



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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Come to the 53rd Annual Meeting of the Society for Economic Botany

“Ethnobotany of Mountain Cultures”

June 3-7, 2012 ❁ Frostburg, Maryland

The 53rd Annual Society for Economic Botany Meeting will bring together scholars, researchers, educators, practitioners, activists, and students under the theme of “Ethnobotany of Mountain Cultures.” The conference will explore various mountain cultures including the medicine, food, and folklore of these cultures. The conference will be held in the Appalachia Mountains and highlight the diverse plants and diverse cultures of the region. The individual heritages of Appalachian people will be showcased with opportunities to discover diverse place-based foods, hear folklore, and display handcrafted wares. A main focus will be in describing the various groups of people in mountain regions including urban mountain people and others.

<http://www.frostburg.edu/aces/seb2012/>



About Frostburg:

Frostburg, Maryland is located in the Appalachian Highlands of the Alleghany Mountains. This small town of 7,500 residents is located on the eastern slope of Big Savage Mountain at close to 2,000 feet elevation. Frostburg is located near several state parks and state forests with ample outdoor recreation opportunities including camping, boating, swimming, biking and hiking. A good pair of hiking shoes is a must for visitors. Mean summer temperatures peak in June at 79° F (26° C). However, mountain nights can be fairly cold; so don't forget a light fleece.

Getting to Frostburg:



Frostburg State University will be providing affordable shuttles from the Pittsburgh International Airport Shuttle. Reservations are available

Sept. 15th. A shuttle from the Baltimore Airport (BWI) is available through bayrunnersshuttle.com.

Places to Stay: On-campus housing available in Cambridge Hall, housing reservation is available Sept. 15th; single and double-rooms available. Cambridge Hall features air-conditioned cluster-style rooms with semi-private baths and micro-fridges. Cambridge Hall is centrally located near meeting and performance facilities. We encourage you to stay on campus, as public transportation in Frostburg is very limited. Visitors with their own cars can stay in local hotels, cabins, and camping facilities.

Camping is available in neighboring Maryland State Parks, (Make reservations at dnr.state.md.us), 10 miles from New Germany, 14 miles from Rocky Gap, 27 miles from Deep Creek Lake, 29 miles from Swallow Falls, and 31 miles from Herrington Manor State Parks. Camping is also available in Frostburg at the Trail Inn, (trailinnatfrostburg.com). Hotels within 4

Plants & People

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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

This has been quite a difficult issue of the newsletter to edit as we have lost so many of our greatest heroes, mentors, members. With a heavy heart I mourn the passage of our elders and hope each one of you will take a moment to remember each of them. Pp. 3, 4, 5, 8, 9, & 18.

On a lighter note we had a most successful 2011 meeting in St Louis. There was so much to do that by midnight you fell into bed exhausted mentally and physically. Many of the symposia are highlighted here but none of the invited papers as there were just too many to cover. Reflections of the Schultes Symposium will be in the Spring 2012 issue when the proceedings are available. Pages 8, 9, 12, & 20.



Trish & Emanuel Moshi
before they summit Kilimanjaro

The positive news from the meeting about the Society is reported on this page.

Awards are also reported, as SEB is one of the few societies that honors its members with a multitude of awards during one's careers. Read and think about submitting your name for the next award. Pages 9 & 17.

Finally there is lots of information for the 2012 meeting at Frostburg, a truly American cultural adventure. Page 1.

Enjoy the fall and brave the winter, as we will greet you in the next issue in the Spring.

Trish Flaster

SEB Council Meeting

The Society Council held its annual meeting. I have little to report, not because the council has not been busy, but because there are no issues affecting our work and we are moving forward to streamline committees and programs already in place. If you want to get involved, please write a council member or me and volunteer for a committee; such as Education, Ethics, Publicity, and Programs; or assist judging papers and posters awards; and more. Students who want to get involved should contacting Katie or any Student committee members: Katie Kamelamela <kkamelam@hawaii.edu>, Jillian De Gezelle <jdegezelle@nybg.org>, Lisa Offringa <loffringa@nybg.org>, and Mayra Villar-Buzo <villarmayra@yahoo.com>.

The Society is in good financial shape, but members are always needed to maintain our level of awards and benefits. Invite someone to be a member or offer a gift membership to your foreign colleagues!

The *Journal* has its highest impact rating ever, and the 16 Associate Editors continue their fine work, including: Rick Stepp, Brad Bennett, Tamara Ticktin, Ulysses Albuquerque, Alexandra Vilela, Miguel Alexiades, Wendy Applequist, Mike Balick, Stephen Brush, Charles Clement, Oliver Coomes, Bryan Hanson, Victoria Reyes-Garcia, David Lentz, and Heather McKillop. At this time, there are no articles awaiting decision.

SEB President Rainer Bussman attended the <http://www.plants2010.org/>, which links SEB directly to the CBD Global Strategy for Plant Conservation; therefore, we now have a voice at the international level when it comes to the conservation of useful plants.

We are looking for hosts for the upcoming annual meetings; please consider if your university or institution can host an annual meeting in the future.

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SEB Council Meeting

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Kenya Chapter Progress

Submitted by Catherine Lukhoba



Accomplishments:

Meeting and official launch of Kenya Chapter on the 23 June 2011 at Chiromo campus, University of Nairobi. Newsletter

- Guest of honor—Prof L. Njenga.
- Director, Sch. of Bio. Sci.—Dr. E. Akunda
- Coordinator, SEB (K) Dr. C. Lukhoba
- Profs. Michieka & Kokwaro Profs. Newton & Mbugua
- Presenters: Prof J. Kokwaro Prof. L. Newton Ms. J. Omari
- Prof A. Yenesew Dr. I. Malombe Dr. J. Ogendo

Outcomes of the meeting

1. Two keynote speeches and five presentations giving the status of economic botany in Kenya
2. Formation of an interim leadership team composed of the following
 - i. President—Prof. Newton, Kenyatta University (KU)
 - ii. Secretary—Dr. Lukhoba, University of Nairobi (UON)
 - iii. Treasurer—Ms. Jane Omari- Kenya National council of science & technology- NCST)
 - iv. Committee member—Grace Ngugi- National museums of Kenya
 - v. Committee member—Prof Paul Mbugua- Kenyatta University (KU).

Planned accomplishments.

- a. Regional conference on East African plants of economic importance
- b. Involvement at grass-root/local community level
- c. Strategies to get more participation at the main SEB annual meeting in 2012 and subsequent meetings



In Memoriam—Norman R. Farnsworth, PhD

Renowned pharmacognosist and internationally respected medicinal plant research expert, Norman R. Farnsworth, PhD, died on September 10 at a Chicago hospital. He was 81.

Dr. Farnsworth was born in Massachusetts on March 23, 1930. Norman Farnsworth was a veteran of the Korean War, drafted into the U.S. Army at age 18 in 1949. PFC Farnsworth served in the Third Infantry Division, Seventh Regimental Combat Team. Although he was seriously wounded in the winter of 1950, Farnsworth survived. Corporal Farnsworth was awarded the Korean Ribbon with Four Battle Stars, the Combat Medical Badge, and Bronze Star with a “V” device.

He earned his degree in pharmacy from the Mass. College of Pharmacy in 1953 and his PhD in pharmacognosy, the study of drugs from natural origins (including medicinal plants, microbes, marine organisms, and fungi), from the Univ. of Pittsburgh in 1959. He helped to institute a pharmacognosy PhD program at Pitt and was the first chair.

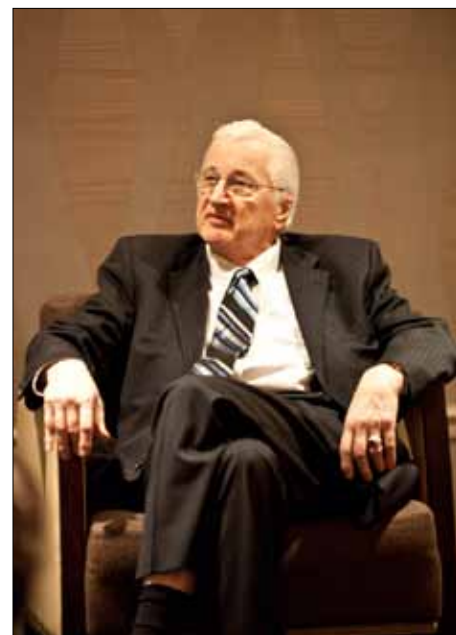
In 1970, Prof. Farnsworth left the University of Pittsburgh for a post in the College of Pharmacy at the University of Illinois at Chicago (UIC) where he served as Head of the Department of Pharmacognosy and Pharmacology from 1970-1982. At UIC, he was also Research Professor of Pharmacognosy, the Director of the Pharmacognosy Graduate Program, and Director of the World Health Organization Program for Collaborative Research in the Pharmaceutical Sciences—a multidisciplinary program that brought together, for the first time, scientists in numerous fields of medicinal plant research to collaborate on drug discovery from medicinal plants. In 1988, he was named Senior University Scholar at UIC. He held the title of Distinguished Professor of Pharmacognosy, which he received for his “scholarship, creativity, and leadership” from 2001 until his death.

As head of the pharmacognosy graduate program at UIC, he mentored more than 100 PhD and 30 MS students. He said he had “personally” mentored about 30 PhD and 5 MS graduate students as well as mentored or co-mentored 30 post-doctoral fellows.

Professor Farnsworth was an internationally recognized scholar and initiator or co-initiator of many significant projects in the fields of pharmacognosy and medicinal plant research. Among other accomplishments, he was a founding member of the American Society of Pharmacognosy (ASP) in 1959 and a founding member of the Society for Economic Botany (1959).

In 1975, Prof. Farnsworth created the NAPAlert (acronym for Natural Products Alert) Database at UIC, the world’s first computerized database of ethnobotany, chemistry, pharmacology, toxicology, and clinical trials on medicinal plants.

He also was the Principal Investigator and Director of the Botanical Dietary Supplements for Women’s Health Center at the University of Illinois at Chicago funded by the National Center for Complementary and Alternative Medicine at the National Institutes of Health.



The author or co-author of hundreds of research papers published in peer-reviewed journals, Prof. Farnsworth co-founded the peer-reviewed journal *Phytomedicine*, the *International Journal of Phytotherapy and Phytopharmacology*, along with Professor Hildebert Wagner, PhD, at the University of Munich, who remains the *Journal’s* editor-in-

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In Memoriam—Dr. Hugh Popenoe

A tribute written by Jay Bost to honor Dr. Popenoe as the recipient of the 2009 Heiser Mentor Award for SEB

Condensed and revised by Arika Virapongse, former student chair of SEB (2007-2009)

Dr. Hugh Popenoe was born in 1929 in Tela, Honduras to a lineage of economic botanists. His paternal grandfather was Frederick Popenoe, owner of West India Gardens in California that was credited with birthing the California date industry and introducing the Fuerte avocado. Hugh's father was Wilson Popenoe—a horticulturalist, plant explorer, and educator who founded the Jardín Botánica de Lancetilla and Zamarano. Hugh's mother was a scientific illustrator and specialist on African grasses and Mayan archaeology. Hugh Popenoe spent his formative years at Zamarano, where he met Archie Carr, a visiting zoologist from University of Florida (UF). Carr encouraged Hugh to enroll at the Univ. of California.

