Department of Botany & the U.S. National Herbarium

The Plant Press

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National Museum of Natural History

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Botany Profile

Asian Botanist Digs Ginseng

By Gary A. Krupnick

In August, Jun Wen, formerly at the Field Museum of Natural History, joined the Department as an Associate Curator, the first new curator the Department has hired in 13 years. Since 1985, Wen has been conducting monographic, phylogenetic, biogeographic, and ethnobotanical studies on Asian and New World disjunct plants. Her research employs herbarium, field, and laboratory approaches as well as various modern analytical methods to understand the taxonomy, patterns, and processes of diversification of disjunct plant groups.

Wen is a broadly trained botanist and evolutionary biologist, working on various genera in a large number of plant families. She has made extensive botanical collections (over 8,000 collection numbers) and also helped build (through gifts and exchanges) new collections of over 8,000 specimens for the Field Museum Herbarium in the past three years, primarily from China, Vietnam, and India. She is also interested in developing more projects on biodiversity inventory and conservation studies. Wen has traveled extensively throughout the world, conducting field studies and collections in the Canada, Chile, China, Costa Rica, India, Japan, Korea, Malaysia, Mexico, the Philippines, Thailand, United States, and Vietnam.

Born in the Chinese province of Hubei, Wen received a B.S. in Forestry from Central China Agricultural University at Wuhan in 1984, and a Ph.D. in Plant Biology from the Ohio State University in 1991. After completing a two-year postdoctoral position at the Arnold Arboretum at Harvard University, she moved to the Smithsonian Institution in 1994 as a postdoctoral fellow in the Department of Botany and the Laboratory of Molecular Systematics. In 1995, she joined the staff of the Department of Biology at Colorado State University as Assistant Professor and Curator of the Herbarium. In 2000, she moved to Chicago where she began her work as Associate Curator at the Field Museum.

Wen also serves as an Adjunct Professor at the Institute of Botany, the Chinese Academy of Sciences in Beijing, China, and an adjunct faculty member at the University of Chicago and the University of Illinois, Chicago. In 2002 she was awarded Honorary Member of the Indian Association of Angiosperm Taxonomy, India. Wen has over 82 publications to her name, in addition to translating from English into Chinese a Rapid Biological Inventory of the southern Gaoligongshan in Yunnan, China with Chinese colleagues.

Wen's research interests can be placed into six broad categories. The first is the monographic, phylogenetic, biogeographic, and ethnobotanic study of flowering plants. Her focus has been on the ginseng family (Araliaceae) and the grape family (Vitaceae). Her work on Araliaceae was initiated in 1985 during her dissertation research at Ohio State University, emphasizing the systematics and biogeography of *Aralia* L. After completing her doctoral studies, she expanded her work on Araliaceae. She has made excellent progress toward understanding the phylogeny of the family in the last few years at various levels, through independent as well as collaborative work in her lab and Greg Plunkett's lab at the Virginia Commonwealth University, in collaboration with Pete Lowry (Missouri Botanical Garden) and Anthony Mitchell (Massey University, New Zealand). She recently published two family-wide molecular phylogenies of Araliaceae. She is now expanding the effort for a three-marker phylogeny, with a focus on the biogeography of the family.

Wen plans to continue her studies in Araliaceae. She is going to treat *Dendropanax*, *Oreopanax*, and *Aralia* for *the Flora Neotropica* project. *Dendropanax* consists of approximately 75 species with about 25 in tropical Asia and 50 species in the Neotropics. This genus thus shows a very unusual biogeographic disjunction. *Oreopanax* is endemic to the Neotropical region. The Taiwanese *Sinopanax*, however, was recently shown to be sister to *Oreopanax*. In addition, fossils of *Oreopanax* were reported from North America. The genera are two of the least known genera in Araliaceae, and modern studies of these groups are very much needed. Through basic taxonomic work, the two groups can be employed to examine the biogeographic diversification patterns in the Neotropics, the Caribbean region, and tropical and subtropical Asia.

In the past five years, Wen has been collecting specimens of the Vitaceae during her field expeditions on other

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Travel

Pedro Acevedo traveled to Madagascar (9/17 – 10/8) to collect Sapindaceae material; and to Paris, France (10/8 – 10/15) to study the collections at the Museum of Natural History in Paris.

John L. Clark traveled to Vienna, Austria (7/17 – 7/24) to present a keynote address at the 17th International Botanical Congress.

Laurence Dorr traveled to Vienna, Austria (7/10 – 7/26) to attend the 17th International Botanical Congress and the Nomenclature Section of the Congress, and to visit the herbarium in Geneva, Switzerland; to Venezuela (8/7 – 8/21) to collect specimens in the Andes Mountains and to visit herbaria in Caracas, Maracay, and Guanare; and to St. Louis, Missouri (9/20 – 9/23) to study Venezuelan plants at the Missouri Botanical Garden herbarium and library.

Robert Faden traveled to Dublin, Ireland (7/11 – 7/15) to present a talk at the 13th Flora of Thailand Meeting at Trinity College Dublin and to conduct Commelinaceae research in the herbarium.

Ellen Farr traveled to Hilo, Hawaii (7/26 – 8/7) to attend the combined meeting of the Mycological Societies of America and Japan.

Maria Faust traveled to Bocas del Toro, Panama (7/31 – 8/13) to attend the third Marine Taxonomic Workshop.

Vicki Funk traveled to Vienna, Austria (7/12 – 7/24) to present a keynote address at the 17th International Botanical Congress and to attend the Nomenclature Section of the Congress; to Austin, Texas (8/13 – 8/17) to attend the Botany 2005 meeting where she began her term as President-Elect of ASPT; and to Chiapas and Jalisco, Mexico (9/19 – 10/4) to collect species from the Compositae tribe Liabeae.

W. John Kress traveled to Cornwall, UK (9/8 – 9/18) to present a keynote talk at Eden Project's "The Rainforest Gathering" conference and to the Royal Botanic Garden Edinburgh in Scotland, to participate in a ginger taxonomy workshop.

Gary Krupnick and **Vinita Gowda** traveled to Uberlândia, Brazil (7/23 – 7/30) to attend the annual meeting of the Association for Tropical Biology and Conservation.

Gregory McKee traveled to Addis Ababa, Ethiopia (8/20 – 9/22) to collect ferns for the final volume of the flora of Ethiopia and Eritrea.

