

The Plant Press



Smithsonian
National Museum of Natural History

New Series - Vol. 3 - No. 3

July-September 2000

Department Profile Inside "The Grass Menagerie"

By Robert DeFilippo

Agrostology, the botanical study of grasses, is the specialty of Paul M. Peterson, Curator of Botany. The grass family, Poaceae (or, Gramineae) comprises around 11,000 species, and is one of the few plant groups that the general public recognizes at a glance. Prairies, savannas and lawns are of worldwide occurrence. Closer to home the mention of "amber waves of grain" or Walt Whitman's *Leaves of Grass* can invoke in some an unabashed glow of endearment. In the United States we consume tons of popcorn, a product of the fruit of grass, and thus we can easily relate to novelist Nicholson Baker's description of our national snack: "...a dried bicuspid of American grain dropped into a lucid gold liquid pressed from less fortunate brother kernels...an asteroid of Styrofoam...composed of exfoliations that in bursting beyond their outer carapace...", and so forth (D. Garrison, *The New Yorker* 68(3):93-96. 9 March 1992).

Paradoxically, as easy as they are to recognize as a family, grasses are among the most notoriously difficult groups (orchids are another) for botanists to contend with during identification to the species level. That is because of the huge variation in the complex morphology of the grass inflorescence and flowers, which necessitates a special terminology. For an understanding of grasses, the non-specialist must learn to navigate in the spikeleted nether world of tiny lodicules, glumes, paleas, lemmas and awns. The grass stem itself has a special name: culm, as does the fruit: caryopsis.

Many people are unfamiliar with the presumed ancestral family of the grasses, the Joinvilleaceae. But grasses themselves have certainly made up for their lackluster antecedents. They are the foundation of our entire way of life. As noted by David J. Mabberley, "Most major civilizations are based on the triploid endosperm of Gramineae". He refers to the wheat, barley, oats and rye of Eurasia; millets of Africa; rice in East Asia; and maize (corn, *Zea*) in the New World. Other civilizing benefits of grasses include bamboo for building materials, sugar cane, and an occasional tumbler of rum. The only exception to the grass/civilization connection seems to have been the benighted Maori of New Zealand, a noble culture based on the sweet potato. From the realm of diversity exhibited by the grasses, Peterson has chosen to specialize in the Subfamily Chloridoideae. As curator of grasses, he has the advantage of proximity to the c.500,000 specimens of Poaceae in the United States National Herbarium (US), and has omnivorously found subjects of interest among the grass of many regions.

A native Californian, Peterson first became interested in agrostology as an undergraduate student, stimulated by Dennis Anderson. He received a B.A. degree from Humboldt State University, Arcata, California (1977); an M.S. from the University of Nevada, Las Vegas (1984); and a Ph.D. from Washington State University, Pullman in 1988. Among the

positions held prior to arriving at the Smithsonian Institution in September, 1988, were four terms as a Range Technician in the 1970s and 1980s, with the Bureau of Land Management (BLM) in Wyoming, Colorado and Idaho, and with the U.S. Forest Service at Mammoth Lakes, California. He has since collected

grasses during extensive field studies in Peru, Bolivia, Argentina, Australia, Ecuador, Guyana, Mexico, Panama, Venezuela, Guatemala and China.

One major focus of Peterson's population biology studies of the

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Subtribe Muhlenbergiineae is research on identifying the direction of migration of amphitropical disjuncts between North and South America, as they basically originate in North America, and make their way from there to South America. As a whole, his work has involved bio-systematics of grasses using a multitude of techniques including morphological, micromorphological, anatomical, cytological, molecular, cladistic, and population based genetic studies of allelic variation using soluble enzymes. For experimental studies of alliances of *Muhlenbergia* with M.R. Duvall and A.H. Christensen, phylogenetic analyses were made of mapped restriction sites from plastid (chloroplast) DNAs; a

Continued on page 7

Katherine Rankin (2/11–3/4) traveled to Kuming, China to collect plant specimens.

Ernani Menez (3/23–5/31) traveled to Dumaguete, Philippines to conduct research and attend meetings.

