robert Robertson, Curator Emeritus
Dr. Gary Rosenberg, Curator/Pilsbry Chair
Paul Callomon
Judy-Lynn Goldberg
Amanda Lawless
Dr. David Robinson, USDA APHIS

ORNITHOLOGY
Dr. Nate Rice

VERTEBRATE ZOOLOGY
Dr. Ted Daeschler, Associate Curator/Chair
Ned Gilmore
Fred Mullison

VIREO
Doug Wechsler, Director
Daniel Thomas

JESSUP & MCHEERY FELLOWS
Lucja Fostowicz-Frelisk
Fabio Laurindo DaSilva
Alexey Reshchikov
BY THE NUMBERS

Research Visitors ..........................329
Student Visitors.................................321
Other Visitors.................................1,873
TOTAL ..........................2,523

Outgoing Loans.................................295
New Species Described .................7
Accessions .................................14,914
Specimens/Lots Loaned.............10,762
Information Requests...............1,894

FIELD WORK

Botany – Canada, Chile, Mississippi, New Jersey, Pennsylvania,

Entomology – California, Colorado, Mongolia, Nevada, New Jersey, New Mexico, Singapore, Tanzania

Ichthyology – Bahamas, Peru, Venezuela

Malacology – Philippines

Ornithology – Vietnam

Vertebrate Paleontology – Pennsylvania
PROPOSALS

INTERDEPARTMENTAL PROPOSALS


BOTANY

- Digitization of Latin American, African and other type specimens of plants at the Academy of Natural Sciences of Philadelphia, Global Plants Initiative (GPI), Mellon Foundation Award.

DIATOMS

- Collaborative Research: A phylogenetic analysis of the freshwater monoraphid diatoms, National Science Foundation.

ENTOMOLOGY

- Renovation of ANSP Entomology Department Research Collection & Associated Lab, National Science Foundation, ARI-R²
- Digital Species Index to The Academy of Natural Sciences’ Entomology Collection, Institute of Museum and Library Services.

MALACOLOGY

- Using information and communication technologies (ITC) to enhance quality, effectiveness, and collaboration in the Philippine Mollusk Symbiont-ICBG Subaward, Oregon Health Sciences University, NIH.
- Toward a global database of marine mollusks, Ocean Biogeographic Information System.

VERTEBRATE PALEONTOLOGY

- Collaborative Research: The Late Devonian Tetrapodomorph Tiktaalik roseae, National Science Foundation.
**REVENUE**

Below is the revenue for CSBE from 2005 through 2010. Values for 2011 are projected.

![Graph showing revenue from 2005 to 2011](image)

**PRESENTATIONS**


**Daeschler, T.** "Fossil Discoveries and Great Transitions in the History of Life". Germantown Friends School, April 21.


**Daeschler, T.** "Exploring the fish-tetrapod transition with focus on *Tiktaalik roseae* (Tetrapodomorpha, Elpistostegalia)". Natural History Museum, London, December 7.


Freire-Fierro, A. El herbario más antiguo de América en la era digital: Experiencia con el proyecto LAPI. Round table, X Latin American Botanical Congress. La Serena, Chile. October 2-8.

Freire-Fierro, A. Estudios preliminares en la sistemática de Monnina (Polygalaceae). Poster, X Latin American Botanical Congress. La Serena, Chile. October 2-8.


Maasri A. Type-specific reference conditions for streams: a European point of view exposed with a concrete study case. Oral presentation, First International Conference "Survey of
Mongolian Aquatic Ecosystems in a Changing Climate: Results, New approaches and future Outlook”. Ulaanbaatar, Mongolia. April 7-10.


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**HIGHLIGHTS**

**INTERDEPARTMENTAL HAPPENINGS**

- Science Live programming: **Greg Cowper, Jennifer Beals, Kyle Luckenbill, Nate Rice, Ned Gilmore, Ted Daeschler**
- **Dr. John Lundberg** served as Senior Editor and **Kyle Luckenbill** served as Production/Illustration Editor on two separate volumes (159 & 160) of the Proceedings of the Academy of Natural Sciences of Philadelphia published in Oct and Nov 2010, respectively. Volume 159 included 12 articles on a variety of topics. Volume 160 was a Special Volume honoring the life and legacy of **Dr. Charles W. Reimer** (1923–2008), Curator of the ANSP Diatom Herbarium from 1960–2008, and included 12 articles featuring diatom research and collections.

