



# Society For Economic Botany Newsletter

# PLANTS & PEOPLE

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

Volume 33

Spring 2019

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Get Ready for the 2019 Conference of the  
Society of Economic Botany  
hosted by the University of Cincinnati  
Ohio, 2-6 June 2019

*"The Future of Forests: Perspectives from Indigenous People, Traditional Practices, and Conservation"*

The 60th Annual Meeting  
of the



Society for Economic  
Botany



## Plenary Panel, Keynote Speakers

**M. Kat Anderson**—Researcher at the University of California Davis College of Agriculture and Environmental Sciences (retired ethnobotanist from the USDA NRCS) will discuss Native American ecological knowledge and its contribution to land management decisions, on the basis of her extensive experience as an ethnobotanist working with Native American groups in California and the southwestern United States.

**Michael Dockry**—Citizen of the Potawatomi Nation, is a Research Forester with the U.S. Forest Service and Strategic Foresight Group will discuss collaborative research with Native American tribal groups that integrates tribal needs and perspectives into forest inventories and national resource management planning.

**Kathleen Morrison**—Professor of Anthropology at the University of Pennsylvania will discuss historical and archaeological evidence for shifts in practices and religious ideology surrounding forests in southern India from the 4th millennium BC to the present.

**Michael Hopkins**—Curator at the National Institute of Amazonian Research (INPA), Brazil, will discuss indigenous and industrial forest management and biodiversity in the Amazon rainforest, potential loss of plant species not yet documented, and the role of indigenous groups as stewards of traditional botanical knowledge.

**Robert Bye**—Investigador Titular, Instituto de Biología, Universidad Nacional Autónoma de México (UNAM). Bye will draw on his more than 30 years of experience working with the Sierra Tarahumara (Rarámuri) and other indigenous groups in Central America to discuss cultural perspectives and traditional practices of forest management and the social context of choices concerning sustainable resource use.

**James S. Miller**—Senior Vice President, Science and Conservation, and Ethnobotanist at the Missouri Botanical Garden (MBG) will discuss MBG's indigenous community-driven reforestation project in Madagascar and its impact on the local community.

**Teresa Culley**—Professor of Biology at UC will discuss her research on urban landscapers' overuse of Callery pears, an ornamental tree type. Although introduced by nursery growers as sterile hybrids, they rapidly reproduce and have invaded many forest tracts in the northeastern United States, leading to their re-classification as an invasive species, which has had significant political ramifications. Working with community organizations and government officials, Culley has spearheaded efforts to reverse this trend.

Continued on page 3

*Plants & People***The Newsletter of  
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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**

Hello again dear Members,

The Spring issue is always full of details about the upcoming annual meeting. So please read all and make your plans. Workshops, field trips, etc. are on page 3. There is a great interview with our DEB John Rashford by one of our Student reps Daniella Clicka. See page 4.

There is a smattering of past events grants, meetings, and news items for your perusal. So let me know what you are doing in your community and what is of interest to you as that makes our Society part of all members. There is one more field trip that is pending. We are hoping to have a field trip to hemp farms that are in nearby KY. Logistics are coming together, but will be sent separately when we have the final location and costs. There is also a possibility of a current panel on CBD as it has taken the world by its tail. Stay tuned and check the webpage for more info. One final activity is that Cincinnati is a beer state so I am trying to pull together a panel on hops—it may be hops and hemp or it may be we can have an evening of tasting.

The other important item in this Newsletter is to have all members expand our membership by inviting new members so we can continue our programs. Please help grow our Society by reaching to friends, colleagues, business partners, and granting organizations to all join us as life depends on plants and that is what we keep learning and share with each other.

Take Care, plan your trip to Cincinnati, and we'll surprise you!  
Fondly,

*Trish Flaster*  
Trish

**Membership**

The Society for Economic Botany is an international society covering the field of ethnobotany and economic botany. It was established in 1959. Our membership has been in the thousands in the past, but recently it has dipped below and this limits our ability to finance programs to support our students.

At our Mid Year Council meeting we continue to fund travel grants. Visit the “2019 Conference Travel Support” page at [econbot.org](http://econbot.org); and for Developing Nations, visit the “Developing Nation Travel Awards” page at [econbot.org](http://econbot.org).

Awards: Fulling for the best oral presentation, Morton award for best poster presentation, Schultes award for field research, and Austin and Klinger awards for books.

So, whether you are a professional, a professor, or a student, please encourage all the folks you communicate with to join our Society to continue the legacy and excellence we have created. Especially speak with sales reps, chemical and biological, book publishers, any accounts you may have locally who may interview you or have an association with botany.

## Editor's Column: What's Outside of Academia?

I thought I would take this opportunity to open up the conversation about what is going on outside of Academia that can offer career choices or simply personal choices.

The Dietary Supplement or Natural Products Industry: There are many collaborations for Economic Botanists or Ethnobotanists with these businesses. Research in chemistry, biology, and botany; clinical work, literature searching, publishing, and formulation are just a few jobs that this area offers. The interest varies from plant ID, routine quality testing, climate change affecting plant sourcing, horticulture and formulation based on literature findings, writing standards, to traditional knowledge.

The industry is vast and burgeoning and there are many ways to approach businesses: Attending trade shows to understand the matrix of the industry, writing articles to draw attention to your skills, publishing your research, and also attending meeting where academia and industry issues overlap.

While the natural products industry is well established and follows FDA guidelines there are still many areas that can be improved and opportunities to integrate our skills into product development and research.

At the same time, Cannabis entered the scene several years ago. It has expanded to be legal in more than 50% of the states and over 30 countries. Even though it is not legal as a dietary supplement, hundreds of companies are entering the market and monitoring their risk. There is nothing bigger than what is going on in the field of Cannabis right now. It is as big as sliced bread or the advance of electronics. However, due to its illegality there is little known about its biological activity and there is a huge amount of space for research. Not only biology, but as we learn more, we are learning that there are many more active compounds besides THC and CBD that merit attention. This raises interest in what varieties can be grown worldwide for different clinical and personal applications.

So I hope this sparks some interest. With the 2020 meeting in Jamaica, we encourage research papers where we as members of SEB can participate in this multidisciplinary field.

Specifically, MJ Biz, a Cannabis meeting, that took place in November in Las Vegas had 25,000 attendees. The convention had several speakers, including scientific presentations, and the booths ranged from labs consumer products, as well as ancillary businesses like insurance companies.

This is an area of economic botany that we are not covering well enough. There are billions of dollars out there and jobs for people who understand crop science, therapeutics and medical applications, quality control systems and more. Please send me info as you learn more so we can be part of the growth.

PS: There is a workshop on careers outside of Academia at the 2019 conference. This is a follow-up to the very successful gathering in Madison in 2018. See Organized Workshops on this page.

