Department of Botany & the U.S. National Herbarium

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Botany Profile

A Botanical Presence at Scientific Meetings

By Karen Redden, Jay Horn and Gary Krupnick

Summertime is the season when Department of Botany staff attend conferences and present their research to the scientific community. This summer proved to be a productive one. The National Museum of Natural History was well-represented at the annual meeting of the Botanical Society of America, the annual meeting of the Association for Tropical Biology and Conservation, the Vth International Congress of EthnoBotany 2009, and specialized symposia such as the 5th International Symposium on the Family Zingiberaceae.

The annual Botany meetings held jointly by five societies (American Fern Society, American Bryological and Lichenological Society, American Society of Plant Taxonomists, Botanical Society of America, and Mycological Society of America) were held this year in Snowbird, Utah. With well over a thousand attendees and nearly the same number of presentations, posters and symposia, the alpine meadows near Salt Lake City were alive with spectacular wildflowers and cutting-edge science. Once again, the Department of Botany was well represented at this meeting. Smithsonian scientists, both current and former, presented their research, which included a broad range of topics spanning systematics, ecology, biogeography, and historical botany.

Highlights of the meetings included Warren Wagner's inaugural address as incoming president of the American Society of Plant Taxonomists at the society's annual banquet. His after-dinner talk was both informative and widely enjoyed. Vicki Funk's leadership in the field of systematics and evolution of the Compositae was well displayed at this meeting. She chaired the Asterales session, co-authored numerous talks and presented her "double-wide" poster with Mauricio Bonifacino that synthesized more than a decade worth of work on the phylogeny, systematics and biogeography of this megadiverse family of flowering plants. The release of the new book *Systematics, Evolution and Biogeography of Compositae*, co-edited by Funk (see page 6), with contributions by over 70 authors, provided impetus for the strong showing of talks on this family.

Below is a summary of contributions by current and former staff and associates of the Department of Botany. The list of former associates of the department is undoubtedly larger than what we have enumerated, and we offer our apologies to those we have inadvertently overlooked. Abstracts of oral and poster presentations are located at <http://www.2009.botanyconference.org>.

Current researchers that served on committees and chaired sessions include Vicki Funk, Patrick Herendeen, Carol Kelloff, and Warren Wagner. First authors and presenters included Christine Bacon, Kristen Baird, Mauricio Bonifacino, John Clark, Mauricio Diazgranados, Vicki Funk, Danica Harbaugh, Jay Horn, Laura Lagomarsino, Paul Peterson, Karen Redden, Konstantyn Romaschenko, Roland Roberts, and Andrea Weeks. Posters were presented by Marico Bonifacino, Mauricio Diazgranados, Vicki Funk, Carol Kelloff, and Andrea Weeks.

Co-authors that contributed to oral or poster presentations included John Boggan, Mauricio Bonifacino, John Clark, Robert Faden, Vicki Funk, Vinita Gowda, Gabriel Johnson, W. John Kress, Paul Peterson, Harold Robinson, Judy Skog, Laurence Skog, Robert Soreng, Chelsea Specht, Warren Wagner, Andrea Weeks, Jun Wen, Kenneth Wurdack, and Elizabeth Zimmer.

Presenters and co-authors with past affiliations with the Smithsonian include: Michael Donoghue, Kathleen Pryer, Stephen Weller, Douglas Soltis, and Pamela Soltis (former Mellon Fellows); Richard Olmstead and Melissa Luckow (former Senior Fellows); Sandra Knapp (former Pre-doctoral Fellows); Gery Allan, Rachel Levin, Molly Nepokroeff, Eric Roalson, and Benjamin van Ee (former Post-doctoral Fellows); Jody Banks and Tod Stuessy (former Research Associates); Mac Alford and Phil Gibson (former undergraduate interns); and William Hahn, Terry Henkel, and Susan Grose (former associates of the Biological Diversity of the Guiana Shield Program).

The scope of botanical expertise exemplified by Smithsonian scientists is demonstrated in both the rich array of research approaches and breadth of plant groups studied. Smithsonian Institution provides collections, facilities, information and numerous funding and training opportunities to scientists and students, enabling many researchers to further their careers in botany. The Botany 2009 meeting thus epitomizes Smithsonian's commitment to uphold its mission to

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Travel

Leslie Brothers traveled to Durham, North Carolina (7/20 – 7/23) to participate in the 24th annual meeting of the Association of Educational Research Greenhouse Curators at Duke University.

Laurence Dorr and **Kenneth Wurdack** traveled to Philadelphia, Pennsylvania (7/17) to study the archives and historical plant collections at the Academy of Natural Sciences (PH) relating to Venezuelan (Dorr) and eastern USA botany and Euphorbiaceae (Wurdack).

Robert Faden traveled to London, England (7/6 – 9/29) to conduct research on the Flora of Tropical East Africa and Commelinaceae at the Royal Botanic Gardens, Kew.

Maria Faust traveled to Ft. Pierce, Florida (7/12 – 7/17) to conduct collection related field research on ciguatera-associated marine dinoflagellates.

Christian Feuillet traveled to French Guiana (8/20 – 9/12) for herbarium and field work and to meet with the new botanist resident at Institut de Recherche pour le Développement (IRD) in Cayenne, Piero Delprete, who completed the Rubiaceae for the update to the *Checklist of the plants of the Guyana Shield* to be published in December 2009.

Vicki Funk traveled to Snowbird, Utah (7/24 – 7/30) with **Karen Redden** and **Jay Horn** to participate in the Botany 2009 conference; and to Suva, Fiji (8/6 – 8/16) to attend an Encyclopedia of Life-sponsored workshop (Synthesis group at Field Museum) on the Biogeography of Melanesia attended by experts on a variety of plant and animal groups from the USA, Australia, and Melanesia as well as students from the University of the South Pacific.

W. John Kress traveled to Xishuangbanna, China (7/2 – 7/17) with **Michael Bordelon** and **Ida Lopez** to attend a conference and to collect specimens in the field in southwestern China; to Marburg, Germany (7/24 – 8/1) with **David Erickson**, **Vinita Gowda**, and **Gary Krupnick** to participate in the annual meeting of the Association for Tropical Biology and Conservation; to London, England (8/1 – 8/5; 9/15 – 9/20) to collaborate with Shirley Sherwood on a book publication and associated exhibit at Royal Botanic Gardens, Kew; and to New York City, New York (9/9) to meet with the publishers of Abbeville Press.

Mark and **Diane Littler** traveled with **Barrett Brooks** to Less Stocking Island, Bahamas (7/16 – 7/21) to conduct field work at the Perry Institute for Marine Science; and to Carrie Bow Cay, Belize (8/19 – 9/3) to conduct field research at the museum's field station.

Sue Lutz and **Xinwei Xu** traveled to Indiana, Iowa, Minnesota, and Wisconsin (9/9 – 9/14) to conduct field work and make collections for a *Zizania* (wild rice) population study.

Paul Peterson traveled to Snowbird, Utah (7/24 – 8/28) to participate in the Botany 2009 conference and to collect grass specimens in the area.

Rusty Russell traveled to Big Bear Lake, California (7/17 – 7/21) to attend the Society for Conservation GIS; and to Idyllwild, California (7/31 – 8/16) for fieldwork in the San Jacinto Mountains.

Laurence Skog traveled to Snowbird, Utah (7/25 – 7/30) to participate in the Botany 2009 conference.

Alain Touwaide and Emanuela Appetiti traveled to Padua, Italy (8/27 – 9/6) to continue their research on Renaissance herbals, and to Bologna, Italy, for fundraising; to Nicosia, Cyprus (9/6 – 9/12) to present a paper at the meeting of the International Association for the History of Medicine; to Argentina (9/14 – 10/8) to give lectures at the University of Buenos Aires and the University of La Plata, to visit the Museum of Pharmacy and Pharmacognosy and Pharmaceutical Botany in Buenos Aires, and to attend the Vth International Congress of EthnoBotany 2009 in San Carlos de Bariloche, Patagonia.