**BOTANY**

- Members of the American Philosophical Society made an inventory of the 1893 specimens from the Barton Herbarium.
- Members of the National Taiwan University visited the Academy to scan 6,700 Taiwanese specimens deposited at the herbarium. The images will be available after the signing of a Memorandum of Understanding to be held in Taiwan in June.
- Curator Emeritus **Alfred E. Schuyler** served as an expert witness for Donnelly & Associates, PC. His expertise was requested to determine the value, capacity for regrowth, and privacy benefits of an altered hedgerow thicket in Chester County, Pennsylvania.
- **Alfred E. Schuyler** and **Drew Lynford** consulted for AMEC Earth & Environmental, Inc. Survey for the Northeastern Bulrush (*Scirpus ancistrochaetus* Schuyler) along a planned state access road and gas pipelines in the Tioga State Forest, Pennsylvania.

- **Tanya Livshultz** taught a six-lecture course, “Introduction to Pollination Biology” at the Wagner Free Institute and Pennsylvania Horticultural Society.

- **Tanya Livshultz** participated in the first meeting of the Apocynaceae Working Group, an international collaboration of Apocynaceae researchers established to resolve remaining family-level problems in Apocynaceae phylogeny and evolution.

**Diatoms**

- The Diatom Herbarium hosted two NAWQA taxonomic workshops with diatom researchers from the United States and Canada.

**Entomology**

- Jonathan Koch, Molly Rightmyer & Victor Gonzalez (USDA Bee Lab, Logan, Utah) visited to study Nearctic Apoidea (bees) preserved in the ANSP Entomology Collection.

- Mongolian researcher Ms. Bolortsetseg Erdene spent three months at the Academy conducting research at the Academy and receiving training from **Alain Maasri** on statistical analysis of her aquatic sampling data.

**Herpetology**

- The George M. Feirer Collection of over 800 specimens of amphibian and reptiles was donated to the Academy. The Feirer Collection was amassed in the 1940s and 50s both locally (New Jersey) and internationally through a series of scientific contacts.

**Ichthyology**

- In December, Bud Keim, a descendant of Henry W. Fowler, the Academy’s first Curator of Fishes, donated $25,000 to the Ichthyology Department for the ongoing care and digital imaging of Fowler specimens in the fish collection. **Drs. Lundberg** and **Sabaj Pérez** worked with Amy Marvin in preparing the project proposal solicited by Mr. Keim.

- **Dr. John Lundberg** received the Robert H. Gibbs Jr. Memorial Award for Excellence in Systematic Ichthyology from the American Society of Ichthyologists and Herpetologists (ASIH). With this award, one of the highest honors in ichthyology, Lundberg joined an elite group of 21 other ichthyologists so honored since 1989. At the same meetings, Lundberg also was honored by a special symposium dedicated to his career’s work. Fourteen speakers, including four former students and Lundberg’s spouse Lucinda McDade, gave oral presentations celebrating Lundberg’s decades of fieldwork and many contributions to ichthyology and systematics.

- **Dr. Katriina Ilves** and **Kyle Luckenbill**, curatorial assistant, participated in the Academy's third annual Members' Night in September 2010. Ilves presented a tour through the evolution of fishes using Academy specimens and Luckenbill gave a demonstration on creating digital radiographs of type specimens.

- Jessup Fellow Mariangeles Arce, a doctoral student at Pontificia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil, conducted 4 months of research in 2010 on the molecular relationships and musculature of thorny catfishes. Working in the ANSP Laboratory for Molecular Systematics and Ecology (LMSE), she compiled sequence data on three genes for about 150 specimens representing all genera and nearly all species in the family Doradidae. This marks the first comprehensive molecular analysis of Doradidae and provided many new insights and hypotheses regarding its evolutionary history and biogeography.

- **Kyle Luckenbill**, curatorial assistant, was featured in The Scientist Magazine (http://www.the-scientist.com/blog/display/57560/) in July 2010. The article described Luckenbill’s efforts to x-ray primary type specimens in the ANSP fish collection and included a YouTube video spotlighting Luckenbill and his radiographic techniques as well as the type collection itself. About a dozen of Luckenbill’s artistic x-rays were displayed in the public space in an exhibit called “All types of Fishes”, part of the "Art of Science" series coordinated by Barbara Ceiga.