Dan H. Nicolson traveled to Vienna, Austria (7/10 – 7/29) to attend the 17th International Botanical Congress, chair the Nomenclature Section of the Congress, work on *TL-2* at the library of the Botanical Institute, and go on a botanical field trip in the Czech Republic.

Paul Peterson traveled to Vienna, Austria (7/12 – 7/22) to present a talk at the 17th International Botanical Congress and to attend the Nomenclature Section of the Congress; and to northern México (8/29 – 9/30) to collect grasses and present an invited lecture at the 2nd Botanical Symposium of Northern México in Durango.

Harold R. Robinson traveled to Vienna, Austria (7/17 – 7/24) to present a talk at the 17th International Botanical Congress.

Laurence Skog traveled to Vienna, Austria (7/10 – 7/20) to attend the 17th International Botanical Congress and the Nomenclature Section of the Congress and to visit the herbaria at the Natural History Museum, Vienna and the University of Vienna.

Robert Soreng traveled to Vienna, Austria (7/12 – 7/24) to present a keynote address at the 17th International Botanical Congress and to attend the Nomenclature Section of the Congress.

Alice Tangerini traveled to Bar Harbor, Maine (8/7 – 8/13) to present a workshop at the annual meeting of the Guild of Natural Science Illustrators; and to Kauai, Hawaii (9/12 – 9/24) to prepare illustrations for the Flora of the Marquesas Islands.

Alain Touwaide and **Emanuela Appetiti**, traveled to Istanbul, Turkey (8/20 – 8/27) to attend the 4th International Congress of Ethnobotany at Istanbul Yeditepe University; to Patras, Greece (9/10 – 9/15) to attend the 3rd Congress of the International Society for the History of Medicine (ISHM); and to Rome, Italy (9/17 – 10/14) to conduct research at the National Library.

Warren Wagner traveled to Vienna, Austria (7/12 – 7/24) to present a keynote address at the 17th International Botanical Congress and to attend the Nomenclature Section of the Congress; and to Kauai, Hawaii (9/12 – 10/2) to conduct research at the National Tropical Botanical Garden.

Anna Weitzman traveled to London, England (7/9 – 7/21; 9/19 – 9/26) to discuss the digitization of works of taxonomic literature at the Natural History Museum (NHM); to Vienna, Austria (7/21 – 7/24) to present a talk at the 17th International Botanical Congress; and to St. Petersburg, Russia (9/10 – 9/18) to present an invited lecture to the Taxonomic Databases Working Group (TDWG).

Jun Wen traveled to Vienna, Austria (7/17 – 7/24) to present a talk at the 17th International Botanical Congress; to Austin, Texas (8/13 – 8/17) to present a talk at the Botany 2005 meeting; to Chicago, Illinois (8/24 – 9/1) to finish collections database at the Field Museum; to New Haven, Connecticut (9/5 – 9/6) to serve on the graduate committee for Stephen Smith at Yale University; and to St. Louis, Missouri (9/8 – 9/14) to examine collections of African Vitaceae and plan her field work in Tanzania with colleague Roy Gereau at the Missouri Botanical Garden.

Kenneth J. Wurdack traveled to Vienna, Austria (7/12 – 7/29) to present a keynote address at the 17th International Botanical Congress and to visit herbaria at Kew and Leiden.

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The Rain Forest Gathering: Has Tropical Forest Conservation Succeeded?

In early September, over 200 participants convened at the Eden Project in Cornwall, United Kingdom, for a discussion on the present status and future prospects of rain forest conservation. Cosponsored by the Association for Tropical Biology and Conservation (headquartered at the Smithsonian's National Museum of Natural History), the conference, entitled *The Rainforest Gathering*, brought together people with exceedingly diverse backgrounds and perspectives, including botanists, zoologist, foresters, ecologists, ethnobotanists, climatologists, meteorologists, chemists, horticulturists, anthropologists, economists, investment bankers, representatives of the private sector, industry and government, musicians, TV producers, administrators, students, and teachers. This list is not complete and many participants could be easily categorized into more than one group. *The Rainforest Gathering* constituted one of the most diverse bodies of thinkers about rain forest biology, utilization, and conservation that I have ever encountered. The Eden Project was the perfect venue for this discussion and is to be highly commended, especially Don Murray, for conceiving of and carrying out this conference.

The conference was divided into seven themes that encompassed tropical forest ecosystem processes and services, forest regeneration, the utilization, valuation, and exploitation of tropical forests, climate change in tropical environments, the rain forest pharmacy, and tropical forest indigenous peoples and communities. The habitats described spanned the globe from Africa to Asia to the Americas, although a heavy emphasis was placed on the Amazon. Throughout the three days I heard many facts, opinions, old ideas, new ideas, and passionate pleas and expressions of concern for the future of tropical forests and the people who live in them. Some were hopeful of success; others where not.

A recurring question that was raised again and again during the presentations and discussion was: "Have we made any progress in the last several decades in saving rain forest species, in halting the degradation of tropical ecosystems, in accumulating sufficient knowledge of rain forest biology to sustainably manage forests, and in protecting the lands and rights of indigenous people living in the tropics?" The surprising and somewhat sobering answer for the most part was "no." With the significant expansion of non-government organizations (NGOs) devoted to rain forest conservation, with the near universal ratification of a major international treaty on biodiversity (the Convention on Biological Diversity), and with a magnitude increase in international funding for conservation activities, why are so many people in the field pessimistic of success? How can their answer be "no"?

A number of possible explanations for our lack of progress can be cited. For one thing, the more we learn about the function of tropical forests, both pristine and degraded, the more complex the system appears to be. What we first thought could easily be understood and conserved with enough passion by simply "saving the rain forest" is proving to be an exceeding complex web of biology, social sciences, politics, and economics. More strikingly the early emphasis on conserving species and ecosystems has been expanded to highlight the local people who inhabit these biomes. Moreover, since the earnest efforts to conserve tropical forests started in the 1970s the multiplicity of issues facing the global community has greatly increased and diversified. Major concerns now focus on the dominance of worldwide capitalism and globalization, the increase of global terrorism and the war in the Middle East, the rise of human rights abuses in many countries, the alarm over the introduction of genetically modified organisms into the agricultural landscape, the obvious manifestations of global climate change, and the multiple recent natural disasters. At the same time world population and material consumption, which exacerbate the environmental dilemma, continue to expand at an increasing rate. All of these problems are now competing for the world's attention and are diverting us from critical conservation problems, such as tropical forest degradation.