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### Workshop—Networking Social Expansion

(from 2017 SEB-SoE Joint Conference)

#### Session Organizers:

Lisa Gollin <lgollin@hawaii.edu> and Trish Flaster <Tflastersprint@earthlink.net>

Ethnobiologists/ethnobotanists come from diverse fields (botany, anthropology, geography, medicine, nutrition, agriculture, art, architecture, etc.) and possess the knowledge, skills, and experience to make critical contributions to food security and sovereignty, natural and cultural resource management, historic preservation, climate change resilience / adaptation and environmental futures, nutrition, public health and medicine, natural product development and sustainability, wildfire prevention and response, field and methods training, and guide writing, to name only a few. This session will expand on the Networking Social event held at the 2017 SEB-SoE joint conference. Come meet with 10 resource professionals who will share their experiences and background in applied work, the cross-over skills in natural-social sciences they bring to their projects, and where they see opportunities for attendees. Introductions and a brief panel discussion will be followed by a group breakout activity. Each resource professional will head a group covering a topic related to the fields, topics and opportunities open to ethnobiologists/ethnobotanists in the public and private sectors, NGOs and more. Attendees can choose one group or circulate to exchange ideas, build connections, and foster collaborations. The session will be 1.5 hours., natural product development and sustainability, wildfire prevention and response, to name only a few.

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## 2019 SEB Meeting

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### Distinguished Economic Botanist Award

This year's DEB Award will recognize the disciplinary contributions of **John Rashford**, Professor of Anthropology at the College of Charleston. Rashford's research is pertinent to the theme of the meeting because he has focused on the ecological and sociocultural impacts of tree introductions from Africa to the West Indies. He is the leading expert on the genetic relationships and transfer of several trees of economic and religious significance from West Africa to the New World, such as ackee (*Blighia sapida* K. König), baobab (*Adansonia digitaria* L.), and various figs (*Ficus* spp). Moreover, his studies investigate the cultural and symbolic aspects of plant use among the African diaspora in the New World, particularly in the Caribbean (Jamaica, Bahamas, Barbados) and the relationship of African ethnobotany to the dynamics of social inequality. As a tribute to Rashford's research, the Distinguished Economic Botanist Award Banquet will be held at the National Underground Railroad Freedom Center.

### Organized Sessions (additional organized sessions to be added)

Alan P. Sullivan III, Anthropology, University of Cincinnati: "Anthropogenic Forest Fires: Archaeological and Ethnographic Perspectives"

James Penn, Geography, Grand Valley State: "Agroforestry in the Peruvian Amazon"

Mark Nesbitt, Royal Botanic Garden, Kew, UK: "Ethics in Economic Botany, Ethnoecology, and Ethnobotany"

Daniel Murphy, Anthropology, University of Cincinnati: "Forest Visions: Technologies and Techniques of Collaborative Forest Futuring"

### Organized Workshops

"Ethics in Economic Botany, Ethnoecology, Anthropology, and Ethnobotany" (Facilitator: Mark Nesbitt, Royal Botanic Garden, Kew, UK)

"Oenology in the Ohio River Valley" (Facilitator: Nicholas Dunning, UC Geography)

"Public Engagement Award" workshop focused on the creation of iPhone style films that define the meaning of economic botany," sponsored by Vine Biotech, LLC (Facilitator John De La Parra, Arnold Arboretum, Harvard University)

"Ethnoecological Methods for Forest Assessment" (Facilitator TBA)

## 2019 Conference Schedule

SUNDAY (June 2)	
9:00am-4:00pm	Meetings of the Council of the Society of Economic Botany
9:00am-5:00pm	<b>Field trips:</b> Shawnee Lookout, Cincinnati Zoo & Botanical Gardens Whitewater Shaker Village, Krohn Conservatory, Fort Ancient
5:00pm- 8:30pm	Registration Table
6:30-8:30pm	Welcome Reception, Meyers Gallery
MONDAY (June 3)	
8:00am-12:00pm	Registration
8:30-10:00am	Plenary Session Part I: <i>The Future of Forests: Perspectives from Indigenous Peoples, Traditional Practices, and Conservation</i>
10:00-10:25am	COFFEE BREAK
10:30-12:00pm	Plenary Session Part II
12:00-1:00pm	LUNCH on Your Own
1:00-2:30pm	Plenary Session Part III
2:30-2:55pm	COFFEE BREAK
3:00-5:00pm	Plenary Session Part IV
5:00-6:00pm	DINNER on your own
7:30-until?	Student Networking Social, meet at Catskeller on campus
TUESDAY (June 4)	
8:00am-12pm	Registration
8:30-10:00am	Concurrent Sessions
10:00-10:25am	COFFEE BREAK
10:30-12:00pm	Concurrent Sessions
12:00pm-1:00pm	LUNCH on your own or Student Mentoring lunch with mentors (pre-register for complementary tickets)
1:30-4:30pm	Workshops
2:30-2:55pm	COFFEE BREAK
3:00-4:30pm	Concurrent Sessions & Workshops
5:00-6:00pm	Society of Economic Botany General Membership Meeting
7:30-until??	Micro-brewery tour (ticketed separately)
WEDNESDAY (June 5)	
8:00am-12 noon	Registration
8:30-10:00a m	Concurrent Sessions
10:00-10:25a m	COFFEE BREAK
10:30-12:00 noon	Poster Session
12:00 noon-1:00pm	LUNCH
1:00-2:00pm	Panel discussion: <i>Looking to Nature for Cancer Treatments</i>
2:00-2:25pm	COFFEE BREAK
2:30-5:00pm	Concurrent Sessions
3:30-5:30pm	Tour: National Underground Railroad Museum and Freedom Center (ticketed separately)
5:30-10:00pm	<b>BANQUET &amp; Awards Ceremony</b> National Underground Railroad Museum and Freedom Center (ticketed separately)
<b>THURSDAY (June 6) Planned Field Trips:</b>	Big Bone Lick, Cincinnati Civic Garden Center, Lloyd Library, Edge of Appalachia

## 2019 Distinguished Economic Botanist Interview

By Daniella Clikka, Student Committee Member  
danielle.nicole.cicka@emory.edu

Dr. John Rashford had the honor of being the Society for Economic Botany's Distinguished Economic Botanist for 2019. Receiving his Ph.D. in Anthropology from the Graduate Center of the City University of New York, Dr. Rashford is a professor emeritus of anthropology at the College of Charleston in South Carolina. Inspired by Dr. Eric Wolf, Dr. Rashford has long had an interest in plants and the making of our present world system, especially the role of plants in the political struggles of small farmers. Fittingly, the 2020 Society for Economic Botany Conference will take place in Jamaica, where Dr. Rashford was born and raised. Prior to that entry to his home, we have a preview to hear from Dr. Rashford in Cincinnati as the 2019 DEB. Here is a personal interview to introduce you to one of our honored mentors.

