

Society For Economic Botany Newsletter

PLANTS PEOPLE

A biannual newsletter published by and for the members of the Society for Economic Botany

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Society for Economic Botany's 47th Annual Meeting Chiang Mai, Thailand: June 5-9, 2006 A Review of "Medicinal Plant Research in Southeast Asia: Past, Present and Future"

A symposium under the title of "Medicinal Plant Research in Southeast Asia: Past, Present and Future" was convened by Dr. Djaja Doel Soejarto of the University of Illinois at Chicago, under the sponsorship of the Society for Economic Botany, the Chiang Mai University, University of Illinois at Chicago, and Bristol-Myers Squibb Pharmaceutical Company. Four speakers presented their papers on June 7 at the meeting venue, the Imperial Mae Ping Hotel of Chiang Mai, Thailand: Dr. Tran Cong Khanh (kh2836@hn.vnn.vn), Professor of Pharmacognosy at the Department of Botany, Hanoi College of Pharmacy and Director, Center for Research and Development of Ethnomedicinal Plants (CREDEP), Hanoi, Vietnam; Dr. Leonardus Kardono (l_kardono@yahoo.com), Director of Research Center for Chemistry, Indonesian Institute of Science, Kawasan PUSPIPTEK, Serpong 15314, Indonesia; Chun-Tao Che (chect@cuhk. edu.hk), Director, School of Chinese Medicine, The Chinese University of Hong Kong, Hong Kong; and Dr. Djaja D. Soejarto (dds@uic.edu), Professor of Pharmacognosy and Biology and Principal Investigator, ICBG Project "Studies on Biodiversity of Vietnam and Laos," at the Program for Collaborative Research in the Pharmaceutical Sciences (PCRPS), College of Pharmacy, University of Illinois at Chicago.

Dr. Khanh presented a paper "Medicinal Plants of Vietnam: Past, Present and Future." He pointed out the important role medicinal plants have played in the healthcare of the people of Vietnam today, and since time immemorial, and sketched the history of medicinal plants in Vietnam from the time of Tue Tinh, the great herbalist of the 14th century, through Hai Thuong Lanh Ong of the 18th century, the French period up to 1952, and to the present. He also discussed and gave examples of the potential value of medicinal plants for the development of new medicines in the near future. Such effort should include continuing field ethnobotanical inventory and documenta-

tion of indigenous medicinal plant knowledge, the development of a system for the registration of indigenous intellectual property based on community ownership, and legislation of a national policy on cultivation, processing, standardization, and production of herbal medicines.

Dr. Kardono presented a paper "Developing Indonesian vegetables and medicinal plants for economically valuable products." He discussed research performed in his labs to develop several anti-hyperglycemic drinks based on the screening of Indonesian medicinal plants for their glucosidase inhibitory activity. Among starting materials were Indonesian vegetables belonging to the plant families of Myrtaceae, Solanaceae, Cucurbitaceae, and Leguminosae. The glucosidase inhibitory data were used to control the intake dose as compared to commercially available hypoglycemic drug acarbose, while the effective and toxic doses were judged based on published values. The quality of the extracts was controlled based on chromatographic and GC-MS data. Additionally, extracts of the carpel of Mahkotadewa (*Phaleria macrocarpa*) and the leaves of several species of the family Myrtaceae and Moraceae were found to be promising for development into anti-hyperglycemic phytopharmaceuticals, based on anti-hyperglycemic evaluation performed using glucose tolerance test in rats. Lastly, using a new technique developed in Indonesia, virgin coconut oil to be used as a food additive, ca 5 tons per month, has been successfully produced in his laboratory.

Dr. Che presented a paper "Studying Herbal Medicine—A Hong Kong Experience," in which he described a multidisciplinary approach in the study of medicinal plants as individual herbs and multi-prescriptions containing several herbal ingredients by interfacing traditional knowledge, biological and chemical sciences, and clinical expertise. He described a scenario of studying a

Continued on page 6

Plan on Coming to the SEB Annual Meeting in Chicago!

June 3-8, 2007

Check out the Agenda and Events ... pages 10 & 13

http://www.seb2007.com/

Plants & People

The Newsletter of The Society for **Economic Botany**

Web site: http://www.econbot.org

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The articles within the Newsletter are independently submitted and do not represent the position of The Society for Economic Botany as a whole.

Deadlines for submissions are February 1 (Spring Issue) and September 1 (Fall Issue).

Notes from the Field

Dear Friends,

Thailand was a wonderful location for a meeting. Read pages 1 and 3 for the review of the 2006 main symposia and the meeting. I hope some of you can think about places you can offer to host a meeting so we can move around the globe.

This newsletter is full of member news and society updates. Visit the "News from the Economic Botany's Editor-in-Chief," by Dan Moerman, page 9, as we continue to experience the many positive changes he has offered as the new Editor-in-Chief of Economic Botany.

Please continue to send me your comments and your news items for inclusion. We want to know about you and how to provide information that can further your participation in the Society and in the discipline of Economic Botany.

The Chicago meeting in June 2007 has lots to offer in the way of presentations and sites. Check out page 13 for the field trips and evening events. On page 10 is the over general schedule. Plan soon to send in your abstracts to David Lentz at DLENTZ@chicagobotanic.org.

Come sing the blues in Chicago.



(Pennsylvania).

Business Office Progress

As you may be aware, last year marked the relocation of the SEB Business Office from Kansas (Allen Marketing) to Honolulu, Hawai'i. This decision was primarily a cost savings measure and supported by the idea that an internal business office could operate more efficiently and better serve our members. Also, our printer changed

from Allen Press to Cadmus Communications

It has been a year since the business office relocation. Although the transition has been challenging, SEB is now better positioned to meet the needs of its members. An improved web site was recently launched and several online databases are planned to be operational by year end. The online cumulative index was recently updated to include all recent issues through Volume 60(2). Membership has increased from last year (currently 948), and includes members from 63 countries. In the near future, several additional new initiatives will be launched, including the Heritage Circle Planned Giving Program, which will be highlighted in the Spring 2007 Newsletter. Please contact the business office at (808) 375-6275 with questions.

Michael Thomas at info@econbot.org

Country		Membership Category	
United States	566	Patrons	0
Thailand	43	Benefactors	0
Canada	39	Life Members	73
United Kingdom	39	Students and Emeritus	257
Japan	27	Family Members	7
Mexico	27	Regular Members	430
Spain	15	e-Members	181
Germany	14		
India	13		
Italy	13	e-Members Life Members	
The Netherlands	12	19%	
Brazil	11	Students and	d
Turkey	10	Emeritus	
Others	119	27%	
TOTAL	948	Family Memb	pers
		Regular Members 1%	
		45%	

News from Thailand: Report on the SEB 2006 Annual Meeting

A few notes from the 2006 Council meeting.

Membership

We have 948 members to date. So tell a friend about the Society, bring them to our next meeting, and get them to join.

New Officers

Your voting results have been tabulated: President Elect: John Rashford Treasurer: Diane Ragone Council Members: Mary Eubanks Rick Stepp

Annual Meetings

The annual 2007 meeting will be held June 3-8, in Chicago hosted by David Lentz. See page 10 for details of the program and logistics. The 2007 DEB is Hardy Eshbaugh 2008 meeting will be held in North Carolina hosted by Mary Eubanks

Bylaws

During the meeting, council members spent quite a bit of time reviewing and revising bylaws. The bylaws became outdated due to our ability to implement electronic communications. Instead of waiting for voting once a year at the annual meeting, we have tried to make revisions that allow us to implement changes in a more timely fashion. Please review these and send your votes or comments to The Society Office by November 6, 2006. They are too long to list in the newsletter so please take the time and read these carefully at the link listed below. Nov. 6 is our deadline for a vote. (http://www.econbot.org/_about_/index.php?sm=04/)



Chiang Mai, Thailand Walter and Memory Lewis, our DEB of 2006.

SEB Students: Report from the annual meeting 2006

Authors: Arika Virapongse, Hugo de Boer, and Laura Weiss

Nearby Hmong, Karen, Lisu, Lahu, and Akha hill tribe villages, abundant outdoor activities in national parks (climbing, mountain biking,

white-water rafting), classes (Thai cooking, massage, Muay Thai), and tasty local cuisine of Chiang Mai set the backdrop to this year's exciting SEB meeting. While some of the meeting's participants arrived early to enjoy the region's stunning beauty and rich cultural offerings, most arrived over the weekend of June 3-4. The majority chose to stay at the luxurious, but affordable, Mae Ping Hotel, while a few stayed in nearby, less luxurious but even more affordable, guesthouses. The conference was fairly insular and most events were held within the venue. All of the symposium and sessions were held in one hall, which helped to streamline the conference. The venue catered to all necessities such as delicious buffet lunches, an exercise room, and a swimming pool, so one never actually had to leave the hotel (but how unfortunate that would be!). Each night, many participants explored the nearby night bazaar to peruse local crafts and shop and dine at one of Chiang Mai's many restaurants—famous for their relaxing environment and fine local foods. There were two student committee members present at this year's meeting, Hugo de Boer and Arika Virapongse. During the meeting, Cassandra Quave from Florida International University and Laura Weiss from University of Hawai'i were recruited for the SEB student council.

On Sunday, June 4, there were a few organized city tours around Chiang Mai and registration for the conference began in the late afternoon. After registration there was a reception in the bar of the hotel to meet new people and catch up with old friends. That night, we visited the night market and feasted on local dishes, such as larb, tom yum, coconut curries, stir-fried morning glory, water mimosa, squash shoots, and fried insects....

Monday, June 5, marked the first day of the conference and began with the first symposium entitled 'Folk Botanical Wisdom Towards Global Markets.'

Outside of the conference hall was a display of local rice varieties organized by Dr. Benjavan Rerkasem from Chiang Mai University. Posters were also presented in this space. That evening, David Straub organized a workshop on ethnobotanical filmmaking and, thanks to funds from the SEB council, we organized a student mixer at Huan Bolan ('Ancient house') close to the Ping River. As the name suggests, this was a restored antique house containing a cozy restaurant and bar. About 40 students attended, as well as a few faculty to represent ethnobotany programs from educational institutions. We had a great time mingling with fellow students and meeting new students and faculty. The combination of people, food, drinks, and atmosphere was excellent.

Tuesday, June 6, Arika took a small group of participants down to a fresh morning market to check out the local produce. We talked with market sellers about fruits and vegetables they were selling and purchased some to taste. We also learned an important little-known fact: that consuming durian fruit de-activates liver enzymes (or causes pancreatitis?) and thus should never be followed by alcohol!

Meanwhile, at the conference venue there was a full day of contributed papers on exciting research on plant genetic resources, traditional ecological knowledge, plant evolution and selection, and traditional knowledge and conservation.

In the afternoon, the student council, Hugo, Arika, and Cassandra (newly recruited) met to discuss plans for SEB students. Some of the initiatives from this meeting were to organize a publication workshop and a presentation workshop during next year's meeting, as well as to create an online student contact database (an idea inspired by Kim Bridges' football concept).

In the evening, Hugo, Arika, Laura, and Cassandra attended one of the two workshops, entitled 'Field Methods and Development of Economic Botany Theory' organized by Dr. Kim Bridges. We returned to the Huan Bolan restaurant and seated ourselves in small groups at different tables. Dr. Bridges encouraged each group to discuss problems and solutions in fieldwork and theories within the field of ethnobotany and economic botany, and then groups exchanged members to continue the discussion.

Wednesday, June 7, began with a funded symposium, entitled 'Medicinal Plant Research in Southeast Asia: Past, Present and Future.' The afternoon was full of interesting contributions by SEB students. In the evening, Arika attended one of the workshops entitled 'Collections for Ethnoand Economic Botany: Museum and Herbarium Collections Development and Management,' which was organized by Dr. Jan Salick. We met in the lounge of the venue and discussed the present and future status of herbarium collections at the $different \, institutions \, represented \, by \, the \, dozen \, SEB$ participants who attended. Meanwhile, Laura attended the 'Curriculum Development and Ethnobotany Certification' workshop, organized by Dr. Brad Bennett and Dr. Will McClatchey. We discussed and brainstormed issues related to ethnobotanical certification/accreditation, appropriate coursework, differentiated tracks of learning, and desirable/marketable skills at an open-air restaurant located in one of the night markets.

A luxurious closing banquet was held in the evening of Thursday, June 8 at the Mae Ping Hotel and most of the participants attended. As always, the food was delicious and traditional dancers and musicians provided spectacular entertainment. Drs. Walter and Memory Lewis, the

Funding Opportunities for Graduate Students in Economic Botany

Cassandra L. Quave cquav001@fiu.edu

Greetings fellow SEB students! This year during the annual SEB congress in Chiang Mai, the student committee met to discuss some of the issues important to us as graduate students. One of the issues brought up was that of finding funding for field research. I have compiled a list of funding opportunities available to graduate students working in the field of economic botany. I have listed only the essentials—such as the name and brief description of the grant, maximum award amounts, deadlines, and web sites where more information and applications can be found. In order to enhance this list for the next newsletter, please contact me (cquav001@fiu.edu) with any relevant grants that have not been included here. I hope that you'll find this helpful!