Graduating in 1951, Hugh worked briefly as a soil scientist in Thailand. Then, he entered UF where he carried out his doctoral work on the effects of shifting agricultural on soil properties in Guatemala. He collaborated closely with Harold Conklin, an anthropologist, 2005 DEB, who undoubtedly influenced Hugh. In his dissertation, Hugh emphasized the importance of milpa agriculture at a time when many other scholars dismissed it as primitive and wasteful. His respect of traditional land management forms inspired his commitment for using science as a tool to explore land management strategies within its ecological and social context. He believed in finding the “useful concepts” of traditional management forms, which should be applied toward developing more productive and sustainable agricultural systems to offset rising population pressures. It was this philosophy that has since informed his career as a researcher, author, editor, and teacher.

With his doctoral degree, Dr. Popenoe went directly into teaching and administration. Since 1960 he has held appointments at UF as professor in Soils, Botany, Agronomy, and Geography and a number of directorships, including for the Caribbean Research Program, Center for Tropical Agriculture, Center for

Aquatic Sciences, Sea Grant College Program, and International Programs in Agriculture. He was one of the founders of the Organization for Tropical Studies. In 1964, he received an award from UF for “Professor of the Year in Agriculture.” Since 1970, he served on the board of Zamarano in Honduras. He was a scientific liaison between USAID and the International Institute for Tropical Agriculture in Nigeria. He chaired the Joint Committee of Agricultural Research and Development of the Board of International Food and Development. He was chairman or committee member of 16 National Research Council publications, including *Lost Crops of the Inca*, *Little Known Asian Animals with a Promising Economic Future*, and *Making Aquatic Weeds Useful*. Dr. Popenoe also demonstrated a personal commitment to experimenting with alternative land management strategies. In the 1970s, he became one of the first to import water buffaloes from Thailand into the United States. He built a sizeable herd, and these buffalo later become the stock for the large dairy herds that are active in California and Vermont.

Through his work, Dr. Popenoe was in nearly every tropical country in the world. He took extensive photographs of ethnobotany in action, with an eye for, as he had once concluded in his dissertation, “to select the best aspects of present management practices for assimilation into more productive agricultural systems.” Through his photographic records of the world, which were added to photographs taken by his father, Dr. Popenoe offered an unparalleled historical exposure to world agriculture and land management systems in his courses of “Ethnobotany” and “Tropical Soil Management.” During his career he chaired or sat upon about 300 student committees. He advised the UF Ethnobotany Society, which began as the Ethnobotany Society in 1993 following a visit to UF by Dr. Richard Schultes. Dr. Popenoe was available in his office from 6:30am until 4pm, where he was willing to converse, exchange ideas, suggest literature, lend books, and recall contacts from around the world. Indeed, a reference from Dr. Popenoe is a powerful entrée for students.

I was fortunate to become Dr. Popenoe's graduate student in 2006. Little did I know

how rich and unconventional my graduate studies would be. As part of my research assistantship duties, I became president of the UF Ethnobotany Society and manager of its garden on campus, where we experimented with crops and alternative resource management techniques that we learned through Dr. Popenoe. We fertilized the garden with bat guano as people do in Vietnam, planted rice paddies like the Balinese, used *Leucaena* trimmings and water buffalo manure in our composts, and inoculated shitake mushroom logs. We have planted pigeon peas, winged beans, and large gourds at his urging, thus exposing ourselves to lesser known plants with great promise for sustainable agriculture. Every Friday we enjoyed water buffalo burgers that were donated by Dr. Popenoe. Ethnobotany Society members have also worked on his ranches to learn about water buffalo, pasture management, and old fiddle Belarusian tractors.

To me, Dr. Popenoe represents an old breed of economic botanists and ethnobotanists. One who was less concerned with methodologies, quantitative analysis, and refereed publications and more focused on discovering and promoting underutilized plants and management techniques. By keeping his hands in the soil and on plants and animals, he advocated practicality and was averse to profuse academic theorizing. His herd of water buffalo and his experimental horticultural plantings attest to this. Dr. Popenoe's long career—principally less as a researcher and more as a communicator, administrator, facilitator, and mentor—rendered him as an enormous asset to UF. Dr. Popenoe's work and dedication are all the more impressive and inspiring given his extreme modesty. His generosity was the most enriching part of my graduate student experience.



To Dr. Popenoe—A heartfelt thanks from all of your students and peers. You will be missed.

In Memoriam—Walton C. Galinat

SEB's 1994 DEB Walton C. Galinat

Growing up next door to maize geneticist Ralph Singleton, Walton C. Galinat was introduced to the maize plant at an early age. In high school he worked at the New Haven Connecticut Agricultural Experiment Station, a leading research facility in maize breeding and genetics. While working there he came under the influence of Dr. Donald F. Jones who discovered maize cytoplasmic male sterility. He continued as an assistant in the maize genetics program at the Experiment Station during his undergraduate studies at the Univ. of Connecticut. After service in the Coast Guard, he attended the Univ. of Wisconsin for graduate studies in agronomy, genetics, and botany. Upon completion of his PhD, he joined Dr. Paul C. Mangelsdorf at the Harvard's Bussey Institute in 1953 to work on the evolution and morphology of maize.

About the same time, archaeologist Richard S. "Scotty" MacNeish discovered in a cave in Tamaulipas, Mexico, ancient maize cobs, which he sent to Dr. Mangelsdorf. The 4,000-year-old specimens were the most primitive and oldest maize remains Mangelsdorf had seen. He invited MacNeish to Cambridge to discuss the tiny corncobs. At that fateful meeting with Mangelsdorf and Galinat, they concluded that well-preserved prehistoric vegetal remains were essential for understanding the origin and evolution of maize, and the best way to approach the question was to combine the skills of archaeologists with botanists. MacNeish found well-preserved maize remains in more Tamaulipas caves in 1954 and 1955, but upon their analysis, Mangelsdorf and Galinat concluded Tamaulipas was not the cradle of maize. So they launched the "great corn hunt" to find where and when maize originated. In 1960, they chose the Valley of Tehuacán in southern Puebla, Mexico for full-scale excavation. The Tehuacán Valley Archaeological-Botanical Project was a pioneering interdisciplinary collaboration sponsored by the Robert S. Peabody Museum of Archaeology that uncovered over 24,000 prehistoric specimens providing a continuous picture of maize evolution for 6,500 years. Galinat's famous illustration of reconstructed "wild maize" based on his



Scotty and Walt

analysis of the oldest remains dating to around 5,000 B.C. first appeared in *The Prehistory of the Tehuacán Valley Volume One: Environment and Subsistence* (1967).

In 1964, Galinat joined the faculty of the University of Massachusetts-Amherst and conducted research at the University's Waltham Experiment Station for the rest of his career. He studied maize evolution, with particular emphasis on the role of *Tripsacum* and the comparative cytogenetics of maize, teosinte, and *Tripsacum*. Numerous students, post docs and research associates assisted him over the years. Dr. Galinat identified the teosinte glume architecture gene (*tga1*) 25 years before it was characterized using molecular tools. His team conducted an intergenomic mapping project that revealed synteny between the chromosomes of maize, teosinte, and *Tripsacum* long before these approaches were popularized in molecular genetics. He was deeply concerned about the need to preserve the genetic diversity of maize and its relatives. He was a recognized maize breeder who did some of the early work on the sugary enhancer gene in sweet corn. Galinat was an accomplished artist whose drawings of the structure and anatomy of maize and its relatives illustrated his over 300 publications providing insights into maize anatomy and evolution under domestication.

I am deeply indebted to Dr. Galinat for encouraging my research on *Tripsacum* introgression in maize. I was about to give up the work begun at Indiana University when I went to visit him in 1997. I showed him

specimens of crosses between diploid perennial teosinte and *Tripsacum*. He recognized they were true hybrids based on their unique anatomical characteristics. He pulled out his drawings of the evolution of the maize cupule and explained how the cupulate structure of the teosinte-*Tripsacum* specimens provided a missing link in the evolution of the maize cob. A few years later, when I showed him specimens from a segregating *Tripsacum*-teosinte F2 population, he excitedly pulled out his famous drawing of "wild maize" and explained that the F2 recombinants revealed how primordial maize apparently arose through recombination between teosinte and *Tripsacum*. As a consultant on my research introgressing genes for resistance to corn rootworm (*Diabrotica virgifera*) from *Tripsacum* into maize, Dr. Galinat taught me a lot of what I know about corn breeding.

A lasting testimony to Walt Galinat's scientific insights and artistic ability can be found in the lobby of the National Academy of Sciences building in Washington, D.C. Among engravings illustrating important concepts and advances in science are three brass impressions of Galinat's drawings of the evolutionary stages of maize. For more details on his extraordinary life and career, see "The world surrounding Walton C. Galinat's research: personalities, students, history, and disputes. A tribute." by J. I. Cohen and W. F. Tracy in collaboration with T. A. Kato, *Maydica* 52 (2007).

Mary Eubanks <eubanks@mail.utexas.edu>
Brackenridge Field Laboratory, UT, Austin

SEB's Annual Meeting: 2012

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miles of campus include the Hampton Inn, Days Inn, and the Hotel Gunter. Upscale accommodations within 10 miles include Rocky Gap Lodge, (rockygapresort.com) and Savage River Lodge (savageriverlodge.com). Couch surfing meeting id: 120351.

Food: Celebrating Appalachian Food Traditions with Local Food: Soup beans & cornbread, collard greens & black-eyed peas, red beans & rice, stewed cabbage, goat cheese, Maryland crab cakes, country ham & sawmill gravy, BBQ pig roast, and more. Meals will be topped off with bread pudding with bourbon sauce & sweet potato pie. Pack your elastic waist shorts or your bike and hiking shoes.

Entertainment: We'll be kicking things off on Sunday, June 3rd with folktales from Sparky and Rhonda Rucker (sparkyandronda.com), winners of the 2011 Howard "Louie Bluie" Armstrong Legacy Award. Join us in dancing the night away at the Student Mixer with traditional bluegrass music by Rayna Gellert (raynagellert.com) and Jeff Keith! And even more to come!

Local Doings

Sun., June 3rd visit the *Farmer's Market*, brought to you by the Appalachian Center for Ethnobotanical Studies through Allegheny Mountain Naturally (amnaturally.com). Support Mountain Maryland Farmers & Craftspeople Monday-Thursday in the Newly Renovated Lane University Center and the Compton Science Center.

Mon., June 4th check out *An Appalachian Welcome*: Ginseng, Afolachians, Appalachian Place-Based foods, American Chestnut, Black Cohosh, Appalachian Forestry.



Sparky and Rhonda

Tues., June 5 you can learn about *Open Science Network in Ethnobiology*: Technology, Networking, and Peer-Review to improve our ethnobiology curriculum and develop accreditation.

Wed., June 6th we'll have *Mountain Cultures around the World*: Cretan Mountain Ethnobotany, Himalayan Ethnobotany, and more!