Rose Gullede (3/26–4/1) traveled to Palm Beach, Florida to study and collect dinoflagellates in the Indian River ecosystem.

Vicki Funk (4/13–4/15) traveled to Nashville, Tennessee, (5/1–5/5) to Montreal, Canada, and (6/9–6/10) to Chicago, Illinois to continue research.

Laurence Skog (4/27–5/3) traveled to the Bronx, New York to examine specimens in the New York Botanical Garden herbarium.

Gregory McKee (4/28–4/30) traveled to Charleston, South Carolina to transport a fossil whale and matrix concentrate and to prospect for fossils.

W. John Kress (5/15–5/16) traveled to Cambridge, Massachusetts to deliver an invited lecture at the Park School and to

work in the Harvard University Herbarium, (6/20) to Miami, Florida to attend a meeting of the Coalition for Excellence in Tropical Biology, and (6/3–6/30) to Bloomington, Indiana and Asheville, North Carolina to attend the annual meetings of the Association for Tropical Biology (ATP) and the World Botanical Garden Congress (WBGC).

Maria Faust (5/16–5/31) traveled to Belize City, Belize to conduct research on dinoflagellates, and (7/13–7/20) to San Diego, California to attend the annual meeting of the Phycological Society of America.

Robert Soreng (5/30–9/1) traveled to Fairbanks, Alaska to collect grasses for the U.S. National Herbarium.

Walter Adey (6/1–6/5) traveled to Seattle, Washington and Vancouver, Canada to survey British Columbian coralline collections at the University of British Columbia Herbarium and check citations from Whidbey Island.

Gary Krupnick (6/9–6/13) traveled to Missoula, Montana to attend the annual meeting of the Society for Conservation Biology.

Mark and Diane Littler (6/12–8/1) traveled to Fort Pierce, Florida to continue an ongoing research project at the Smithsonian Marine Station and the Florida Keys.

Warren Wagner (6/12–6/22) traveled to Los Angeles, California to work on the completion of a monograph of Hawaiian Alsinoideae with Steve Weller and Ann Sakai, and (8/5–8/10) to Portland, Oregon to attend the Botany 2000 Conference.

Paul Peterson (6/15–6/19) traveled to Chihuahua, Mexico to attend a Sierra Tarahumar Diversity Project Planning meeting.

Paula DePriest (6/18–6/23) traveled to Holderness, New Hampshire to present an invited lecture at the Gordon Research Conference, and (8/27–9/9) to Geneva, Switzerland and Barcelona, Spain to attend the International Association of Lichenologists meeting and present a lecture.

Linda Prince attended the Deep Green symposium held at the University of Maryland, and (6/23–6/27) attended evolution meetings in Bloomington, Indiana.

Pedro Acevedo (6/22–6/25) traveled to Manhattan, New York to present a poster at Fordham University, and (6/30–8/10) to French Guiana, Brazil and Bolivia to collect specimens.

Linda Hollenberg (7/8–7/14) traveled to Halifax, Canada to present a poster and attend a meeting of the Society for the Preservation of Natural History Collections (SPNHC).

Dieter Wasshausen (7/25–8/11) traveled to La Paz and Santa Cruz, Bolivia to undertake collaborative fieldwork.

Robert Faden (8/13–9/8) traveled to London and Brussels, Belgium for herbarium work, and to attend and present a paper at the AETFAT Congress in Brussels.

Laurence Dorr (8/20–9/3) traveled to London, Paris and Brussels, Belgium to utilize herbaria and libraries and to present a paper at the XVI AETFAT Congress.



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Visitors

Stephanie Bergamo, University of Georgia, Athens (UGA); Commelinaceae anatomy (5/31-8/4).

Walter Holmes, Baylor University (BAYLU); Asteraceae (6/1-8/1).

Basil Stergios, Guanare, Venezuela (PORT); Flora de Guaramacal (6/2-8/2).

Charles Werth, Reed Herbarium, Lubbock, Texas (TTC); Ferns (7/5-8/1).

Melissa Luker, Bailey Hortorium, Cornell University (BH); *Lagerstroemia* (Lythraceae) (7/17-7/21).