### When did you first realize your interest in the relationship of plants and people and how did it evolve over the years?

The origins of my interest in the relationship between people and plants relates to my experience growing up in Jamaica. My family loved plants and I would say it is part of our Caribbean tradition in which plants have played an important role in the political history of the region. As far as my academic studies are concerned, my study of people and plants really developed when I was a graduate student at the City University of New York. At that time, there was a lot of interest in peasants (which in Jamaica I refer to as small farmers), especially their association with the rise of complex societies and the development of the state. I became particularly interested in Jamaican small farmers at that time when it occurred to me that the small farming community of the Caribbean was not the long-standing historical peasant populations that anthropologists were talking about because these were populations that came into existence either in resistance to plantation slavery or as a result of emancipation. People withdrew into the hills whenever that option was available, to grow their own crops for home use and for sale in local markets. It was this historical scenario that really got me interested in history and politics of people and plants in the Caribbean.

### Do you have a role model or someone you look up to?

Not one; many! My greatest appreciation, however, is for the members of the Society for Economic Botany. This is particularly so with regards to the

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## Grant Written for 2019 SEB Meeting

*This grant, beautifully written by our conference coordinators, has been awarded and we are gratefully the recipients. I include it here as an example of excellence and the effort shown by the coordinators for our benefit. It also contains many of the details again for our meeting. FYI: David Lentz of the University of Cincinnati has coordinated two other meetings. Please express your appreciation for this heroic feat when you see him.*

### Project Description

A statement of the need for such a gathering and a list of topics.

Three aspects of the 2019 meeting of the Society of Economic Botany (SEB) are of particular significance.

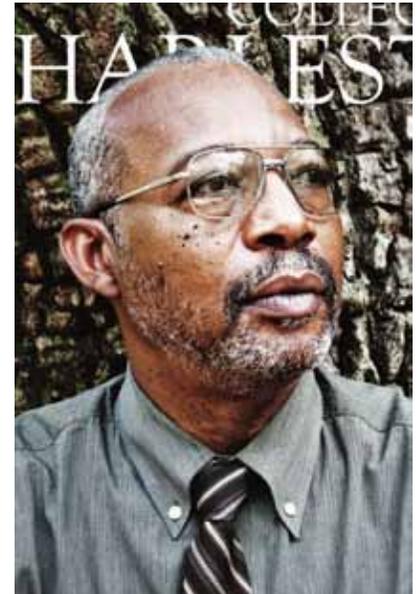
**First**, the theme of this year's meeting, "*The Future of Forests: Perspectives from Indigenous Peoples, Traditional Practices, and Conservation*," addresses the critical need for interdisciplinary collaboration to identify strategies to confront the intertwined threats of rapid cultural diversity loss, climate transitions, and declining biodiversity in the management of forest resources. The recent expansive forest fires in the Western US serve as a wake-up call to our national consciousness about how we manage our forests in the US. A recent article in *The New York Times* (Ngu and Chinoy 2018) quoted UC Berkeley fire ecologist, Scott Stephens, who stated that Native American burning practices served to thin the forests and thus likely reduced the threat of severe wildfires. The implication was that we have much to learn from Native American approaches to forest management. Beyond US borders, the pending threat of accelerated deforestation in the Amazon Basin posed by incoming Brazilian President Jair Bolsonaro (Lopes 2018) have opened significant questions about the fate of invaluable Neotropical forests. Furthermore, the recent release of the United Nations International Panel on Climate Change report highlights the

significant role that forests play in mitigating climate change and preserving the food chains on which people and other organisms depend. The co-occurrence of these recent events underscore the observation that the theme of the 2019 SEB meeting is extraordinarily relevant to ongoing global developments and could not be more timely. The invited speakers for the SEB Plenary Session are preeminent scholars on human-forest interaction who draw on their expertise as anthropologists, members of indigenous communities, natural resource managers, Native American tribal liaisons, and ethnobotanists.

**Second**, although meetings on forest conservation or conservation issues more broadly have been convened recently, none of these combines a holistic, interdisciplinary approach to the topic or an emphasis on the need to integrate cultural anthropological approaches into resource management planning. As far as we are aware, this meeting is only the second one organized in the United States to address the need to explicitly foreground this issue and to promote dialogue across traditional professional boundaries. In addition to undergraduate and graduate students and faculty in several disciplines, the conference is also likely to draw in non-academic members from the community at large, particularly through our connections with the Cincinnati Zoo and Botanical Garden, the Civic Garden Center, the Krohn Conservatory, and the Lloyd Library, thereby raising

awareness of the important role of ethnoecological approaches in resource management.

**Third**, the 2019 Distinguished Economic Botanist Award will recognize the disciplinary contributions of John Rashford, Professor of Anthropology at



**John Rashford**

the College of Charleston, who will become the first African American to be honored with this award. Rashford's research is pertinent to the theme of the meeting because he has focused on the ecological and sociocultural impacts of tree introductions from Africa to the West Indies. He is the leading expert on the genetic relationships and transfer of several trees of economic and religious significance from west Africa to the New World, such as ackee (*Blighia sapida* K. König), baobab (*Adansonia digitaria* L.), and various figs (*Ficus* spp). Moreover, his studies investigate the cultural and symbolic aspects of plant use among the African diaspora in the New World, particularly in the Caribbean (Jamaica, Bahamas, Barbados) and the relationship of African ethnobotany to the dynamics of social inequality.

As a tribute to Rashford's research, the Distinguished Economic Botanist Award Banquet will be held at the National Underground Railroad Freedom Center.

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## Grant Written for 2019 SEB Meeting

*continued from page 5*

### List of Topics

#### Plenary Panel:

“The Future of Forests: Perspectives from Indigenous Peoples, Traditional Practices, and Conservation”



M. Kat Anderson – Researcher, University of California Davis College of Agriculture and Environmental Sciences (retired ethnobotanist from the USDA NRCS); Keynote speaker in Plenary session; will discuss Native American ecological knowledge and its contribution to land management decisions, on the basis of her extensive experience as an ethnobotanist working with Native American groups in California and the southwestern United States.

Michael Dockry – Research Forester, US Forest Service, Strategic Foresight Group, and Citizen of the Potawatami Nation; will discuss collaborative research with Native American tribal groups that integrates tribal needs and perspectives into forest inventories and national resource management planning.

Kathleen Morrison – Professor, Anthropology, University of Pennsylvania; will discuss historical and archaeological evidence for shifts in practices and religious ideology surrounding forests in southern India from the 4th millennium BC to the present.