Thurs., June 7th will be a discussion about *Modern Mountain Cultural Identities*

Fieldtrips

Sunday: June 3rd

All-day 6:30am-5:30pm Est. Driving Time (1 way)

Jim Duke's Green Farmacy Garden	2.5 hours
(greenpharmacy.com)	
Falling Water (fallingwater.org)	1 hour
Cranesville Swamp & Cathedral State Park	1.5 hours
Indian Springs Old-Growth Forest	1.5 hours
Larenum Arboretum & Shale Barrens	1.5 hours



Half Day

6:30am-11:30am and/or 12pm-5:30pm

Est. Driving Time (1 way)

Harding's Ginseng Farm	30 min.
(hardingsginsengfarm.com)	
Finzel Swamp Nature Preserve	10 min.
Penn Alps Artisan Village	20 min.
(pennalps.com)	

Friday, June 8th-Sunday, June 10th

Potomac Highlands (Allegheny Plateau), West Virginia

Stay at Blackwater Falls State Park; visit Blackwater Falls, Dolly Sods, and the Canaan Valley. Led by West Virginia Native: Dr. Jim Howell

Laurel Highlands, Pennsylvania
Ohioyle, Falling Water, State Parks

Workshops: Continuing Education Credit Hours for Allied Health Professionals at Allegheny College of Maryland, Paper & Ink from Alien Weeds, Making Topical Salves, Homemade Herb Butter, Tree Felling Training, Cherokee Basketry, Natural Plant Dyes, Apple Cider, and Nut Grafting.

Frostburg Events and Information available at mdmountainside.com

Coming Soon: Registration, Fieldtrip details, and more. <http://www.frostburg.edu/aces/seb2012/>

Program supported by Frostburg State University and Allegheny College of Maryland

Interested in submitting a symposium, or other questions? Contact us at seb@frostburg.edu

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In Memoriam—Dr. Farnsworth

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chief. This journal is now acknowledged as one of the leading scientific journals in this field.

Among many other organizations and publications with which he was involved, Prof. Farnsworth was also a co-founder of the American Botanical Council (ABC), an independent nonprofit research and education organization, and the longest-serving member of its Board of Trustees.

In 2005, the ASP renamed its annual Research Achievement Award in honor of Prof. Farnsworth in his name, given to outstanding members of the medicinal plant research community. And, in 2005, ABC established its Norman R. Farnsworth Excellence in Botanical Research Award, given to medicinal plant researchers who have made significant contributions to the field of medicinal plants and herbal dietary supplements.

In 2010, UIC also established the Norman R. Farnsworth Professor in Pharmacognosy Endowed Professorship, which is chaired by Prof. Chuan-Tao Che, PhD, one of Prof. Farnsworth's former doctoral students.

Professor Farnsworth was the recipient of numerous awards from around the world, including the SEB's Distinguished Economic Botanist Award in 1983, as well as numerous other awards and honorary degrees.

In the 1990s, Prof. Farnsworth was a member of the Commission on Dietary Supplement Labels, a commission established by President Bill Clinton as part of the provisions of the Dietary Supplement Health and Education Act of 1994 (DSHEA) to develop recommendations for the review of the quality, safety, benefits, and appropriate labeling of dietary supplements.

A larger-than-life figure, Norm Farnsworth was rarely seen without his trademark Marsh-Wheeling cigars in his mouth, even long after he was forced to give up smoking. As venues allowing smoking in public places diminished over the past two decades, Prof. Farnsworth would often be seen in a restaurant or public area with one of his cigars in his mouth, even after being admonished by waiters who told him that smoking was not

permitted. Farnsworth would point out the obvious fact that he was not smoking, that the cigar was not lit, and would continue to keep the cigar in his mouth, seeming to relish the opportunity to keep walking up to the line, but not crossing it.

He was highly respected and admired in life and now remembered fondly by his former students, mentees, and friends. Often seen as brash and outspoken, frequently critical of other scientists and institutions that to him were guilty of producing less than acceptable work or policies, Norm pushed his students and all those around him to strive to the highest degree of academic and professional excellence. And underneath the brash veneer was a man who was seen by his colleagues and students as extraordinarily generous with his time and his personal funds.

His long-time friend and colleague of 56 years, UIC Professor (ret.) Harry H.S. Fong, PhD, said, "Everyone who has come into contact with Norman Farnsworth has a 'Farnsworth story' or two to tell." Prof. Fong recalled that Farnsworth, who was still working until shortly before his illness, recently noted that Fong, his former graduate student, had retired, as an example of how long Prof. Farnsworth had hoped to be able to continue his never-ending work in medicinal plant research.



Another phrase used to describe Dr. Farnsworth is the "quintessential renaissance man," as he was so-called in an editorial in the ASP's *Journal of Natural Products* by Farnsworth's colleagues Prof. Fong, Geoffrey A. Cordell, PhD, and A. Douglas Kinghorn, PhD, JNP's editor-in-chief: "To fully depict Farnsworth, one needs to write a book," said Dr. Fong.

Dr. Fong shared several anecdotes about Dr. Farnsworth. One story involved Dr. Farn-

sworth's propensity for cigars. "On every lab bench and in every office that Norm has spent any length of time at the University of Pittsburgh and at University of Illinois at Chicago, one will find a littering of chewed remains of Marsh-Wheeling cigar butts," said Dr. Fong. "In fact, such mementos can even be found in Munich, Germany. When he was a visiting professor in Prof. H. Wagner's lab in 1966, I had the 'pleasure' of regularly mailing boxes of Marsh Wheeling cigars labeled as 'Investigational Material: Of no commercial interest' to the Institute in Munich."

However, when it comes to picking out Dr. Farnsworth's most important accomplishment, Dr. Fong could not choose: "It is not possible to pinpoint any one piece of Norm's work as being most influential and important," said Dr. Fong. "Rather, it is his body of work that will constitute his legacy."

ABC Founder and Executive Director Mark Blumenthal, first met Farnsworth in 1977 at the Herb Trade Association's Herb Symposium in Santa Cruz, California. "Norm was a force of nature—a man with incredible energy and profound and endless commitment to the world of medicinal plant research. There is no one like him in the profession of pharmacognosy and other fields of medicinal plant research," said Blumenthal.

"He was like a father or uncle figure to many of his 130-plus PhD students and post-docs, creating a 'family' of medicinal plant researchers who are now working in many institutions around. No matter how busy he was—and he carried an incredible workload not matched by many in any field of medicinal plant science—Norm would always take time to talk to students and fellow colleagues," said Blumenthal.

One of Farnsworth and Fong's former students is Daniel Fabricant, PhD, Director of the Division of Dietary Supplement Programs at the U.S. Food and Drug Administration. He said that he chose UIC because of Dr. Farnsworth and his legacy there. "He's a straight

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In Memoriam—Donald Ugent

SEB Member, and past treasurer, Donald Ugent passes away 1933—2011

Donald Ugent, 78, botanist and professor emeritus at Southern Illinois University-Carbondale (SIU-C), died Friday, Sept. 2, 2011, in Carbondale. He was born Dec. 20, 1933, in Chicago, and grew up in Milwaukee, where he married Vivian Balkansky (UW-1962 BS Elementary Ed.) on July 15, 1962.



Prof. Ugent received his BS (1956), MS (1961), and PhD (1966) in botany, with a minor in genetics, from the Univ. of Wisconsin-Madison (UW). Ugent spent a year in Peru, Bolivia, and Ecuador, collecting potatoes and other plants, supported by a Nat'l Science Foundation grant obtained with his advisor and principal investigator Hugh Iltis, on the biosystematics and crop evolution of potatoes. A Rockefeller Foundation grant funded Ugent's PhD work in Mexico. He was also a post-doc at UW (1966-1967).

Professor Ugent was internationally known as an ethno- and economic botanist, taxonomist, geneticist, and authority on the origins of wild and cultivated potatoes. He collected more than 1,000 specimens, mostly flowering plants as well as ferns, mosses, lichens, and soil fungi, in South America, Mexico, the Virgin Islands, and the United States. Prof. Ugent's paper "The Potato," was a *Science* cover story (1970). He continued to publish papers prolifically throughout his life. Prof. Ugent was a founding member of the Tropical Studies Committee, of the American Universities for International Education (AUIE), serving as an administrator and instructor in courses held in Belize, until 1977. The Univ. of Chicago listed him in the Directory of Latin Americanists. He served as Treasurer of the SEB (1991-1997) and Editor of *Economic Botany* (1999-2004). He founded and edited the online journal *Ethnobotanical Leaflets* (1997-2010).

Ugent introduced over 60 wild species and 40 cultivated species into potato breeding programs in the United States. He translated

two works by Carlos Ochoa of Lima, on Peruvian and Bolivian potatoes, from Spanish into English. Peru and CONCYTEC (Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica) honored him in 2006 upon publication of *La Etnobotánica del Perú*, one of many projects of 50 years collaboration with Ochoa. As archaeobotanist for several sites in Peru, Ugent identified a 10,000-year-old potato, in one of his frequent collaborations with Sheila and Tom Pozorski, and he became the world's expert on identification of archeological coca.

During his career, Ugent described three species and a section new to science—*Epilobium* × *wisconsinense* (Onagraceae) Ugent, *Solanum ferreyrae* (Solanaceae) Ugent, *Solanum roei* (Solanaceae) Ugent & Iltis, and *Solanum* sect. *Regmandra* (Solanaceae) Ugent ex D'Arcy. Three plants bear his name: *Hippeastrum ugentii* (Amaryllidaceae) Ochoa; *Puya ugentiana* (Bromeliaceae) L.B.Sm.; and *Solanum ugentii* (Solanaceae) Hawkes & K.A.Okada.

As professor of botany at SIU-C (1968-2001), he was curator of the herbarium and Margaret Kaiser Memorial Library. Ugent had expanded the Southern Illinois Herbarium (SIU) holdings from 60,000 to over 300,000 specimens by 1993. At SIU-C Dr. Ugent also taught taxonomy, plant geography, and ethnobotany; was adjunct curator of botany at University Museum; active in the Center for Archeological Investigations; and a student advisor for International Programs. He served on committees in Botany (Plant Biology), Anthropology, Zoology, Plant and Soil Science, Geography, and Physiology, finishing 43 students. At the time of his passing, he was an outside reviewer for dissertations and promotions for Quaid-I-Azam University in Islamabad, Pakistan.

He was a loving husband to Vivian for 49 years, father of three, Risa (Gregory) Eaton of South Riding, Va., and Amy and Jonathan (Tamelia) Ugent of Carbondale, and grandfather to Nora, Maggie, and Sam Eaton. Cards or letters of condolence can be sent to the family home: Mrs. Vivian Ugent and family, 2004 Norwood Dr., Carbondale, IL 62901.