Israel Vargas, Fundacion de Amigos de la Naturaleza, Santa Cruz, Bolivia; Bolivian economic plants (7/18-7/28).

Oscar Matthei, Chile (CONC); *Stipa*, *Trisetum* (Poaceae) (8/1-9/1).

Ana Maria Suarez Alfonso, Universidad de La Habana, Habana, Cuba; Cuban macroalgae (8/27-9/15).

Gisela Sancho, Herbario, Museo de La Plata, Argentina (LP); Elephantopodinae (Asteraceae) (8/31-9/1).

Botanical Globalization

The recent citizen protests and riots in Seattle, Washington, and Paris have in common a severe reaction against economic globalization, whether it is directed at the World Trade Organization or at McDonald's fast food chain. Like it or not, globalization has affected the economies and ways of life for most societies on the planet. Even the field of botany has been affected by globalization, most clearly manifest in the Convention on Biological Diversity (CBD) signed and ratified by over one hundred countries (excluding the United States). This international convention now in part determines how we collect scientific plant specimens, how we maintain our current collections, and how we will disseminate information about these collections in the future. The concept and call for a Global Taxonomic Initiative (GTI) as part of the implementation of the CBD is another significant step in botanical globalization.

The Department of Botany has initiated and is participating in many international collaborations. The Biodiversity of the Guianas Program under the leadership of Vicki Funk has made outstanding contributions to our understanding of the diversity and distribution of plants and animals in the Guiana Shield region of South America. These biological achievements have been attained at the same time that a solid infrastructure for future conservation efforts was established through the Center for Biodiversity in Georgetown, Guyana. Similarly Larry Dorr, currently via a Mellon Foundation grant, has organized a collaborative project in Venezuela with colleague Basil Stergios on a floristic inventory of the Guaramacal region in the Andes of that country. A third example is the Department's efforts in Myanmar. Our original work on the flora has now expanded into a partnership with the Burmese Forest Department on the development of the only botanical garden in that country, Pyin-Oo-Lwin, near Mandalay. We hope to be able to find appropriate funds to develop the educational, recreational, conservation and scientific capabilities of Pyin-Oo-Lwin through the establishment of a Myanmar Center for Botanical Research at the garden. Within the Department are numerous additional examples of international cooperation on biodiversity investigations between both individuals and institutions.

Globalization is not only manifested in international cooperation and interactions. Collaborations may take the form of partnerships across town and across the country as well as across the oceans. A good example of the former is the recent Memorandum of Understanding signed by the Department of Botany and the United States Botanic Garden (USBG). These two institutions are separated by less than half a mile on the National Mall but have formed a collaboration that will have national and perhaps even international effects through

joint programs in public outreach, research and conservation. Interestingly the USBG and the Natural History Museum had a common origin in the 1840s through the National Institute for the Promotion of Science and the Wilkes Exploring Expedition. The living plant collections from that expedition were the reason that Congress chartered the USBG in the 1850s, while the dried plant specimens collected in California and the Pacific formed the core of the scientific collections of the newly founded Smithsonian Institution in 1858. Although only a few living specimens remain (e.g., *Encephalartos horridus*) from the Wilkes collections, the herbarium collections housed in the Department of Botany are still actively studied today. The first immediate "product" of this local Washington globalization effort will be the co-sponsoring by the USBG of the first Smithsonian Botanical Symposium, to be hosted by the Botany Department and held in March of 2001. This symposium will bring together national and international researchers and students to discuss current controversies in plant systematics, including global issues of species inventory and monographs as well as methods for the accurate and practical naming of taxa.

A final example of our national globalization effort is the result of the Smithsonian's Affiliations Program, an initiative by former SI Secretary Michael Heyman and continued by current Secretary Larry Small, to move the Institution off the Mall and around the nation. The formal affiliation that was established between the National Museum of Natural History (NMNH) and the Miami Museum of Science as primarily a public outreach effort between the two institutions, has now blossomed into a broader network between NMNH and six local research and educational organizations, including Fairchild Tropical Garden, Montgomery Botanical Center, The Kampong of the National Tropical Botanical Garden, Florida International University, and the University of Miami. These institutions have banded together to form the "Coalition for Excellence in Tropical Biology" (CETroB) with the purpose of fostering joint research and educational projects on tropical issues. Inter-institution seminars, courses and research projects are being encouraged and supported by CETroB, especially those that link CETroB members with their colleagues in Latin America and the Caribbean.