Warren Wagner traveled to Snowbird, Utah (7/25 – 7/30) to participate in the Botany 2009 conference; and to Denver, Colorado (7/30 – 8/13) to study Onagraceae for the Flora of North America project.

Jun Wen traveled to the Ozark mountains and southeast U.S. (8/20 – 8/27) with **Sue Lutz**, **Xinwei Xu**, and **Zhumei Ren** to collect wild rice (*Zizania*), Asian-North American disjunct aphid *Melaphis rhois*, and other disjunct plant taxa between Asia and the New World.

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Visitors

Blanca Leon, Universidad Nacional Mayor de San Marcos, Lima, Peru; Peruvian *Tillandsia* (Bromeliaceae) and flora (10/18/07-10/18/09).

Michael Martin, Johns Hopkins University; *Ambrosia* (Compositae) (1/1/09-6/30/10).

Zhumei Ren, Shanxi University, China; Gallnut aphid/host plant coevolution based on DNA sequences (2/1/09-1/31/10).

Pingting Chen, Central China Agricultural University; Vitaceae (3/1/09-2/28/10).

Tieyao Tu, Chinese Academy of Sciences; *Bauhinia* (Leguminosae-Caesalpinioideae) and *Typha* (Typhaceae) (3/1-7/31).

Virginia Valcacel, Universidad Pablo de Olavide, Spain; *Hedera* (Araliaceae) (4/19-10/20).

The Diffusion of Botanical Knowledge

"I then bequeath the whole of my property...to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an Establishment for the increase & diffusion of knowledge..."

- James Smithson (1765-1829)

With those words and the passing of James Smithson, the Smithsonian Institution was born. On August 10, 1846, an Act of Congress signed by President James K. Polk established the Smithsonian Institution as a trust to be administered by a Board of Regents and a Secretary of the Smithsonian. The "increase and diffusion of knowledge" is the mission of the Institution, and in this issue of *The Plant Press*, we celebrate the diffusion of Botany, in words spoken at scientific meetings, words printed in new publications, and words presented in museum exhibits.

The cover article "A Botanical Presence at Scientific Meetings" highlights the participation of our staff at conferences and symposia held around the world. It is at these meetings that cutting edge research and informative ideas are presented to fellow colleagues, researchers and the public.

Editor's Note

We also present in this issue a "Special Focus on Staff Publications" (page 6). A wide variety of new books written by our staff have recently been released. The books vary from a complete treatment of the most species-rich plant family Compositae, to a personal narrative of an expedition to one of the great biodiversity hotspots, to the unusual marriage of art and science.

Beyond presentations and books, our staff continues to contribute to temporary and permanent exhibits here at the National Museum of Natural History. On page 8, you can find out about one new exhibit, "Since Darwin: The Evolution of Evolution," and one upcoming exhibit, "Losing Paradise? Endangered Plants Here and Around the World," both highlighting research from the Department of Botany.

Gary Krupnick, Editor

Ashley Sullivan, American University; Plant conservation internship (5/11-8/21).

Marshall Melissa, Smith College; Plant conservation internship (5/18-8/21).

Lara Mittereder, George Mason University; Plant DNA isolations (5/19-8/31).

Kelsey Brooks, Princeton University; Plant conservation internship (6/1-8/7).

Shannon Peters, Michigan State University; Plant DNA barcoding internship (6/8-7/10).

Angela Turner, Virginia Polytechnic Institute; Plant DNA barcoding internship (6/22-9/4).

Marisol Amaya-Marquez, Institute of Natural Sciences, Universidad Nacional de Colombia, Bogota; Gesneriaceae (6/23-7/15).

Gilberto Morillo Pacheco, Universidad de Los Andes, Edo, Merida, Venezuela; Herbarium collection (6/28-7/26).

Alain Chautems, Conservatoire et Jardin Botaniques, Geneva, Switzerland; Gesneriaceae (6/29-7/1).

Ana Claudia Araujo, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; *Scleria* (Cyperaceae) (6/29-7/1).

Melissa Smith, Washington State University; Subfamily Bambusoideae (Poaceae) (6/30-7/29).

Mauricio Diazgranados, St. Louis University; Compositae (7/1-7/10).

Raul Gutierrez, Arizona State University; Martyniaceae (7/2).

Alison Nash, Phytoquest Limited, Aberystwyth, Wales; Institute for the Preservation of Medical Traditions and *Historia Plantarum* collection (7/2).

Qing Liu, South China Botanic Garden, Chinese Academy of Sciences, Guangzhou; Chloridoideae (Poaceae) (7/4).

Anthony Aliotta, University of Maryland; *Historia Plantarum* collection (7/7).

Veruschka Zilveti, Regional Program in Support of Rural Populations of African Descent in Latin America, Bogota, Colombia; *Historia Plantarum* collection (7/7).

Janelle Burke, Cornell University; Tropical Polygonaceae and Plumbaginaceae (7/8-7/10).

Bruce Hoffman, University of Hawaii; Suriname flora (7/10-8/15).

Silvia Nicole, University of Padova, Italy; Plant DNA barcoding (7/10-10/31).

Laura Lagomarsino, University of California, Berkeley; *Heliconia* (Heliconiaceae) (7/13-7/17).

Seyda Sebnem Ozcan, Institute of Forensic Sciences, Istanbul University, Turkey; Archaeobotany-Mediterranean flora (7/13-7/31).

Enrique Forero, Herbario Nacional Colombianao, Instituto de Ciencias Naturales, Bogota, Colombia; Colombian Fabaceae (7/17-7/22).

Linda Yi, Towson University; Plant conservation internship (7/20-8/19).

Gabriel David Beltran, Universidad Nacional de Colombia, Bogota; Cuatrecasas collection (7/21-9/13).

Frank Axelrod, University of Puerto Rico, San Juan; Flora of Puerto Rico (7/22-7/24).

Nancy Rybicki, United States Geological Service; Invasive seagrass species (Hydrocharitaceae) (7/24).

Offie Soldin, Lombardi Cancer Center, Georgetown University; *Historia Plantarum* collection (8/3).

Duban Canal, Universidad Nacional de Colombia, Bogota; Colombian *Cestrum* (Solanaceae) (8/5-9/10).

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Staff Research & Activities

In July, **Mark Littler**, **Diane Littler** and **Barrett Brooks** traveled to the Perry Institute for Marine Science, Lee Stocking Island Laboratory in the Exumas, located in the center part of the vast, habitat-rich complex of the Bahamas. The expedition was hugely productive. The diving (two SCUBA dives per day often with two additional snorkel dives) covered 22 different sampling sites in seven days. Not only was the collecting successful, but the team had the opportunity to closely mentor three exceptional student interns, two from U.S. universities (Jean Pearson, Caitlin O'Brian) and one Bahamian student (Kristal Ambrose) who hopes to get a U.S. scholarship for future work. The students not only learned methods of SCUBA-based field collecting (considered the "fun stuff"), but also worked every evening learning pressing techniques for various algae as well as molecular, preservation and identification techniques. Two other interested undergraduates (Emily Pickerin, Tye Kindinger) and one doctorial candidate (Mark Albins) from the University of Oregon also participated in numerous algal discussions, even though their primary work was on the introduced and highly toxic Lion Fish. Over 200 numbers of Cyanophyta were photographed in situ, preserved with wet and/or dry specimens while matching molecular samples were quick dried in silica gel and frozen for future workup. Only a fraction of this valuable collection has been identified and photomicrographed, but the team will have time this fall to work up many of the specimens. After recently initiating the new field guide *Tropical Marine Cyanophyta*, the group has found this undertaking much more challenging than previous books.

Five undergraduate students mentored at the Perry Institute for Marine Science, Lee Stocking Island Laboratory in the Exumas.