Charles B. Heiser, Jr. Symposium

2011 SEB Meeting Symposium Honored Charles B. Heiser, Jr.

Submitted by Gregory J. Anderson, Prof. Emeritus, Ecology and Evolutionary Biology, Univ. of Connecticut, Storrs
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At the recently completed combined meetings of the Botanical Society of America (BSA) and the SEB, there was a special session held in honor of Charles B. Heiser, Jr., and his work. A deliberate choice was made to have this session not be the traditional symposium with a few speakers. Instead, we decided that "Charley" would be particularly pleased to have a more open session. His rural southern Indiana agriculture-based foundation, seemed to predispose him to such an approach (and outfitted him with a little southern Indiana drawl) for the rest of his life. Thus, an invitation was put into the various calls-for-papers asking that anyone who wished to do so—former students, "grand-students," colleagues, those who knew Charley, or those who were influenced by his talks, papers or books—could present a talk. The format was very successful; some 21 talks were given. Each talk included at least some mention, and sometimes a longer description, of the way that the speaker had been influenced by Prof. Heiser and/or his work. The topics were as broad as the honoree's own work (from pollination to polyploidy, to plants, to people, and to processes of domestication); the full program is given on the BSA website at:

<http://2011.botanyconference.org/engine/search/index.php?func=program&society=41#results>

The presentations were very well attended (some with standing room only), and particularly distinguished by members of the Heiser family. The event also included a mid-session lunch at a nearby Indian restaurant with the kind of plant diversity (but especially Solanaceae) that Charley promoted. We regret that Charley could not be there to hear, directly, all the praise, good humor, and first-rate science that he espoused and promoted. He would also have liked to have the last word.

2011 Awards and Grants

R. E. Schultes

Submitted by *Eve Emshwiller*
<emshwiller@wisc.edu>

The following is the report submitted by *Walter Lewis*. Committee, *Richard Schultes Award Report: Walter H. Lewis (chair), Mary Eubanks, Maria Fadiman*

Twenty-one applications were received by the Committee for review and selection guided by the Evaluation Criteria established by the Society. Of these five were not ranked as they failed to qualify based on the Evaluation Criteria. Of the remaining applications, two received the highest score of 10 as being exceptional as agreed to by the Committee. Because of this equality, Dr. Eubanks checked with the SEB Treasurer and Manager to ascertain if finances were such that two Schultes Awards could be awarded this year to these two outstanding applicants. When this was approved, awardees for 2011 are: Sushma Shrestha, PhD Candidate, Miami University, Oxford, Ohio for "Global Localism at the Manasiu Conservation Area in the Eastern Himalayas, Nepal: Integrating Ecological and Ethnobotanical Knowledge about Forests for Biodiversity Conservation," and Paula N. Brown, PhD Candidate, University of British Columbia, Kelowna, British Columbia, Canada for "Kava (*Piper methysticum*), Traditional Crop in Modern Markets and the Future of Kava Production and Kava Products in the Pacific Basin."

Student Poster and Oral Presentation Awards at Botany 2011

This year, because we met together with the Botany 2011 meeting, our judging of student papers and posters was combined with that of the Economic Botany Section of the Botanical Society of America (BSA). We had two sets of judges. Each judging team judged for both SEB and the BSA Economic Botany Section awards: One set of judges for posters, and a second set of judges for oral presentations. Because these talks were all on economic botany/ethnobotany subjects, and some of the students are members of both societies, we report all the awards here.

Julia Morton Award for the Best Student Poster

Submitted by *Linda Lyon*
<l_lyon@umwestern.edu>

Amanda Vickers was awarded the 2011 Julia F. Morton Award for her poster titled "Chromatographic Quantification of Medicinal Compounds in Flowering and Non-Flowering Wild-Harvested *Actaea racemosa* L." Judges found her poster to be professional in terms of layout and design. The oral explanation that Amanda provided was insightful and organized in terms of the detail of the project.

Brian Walsh, PhD Candidate, Univ. of Wisconsin-Madison was awarded the 2011 Best Student Poster Award from the Economic Botany section of the BSA for his poster titled, "Phylogeny of American *Chenopodium* species with focus on origins of the domesticated taxa." His co-author is Eve Emshwiller. Brian's poster was a well-organized and attractive display of his research. The originality of Brian's research was superb given the complexity of the posed problem. A strong oral explanation of the research was also an integral part of the judges' decision. Thanks to the judges Nancy Ross, James Howell, and David Puthoff.

2011 Edmund H. Fulling Award and the BSA Award for Best Oral Presentation

Submitted by *Selena Ahmed*
<Selena.Ahmed@tufs.edu>

Janna Rose was granted the 2011 Edmund H. Fulling Award for Best Oral Paper by a junior professional for her comprehensive study, "Bacterial Inhibition and Cytotoxic Properties of Plants Used to Treat Diarrhea in Central Anatolian Villages." Janna's research was carried out at Florida International University and supervised by Professor Bradley Bennett. This paper was selected for its contribution to the field of economic botany, clarity of presentation, rigor in research design, novelty of findings and communication of relevance. Janna conducted extensive laboratory studies validating traditional plants used to treat a globally relevant health challenge. She delivered her presentation with professionalism and engagingness and her overall methods and demeanor showed respect for the rural communities where she worked in Central Anatolia.

In Memoriam—Paul A. Fryxell

SEB Past President 1988, Paul Arnold Fryxell, died in Claremont, California, 11 July 2011. He was born 2 Feb. 1927 in Moline, Illinois. After residing in Texas from 1965 to 2005, he and his wife moved to Claremont. He is survived by his wife of 63 years, Greta Albrecht Fryxell and their three children. There are five grandchildren, five great-grandchildren, and six nephews.

Dr. Fryxell received education at Augustana College in Rock Island, Illinois (1949); he earned MS and PhD degrees at Iowa State University. First employed by the NM Agricultural Experiment Station (Las Cruces NM), he then taught at the Univ. of Wichita (Kansas) in the Dept. of Botany and Bacteriology. Most of his professional career was spent as a research scientist with the Agricultural Research Service of the USDA, first in Tempe, Arizona and then at Texas A&M. Upon retirement in 1994 he moved to Austin. He was appointed Honorary Curator at the NYBG in 1993, and in the same year was Adjunct Professor (in the then Dept. of Botany) at the Univ. of Texas. Most of his extensive plant collections are now housed at the NYBG and the University of Texas.

In his professional career he specialized in the plant family Malvaceae and published widely in the technical scientific literature, including more than 200 papers in scientific journals, several books (notably *The Natural History of the Cotton Tribe*, the *Malvaceae of Mexico*, and a monograph on *Pavonia*), and contributions to numerous floristic works (e.g., the *Flora of the Lesser Antilles*, *Flora Meso-Americana*, *Flora Novo-Galiciana*, among others). He served as President of the American Society of Plant Taxonomists (1983-1984) and of the Society for Economic Botany (1988-1989). Named a Fellow of the American Association for the Advancement of Science and of the Texas Academy of Science, he was honored with the Cotton Genetics Research Award in 1967 and the Henry Allen Gleason Award in 1989. Paul Fryxell was a Fulbright Scholar in 1993, studying in Argentina. His biography is listed in *American Men and Women of Science*, *Who's Who in the World*, and several similar biographical references.

2011 Awards and Grants

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The award for the **Best Student Oral Presentation from the BSA** was awarded to Sophie Williams for her paper "Cultivation of Harvested Species as a Conservation Strategy." An innovative study. Sophie carried out her study through the Royal Botanical Gardens, Kew and Bangor University under the supervision of Colin Clubbe, Bangor University's James Gibbons and Julia Jones. This paper was selected for its methodological advancement to the field of economic botany, its strong theoretical foundation, the importance of its findings, and her compelling presentation. Sophie's research aimed to assess the impacts of a training program for farmers on xate cultivation techniques that was coordinated by Belize Botanic Garden. Her findings on farmer knowledge, perceptions, and identification of barriers to xate cultivation offer promising conservation application with relevance to other over-harvested wild plants. Thanks to judges Selena Ahmed, Sunshine Brosi, and Maria Fadiman.

Douglas Daly Receives the Charles B. Heiser, Jr., Mentor Award

Submitted by Jillian De Gezelle

<jdegezelle@nybg.org>

The SEB's 2011 Heiser Mentor Award was given to Dr. Douglas C. Daly, the B.A. Krukoff Curator of Amazonian Botany for the Institute of Systematic Botany at the NYBG. The Heiser Award was initiated in 2007 by the SEB Student Committee to recognize outstanding economic botanists who have substantially impacted the training and professional development of economic botany and ethnobotany students. Douglas was selected for this prestigious award by the Student Committee, based on the nomination letters submitted by his former students.

Dr. Daly specializes in the systematics of Burseraceae, floristics of Amazonia, and leaf architecture. His diverse research career has also included ethnobotanical studies and studies on non-timber forest products in Amazonia, as well as research in Madagascar, New Guinea, and Vietnam. He advises graduate and undergraduate students at CUNY, NYU, Yale, Cornell, Fordham, and Columbia, in addition to students from Brazil, Colombia, and Mexico. Douglas has organized the "Botanists' Tool Kit" discussion series and

the "Ethnobotany Journal Club" at NYBG, showing his dedication to furthering the training of students and other scholars.

Nominations for Douglas included a few different mentions of memorable experiences in his enchanting office amidst his books, specimens, maps, handicrafts, and large tropical plants, he serves the best coffee with soft Brazilian music on in the background, and share adventure stories, thoughtful discussion, and innovative ways to address any professional dilemmas a student could have. Douglas is an optimist, and his joy and enthusiasm for research, plant taxonomy, ecology and ethnobotany are infectious, as one of his former students rightly put it.

His integrated vision and way of working has been an inspiration to all those students' careers he has influenced. Douglas has been a model many aspiring botanists: He has the ability to move comfortably among systematics, floristics, economic botany, and conservation, and is motivated by a love for nature and a strong sense of social responsibility, as one former student noted. Dr. Daly is recognized for teaching his students how to be excellent botanists and serious scholars, as well as how to live a full life, how to be a good friend, and how to treat collaborators, students, and colleagues with respect, support, joy and warmth. Congratulations Douglas and thank you for your commitment to the education of aspiring botanists!

Education

I've learned some new stuff this past year: My students and I posted two YouTube channels with student-made movies, one on North American Indian Cultures (<http://www.youtube.com/user/2StudentWork>) and one on the Knowing Nature project (<http://www.youtube.com/user/2KnowNature>) in my Ethnoecology class. In the latter, watch especially "Just Beyond the Backyard."

Gail Wagner

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Lawrence Memorial—2012 Nominations

The Award Committee of the Lawrence Memorial Fund invites nominations for the 2012 Lawrence Memorial Award. Honoring the memory of Dr. George H. M. Lawrence, Founding Director of the Hunt Institute for Botanical Documentation. The annual Award of (\$2,000) is given to support travel for doctoral dissertation research in systematic botany or horticulture, or the history of the plant sciences, including literature and exploration.

Major professors are urged to nominate outstanding doctoral students who have achieved official candidacy for their degrees and will be conducting pertinent dissertation research that would benefit significantly from travel enabled by the Award. The Committee will not entertain direct applications. A student who wishes to be considered should arrange for nomination by his/her major professor; this may take the form of a letter, which covers supporting materials prepared by the nominee.