Within the community of conservation activists and organizations, we can also see major changes since the early 1980s. Especially evident is the great increase in the number of activists devoted to environmental issues, including individuals, NGOs, governmental bureaus, and multilateral agencies. The competition for resources to support all of these efforts has grown tremendously with a corresponding increase in bureaucracy and even corruption at many levels.

From the three days of discussion at *The Rainforest Gathering*, it became clear to me that the international community concerned with tropical conservation may be entering a significant phase of dissention, disarray, and disagreement about how we are to proceed with our conservation agenda. The anthropologists criticized the NGOs for ignoring the rights of indigenous people in advocating the protection of tropical habitats; the NGOs attacked the bureaucracy of the multilateral agencies who control most of the big funding for environmental projects; the multilaterals ignored the advice of the scientists and biologists as being naïve in their unrealistic recommendations on solving conservation problems; and the

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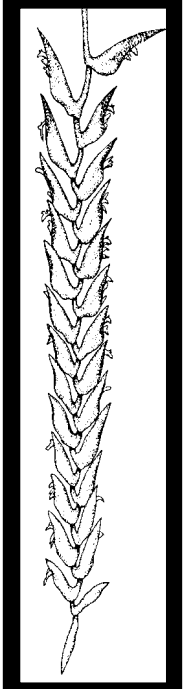
Chair With A View — W. John Kress



Staff Research & Activities

On 28 September, **Michael Bordelon** presented a lecture and slide presentation on "Tropical Ginger Cultivation in the Washington, DC, Area" to the Beltsville Garden Club in Beltsville, Maryland.

Robert Faden attended the 13th Flora of Thailand Meeting at Trinity College Dublin, Dublin, Ireland, 11th – 15th July 2005. He delivered the paper, "Progress on the Commelinaceae for the Flora of Thailand," which was co-authored by Thaweesak Thitimetharoch and Pranom Chantaranothai. He was also co-author, along with Thaweesak Thitimetharoch, Pranom Chantaranothai and Achra Thammathaworn, of the presentation, "Leaf anatomical studies of the family Commelinaceae in Thailand," that was delivered by Thaweesak, and of the poster, "A new type of silica cell in the genus *Dictyospermum* Wight (Commelinaceae)," along with Thaweesak Thitimetharoch and Achra Thammathaworn, that was also presented by Thaweesak.

Faden spent half a day working on Commelinaceae in the herbarium of the Department of Botany, Trinity College Dublin (TCD). Founded in 1834, the herbarium is not very large, e.g. there were two pigeonholes of Commelinaceae, but it contains numerous important collections. These include an almost complete set of the early collections of A.F.G. Kerr from Thailand that were cited in Craib's "List of Siamese plants…" (Kew Bull. 1912: 397-435. 1912), among which were isotypes of the two new species described in *Aneilema*. The Kerr collections were all duplicates from Kew. Pleasant surprises were collections of Drège and Ecklon & Zeyher from South Africa, including two types; six Thwaites or "C. P." (= Ceylon Plants) collections from Sri Lanka, including at least one type; and at least five Schomburgk collections from "British Guiana," including two types. There were also numerous old specimens from India, especially from the herbaria of Hooker & Thompson and Wallich; due to a lack of literature and time, they were not explored for types.

Vicki Funk served on the American Association for the Advancement of Science (AAAS) Science Journalism Awards committee on 31 August. The award honors individual journalists who have made important contributions in communicating science to the public.

From 19 September until 4 October, Funk traveled to Mexico for the first time in about 25 years. She worked through the herbarium at the Universidad Nacional Autónoma de México (MEXU) in Mexico City. She was hosted by Alfonso Delgado and Fernando Chang. Funk collected members of the Compositae tribe Liabeae and focused on two areas of the country, Jalisco and Chiapas-Oaxaca. Jalisco and the Oaxaca valley were dry; the rains came late and were brief. Chiapas and tropical Oaxaca had a more normal season. In the late 1970s, Funk spent nine months over four years traveling in Mexico collecting material for her dissertation treatment of *Montanoa.*

On 26 July, **W. John Kress** was to present the Plenary Address, "Evolution and Ecology of Plant-Pollinator Interactions in the Tropics," at the annual meeting of the Association for Tropical Biology and Conservation in Uberlândia, Brazil. Unfortunately, Kress became ill; **Gary Krupnick** presented Kress' talk in his place.

Several museum scientists are featured in a new illustrated children's book. Written Amanda Lumry and Laura Hurwitz with illustrations by Sarah McIntyre, the book "Adventures of Riley... Dolphins in Danger" features in cartoon form Vic Springer, Dave Smith, **W. John Kress, Warren Wagner**, and Carole Baldwin in authoritative sidebars.

Awards & Grants

The Stafleu Medal of the International Association for Plant Taxonomy was awarded to **Dan H. Nicolson** and the late F. Raymond Fosberg for the publication of "The Forsters and the Botany of the Second Cook Expedition." The Stafleu Medal recognizes excellence in publica-

Dan H. Nicolson (right) receives the Stafleu Medal from Pieter Baas during the 17th International Botanical Congress in Vienna, Austria. Photo by Alice C. Nicolson.

tions dealing with historical bibliographical or nomenclatural aspects of plant systematics. The Medal was presented to Nicolson on 15 July, during the 17th International Botanical Congress in Vienna, Austria.

W. John Kress, with colleagues from Columbia University and the University of Maryland, entered the third year of a grant from the National Science Foundation's Information Technology Research (ITR) program for "An Electronic Field Guide: Plant Exploration and Discovery in the 21st Century."

Rusty Russell received a Collections Care Grant from the Associate Director for Research and Collections (ADRC) at the National Museum of Natural History to conduct an assessment of the physical state of the U.S. National Herbarium Type Collection. Work will include specimen repairs, adding new covers and microchamber folders where necessary, isolating severe conservation problems, and reconciling the specimens with both the Type Register data base and the online images.

Jun Wen received a grant from the John D. and Catherine T. MacArthur Foundation, "Building Capacity for Biodiversity Research, Conservation, and Education in Eastern Himalaya" (PI, Jun Wen with two co-PIs: Greg Mueller and Rick Ree); and a grant from the National Science Foundation, Systematic Biology section, "Revisionary Syntheses in Systematics (REVSYS): Phylogenetic, Biogeographic and Revisionary Taxonomic Studies in *Prunus* (Rosaceae)" (co-PI with Dan Potter and Joey Shaw).