Botany in Action. \$3,000. Supports graduate students' fieldwork in botany, ecology, and ethnobotany. Deadline: December 31 (by nomination). (http://www.conservatory.org/botanyaction.htm/)

GCA Awards in Tropical Botany. \$5,500. Supports PhD candidates' field research in the tropics. Deadline: December 31. (http://www.gcamerica.org/scholarship/tropical.html/)

The Catherine H. Beattie Fellowship. \$4,000. Supports graduate students' field research on the endangered flora of SE USA. Deadline: December 31. (http://www.gcamerica.org/scholarship/beattie.html/)

Anne S. Chatham Fellowship in Medicinal Botany. \$4,000. Supports field or lab research on medicinal plants. Deadline: January 15. (http://www.gcamerica.org/scholarship/chatham.html/)

The Herb Society of America. \$5,000. Supports research on the horticultural, scientific, and social applications or use of herbs throughout history. Deadline: January 31. (http://www.herbsociety.org/research.php/)

The Katherine M. Grosscup Scholarship. \$3,000. Supports research in the field of horticulture. Deadline: February 1. (http://www.gcamerica.org/scholarship/grosscup.html/)

GCA Summer Scholarship in Field Botany. \$1,500. Supports undergraduate and Masters students' summer research in field botany. Deadline: February 1. (http://www.gcamerica.org/scholarship/fieldbot.html/)

The Joan K. Hunt and Rachel M. Hunt Summer Scholarship in Field Botany. \$1,500. Supports

SEB's "Mary W. Klinger Book Award" for 2005-2006

The 11th "Mary W. Klinger Book Award" was announced at the Thailand meeting. This year's award went to *Ethnobotany of the Shuar of Eastern Ecuador*, by Bradley C. Bennett, Marc A. Baker, and Particia Gomez Andrade (2002. New York Botanical Garden Press, New York).

The other books nominated were: Pastor Arenas. 2003. Etnografia y Alimentación entre los Toba-Nachilamole#ek y Wichi-Lhuku'tas del Chaco Central (Argentina). Published by the author, Buenos Aires, Argentina; and Sarah A. Laird (Editor). Biodiversity and Traditional Knowledge. 2002. Stylus/Earthscan Publiations Ltd., London, UK.

Nominations are now open for the 2007 award. Please send nominations, preferably by email (daustin@desertmuseum.org), to:

Daniel F. Austin Arizona-Sonora Desert Museum 2021 N. Kinney Road Tucson, AZ 85743

undergraduate and Masters students' summer research in field botany and horticulture. Deadline: February 1. (http://www.gcamerica.org/scholarship/fieldbot2.html/)

GCA Award in Coastal Wetland Studies. \$5,000. Supports botanical field research in coastal wetlands areas. Deadline: February 10. (http://www.gcamerica.org/scholarship/coastal.html/)

Botanical Society of America Graduate Student Research Awards. \$500. Supports graduate students' research in the botanical sciences. Deadline: February 15 (by nomination). (http://www.botany.org/newsite/awards/index.php - bsagrad/)

SEB Richard Evan Schultes Award. \$2,500. Supports graduate students' field research in economic botany. Deadline: February 28. (http://www.econbot.org/_about_/index.php?sm=06%7Cawards_schultes/)

Publications

Handbook of Flavors and Fragrances, compiled by Michael and Irene Ash

An International Guide to more than 4,000 flavor and fragrance compounds by trade name, chemical component, function/application, and supplier. Book: (ISBN 1-890595-87-X; 980 oversized pages): \$350

Single-User Software: (ISBN 1-890595-88-8): \$325

Five-User concurrent network license: (ISBN 1-890595-89-6): \$815

For details and samples from the book and CD, go to:

(http://www.synapseinfo.com/indexfr.htm/)

Chinese Publications

Publications on economic plants from China Scientific book Services can be ordered from: (http://www.hceis.com/) or contact "Luocaixia" lcx@hceis.com or order@hceis.com.

Eating and Healing: Traditional Food As Medicine, edited by Andrea Pieroni, PhD (Lecturer in Pharmacognosy, School of Pharmacy, University of Bradford, Bradford, United Kingdom) and Lisa Leimar Price, PhD (Associate Professor, Sociology of Consumers and Households, Department of Social Science, Wageningen University, Wageningen, The Netherlands)

This book is a global overview of wild and semidomesticated foods and their use as medicine in traditional societies. Important cultural information, along with extensive case studies, provides a clear, authoritative look at the many neglected food sources still being used around the world today. Eating and Healing bridges the scientific disciplines of medicine, food science, human ecology, and environmental sciences with their ethno-scientific counterparts of ethnobotany, ethnoecology, and ethnomedicine to provide a valuable multidisciplinary resource for education and instruction.

Soft Cover: \$39.95. ISBN: 978-1-56022-983-4 ISBN 1-56022-983-7

Hard Cover: \$59.95. ISBN: 978-1-56022-982-7 ISBN 1-56022-982-9

(http://www.haworthpress.com/)



Ethnobotanews

New York Times, June 4, 2006 The Way We Live Now Mass Natural By MICHAEL POLLAN

"Elitist" is just about the nastiest name you can call someone, or something, in America these days, a finely-honed term of derision in the culture wars, and "elitist" has stuck to organic food in this country like balsamic vinegar to mâche. Thirty years ago the rap on organic was a little different: back then the stuff was derided as hippie food, crunchy granola, and bricklike brown bread for the unshaved set (male and female division). So for organic to be tagged as elitist may count as progress. But you knew it was over for John Kerry in the farm belt when his wife, Teresa, helpfully suggested to Missouri farmers that they go organic. Eating organic has been fixed in the collective imagination as an upper-middle-class luxury, a blue-state affectation as easy to mock as Volvos or lattes. On the cultural spectrum, organic stands at the far opposite extreme from NASCAR or Wal-Mart.

But all this is about to change, now that Wal-Mart itself, the nation's largest grocer, has decided to take organic food seriously. (NASCAR is not quite there yet.) Beginning later this year, Wal-Mart plans to roll out a complete selection of organic foods—food certified by the U.S.D.A. to have been grown without synthetic pesticides or fertilizers—in its nearly 4,000 stores. Just as significant, the company says it will price all this organic food at an eye-poppingly tiny premium over its alreadycheap conventional food: the organic Cocoa Puffs and Oreos will cost only 10 percent more than the conventional kind. Organic food will soon be

Wal-Mart Goes Organic

available to the tens of millions of Americans who now cannot afford it—indeed, who have little or no idea what the term even means. Organic food, which represents merely 2.5 percent of America's half-trillion-dollar food economy, is about to go mainstream. At a stroke, the argument that it is elitist will crumble.

This is good news indeed, for the American consumer and the American land. Or perhaps I should say for some of the American land and a great deal more of the land in places like Mexico and China, for Wal-Mart is bound to hasten the globalization of organic food. (10 percent of organic food is imported today.) Like every other commodity that global corporations lay their hands on, organic food will henceforth come from wherever in the world it can be produced most cheaply. It is about to go the way of sneakers and MP3 players, becoming yet another rootless commodity circulating in the global economy.

Oh, but wait. . . I meant to talk about all the good that will come of Wal-Mart's commitment to organic. Sorry about that. When you're talking about global capitalism, it can be hard to separate the good news from the bad. Because of its scale and efficiency and notorious ruthlessness, Wal-Mart will force down the price of organics, and that is a good thing for all the consumers who can't afford to spend more for food than they already do. Wal-Mart also will educate the millions of Americans who don't yet know exactly what organic food is or precisely how it differs from conventionally grown food.

The vast expansion of organic farmland it will take to feed Wal-Mart's new appetite is also an unambiguous good for the world's environment, since it will result in substantially less pesticides and chemical fertilizer being applied to the land—somewhere. Whatever you think about the prospect of organic Coca-Cola, when it comes, and come it surely will, tens of thousands of acres of the world's cornfields—enough to make all that organic high-fructose corn syrup—will no longer receive an annual shower of pesticides like Atrazine. O.K., you're probably registering a flicker of cognitive dissonance at the conjunction of the words "organic" and "high-fructose corn syrup," but keep your eye for a moment on that Atrazine.

Atrazine is a powerful herbicide applied to 70 percent of America's cornfields. Traces of the chemical routinely turn up in American streams and wells and even in the rain; the F.D.A. also finds residues of Atrazine in our food.

So what? Well, the chemical, which was recently banned by the European Union is a suspected carcinogen and endocrine disruptor that has been linked to low sperm counts among farmers. A couple of years ago, a U.C. Berkeley herpetologist named Tyrone Hayes, while doing research on behalf of Syngenta, Atrazine's manufacturer, found that even at concentrations as low as 0.1 part per billion, the herbicide will chemically emasculate a male frog, causing its gonads to produce eggs—in effect, turning males into hermaphrodites. Atrazine is often present in American waterways at much higher concentrations than 0.1 part per billion. But American regulators generally won't ban a pesticide until the bodies, or cancer cases, begin to pile up-until, that is, scientists can prove the link between the suspect molecule and illness in humans or ecological catastrophe. So Atrazine is, at least in the American food system, deemed innocent until proved guilty—a standard of proof extremely difficult to achieve, since it awaits the results of chemical testing on humans that we, rightly, don't perform.

I don't know about you, but as the father of an adolescent boy, I sort of like the idea of keeping such a molecule out of my son's diet, even if the scientists and nutritionists say they still don't have proof that organic food is any safer or healthier.

I also like that growing food organically doesn't pollute the rivers and water table with nitrates from synthetic fertilizer or expose farm workers to toxic pesticides. And the fact that animals raised organically don't receive antibiotics or synthetic growth hormones. Sounds like a better agriculture to me—and Wal-Mart has just put the force of its great many supermarkets behind it.

But before you pour yourself a celebratory glass of Wal-Mart organic milk, you might want to ask a few questions about how the company plans to achieve its laudable goals. Assuming that it's possible at all, how exactly would Wal-Mart get the price of organic food down to a level just 10 percent higher than that of its everyday food? To do so would virtually guarantee that Wal-Mart's version of cheap organic food is not sustainable, at least not in any meaningful sense of that word. To index the price of organic to the price of conventional is to give up, right from the start, on the idea, once enshrined in the organic movement, that food should be priced not high or low but responsibly. As the organic movement has long maintained, cheap industrial food is cheap only because the real costs of producing it are not reflected in the price at the checkout. Rather, those costs are charged to the environment, in the form of soil depletion and pollution (industrial agriculture is now our biggest polluter); to the public purse, in the form of subsidies to conventional commodity farmers; to the public health, in the form of an epidemic of diabetes and obesity that is expected to cost the economy more than \$100 billion per year; and to the welfare of the farm- and food-factory workers, not to mention the well-being of the animals we eat. As Wendell Berry once wrote, the motto of our conventional food system—at the center of which stands Wal-Mart, the biggest purveyor of cheap food in America—should be: Cheap at any price!

To say you can sell organic food for 10 percent more than you sell irresponsibly priced food suggests that you don't really get it—that you plan to bring business-as-usual principles of industrial "efficiency" and "economies of scale" to a system of food production that was supposed to mimic the logic of natural systems rather than that of the factory.

We have already seen what happens when the logic of the factory is applied to organic food production. The industrialization of organic agriculture, which Wal-Mart's involvement will only deepen, has already given us "organic feedlots"—two words that I never thought would find their way into the same clause. To supply the escalating demand for cheap organic milk, agribusiness companies are setting up 5,000-head dairies, often in the desert. These milking cows never touch a blade of grass,

Symposium

continued from page 1

multi-item herbal prescription for the treatment of irritable bowel syndrome (IBS), which includes the following activities: (i) documentation and analysis of traditional and modern literature on ethnomedical, biological, chemical, toxicological, and clinical data; (ii) quality standardization of individual herbs, as well as the combined medicinal formula, using chromatographic approach such as HPLC fingerprinting and LC-MS in addition to a molecular approach of DNA analysis; (iii) biological evaluation using in vitro and in vivo bioassay models, (iv) preclinical toxicology of the herbal formula including acute/chronic toxicity and mutagenicity evaluations; (v) a correlation study of IBS to compare diagnostic outcomes based on Western and Chinese medical criteria; and (vi) a clinical trial on the efficacy of the herbal mixture on patients' suffering.