From July through September, **Bob Faden** worked at the Royal Botanic Gardens, Kew, in order to complete a study of the genus *Commelina* for the Flora of Tropical East Africa. He will be including 51 species of the genus, or approximately half the total in Africa. Four will be described as new in the flora, in addition to the nine *Commelina* species that he has previously described from the area. Five new species in other genera and many new infraspecific taxa will also be described in the flora. New species of *Commelina* are being discovered in Tropical East Africa with great regularity. Field work, especially in central and western Tanzania, will be essential for eventually sorting out a number of taxa that are too poorly known at present to be described. Phylogenetic studies, in collaboration with **Kenneth Wurdack**, **Gabriel Johnson**, and Jean Burns (University of California, Davis), are currently underway.

In July, **Paul Peterson** and **Konstantin Romaschenko** (Botanic Institute of Bracelona; Research Collaborator) presented two talks at the Botany 2009 meetings: the phylogeny of the Chloridoideae and the phylogeny of the Stipeae, both based on plastid and nuclear DNA sequence data. Immediately following the meeting Peterson, Romaschenko, and Jeffrey Saarela (Canadian Museum of Nature) spent 15 days collecting grasses and sedges in Utah and southwestern Colorado. The crew collected 381 numbers and besides gathering many unusual plants were able to ascend three major mountains: Mt. Tukuhnikivatz (12,483 ft.) in the La Sal Mountains, King's Peak (13,528 ft.) in the Uinta Mountains, and Uncompahgre Peak (14, 309 ft.) in the San Juan Mountains.

Awards & Grants

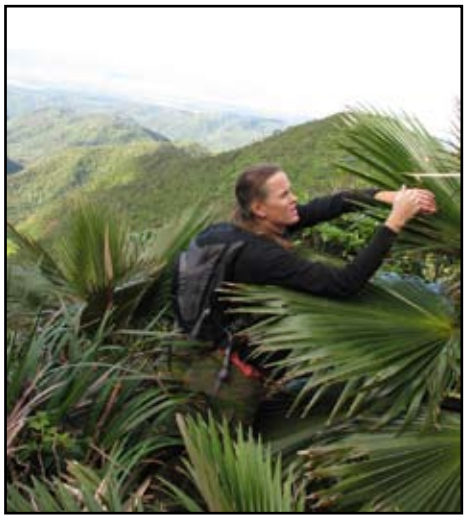
Recipient of the Smithsonian Institution Secretary's Research Prizes for 2009: **Laurence J. Dorr** and **Dan H. Nicolson**, National Museum of Natural History, for *Taxonomic Literature: A Selective Guide to Botanical Publications and Collections with Dates, Commentaries and Types* (2nd ed.), Supp. 7, F-Frer (A.R.G. Gantner Verlag K.G., Ruggell, Liechtenstein, 2008)

New Faces

Christine Bacon from Colorado State University is a pre-doctoral fellow working with **Warren Wagner** and David Lorence (National Tropical Botanical Garden) on the identification of floral characters in *Pritchardia* (Arecaceae: Palmae) and interpreting her results on the *Pritchardia* species-level molecular phylogeny.

The Trachycarpeae are the least understood group of palms in terms of molecular systematics. They represent an economically and ecologically important group encompassing fantastic radiations such as *Copernicia* in the Caribbean, *Licuala* in Southeast Asia, and *Pritchardia* in the Pacific Basin. *Pritchardia* has been recently revised and includes 28 currently recognized species endemic to the South Pacific where most of them are single-island endemics on the Hawaiian Islands.

For Bacon's dissertation research, she is interested in the systematics, historical biogeography, and divergence time



Christine Bacon collecting *Pritchardia martii* in the Koolau Mountains of Hawaii.

estimation at tribal, generic, and species levels. Ultimately, her results will create a framework with which to monograph *Pritchardia* in collaboration with Lorence and Donald Hodel (University of California Davis – U.S. Department of Agriculture Extension Service).

During her time at the Smithsonian, she will be screening microsatellite markers for population genetics and generating sequence data from the flanking regions of microsatellites at the Laboratory for Analytical Biology to improve understanding of *Pritchardia* species boundaries. Bacon will also be finishing a manuscript for tribal-level analyses, planning for upcoming field work in Tonga, and submitting a National Science Foundation Dissertation Improvement Grant.

Nambian Specimens Come to USNH

A collection of nearly 800 flowering plants was recently acquired from the National Botanical Research Institute in Windhoek, Namibia, Africa. The collection includes nearly 160 specimens from the Compositae, or sunflower family.

"These specimens are especially welcome because we don't have many collections from Namibia," says **Vicki Funk**. Compositae is the largest family of flowering plants in the world with nearly 25,000 recorded species and is the subject of a new book sponsored in part by the Smithsonian.

How did the Smithsonian come to acquire this magnificent collection? Herbaria periodically skim their collections and when duplicates are found they are offered up to other institutions as gifts for exchange. Typically, based on the needs of their research collections, institutions trade specimens for other specimens. In this case, Esmerialda Klaassen, researcher at the National Botanical Research Institute, was interested in what books the Smithsonian might have to trade.

"We don't have any plants they want because a lot of herbaria focus mainly on their own regional flora," Funk explains. At the National Museum of Natural History "we try to maintain a global collection because we ask questions on a global scale."

For the exchange, the Namibian herbarium chose two volumes of the plant encyclopedia, *Families and Genera of Vascular Plants*, by Klaus Kubitzki and Clemens Bayer. In return, the Smithsonian received four shipments of Namibian Compositae totaling 800 mounted specimens. This new acquisition adds to the Botany Department's herbarium collection of some 5 million processed specimens that have been collected from around the world.

Funk says that "Each piece of puzzle helps us figure out what's going on globally, and such contributions make the Smithsonian collection that much richer."

More plants from Namibia are expected in exchange for additional books. Funk concluded that "This is a wonderful way to help our colleagues in other countries and at the same time acquire very interesting material for our herbarium."

Visitors

Continued from page 2

Marri Knadle, University of Victoria, British Columbia, Canada; *Historia Plantarum* collection (8/5-8/18).

Xiuqin Ci, Xishuangbanna Tropical Botanical Garden, Kunming, China; DNA Barcoding (8/10-9/18).

Clara Inés Orozco, Universidad Nacional de Colombia, Bogota; Colombian Solanaceae (8/10-9/7).

Michael Nee, New York Botanical Garden; Solanaceae (8/17).

Rafael Arevalo, University of Wisconsin; *Mormolyca* (Orchidaceae) (8/20-8/22).

Hannah Moore, **Nicholas Smith-Herman**, and **Evan Swarth**, Carnegie Institute of Washington; San Jacinto Mountains collections (8/20).

Diane Pavek, United States Department of Agriculture; Mid-Atlantic Flora (8/25).

Jenna Race, Chicago Botanic Garden; Mid-Atlantic flora (8/25; 9/8).

Daniel DeBouck, International Center for Tropical Agriculture, Cali, Colombia; *Phaseolus* (Fabaceae) (8/31-9/4).

Bruce Baldwin, University of California, Berkeley; Collaborative work (9/1 - 9/4).

Christine Bacon, Colorado State University; Hawaiian *Pritchardia* (9/8 - 12/8).

David Gang, Washington State University; Zingiberaceae (9/9).

Steve Manchester, Florida Museum of Natural History; Humiriaceae (9/11).

Emily Forse, Georgetown University; Plant conservation internship (9/14-12/11).

Orlando Jara, Universidad Nacional de Colombia, Bogota, Colombia; Colombian *Erythroxylum* (Erythroxylaceae) (9/17 - 10/18).

Stephen Weller, University of California, Irvine; Hawaiian biota (9/17).

Paul Berry, University of Michigan; *Croton Euphorbia* (Euphorbiaceae) (9/21 - 9/23).

David Lorence, National Tropical Botanical Garden; Flora of the Marquesas Islands (9/21 - 10/4).