Michael Hopkins – Curator, National Institute of Amazonian Research (INPA), Brazil; Speaker in Plenary session; will discuss indigenous and industrial forest management and biodiversity in Amazon rainforest, potential loss of plant species not yet documented, and role of indigenous groups as stewards of traditional botanical knowledge.

Robert Bye – Investigador Titular, Instituto de Biología, Universidad Nacional Autónoma de México (UNAM); Bye will draw on his more than

thirty years of experience working with the Sierra Tarahumara (Rarámuri) and other indigenous groups in Central America to discuss cultural perspectives and traditional practices of forest management and the social context of choices concerning sustainable resource use.

James S. Miller – Senior Vice President, Science and Conservation, and Ethnobotanist, Missouri Botanical Garden (MBG); will discuss MBG indigenous community-driven reforestation project in Madagascar and its impact on the local community.

Teresa Culley – Professor, Biology, UC; will discuss her research on urban landscapers’ overuse of Callery pears, an ornamental tree type; although introduced by nursery growers as sterile hybrids, they rapidly reproduce and have invaded many forest tracts in the northeastern US, leading to their re-classification as an invasive species, which has had significant political ramifications. Working with community organizations and government officials, Culley has spearheaded efforts to reverse this trend.

### Organized Sessions

#### (additional organized sessions to be added)

Alan P. Sullivan III, Anthropology, University of Cincinnati: “Anthropogenic Forest Fires: Archaeological and Ethnographic Perspectives”

James Penn, Geography, Grand Valley State University: “Agroforestry in the Peruvian Amazon”

Mark Nesbitt, Royal Botanic Garden, Kew, UK: “Ethics in Economic Botany, Ethnobotany, and Ethnobotany”

Daniel Murphy, Anthropology, University of Cincinnati: “Forest Visions: Technologies and Techniques of Collaborative Forest Futuring”

### Organized Workshops

“Ethics in Economic Botany, Ethnobotany, Anthropology and Ethnobotany,” (Facilitator: Mark Nesbitt, Royal Botanic Garden, Kew, UK)

“The Geography of Viticulture,” (Facilitator: Nicholas Dunning, UC Geography)

“Public Engagement Award workshop focused on the creation of iPhone style films that define the meaning of economic botany,” sponsored by Vine Biotech, LLC (Facilitator John De La Parra, Arnold Arboretum, Harvard University)

“Ethnobotanical Methods for Forest Assessment,” (Facilitator TBA)

## Separate statements on the intellectual merit and broader impacts of the proposed activity

*Intellectual Merit:* The principal intellectual merit of the proposed meeting is that it brings scientists from divergent fields of study whose research is relevant to the topic of how to manage and conserve our precious global forest resources. Cultural anthropology offers a unifying theoretical perspective and methodological approaches that underpin the research of all of the plenary speakers. Among the panelists, three are ethnobotanists whose research highlights what we can learn about sustainable agroforestry from traditional ecological knowledge (TEK) and indigenous forest management practices. These approaches are highly relevant to the members of the SEB, as demonstrated by their awarding of the Distinguished Economic Botanist Award to anthropologically oriented social scientists for the last two years (Dr. Roy Ellen of the School of Anthropology and Conservation at the University of Canterbury, UK, Dr. Gary Nabhan, Kellogg Chair of Social Science, University of Arizona). The SEB will continue this pattern at our meeting in 2019, when it names Dr. John Rashford, Department of Anthropology, College of Charleston as the Distinguished Economic Botanist.

*Broader Impacts:* What is especially exciting about the 2019 SEB meeting is the way that it will bring US and foreign students and professionals together, and particularly its deliberate convening of U.S. and foreign anthropologists, ecologists, museum curators, resource managers, and scientists addressing human-forest dynamics from a range of perspectives. Not only is the exchange of ideas important, free flowing and intellectually

## Grant Written for 2019 SEB Meeting

*continued from page 6*

stimulating, but the opportunities for collaboration and establishing new research connections is substantial. This will be especially important for aspiring economic botany, anthropology, environmental studies, and biology students who will participate, gain invaluable experience at an international meeting, assimilate new ideas and discover meaningful career opportunities.

To encourage broader student participation, we are seeking funding to support student travel to the meeting. We will also have a mentoring lunch for students, a tradition of past SEB meetings. We are actively recruiting students to contribute papers and presentations to contribute toward their professionalization. Participation in the meeting will also enable students to expand their professional networks and opportunities for collaboration. This is particularly true for a young cadre of aspiring graduate students at the University of Cincinnati who will help us to organize and run the meeting. By doing so, they will learn on a firsthand basis how professional meetings are put together and how they can function as good ambassadors to our visitors. We anticipate publication of the plenary panel and selected organized sessions that are directly related to the meeting theme in a special volume of *Economic Botany*.

### A listing of recent meetings on the same subject, including dates and locations

Unlike many of the similarly-themed conferences listed below, the SEB conference of 2019 stands apart because it includes a broad range of scholars and viewpoints, including anthropologists, indigenous people, ecologists, and resource managers, rather than a collection of experts from a single field of study. The exceptions to this are two meetings of the International Union of Forest Research Organizations' planned for 2019, which demonstrate the emergent importance of this topic

and the crucial role of anthropologists in shaping policy dialogue.

The first of these, on the theme of "Transforming Approaches to Forests and Forestry through Indigenous and Local Knowledges" Reciprocity, Relationship-Building, and Traditional Ecological Knowledge (TEK) in Forest Ecosystems," will be held in Vancouver, Canada at the University of British Columbia from June 24 to 29. This conference, which recognizes the importance of interdisciplinary approaches in sustainable forest management. Owing to its location outside of the United States, American students are less likely to be able to participate, and can more easily attend and participate in our upcoming event in Cincinnati.

The second of these is on the theme of meeting is on "Small-Scale Forestry," and will be held July 8-10, 2019 in Duluth, Minnesota. Presentations and field sessions will explore the region's unique mix of family-owned, tribal, industrial, and public ownerships with a focus on small-scale forest management. As such, the focus of this meeting is more narrow than that of the upcoming SEB meeting in Cincinnati.

### Additional meetings on forest-related topics are listed below:

*Sept. 17-19, 2019:* World Forestry Center conference on, "Who Will Own the Forest?" in association with the Forest Products Forum, Portland, Oregon; conference geared toward institutional timber products professionals in United States and abroad, with no explicit consideration of anthropological approaches.

*May 15-17, 2018:* 21st Central Hardwood Forest Conference, Bloomington, Indiana; meeting that convened forest managers and ecologists to discuss forest ecology and related issues; no explicit involvement of anthropological experts

or approaches, such as ethnoecology, traditional knowledge, or ethnobotany.