Departures

Paula DePriest has moved from the Department to take a position as Deputy Director of the Smithsonian Center for Materials Research and Education at the Museum Support Center (MSC) in Suitland, Maryland. DePriest had made many contributions to lichen research and collections activities in the Department as well as during her term as Special Advisor to the Under Secretary for Science over the last two years.

Visitors

Chhimi Dolma, National Biodiversity Centre, Ministry of Agriculture, National Herbarium, Thimphu, Bhutan; Biological Diversity of the Guiana Shield Project (5/29-7/29).

Andrew Henderson, New York Botanical Garden; Indo-Chinese Arecaceae (6/27-7/15).

John Nicholas, Independent researcher; volunteer interview (7/7).

Doreen Bolnick, Independent researcher; herbarium studies (7/8-7/11).

Fernanda Calio, Rutgers University; Gentianaceae and Loganiaceae (7/13-7/14).

Cynthia Frasier, Rutgers University; Gentianaceae and Loganiaceae (7/13-7/14).

Luis Hernandez, Universidad Autónoma de Querétaro, Mexico; *Nolina* (Nolinaceae) (7/18).

Javier Francisco-Ortega, Florida International University; library research (7/20-7/21).

Ning Xu, The Biodiversity Group (TBG), China; Yunnanese specimens (7/22-9/13).

H. David Clarke, University of North Carolina, Asheville; Guyanese plant collections (7/29-8/3; 9/1-9/6).

Tracey Parker, Independent researcher; Central American specimens (8/1-8/5).

Carola Antezana, NatureServe and the University of San Simon of Cochabamba, Bolivia; Bolivian and Peruvian Acanthaceae (8/9-8/26).

James Cohen, Cornell University; *Lithospermum* (Boraginaceae) (8/9).

Fernando Zuloaga, Instituto de Botánica, Argentina, Darwinion; Puerto Rican Paniceae (8/10-8/24).

Ana Maria Molina, Jardín Botánico "Arturo E. Ragonese," Argentina; *Agrostis* (Poaceae) (8/16-8/30).

Zulma Rugolo de Agrasar, Instituto de Botánica Darwinion, Argentina; *Agrostis* (Poaceae) (8/16-8/30).

Natalia Alvarez, USDA-ARS, University of Wisconsin; *Solanum* sect. *Petota* (Solanaceae) (8/17-8/18).

Mercedes Ames, USDA-ARS, University of Wisconsin; *Solanum* sect. *Petota* (Solanaceae) (8/17-8/18).

Patrick McMillan, Clemson University; *Rhynchospora* (Cyperaceae) (8/18-8/19).

Keith Bradley, Institute for Regional Conservation; southern Floridian rare plants (8/22-8/23).

Claudia Isabel Rodriguez-Flores, Herbario Nacional Colombiano, Universidad Nacional de Colombiano, Colombia; South American Gesneriaceae (8/22-9/22).

Sheri Church, George Washington University; *Helianthus* (8/24).

Kelsey Glennon, George Washington University; *Helianthus* (8/24).

Kathryn Mauz, University of Arizona; Arizonian historical collections (8/24-8/26).

Gerry Moore, Brooklyn Botanic Garden; *Rhynchospora* sect. *Paniculatae* (8/29-9/2).

Susan Grose, University of Washington; Central and South American *Tabebuia* (Bignoniaceae) (9/6-9/30).

Naohiro Naruhashi, Toyama University, Japan; Asian *Rubus* (Rosaceae) and *Fritillaria* (Liliaceae) (9/6-9/9).

Alejandro Quintanar-Sánchez, Real Jardín Botánico-CSIC , Madrid, Spain; *Koeleria* (Poaceae) (9/6-11/24).

Carolina Calvino, University of Illinois; Eryngium (Apiaceae) (9/13-9/15).

James Miller, Missouri Botanical Garden; Flora Mesoamericana Boraginaceae (9/19-9/22).

Akiko Soejima, Osaka Prefecture University, Japan; Vitaceae (9/28-3/25).

Identifying Panamanian Dinoflagellates

During August, **Maria A. Faust** examined the marine dinoflagellate flora of Bocas del Toro, Panama, at the invitation of Rachel Collin, Smithsonian Tropical Research Institute (STRI). Faust was part of a workshop that surveyed the benthic dinoflagellates, diatom microalgae, and soft bottom meiofauna of the Bocas Research Station. Marine dinoflagellates are microscopic marine plants, known as phytoplankton, that drift within shallow coastal ocean currents and are responsible for the majority of the flux of organic matter to both higher trophic levels and the ocean. Morphologically dinoflagellates are miniscule cells and their identification is particularly taxonomically challenging. Often the most difficult hurdles for scientists studying the ecology of marine organisms are the identification of species. The morphology and ecology of dinoflagellates are virtually unknown in the regional tropical waters at Bocas del Toro.

In previous workshops, scientists at the Smithsonian Institution and collaborations between taxonomists from the different units within the Marine Science Network as well as from outside the Smithsonian have surveyed the ecology and taxonomy of macro-invertebrate fauna within the oceanic coastal mangroves of Bocas del Toro. Interestingly, the Bocas region has a much higher diversity of soft sediment habitats and proportionally new and endemic species to the rest of the widespread Caribbean fauna.

Faust's samples yielded rich flora of greater than 100-150 benthic, planktonic, red-tide forming, and toxic dinoflagellates species of great topological diversity present in plankton, mangrove embayment, patch reefs, and sea grass beds. This material will be used to create a species lists of locations in which they occur including a reference collection of preserved material. An identification guide of dinoflagellates is planned to illustrate in photographs of digitized images, each with a brief description of species-specific distinguished characteristics. The identification guide of dinoflagellates will be available through STRI's Web page.

The taxonomy-based workshop of dinoflagellates in turn will benefit the laboratory in Bocas del Toro in several ways. Primarily it will provide STRI scientists, students, and visitors studying the organismic ecology of Bocas del Toro with a taxonomically up-to-date list of species that commonly occur near the laboratory, and a partial list of locations in which they occur. The availability of such information makes it easier for researchers to plan field trips as well as allowing identification of marine unicellular plants by marine biologists who are not necessarily trained experts. Lastly, the workshop encourages further taxonomic work in the region. In addition, accurate identification of organisms is necessary to make informed conservation decisions.