Dr. Soejarto's presentation, "Search for Bioactive Compounds from Plants of Vietnam and Laos: A Paradigm for an International Cooperation," described a multidisciplinary, international collaborative effort to uncover bioactive molecules from plants and from medicinal plants of Vietnam and Laos under the framework of the ICBG (International Cooperative Biodiversity Groups) Program during the past seven years, with member institutions based in the United States (University of Illinois at Chicago and Purdue University), Vietnam (Institute of Ecology and Biological Resources, Institute of Chemistry, and Institute of Biotechnology of the Vietnamese Academy of Science and Technology, Hanoi; and Cuc Phuong National Park, Ninh Binh), and Laos (Traditional Medicine Research Center, Ministry of Health, Vientiane), and with an industrial partner based in the United States (Bristol-Myers Squibb, New York). One molecule, micromolide, is under development as a potential anti-tuberculosis drug, out of approximately 280 molecules discovered with antimalarial, anti-TB, anti-HIV, and anticancer activities. In addition, the project has contributed significantly to the knowledge of natural products chemistry with 80 new secondary metabolites being reported for the first time from higher plants. The uniqueness of this project lies in its design, whereby drug discovery effort is integrated with conservation and economic development endeavors, while adhering strictly to the principles of the United Nations Convention on Biodiversity. This project serves as a paradigm for future effort in the study of the biodiversity for its potential in contributing to the welfare of man.



Awards

Medal to Be Awarded to "Tree Top" Botanist A Lifetime of Research in Tropical Rain Forests Recognized

Kalaheo, Kauai, HI USA (July 20, 2006)—Noted rain forest botanist and ecologist, Dr. Scott A. Mori, Associate Curator NYBG, will be the 2007 recipient of the David Fairchild Medal for Plant Exploration, the National Tropical Botanical Garden announced today.



Dr. Scott A. Mori will receive the 2007 David Fairchild Medal for Plant Exploration from the National Tropical Botanical Garden.

Mori's research has focused primarily on the taxonomy and ecology of New World tropical rain forest trees and the flora of lowland Amazonia and Central French Guiana. This interest was sparked by the time spent early in his career as a herbarium curator in Panama and Brazil.

Over the years, he has spent thousands of hours in the rain forest and has collected nearly 100,000

specimens, mostly from the Neotropics, the biogeographic region that includes Central and South America, southern Mexico, and the West Indies. He has discovered hundreds of species new to science and, in the process, has described 72 new species of trees. At least 54 plant species have been named in his honor. While highly knowledgeable in rain forest plants in general, Dr. Mori has concentrated on the plant family Lecythidaceae. Commonly known as the "Brazil nut family," this plant group actually encompasses about 300 species.

He has devoted many hours perched in the tops of these trees, some of which can tower up to 200 feet, to document pollination. Through his research, Mori has demonstrated the evolutionary relationships among floral and fruit structure and the pollinators and dispersal agents of species of this group of trees. This ecologically dominant family of trees depends upon bees and bats for the pollination of its flowers; bats, agoutis, peccaries, pacas, wind, and water transport its seeds. Mori's studies of pollination and seed dispersal have given him a deep appreciation for the complexity of tropical forests and made him aware of the need to protect all of its parts to assure their survival into the future. As a result of fieldwork supported by the National Geographic Society (NGS) and the National Science Foundation (NSF), Mori and his colleagues have documented all of the mosses, hepatics, ferns, gymnosperms, and flowering plants found in central French Guiana. This is the first time that a total plant inventory has been done for any single area of the New World tropics. Because of the basic plant inventory, Mori and others are now able to address questions about the evolution and ecology of this area of pristine forests. For the last five years, one of his projects has been to demonstrate the importance of bats in the maintenance of plant diversity of rain forests, including their role in forest regeneration.

Continued on page 8

News from Thailand: Report on the SEB 2006 Annual Meeting

continued from page 3

Distinguished Economic Botanists, addressed the audience, and narrated about their adventurous research on medicinal plants in West Africa and Central America. Awards also were given out for best student presented paper (Joanna Michel) and best student posters (Surote Paengma and Arika Virapongse). The local organizing committee in Thailand was rightly thanked abundantly for its hard work organizing the conference. On this last night, participants did some last minute shopping at the night bazaar.

Friday, June 9 there were several full day field trips. Arika attended the Royal Projects field trip. We were taken to a demonstration site, which showed different agricultural projects with a focus on sustainable livelihood from different regions of Thailand. Laura attended a field trip to the Botanical Garden located in one of the nearby national parks. We perused the interesting herbarium as well as variously themed lovely gardens (including several with medicinal plants). Most of the participants left this day to either return home or explore the region.

Germplasm News and Views

David Theodoropoulos

"We are saying you cannot own our taro. You cannot own our taro. It's so simple."—Walter Ritte, Hawaiian activist, protesting UH taro patents.

"Iam devastated. My 64-hectare crop worth \$48,000 is now at risk.... I want Bayer to take responsibility—they own the patent and they get the profit, so it's only fair that they should be liable for what happens to farmers like me." —Geoffrey Carracher, Australian farmer, on the contamination of his crop by GE seeds.

"People who oppose research on Indian lands, many of them in the government, worry scientists will hand over findings to foreign pharmaceutical companies, allowing them to make huge profits from unique local cultures in the Amazon. Indians, meanwhile, resent the paternalistic nature of the state that obstructs their wishes to collaborate with researchers."—Terry Wade, "Brazil grapples with jungle piracy dilemma."

As the stalemate over the enclosure of the biological commons continues, the public debate of the issues has deepened beyond simplistic "biopirates vs. noble savages" arguments—a positive sign. The complexity of the issues is being recognized, and novel solutions proposed.

The application of "open-source software" models to the distribution of seeds (an idea first proposed in this column), has been gaining proponents. The International Rice Research Institute and CAMBIA announced a joint venture—the BiOS Initiative for open source biotech. They refer to the OS4 Alliance: Open Source, Open Science, Open Society, and Oryza sativa. CAMBIA published the first open source biotech toolkit in Nature, in February 2005.

Monsanto has sued to collect royalties on soybean products shipped from Argentina to the European Union (EU), as Argentina farmers do not pay royalties on the seed because no patent has been granted there. Argentine Agriculture Secretary Miguel Campos notes that Monsanto's E.U. patent applies only to the seed, not the meal or products from crop. But Monsanto's spokesman claims that the presence of the Roundup Ready gene triggers the right to collect. As of 10 August, Argentina has received an opinion letter from the European Commission supporting its argument that derived products are not covered by Monsanto's patents.

The Mississippi Supreme Court rejected attempts by Delta and Pine Land to dismiss claims by farmers that D & PL cottonseed they had planted was defective.

An Australian farmer has found his canola crop to be contaminated with genes from Bayer's Liberty Link canola, the first confirmed case of GE contamination in that country.

Brazil's environmental agency fined Syngenta Seeds \$462,000 for planting genetically engineered crops too close to a national park. Syngenta has appealed.

The Delaware Audubon Society, Public Employees for Environmental Responsibility, and Center for Food Safety filed suit against the United States Department of the Interior alleging that the planting of genetically engineered crops in Prime Hook wildlife refuge was illegally approved, and seek to block further GE cultivation at the refuge.

The Autonomous University of Mexico and the National Commission for the Knowledge and Use of Biodiversity of Mexico have developed a method of risk assessment of the threat to bio-diversity if genetically engineered seeds are released in areas containing the wild relatives of the crop.

The Russian Academy of Sciences has reported that the offspring of rats fed genetically engineered soy had a six-fold higher chance of dying, and this has been interpreted by some as suggesting that pregnant women should avoid GE soy. Irina Ermakova of the Institute of Higher Nervous Activity and Neurophysiology of the RAS, reported the findings 10 October 2005.

The so-called "Terminator technology" (a genetic method of enforcing plant intellectual property through preventing second generation seeds from germinating) has been granted patent protection in Europe on October 5 and in Canada on October 11, 2005. Greenpeace International has called for a global ban on this technology and on any patents on seeds, in order to prevent centralized corporate control of the food supply. The patent EP 775212B was granted to Delta and Pine Land and the United States of America. Applications have been filed in Australia, Brazil, China, Hong Kong, Japan, Turkey, and South Africa, and has been granted in the United States.

Eden-Sarl, a Paris-based company, has failed in its attempt to trademark the scent of fresh strawberries. So far, only the scent of freshly cut grass has been trademarked in the EU.

The Norwegian government has declined to join UPOV '91 (International Convention for the Protection of New Varieties of Plants), instead remaining as a member of UPOV '78, which is less restrictive and protects farmers' rights to save seed.

In June, Norway proposed a TRIPS (Trade-Related Aspects of Intellectual Property Rights) amendment to require the disclosure of the origin of genetic resources and traditional knowledge in patent applications. A similar amendment was proposed by Brazil, India, Pakistan, Peru, Thailand, and Tanzania.

The San people continue to struggle to assert control of Hoodia products derived from their traditional knowledge. Although benefit-sharing



agreements have been signed, and a large trade in Hoodia products exists, benefits apparently have not yet reached the San.

In May 2005, Hawaiian activists vigorously protested the patents held by the University of Hawaii on taro varieties produced by traditional breeding methods. The disease-resistant varieties were produced by the University in response to a request from Samoa, where leaf-blight was serious. Hawaiians claimed that taro is owned collectively, and that the University should return the three varieties to the public domain. In June, the University relinquished its patents, and the varieties were placed in the public domain.

India's Seed Bill 2004 has been called an "attack on the basic right of peasantry" by limiting seed production and distribution only to registered seed producers, and will promote the establishment of seed monopolies by both Indian and foreign firms, according to S. Ramachandran Pillai.

A dispute between researchers in India and the International Maize and Wheat Improvement Center (CIMMYT) highlights the trend towards increasing restriction on the free flow of germplasm. As wheat researcher and current head of India's Protection of Plant Varieties and Farmer's Rights Authority, Subramaniam Nagajaran claims that CIMMYT is restricting access to wheat germplasm that is needed to insure India's future food security. CIMMYT responded that delays and shortages were due to short supplies and cumbersome Material Transfer Agreement (MTA) requirements of the 2004 Treaty on Plant Genetic Resources for Food and Agriculture. The standard form of MTA was set to be finalized in a July meeting. "The meeting will drive the last nail in the coffin. With that, the days of free transfer of germplasm from the international gene banks will formally come to an end," said Nagarajan.

Citations on request. Dt@dtheo.org

Awards

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In addition to multiple grants from NGS and NSF, Dr. Mori has garnered support for his research from other organizations, such as the Beneficia Foundation, the World Wildlife Fund, and the Andrew W. Mellon Foundation. The results of his research have been shared with scientists the world over through 112 scientific papers (nearly two dozen co-authored with former Fairchild Medal recipient Professor Sir Ghillean Prance), 12 books and monographs, and dozens of popular articles. He has served as an editor for seven books, including the recently published and massive *Flowering Plants of the Neotropics*.



Scott Mori ascends to the top of a tree in the rain forest to learn about these tropical species.

He is currently writing a book entitled *The Botany* of a Tropical American Rain Forest, in which he describes what he has learned from nearly 40 years of plant exploration in the New World tropics. Among his many ongoing projects is making the information he has gathered on the Brazil nut family available through the Web and collaborating with an international, multidisciplinary team of scientists and students studying organisms and their interactions with the environment in the Andes-Amazon region of southeastern Peru. Mori is an associate professor adjunct at Yale University, an adjunct professor for the Center for Environmental Research and Conservation at Columbia University, and an adjunct professor at Lehman College of the City University of New York.

Dr. Mori will be the ninth recipient of the Fairchild Medal, which is awarded each year to a scientist who has demonstrated distinguished service to humanity and continuing Fairchild's legacy by

Meetings

Palms Workshop

Aarhus University (Denmark) is hosting a workshop entitled "Palms in Tropical and Subtropical Small Holder Agriculture and Development," on 17 November 2006 (http://www.danbif.dk/palmworkshop2006/).

The workshop will analyze the continuum from wild palms to domesticated palms, and the tradeoffs made along that continuum and in a variety of tropical and subtropical agricultural systems. This workshop focuses on palms because of their immense importance to millions of small farmers throughout the tropics and subtropics.

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Henrik.Balslev@biology.au.dk; (http://www.henrikbalslev.dk/)

Society of Ethnobiology

30th Annual Conference University of California-Berkeley March 28-30, 2007 (http://www.ethnobiology.org/)

Cassava

The First International Symposium on Cassava Breeding, Biotechnology and Ecology in Brasilia 11-15 November, 2006

Cassava improvement to improve livelihood in Sub-Saharan Africa and Northern East Brazil. The details of the second call are available at (http://www.geneconserve.pro.br/meeting2/) or from Nagib Nassar at nagnassa@rudah.com.br.

PhytoPharm 2007

We are welcome you visit new web site of PhytoPharm 2007, which will be held in Leiden, the Netherlands. (http://www.adaptogen.ru/phyto2007.html/) or send an email to phyto2007@mail.ru or FcogSymp@Chem. LeidenUniv.nl.

CEISAL Congress, Bruselas. 2007

Symposium: Indigenous People, Plants and Market: New Anthropological and Ethnobotanical Approaches, on April 12-13, 2007 in Brussels, in the framework of the V European Latin-American Congress CEISAL (European Council of Latin American Social Investigations). "Triangular Relations between Europe and America in the XXI Century: Expectations and Challenges." We invite you to send us your proposal.