In this age of expanding environmental issues and responsibilities, national and international cooperation, as illustrated by the examples above, may be the only way to ever successfully address the challenges we face as plant scientists and educators. The CBD and GTI have placed us, the largest natural history organization in the world, squarely in the midst of biological and environmental globalization for the foreseeable future.

Chair

With

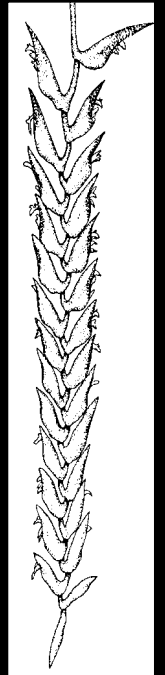
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John
Kress



Staff Research

The unique set of resources and scientists present in the National Museum of Natural History and the Smithsonian Institution was highlighted this year by the publication in the journal *Science* of an investigation that required a unique combination of tropical museum specimens and the collaboration of members of the Departments of Paleobiology (P. Wilf, C. Labandeira, and A. Allen), Botany (**John Kress**), and Entomology (C. Staines) as well as the Smithsonian Tropical Research Institute in Panama (D. Windsor). One of the best studied examples of plant-animal interactions is between the tropical rolled-leaf hispine beetles and the heliconias, gingers and their relatives. The recent paper, entitled "Timing the radiations of leaf beetles: hispines on gingers from Late Cretaceous to Recent" (*Science* 289: 291-294. 2000) provides evidence that this association, which is a conspicuous element of the modern neotropical ecosystem, can be traced back 66 million years to the Mesozoic. The newly discovered antiquity of the hispine-Zingiberales association shows this plant-animal interaction to be a "living fossil" in its own right and an extreme example of evolutionary conservatism, both of phylogenetic conservatism in plant-insect associations and of ecological conservatism within a specialized tropical insect feeding group. This work adds a significant paleontological dimension to a plant-animal association that is an emblem of tropical ecology.

[by W.J. Kress]

Staff Activities

The Evolution 2000 meetings were held on 23-27 June and involved four societies: The American Society of Naturalists, Association for Tropical Biology (ATB), Society for the Study of Evolution, and Society of Systematic Biologists (SSB). The Department of Botany was represented in several ways. **John Kress**, Department Chair, was present as Executive Director of ATB and **Vicki Funk** was

there as Past President of SSB. In addition, Funk helped organize a symposium on "Biodiversity: the Interface between Systematics and Conservation" which included speakers from around the world: Ann Sakai, University of California, Irvine; Craig Moritz, University of Queensland, Australia; William Perry, Notre Dame; Chris Humphries, the Natural History Museum, London; Simon Ferrier, Australia; Richard Cowling, University of Port Elizabeth, South Africa; and Funk. Her talk, which was entitled "Biological Specimen Data in Biodiversity Studies: Use It or Lose It!", utilized data gathered in the last 15 years by the Biological Diversity of the Guianas Program of the Department of Botany. The results of the symposium are to be published in the journal *Systematic Biology* in 2001.

[by V.A. Funk]

On 22 June, staff of the Department visited Dumbarton Oaks in Georgetown, Washington, D.C., and was given a tour of the gardens by Dr. Michel Conan, Director of Studies of Landscape Architecture. Conan explained the aims of the entire landscaping as well as details of its execution. Dr. **Alain Touwaide**, formerly a Senior Fellow at Dumbarton Oaks and currently a Research Associate of the Department, presented his exhibit of 30 manuscripts and early publications concerned with the transmission of ancient botany via Byzantium to the West.