The *Biological Conservation Newsletter* Celebrates Issue Number 250

This month, the *Biological Conservation Newsletter* celebrates the publication of its 250th issue. The newsletter has been a monthly publication of the Department for the past 25 years. Edited by **Gary Krupnick**, Head of the Plant Conservation Unit, the newsletter contains items on biological conservation issues, highlighting research at the Smithsonian Institution and elsewhere. The newsletter is mailed postally and electronically free to over 2,100 subscribers in 94 countries.

The newsletter was first issued by the Office of Biological Conservation (housed in the Department of Botany) in February 1981. In its humble beginnings, the newsletter stated "The Office seeks to develop an awareness in the minds of our colleagues and the general public to the ever-present changes in the environment caused by human activity and thus serves as a monitoring and warning system." In the "Recent Literature of Interest" section of the newsletter, the first issue cited 11 publications; the October 2005 issue cites 200 publications for the month.

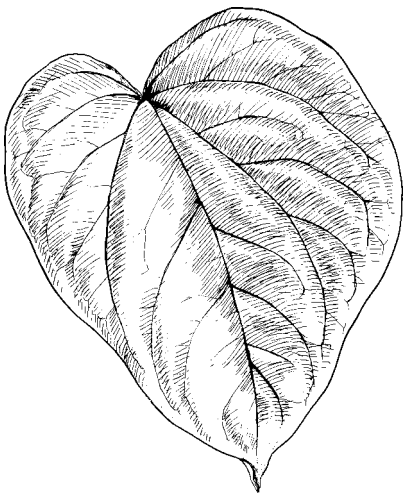
The newsletter features articles on conservation research and current news items, as well as information on new publications, fellowships and grants, job announcements, educational materials, and meetings. In addition, the newsletter's Web page <http://ravenel.si.edu/bcn/> features an extensive searchable bibliography of 25,923 citations, making the newsletter a valuable resource to the biological diversity and conservation community.

Botanical Partners on the Mall Lecture Series

In October, the Department of Botany and the United States Botanic Garden (USBG) will begin the third season of the "Botanical Partners on the Mall Lecture Series." This quarterly lecture series brings together the Washington scientific community interested in botanical studies. Invited speakers are chosen to attract participants from a broad spectrum of the local community interested in plant sciences. All talks are held in the USBG Conservatory. This year's speakers will address diverse topics:

- **6 October 2005**: Bruce A. Stein, NatureServe – Plant extinctions;
- **19 January 2006**: Roger P. Hangarter, Indiana University – Environmental sensory-response systems and plant development;
- **13 April 2006**: Michael J. Balick, New York Botanical Garden - Ethnobotany in the 21st century.

An informal reception will be hosted after the talk to promote discussion and exchange of ideas.



The 2006 Smithsonian Botanical Symposium, 21-22 April, to Explore Island Archipelagos

The Department of Botany will convene the 2006 Smithsonian Botanical Symposium, **"Island Archipelagos: Cauldrons of Evolution,"** to be held at the National Museum of Natural History in Washington, D.C., on 21 – 22 April 2006.

Island archipelagos have long been recognized as unique biological laboratories by evolutionary biologists. The classic observations by Charles Darwin on adaptive radiation in finches were made in the Galápagos archipelago and more recently ecological and evolutionary investigations in the Hawaiian Islands, Eastern Caribbean, and Azores have increased our understanding of evolutionary processes and the generation of biological diversity. Characterized by different degrees of isolation from continental floras and faunas, by equable maritime climates, and by often reduced biodiversity and trophic structure, islands often contain unique biotas that experience different selective pressures from those that dominate mainland ecosystems.

Added to this mix of biological richness are two kinds of storms – physical storms in the form of hurricanes that regularly pass through the island chains and the "storm" of human population growth and development. The former storms, along with other types of natural disturbance such as volcanic activity, have played an important role in the evolution of the biota. The latter "storm" now threatens the continued existence and ecological integrity of both terrestrial and marine ecosystems of island archipelagos. Through invited lectures, the Symposium will explore the role that island archipelagos have played in our understanding of ecological and evolutionary processes as well as the future conservation of these unique ecosystems.

The sixth José Cuatrecasas Medal in Tropical Botany will be awarded at the Symposium. This prestigious award is presented annually to an international scholar who has contributed significantly to advancing the field of tropical botany. The award is named in honor of Dr. José Cuatrecasas, a pioneering botanist who spent many years working in the Department of Botany at the Smithsonian and devoted his career to plant exploration in tropical South America.

Sponsors of the Symposium are the Department of Botany, the Office of the Associate Director for Research and Collections, the United States Botanic Garden, the National Tropical Botanical Garden, and the Cuatrecasas Family Foundation.

Registration and additional information about the 2006 Smithsonian Botanical Symposium will appear soon at <http://persoon.si.edu/sbs/>. You may also call 202-633-0920 or email sbs@si.edu for more information.

New Faces

Kenneth J. Wurdack recently joined the Department as an Assistant Curator. He received his Ph.D. in 2002 from the University of North Carolina at Chapel Hill. He was laboratory manager for the Cullman Program for Molecular Systematics Studies at the New York Botanical Garden before coming to the Smithsonian as a post-doctoral fellow and a Research Associate in molecular systematics. Wurdack's research interests are on the systematics and evolution of Euphorbiaceae, a large group of angiosperms noted for rubber (*Hevea brasiliensis*), cassava (*Manihot esculenta*), poinsettias (*Euphorbia pulcherrima*) and castor bean (*Ricinus communis*). He has also done research on the order Malpighiales to which euphorbs belong, Thymeleaeceae, horizontal gene transfer, and ant-plant interactions. Wurdack's research and botanical career will be highlighted in the next issue of the *Plant Press*.

Kenneth Wurdack stands tall with *Joannesia princeps* (Euphorbiaceae) in the Department greenhouse. Photo by Leslie Brothers.

Botanists Swarm Vienna at the XVII International Botanical Congress

Department staff members were conspicuous participants at the XVII International Botanical Congress (IBC) in Vienna, Austria, 17-23 July. This meeting was the second IBC to be held in Vienna, the first one convened there 100 years ago.