The specific subjects include the social handling of ethnobotanical knowledge (access and transmission), the rights of intellectual property, the cultural distinction between species designation for or not for commercialization, the handling of the genetic diversity of the small farms and its relationship to cultures.

Deadline for receiving proposal summary: November 15, 2006

Deadline for proposal summary acceptance: December 5, 2006

Deadline for complete proposal presentation: February 28, 2007

(http://www.ulb.ac.be/soco/cercal/congreso_ceisal.html/); Marc Lenaerts, ULB (Belgium) mlenaert@ulb.ac.be; Laura Rival, Queen Elizabeth House (UK) laura.rival@anthropology.oxford. ac.uk; Ana Maria Spadafora, CONICET (Argentina) aspadafo@conicet.gov.ar

exploring remote areas of the world using innovative travel itineraries, conveyances, or techniques to discover new plant species or cultivars; by bringing into cultivation new and important plants that hold significant promise as agricultural or horticultural varieties; and by playing crucial roles in the conservation of endangered plant species. Nominations are made by an international panel of botanists and plant explorers. Fairchild medalists receive a bronze medal, a cash award, and a citation commending their dedicated and adventurous exploration.

Dr. David Fairchild, one of the greatest and most influential horticulturalists and plant collectors in the United States, devoted 25 years of his life to plant exploration, searching for useful plants suitable for introduction into the United States. As an early "Indiana Jones"-type explorer, he conducted field trips throughout Asia, the South Pacific, Dutch East and West Indies, South America,

Egypt, Ceylon, China, Japan, the Persian Gulf, and East and South Africa during the late 1800s and early 1900s. These explorations resulted in the introduction of many tropical plants of economic importance to the United States, including sorghum, nectarines, unique species of bamboo, dates, and varieties of mangoes. In addition, as director of the Office of Foreign Seed and Plant Introduction of the United States Department of Agriculture during the early 20th century, Dr. Fairchild was instrumental in the introduction of approximately 75,000 selected varieties and species of useful plants, such as Duram wheat, Japanese rices, Sudan grass, Chinese soy beans, Chinese elms, persimmons, and pistachios.

Fairchild and his wife, Marion Bell Fairchild, daughter of Alexander Graham Bell, purchased

News from *Economic Botany's* Editor-in-Chief

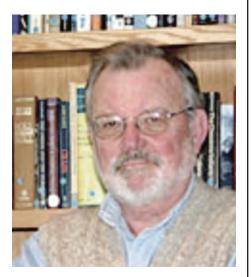
In June 2006, I reported on the condition of *Economic Botany* to the Council at the Society of Economic Botany's meeting in Chiang Mai, Thailand. Among other things, I was able to report that we had met our goal of 100-page issues (seven issues now within one or two pages of 100). The transition away from Allen Press has worked reasonably well (the New York Botanical Garden Press has contracted typesetting, printing, and fulfillment to several different companies in the Northeast).

The acceptance rate for papers in the 12 months from June 2005 to May 2006 was about 37 percent. About a third of the papers were rejected without review, usually within about a week or so of submission. The acceptance rate for papers reviewed was about 53 percent. Reviewed papers are usually accepted or rejected within about two to three months of their submission; the most variable part of this time is the time authors take to make revisions suggested by reviewers. After acceptance, it takes from three to four months to see the paper through the entire publication process.

There is one certainty here: papers that are not submitted are not published! And the simplest advice on how to enhance your probability of success is to read the material on the web site describing what we are looking for and how we do reviews. Think "science." Think "hypotheses." Think "methodology." And think "interesting and important." Finally, think "concise."

And feel free any time to contact the me informally to discuss your ideas for a paper.

Dan Moerman, editor@econbot.org



Awards

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property in South Florida in 1916 and created both a home and an "introduction garden" for plant species found on his expeditions. He named the property "The Kampong," which is the Indonesian word for "village." The unique tropical species he collected from Southeast Asia in the 1930s and 1940s are still part of the heritage collections of The Kampong, which operates today as part of the not-for-profit National Tropical Botanical Garden (http://www.ntbg.org/). The NTBG includes five gardens and three preserves in Hawai'i and Florida and is dedicated to conservation, research, and education relating to the world's rare and endangered tropical plants.

Fairchild Medal Event Contact: Colleen Schokman, (305) 442-7169, kampong@bellsouth.net Media Contact: Janet L. Leopold, (808) 332-7324, ext. 241, administration@ntbg.org

International Association for Plant Taxonomy Awards — Engler Medal in Silver

The New York Botanical Garden (August 10, 2006)—On August 1, 2006, at the Botany 2006 Conference in Chico, California, the International Association for Plant Taxonomy (IAPT) presented its prestigious Engler Medal in Silver to co-authors John T. Mickel and Alan R. Smith for *The Pteridophytes of Mexico*, an authoritative book describing and illustrating all known ferns in Mexico.

The IAPT's Engler Medal in Silver recognizes leading work in plant science. Established in 1990, it is awarded annually to the author(s) of an outstanding publication in the scientific classification of plants. In his presentation of the award, IAPT officer Warren Wagner praised the "magnum opus" of Mickel and Smith's *The Pteridophytes of Mexico*, calling it a "magnificent, monumental, and comprehensive treatment" of one of the largest fern floras in the world. It was judged by the IAPT to be the most outstanding publication in floristic or monographic plant systematics for 2004 and one of the most complete tropical fern floras [listing of all plants of a region] ever written.

The book presents 1,008 species and 16 additional varieties and subspecies, each fully illustrated and described. Maps are included for all, so a reader can see the fern's distribution in Mexico at a glance. Because many species also occur in countries adjacent to as well as surprisingly distant from Mexico, this book is useful well beyond that country's boundaries. The book is a welcome and useful reference for scientists around the world, as well as for conservationists and gardeners.

The Pteridophytes of Mexico is also the first flora to incorporate phylogenetic information, using modern DNA analysis to help understand relationships among the various species. To aid future studies, the authors also have added critical comments that point out areas where further use of modern tech-



niques of cytology, chemistry, molecular studies, and detailed comparative studies of morphology and spores can be expected to better define species limits, relationships, and ranges.

Contacts: George Shakespear or Maria Izquierdo (718) 817-8616

Heineken Prize for Environmental Sciences 2006

The Royal Netherlands Academy of Arts and Sciences in Amsterdam is proud to announce this year's laureate of the prestigious Heineken Prize for Environmental Sciences 2006. U.S. Professor Stuart L. Pimm has been awarded the Dr. A.H. Heineken Prize for Environmental Sciences 2006 for "His research on species extinction and conservation."

This prize is one of five international scientific Heineken Prizes of U.S. \$150,000 each awarded to outstanding international scientists and scholars.

The Heineken Prizes will be presented on Thursday, September 28, 2006, in a special session of the Royal Netherlands Academy of Arts and Sciences at the Beurs van Berlage Building in Amsterdam. The Heineken Prizes are awarded every two years.

For background information on this prize and the other Heineken Prizes (including the other press releases), please visit these web sites: (http://www.knaw.nl/heinekenprizes/) and (http://www.heinekenprizes.org/).

Royal Netherlands Academy of Arts and Sciences Communications Department Press officer Irene van Houten Tel. +31 (0)20-5510733 heinekenprizes@bureau.knaw.nl

Annual 2007 SEB Meeting Agenda (http://www.seb2007.com/)

Symposium: "The Search for New Plant-Based Therapies," Keynote Speaker Dr. Norman Farnsworth

Sunday, June 3	Monday, June 4	Tuesday, June 5	Wednesday, June 6	Thursday, June 7	Friday, June 8
9:00 am Council meeting begins Durand Hall	7:30 am Bus: LFC to CBG	8:30 am Contributed papers 15 min/each Reid Chapel	8:30 am Contributed papers 15 min/each Reid Chapel	8:30 am Contributed papers 15 min/each Reid Chapel	Field Trips throughout the day
Field trips throughout the day and evening for non-council attendees	8:30 am Welcome Symposium* begins Regenstein Center Auditorium	LFC	LFC	LFC	
Coffee break for Council meeting	Coffee break for 250	Coffee break	Coffee break	Coffee break	
Meeting continues	Symposium	Contributed papers	Contributed papers	Contributed papers	
12:00 pm lunch for 20	12:00 pm brown bag lunch for 250 at CBG	12:00 pm lunch at LFC	12:00 pm lunch at LFC	12:00 pm lunch at LFC	12:00 pm lunch
Council meeting	Symposium	Contributed Papers	Contributed Papers	Contributed Papers	Field trips
Coffee break	Coffee break	Coffee break	Coffee break	Coffee break	
	Symposium	Contributed Papers	Poster Session	Contributed Papers	
Council meeting Until 5:00	4:30 - 6:00 pm Wine & Cheese Reception at CBG Linneaus Room			4:30 pm bus to CBG	
6:00 pm dinner at LFC	6:30 pm Bus from CBG to LFC		Contributed papers	5:30 pm cocktails and Banquet McGinley Pavilion	
				Distinguished Economic Botanist Speaker CBG Auditorium	
7:00 - 8:00 pm cocktails Glen Rowan House	7:00 pm dinner at LFC or excursions to the city	6:30 pm BBQ at LFC Hixon Hall	7:00 pm dinner at LFC or excursions to the city	9:00 pm bus return to LFC	

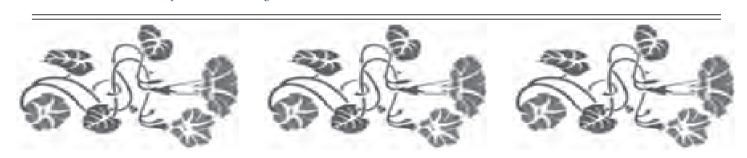
^{*&}quot;The Search for New Plant-Based Therapies"

Housing:

Attendees may stay in the dorms at Lake Forest College (\$30/night)

Marriott Courtyard Hotel in Highland Park (\$99/night) http://marriott.com/property/propertypage/CHIHP/
1505 Lake Cook Road, Highland Park, Illinois 60035, Phone: 847-831-3338 Fax: 847-831-0782

Deer Path Inn in Lake Forest (\$160/night) http://www.dpihotel.com/ 55 East Illinois Road, Lake Forest, Illinois 60045, Phone: 800-788-9480 All this info is on our web site http://www.econbot.org/



Past Presidents and Heritage Circle

Past Presidents were well represented at the 2006 Thailand meetings last June. Six former presidents, including Gail Wagner, Jan Salick, Mick Balick, Brad Bennett, Walter Lewis, and David Lentz, participated in seminars and presentations, and field trips. They also met to discuss a greater role that Past Presidents could play in our Society. From these discussions we formed an ad hoc Past Presidents Advisory Group, the purpose of which would be to help SEB and its members in any way possible. A formal proposal to the Council, before the 2007 June meeting, will provide an opportunity for the membership to consider the proposal. An example of the kind of assistance the Group can provide to SEB was illustrated by its endorsement of David Lentz's new Heritage Circle program of estate planning and giving (SEB is now a 501(c)(3) non-profit organization). This can enhance the resources of the Society. All Past Presidents signed a non-binding Letter of Intent of support to contribute through a bequest in estate planning and to provide general gifts whenever possible.

We hope for a large group of Past Presidents to attend the June 2007 meetings and in that way participate fully in our Group and the Society.

Walter Lewis, lewis@biology.wustl.edu, Past President 1990



Past President Interview

We have been blessed with many teachers in our lives. Charles Heiser is one of those few who gave his students and the Society for Economic Botany much of himself. Jaime has done another great interview of one of our founding Fathers and Past Presidents.

Economic Botany Past President Interview with Dr. Charles B. Heiser, Jr. (SEB President 1978)

Who or what drew you toward economic botany and how did you select your research topics?

My work in economic botany started in 1939 at Washington University in St. Louis. As a freshman, I enrolled in a botany class to meet a science requirement. The class was taught by Robert E. Woodson and, before the semester was over, I had decided to become a botany major. During the semester, Woodson presented slides on collecting plants in Panama. After seeing these, I had to go to the tropics. As a junior, I met Edgar Anderson who was later the Director of the Missouri Botanic Garden. One day, while we were looking at sunflowers (Helianthus annuus), which were common weeds in St. Louis, he said to me, "if someone looked into sunflowers carefully, one would find something significant." His suggestion appealed to me and I shortly started on weedy sunflowers. From there, I advanced to cultivated sunflowers, which opened the door to my interest in economic botany or ethnobotany. In 1951, I published my first significant paper, "The Sunflower among the North American Indians" in The Proceedings of the American Philosophical Society.

I already realized that sunflowers wouldn't get me to the tropics and, in the late 1940s, I found something that would. At the time, there was disagreement as to the number of domesticated chili (Capsicum) species and I decided to investigate them. I published my first paper on peppers in 1953 in Economic Botany. I am sorry to say that there is hardly agreement as to the number of domesticated species in the genus even today.

What has kept you working in the field?