[by D.H. Nicolson]

Staff Awards

At the national convention of the American Gloxinia and Gesneriad Society held in Tampa, Florida on 5-9 July, **Leslie Brothers** won a first place ribbon in the photo transparency category and a third place ribbon in the color photographic print category.

On 3 June, **Dan Nicolson** (class of 1955) was presented, by the alumni association of his alma mater, Grinnell College (Grinnell, Iowa), with an alumni award in recognition of his contributions to the field of botany, and his focus on the beauty of the natural world while bringing precision to its naming.

Staff Talks

John Boggan attended the American Gloxinia and Gesneriad Society national convention on 5-9 July in Tampa, Florida, where he delivered a talk entitled "*Chirita*: Gesneriad of the New Millennium" and attended the society's Board of Directors meeting. John Clark, a graduate student at George Washington University who is working with **Laurence Skog**, gave a talk on gesneriads of Ecuador.

Dan Nicolson presented a lecture and demonstration on "Botanical Nomenclature, Types and Standard Reference Works" on 2 May to 40 librarians in two workshops at the 37th annual meeting of the Council of Botanical and Horticultural Librarians, held at the National Agricultural Library in Beltsville, Maryland, and repeated it on 29 June for staff of the Department.



Staff Departure

Dawn Arculus, who has taken care of the Type Register in the Department of Botany for the last 12 years, left for a position with the National Institutes of Health (NIH) in mid-July. When she began (July 1988) there were 78,051 types registered, and on her departure there were 93,935. Deducting the 90 algal types entered by others, she entered nearly 15,800 types or about 1,300 types per year. In the process of dealing with the unique and technical nomenclatural problems of types, she compiled a manual explaining the different kinds of type specimens and how to cope with them.

[by D.H. Nicolson]

"You are the type of person we will miss."

- A.R. Tangerini

Memorandum of Understanding signed between National Museum of Natural History and U. S. Botanic Garden

On 9 June the Department of Botany and the National Museum of Natural History (NMNH) established a formal collaboration with the United States Botanic Garden (USBG). This collaboration has brought together two institutions that had their common historical nineteenth century beginnings in the National Institute for the Promotion of Science (1841) and the living and preserved collections resulting from the around-the-world Wilkes Exploring Expedition of 1838-1842. In the 1850s these living collections became the basis of a new botanical garden in the nation's capital and the preserved specimens were the first plant collections of the Smithsonian Institution. Today the U.S. Botanic Garden is a free-standing institution under the administration of the Architect of the Capitol and is uniquely situated at the heart of the U.S. Government at the base of Capitol Hill. The strength of the USBG lies in its clear ability to successfully display and exhibit plant diversity to over 750,000 visitors per year. The Department of Botany at NMNH is an international research and education center in the botanical sciences, especially plant taxonomy and classification, and serves as a magnet for hundreds of students, visiting researchers, and enthusiastic volunteers.

In consideration of the strengths of the two institutions, the plant exhibition and propagation capabilities of the USBG richly complement the research, professional training, and conservation programs of the NMNH Department of Botany. Both institutions will benefit greatly by the increased interactions established by the MOU. The research, field exploration, training, and conservation components provided by the Department in combination with the horticultural and public display elements at the US Botanic Garden will form a new and highly significant botanical consortium in the Washington area and the Nation.

Lynne Theiss (Executive Officer of the Architect of the Capitol) signed for the USBG; **Robert Fri** (Director of NMNH), **Ross Simons** (Associate Director for Research and Collections, NMNH), and

John Kress (Chairman of Botany) signed for the Smithsonian Institution. The agreement aims to further joint projects on research, botanical exhibition, and environmental education and conservation for the public. The first significant collaboration between the two parties will be the co-sponsoring of an international botanical symposium to be convened in March of 2001 (see announcement in this issue of *The Plant Press*, page 6). The MOU concludes by stating: "Be it agreed that the Department of Botany at the Smithsonian's National Museum of Natural History and the United States Botanic Garden of the Architect of the Capitol will move forward now and in coming years in developing closer cooperation in the botanical and horticultural sciences through the pursuit of the above types of collaborative interactions."