Immediately preceding the main program of the XVII IBC, the Nomenclature Section of the Congress took place at the University of Vienna, from 12-16 July. This Section was presented by the Congress's Bureau of Nomenclature as prescribed by the International Code of Botanical Nomenclature. **Dan H. Nicolson**, president of Bureau of Nomenclature, chaired the session. Attending from the Department were Nicolson, **Paul Peterson**, **Laurence Dorr**, **Vicki Funk**, **Laurence Skog**, **Robert Soreng**, and **Warren Wagner**. Important topics that were discussed include the elimination of illustrations as types beginning in 2007, the defeat of the proposals to conserve names below the rank of genus and species, the defeat of the proposal to conserve names across ranks, and the approval of the moving of the type of *Acacia* from a paraphyletic grade in Africa to a smaller monophyletic group centered in Australia. Recommendations for electronic publication were also passed although the date of publication will remain the date of hard copy publication. Currently eight flowering plant families have two names (e.g., Compositae and Asteraceae; Palmae and Arecaceae); the proposal to eliminate that option for seven of those families was defeated in the mail ballot and was not discussed on the floor.

The Congress was opened with a reception at the Vienna Town Hall attended by thousands of participants and the program began on Monday, 18 July, with an opening talk by Peter Raven. The congress focused on the newest developments in the botanical sciences worldwide and included plenary talks, general lectures, symposia, and poster sessions. All aspects of basic and applied botanical research were included. More than 4,000 participants of XVII IBC 2005 attended from 97 countries making this Congress a truly international event.

Highlights of the Congress included keynote addresses by scientists from the National Museum of Natural History:

- **John L. Clark**, "Phylogenetic relationships and patterns of diversification in Gesneriaceae subfamily Gesnerioideae," with Eric H. Roalson, **Laurence E. Skog**, **John K. Boggan** and **Elizabeth A. Zimmer**;
- **Vicki Funk**, "Evolution of the Compositae: the big picture," with R.J. Bayer, L. Watson, B. Gemeinholzer, C. Oberprieler, N. Garcia-Jacas and A. Susanna;
- **Conrad Labandeira** (Department of Paleobiology), "The Mesozoic context for the origin of angiosperm plant-insect associations and floral syndromes;"
- **Cristián Samper**, "Implementing the global strategy for plant conservation: challenges and opportunities;"
- **Robert Soreng**, "Phylogenetic structure of Poaceae (R. Br.) Barnhart subfamily Pooideae Benth. based on sequence data of four chloroplast-encoded genes (*mat*K, *ndh*F, *ndh*H, and *rbc*L)," with J.I. Davis;
- **Warren Wagner**, "It is not just a flora anymore;"
- **Kenneth Wurdack**, "Progress in Malpighiales phylogeny: new insights from eight genes," with C.C. Davis.

Other departmental members and research associates who presented talks and posters during the scientific sessions were H. David Clarke, Susan Grose, Pat Herendeen, **Vivian Negron-Ortiz**, **Paul Peterson**, Karen Redden, **Harold Robinson**, **Laurence Skog**, **Chelsea Specht**, **Anna Weitzman**, and **Jun Wen**. Co-authors of talks and posters who could not attend the meeting were **John Boggan**, **Robert Faden**, **W. John Kress**, and **Elizabeth Zimmer**.

In addition to the talks and posters, there were also specialized workshops, small group meetings, and ad-hoc discussions. Several were organized by members and affiliates of the Department including the International Compositae Alliance (V. Funk), Flora Neotropica (P. Acevedo) and the Legume working group (P. Herendeen), OSU systematics group (V. Funk), New York Botanical Garden group (P. Acevedo), International Association of Plant Taxonomy business meeting (W. Wagner), Species Plantarum Project (W. Wagner and V. Funk) and others.

The next congress will be held in Melbourne, Australia, in July 2011.

Contributed Presentations

L. Bohs, S. Knapp, M. Nee, D. Spooner, J. Bennett, L. Walley and **J. Clark**: The *Solanum* PBI project: taxonomy in the electronic information age;

P. Catalán, A. Quintanar, L. Gillespie, L.A. Inda, J.G. Segarra-Moragues, A. Archambault, J. Müller, M. Olonova, **R. Soreng** and S. Castroviejo: Evolutionary analysis of the Poaceae subfamily Pooideae tribal complex Aveneae-Poeae: systematic and biogeographic implications;

D. Clarke: Biogeography of plants of the Guiana Shield: Inferences from seven florulas from Northern South America;

S.O. Grose and R.G. Olmstead: Evolution of mammal dispersed fruits: morphology and anatomy of fruits in Crescentieae (Bignoniaceae);

P.S. Herendeen, G.P. Lewis and A. Bruneau: Reproductive structures of Leguminosae: phylogenetic and paleobotanical utility;

N. Hoffmann and **P.T. DePriest**: Unexpected genetic diversification in morphological uniform taxa and exceptional morphological diversification in *Cladia* and closely related lineages;

P. Hoffmann, **K.J. Wurdack**, H. Kathriarachchi, R. Samuel and M.W. Chase: Systematics of Euphorbiaceae s.l. lineages;

P. Karis, **V. Funk**, R. Chan, R. McKenzie and N. Barker: Small tribes, but a large challenge: clades and grades of Arctotideae and Liabeae;

H. Kathriarachchi, R. Samuel, P. Hoffmann, **K.J. Wurdack** and M.W. Chase: Phylogenetic relationships in *Phyllan-*

thus and relatives (Phyllanthaceae): evidence from nuclear ITS and plastid *matK* sequences;

S. Knapp, L. Bohs, M. Nee, D. Spooner, J. Bennett, **J. Clark** and L. Walley: Taxonomy as a team sport: PBI *Solanum* or how to monograph a monster;

P.M. Peterson, **S.J. Pennington** and **R.J. Soreng**: Biogeography and classification of New World Pooideae (Poaceae);

H.R. Robinson, S. Keeley and R. Chan: Progress in understanding Vernonieae evolution;

J.M. Saarela, **P.M. Peterson** and S.W. Graham: Phylogeny and biogeography of Bromeae;

C.D. Specht and **W.J. Kress**: Pollination syndromes and diversification rates in the tropical *Gingers* (Zingiberales);

A.L. Weitzman and C.H.C. Lyal: The Biologia Centrali-Americana Centennial: a vision for digital access to taxonomic information;

J. Wen: Patterns of morphological differentiation among intercontinental disjunct plants in the Northern Hemisphere.

Contributed Posters

L. Bohs, M. Nee, S. Knapp, D. Spooner, J.R. Bennett, **J. Clarke** and L. Walley: The PBI *Solanum* project - an international collaboration to monograph *Solanum*;