*July 11-12, 2018:* 2ND International Conference on Ecology, Ecosystems, and Conservation, Toronto: The goal is to provide insight and to develop the various aspects of community structure that influence function in real landscapes, especially compensatory community responses that stabilize function, or non-random extinction sequences that rapidly erode it and key environmental factors that influence the provision of services, and measure the spatiotemporal scale over which providers and services operate

*October 24-26, 2018:* Student Conference of Conservation Science, New York: This conference provided emerging conservationists with an opportunity to present their work before leaders in academia, policy, and management on innovative conservation strategies

*Sept. 18-22, 2017:* International Union of Forest Research Organizations IUFRO 125th Anniversary Congress, Freiburg, Germany; more than thirty contributed papers addressed the importance of considering traditional resource management strategies in developing sustainable management plans for the future, including issues of gender, asymmetrical power dynamics, and the potential of traditional ecological knowledge for informing future resource management. The foci of this meeting are similar to those outlined for the 2019 SEB meeting, particularly concerning the inclusion of a session on, "The Role of Social Science in Forestry and Forest Management: Fostering a Culture of Disciplinary Inclusion," which echoes the central goal of the SEB meeting. However, its location outside the U.S. limited the participation of American students, whose training and exposure to interdisciplinary thinking is critical for preparing the next generation of resource managers.

*November 11-12, 2015:* Conservation Conference, Maryland. Major focus is on environmental health and safety, government agencies and NGOs. The main topic of discussion was on new conservation strategies and techniques to create and maintain healthy ecosystems.

*March 4-6, 2015:* Colloquium on Deepening Dialogue with Stakeholders in the Forest Sector in Kenya. Eldoret, Kenya. This conference explores practical approaches for addressing long-standing issues concerning forest management, promotion of community-based management models,



Rare Ohio Native Plant: *Lupinus perennis*

**Continued on page 8**

## Grant Written for 2019 SEB Meeting

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participatory forest management, and land tenure and access rights. Furthermore, it will contribute towards continued collaboration between communities and local government and provide the framework to increase dialogue between the Government and stakeholders in the forest sector in Kenya.

*September 7-11, 2015:* World Forestry Congress (WFC), convened in Durban, South Africa from the role of forests in socio-economic development and food security; building resilience with forests; integrating forests and other land uses; encouraging product innovation and sustainable trade; monitoring forests for better decision making; and improving governance by building capacity.

*Sept. 24, 2014:* Colloquium on Forests and Climate (CIFOR): "New Thinking for Transformational Change;" Columbia University, New York. This colloquium brought together six climate and forestry experts to deliver talks as part of a plenary panel and to participate in subsequent debate with participants. Although the aims of this colloquium were similar to those of the upcoming SEB meeting, and demonstrates the appeal of this topic, its participation was limited to a single day and primarily included invited speakers and members of the Columbia University community.

The number of conferences on this topic show that there is a strong interest in the future of forest management. Note that many of these conferences are outside the US, however, and therefore not easily accessible to US students. Although the goals of many of the conferences listed overlap with the goals of SEB conference, our approach is more multidisciplinary and focuses more on traditional ecological knowledge and ethnological concepts.



### Chairperson, members of organizing committees and their organizational affiliations

#### Local Organizers

David Lentz (Chairperson)  
Past President, SEB (2001-2002)  
Professor, Department of Biological Sciences  
Executive Director, UC Center for Field Studies  
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#### Institutional Organizers

Gayle Fritz, Immediate Past President, SEB  
Professor, Department of Anthropology  
Washington University, St. Louis, Missouri

Sunshine Brosi, Program Director/President, SEB  
Associate Professor, Department of Biology  
Frostburg State University, Maryland

Mark Nesbitt, President Elect, SEB  
Curator, Royal Botanic Gardens, Kew, UK

Robert Voeks, Professor  
Department of Geography & the Environment  
Editor-in-Chief, *Economic Botany*  
California State University, Fullerton, California

Heather Cacanindin, Executive Director,  
Botanical Society of America and SEB  
(Website development, Registration)  
St. Louis, Missouri

### Information on the location and date of the meeting and the method of announcement or invitation.

The 60th annual meeting of The Society for Economic Botany (SEB) will be held in Cincinnati, OH on June 2-6, 2019, in Lindner Hall at the University of Cincinnati. We have contracted the Botanical Society of America (<https://www.botany.org/>) for website development. The meeting webpage is already live and is being expanded as additional program data are developed. Information about the conference has already been included in the fall SEB newsletter, which has been sent out to SEB membership by email and surface mail. The conference is also being advertised on-line on the society website: Society for Economic Botany: <http://www.econbot.org/>



Also, we will announce the conference on all campuses of the University of Cincinnati and to the local community through radio announcements, posters, and emails to academic departments and other groups such as Green Umbrella, Cincinnati, that are likely to include students, faculty, and community members who would be interested in attending the entire conference or with one-day registrations.

### How the meeting will be organized and conducted, how the results of the meeting will be disseminated and how the meeting will contribute to the enhancement and improvement of scientific, engineering and/or educational activities

The 60th annual meeting of the Society for Economic Botany will be hosted, for the first time, by the University of Cincinnati. Ours is an urban campus in a vibrant city that was recently listed by *The New York Times* as one of the top 10 "must see" places in the world, largely owing to the renaissance or our downtown area. Our theme for this meeting will be, "*The Future of Forests: Perspectives from Indigenous Peoples, Traditional Practices, and Conservation,*" and we chose this

## Grant Written for 2019 SEB Meeting

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topic because the forests of the world, not only the mesophytic broadleaf forests of Ohio, but throughout the world are under threat, mostly because of incessant demand by humans for forest products that are exploited in unsustainable ways. The results of this deforestation are problematic on many levels and our speakers will address the challenges that face the global community and offer potential solutions from both scientific and traditional sources.

The meeting will be organized in the same format as past SEB meetings. The first day, June 2, will be for field trips to local sites of archaeological, historical and botanical interest. While most members are enjoying the field trips, the SEB Council will hold its annual meeting on campus. The day will end in the evening with a welcome reception at the Meyer Gallery on the University campus, with generous hors d'oeuvres and a cash bar. An exhibition by local artists will be on display with the themes of meadow landscapes and Appalachian forests. The plenary session will take place on June 3<sup>rd</sup> followed by a student social in the evening. June 4<sup>th</sup> will be for organized sessions with a General Society meeting in the early evening. Later that evening participants can opt to take a tour of some of the finest local microbreweries. On the final day, June 5<sup>th</sup> concurrent workshops and sessions with contributed papers in the morning followed by the poster session in the afternoon. In the evening will be our banquet at the National Underground Railroad Freedom Center followed by a talk by the Distinguished Economic Botanist, Dr. John Rashford. June 6<sup>th</sup> will be a day for more field trips with local guides who are knowledgeable about the sites they will be visiting.