Andrea Leon, Universidad Nacional de Colombia, Colombia; Colombian ferns (Grammitidaceae) (9/28 - 10/25).

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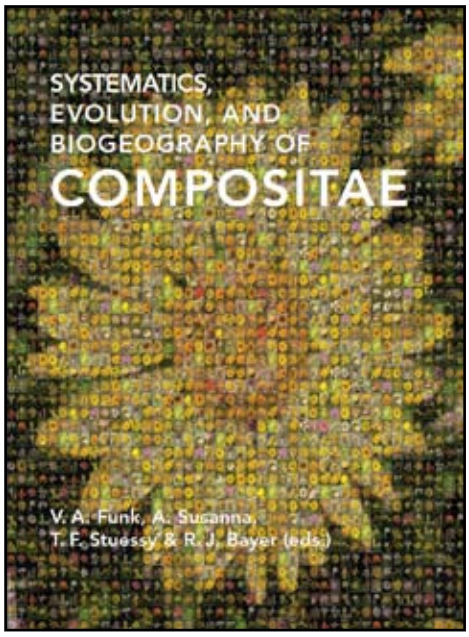
Systematics, Evolution, and Biogeography of Compositae

The Compositae (Asteraceae) are the largest and most successful flowering plant family in the world with ca. 1,700 genera and 25,000 species. They grow everywhere but Antarctica, but prefer open areas and are common garden plants (i.e., sunflowers, daisies, artichokes, thistles, lettuce). In *Systematics, Evolution, and Biogeography of Compositae*, co-edited by **Vicki A. Funk**, Alfonso Susanna, Tod F. Stuessy, and Randall J. Bayer, recent morphological and molecular data are used to provide a complete treatment of the family. Overview chapters cover topics such as chromosome numbers and chemistry, and chapters on every clade in the family are included as well. Nearly every chapter has a color-coded biogeography tree and color photos of plants, and there is a summary chapter with a ca. 900 taxon tree (metatree) for the whole family. Appendices include an illustrated glossary and a combined literature cited (each chapter has a literature cited as well).

Published by the International Association for Plant Taxonomy, this is the first family-wide phylogenetic treatment for the Compositae. The book contains 44

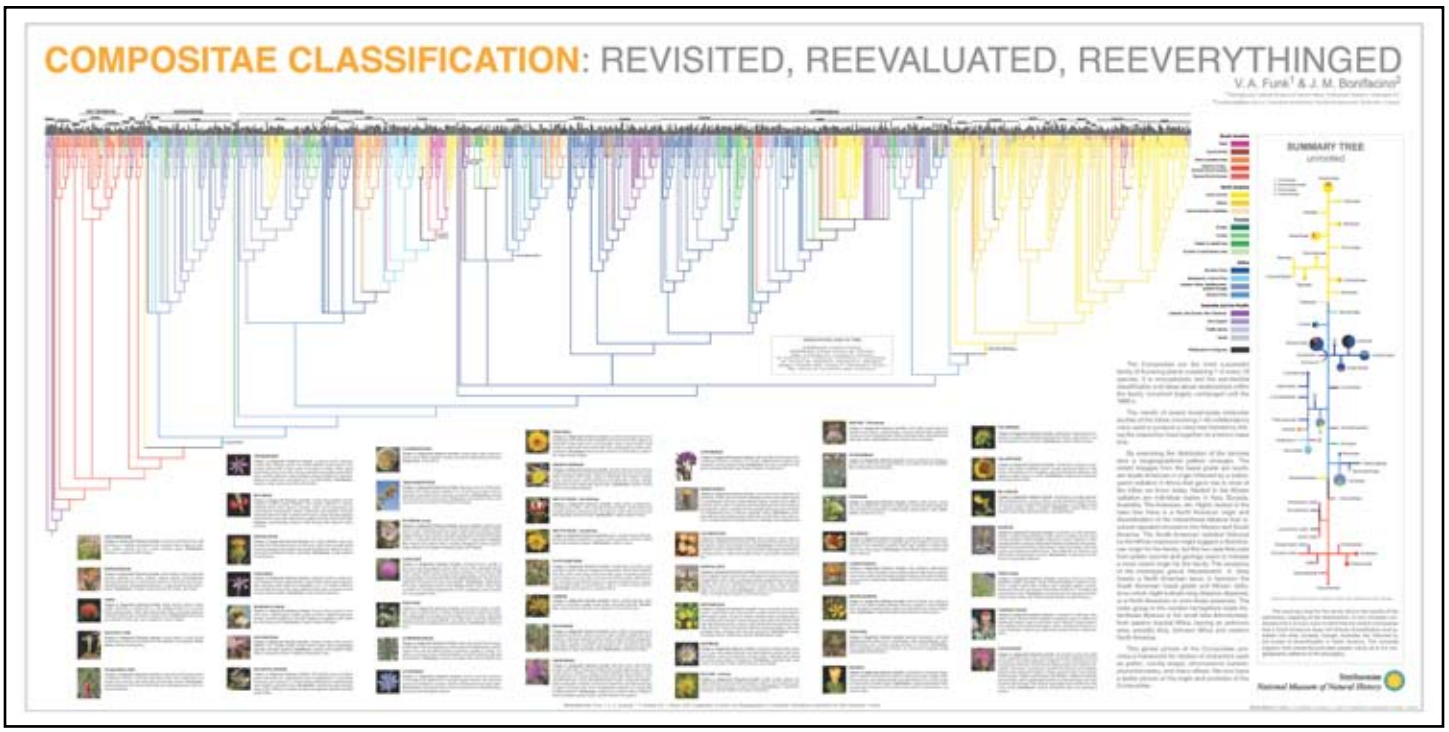


chapters and 1,000 pages (ca. 200 in color) contributed by over 80 authors. A pdf file of the metatree can be found at www.compositae.org. A video about the book can be found at www.YouTube.com (search Compositae).

The Gulf of Mexico: Its Origins, Waters, and Marine Life

In 1954, the Fish and Wildlife Service published a seminal book on the animals of the Gulf of Mexico entitled *The Gulf of Mexico – Its Origins, Waters, and Marine Life*. It became the standard reference for the biota of this body of water, consisting of 604 pages, written by 55 authors, and listing 2,444 species. Deceased National Museum of Natural History Invertebrate Zoology curator Waldo Schmitt was one of the two original proposers of, and a contributor to, that book. Now, 55 years later, a second edition of the book has been published by the Harte Research Institute of Texas A&M in Corpus Christi.

Weighing in at 7.5 pounds and containing 1,393 pages written by 140 authors, the volume lists 15,419 species, a substantial increase from the first edition. Of the 140 authors, 18 are current or former staff members of the Smithsonian's Department of Invertebrate Zoology, two are from the Department of Botany (**Maria Faust** and **Jim Norris**), and one is from the Department of Vertebrate Zoology. The only author to have published in both editions, the late Frederick Bayer, wrote the chap-



The supertree of Compositae phylogeny

ters on Octocorallia; his two accounts are separated by 55 years.

According to the Hart Institute's Associate Director, Wes Tunnell, "this monumental and benchmark work will stand as one of the few and most comprehensive inventories of marine biodiversity of a large marine ecosystem ever attempted. It will likely be studied and cited for decades to come."

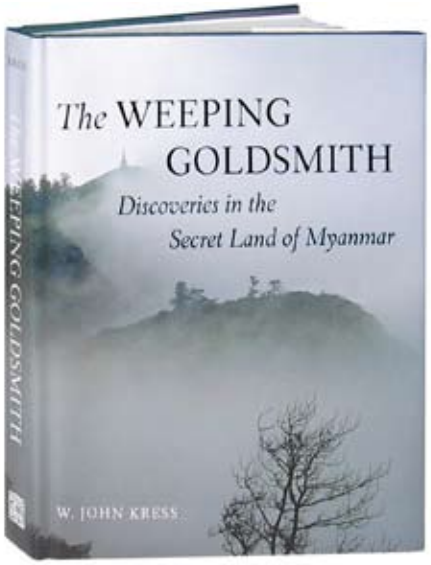
The Weeping Goldsmith: Discoveries in the Secret Land of Myanmar

Adventurous travel and discovery of rare, beautiful and scientifically unknown plants in the little-known country of Myanmar (also known as Burma) are the cornerstones of a new popular press book, *The Weeping Goldsmith: Discoveries in the Secret Land of Myanmar*, by **W. John Kress**. The 288-page book, featuring more than 200 color photographs of exotic plants, landscapes, and Buddhist temples taken by Kress, is published by Abbeville Press. The forward to the book is written by Wade Davis, noted ethnobotanist, and an Explorer-in-Residence at the National Geographic Society.