Exhibition of Drawings in Portugal

The Guild of Natural Science Illustrators (GNSI) has accepted two drawings by **Alice Tangerini**, *Stromanthes stromanthoides* (Marantaceae) and *Orchidantha siamensis* (Labiaceae), for the Annual Exhibit of GNSI to be held at the Palacio de Manuel in Évora, Portugal. This exhibit will take place in the Royal Palace of King Dom Manuel. The exhibit



Files of World Biogeography

Until 31 August, Dr. Julie Barcelona will be working under contract to triage and distribute the "World Biogeography Files", located in Room W500B, NMNH. The files were assembled over a period of decades by former curators Dr. F. Raymond Fosberg and Dr. Marie-Helene Sacht, and represent thousands of items sent by their colleagues around the globe (such as documents, reprints of articles, books, numerous issues of journals, file folders of information), concerning the taxonomy, ecology, geography, geology and biota of the world's tropical ecosystems, particularly the vegetational components of tropical islands, and with a heavy representation of Pacific island atolls. Reprints are arranged alphabetically by author; journals arranged alphabetically by title. Severe space constraints have necessitated the decision to disseminate

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runs for one month from 30 July until 31 August, 2000. The opening of the exhibit corresponds with the opening of the meeting of the GNSI, which runs through 8 August in the cities of Évora and Lisbon.



The Conservation Column

By Gary A. Krupnick

An international workshop was held in the Department on 13-14 July to discuss methods of determining global plant richness and endemism for conservation purposes. Eric Dinerstein, John Morrison and David Olson (World Wildlife Fund), Gerold Kier and Jens Mutke (University of Bonn-Germany), George Schatz (Missouri Botanical Garden), and Bil Alverson (Field Museum) joined John Kress, research training student June Rubis, and myself for this two-day event. The task at hand was to determine how to estimate the global distribution of the approximately 300,000 extant plant species. Using WWF's Ecoregions Project as a model, we discussed ways to incorporate Bonn's extensive database on global plant richness—the Biomaps Project. The aim of the Biomaps Project is to assess the spatial patterns of plant diversity at a global scale. Their database is based on approximately 1,400 records taken from the literature on a standard area of 10,000 km². At the meeting, we devised ways to overlay the results of the Biomaps Project with WWF's 870 delineated global ecoregions. Over the next few months we will be working with the group at Bonn to determine the number of plant species per ecoregion.

We also discussed ways in which we can utilize geo-referenced herbarium specimens to help determine hotspots of richness and endemism. With several thousand specimens in our database, and countless others at other worldwide herbaria, we plan to utilize our resources in determining global centers of plant richness and endemism. We have begun our efforts to test general hypotheses on richness by using floristic data for specific families in the Indo-China region. To date, we have mapped out over 500 species from several families, including Leguminosae, Bignoniaceae, Rosaceae, and Dipterocarpaceae. June Rubis has been assisting by expanding our database with floristic data from Malaysia and Indonesia. We hope to have some results within the year.

Upcoming Symposia

Biodiversity of Guyana March 2001

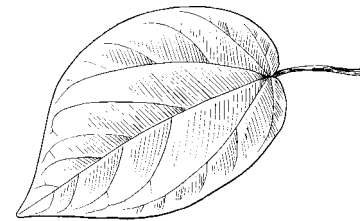
The Centre for the Study of Biological Diversity and The Faculty of Natural Sciences, University of Guyana, and The Biological Diversity of the Guianas Program, National Museum of Natural History, Smithsonian Institution, announce the symposium: "The Biodiversity of Guyana: A Global Perspective for the Future."

The time has come to evaluate our knowledge of the biodiversity of Guyana by addressing the questions of "What do we know about the diversity of various groups of organisms in Guyana?"; "How does the diversity compare regionally and globally?"; "How can the biodiversity of Guyana be conserved?"; and "How will conservation affect the people of Guyana?" A week-long symposium is being developed to address these questions. Topics will include the following: Documenting biodiversity—The birds, butterflies and other organisms of Guyana; Estimating biodiversity: GIS, modeling and other ways of estimating biodiversity; Conservation, environmental policy, and sustainable development; and, Social issues and conservation.