We intend to publish the proceedings of the Plenary Session and selected organized symposia as a special issue in *Economic Botany*. Abstracts from this meeting will be distributed at the meeting and archived on-line at the Society for Economic Botany website <http://econbot.org>.

### U.S. Government Speakers

**Dr. Michael Dockry** is a Research Forester for the U.S. Forest Service. His home office is the Northern Research Station in Saint Paul, MN

**Dr. M. Kat Anderson**, recently retired from the National Plant Data Team (USDA Natural Resources Conservation Service), is now affiliated with the University of California, Davis

### Conference Venue

The main venue for the conference is the University of Cincinnati Lindner Hall. We have already reserved and contracted for the 350-seat auditorium at Lindner, a new building in the heart of the UC campus. Spaces for concurrent sessions and workshops will be located in the Departments of Anthropology and Biology and at the Charles P. Taft Research Center on the university campus.

### Travel to Cincinnati

The Cincinnati airport (CVG) is a short drive from the University of Cincinnati (25 minutes by car, 45-50 minutes by public transportation). The airport connects directly to most major cities in the US and some cities in Canada and Europe. All the major US airlines (Delta, American and United) offer regular flights, and several discount airlines, including Allegiant, Frontier and Southwest, offer competitively priced airline tickets to CVG. Buses are available through Greyhound and Megabus, which has a stop on the University campus just a 2-minute walk from the dorms. Amtrak offers passenger rail service that connects to the East Coast, Chicago and points west.

### Housing

**Dorms:** We have reserved a block of 75 rooms in various dorms on campus (e.g., Scioto Hall and



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the CRC Residence Hall) with services ranging from a conventional dormitory with toilets and showers down the hall to semi-private and private accommodations in new or recently remodeled housing, including several ADA compliant rooms. The cost for a double occupancy room begins at \$46/night. Dorm rooms are all within a 5-minute walk to Lindner Hall and other campus spaces where the conference will take place.

**Hotel:** A block of rooms (40) has been reserved at the newly built Fairfield Marriott Inn, located immediately adjacent to campus, at a rate of \$115/night including breakfast, for those who require more creature comforts.

**Food:** Attendees will be on their own for most meals, but may opt to purchase access to the campus dining halls. This will not be a problem because most SEB meeting attendees love finding new places to eat and the campus is surrounded by affordable restaurants representing many different cuisines, all within easy walking distance. For the less adventuresome, there are several "sit-down" restaurants on campus as well as a food court with the usual assortment of fast-food restaurants that offer salads, soups, tacos, burgers, pizza, fried chicken, sushi, and sandwiches.

During the days of scientific presentations, we will provide coffee breaks with coffee, tea, water, and light snacks in the mid-morning and mid-afternoon, as the on-campus coffee vendors cannot accommodate the number of conference participants who may appear en masse at once.

We will also organize catered food for the opening reception, the Student Mentoring lunch, and the Distinguished Economic Botanist lecture and banquet.

### Social Events

The opening reception in the Meyers Gallery, DEB lecture and banquet, and field trips will provide opportunities for socializing.

### Childcare

In order to increase participation of female scholars and parents traveling with children, we intend to offer an option for childcare during the conference.

### Field Trips

Optional Field Trips to the National Underground Railroad Freedom Center (with docent-led tours), Sunwatch Village (with Gail Wagner), the Edge of Appalachia Preserve (with Sunshine Brosi), Big Bone Lick State Park (with Kenneth Tankersley), Fort Ancient (with John Hancock), and White-water Shaker Village (with David Lentz) will be



offered. Other field trip options include Serpent Mound, Shawnee Lookout, the Cincinnati Zoo and Botanical Garden, the Civic Garden Center, the Krohn Conservatory, and the Lloyd Library.

### About the Society

For the first time, the University of Cincinnati will host the annual meeting of the Society of Economic Botany, an international organization whose mission is, "to foster and encourage scientific research, education, and related activities on the past, present, and future uses of plants, and the relationship between plants and people, and to make the results of such research available to the scientific community and the general public through meetings and publications." With membership spanning the United States and more than 60 other countries, we anticipate that the conference will attract an audience of approximately 250 people.

The Society of Economic Botany awards several graduate student awards, including the R. E. Schultes Award for field work associated with dissertation research. SEB also offers awards for the best oral presentation and best poster presentation at the annual meeting by a student or recent PhD graduate (these awards are named in honor of Edmund H. Fulling and Julia F. Morton, respectively). The Distinguished Economic Botanist Award is granted each year to a scholar based on a career of outstanding research accomplishments. The President's Award is offered for outstanding accomplishments and service to the society. *Economic Botany* is the peer-reviewed journal of the Society, which has been published quarterly since 1947. It is the leading international journal for the study of the interactions between people and plants. Initially, articles in the journal focused on the investigation and description of poorly known useful plants, but during the last several decades,

the mission of the journal has transitioned to hypothesis testing and problem solving in economic botany and ethnobotany. Recent years have seen exciting advances in the field, and these are reflected in the dominant themes of the journal. Among the most important current areas of research are: a. the anthropogenic impacts on vegetation associations and 'wild' plants, b. co-evolution between humans and plants especially in regard to the domestication process, c. The role of socio-cultural variables in plant use and indigenous knowledge, d. the agroecological status of landraces and cultivars, e. the study of ancient systems of plant use as discovered by archaeobotanical techniques, f. changing traditions associated with domesticated and wild plant species, g. the prehistory and diffusion of useful wild and domesticated plant species, h. the ethnobotanical aspects of the migration of human populations from one region to another, i. the economic valuation of wild species, j. the sustainable use of timber and non-timber forest products, and k. advances in ethnobotanical theory.

### Estimate of the Presence of Anthropologists in the Society for Economic Botany.

The Society for Economic Botany screens its membership each year when they register or renew their memberships. They are invited to check boxes to indicate their interests within the broad scope of fields related to ethnobotany/economic botany. Last year, 30% of the members checked anthropology as their major area of interest, out of a total of 635.

### Results from Prior NSF Support

Lentz 1 "Analysis of Reservoirs and Watersheds of the Ancient Maya City of Tikal Using Novel Molecular and Geochemical Approaches,"(PI

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David Lentz with co-PIs, Andrew Czaja, Nicholas Dunning, Trinity Hamilton and Vernon Scarborough, 2016-2019, \$34,937, NSF #BCS-1642547.