- **Kyle Luckenbill**, curatorial assistant, prepared the cover image for Systematic Biology volume 59 (issue 4) featuring a photograph, radiograph and CT reconstruction.

- **Drs. John Lundberg** and **Mark Sabaj Pérez**, and **Kyle Luckenbill** hosted the Academy’s second “Catfish Weekend” for public programming in June 2010.

- **Dr. Mark Sabaj Pérez** was honored in the naming of a new species of thorny catfish by two Brazilian students, José Birindelli and Leandro Sousa, who conducted part of their research at the Academy with support from the All Catfish Species Inventory. The new catfish, Leptodoras marki, is endemic to the Xingu River basin, Brazil, and named for Mark's “dedicated service to the ichthyological community as Collection Manager of Fishes, and for encouraging the study of doradids as a co-principal investigator of the All Catfish Species Inventory.”

- At the close of 2010 the ANSP Fish Collection had an estimated 1.4 million cataloged specimens in 136,000 lots.

**MALACOLOGY**

- **Gary Rosenberg** and Jerry Mead (Patrick Center) visited Jamaica, March 7-13, setting up collaborations for GIS studies of Jamaican snails with faculty at the University of the West Indies (Mona) and the Jamaican Forestry Department.

- The department contributed three exhibits and extensive support to the 28th annual Philadelphia Shell Show (October), including logistical and other aid with the Preview Party fund-raiser that raised $30,000 for the Academy and the Center for Molluscan Studies.

- Three masters degree students from the Philippines visited the department under funding from the ICBG grant. They were instructed in curatorial procedures and molluscan systematics, and worked on sorting and identifying samples, and helped with constructing a interactive key to Philippines species of Turridae. (Mary Anne Astilla
and Marvin Altamia overlapping from 2009 until mid-January and Gizelle Batomalaque from November 30 into 2011).

**Mammalogy**
- A large number of specimens (skulls and skins) from the Mammalogy Collection were put on special display during the Sportsman's Dinner event on the evening of June 10.

**Mineralogy**
- Thanks to the generosity of the Philadelphia Mineralogical Society and The Coes family, the Seybert Collection mineral cabinet was repaired and restored by furniture conservator Mr. Alan Andersen. The cabinet is now on display in the Academy library.
- For the first time in decades, a selection of 15 beautiful local minerals from the Academy’s W.S. Vaux Collection was displayed at the Philadelphia Gem and Fossil Show.

**Ornithology**
- *Presidents Dinner* – 11 May 2010. Dr. Robert S. Ridgely, former ANSP bird curator returned for an event to generate support for the bird department and launch his upcoming “Birds of South America, Vol. 3”. Many dozens of specimens from the collection were used to augment his presentation and highlight the world class standing of the bird collection. The evening was widely considered as being hugely popular for long-term members and new guests alike.
- *Collections Dinner* - 10 June 2010. Mr. Gephart and Dr. Daeschler invited personal friends, long-term members, and former members for an evening highlighting the wonderful treasures from the Academy’s collections.
- *Sportsman’s Dinner* – 1 December 2010. Nate Rice presented a short talk on the history of the bird department, museum, and our long history of sportsmen supporting our conservation efforts. Nearly 100 bird and mammal specimens were used in the reception and to augment the presentation. The BNY Mellon wealth management group and specifically new board member Ron Clark funded the evening. Many new potential and major donors attended the event.

**Vertebrate Paleontology**
- Associate Curator of Vertebrate Biology, Dr. Ted Daeschler, served as Acting President and CEO of the Academy for seven months during the search for a new President and CEO.
- The Vertebrate Paleontology Department organized a library display of Ice Age fossil specimens from the Thomas Jefferson Collection for the Paleopalooza festival in 2010. Department staff and volunteers also manned tables to display recently collected Devonian fish fossils, along with fossil great white shark teeth and Eocene-age Green River fish, during the festival weekend.
- Ted Daeschler and Fred Mullison organized and led a 2-day field trip to north central Pennsylvania to visit and discuss Devonian-age fossil discoveries that Academy teams have made in the region. 22 students and professionals from Japan, China, Australia, Germany, the U.S. and others attended the trip in the days leading up to the annual meeting the Society of Vertebrate Paleontology held in Pittsburgh in October.
VIREO
- Licensed over 1,000 images to The Stokes Field Guide to the Birds of North America and 2,000 images for Audubon Mobile Field Guide Apps.
- Uploaded our 80,000th image online.

**PUBLICATIONS**