The meeting will be held in Georgetown, Guyana, in March 2001 and will include talks, posters, and round table discussions. The purpose is to encourage and facilitate the expression of opinions on various issues concerning the biodiversity of Guyana. Symposium organizers hope there will be participation by many different organizations (Flora of the Guianas, Conservation International, Iwokrama, Tropenbos, etc.). It will be open to all interested parties, international as well as local. We hope for a large participation by Guyanese from the academic and conservation communities as well as policy makers from the Government of Guyana, the international banks, and representatives of the Amerindian Community. After the symposium, a volume will be published on "The Biodiversity of Guyana".

For further information, or to submit suggestions or recommendations, please contact the Centre (nnasir@guyana.net.gy) or the Smithsonian

(kelloff.carol@nmnh.si.edu). Visit our website at <<http://www.nmnh.si.edu/biodiversity/bdg.htm>>. Mailing address: Biological Diversity of the Guianas, Department of Botany, MRC166, Smithsonian Institution, Washington, DC 20560-0166, USA.



Smithsonian Botanical Symposium "Linnaean Taxonomy in the 21st Century" March 2001

The Department is organizing a new symposium series, the Smithsonian Botanical Symposium, which will be held each spring at the National Museum of Natural History. The first symposium is scheduled for 30-31 March, 2000. Its goal is to bring together the national and international plant systematics community to address a botanical topic of current significance. The inaugural symposium "Linnaean Taxonomy in the 21st Century" will focus on the relevance of Linnaean binomials and hierarchical ranks in the light of recent advances in phylogenetic systematics.

In addition to invited speakers, the two-day symposium will include a Friday evening student poster session and reception, and a Saturday evening dinner with a special keynote speaker. In honor of the symposium, the Dumbarton Oaks Center for Byzantine Studies, the Smithsonian Institution's Dibner Library, and the Hunt Institute for Botanical Documentation are producing a book exhibit "Plants and Books from Antiquity through the Renaissance: from Theophrastus to Linnaeus" that will open to the public at the time of the Symposium.

The meeting is hosted by the Smithsonian Institution, and co-sponsored by the U.S. Botanic Garden of Washington, D.C. and the Hunt Institute for Botanical Documentation. For more information and pre-registration please see the symposium web site at <<http://persoon.si.edu/SBS2001/>>.

Peterson

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“restriction site” is a base pair where you cut a molecule of DNA into fragments. His revisionary studies have been in large genera such as *Eragrostis*, *Muhlenbergia* and *Sporobolus*, all important forage grasses.

Many scientists have collaborated with Peterson in the grass laboratory. Among them are Ed Terrell, who joined in papers on oryzoid grasses such as wild rice using scanning electron microscopy (SEM); Jacques Cayouette who jointly worked on several papers concerning the *Bromus ciliatus* group; and Rob Soreng, with whom he and other collaborators compiled the *Catalogue of New World Grasses, Part I* (2000). Peterson’s versatile presence among the grasses may also be exemplified by several papers on South American bamboo of the genus *Guadua*, which were done with X. Londono in 1991-1992. One of the species, Amazonian *Guadua sarcocarpa*, is unusual in having edible fleshy fruit, which is eaten by the local populations. The plant is a dominant bamboo in the Urubamba region of Peru, yet specimens had lain undescribed for years. The period of 1993-1994 saw him curating the Trinius Herbarium of grasses at the Komarov Botanical Institute in St. Petersburg, Russia, under an award from the James Smithson Society of the Smithsonian Institution. He has also branched out further afield from the grasses, into the family Cyperaceae, and with M.S. Gonzalez-Elizondo and I. Granzow-de la Cerda, published studies in 1996-1997 on cladistic and phenetic analyses in *Eleocharis* of the Pauciflorae group.