### *Senior Research Grant*

The primary theoretical question addressed in this study asks how the ancient Maya in the prominent city of Tikal in northern Guatemala were able to maintain water quality and protect the watersheds surrounding the reservoirs that provided their large populace with adequate supplies of water during the Late Classic period (600-900 CE). To answer these and other questions we have used soil geochemistry assessments, microbiological analyses and the next generation high throughput genetic sequencing techniques in ways that are both innovative and insightful. This project will contribute answers to the following questions: Were the ancient Maya of Tikal able to protect their critical water resources from contamination by human and animal excreta? Did the Maya differentiate between water stored for human consumption and water collected principally for agriculture? How did the Maya protect their reservoirs, many with steep banks, from severe erosion? Did waterborne human pathogens contribute to the devastating collapse and abandonment of Tikal at the end of the Late Classic period? The techniques we have been using are effective and our research, when complete, will provide substantive answers to aspects of all of these questions.

Five undergraduate students at the University of Cincinnati participated in the research outlined above. Three of those students, who were supported by this NSF grant, worked in the labs during the fall and spring semesters of the 2016-2017 academic year. Each of these students presented posters based on the research they conducted on behalf of this project at the University of Cincinnati Undergraduate Research Forum in April 2017. The PI has presented four papers at national and international meetings based on this NSF-supported research from this grant. To date this project has produced one peer-reviewed publication (Lentz et al. 2018) with several more in preparation.

Lentz 2 “Long-Term Human Land, Forest and Water Management in a Tropical Environment,” (PI Nicholas Dunning with co-PIs David Lentz and Vernon Scarborough, 2017-2020, \$231,563, NSF# BCS-1632392. Senior Research Grant.

The land and water management strategies that supported the development of complex societies in southern Mesoamerica are poorly understood. A primary theoretical question to be addressed in this study focuses on the lingering concern of how the ancient inhabitants in the elevated interior areas of the Maya Lowlands were able to sustain urban populations for many centuries. A corollary to this question asks how agricultural intensification was achieved and how other essential resources, such as water and forest products, were managed. In particular, we are interested in the development of systems for the management of hydraulic, soil, and forest resources at the large urban center of Yaxnohcah, especially as they contributed to agricultural activity, land clearance, and exploitation of the *bajos*. We believe that all of these activities were essential components of an initially sustainable land use strategy that eventually had trouble meeting the demands of an escalating population. Yaxnohcah provides an ideal test case for examining the changing trajectories of human-environmental interactions in the “Maya heartland” because it grew into a large urban center early in the Preclassic period, survived the Preclassic Collapse that enveloped some of its large neighbors, and became a Classic period center of some significance before abandonment in the Terminal Classic. Investigation of the hydraulic, agricultural, and forest management strategies that allowed the persistent occupation of Yaxnohcah in the face of changing environmental and political economic conditions provide insights that broaden our understanding of the rise of social complexity, the expansion of the Maya political economy specifically, and, in general terms, the trajectory of cultural evolution.

During our last two field seasons at Yaxnohcah (2017 & 2018) we have collected flotation, macrobotanical, pollen and DNA samples from 154 archaeological contexts and over 1,000 herbarium

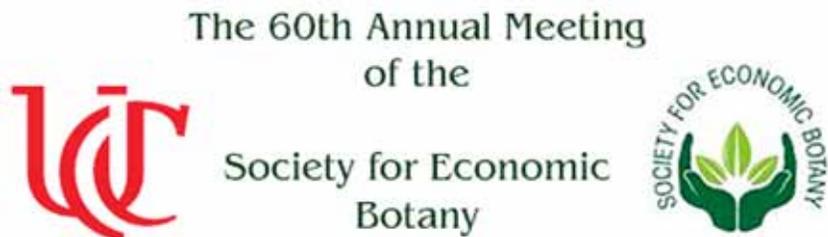
specimens from the modern forest. We are in the process of analyzing all of these specimens and we expect to complete this phase of our research by the end of next spring. Thus far, numerous posters and conference papers have resulted from this research and one peer reviewed paper is in press (Dunning et al. 2018). Ongoing paleoethnobotanical research at Yaxnohcah will determine how the inhabitants of the of the Maya Lowlands used agriculture, water resources, and forest management to sustain urban populations over many centuries during the Preclassic and Classic periods until the site's abandonment in the Terminal Classic.

Lentz 3 “Ancient Maya Agroforestry, Land, and Water Management at Tikal, Guatemala” (PI David Lentz with co-PIs Nick Dunning and Vernon Scarborough, 2009-13, \$175,693; NSF#BCS-0810118). Senior Research Grant.

The goals of this project were to investigate ancient Maya land, forest and water management at Tikal. Our findings included documentation of the largest and most sophisticated reservoir system known in the Maya Lowlands, and a complex system of land and forest resource management that ultimately reached its limits in the Terminal Classic period (9<sup>th</sup> century CE). This system included localized irrigation, *bajo* agriculture and intensive cultivation of sweet potatoes and *achira*, two root crops previously unknown archaeologically in the Maya area. These findings and more have been reported in numerous meeting presentation and articles (Lentz et al. 2010, 2011, 2014; Dunning et al. 2012; Scarborough et al. 2012; Tankersley et al. 2011, 2018; Lentz and Hockaday 2009; Thompson et al. 2015; Heckbert et al. 2015) with more forthcoming. Also, many conference presentations, and a book released by Cambridge University Press (Lentz, Dunning, and Scarborough 2015) have been produced as a result of this funding.

Lentz 4 “FSML: Power, Equipment and Connectivity for the University of Cincinnati Center for Field Studies” (PI David Lentz with co-PIs Regina Baucom, Guy Cameron, Kenneth Tankersley and Kenneth Hinkel. 2012-2016. \$167,076, NSF #DBI-1226891. FSML facilities grant.

Several major goals were outlined for this project, which were essentially a means of site improvement and equipment upgrades for the UC field station. Through the award of the FSML grant, we fulfilled all of our stated goals. The upgrade for our internet service, the completion of our sensor network system, the drilling of a water



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## Grant Written for 2019 SEB Meeting

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well on the east side of the field station campus and the installation of the solar panels, have all been accomplished. The acquisition of several major equipment items has been accomplished, too. We purchased two research grade microscopes, a LiCor leaf area meter, a weather station, a server and several other equipment items for the new lab building. All of these are now in service and helping us achieve our educational and research missions.

Lentz 5 “Non-Elite Political Economy, Agriculture, and a Sacbe at Cerén, El Salvador” (2013-2015, \$113,492; NSF# BCS-1250629). Senior Research Grant.