Supporting materials should describe briefly but clearly the candidate's program of research and how it would be significantly enhanced by travel that the Award would support. The Committee should receive letters of nomination and supporting materials, including seconding letters, no later than 1 May 2012

Contact: Lana M. Vernacchio

<lanamv@andrew.cmu.edu>

Sr. Administrative Assoc. & Business Manager
Hunt Institute for Botanical Documentation
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Nina Etkin Young Researcher Award of the Internat'l Society for Ethnopharmacology

This award, named after our 2009 DEB, Nina Etkin, grants \$5,000 for Ethnopharmacological Research. The purpose of the Etkin Award has two parts. One, it honors the memory of Nina Etkin and her work in ethnopharmacology. Two, it supports the work of graduate students doing fieldwork in ethnopharmacology. http://www.ethnopharmacology.org/ISE_etkin_award.html

Announcements

Scientists and the Communities in Which They Work

As a scientist, how do you define your community? How important is it to give back to your research community? What are the difficulties that you run into, and what are some innovative ways you've discovered to get around these difficulties? Cassandra Quave, PhD, Janna Rose, MA and PhD, and Gazi Islam, PhD, are conducting a survey to better learn about the relationships between scientists and the communities in which they work. They would greatly appreciate your participation in this quick, online questionnaire... Tell them what you think! Please follow this link to participate: <http://surveymonkey.com/s/ScientistsandCommunitiesSurvey>

Pass it on! Thank you!
Janna L. Rose, MA and PhD
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NTBG to Honor David J. Mabberley *Renowned botanist and author recognized for his contributions*

Kalāheo, Kauaʻi, HI USA (August 25, 2011)—The National Tropical Botanical Garden (NTBG) announced today that it will bestow one of its highest scientific honors to a British-Australian botanist, historian, educator, and author. Dr. David J. Mabberley has been named the 2011 recipient of the Robert Allerton Award for Excellence in Tropical Botany or Horticulture. A medal will be presented to Prof. Mabberley on September 18 in San Francisco during NTBG's Board of Trustees meetings.

The Allerton Award recognizes specific achievements or a lifetime of achievements in tropical plant science. "Professor Mabberley has made enormous contributions to science and education, and has reached plant lovers who wish to explore and better understand their world," said Chipper Wichman, NTBG's Director and CEO. "Through his published works and extraordinarily active career he has enriched the lives of countless people in so many countries, all the while protecting plant life far and wide."

Mabberley literally "wrote the book" on plants. His internationally acclaimed *Mabber-*

ley's Plant-Book: A Portable Dictionary of Plants, Their Classification and Uses is considered an indispensable reference guide to more than 24,000 entries. The book is widely popular with scientific and non-scientific readers. Well-known botanist and conservationist Dr. Peter Raven has said that he could think of no more useful reference in the whole field of botany. As an author, Prof. Mabberley's works are not restricted to academia and scientific communities, but often target general readers, an approach that reflects his recognition of the important role the public plays in effecting change in behavior and policy.

Over the course of his career, Mabberley has discovered, described, or named more than 200 taxa of plants. During this time, he has lectured around the world on taxonomic theory, biogeography, ecology, botanical art, plant history, plant disease, agriculture, forestry, the role of botanic gardens in society, and various other aspects of biology and horticulture. The professor has written extensively on plant-related topics within scientific and environmental fields for both popular and peer-reviewed journals as well as print, web, television, and radio media.

The Robert Allerton Award is named after one of NTBG's founding trustees and its principal initial benefactor, and consists of a bronze medal and honorarium. Prof. Mabberley will be the 20th recipient, joining the ranks of other esteemed scientists, such as Sir Ghillelan Prance and Dr. Alwyn Gentry.



Prof. Mabberley, upon hearing he had been selected to receive the Allerton Award, responded, "Having visited NTBG and seen the great Allerton legacy, I am thrilled to be honored in this way, doubly so because the inspiration for my whole career in tropical botany was Prof. E.J.H. Corner, my doctoral advisor, who himself received the award in 1981."

"We are pleased to pay tribute to a botanist as accomplished and respected as Prof. Mab-

berley," Wichman remarked. "His Plant-Book in itself merits special recognition. Looking at his body of work as a whole, there is no one more deserving of this distinction."

The NTBG is a not-for-profit, non-governmental institution with nearly 2,000 acres of gardens and preserves in Hawai'i and Florida. Its mission is to enrich life through discovery, scientific research, conservation, and education by perpetuating the survival of plants, ecosystems, and cultural knowledge of tropical regions. NTBG is supported primarily through donations and grants.

Contact Info: Janet L. Leopold, <administration@ntbg.org>; (808) 332-7324, ext. 213.

JSTOR Digitizes

As part of the Global Plants Initiative (GPI), a collaboration of more than 200 of the leading botanical organizations worldwide and funded by the Andrew W. Mellon Foundation, type specimens are digitized. The project started in 2003 as the African Plants Initiative and expanded to Latin America in 2008. Now it is global (meaning both partners and types from anywhere in the world can join) and already has close to 1 million type specimen images. The main goal of the project has always been to preserve and provide access to types scattered across the globe in various museums and herbaria. These are all made available on JSTOR Plant Science at <http://plants.jstor.org>.

JSTOR Plant Science has already led to the description of several new plant types and stimulated related scientific scholarship, as well as reduced costs for botanical organizations to pursue their scientific mission of identifying and classifying the world's biodiversity. This is the primary service this resource offers to the larger scientific community. The content at <http://plants.jstor.org> is freely accessible to all JSTOR participants and GPI partners until 2012, so take a look.

If you are interested in joining the project or have any questions contact the staff at <plants@jstor.org>.



Reflections on the 2011 Meeting

Al Keali'i Chock <alchock@hawaii.edu>

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One of the highlights of the combined Botany 2011 meetings were the varied workshops, activities, and sessions we would not have had the opportunity to attend and participate in, if it had just been an SEB meeting. This conference allowed us to learn about things outside of our normal sphere of activity. We were also able to meet, network, and revisit with colleagues in the different plant science disciplines. However, how many botany departments are there still left in the institutions of higher learning? With so many people in attendance, I didn't meet up with a particular colleague until we both happened to be in the same departure wing of Lambert Airport!

It was a real challenge for decision-making, since often there were two or three topics of interest, all scheduled at the same time. This was a great dilemma because there are so many different things to do and hear—and so little time to do all of them. There were only so many hours in the day, and sometimes that bed was too inviting! All in all, it was a great convention, and the meetings presented a plethora of opportunities for expanding one's horizons. The plenary lecture, "Saving Plants, Saving Ourselves," presented by Dr. Peter H. Raven, was outstanding and inspiring, and pointed out the need to do more work in the plant sciences. The Botany 2011 Program Committee deserves a big hurrah of thanks for the hard work and time they spent in organizing the symposia, sessions, workshops, field trips, exhibits, activities, and social events. The meeting's publications, *Scientific Program*, and *Abstracts*, were outstanding! The little stick-on tags (e.g., Bored Member, Insignificant Other, etc.) to attach to the registration badge, lightened the mood of the attendees!



Open Science Network

2011 Botanical Society of America & Society for Economic Botany Meetings Open Science Network Colloquium

Sharing Our Ethnobotany Curriculum: The Open Science Approach

The Open Science Network in Ethnobiology held its 3rd annual meeting on Saturday, July 9 at the Missouri Botanical Garden (MBG) with 37 in attendance. The purpose of the annual meeting is to bring existing members together to further the development of the project and engage new early career professionals, students, and faculty members {educators} as active participants. The agenda opened with an ethnobotanical exercise in the Garden led by Karen Walker, ethnobotanist with the William L. Brown Center at the Missouri Botanic Garden, and an introduction to research in Madagascar by MBG's research team. Kim Bridges gave a review of the new, improved web portal for curriculum exchange and the need for OSN member participation in peer review of curriculum submitted to the site. Keri Barfield led the group in developing a strategy to expand the network by engaging all U.S. institutions offering ethnobiology courses. OSN members Gail Wagner and Karen Hall led a workshop on digital storytelling, while Will McClatchey led a concurrent working group through an exercise to lay the foundation for the development of standards in ethnobotany education.

In addition to the annual meeting, the Open Science Network organized a colloquium of leaders in the field of ethnobiology education as part of the BSA/SEB meeting.

The colloquium brought together pioneers in the field of ethnobotany with early career professionals to reflect on the evolution of ethnobotany education and to model innovative teaching methods and curricula.

Keynote speaker Dr. Anthony Depass, Long Island University, and co-author of the AAAS "Vision and Change in Undergraduate Biology Education: A Call to Action" report, opened the colloquium with a look at a paradigm shift in undergraduate biology education for the 21st century. As the pace of technological advancement and scientific

discovery increases exponentially, the sheer amount of teachable information has redefined the learning environment. The "Call to Action" makes the case for an inquiry approach to learning and a focus on core concepts and competencies, producing students equipped with skills to use technology to access content that will bring them to the desired level of understanding. The concern is that disparate access to technology may widen gaps in achievement measured by outcomes linked to the newer approaches. His conclusion affirmed the role of initiatives such as the Open Science Network in creating better access and dissemination of technology-driven, standards-based curriculum content and therefore providing more effective ways to teach and learn.

Will McClatchey, Botanical Research Institute of Texas, created the first university undergraduate degree in Ethnobotany at the University of Hawai'i, Manoa. His talk highlighted lessons learned from teaching medical ethnobotany courses for undergraduates at three universities and how the influence of the paradigm shift in undergraduate biology education described by Dr. Depass in the "Vision and Change" study transformed his methodology. His transition in instructional methods and assessments to problem-based learning (PBL) set a new standard for ethnobotany courses, requiring students to develop practical scientific work skills beyond knowledge of medical ethnobotany. According to Dr. McClatchey, it is critical for new teaching methods, such as problem-based learning, to be implemented in order to prepare students to "work with information in ways that they will encounter it within the real world."

Walter Lewis, one of the pioneers in the field of ethnobotany teaching, reflected how an ethnobotanical/medicinal course evolved 40 years ago at Washington University from a mini-course to an upper level undergraduate/graduate course with the largest enrollment in the department. The course was enhanced by one of the first text books, *Medical Botany, Plants Affecting Man's Health*, combined with field work in the Amazon basin in Peru, setting a standard for coursework and curriculum

Open Science Network

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in the field. Dr. Lewis recalled how his last lecture class delivered at Washington University shocked his students and shook their notion of their scholarly mentor. Colloquium participants applauded Drs. Walter and Memory Lewis for their lifes' work in laying the foundation for the field of ethnobiology education.

A series of seasoned ethnobiology educators and early career professionals followed Dr. Lewis to illustrate the evolving field of ethnobiology education. Each demonstrated the value of the Open Science Network as a tool for building their ethnobiology curriculum. In her presentation, "Curriculum Peer-Review and Inter-Institutional Collaboration Assisted by the Open Science Network in Ethnobiology," Sunshine Brosi, Frostburg State University, made the case



**Walter Lewis,
one of our
dearest Mentors.**

for online resources that link ethnobotany educators from institutions across the globe in a way that makes it possible to share curriculum development, evaluation, and advancement in the field. Dr. Brosi leads one of the only two undergraduate degree programs in ethnobotany and understands why ethnobotanists often feel geographically isolated from their colleagues and find it difficult to access curriculum to build their courses. Dr. Brosi gave an example of ways her students have benefited from shared online modules from the University of Hawai'i that incorporated knowledge from diverse backgrounds and expertise. Sharing syllabi and specific assignments resulted in work with Hollins University in Virginia where students completed a more comprehensive database for plants in Appalachian region. She advocated for the "Open Science" approach that fosters peer review of course materials and instructions methods, and believes that the field of ethnobotany will benefit as shared modules emerge from across the globe with "regional distinctions and global connections."