The book, written as a first-person narrative, follows Kress over the course of nine years as he surveys Myanmar's teak forests, bamboo thickets, timber plantations, rivers, and mangroves to document its incredible botanical biodiversity. Home to some of the world's most striking landscapes, Myanmar is enchantingly remote, nourishing thousands of exotic plant and animal species and a range of unique indigenous cultures. Simultaneously, the country is often closed to—or avoided by—many scientists because of its impenetrable government bureaucracy.

Kress' travels included study of several plant species not researched since their discovery more than a century ago. Among his many finds was "the weeping goldsmith," a ginger flower and the namesake of his book. Legend has it that the local goldsmiths were brought to tears by the blossom because their creations paled in comparison to its beauty.

"The weeping goldsmith was one of the most beautiful flowers I found in



Myanmar, yet it had never been scientifically described," said Kress. "This country, which has been neglected by outsiders for so long, is a lovely land with a rich history and culture as well as a unique and vast biodiversity."

The people and culture of Myanmar are highlighted in the book through Kress' understanding of their country's flora, natural habitats, and human-dominated environments. The book includes excerpts from Kress' journals that serve as counterpoints to the accounts of earlier plant explorers. In addition to Kress' photographs, the book includes 30 archival images of Burma taken by these past explorers.

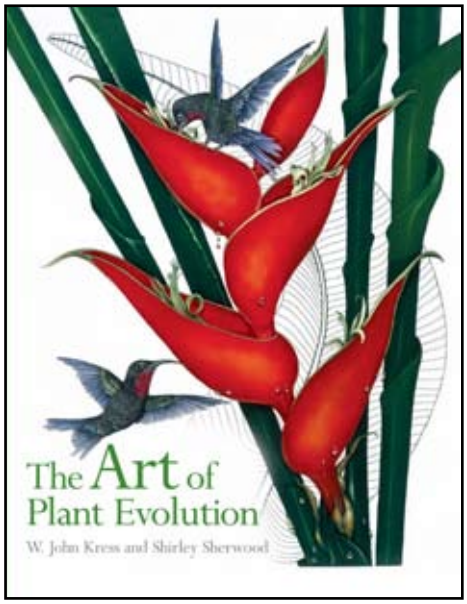
For more than 30 years, Kress has traveled to remote locations around the world to study members of the Zingiberales, an order of flowering plants, including gingers. His research has led him to explore the Amazon, the Andes, Madagascar, the South Pacific, tropical Indonesia, Malaysia, Papua New Guinea, and Myanmar. Kress is also the author of *A Checklist of Trees, Shrubs, Herbs, and Climbers of Myanmar* and co-editor of *Plant Conservation – A Natural History Approach*.

Additionally, Kress contributed to the newly published *Botanica Magnifica: Portraits of the World's Most Extraordinary Flowers and Plants*, a landmark collaboration with Hasselblad Laureate Award photographer Jonathan Singer. *Botanica Magnifica* is an elegant art book with 250 stunning photographs of rare and exotic plants and flowers. The original edition of *Botanica Magnifica*, consisting of five lavishly hand-bound volumes, was limited to 10 copies, the first of which was recently donated to the Smithsonian Institution. The smaller-sized edition, published by Abbeville Press, is now available at bookstores nationwide.

The Art of Plant Evolution

Art meets science, and especially evolution, in the new book entitled *The Art of Plant Evolution* (Kew Publishing, Royal Botanic Gardens, Kew), co-authored by **W. John Kress** and National Museum of Natural History Board Member Shirley Sherwood. The historical field of botanical illustration developed to bring these two disciplines together: the artists' desire to capture the essence of nature through color and composition, and the botanists' goal to name and classify species. While the more subtle secrets of plant evolution have been recently revealed through the analysis of DNA sequence data, botanical art has seen a new surge in interest; the number of artists painting today has expanded greatly, into a new golden age.

The results of these two new developments is shown in *The Art of Plant Evolution* – 136 paintings by 84 leading contemporary artists, arranged in the most up-to-date evolutionary sequence, with an overview of the relationship of the Earth's plants. Included in the book is a pen-and-ink drawing of *Amborella trichopoda*, the earliest living flowering plant, by **Alice Tangerini**. *The Art of Plant Evolution* is a fine celebration of the 150th anniversary of the publication of Charles Darwin's famous book, *On the Origin of the Species.*

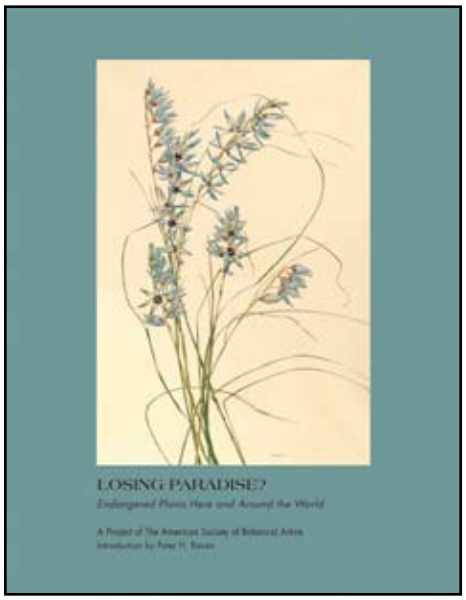


Losing Paradise? Endangered Plants Here and Around the World

The traveling exhibition "Losing Paradise? Endangered Plants Here and Around the World" opened in October in the Ridgway Gallery of the Missouri Botanical Garden, St. Louis, Missouri. Featuring forty-four botanical artworks of endangered plants, the exhibition was curated by the American Society of Botanical Artists (ASBA), and developed in collaboration with the Smithsonian's National Museum of Natural History. Technical assistance was provided by the Center for Plant Conservation (CPC), based in St. Louis. A dozen artworks portray subjects in CPC's National Collection of Endangered Plants. The exhibition and accompanying book are the result of a three-year project undertaken by artists from the U.S., including **Alice Tangerini**, and others from around the world, all members of the ASBA.

Seeking to draw attention to today's at-risk plants, artists documented endangered plants in botanical gardens, in the field, and in horticultural collections. About half of the plants represented are North American, and half are from around the world, including those with such fascinating stories as that of the Wollemi pine, thought to be extinct for 2 million years but found in a remote Australian canyon, and *Phragmipedium kovachii*, a stunning violet slipper orchid discovered in 2002 in the Peruvian rainforest. American rarities include the Midwestern lakeside daisy, with only two natural colonies remaining in the U.S., the Everglades "ghost orchid," a rare white poppy from the Mojave Desert in Utah, and California's coastal Santa Cruz cypress, all listed as Federally Endangered or Threatened.

Peter H. Raven, President of Missouri Botanical Garden, wrote the introduction to the book accompanying the exhibition, and Prof. Sir Peter Crane FRS contributed an essay on botanical art. Essays by Kathryn Kennedy, President of the Center for Plant Conservation; **Gary Krupnick**, Head of the Plant Conservation Unit at the Smithsonian's National Museum of Natural History; and James Miller, Dean and Vice-President for Science, New York Botanical Garden are also featured.