H. Dempewolf, T.J. Motley, D.H. Lorence and **W.L. Wagner**: Biogeographic patterns and affinities of the Pacific island genus *Oparanthus* (Coreopsideae: Asteraceae);

F. Eggens, M. Popp, M. Nepokroeff, **W.L. Wagner** and B. Oxelman: The origin of the Hawaiian endemic *Silene* species;

T.M. Evans, C.R. Hardy, **R.B. Faden** and R.F. Bode: A combined molecular phylogenetic analysis of Commelinaceae; evidence from rbcL, ndhF, and 26S nuclear ribosomal sequences;

L.J. Gillespie, A. Archambault and **R.J. Soreng**: Partial incongruence between nuclear ribosomal ITS and chloroplast *trn*T-*trn*F phylogenies of the bluegrass genus *Poa* and allied genera: new insights into reticulate evolution in Poaceae;

L.J. Gillespie, A. Archambault, **R.J. Soreng**, S.W.L. Jacobs and H. Ma: A close phylogenetic relationship detected between *Poa* subg. *Andinae* of Patagonia and *Hookerochloa* and *Festucella* of Australia (Poaceae, Pooideae, Poeae): evidence from nuclear and chloroplast DNA sequences and morphology;

L.A. Inda, J.G. Segarra-Moragues, **P.M. Peterson**, J. Müller and P. Catalán: Phylogenetic studies and the radiation of the New and Old World festucoids (Loliinae, Pooideae, Poaceae);

D.H. Lorence and **W.L. Wagner**: Vascular flora of the Marquesas Islands;

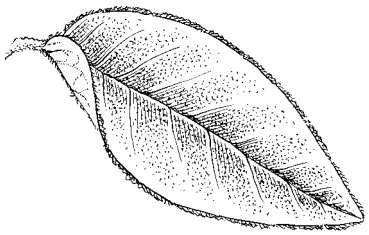
V. Negron-Ortiz and L.I. Strittmatter: Characterizing polyploidy in the Caribbean *Consolea* Lem. (Cactaceae): chromosomes, cytomixis and pollen grain size;

K.M. Redden and **P.S. Herendeen**: Morphology, diversity and phylogeny of *Paloue*, *Elizabetha*, *Heterostemon* and related Caesalpinoid legumes from northeastern South America;

N.F. Refulio-Rodriguez, J.T. Columbus and **P.M. Peterson**: Systematics of *Dissanthelium* Trin. (Poaceae: Pooideae);

T.M. Rehse, **W.J. Kress** and P.S. Manos: Appendages matter, again: Phylogenetics and the classification of *Curcuma* L.;

W.L. Wagner, P.C. Hoch and P.H. Raven: A new classification for Onagraceae.



Chair

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scientists ignored the insights of the anthropologists as unscientific in their approach to understanding tropical forest degradation. Nobody seems to be seriously listening to the others. Have we lost our focus on the real issues of tropical forest conservation while competing with each other for resources to solve the same problem?

Perhaps my reaction to the discussion and debate among the conservation troops is too severe. Perhaps this disarray is a good thing for the field and we are in a critical phase of reassessment and reconsideration. Perhaps we will emerge from this time with a new game plan for tropical forest conservation and restoration. As suggested by Richard Sandbrook at the Cornwall conference, a call for amnesty and time-out may be in order among all the key players in the conservation community in order to refocus and rethink our priorities to determine where we need to concentrate our activities. If our progress has stalled, let's stop a moment and take stock of where we are in order to regain the momentum of the past decade and once again move forward in our efforts to conserve tropical forests.

Wen

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projects. When selecting her dissertation project, she became interested in two Asian – North American disjunct genera: *Parthenocissus* and *Ampelopsis* of Vitaceae. She intends to expand her work on Vitaceae, a poorly understood family with a similar distributional pattern to that of Araliaceae, with an excellent fossil record. Two years ago, a visiting scientist, Akiko Soejima from Osaka Prefecture University of Japan, spent her sabbatical leave at the Field Museum, where she helped Wen assemble a large molecular phylogenetic dataset of Vitaceae. So far, they have obtained molecular sequences for 110 species of Vitaceae, representing all genera except the monotypic genus

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Wen

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Acareosperma endemic to Laos. She plans to gradually conduct more work on Vitaceae.

Recently Wen began working with Mike Dillon (Field Museum) on the systematics and biogeography of *Nolana* (Solanaceae), the largest plant genus of the Atacama and Peruvian deserts. They plan to use *Nolana* as a model to examine the patterns of biogeographic diversification and speciation history in these deserts. She will head for Peru in November this year to hunt for *Nolana*.

Wen's second major area of interest is the biogeography of the northern hemisphere and the biogeographic relationships between temperate and tropical elements. She has been actively studying the origin and evolution of eastern Asian and eastern North American disjunct biogeographic pattern in flowering plants since her graduate days. She has made excellent progress toward understanding the general patterns and the timing of the disjunctions through work in her lab, Michael Donoghue's group at Yale University, and Jenny Xiang's lab in North Carolina State University. Recently Wen and Donoghue organized a symposium on "Biogeographic Dynamics in the Northern Hemisphere" at the 2005 International Botanical Congress in Vienna. Wen is especially interested in pursing further work on testing the morphological stasis hypothesis of eastern Asian – eastern North American disjuncts, and documenting the differentiation patterns of subtropical and tropical disjunct lineages in comparison with temperate relatives. Specifically, she is using *Aralia*, *Dendropanax* and *Oreopanax-Sinopanax* (Araliaceae), Altingiaceae (with postdoc Stefanie Ickert-Bond), *Rhus*, *Pistacia* and *Toxicodendron* (Anacardiaceae; with postdocs T. Yi and Z. Nie), and *Prunus* (Rosaceae; with Dan Potter and Joey Shaw) as models to examine in detail the evolution of morphological characters through time and space within a phylogenetic framework.

The third major area of research interest for Wen is the biogeography of Asia. Understanding the dynamic nature of biogeographic relationships throughout the Northern Hemisphere has been hindered by the lack of studies on intracontinental relationships. To date, the biogeography of most regions in Asia has not been well understood, especially from a modern phylogenetic perspective. Previous biogeographic work on Asia has focused mostly on West and Central Asia, or Southeast Asia and India, in the context of the Wallace's line and the relationship of Southeast Asia and India to other biogeographic regions, often of Gondwanan origin such as Australia, New Guinea, Pacific islands, and Africa. The vast area encompassing eastern and South Asia and the Himalayas has been examined largely from a floristic perspective.