Ryan Huish, Hollins University, described the value of the Open Science Network in building curriculum and resources for ethnobiology field research education. Due to the specialized information students need to acquire research and specimen permits, institutional review board proposals, intellectual property rights, and more, rigorous curriculum and training materials are essential. He believes the Open Science Network platform facilitates resource pooling, and the inclusion of student feedback further promotes the continued updating and accuracy of those resources, thereby improving the evolving discipline of ethnobiology.

A key initiative of the Open Science Network is to promote creative use of technology in ethnobiology curriculum to enhance student learning. Karen Hall, Clemson University, described the power of traditional storytelling as a means of sharing human culture and the value of digital storytelling. She demonstrated how her students capture and create stories of their own through digital media, which is now possible due to less expensive equipment, new software and publicly accessible websites. The stories they capture not only connect her students to traditional knowledge but become a record that is accessible through open resources shared through the Open Science Network.

As a leading ethnobotany educator practicing in the United Kingdom, Sofia Vougioukalou, University of Kent and Canterbury Christ Church University, advocated for the use of open-access online ethnobiological resources in providing information for businesses and community sector organizations that "can transcend the margins of social and natural sciences and demonstrate its relevance and value in providing solutions to contemporary issues of social and environmental importance." She described ways that two higher education institutions in the United Kingdom successfully met the challenge of working across institutional borders through knowledge exchange partnerships that enabled innovations to be co-developed among universities and external partners, increased student employability, and secured new funding streams. This involved the development of an adult education ethnobiology curriculum undertaken by health professionals,

lawyers, and school teachers; an undergraduate educational resource incorporating new technologies and materials developed by the University of Hawai'i at Manoa and the Open Science Network; a consultancy for horticultural therapy charities and community gardening groups; and the formation of a regional Environment and Health Forum in collaboration with Canterbury City Council and the Canterbury District Community Alliance that brings together academics, public sector officials, businesses, and charities. Her persuasive argument centered around the concept that universities must move past the idea that all knowledge resides within their walls and begin to facilitate open innovations that invite "two-way engagement, which can improve both the relevance and the impact of university knowledge and expertise."

From a cultural perspective on the field of ethnobiology education, Valerie Pretty Paint Small, Little Big Horn College, described why Native Americans should "be in the driver's seat" on research agendas on Native American reservations. She stated that tribal colleges lead the way in preserving local cultural values and native languages through science and technology curriculum, yet federal funding to conduct research often leads to information with no real-world benefit to the community researchers study or requires tribal college students to leave their reservations to study elsewhere. She made the point that universities can help provide resources to fund native student research, but that tribal colleges should be able to control the research process based on the needs of the communities they serve.

The Open Science Network for Ethnobiology (OSN) is a collaborative network open to educators and students interested in the exchange of innovative curricula and educational resources that advance the field of ethnobiology. Funded by the National Science Foundation (NSF), the OSN uses open technology to facilitate the exchange of educational techniques, materials, and experiences to build the field of ethnobiology education. The network welcomes new members and invites anyone interested to visit <http://www.opensciencenetwork.net> and get involved.

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Interview with 2012 DEB Doel Soejarto, PhD

Submitted by Lisa Offringa <LOffringa@gc.cuny.edu>

What was your inspiration for studying botany? What excites you about the field of medicinal plants?

My father was the head of a village in Central Java. He owned land planted with rice. When I was in grade school, I used to go to the rice fields to do some weeding and harvesting. When I graduated from high school in 1959 in East Java (Indonesia), I wanted to continue my study into agricultural sciences. I studied at the School of Biology of the Department of Agriculture in Tjiawi, West Java. One of the courses we had to take was plant taxonomy taught by a famous Dutch-Indonesian botanist, the late Professor A. Kostermans. When the time came to select an area of specialization, I selected botany as my area of concentration for the remaining period of my study toward graduation. At that time, it was my conviction that through plant taxonomy, I would have a broad area of research to which I could contribute as a scientist; in particular, in the discovery of new plants that may have useful properties through field explorations, including those that may be important to agriculture. Thus, in answer to your question on "inspiration," plants themselves have been my inspiration for studying botany.

The study of medicinal plants did not come until much later on, when I was studying at Harvard University under the guidance of the late Prof. Schultes. I started to explore plant diversity and to collect plants as potential source of medicines. The excitement was certainly in the possibility that new medicines may be discovered to alleviate human suffering.

Were there significant events in your life that shaped your education and career? Who are the people who inspired you in your career?

Indeed, several events have influenced and shaped my education and the direction of my academic and professional career.

The first event was that meeting with Prof. Kostermans, who shaped my career to become a botanist. In my case, aside from teaching me botany, with plant taxonomy as a focus of my BSc thesis, Prof. Kostermans helped me to get a fellowship to study botany at Harvard University.

Meeting with Prof. Schultes at Harvard in 1963 was the second event that shaped my career. He strengthened my interest in the study of botany, by giving me an opportunity to continue the field of expertise I was trained for by Prof. Kostermans, while enriching it with the explorations of plants with potential as a source of new medicines.

The third event was a 1975 meeting at the New York headquarters of the Rockefeller Foundation with the late Norman R. Farnsworth, a Distinguished University Scholar and Professor at the Univ. of Illinois at Chicago, a renowned pharmacognosist, and a natural product chemist as well as a DEB (1983). In 1979, I joined the Dept. of Pharmacognosy and Pharmacology of the College of Pharmacy at UIC, of which Prof. Farnsworth was the Director. Under his mentorship, I developed my expertise in medicinal plants and pharmacognosy.

What were some of the more difficult experiences you have had as a researcher and how did you resolve them? What was your most interesting discovery?

There were several such experiences. I will give four examples. I consider that my assignment to revise the genus *Saurauia* (Actinidiaceae) of South America as my PhD dissertation at Harvard was the first really difficult experience. I resolved the problem by working hard and conscientiously, both in the field (South America) and back in the laboratories at Harvard, and by seeking the guidance of my academic adviser and other professors. Persistence led to the completion of that dissertation. I discovered several new species of *Saurauia* as part of the doctoral dissertation.

A second difficult experience was my assignment in 1969 as a Latin American Teaching Fellow, a Fellowship Program based at the School of Law and Diplomacy, Tufts Univ., Boston. As a Latin American Teaching Fellow, I was sent to the Univ. of Antioquia, Medellin, Colombia, to develop a botanical teaching and research program in the Biology Dept. For the first several months, it was a truly difficult experience because the teaching and research facilities were minimal. To solve this problem, I requested much needed equipment and supplies, which was

granted. With the University's support, I established an herbarium to support both botany teaching and research. Herbarium cases and a drier were constructed, and the Herbarium, now recognized as HUA, came into being in Oct. 1969. This Herbarium (presently with 180,000 specimens collection holding, second largest in Colombia) is now the platform for botany teaching and research at this institution.

The third experience was when the World Health Organization (WHO) delegated me to determine the taxonomic identity of a Paraguayan plant, for a project (Asuncion-based) supported by the WHO-Geneva. It was claimed that this plant had an anti-fertility effect in women who drank preparations of this plant. As a consultant of WHO at the time, and fluent in Spanish, I traveled to Asuncion and interviewed folks in the suburban areas of Asuncion, and visited market places, posing myself as a husband, whose wife already borne five children, and that we were at a point not to be able to afford the sixth. I was able to purchase a series of herbarium specimens used for the intended purpose, and was able to determine the taxonomic identity of the species in question unambiguously, and submitted a thorough report to WHO.

The fourth experience was when the National Cancer Institute (NCI) asked me, as part of a plant collection contract in Southeast Asia, to recollect a plant sample (*Calophyllum lanigerum* var. *austrororiaceum*) because the extract of that plant had shown very good anti-HIV activity and that the responsible compound (calanolide A) had been isolated. Thus, a larger amount of the compound was needed for follow-up studies. As the Principal Investigator of the NCI contract, I traveled to the location of the active plant in Sarawak, Malaysia. When I discovered that the original plant had been cut down in between the time of its original collection and my visit. I undertook a survey by collecting as many *Calophyllum* species found in the area, including the sampling of latex that exudes when the trunk bark was cut. As a result, one species (*C. teysmannii* var. *ino-phyllode*) was discovered to contain a second

Interview with 2012 DEB Doel Soejarto, PhD

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active compound (costatolide). Further field studies and collection of this plant led to the discovery of the sustainable method to harvest the costatolide-containing latex. Costatolide occurs in an unusually great abundance in the latex, up to 66% of the extractive.

As to discovery, I consider that my most interesting discovery has been the discovery of the anti-HIV calanolides, as part of a joint effort with chemists and biochemists at the U.S. NCI, and also the discovery of the method to sustainably harvest the latex from *C. teysmannii* var. *inophylloide*.

As a teacher, mentor, and advisor, what are the important principles you want to impart to your students?

The principles I adhere to are work hard, discipline yourself, prioritize, be persistent, don't wait to the last minute, and collaborate.

What tools or technologies, both classic and modern, do you find most useful in your studies?

The loupe, field binoculars, the hand-held GPS, a camera, a typewriter, a microscope, the telephone, and the computer are most useful technologies. They enrich my technical and scientific abilities and increase the efficiency of my work and research.

Do you consider a floristic search for new biologically active compounds a means to conserve plant diversity and the environment? How would you present your perspective to a land development company?

Yes, floristic or plant biodiversity search maximizes the pool of chemical diversity, hence increasing the chances of hitting the sought-after bioactive chemical compounds. Once it is known that a tract of forested land harbors species with potent bioactive compounds, a case may be made that such a tract of land, and the active species, should be protected since they serve as a source of gene pool and genetic diversity, hence source materials for product development and agronomic improvements. To land developers, one can argue that protecting the land and its biodiversity provides more benefits—in the short and long run—than converting the land by extinguishing the genetic diversity,

especially species of great potential economic value that have been formed through million years of evolution.

My experience shows that the discovery of the calanolides triggered the government of Sarawak to take action to protect the plant species that produce them (*Calophyllum lanigerum* var. *austrororiaceum* and *C. teysmannii* var. *inophylloide*), and beyond, in enacting the law that regulates bioprospecting in the country and in the conservation of the biodiversity of Sarawak through the establishment of "Sarawak Biodiversity Center."

There is less of a focus on the discovery of natural compounds for the development of pharmaceuticals. What is your opinion on this trend?

The interest of pharmaceutical companies in the development of drugs based on natural compounds has been up and down. The discovery of a natural compound that made it into the so-called "blockbuster" drugs, such as taxol, would normally awaken the pharmaceutical companies to go to natural products. However, when there are no significant new discoveries in a particular spurt of time, their interest goes down, and back to the laboratory synthetics, combinatorial chemistry, and other methods. During the past 10 years, their interest has been waning, despite the discovery and approval of many natural products as drugs.

Some of the reasons are, perhaps, the reality that drug companies continue to hold; namely, that investment in natural product drug discovery and development is risky, such as the tedious process of chemical isolation, compound variability, uncertainty of source materials, changing political scene in the source country, and issues related to intellectual property on the source materials or on the medicinal knowledge.

However, natural product scientists continue to explore and carry out research on biodiversity worldwide. New discoveries continue to be made from natural sources; in particular, marine and microbial sources. These will eventually persuade companies to invest significantly to advance these discoveries into pharmaceutical products.