First, I should say I have done research in other areas and I am presently involved in plant breeding with naranjilla (*Solanum quitoense*). Second, I have been involved in economic botany for many years because I keep finding interesting problems. For example, a former student of mine, Jack Humbles, brought me bottle gourd seeds (*Lagenaria siceraria*) from Africa. The seeds were so different from the seeds in my garden that I thought they were of a different species. They were not; but by the time I learned this, gourds had become a research subject for me.

I think it was probably the bottle gourd that got me interested in gourds in general, including the loofahs, which I learned had species native to both the Old World and New World. My wife and I introduced a species from the latter to the Ohio Gourd Show in 1979 and it is now widely grown by gourd enthusiasts primarily for decoration. The fruits are spiny and about the size of a ping-pong ball and hence called the ball loofah (*Luffa astorii*) in the United States.

What are your favorite research experiences?

Some of my trips to tropical America are my favorite, but I have to admit that I have spent much more time in the highlands than the lowlands. My first trip to the tropics was during my first sabbatical in 1953 when my family and I went to Costa Rica. This was a wonderful introduction to Latin America. However, it was my second sabbatical in 1962 to Ecuador that I regard as the greatest experience in my life. In Ecuador, I was associated with the Universidad Central, but my office was near the Central Plaza in Quito near one of the largest markets, which I visited frequently. There I first saw the pepino (*Solanum muricatum*). I was impressed by the great variability of the fruits in the market and the pepino became another research project.

My greatest adventure was in 1969 during my third sabbatical, again to Ecuador. My family and I made this trip at the height of the hijackings to Cuba. In fact, some of my graduate students who saw us off at the airport called to us: "Send us a post card from Cuba!" as we boarded the plane.

Our plane left from Miami at 2:00 AM and in the early morning we arrived at Guayaquil, Ecuador—on the coast—only one hour from Quito. Upon arriving I congratulated Dorothy, my wife, on our safe arrival in Ecuador. Then, 15 passengers, students, and workers, boarded at Guayaquil for Quito. As soon as we were airborne, they produced weapons and ordered the pilots to go to Cuba. We had to spend the night in Havana and the next day we flew back to Miami where we started over again the following day.

Lastly, when I was working with totora (*Schoeno-plectus californicus*) I found it most interesting to visit the islands in Lake Titicaca to see the many different ways people there used it. I thought that it was a rather unusual trip; but today, a trip to the island is included in some of the U.S. tours visiting Peru.

How has economic botany changed since you were president of the SEB and how do you envision the society 10, 30, and 50 years from now?

I will go back even earlier to 1959 when we formed the society. In those days, I do not believe any people called themselves "economic botanists." The field has developed significantly since then and these days people can take classes in economic botany and some universities offer degrees in economic botany, I understand.

Botanizing the Web

New Association

http://www.aamps.org/ and the ACP-EU Technical Centre for Agricultural and Rural Co-operation.

In a historic decision, delegates at the meeting signed a declaration pledging Africa-wide support for the preparation of African quality assurance and trading standards and the establishment of an association to help promote these standards and to develop an African Herbal Pharmacopoeia. The Association for African Medicinal Plants Standards (AAMPS) will initially draw its membership from those attending the Centurion Lake meeting but will also welcome others committed to the cause of African quality standards and the development of an African Herbal Pharmacopoeia.

AAMPS will have its first registered office in Mauritius. An ad hoc committee of volunteers has begun drafting a constitution and examining alternative legal and financial structures. Formal elections for the board of AAMPS will probably take place in autumn 2005.

The association's most immediate concern is to raise funds to complete Phase Two of the AAMPS project. In Phase One, 23 herbal profiles have been completed. Phase Two will include the preparation of a 30 more herbal profiles, making a total of 53 available for use by farmers, traders, scientists, and government health regulators throughout Africa and by importers from the rest of the world. They will form the foundation for a new African herbal pharmacopoeia. AAMPS will ensure maximum access to these standards and aims to prepare an interactive database and web site as well as publish CD-ROM and print versions of the profiles.

For more information please contact Prof. Kobus Eloff, Phytomedicine Programme, University of Pretoria or Denzil Phillips, CD.

Scientists Confirm Folk Remedy Repels Mosquitoes

Release Date: 2006-06-27

OXFORD, Miss.—Swatting mosquitoes and dodging other biting bugs is nearly a year-round chore in the Southeast, but such pests are swarming across the country with the advent of summer weather. And with warnings about West Nile virus and other insect-borne diseases, keeping the pests away has taken on new urgency.

A traditional folk remedy, known among people in Mississippi's hill country for at least a century, may provide some relief without all the worries of DEET and other harsh chemicals. Scientists at the United States Department of Agriculture-Agriculture Research Service housed at the National Center for Natural Products Research at the University of Mississippi have isolated compounds in the American beautyberry plant, Callicarpa americana, that may keep chomping insects away.

"My grandfather would cut branches with the leaves still on them and crush the leaves, then he and his brothers would stick the branches between the harness and the horse to keep deerflies, horseflies and mosquitoes away," said Charles T. Bryson, an ARS botanist in Stoneville. "I was a small child, maybe 7 or 8 years old, when he told me about the plant the first time. For almost 40 years, I've grabbed a handful of leaves, crushed them and rubbed them on my skin with the same results."

Bryson told his supervisor about the folklore repellent, and in 2004 the USDA-ARS at the UM Natural Products Research Center began investigating the beautyberry plant as a potential natural insect repellent.

"Traditional folklore remedies many times are found to lead nowhere following scientific research," he continued. "The beautyberry plant and its ability to repel mosquitoes is an exception. We actually identified natural occurring chemicals in the plant responsible for this activity."

Three repellent chemicals were extracted during the 12-month study: callicarpenal, intermedeol, and spathulenol. The research concluded that all three chemicals repulse mosquitoes known to transmit yellow fever and malaria. Mosquitoes carrying the West Nile virus were not tested as part of the study, but the USDA-ARS has since filed a patent application to use callicarpenal as an anthropod repellent.

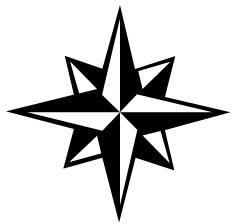
There are barriers, however, to producing the repellent for mass consumption. The product must be registered with the Environmental Protection Agency, which may cost millions of dollars, and a cost-effective manufacturing procedure must be determined.

The National Center for Natural Products Research is the nation's only university research center devoted to improving human health and agricultural productivity through the discovery, development, and commercialization of pharmaceuticals and agrochemicals derived from plants, marine organisms, and other natural products. University of Mississippi researchers at the center are studying hundreds of natural products that show promise to help treat a broad range of human illnesses, including cancer, AIDS, malaria, fungal infections, tuberculosis, and emerging tropical diseases.

For more information about research at NCNPR, go to (http://www.olemiss.edu/depts/pharmacy/ncnpr/)

Tropical Flowers

Here is a new forum you might want to visit: (http://www.TropicalFlowersForums.com/)



Halting the Loss of Biodiversity by 2010

On 22 May 2006, the European Commission adopted a 'Communication on Halting the Loss of Biodiversity by 2010—and Beyond: Sustaining Ecosystem Services for Human Well-being.' You can get the details about the presentation by Commissioner Stavros Dimas at: (http://ec.europa.eu/environment/nature/biodiversity/current_biodiversity_policy/biodiversity_com_2006/index_en.htm/)

U.S. Interior Dept. Sued over GMO Plantings

By Carey Gillam

Reuters, April 5, 2006

(http://www.washingtonpost.com/wp-dyn/content/article/2006/04/05/AR2006040502357.html/)

KANSAS CITY, Missouri (Reuters)—A coalition concerned about the cultivation of genetically modified crops in wildlife refuge areas filed suit against the U.S. Interior Department on Wednesday, saying government workers illegally approved the planting.

The lawsuit, filed in U.S. District Court in Wilmington, Delaware, seeks to block further cultivation of the crops at the Prime Hook refuge outside Dover, Delaware. Prime Hook is one of more than 500 federal wildlife refuges.

It named as defendants the U.S. Fish & Wildlife Service and its parent agency, the Interior Department. The plaintiffs are the Delaware Audubon Society, Public Employees for Environmental Responsibility and the Center for Food Safety.

The plaintiffs said they discovered "a top Bush Administration political appointee" overruled the wildlife refuge manager in allowing the genetically altered crops to be planted on land designated as a national wildlife refuge in violation of department policy.

Officials with Fish and Wildlife and the Interior Department declined to comment immediately. The plaintiffs say the genetically modified crops and the pesticides associated with growing them can have negative effects on birds, aquatic animals, other wildlife, and plant species.

Field Trips at 2007 SEB Meeting

June 3 2007 (Sunday)

1. Illinois Beach State Park

This field trip represents an opportunity to visit a beautiful native habitat that was once common along the shores of Lake Michigan, but is now quite rare. Enjoy the beautiful scenery and learn about efforts to conserve endangered species in the area. Departure is at 10 AM and returning in the early afternoon.

2. Indiana Dunes National Lakeshore

This National Lakeshore comprises over 15,000 acres of dunes, forests, marshes, bogs, prairies, rivers, and forests, including 15 miles of Lake Michigan shoreline. The biological diversity of the Lakeshore is one of the highest in the National Park system; it contains over 1,100 species of flowering plants and ferns. Its role in science history is also significant: Henry Cowles first described ecological succession in the Indiana Dunes 1899. The all-day trip to the dunes leaves the dorm at 7 AM, returning approximately 6 PM. Botanist Michael Huft will be the guide, assisted by Charlotte Gyllenhaal. The trip will include a picnic lunch and a guided tour of Pinhook Bog, a quaking bog in the Lakeshore area. Cost: \$42 per person.

June 8, 2007 (Friday)

1. Integrative Medicine in Chicago

Integrative medicine combines complementary and alternative medicine with conventional medical care. Plant medicines and plant-based diets play an important role in integrative medicine today. We will visit Chicago-area medical clinics involved with integrative care, such as the Block Center for Integrative Cancer Treatment in Evanston, Illinois. The trip, which is organized by Charlotte Gyllenhaal, will leave at 8 AM and return by 2 PM. Cost: \$17 per person.

2. Millennium Park/Lurie Garden Field Trip: 8:30 AM-1 PM

Spend the morning exploring one of Chicago's gems—the "state of the art cultural playground" that is Millennium Park. Price: Public transportation (appx. \$8), plus bring money for lunch.

Millennium Park is an award-winning center for art, music, architecture and landscape design. The 24.5-acre park features the work of world-renowned architects, planners, artists and designers.

Among Millennium Park's prominent features are the Frank Gehry-designed Jay Pritzker Pavilion, the most sophisticated outdoor concert venue of its kind in the United States; the interactive Crown Fountain by Jaume Plensa; the contemporary Lurie Garden designed by the team of Kathryn Gustafson, Piet Oudolf, and Robert Israel; and Anish Kapoor's hugely popular Cloud Gate sculpture, known as "The Bean" on the AT&T Plaza. (http://www.millenniumpark.org/artandarchitecture/lurie garden.html/). A

tour of the nearby City Hall Rooftop Garden is pending...any questions? Contact Amanda Koch mandikoch@gmail.com



3. Chicago Architectural Boat Tour

12 PM-4 PM Cost: \$40 per person (transportation, boat tour); lunch is not included. Cruise the rivers and learn about Chicago's diverse downtown architecture in 90 minutes. Boats serve light refreshments and provide a tour guide to describe the highlights of Chicago's high-rise buildings. (http://www.chicagoline.com/archcruise/)

4. Field Museum Tour

(http://www.fieldmuseum.org/) 9:00 AM - ? to visit the exhibits and the botany research section. The Dept. of Botany manages the fifth largest herbarium in the Western Hemisphere. The Herbarium was established in 1894 based on acquisitions from the World's Columbian Exposition of 1893. Over 100 years of botanical expeditions have established the Field Museum's herbarium as one of the world's preeminent depositories of neotropical plants. In early 2006, the Botany Dept. completed a major renovation, which included the development of 14,000 sq. ft. of compactorized space containing new insect-and-moisture-proof cabinets that run electrically on rails. The tour also will include Economic Botany collections and the Hall of Plant Life containing hundreds of plant models, equally spectacular as Harvard's glass flowers.

The Museum closes its doors at 5:00 PM so you may choose to remain after the tour. An arrangement will be made for those who wish to work in the Herbarium or the Botany Library to return to the Botany Research after the tour. Please register by email to Dr. Doel Soejarto at dds@uic.edu by May 1, 2007. Indicate whether you wish or not to consult the herbarium collections and library during this visit. Visitors will have to come to the Museum and return to Lake Forest College by his/her own mode of transportation (train and subway/bus). The tour will take 1.5 to 2 hours and requires the ability to walk up and down stairs.