Each artwork in the book is accompanied by the story behind the plant's endangerment and how the artist went about finding and capturing it artistically. Artists with works in the show are from the U.S., Australia, Brazil, Israel, South Korea, South Africa, and the U.K. Some of the world's most well-known botanical artists are included, as are some relative newcomers to the field.

From Missouri Botanical Garden, where it remains on view through November 15, the exhibition will travel to Chicago Botanic Garden (January 16 – April 4, 2010); The New York Botanical Garden (May 6 – July 25, 2010); and to the Smithsonian's National Museum of Natural History (August 14 – Dececember 10, 2010).

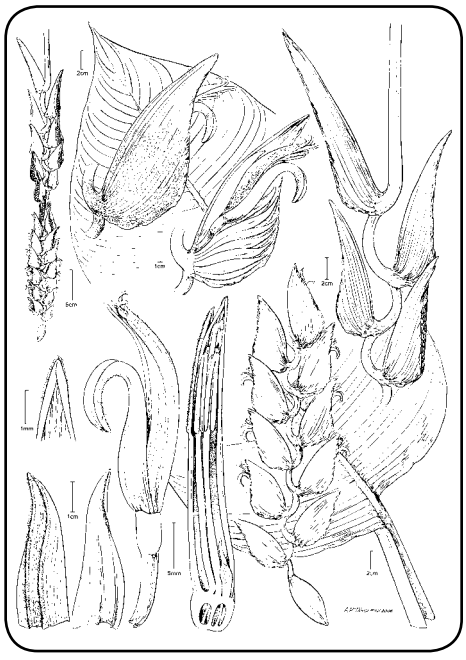
"Since Darwin: The Evolution of Evolution" Opens at NMNH

The National Museum of Natural History has opened a new exhibition, "Since Darwin: The Evolution of Evolution," in celebration of the 200th anniversary of Charles Darwin's birth and the 150th anniversary of the publication of his groundbreaking *On the Origin of Species*. The exhibition will be on view through July 18, 2010. A team of museum scientists, including **W. John Kress** and others from the departments of Entomology, Mineral Sciences, Paleobiology and Vertebrate Zoology, collaborated on the exhibition.

"Since Darwin: The Evolution of Evolution" highlights the significant role that Darwin's theories have played in explaining and unifying all the biological sciences. Specimens from the museum's diverse collections, along with documentation of ongoing research at the museum, illustrate the importance of evolution as a scientific foundation and how knowledge of evolution has evolved over the past 150 years.

The exhibition includes about 90 objects with seven books and 80 specimens from the museum's collections, including fossils, insects, plants, dog skulls, goat horns, mice, and birds. The most intriguing specimen may also be considered one of the least attractive—a bird named the Hudsonian Godwit that Darwin collected in 1837. The presentation of new discoveries made by Museum of Natural History scientists shows the vast influence of the evolutionary theory and how the research and inquiry processes that Darwin promoted continue today. One recent discovery on view is a new species of *Heliconia* that was named in honor of **Cristián Samper**, museum director and botanist.

More information about the exhibition, including a "Meet the Scientist" profile of Kress, is available at <http://www.mnh.si.edu/exhibits/darwin/>.



***Heliconia samperiana*, discovered in Colombia by W. John Kress and Julio Betancur, was named for Cristián Samper, botanist, ecologist, and director of NMNH, to honor his work in identifying and conserving tropical plants.**

Eupatorieae (Compositae) Illustrations Go Digital

In 1987 Robert M. King and **Harold Robinson** published a landmark book on the tribe Eupatorieae of the Compositae (Asteraceae) family. The book, *The Genera of the Eupatorieae (Asteraceae)*, Missouri Botanic Gardens Monographs in Systematic Botany series, Volume 22, changed the way the systematic community viewed this group of plants that is so important to the flora of North America. It introduced micro-characters back into Compositae taxonomy; in fact, it was probably the first time since Cassini that these characters had been used on such a large group. **Alice Tangerini** has been working on a project in collaboration with the Missouri Botanical Garden's Herbarium (MO) that involves remounting and scanning the King-Robinson illustrations.

The collection of illustrations was produced during the years 1970 through 1982 by three illustrators: Jack Schroeder, Regina O. Hughes, and Alice Tangerini. Schroeder began illustrating the monograph in 1970 funded by grants awarded to King through Catonsville Community College, Catonsville, Maryland. For the illustration project Schroeder employed a technique of plastic pencil on drafting film which he had used previously on lichen and fish drawings. Its qualities of deep tonal gradations worked well on the specimens of the Eupatorieae, capturing the often two toned coloration of leaves and involucres.

When Schroeder finished his contract, there were still many specimens remaining to be illustrated, and Hughes, retired from a career in illustration for the U.S. Department of Agriculture, continued the project. King had stopped writing to request grant awards so the last several drawings supplied by Hughes were gratis to the project. The final six illustrations were the work of Tangerini. When the book was published, Missouri held an exhibit of the original artwork which had already been sent to MO.

King had donated the artwork to Missouri after disagreements with the Smithsonian concerning the manuscript; the artwork remained archived at Missouri until 1999. That year King asked Missouri for the entire collection as a loan and it was sent to his residence in Ft. Collins, Colorado. The Missouri staff was unaware that King intended to hold the illustrations in Colorado pending a resolution of his disagreements with the Smithsonian. All access to the illustrations was denied. At the time it was felt that all of the illustrations were lost to the scientific community. Later the channels of communication were re-opened and some progress was made on a resolution to the areas of disagreement. Sadly, King was involved in a serious car accident and died in September 2006, before the matter could be resolved. The illustration collection was left to his partner Robert Garvey with whom he had lived while in Ft. Collins.

Kawha Yang renounted the Eupatorieae illustrations in 2009 (Photo by Alice Tangerini)

After correspondence between Victoria Hollowell (MO) and **Vicki Funk** and Tangerini, an agreement was reached and Robert Garvey made the decision to send the collection back to Missouri. Missouri scanned all of the drawings at a very high resolution. In exchange for copies of the scans, Tangerini agreed to remount all of the illustrations on archival boards protected by mylar sleeves. For this last step in the agreement Tangerini supervised **Kawha Yang**, a volunteer from Smithsonian's Visitor Information and Associates' Reception Center (VIARC), in the process of remounting all 178 illustrations (two of the Tangerini drawings are missing).

Kawha removed the drawings from the old backing board which was very acidic and removed masking tape which had adhered for over 20 years to the surface of the drafting film. This was a painstaking job requiring patience and careful technique. On some of the drawings the figure letters had to be replaced. Kawha then mounted the art onto new archival boards with mylar corners and inserted each drawing into a clear sleeve. The result gave all the artwork a new life.

Except for four drawings done by Tangerini, the collection has now been returned to Missouri to be under the care of their staff with scans maintained at MO and SI where both institutions are making them available to the public on their websites <http://botany.si.edu/botart/>. It is a significant benefit to systematics and public projects such as the *Encyclopedia of Life* to have these illustrations available once more.

Focus on Research Associates

For Richer or *Poa*: Robert Soreng Celebrates 14 Years of Grass Taxonomy at the U.S. National Herbarium

By Vicki A. Funk

Robert John Soreng was born in Evanston, Illinois, on December 9, 1952. In 1961, his family moved to Eugene, Oregon, where he learned early on to enjoy outdoor pursuits of camping, hiking, fishing, and studying nature. His college degrees include a B.S. at Oregon State University in 1978 (where he was introduced to grass taxonomy by Kenton Chambers and became fascinated by grasses), and an M.S. (in Range and Animal Sciences with Stephan Hatch and Kelly Allred) and a Ph.D. (in Biology with Richard Spellenberg) at New Mexico State University in 1980 and 1986. Although NMSU ecology and systematics students typically focused on desert shrub and grasslands, Soreng gravitated to the mountains and the genus *Poa*, a fortuitous choice for the coincidence of beautiful mountains and species of *Poa* around the world. He conducted postdoctoral research at Virginia Polytechnic Institute and State University and Cornell University (where he began a long collaboration with Jerrold Davis) focusing on the systematics of grasses.