What have you learned from studying the medical ethnobotany of indigenous cultures in Southeast Asia? In what way(s) do you think western cultures could learn from them?

The most important lesson is that we have to have faith in the knowledge of healers who routinely treat illnesses and other health problems of their communities using traditional methods of healing. Their continuous use of such herbal preparations demonstrates that medicinally active constituents occur in these plants. It is a matter of continuing research and studies with, of course, adequate funding, that medically useful compounds may be discovered. Now that we have many technologies to evaluate or "screen" these plants, and also a better understanding of disease targets and mechanisms of action, there is potential for the discovery of important drugs from ethnomedically used plants.

Discovering new active medicinal compounds from plants, specifically, ethnomedical species, as potential candidates for pharmaceutical development is one strategy. This is the use of single-entity compounds as drugs. Since it has also been shown that the mixtures of various chemical compounds in a plant or in a compound herbal prescription exert their biological activity through a force known as synergy, the search of one single silver bullet should not be the only goal. Thus, if ethnomedical plants—either in the form of an extract from a single plant species or from a mixture of species—show the desired medicinal effect, then other means of therapeutic preparations, such as a standardized extract, should be considered.

What are some of the larger issues that currently need to be addressed in the field of economic botany? How do you suggest our community of economic botanists address these issues?

This is a complex and immensely broad issue. One thing that comes to mind is the growing economic problems in many countries. Millions of people are hungry and need food, and others suffer from diseases that medicine and science have not been able to cure. Meanwhile,

SEB By-Laws Report

Summary of the July 2011 Bylaws and Protocol Committee Report to the Council, Society for Economic Botany

Submitted by: Gail E. Wagner, Chair, By-Laws and Protocol Committee and Members Heather McMillen (SEB Secretary) and Susan Verhoek (Protocol Secretary)

On March 13, the Committee submitted suggestions for revisions of the Society by-laws to the President, and the suggestions were electronically distributed to the Council on March 14. Following approval by the Council, the suggested by-law revisions were electronically submitted to the membership on April 3; members were asked to send comments by June 1. Comments that were received were themselves commented upon by the committee chair, and although all sets of comments were later considered by the Council during their annual meeting, none were deemed necessary for action other than those correcting typographical or grammatical errors.

The by-laws were last revised in 2002 (approved in 2003), and prior to that in 1992. This revision addressed several main issues: (1) Wording that takes into account the duties now performed by the Business Office; (2) allowance for electronic balloting; (3) removal of duplicated material and material that addressed how to start some actions that are now established; (4) adding a statement on the Council's policy (stemming from the June 2010 Council meeting) to foster diversity in the membership; and (5) making grammatical, consistency, and protocol corrections.

At the 2011 Business Meeting, the membership voted to accept the revisions to the by-laws as suggested by the Committee and supported by the Council.

During the SEB annual meeting, the Committee met and began revising the Protocol Manual, a set of documents that outline duties and scheduling of the officers and Council. This manual will be maintained electronically for distribution to all incoming officers and Council members.

The Committee membership will be changing: Heather McMillan will continue as a

Meetings

Amaranth Institute

October 6-8, 2011 Ames, Iowa
<http://amaranthinstitute.org/>

This meeting will provide exceptional opportunities for networking among the world's leading amaranth producers and innovators. Because this year's meeting is shortly before the World Food Prize events in Des Moines, IA, we anticipate a particularly broad and informative range of presentations including inspirational village-level projects in the developing world, the latest innovations from product developers, and cutting edge research emerging from research and engineering labs.

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http://www.ars.usda.gov/Main/site_main.htm?modecode=36-25-12-00

Curator of: Amaranthus, Celosia, Chenopodium, Coronilla, Dalea, Galega, Melilotus, Perilla, Spinacia, miscellaneous Umbelliferae, and the millets: Echinochloa, Panicum, and Setaria.

In the U.S. National Plant Germplasm System.

2012 Field School

The Conservation Ethnobiology Field School is being held Feb. 20-March 10, 2012 on the island of Kaua'i, Hawai'i. For details, go to <http://fielduniversity.com/>

member for one more year, but a new chair and a new Protocol Secretary need to be appointed. According to the by-laws, the only member of the Council who may serve on this committee is the Secretary of the SEB.

Interview with 2012 DEB

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plant genetic resources have continued to be devastated in many regions of the world, especially, in the tropical rain forests with the loss of many species that we still do not know of their existence today, but may be a source of new foods or new medicines. So these are the larger issues that I feel should be the focus of research in economic botany, today and tomorrow.

As a community of economic botanists, we should make these issues better known and understood by political leaders worldwide. We must seek funding to carry out research toward the solution of these global issues. In specific terms, research should address the improvement of food production through improvements of methods in generating foods from the staple as well as from newly discovered food plant sources. Additionally, we can explore plant diversity followed by study and domestication of newly discovered food plants. Secondly, a similar strategy must be taken to study and improve the production of medicinal plants and drugs derived from them, as well as new explorations of plant diversity as potential source of new medicines or health products. Meanwhile, effort in the conservation of food and medicinal plants,

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In Memoriam—Dr. Farnsworth

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shooter, he doesn't put on airs, and he's very disarming. He's easy to gravitate to because of these unique qualities," said Dr. Fabricant. "He's been my mentor, a hero, and a friend."

"He has launched a thousand careers, including my own," said Gail Mahady, PhD, a clinical pharmacognosist who also met Dr. Farnsworth during graduate school, who headed the project at UIC to produce monographs on herbal medicines for the WHO. "For that I will be eternally grateful."

Norman Farnsworth is survived by his devoted wife Priscilla Marston Farnsworth, his brother, Bruce, and sister-in-law, Donna, of Massachusetts, a niece and nephew, and hundreds of graduate students, PhDs, post-doctoral fellows, and close colleagues who will always cherish his beloved memory.

Open Science Network

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Call for Mentors at SEB 2012 Conference

The Open Science Network proposal for the project was originally composed by project architect Kim Bridges at the 2008 SEB meeting in North Carolina, with SEB members as the PIs and core participants. The goal of the project is to strengthen the community of ethnobiology educators by sharing curriculum resources, methods, and tools through an active online network of participants. The 2011 goal of creating a shared communication platform has been achieved, and work has begun toward the expansion of the network by increasing institutional participation and increasing the number of publications. Major results of this project will be submitted for consideration as a publication in the journal *Economic Botany*.

A fall meeting is scheduled for November in Maryland as an orientation for new member institutions and to address network evaluation strategies. The 2012 annual meeting will be held in Frostburg in June in conjunction with the 53rd annual SEB Meeting.

The Open Science Network <<http://www.opensciencenetwork.net>> would like to know whether you plan to attend the 2012 Society for Economic Botany conference and would be interested in acting as a mentor to a new undergraduate or graduate student participant at the conference. Although we are still figuring out how our new program of mentoring will work, we anticipate at least one group reception/activity coupled with individualized one-on-one mentoring with students (guiding them through what papers to hear and talking with them about those papers, introducing them to people, guiding them through the process of attending a professional conference, and linking with the OSN). If you are interested in being listed as a potential mentor, please send your name, affiliation, and email address using the subject heading "OSN Mentors" to Gail Wagner <gail.wagner@sc.edu> or Laura Weiss Shiels <weissL@hawaii.edu> and we will get back to you once we have finalized our ideas about this new mentoring program

2011 Klinger Book Award

Submitted by Nancy Turner

<nturner@uwic.ca>

The Klinger book committee has selected *Baboquivari Mountain Plants*, by Daniel Austin, as this year's Klinger Award recipient. The committee worked hard to come to this decision, since each of the nominated books was a wonderful and worthy contribution to economic botany literature. However, Dan's is a particularly fine example of detailed and accessible research on the ethnobotany of a particular region. One of the committee members wrote,

This was an extremely difficult task. Every single book was worthy of the award. I think that Dan Austin's book is likely to become a classic reference, much like Dan Moerman's Native American Ethnobotany. It will not go out of date, and is particularly relevant to both economic botany and ethnobotany, so I rank it first.... Each of the others will have major impact on scholarship, advancing research in their particular areas.

Nominated Books for Klinger Award:

Baboquivari Mountain Plants. Daniel F. Austin. Nominated by Holly Shaffer, 24 Aug. 2010

Hybrid. The History and Science of Plant Breeding. Noel Kingsbury. Nominated by Mary Eubanks, 26 Feb. 2010

In the Shadow of Slavery. Judith A. Carney and Richard Nicholas Rosomoff. Nominated by Kate Marshal, 8 Dec. 2009

Paleonutrition. Mark Q. Sutton, Kristin D. Sobolik, and Jill K. Gardner. Nominated by Mary Theresa Bonhage-Freund, 10 Aug. 2010

The World of Soy. C. M. Du Bois, C.-B. Tan, and S. Mintz, eds., Nominated by Lawrence M. Liao, 12 July 2010



Interview with 2012 DEB

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and explorations to discover and domesticate new useful plants must be strengthened.

With the bleak outlook of climate change and global warming affecting the fate of the Earth, what aspect of your professional life gives you hope for the future?

For the past 30 years, I have been involved as a member of various multidisciplinary teams in an effort to discover new bioactive compounds from terrestrial plants as potential candidates for pharmaceuticals. Several important diseases have been the target of this effort, including cancer, AIDS, tuberculosis, and malaria. Many new bioactive compounds have been discovered from many species and a number of compounds have been moved into the drug development pipeline. Whether any of these compounds eventually make it to become a drug of clinical use, only continuing R&D can show. Importantly, however, our teams have elucidated the chemistry of many of these species, which serve as a baseline data for us and for others to follow through. Since plant-derived bioactive compounds serve medicine in many ways, as prototype molecules for drug development, as building blocks, as precursors for synthetic modification, as templates for de novo synthesis, and as potential ingredients for dietary supplements, the medical potential of these compounds and the plants that produce them is here to stay.

With the bleak outlook of climate change, there will still be time to eventually convert some of these discoveries into therapeutic products. Hopefully the remainder of my professional life can take part in the process. Coupled with effort in the conservation of the species in question, in particular, *ex situ* conservation, continuing explorations and study will give hope for maintaining the contribution of these and newly discovered plants, and the chemical compounds produced by them, in the maintenance of human health toward the future.

Chicago: October 1, 2011

Djaja Doel Soejarto, PhD
Prof. of Pharmacognosy, UIC
Research Associate, Field Museum (Botany)

In Memoriam—R.E. Perdue, Jr.

**SEB member Dr. Robert E. Perdue, Jr.
1925-July 21, 2011**

Dr. Robert E. Perdue, Jr., a retired USDA botanist, died suddenly at the age of 86 years. He was a Norfolk native and a 1949 botany graduate of the Univ. of Maryland. He received an MA in 1951 and a PhD in 1957, both in botany from Harvard. His career included work at the USGS, the Texas Research Foundation, and

for more than three decades he was a leading plant taxonomist for the USDA's Agricultural Research Service. In 1960, Dr. Perdue worked in cooperation with the National Cancer Institute to help procure plant samples to be tested for use in anti-cancer drugs.