4. Visit to the Univ. of Illinois Dorothy Atkins Medicinal Plants Garden — 9:00 to 11:00 AM

The Dorothy Bradley Atkins Medicinal Plants Garden is a teaching and research facility of the College of Pharmacy, Univ. of Illinois at Chicago, which is located immediately north of the College of Pharmacy, 833 S. Wood Street, and is open to the public (http://www.uic.edu/pharmacy/garden/). More than 80 species of medicinal plants are planted and displayed in this garden. Many are or have been the subject of research. This visit will be coordinated with the Field Museum Tour; those interested to join this tour should meet at the south entrance steps of the field Museum by 9 AM to meet an Atkins Garden Tour Guide. Registered visitors will be taken from the Field Museum to the Atkins Garden. At the end of the tour, participants will be taken back to the Field Museum to return to Lake Forest College or (escorted) to the Field Museum. Register by email to Dr. Doel Soejarto at dds@uic.edu by May 1, 2007. Visitors must come to the meeting place at the Field Museum and return to Lake Forest College by his/her own mode of transportation (train and subway/bus).

5. Walking tour of Chicago Botanic Garden, led by David Taylor, Plant Biologist and Lecturer, Chicago Botanic Garden and Northwestern University (limited to 8-10 people)

Pick up by van at Lake Forest College at 10 AM; drop off at Lake Forest College at 2 PM

The 385-acre Botanic Garden features 23 formal display gardens and three native areas, uniquely situated on nine islands surrounded by lakes. The overview walk will include many of these Gardens, such as the Enabling, Waterfall, and Japanese Gardens. There will be the option of seeing the Dixon Prairie and McDonald Woodland native areas independently or as a group. Half the time spent at the Garden will be for independent exploration. Participants are welcome to enjoy the Garden Cafe at their own expense. Please dress for the weather, including sun protection, and bring water if desired. Costs: TBD

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Botanizing the Web

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"These refuges are supposed to be for wildlife, not chemical companies or agribusiness," Gene Hocutt, a spokesman for Public Employees for Environmental Responsibility (PEER), said in a statement announcing the lawsuit. "Plowing up native grasses for mutated row crops constitutes biological malpractice of the highest order and a betrayal of the purposes of the National Wildlife Refuge System."

As many as 100,000 acres of refuge lands are under cultivation to genetically modified crops, according to agency documents obtained by PEER under the Freedom of Information Act.

2006 SEB Meeting Awards

The 2006 meeting in Thailand was a great international experience for members. Besides the incredible colorful and cultural backdrop of Thailand, we were honored to hear many presentations. Several students competed for the Fulling award. As always, it is a challenge for the judges as there were many papers worthy of award, but one that stood out was given by Joanna Michel, joannamichel@yahoo.com, of the University of Illinois Chicago. The following is a summary Joanna wrote to share with members.

"Medical Ethnobotany of the Q'eqchi Maya: Perceptions and Botanical Treatments Related to Women's Health"

The Q'eqchi are the third largest Maya population in Guatemala and currently occupy the largest geographic area of any other ethnolinguistic group in the country. Like most Maya communities, the Q'eqchi of the eastern lowlands maintain a rich tradition of Maya medical beliefs and practices that include the use of the native flora to treat a variety of illnesses, including those affecting women's health. The objectives of this study were to document Q'eqchi perceptions and botanical treatments related to issues of pregnancy, menstruation, and menopause and to test extracts of these plants in biological assays relevant to women's health.

Participant observation, semi-structured interviews, plant walks, and focus groups were used to interview 50 Q'eqchi individuals, including five male healers, five female midwives, and eight postmenopausal women. Screening-sized plant samples fully documented by voucher herbarium specimens were collected and air-dried in the shade or dried using the heat generated by a solar-electric dryer.

Before initiating fieldwork, a Memorandum of Understanding (MOU) was signed between the University of Illinois at Chicago (UIC) and the University of San Carlos in Guatemala City (USC). Permission to collect botanical specimens was granted by the Guatemalan National Council on Protected Areas (CONAP). All interviews were performed under the UIC IRB (Institutional Review Board) protocol number 2002-0514; informed consent was received from all participants before the interviews began.

Results of field interviews indicate that Q'eqchi cultural perceptions affect women's health experiences. In general, it is considered a taboo to discuss issues surrounding menstruation and menopause before the event. Consequently, many women mentioned experiencing additional anxiety when unanticipated symptoms occurred. Furthermore, they believe that both menstrual and menopausal symptoms are associated with an imbalance in the body's inherent balance between hot and cold properties, a common Latin American concept of disease. Seven of the eight menopausal women who were interviewed mentioned experiencing

symptoms of headache, anxiety, and muscle pain, while three women mentioned experiencing "baja presion" or a lowering of blood pressure, which may suggest a local description of the biomedical "hot flash."

A total of 48 medicinal plants used to treat women's health conditions were documented and collected. The plant families with the highest number of species mentioned were Piperaceae (7), Lamiaceae (4) and Asteraceae (3). Statistical analysis of various social and geographic parameters revealed that species selection and geographic distribution (forest, open field, garden) varied considerably depending on an individual's gender and status as a healer.

A total of 19 species were tested in estrogen and serotonin bioassays. Overall, fifteen out of nineteen (15/19) or 79% of the plants collected demonstrated significant binding activity (>50% @ 100 µg/mL) in one or both of the assays. In particular, species in the Piperaceae family showed



significant serotonergic activity.

Research results revealed that cultural practices and gender roles have a significant affect on a woman's access to and utilization of medicinal plants, underscoring the importance of gender and cultural sensitivity in ethnobotany research. In vitro data of biological activity suggests that the medicinal plants used by the Q'eqchi Maya of Eastern Guatemala may indeed have a pharmacological basis, therefore meriting further phytochemical and pharmacological studies on their safety and efficacy, in order to promote or discourage their future use. Specifically, the Piperaceae appears to play a prominent role in the medical ethnobotany of the Q'eqchi Maya in the treatment of women's health complaints, and revealed significant in vitro activity that merits further investigation.

Additionally, this research focused on contributing to community well-being through local, grass-roots initiatives that included ethnobotany and sustainable agriculture classes to Q'eqchi children and farm workers, the installation of a botanic garden,

the distribution of booklets on healing practices mentioned by each curandero, and community meetings to present and discuss research results and applications.

The Julia Morton Award

The Julia Morton Award for the best posters, including poster presentation in 2006 were

"Ethnomedicine of the Kui," Arika Virapongse, Chayan Picheansoonthon, and Julraht Konsil

"Study on Wisdom of Traditional Healers Employing Sanding Medicine in Northeast Thailand," Surote Paengma, Chayan Picheansoonthon, Prathan Luecha, and Vichai Chokevivat

2006 Schultes Award Winner

The Schultes Award was created at the 2001 Council Meeting, to honor the late Richard E. Schultes. The award is to be presented annually to students or young professionals (five years or less post-doctoral experience) for conducting field research. The 2006 winner is Anthony Amend, University of Hawai'i at Manoa, "Harvesting Effects and Population Genetics of Tricholoma matsutake in Shangri-La, China."

(http://www.econbot.org/_about_/index.php?sm=06|awards_schultes/)

President Award 2006

This President's Award is bestowed by the Society upon an individual based on outstanding accomplishments pertinent to the goals of the Society. It is awarded to exceptional individuals who have demonstrated outstanding service. This year it was awarded to Daniel Austin for editorial contributions (Book Reviews) to the journal Economic Botany. Dan has done an incredible job in getting many books reviewed in a timely fashion, as well as leading the Klinger book award committee.



Field Trips at 2007 SEB Meeting

Continued from page 13

Evening Events: June 6 (Wednesday)

Blues Club Crawl: Chicago is famous for its blues clubs and this trip promises an experience you will not forget. The Windy City has been a hub of blues activity since WWII with musicians such as Howlin' Wolf, Muddy Waters, and Buddy Guy making their mark here. We will travel to Halstead Street and visit storied clubs such as Kingston Mines, B.L.U.E.S., and others. Trip departs at 7:30 PM from Lake Forest, costs \$16, and includes a guide and round trip transportation. Cover charges (\$5-15/club) and consumables not included. Don't miss this down home musical taste of Chicago!

Dates To Be Announced

1. Baseball

Chicago is a big baseball town with two major league teams, one a recent World Champion, the other not so recent, but they are trying. This trip will bring you to the excitement of either a Chicago White Sox or Chicago Cubs game (depending on the teams schedules which will not be announced until late November). If a Cubs game, we'll take the El to Wrigley Field. If a White Sox game, we'll take a van to Cellular Field. The price includes transportation and tickets. The likely date will be Wednesday June 6, but confirmation awaits the baseball schedule. Price: \$40

2. Ravinia Festival

Since 1904, Ravinia has been Chicago's "sound of summer," a place where you can meet up with your friends, have a wonderful time and hear some of the greatest music in the world. Over 100 years later, Ravinia Festival is the oldest outdoor music festival in North America and is lauded for presenting world-class music. The festival spans all genres from classical music to jazz to music theater over each three-month summer season. Over the years, the festival has hosted such luminaries as Louis Armstrong, The Ballet Russe, Luciano Berio, Leonard Bernstein, Lucrezia Bori, Dave Brubeck, Pablo Casals, Van Cliburn, Aaron Copland, Duke Ellington, Ella Fitzgerald, George Gershwin, Jose Greco, Jascha Heifetz, John Houseman, Janis Joplin, Yo-Yo Ma, Luciano Pavarotti, Itzhak Perlman, Oscar Peterson, Stephen Sondheim, Isaac Stern, and Frank Zappa.

There are two options for seating at Ravinia: The Pavilion is Ravinia's 3,200-seat open-air, covered Pavilion; The Lawn is Ravinia's expansive lawn offers an informal and comfortable place to picnic while enjoying Pavilion and Martin Theatre concerts. Dates and performers for the 2007 season have not been confirmed. A listing of all performances scheduled during the conference will be made available in your Registration packet. Cost Per Person: Lawn tickets are generally \$10-\$15. Pavilion tickets \$45-\$85. Transportation from Lake Forest College to/from the Lake Forest Metro train station is \$3/person (?) and a round trip ticket between Lake Forest and Ravinia is \$4.30.

SEB Members in the News

CIP Scientists Decorated on Peru's National Day of the Potato: Dr. Carlos Ochoa & Minister of Foreign Affairs of Peru, Dr. Oscar Maúrtua

Two researchers of the International Potato Center (CIP) in Lima, Peru were decorated with the Order of Merit of the Diplomatic Service of Peru José Gregorio Paz Soldán by the Minister of Foreign Affairs of Peru, Dr. Oscar Maúrtua De Romaña, on 30 May 2006 during the National Day of the Potato. Professor Carlos Ochoa Nieves and Dr. Alberto Salas López are both plants taxonomists who have devoted their lives to research on the potato in Peru.



"It turns out just as the ancient Peruvians adapted and developed this tuber in the Andean world, Peruvian scientists today are continuing with that same objective," said the Minister of Foreign Affairs in his address. "That is to say, they are developing varieties with higher yields and greater resistance to diseases or extreme environmental situations."

The decoration represents the recognition and the esteem of the Peruvian people for the significant contribution of both scientists to the knowledge, promotion, and study of the potato.

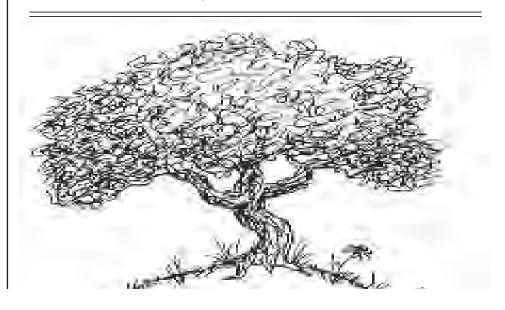
National Geographic's Emerging Explorer Award

Maria Fadiman, currently an Assistant Professor with Florida Atlantic University, has been named one of eight "Emerging Explorers" in the February issue of *National Geographic*. As part of the award, Fadiman will receive \$10,000 to be used toward her research. (http://www.nationalgeographic.com/emerging/mfadiman.html/)

George R. Cooley Award

Graduate student Danica Harbaugh receives prestigious George R. Cooley Award at Botany 2006 Graduate student Danica Harbaugh won the prestigious George R. Cooley Award at Botany 2006. The award is given for the best paper in systematics presented at the annual meeting of the American Society of Plant Taxonomists (ASPT) and Botanical Society of America (BSA), held this year in Chico, California.

The Cooley Award is open to graduate students and to PhDs who have completed their degrees within the past five years and whose papers are judged "substantially complete, synthetic, and original." Danica's paper and talk ["Unraveling the complex history of sandalwoods (*Santalum*, Santalaceae)"] were on her dissertation research on evolution and biogeography of the sandalwoods (*Santalum*) (http://ib.berkeley.edu/news/dept/).



Ethnobotanews

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instead spending their days standing around a dry-lot "loafing area" munching organic grain—grain that takes a toll on both the animals' health (these ruminants evolved to eat grass, after all) and the nutritional value of their milk. But this is the sort of milk (deficient in beta-carotene and the "good fats"—like omega 3's and C.L.A.—that come from grazing cows on grass) we're going to see a lot more of in the supermarket as long as Wal-Mart determines to keep organic milk cheap.