Soreng captures the wild and elusive *Poa horridula* Pilg. in Peru in 2007. (Photo by K. Romaschenko)

In 1993, he began working with **Paul Peterson** (Smithsonian Curator of Grasses) and Gerrit Davidse (John S. Lehmann Curator of Grasses, Missouri Botanical Garden) on the Catalogue of New World Grasses. **Dan Nicolson** (US) and Gerrit Davidse helped develop Soreng's expertise in nomenclature for this project. He moved to Somerset Maryland in 1996 and has been working at the U.S. National Herbarium ever since.

Soreng at 4,380 m in Peruvian altiplano in 2007. (Photo by K. Romaschenko).

Soreng's research interests focus on the taxonomy, biogeography, character evolution, and breeding systems of Poaceae (alt nom. Gramineae; grasses; about 13,000 species), especially of the cool season grasses (subfamily Pooideae; about 4,700 species). An ongoing revision of genus *Poa* (bluegrasses; over 500 species) is a life-long project. Asked to explain what he does, he said, "I employ traditional and molecular characters at all taxonomic levels within the grasses and deal extensively with nomenclature and classification in the family."

One of his major contributions to the field is the databasing of grass nomenclature and taxonomy in TROPICOS (Missouri Botanical Garden's on-line taxonomic database). He estimates that the database now has more than 80,000 scientific names published for grass taxa, including original publications, types, and secondary literature citations, as well

as links to specimens, maps, and images, synonymy, and other databases <http://www.tropicos.org/Home.aspx>.

Soreng is also the Chief Editor of the Catalogue of New World Grasses <http://www.tropicos.org/Project/CNWG> (published in four volumes and more than 1,700 pages in the *Contribution U.S. National Herbarium*, 2000 to 2004, vol. 39, 41, 46 & 48) and he continues to update it. The CNWG organizes some 34,000 grass names in TROPICOS applying to taxa occurring from Greenland to Tierra del Fuego, providing a project accepted suprageneric classification and taxonomy with synonymy, country level distribution, a distillation of secondary literature, and noting whether the accepted taxa are native, introduced, cultivated, or represent fossils in the region. In addition, he revised and continues revising Pooideae genera for the Catalogue and the world.

Soreng contributes to several projects: the higher classification of the grasses in the Botanical Review (1998), the monocot symposia (1998, 2003, 2008), the Grass Phylogeny Working Group (2000, 2001), and revisions in the genus *Poa*. He is currently working with the Catalogue authors and others to expand the CNWG grass classification to cover all the worlds grass genera <http://www.tropicos.org/projectwebportal.aspx?pagename=ClassificationNWG&projectid=10>.

Soreng enjoys helping curate the nearly half million grass specimens in the U.S. National Herbarium and assisting others with their research on grasses. The collections are full of surprises such as the discovery of the new genus *Agrostopoa* (Davidse, Soreng & Peterson, *Novon* 19: 33. 2009). Soreng pointed out that the Smithsonian's mission and its combination of facilities, broad historical collection of grasses, and readily available grass literature provide the best place in the world to study the taxonomy of grasses. But, he also emphasized that there is much yet to do. He believes that one of the most important tasks we have in the museum is to widely share with the public the wealth of specimen data and literature stored here. These data are greatly enhanced by scientific knowledge accumulated from years of fieldwork and research. Without the taxonomic knowledge of specialists to identify and classify, all the specimens, literature, and barcodes-of- life data would be at best unreliable, and at worst represent chaos.

Soreng has published over 70 scientific papers, about 116 names for taxa including 28 species and infraspecies new to science, and five new genera (*Agrostopoa*, *Nicoraepoa*, and *Pappostipa* from South America, and two new ones from Australia, in press). His research and collection trips have taken him to 25 countries, with extended collecting trips in the western hemisphere from the high Canadian arctic islands and Alaska to Tierra del Fuego; across Europe from Scandinavia to the Mediterranean from Spain to Greece; in Asia, twice to Turkey, the Kyrgyz Republic, and four trips around China; and across Australia. He recently helped published a major revision of *Poa* for the Flora of China and the Flora of North America.

***Poa unispiculata* Davidse, Soreng & P.M. Peterson (in review), a new gynodioecious species with one spikelet per inflorescence, in Peru. (Photo by R.J. Soreng 2007).**

***Nicoraepoa andina* (Trin.) Soreng & L.J. Gillespie, Chile (Photo by R.J. Soreng, 2001)**

Soreng's personal collection numbers are in the 7,800s, and he has collected thousands more specimens with lead collectors Richard Spellenberg (Rocky Mountains, New Mexico, and Mexico); Paul Peterson (4,600 collections, mainly in the Andes, also western Australia); Lynn Gillespie (collaborator on studies of *Poa* and allies; in the Canadian arctic, 1999); and Jun Wen (Yunnan and Sichuan China, 2007). Certainly the grass collection at the U.S. National Herbarium is much richer because of his efforts.

His positions in scientific organizations include president (2001-2002) and vice president (2000-2001) of the Botanical Society of Washington, and one time project editor for Poaceae in Flora of North America (1997-1999).

Soreng is married to Nancy Lemley Soreng and has two daughters, Hannah and Mattea. His personal interests include family, camping, canoeing, rafting, hiking, cross-country skiing, bicycling, tennis, travel, and nature photography (the website <http://persoon.si.edu/plantimages/frmSearch.cfm> has over 1,000 of Soreng's images of grasses). He hopes to continue working on the grasses for many years to come.

The Botany Department appreciates Soreng's efforts over the years and we feel very fortunate to have such a dedicated and talented colleague.

The Rediscovery of *Globba arracanensis* (Zingiberaceae) in Myanmar

By Michael Bordelon and W. John Kress

In October of 1869 north of Akyab (now called Sittwe) in the Kolodyne River Valley of Arracan (now called Rakhine) State in Myanmar, Wilhelm Silpuz Kurz collected a plant in the family Zingiberaceae that he would later name *Globba arracanensis*. The plant was reported by Kurz to be widely distributed in the mixed deciduous forests of the low hills of the region. The month of October marks the start of the dry season in the western hills of Myanmar and the plant must have been in the early stages of dormancy when collected by Kurz. Seed was present when he found it.

Only three known voucher specimens of *Globba arracanensis* were made by Kurz. The holotype is at the Royal Botanic Gardens, Kew; two isotypes are at RBG Kew and the herbarium at the Botanic Garden in Calcutta. Kurz published this new species the year after he found it in 1870 in the *Journal of the Asiatic Society of Bengal* (vol. 39, page 83-84). *Globba arracanensis*, in subgenus *Mantisia* section *Haplanthera*, is the least studied and least understood species in the entire genus and is closely related to *G. andersonii* from the Darjeeling region of India.

Inflorescence of *Globba arracanensis* (Photo by Leslie Brothers)

Close-up of flower of *Globba arracanensis* (Photo by Leslie Brothers)

This species was not collected again in Myanmar or any other country for 135 years and was presumed to be extinct. However, we discovered it again during a collecting expedition to Myanmar in mid-November 2004, 32 miles north of Sittwe along the road to Mrauk U, just north of Ponnagyun in Rakhine State. At that time the plant was completely dormant and the foliage was dry and unrecognizable. The rhizome was attached to a large boulder in a dry stream bed in the understory of a bamboo forest. We were collecting any gingers that we found, even if dormant. Until this collection, *Globba arracanensis* was only known from the type specimen. We knew at the time we collected it that we were in the area visited by Kurz in 1869, but we did not know we had rediscovered this species until the plants flowered sixth months later in our greenhouses.

The rhizomes we collected in Myanmar were brought back to the Smithsonian Institution's Department of Botany Research Greenhouses in Washington, D.C. They were potted up and allowed to complete their dormancy cycle. In May of the next year (and each year after that), the plants broke dormancy and flowered; in 2008, they finally set seed, either due to natural visitation by bumble bees in the greenhouses or as a result of hand-pollination by one of us.