Jun Wen collecting *Aralia bipinnata* Blanco in Benguet Province, Luzon, the Philippines, September 2004. Photo by Martin Sands.

In 1944, Araliaceae were used by H.-L. Li to develop biogeographic hypotheses in China. Based on the distributions and presumed evolutionary relationships, Li recognized six biogeographic regions in China and its neighboring regions. Wen is developing and testing hypotheses on the biogeography of East and South Asia including the Himalayas using the phylogenetic evidence of three clades of Araliaceae: the *Eleutherococcus – Macropanax – Metapanax* complex, the *Brassaiopsis – Trevesia* group, and the *Aralia – Panax* complex.

The fourth category of Wen's research interests is the evolution of leaf morphology, using Araliaceae as a case study. Almost all types of leaf architecture can be found in Araliaceae. The leaves of Araliaceae vary from simple, to variously lobed or divided, to palmately and or pinnately compound. The variation in leaf morphology of Araliaceae varies with developmental stages, ecological habitats, and phylogenetic lineages. Many herbarium specimens have preserved the variations. Throughout her field studies since 1987, Wen has taken careful notes in the field on the variation of leaf morphology in Araliaceae. Wen is focusing on (1) carefully documenting the patterns of leaf variation genus by genus, (2) providing hypotheses on the adaptive significance of leaf variation in Araliaceae, and (3) providing a model of evolution and homologies for leaf architecture of the family based on evidence from phylogenetics, fossils, and developmental observations.

Wen's fifth major area of research interest is the systematics and conservation of Asian medicinal plants. Wen first became interested in botany through the early teachings of her grandfather and uncle, both who are traditional medicinal doctors in her home village in China. Her work with ginsengs and close relatives has made her aware that many traditionally used medicines are still taxonomically poorly understood and many have become rare and endangered due to over-harvesting. In collaboration with colleagues in Asia, she would like to contribute to the careful documentation of Asian medicinal

Jun Wen with colleagues H. Wan (left) and X. Chen (middle) on Mt. Wuyishan, Jiangxi Province, China, collecting wild populations of *Panax sinensis* J. Wen, ined. (a close congeneric relative of ginseng), in July 2001. Photo by Jun Wen.

plants, with a conservation perspective, along with the development of a database with plant and drug images.

Finally, Wen has a strong interest in the conservation and biodiversity inventory of the flora of Asia, especially in poorly explored regions such as southeast Tibet, Myanmar, and Indochina (especially Cambodia and Laos). In 2002 she was a participant in the southern Gaoligongshan conservational rapid study jointly conducted by the Field Museum and collaborators in China.

Recently, Wen was awarded two major grants: a John D. and Catherine T. MacArthur Foundation grant for biodiversity research and training in eastern Himalaya, with colleagues Greg Mueller and Rick Ree (both at the Field Museum); and a National Science Foundation systematic biology grant for phylogenetic, biogeographic and revisionary taxonomic studies in *Prunus* (Rosaceae), with colleagues Dan Potter (University of California, Davis) and Joey Shaw (University of Tennessee, Chattanooga).

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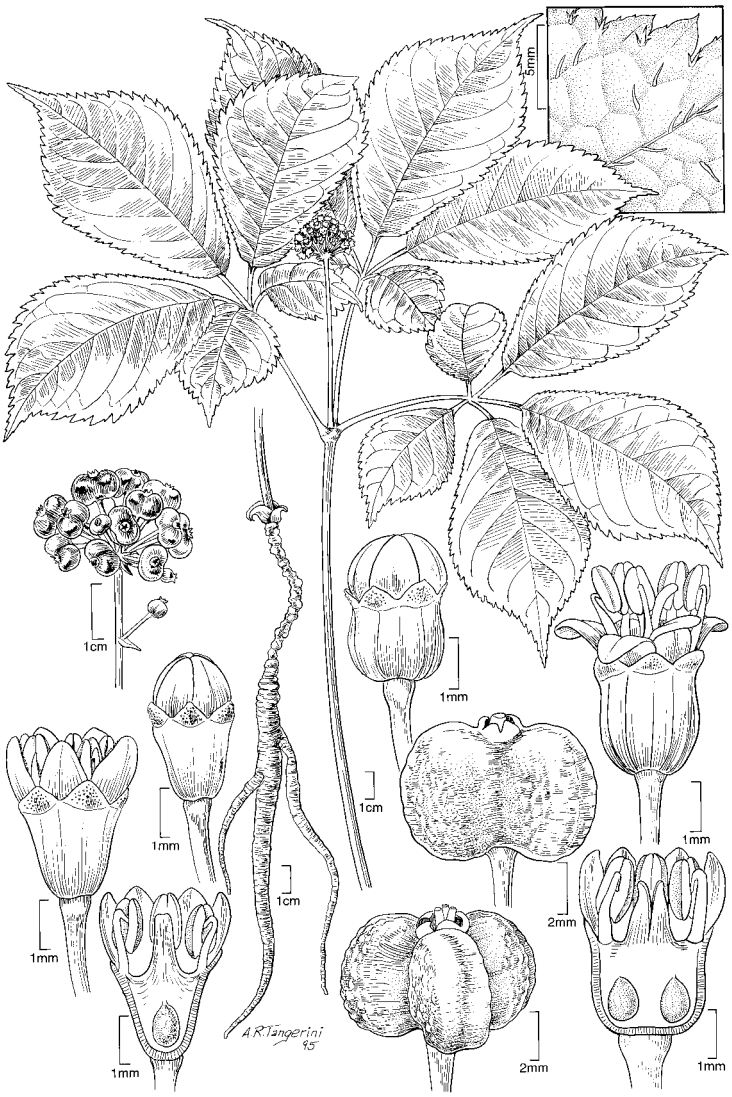
Art by Alice Tangerini

Panax quinquefolius L.

Panax quinquefolius L. is the highly prized American ginseng, sometimes known as the "essence of man." Its root often has a human shape and the medicinal value of the plant is still highly debated. Phylogenetically it forms a clade with *Panax ginseng* C.A. Meyer (true ginseng) and *Panax japonicus* C.A. Meyer (Japanese ginseng). Ginseng and American ginseng are not really sister species, although they were the first species group recognized with a wide-ranging classical biogeographic disjunction between eastern Asia and eastern North America, first noted in 1716.



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