We're also going to see more organic milk—and organic foods of all kinds—coming from places like New Zealand. The globalization of organic food is already well under way: at Whole Foods you can buy organic asparagus flown in from Argentina, raspberries from Mexico, grass-fed meat from New Zealand. In an era of energy scarcity, the purchase of such products does little to advance the ideal of sustainability that once upon a time animated the organic movement. These foods may contain no pesticides, but they are drenched in petroleum even so.

Whether produced domestically or not, organic meat will increasingly come not from mixed, polyculture farms growing a variety of species (a practice that makes it possible to recycle nutrients between plants and animals) but from ever-bigger Confined Animal Feeding Operations, or CAFO's, which, apart from using organic feed and abjuring antibiotics, are little different from their conventional counterparts. Yes, the federal organic rules say the animals should have "access to the outdoors," but in practice this often means providing them with a tiny exercise yard or, in the case of one organic egg producer in New England, a screened-in concrete "porch"—a view of the outdoors. Herein lies one of the deeper paradoxes of practicing organic agriculture on an industrial scale: big, single-species CAFO's are even more precarious than their conventional cousins, since they can't use antibiotics to keep the thousands of animals living in close confinement indoors from becoming sick. So organic CAFO-hands (to call them farmhands seems overly generous) keep the free ranging to a minimum and then keep their fingers crossed.

Wal-Mart will buy its organic food from whichever producers can produce it most cheaply, and these will not be the sort of farmers you picture when you hear the word "organic." Big supermarkets want to do business only with big farmers growing lots of the same thing, not because big monoculture farms are any more efficient (they aren't) but because it's easier to buy all your carrots from a single megafarm than to contract with hundreds of smaller growers. The "transaction costs" are lower, even when the price and the quality are the same. This is just one of the many ways in which the logic of industrial capitalism and the logic of biology on a farm come into conflict. At least in the short run, the logic of capitalism usually prevails.

Wal-Mart's push into the organic market won't do much for small organic farmers; that seems plain enough. But it may also spell trouble for the big growers it will favor. Wal-Mart has a reputation for driving down prices by squeezing its suppliers, especially after those suppliers have invested heavily to boost production to feed the Wal-Mart maw. Having done that, the supplier will find itself at Wal-Mart's mercy when the company decides it no longer wants to pay a price that enables the farmer to make a living. When that happens, the notion of responsibly priced food will be sacrificed to the imperatives of survival, and the pressure to cut corners will become irresistible.

Up to now, the federal organic standards have provided a bulwark against that pressure. Yet, with the industrialization of organic, these rules are themselves coming under mounting pressure, and forgive my skepticism, but it's hard to believe that the lobbyists from Wal-Mart are going to play a constructive role in defending those standards from efforts to weaken them. Just this past year the Organic Trade Association used lobbyists who do work for Kraft Foods to move a bill through Congress that will make it easier to include synthetic ingredients in products labeled organic.

Organic is just a word, after all, and its definition now lies in the hands of the federal government, which means it is subject to all the usual political and economic forces at play in Washington. Inevitably, the drive to produce organic food cheaply will bring pressure to further weaken the regulations, and some of K Street's finest talent will soon be on the case. A few years ago a chicken producer in Georgia named Fieldale Farms persuaded its congressman to slip a helpful provision into an appropriations bill that would allow growers of organic chicken to substitute conventional chicken feed if the price of organic feed exceeded a certain level. That certainly makes life easier for a chicken producer when the price of organic corn is north of \$5 a bushel, as it is today, and conventional corn south of \$2. But in what sense is a chicken fed on conventional feed still organic? In no sense but the Orwellian one: because the government says it is.

After an outcry from consumers and some wiser heads in the organic industry, this new rule was repealed. The moral of the Fieldale story is that unless consumers and well-meaning organic producers remain vigilant and steadfast, the drive to make the price of organic foods competitive with that of conventional foods will hollow out the word and kill the organic goose, just when her golden eggs are luring so many big players into the water. Let's hope Wal-Mart recognizes that the extraordinary marketing magic of the word "organic"—a power that flows directly from our dissatisfaction with the very-cheap-food economy Wal-Mart has done so much to create—is a lot like the health of an organic chicken living in close confinement with

thousands of other chickens in an organic CAFO, munching organic corn: fragile.

Michael Pollan, a contributing writer for the magazine, is the author, most recently, of "The Omnivore's Dilemma: A Natural History of Four Meals." He also teaches journalism at the University of California at Berkeley.

Botanists fight to save rare, native plant

June 19, 2006

CALEB WARNOCK—Daily Herald Central Utah's Daily Newspaper

Life is hard on these slopes.

An hour from Provo in Spanish Fork Canyon, midway up a hillside so steep a rope is required to climb it, is a handful of some of the rarest plants in the world, called clay phacelia. Entirely composed of flaking Green River shale, the barren landscape is the only place the plants are known to grow. Only 40 plants have been found in surveys this year. That could soon change, thanks to the work of botanists at the Rocky Mountain Research Station Provo Shrub Lab on the Brigham Young University campus. Using part of an estimated \$25,000 federal grant, Susan Meyer of the U.S. Forest Service has managed to raise 54 clay phacelia from 600 seeds. In the canyon, an eight-foot fence, erected by The Nature Conservancy on 70 acres the group purchased to protect the plants, keeps out humans, and deer and elk, which are known to enjoy munching the phacelia. In a crevice here, amid a cascade of broken shale creeping ever downward, are the bright purple phacelia flowers. Little else lives here--a few bushes and a spiky green weed. On a recent visit, Denise Van Keuren, ecologist with Uinta National Forest, discovered two things: one large phacelia she photographed two weeks ago had somehow been smashed, perhaps by a sliding rock. And a new plant, the size of a quarter, had emerged from the talus, cause for celebration. "This one is new, that wasn't here before," Van Keuren says, beaming. Getting the seed needed to expand the population from Meyer's laboratory plants has been a challenge. The plants grew faster than anticipated and threatened to flower before insects were available to pollinate them naturally. "I managed to keep the plants cool enough to delay flowering until I could put them outside to get natural pollination," Meyer wrote in an email to Van Keuren recently. To the surprise of Meyer, regular honeybees ignored the plants. As it happened, Meyer cultivates a bee species at her home called blue orchard bees. "We decided to put (the plants) inside the enclosure with our blue orchard bee nest boxes," Meyer wrote. "It's working great. ... The blue bees are all over the phacelia all the time."

Fellowship

I realize that we are past the deadline, but I thought you all might want to know about this new Fellowship in the name Ebi Kimanani, wife of our Past President, Tim Johns.

Call for applications and nominations International Society of Ethnobiology Ebi Kimanani Fellowship Application Deadline: August 31, 2006

In 2005, we received the sad news that Ebi Kimanani, the wife of Tim Johns, Past President



Ebi Kalabi Kimanani Photo Credit: http://www.cbc.ca/ Society of Ethnobiology (ISE), had passed away. At the time of her death, Dr. Kimanani served as Director of Ebitendo Statistics, Inc., which

has offices

of the In-

ternational

in Canada and Kenya. Through Ebitendo, she was involved in capacity building for clinical research and in the establishment of clinical research infrastructure in East Africa.

After completing her undergraduate education and a Master of Sciences degree in Mathematics from the University of Nairobi, Kenya, Ebi Kimanani sought advanced training in statistics at the University of California at Berkeley, receiving a doctoral degree in statistics in 1989. It was during her graduate studies at the University of California that she met Timothy Johns, a graduate student in Anthropology. In 1990, she co-authored, with Tim Johns and J. O. Kokowaro, a paper entitled "Herbal Remedies of the Luo of Siaya District, Kenya: Establishing Quantitative Criteria for Consensus."

Ebi touched many people in various capacities and places. Her family received an outpouring of sympathy from their local community in Canada, friends and colleagues in Africa, and colleagues with whom she worked around the world. Ebi's life—and death—received attention in the press and the national media in Canada including CBC (http://www.cbc.ca/story/science/ national/2005/02/07/Kimanani-malaria050207. html/).

Ebi's major contributions are not simply connected to her disease-related work (HIV/AIDS and malaria), but perhaps more importantly, she was a model of inherent African strength in seeking African solutions for Africans' problems. In the African renaissance she was bridging the gap between the technological and economic resources needed from outside Africa, and the leadership, human resources, and self-confidence necessary from within. Fulfillment of her vision would be her proudest legacy and truest success.

The Board of the International Society of Ethnobiology has established a fellowship in Dr. Kimanani's name as a means to honor Dr. Kimanani and express our condolences to Tim and their three sons. The fellowship is to be awarded by Dr. Johns at the X International Congress of Ethnobiology (ICE) in Chiang Rai, Thailand, between 5-9 November 2006, to a young sub-Saharan African practitioner of ethnobiology or a closely related field, in recognition of their work towards African solutions for Africans' problems. The \$1700.00 USD fellowship award will pay the recipient's travel costs, to enable their attendance at the 10th ICE, and will cover their other conference-related costs to the extent possible. Criteria and application information follow.

Fellowship Criteria

The fellowship recipient should:

- 1) Be from sub-Saharan Africa and interested in participating in the upcoming ICE;
- 2) Be actively involved in ethnobiology or a closely related field;
- 3) Be engaged in scholarship, research, and/or activism that seeks African solutions to problems Africans face:
- 4) Express financial need in order to attend the

Preference is given to young participants who are active in the field.

Application Procedure

Candidates will be considered:

- 1) By nomination;
- 2) By application.

Applications should:

- 1) Include a CV with contact information;
- 2) Contain a cover letter (1-2 pp) stating the candidate's interests, connection to ethnobiology, and the nature of her or his proposed participation in the Congress;
- 3) Names and contact information for 3 refer-
- 4) Applications/nominations may be sent by email, fax, or post (confirmation of receipt will be sent by email only);
- 5) Preferably be in English or French;

6) Be sent to the ISE coordinator at the address provided below, to reach her not later than August

Nominations should:

- 1) Contain a letter (1-2 pp) stating the candidate's interests, connection to ethnobiology, the nature of her or his proposed participation in the Congress, and explaining the context in which the nominator knows the candidate;
- 2) Include full contact information for the nominator and the candidate, including email, if possible;
- 3) Preferably be in English or French;
- 4) Be sent to the ISE coordinator at the address provided below, to reach her not later than August 25, 2006.

Award procedure

The fellowship recipient:

- 1) Will be selected by a group of reviewers including: a) at least two members of the ISE board;
- b) the ISE coordinator;
- 2) May be interviewed by phone at the reviewers' discretion, during the selection process;
- 3) Will be notified by September 15, 2006; and
- 4) Should be prepared to submit an abstract for a presentation at the Congress. This presentation may have more than one author.

The fellowship funds may be used:

- 1) To cover the cost of travel to the 2006 ICE in Chiang Rai, Thailand;
- 2) For documented travel expenses, including incountry travel, Congress registration and housing costs, if funds are sufficient.

Payment

- 1) An air ticket will be issued once the successful applicant has accepted, and agreed to attend the
- 2) The ISE cannot commit to reimbursing expenses incurred above and beyond the total fellowship award amount;
- 3) If fellowship funds are sufficient, the fellowship recipient will receive a non-accountable per diem during their time at the Congress, and their other Congress fees will be covered.

Applications and nominations should be sent

Susannah McCandless,

Coordinator, isecoordinator@gmail.com International Society of Ethnobiology 14 School St.

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Bristol, VT 05443, USA Phone: +1 (802) 453-6996

Fax: +1 (802) 453-3420 (http://www.ethnobiology.net/)

Past President Interview

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I am not making predictions for the field since the one I made 10 years ago turned out to be wrong. I predicted 10 years ago that the number of members in the society would double. I do not understand why more botanists do not join the society. I feel that we have an interesting journal and botanists and non-specialists might find many articles enjoyable and perhaps sometimes relevant to their work.

What courses or experiences are most valuable for economic botany students?

In addition to botanists, we have agronomists, anthropologists, pharmacologists, people in industry, and others. Therefore, it seems it would be difficult to come up with general recommendations. Each sub-field should have recommended courses for their students. I have been out of contact with teaching for 20 years and have not tried to keep up with the courses. I would say that in my studies, I wish I had taken courses in anthropology/archaeology.

Many of the great crop researchers have retired. Can you suggest ways to bring crop research back to the society?

There have been not only retirements, but deaths as well. I am thinking specifically of Charles Rick and Jack Harlan. We now have considerable activity in crops and crop origins by molecular biologists and they are the ones making major contributions in the field; rarely is this research published in the journal Economic Botany. These researchers include Barbara Schaal and her students at Washington University who together are making significant contributions to the field. Loren Rieseberg, my former colleague now at University of British Columbia, and his students have shown convincingly that the sunflower was domesticated in what is now East-Central North America not in Mexico, which was recently proposed. The archaeologist Bruce Smith of the Smithsonian Institution in collaboration with molecular biologists has recently shown, among other things, that the bottle gourd first arrived to America from Asia, not from Africa as generally supposed. Many of these papers have appeared in the Proceedings of the National Academy of Sciences.