Floristic studies of grasses have also occupied a major portion of Peterson’s interests. Currently he is reviewing manuscripts of *Eragrostis* and *Muhlenbergia*, generated by Chinese authors, for the *Flora of China*, which is headquartered at the Missouri Botanical Garden. Contributions of treatments of various grass genera have been published in floras of the following areas: British Columbia (Canada), St. John (U.S. Virgin Islands), Ecuador, and the new *Manual of Grasses for the Continental United States and Canada* (in press). In addition to continuing biosystematic studies, Peterson is deeply involved with the

electronic *Catalogue of New World Grasses*, with authors R.J. Soreng, G. Davidse, F.O. Zuloaga, E.J. Judziewicz and T.S. Filgueiras. It can be consulted at <<http://mobot.org/Pick/Search/nwgc.html>> and the published hardcopy version of Part I, concerning four subfamilies (Anomochlooideae, Bambusoideae, Ehrhartoideae and Pharoideae), is available as *Contributions from the United States National Herbarium* 39:1-128 (2000). A recently received Seidell grant of \$125,000 will allow completion of the catalogue in three or four more parts.

For a major project with Mones S. Abu-Asab, Stanwyn Shetler and Sylvia Stone Orli, which was covered in *The Plant Press* 3(2):5 (April-June 2000), Peterson recently participated in a study which determined that, in the Washington, D.C. area, plants have been flowering earlier in spring as a response to global warming, actually 4.5 days earlier than they did in the 1970s. With numerous botanical interests such as this, his research and explorations will be yielding source material for future decades, just by finding “splendor in the grass”, as William Wordsworth might say.

World Biogeography

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the files in order to utilize “The Cave” as a repository for the Department’s thousands of spirit-preserved botanical specimens, beginning in the immediate future. Members of the Department desiring to receive books, reprints, reports, maps, and other materials concerning a specific geographical region (e.g., New Caledonia, Marquesas, Brazil, Australia), or for material pertaining to particular plant families, please contact the following persons as soon as possible, making your itemized request in the form of a memorandum: Warren Wagner (wagner.warren@nsmnh.si.edu), Dan Nicolson (nicolson.dan@nsmnh.si.edu).

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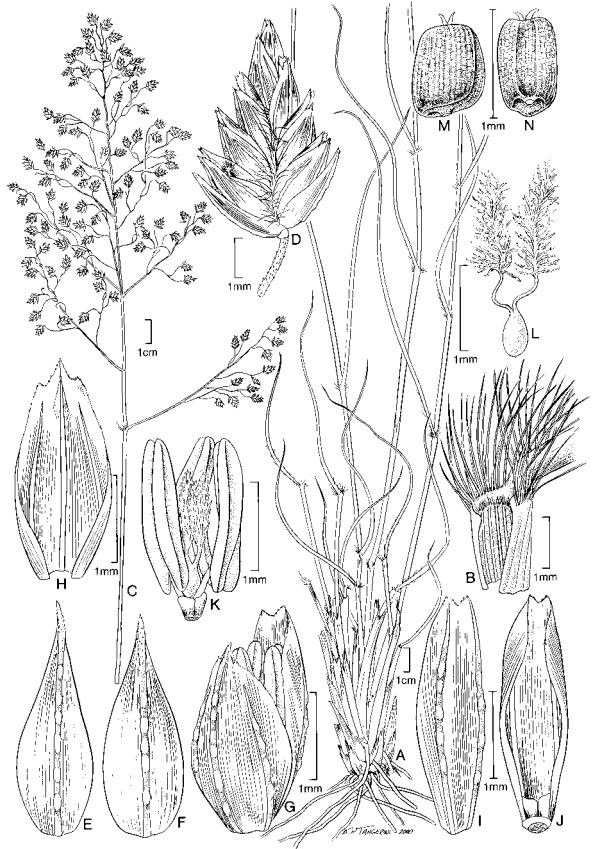
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Art by Alice Tangerini

***Eragrostis ancashensis* P.M. Peterson, Refulio & Tovar**

On Paul Peterson's first collecting trip to the central Andean highlands of Peru in 1997, he and Ms. Nancy Refulio found this locally common grass in two locations. The new species is unusual in having spikelets with long ciliate rachillas and minute, whitish raised glands along the veins of the glumes, lemmas, and paleas. So far, this species has only been found in Departamento Ancash for which it is named (*Sida*, in press).



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