While at the USDA, he worked alongside the National Cancer Institute in the development of the cancer therapeutic, Taxol. During his extensive research career, he traveled the globe,

concentrating on plant taxonomy, economic botany, plant exploration and introduction, and germplasm conservation. Upon retiring in 1989, Bob served as president of a private company, Ver-Tech International, Inc., continuing his global pursuits.

His wife, Georgia Perdue, PhD, a pharmacognosist, continues to be actively involved in the American Society of Pharmacognosy and other organizations, such as the NIH.

Walter Lewis Symposium

who worked extensively, as a post-doc with Walter in allergenicity and causative environmental factors. Charles McManis, the Thomas and Karole Green Professor of Law at Washington Univ., then gave a compelling talk about the ground-breaking work in intellectual property rights that he created with Walter. He recounted their struggles to protect the rights of indigenous people who supplied researchers with their knowledge of medicinal plants.

Adewole Okunade, Associate Prof. of Chemistry and Research Assistant Professor of Medicine at Washington Univ. summed up his experience in Walter's lab: "Walter is a great guide but he also lets you find your own way in the process." Ed Kennelly, Prof. in Biological Sciences at Lehman College (NY), recounted tales of venturing into the Amazon jungles, which shaped his career as a phytochemist. Ed is continuing Walter's legacy by guiding doctoral students toward dissertations in ethnobotany and phytochemistry.

The event was quite full, and there were many other speakers who wished they could have attended. Instead, these admirers sent letters of congratulations and humble respect for their mentor. John Semple, former graduate student, sent a heartfelt letter that will be published with all of the talks given in this symposium. Walter also received a letter from Dr. Narendra Singh, President of the International Institute of Herbal Medicine, which awarded Walter as a Fellow of the International Society of Herbal Medicine.

One highlight is a video made by Walter's children, Memoria and Walter, Jr., who live in

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London and could not be with us in person. They play the parts of Walter and his wife, Memory, as they embark on a rose-hunting botany trip. The plot thickens when the Lewis family "find" themselves on private property somewhere in Virginia and are shot at.

Lastly, I, Steven, the "youngest" of this illustrious academic family, gave the summary notes. I had prepared a statement about what I did as a graduate student. But, the gravitas of the talks that I heard led me, instead, to talk about what I learned from Walter: Respect for the people who hold the knowledge of medicinal plants, and hence, the knowledge itself. This knowledge is a priceless jewel, but we have to recognize that this knowledge is worthless without the very people who hold it. So, I continue to "voice" recognition of indigenous knowledge from inside the FDA and pass this on to my students. Moreover, I hope to invite people to share in the wonder of plants and thereby inspire people, as Walter did.

The final note of this event is ... there is no final note. Walter started his career working on roses and, currently, is working on finalizing a monograph of North American roses. By all appearances, this is a poetic full circle. However, recall from above that Walter does not know the meaning of "retirement." Thus ends the second Walter Lewis Festschrift. Stay tuned for Part Three!!!

"What a delight to relive a significant part of the exciting lives and distinctive scientific contributions of Memory and Walter through this outpouring of gratitude from former students and associates! These two adventure-some botanists have played an important role

in the history of Washington Univ. as well as in ethnobotany on three continents and world comprehension of the dignity and rights of pre-industrial peoples."

—Barbara and William Pickard, Emeritus Plant Biology Professor and Emeritus Plant Biophysicist in Electrical Engineering, respectively.

"As a relatively new member to the field of ethnobotany, the symposium commemorating Dr. Walter Lewis' lifetime in botanical research was both enlightening and inspirational to me on many levels. From his work in plant genetics to ethnobotanical studies and indigenous intellectual property protection, I was amazed at the breadth of research that he has undertaken. The presentations by his students—many of whom are now leaders in the field in their own right—underscored the important contributions that Dr. Lewis has made to this field both as a researcher and teacher. Dr. Lewis is someone that young ethnobotanists can look up to as a role model and guide as they plot the paths to their own career trajectories."

—Cassandra L. Quave, PhD, Post-doctoral Fellow, Center for the Study of Human Health, Emory University

"During the talks, I was struck by how botany is foundational to so many fields: Taxonomy, agronomy, natural products chemistry, medicinal botany, environmental health. Dr. Lewis is at the base of a broad pyramid, with his academic children and grandchildren moving toward an apex in their respective fields, with steps that build on the foundation of his guidance."

—Marybeth Shea, English Professor of Science Rhetoric, University of Maryland

Where Oh Where Are You Kurt Reynertson?

or What Are You Doing Now That You Are an Ethnobotanist? *Submitted by Lisa Offringa*

1. When did you graduate? From where did you graduate? What was your project topic?

I graduated from CUNY's Plant Science Program. I defended in October 2006, deposited my thesis in November 2006, and started a postdoc position in January 2007. I officially graduated in February 2007. My thesis was titled: *Phytochemical Analysis of Bioactive Constituents from Edible Myrtaceae Fruits*. The project was phytochemistry (isolation/structural elucidation) with some bioassay work, as well as incorporating taxonomy, chemotaxonomy, cancer, and other diseases.

2. What are you doing now? Details...

Now I have a postdoc position at Weill Cornell Medical College in New York City. WCMC is Cornell University's medical school; there are research labs and a few biomedical-related doctoral programs as well. It's next to Rockefeller and Sloan-Kettering, so the "Ti-institutional" environment is thick with biomedical research. I'm working in a lab in the Pharmacology Dept., doing a project on breast cancer stem cells and metabolomics of embryonic stem cell differentiation. I'm combining my expertise in natural products chemistry with the lab's focus on stem cells, development, and cancer biology.

3. Did your PhD take longer/shorter than you had anticipated? Why?

No, it took six years, which I think this is fairly average. My daughter was born during my first year in grad school, and this may have slowed me down a little—it meant that I didn't always have the energy or time to work in the evenings and on weekends, and it also meant that I had responsibilities outside of work that other students didn't have.

4. What were some of the struggles you encountered with actually writing the document?

Writing for me is actually a fun process. So it wasn't that much of a struggle. Finding the time to write was probably the biggest issue. Generally, I had to do most of it late at night at home—in the lab, I'd get too caught up in experiments to stop and write. Occasionally I had to force myself to stop following leads in the literature and focus on writing. There was also the issue of wondering whether I had enough data to start writing. Typically, I tried

to write as I went along—proposals, progress reports, posters, and papers. So when it came time to assemble my dissertation, there was not a lot of new writing to be done. It was mostly editing, reformatting, adding data and new information from literature and my last experiments.

5. How far in advance did you start planning for your career after graduate school?

Oh, am I supposed to be planning? Sometimes it all feels like it just happened. When I started grad school, I didn't realize I was starting down a career path—I was following my interests. On the other hand, throughout grad school, I scanned the job listings to see what was in store for me. I talked to more advanced grad students, postdocs, and other faculty at meetings about future possibilities/opportunities. Once I could see the light at the end of the tunnel, maybe six to nine months away from the defense, I started sending serious emails, making phone calls, and setting up interviews with potential postdoc advisors.

6. Where you looking for a postdoc or another option? Why? Are there other options?

I was primarily looking for a postdoc position because I have assumed that I will end up in academia or government. Now I'm not so sure. Typically only 20% of PhDs end up in the coveted tenure track positions, and there are fewer and fewer of them available. But jobs in the private sector are also not abundant anymore. Pharma is hemorrhaging jobs at a shocking rate. As a postdoc, I've considered jobs in patent law, science writing, and policy. Lately I've been thinking about teaching high school. There are a lot of options, and I think it's best to start thinking about your own personal strengths and weaknesses early on in grad school; look and see where your true interests lie, and find ways to get your foot in that particular door.

7. When you were looking or if you went on to a postdoc, did you want your postdoc to be on a different topic than your PhD project? Why?

Yes. As a doctoral student, my program was plant science and my own research project was basically chemistry. In my postdoc lab, I'm working on molecular pharmacology. I didn't do any molecular work as a grad student, so

it's been a steep learning curve, but I think it'll pay off in the end. Rather than continuing to do the same type of research, I've managed to jump deep into the biomedical world, adding skills, increasing my understanding of the context of my previous research, and expanding my network. I am surrounded by basic and clinical researchers, and they appreciate my perspective as much as I am able to learn from them. It's been very rewarding at times, and occasionally frustrating because I am a very different type of researcher from most of the people around me.

8. What are your concerns now as opposed to when you were still in graduate school?

Future jobs. As I get older, and more invested in a career as a research scientist, I see that the leap into a permanent, secure position is difficult. There are fewer jobs out there than I realized as a grad student. I can see the realities better now, and it is worrisome. I think science education and funding are in serious trouble in the United States, and am very pessimistic of future opportunities.

9. Are you happy with your choice? Would you have done anything differently?

If I knew then what I know now.... Hindsight is 20/20, but the choices I would make are about my own personal directions, and can't really be generalized. I think it is important to carefully examine priorities, strengths, and motivations, and try to make decisions based on that, while remaining flexible. A PhD will likely open doors that you never considered.

10. What advice do you have for those of us who are still working on our PhD?

The middle years can be the worst—hang in there. Go to conferences and meet others working in your field. Grad school can be isolating, and when you realize that there are other people who share your intellectual concerns, you will feel better. Also, it increases your visibility and access to others in your field when you present at meetings and make an effort to network.





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Walter Lewis Symposium

“Walter’s love affair with roses began when he was just a young teenager...”

And so began the Walter Lewis Symposium on the day before the Botany 2011 meeting in St. Louis, Missouri. With these words, Thomas B. Croat, Schulze Curator at the Missouri Botanical Garden, started the series of talks given by former collaborators, colleagues, post-doctoral associates, and graduate students who have started or, at least, owe a huge portion of their careers to Walter H. Lewis.

Edward Kennelly, the third-from-last graduate student of Walter’s, gave the introductory remarks, followed by Walter’s last graduate student—Steven Casper—who commented on the connections among the nine talks. Many people viewed this symposium as a “festschrift” or retirement celebration.

However, anyone who has met Walter knows that “retirement” is not in his vocabulary. He had a festschrift in 1990 and that marked a decisive switch in his professional life from classic botany to ethnobotany. But, that celebration in 1990 was not the end of the story. Walter kept working as an ethnobotanist.

So, two decades later, we celebrate Walter’s achievements, not only as an ethnobotanist, but as a consummate botanist. The talks spanned the time from Walter starting at the Missouri Botanical Garden in 1964 to his present position as Professor Emeritus at Washington University.

Croat recalled how Walter remembered meeting him as a young and promising botanist, and later recommended him for a position at the Missouri Botanical Garden. Thomas, also—quite heartily—

announced that day a new plant species in the Araceae family (his specialty) to be named for Walter: *Anthurium walterlewisianum*.

Robert Faden, Smithsonian expert of African Commelinaceae, was Walter’s last student in cytology. Robert told tales of collecting in Africa, where Walter had collected years before. Walter was thrilled to hear the many tales that Robert told of collecting long after he had left Washington University. Another cytologist, Jeffery Doyle, who worked as a post-doc with Walter, pointed out how Walter’s work in cytology made a defining point that established polyploidy as a means of speciation (Look it up. I had to).

The next person to speak was Anu Dixit, environmental microbiologist at Saint Louis University School of Medicine,

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