I will say that one thing I am most proud of is that four of my former graduate students have served as presidents of the Society of Economic Botany. They are (in alphabetical order): W. Gregory Anderson, Hardy Eshbaugh, Barbara Pickersgill, and Susan Verhoek.

Can you share your perspectives on how the current research environment has changed under new international and national intellectual property regulations?

I have been working with agronomists at research stations in Ecuador and that has been successful. But if one wants to go out into the field, there are a lot of restrictions. I used to be able to write to people in foreign countries and had pretty good

Classes

Anuncian la realización del CURSO DE POST-GRADO ETNOBO-TÁNICA SUDAMERICANA: ESTUDIOS DE CASOS Y APROXIMACIONES MET-ODOLÓGICAS ACTUALES

LUGAR: ESTACIÓN BIOLÓGICA MAR-CIO AYRES, RESERVA DE BIÓSFERA YABOTI,MISIONES, ARGENTINA FECHA: 11-18 DE OCTUBRE 2006 DIRIGIDO A:

El curso está dirigido a alumnos de postgrado y/o profesores Latinoamericanos que se encuentren realizando investigaciones de campo o en el momento de plantearlas. En particular, está abierto a candidatos interesados en aspectos del uso sostenible, la conservación y el trabajo en redes temáticas dentro de Latinoamérica. El costo de inscripción es de U\$D 400. Se ofrecen becas parciales y totales(incluyendo costos de traslados) para participar en el curso. Contará con un cupo de 15 estudiantes.

PROFESORES:

Ghillean Prance

Director de Proyecto Eden en Cornwall, Inglaterra, Profesor Visitante de la Universidad de Reading.

Christine Padoch

Curadora del Instituto de Botánica Económica del New York BotanicalGarden.

Pastor Arenas

Investigador CONICET, Argentina. Ana Ladio Investigadora CONICET, Argentina..

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luck with their sending me seeds. But now people think that the United States will take the seeds and make a lot of money off of them with no return to the country that provided the seeds.

Anything else you would like to add?

Well, I would like to go back to Ecuador one last time, but flying is so difficult these days—I am so tall and they keep putting the seats closer together.

Exhibits

On September 9, 2006, The Claude E. Phillips Herbarium (http://herbarium.desu.edu/) at Delaware State University in Dover, Delaware dedicated three new collections and highlighted three existing collections in a small symposium entitled "Beads N' Seeds":

- 1. The Ruth Smith Botanical Bead Collection of 411 pieces of botanical jewelry and related items; Kew has featured their acquisition of Ruth's botanical beads on-line, and at least two other web sites feature her collections. (http://www.rbgkew.org.uk/collections/ecbot/jewel.htm/), (http://www.herbcompanion.com/articles/12_01_06-Beads-Jan_HBC), and (http://www.botanicalbeads.com/);
- 2. The Randy Peiffer Xylarium of 163 woods;
- The Jane Funderburk Fibrarium of 340 plant, animal, synthetic, and mineral fibers, along with an associated collection of microscope slides and books:
- 4. Dried botanicals collection of 1,217 specimens;
- 5. Potpourri ingredients collection with 1,673 specimens; and
- 6. Fruits, cones, & seeds collection with 3,581 specimens.

In conjunction with this dedication, speakers included Ms. Cathy Yow on botanical jewelry, Dr. Faith Kuehn on insect jewelry, the quilt Jane Funderburk finished just before her death in 2005, along with workshops on botanical beads.

In order to provide labels for massive collections, several resources were constantly consulted, such as the GRIN, IPNI, ITIS web sites; these were indispensable:

(http://www.ars-grin.gov/cgi-bin/npgs/html/taxgenform.pl/), (http://www.ipni.org/index.html/), and (http://www.itis.usda.gov/).

Certain identifications proved difficult (but not impossible). For example, three bark papers in the Fibrarium made by the Otomi Indians in Mexico were finally identified as *Ficus padifolia, Morus celtidifolia,* and *Trema micrantha* on the basis of an excellent thesis "The Endurance of Mexican Amate Paper," by R. C. Lopez Linnquist from the University of Twente, The Netherlands (search from their web site at http://doc.utwente.nl/en/). Perhaps you have seen these bark papers in gift shops with Nahua paintings. These bark papers were also used in the Mexica (Aztec) codices, now sadly lost to history.

Arthur O. Tucker, Co-Director, DOV atucker@desu.edu

In Memorium

It is with a heavy heart that I include obituaries in the newsletter. However, I want to honor members and let you know of their passing. John Thieret's passing will be published in the Journal. Below is an edited version.

John W. Thieret 1926-2005; Professor Emeritus of Botany Northern Kentucky University.

Submitted by Lawrence Kaplan, Editor-in-Chief Emeritus, Economic Botany

Anyone who went into the field with John Thieret knew that they were in the presence of a man who loved plants, knew them all by name, and could tell fascinating stories about most. His contributions to the society through his work for the journal Economic Botany and the field of economic botany were outstanding: he was the longest serving book review editor (1959-1984) of our journal, served as editor-in-chief from 1985-1990, contributed about 20 entries under the heading of Utilization Abstracts, authored several articles, and was an associate editor in the production of the 2001 Index to Volumes 1-50. His article, "Economic Botany of the Cycads" (12:3-41, 1958) was, in my judgment, the best article to be published in Economic Botany during the first 50 years of its operation. In addition to many journal publications he was co-editor of a book on invasive species and was coauthor of three field manuals for use in the identification of North American trees. John was a participant in the Flora of North America project and, in that connection, was mentioned by Science as one of the stellar American botanists.

Elton G. Nelson 1910-2006

Born in Elgin, Oregon, his family lived on a stock ranch (homesteaded by his parents) 10 miles east of Durkee, Oregon. He went to a one-room grade school in the mountains, except for two years of grade school. He attended high school in Baker, Oregon. He earned his BS (1937) and MS (1946) at what is now Oregon State University and his PhD at the University of Minnesota in 1961.

In January 1937, five months before he received his BS degree he began his federal government career in research on fiber flax for the Agricultural Research Administration of the US Department of Agriculture and was stationed at the college in Corvallis, Oregon. He continued the flax work until June 1948, when he went on a special eight-month assignment with the US Department of State to study jute in India and Pakistan, and was stationed in Calcutta. He returned to the Agricultural Research Administration at Beltsville, MD. He left the fiber work in the USDA in 1960, when he was head of the agronomic research on long vegetable fiber crops and was recognized world-wide as an authority. From 1960 to 1963 he was with the Agency for International Development (AID) in Washington, DC, serving first as Agronomist and then as Assistant to the Science Advisor for Latin America. From 1963 until his retirement in 1970 he was Assistant Director of a division in the Office of Textiles in the Department of Commerce.

After his retirement he was a fibers consultant for the Cordage Institute for several years and a volunteer on the USDA fiber files. In early 1985, he became a volunteer with the Friends of the Kennedy Center at J.F. Kennedy Center for the Performing Arts. He especially enjoyed his work there and continued it until 2002.

A memorial service was held on September 27, 2006. The family requests donations be made to the Kennedy Center for the Performing Arts in Elton's name at P.O. Box 101510, Arlington VA, 22210.

Ethnobotanews

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Thanks to the bees, Meyer's plants have produced 1,000 seeds so far this year. "I'm estimating that we'll get somewhere around 15,000 to 20,000 seeds out of this," she wrote. If that estimate pans out, botanists will sow some of that seed directly onto the shale slopes this fall, hoping they sprout next spring, Van Keuren said. Laboratory seedlings could be planted next year. Clay phacelia was discovered by a man named Marcus E. Jones in Wasatch County in 1883 at Pleasant Valley Junction. Plants have never been found again in this location, but Jones did find a second group in Spanish Fork Canyon in 1894, Van Keuren said. The plant was forgotten for more than seven decades until it was rediscovered by BYU botanist N. Duane Atwood in 1971. Two years later Atwood realized the plant was a new species and on Sept. 28, 1978, the plant received protection under the Endangered Species Act because so few exist. Perhaps because they are biennials, populations of the plant fluctuate drastically and unpredictably, Van Keuren said. "In 2004 it was a very good year and we saw about 200 plants, 100 blooming and 100 seedlings," she said. "None of the seedlings made it through the winter." Compared to 200, 40 plants this year may sound dangerously small, but "there have been some years they have searched the entire plot and only come up with 10 plants," she said. The effort to save the plant "goes down to biological diversity and the value of retaining our natural heritage of species," Van Keuren said. "If we keep losing species, we simplify our natural ecosystem and make the ecosystem more susceptible to some kind of catastrophe. Granted, clay phacelia may seem a small part of the whole thing but if you start unraveling the ecosystem, you can lose it over time."

Films and Radio

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integrating human and environmental health? What can be done to transform those obstacles into opportunities?

We plan to broadcast an hour-long version through a PBS affiliate. It will also be shown in film festivals and distributed in North America and internationally for educational purposes. Currently we have raised \$30,000 from private donors and will require an additional \$96,000 for a broadcast version. The United Plant Savers is acting as our 501(c)(3) fiscal agent (non-profit) and can offer a tax-deduction for those making donations.

Does anyone have any thoughts about possible sources of funding. We are happy to send a longer treatment, a detailed budget, and our bios. We would also be interested in speaking with you in person about the project, if that would help.

We producing a trailer for the documentary to show around the region to raise funds and to generate discussion to draw on in producing the final documentary. Please let us know if you know of people/places for organizing those showings.

Ann Armbrecht, PhD & Terry Youk, co-producers





Balancing the Elements

A new documentary by a former ethnobotany graduate student from the University of Hawai'i at Manoa, Heather Harlow (heather@reddoorfilms.com) is almost ready for viewing: *Balancing the Elements: Tibetan Medicine in Exile.* To view a short clip and read more about this documentary-in-progress project, please visit the web site. (http://www.reddoorfilms.com/tibetanmovie/)

Radio Plant Detectives

This short informational radio show features Flora Delaterre, Plant Detective (http://www.floradelaterre.com/). It started at 5 minutes; then, to make the show available nationwide, we cut it down to 2 minutes, and more recently, to 1.5 minutes. We focus on one plant per show; e.g., tea, ephedra, kava, devils club, and hoodia. Visit our web site, to hear the audio archives. Flora Delaterre, Plant Detective, has strict concern for accuracy, but also a touch of humor. Flora calls up images of film noir gumshoes, but she's also a super plant nerd who knows and is passionate about medicinal plants. Her show is inspired by many professionals associated with MPWG who work with, study, care about, and fight for medicinal plants.

Films and Radio

The Nature of Plants

The Nature of Plants is the story of the medicinal plants that have been used for centuries in traditional herbal medicine and of ecological medicine, a model of healthcare based on the idea that humans are part of nature. The heart of this documentary is about the healing power of plants and, in turn, of the natural world. We focus on herbal medicine because it is a system of healing based on this premise.

Western civilization and, in turn, allopathic medicine is based on the belief that we are separate from nature. So much in our lives, from our clothes to our food to our medicine, has become a commodity and is highly processed and cut off from the environment that produced it. Our purpose in this documentary is to explore how this disconnection from the earth affects human and environmental health and to describe the healing that becomes possible by restoring our place in the wider web of life.

When I first began studying traditional herbalism with Rosemary Gladstar, a prominent American herbalist, I was struck by the con-

nections with the indigenous healers I had known while conducting anthropological fieldwork in the eastern Himalayas. Both traditions conceive of Earth as something sacred, an entity with which we enter into a relationship, not a collection of resources for our use. This relationship is the key to the quality and potency of the medicines herbalists make with plants.

The Nature of Plants brings together some of today's most innovative thinkers to explore how this relationship—with the sacred and with the world around us—is expressed in herbalism and, more generally, in ecological medicine. Interviewees include doctors Tieraona Lowdog and Larry Dossey, writer and activist Ken Ausubel, and herbalists Rosemary Gladstar, Stephen Buhner, Deb Soule, and Christopher Hobbs. We hope to interview Dr. Andrew Weil and cell biologist Bruce Lipton in 2006 as well. These individuals describe the importance of backyard medicine as a first line of defense; the power of whole plant medicine; the importance of common sense in healing; the role of ecological medicine in correcting the environmental destruction created by the medical industry;

the precautionary principle; the role of consciousness in healing; and, most generally, the healing power of nature. Their words are set against stunning footage of plants in gardens and in the wild, letting those plants speak for themselves and enabling the viewer to experience some of the healing described by those interviewed.

Our medical system and the earth are both in crisis. This documentary does not shy away from confronting either crisis, but ultimately our message is about the hope provided by a vision of healing that celebrates the health of our bodies and of the earth.

We are producing this documentary for wide distribution to raise questions and provoke conversation about alternatives in medicine and the relationship between our connections to the earth and healing. In terms of transforming healthcare, for example, how might the ideas presented in the documentary impact the design and use of healing gardens in hospitals? What are some of the specific ways clinicians might integrate ecological medicine into their learning and practices? What are the obstacles to moving toward

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