The plants of *Globba arracanensis* are deciduous with stems to 60 cm, arching and curving upward. Leaves are green, up to 8 cm wide and 28 cm long, ovate-elliptic, tapering to a thread-like tip. The inflorescence is terminal on the leafy shoots. Inflorescence bracts are persistent, starting green then maturing to a pale white, while the bracteoles are persistent and light lilac. The flared almost petal-like lateral staminodes of the flowers are white to light lilac while the labellum is bifid, yellow and lilac with yellow tips, one crossing over the other. The petals are white to light lilac, the floral tube is white, the filament white, and the anther light lilac with a darker almost purple tip. The pollen is white. The fruits are pale green and the seeds are tan and pubescent with an aril. The plants do not produce bulbils in the axils of the inflorescence bracts. According to Kurz's description the bracteoles, petals, lateral staminodes, and filament were lilac in the plants he found. However, natural variation in color is quite common in globbas (especially in species with white and purple flowers) and we suspect that our plants represent such natural variability from the type collection.

Although *Globba arracanensis* is now known not to be extinct in its native habitat, the rapid degradation of the forests and natural habitats of Rakhine State suggest that measures should be sought to insure the conservation of this and other species under threat in the region.

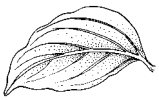
Discovery of a Giant *Anadyomene*

During their August–September expedition, **Mark** and **Diane Littler**, accompanied by divers Barrett Brooks, Cameron Brooks, Antonio Baeza, and Carla Piantoni, discovered 5 m-long net-like formations of the green alga *Anadyomene* sp. nov. draped over the deep Belizean outer reef where none had been present up to 12 months earlier. This giant form is most similar to *A. pavonina*, a rare and diminutive alga endemic to Florida. Members of the genus *Anadyomene* previously were known solely as solitary clumps.

Interestingly, this undescribed species showed high grazer resistance during fish herbivory assays, with just 4 percent *Anadyomene* sp. consumed versus 77 percent consumed for the palatable *Acanthophora spicifera*.

The undescribed *Anadyomene* is most abundant between depths of 25 to 50 m, where it covers from 10 to 80 percent of the reef over a horizontal range of ~0.5 km. It entangles and overgrows all other large and small biota (hard corals, gorgonians, sponges, and seaweeds) as a 5-35 cm thick mat. The extensive mesh-work Belizean bloom is reminiscent of the persistent herbivore-resistant *Microdictyon marinum* populations predominant throughout the Bahamas.

It remains to be seen whether or not this outbreak will persist, spread, or prove harmful to the underlying organisms.



Profile

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increase and diffuse knowledge.

The joint meeting of the Association for Tropical Biology and Conservation (ATBC) and the Society for Tropical Ecology in Marburg, Germany, focused on "Impacts of Global Change on Tropical Ecosystems - Cross-cutting the Abiotic, Biotic and Human Spheres". W. John Kress and David L. Erickson organized and chaired the symposium "DNA Barcodes: Applications to Forest Inventories and Community Phylogenies in Tropical Ecosystems." The goal of the symposium was to present the latest results on the application of DNA barcodes to tropical ecosystems to further our understanding of the evolutionary and ecological processes that have shaped species assembly and interactions in tropical forests.

Co-authors that contributed to oral or poster presentations at the ATBC meeting included Vinita Gowda, W. John Kress, and Gary Krupnick. Abstracts of oral and poster presentations are located at: http://www.gtoe-atbc2009.de/.

Barrett Brooks demonstrating thickness of the overgrowing mat. (Photo by Mark Littler)

The 5th International Symposium on the Family Zingiberaceae was held at Xishuangbanna Tropical Botanical Garden, in Xishuangbanna, Yunnan, China. W. John Kress gave a plenary lecture on "The Evolution and Classification of the Zingiberales, with special emphasis on the Family Zingiberaceae." Also in attendance were Mike Bordelon and Ida Lopez.

The Vth International Congress of EthnoBotany 2009, "Traditions and Transformations in Ethnobotany," was held in San Carlos de Bariloche, Argentina. Alain Touwaide delivered the keynote lecture "History of Botany as Ethnobotany. Proposals toward a New Approach to the Ancient Legacy," and Emanuela Appetiti co-chaired the session entitled "Pluricultural Contexts and Processes of Change in Ethnobotanical Knowledge."

Correction

The illustration on page 12 of the *Plant Press* Vol. 12, No. 3 (July – September 2009) should be credited to Anna Asquith. Alice Tangerini contributed to only one part of the drawing (figure E).

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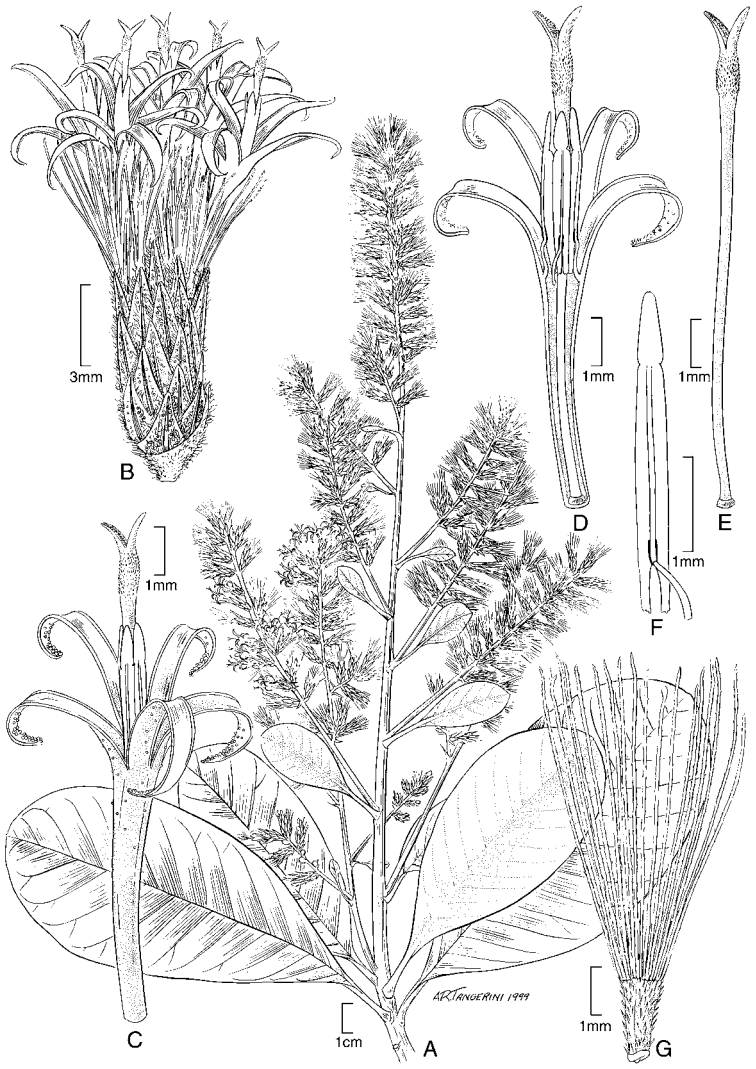
Art by Alice Tangerini

Moquinia racemosa (Spreng.) DC

Moquinia racemosa is the sole species in the genus *Moquinia*, and together with *Pseudostifftia kingii* H. Rob., forms the tribe Moquinieae. This tribe, along with 42 other tribes, are treated in detail in the new publication *Systematics, Evolution, and Biogeography of Compositae*, co-edited by Vicki A. Funk, Alfonso Susanna, Tod F. Stuessy and Randall J. Bayer (see page 6 in this issue of *The Plant Press*). A meta-tree included in the book shows that DNA sequences confirm a position of the tribe Moquinieae close the tribe Vernonieae.



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