Lentz 6 “Root Crop Agriculture, Land Use, and Authority Outside of the Cerén Village, El Salvador” (2011-2013, \$75,200; NSF# BCS-1115755). *Senior Research Grant.*

Lentz served as the co-PI on several NSF grants with PI Payson Sheets for the study of the paleoecology and paleoethnobotany of the Cerén site. Studies supported by these funds have resulted in numerous professional presentations, symposia, a book (Sheets 2013), and several articles (Sheets et al. 2012, 2015; Kaplan et al. 2015; Lentz and Hood 2013; Farahani et al. 2017).

Allen 1 “Wetlands and the Transition to Agriculture in Europe: The Southern Albania Neolithic Archaeological Project.” 2009-2015. (PI, Susan E. Allen) National Science Foundation. \$191,806. Senior Research Grant.

Our findings revealed the establishment of the earliest agricultural sites in Albania on wetland edges at or before 6,500 cal BCE. Inhabitants of Vashtëmi, an Early Neolithic site that we excavated, cultivated einkorn wheat, barley, lentils, and bitter vetch, raised sheep, goats, pigs, and cattle and foraged for a diversity of wild fish, reptiles, and mammals available from open water, riverine, and riparian forest settings. In addition to several presentations of this research at meetings of the Society for American Archaeology, the Archaeological Institute of America and the Dimensions of Political Ecology Workgroup, and at a symposium at the University of Heidelberg on “Balkan Dialogues,” preliminary reports of this research have been published in the journal *Iliria* and as three chapters in edited volumes (Allen 2015; Allen, Gjipali et al. 2014; Gjipali and Allen 2013a, 2013b, 2015). Ceramic characterization analyses were reported in a M.A. (Ruzi 2013) and in a Ph.D. dissertation that is in progress (both at SUNY Buffalo, Anthropology). A monograph on the site is currently in preparation for publication by the Cotsen Institute of Archaeology Press at UCLA. Eleven American, Albanian, and Albanian-American graduate students, and six American undergraduate students participated in the project and learned excavation and environmental archaeology methods through the field school.



## Publications

CYCAD BIOLOGY AND CONSERVATION  
THE 9TH INTERNATIONAL CONFERENCE ON CYCAD BIOLOGY

EDITED BY  
NAN LI, DENNIS W.M. STEVENSON,  
AND M. PATRICK GRIFFITH



Cycads, ancient in origin and once widespread on Earth, hold particular interest for science because they are key to researchers' efforts to understand the evolution of plant life. Since 1987 the International Conference on Cycad Biology has been held every three years, bringing together cycad specialists from around the world to present new scientific discoveries, discuss future research endeavors, and build new collaborations for conservation. Now available from NYBG Press is *Cycad Biology and Conservation: The 9th International Conference on Cycad Biology*, edited by Nan Li, Dennis Wm. Stevenson, and M. Patrick Griffith.

Consisting of 34 papers, the volume can be purchased as a hardcover print edition, or the papers can be downloaded as a set or individual papers. In addition, NYBG Press is making digital chapters from the proceedings of three previous cycad conferences available, for a total of 119 research papers, allowing customers to choose the research topics of most relevance to them.

To read the full release, go to:

[https://www.nybg.org/content/uploads/2018/12/NYBG\\_Press\\_Cycad\\_Papers\\_Release.pdf](https://www.nybg.org/content/uploads/2018/12/NYBG_Press_Cycad_Papers_Release.pdf).

The Plant Conservation Alliance is pleased to announce the release the first Progress Report on The National Seed Strategy, Making Progress. Online copies can be found at [PlantConservationAlliance.org/Resources](http://PlantConservationAlliance.org/Resources) and [blm.gov/SeedStrategy](http://blm.gov/SeedStrategy).

The National Seed Strategy fosters interagency collaboration to guide the development, availability, and use of seed needed for timely and effective restoration. Success on a national scale will be achieved through coordinated nationwide

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## Ethnobotanews

*This is great article; but more than the article, I wanted to introduce the authors who are all fabulous researchers and our own DEB Tony Cunningham. There are so few articles on wild harvest conservation, it is good to see more articles like these out there. The majority of the thousands of herbs in the market are wild harvested—maybe 80%—but don't quote me on that. The issue is that the populations are declining and cultivation is starting; however, it is not adequate or profitable enough to keep up with the demand. I think the other issue for researchers is to compare cultivated to wild, as we know from our traditional Knowledge Holders that there is a difference. Enjoy reading but more important get out into the field and study the sustainability of more herbs in the commerce, economic botany.*

### Journal of Ethnopharmacology

Volume 225, 28 October 2018, Pages 42-52  
(<https://doi.org/10.1016/j.jep.2018.06.033>)

“Production from Both Wild Harvest and Cultivation: The Cross-Border *Swertia chirayita* (Gentianaceae) Trade”

Authors: A. B. Cunningham, A. Brinckmann, U. Schippmann, and D. Pyakurel

### AIBS Public Policy Report

Volume 20, Issue 1, January 7, 2019  
“Science and Border Walls”

As large swaths of the federal government are shuttered while politicians spar over whether or not a wall along the border with Mexico improves national security and thwarts illegal border crossings, science has shed some light on issues related to walls. In 2017, Lesley Evans Ogden authored a feature article published in *BioScience* that explored “Border Walls and Biodiversity: New Barriers, New Horizons” (<https://doi.org/10.1093/biosci/bix044>). Interestingly, as Evans Ogden reported, camera trap data from researchers along the border found no difference in the number of humans crossing at locations with or without a wall. Not surprisingly, the walled locations did hinder animal movement across the border.

More recently, on January 2, 2019, Jennifer R. B. Miller penned a blog post for *Scientific American* (<https://blogs.scientificamerican.com/observations/how-trumps-wall-would-alter-our-biological-identity-forever/>) that expands on a Viewpoint article, “Nature Divided, Scientists United: US-Mexico Border Wall Threatens Biodiversity and Binational Conservation.” Miller and 17 coauthors published the article in *BioScience* in October 2018 (<https://academic.oup.com/bioscience/article/68/10/740/5057517>).

*I know this is too late, but for 2020, it presents a new option for money.*

### Attention Graduate Students: Apply for the 2019 AIBS Emerging Public Policy Leadership Award

Are you a science graduate student looking to make a difference in science policy and funding? The American Institute of Biological Sciences (AIBS) is now accepting applications for the 2019 AIBS Emerging Public Policy Leadership Award. This award recognizes graduate students in the biological sciences who are demonstrating an interest and

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## 2019 Distinguished Economic Botanist Interview

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experienced members of the Society that I met when I was a student coming up through the ranks. I really admired their dedication and the meetings were always fascinating, and a great learning experience.

### So, as economic botany spans many fields—from anthropology to biology—have there been any challenges you faced in bridging those fields, whether it is in publishing literature or conducting research?

I would say there will always be challenges when it comes to interdisciplinary research, but none of them posed a great difficulty for me. I feel this way because at some point we research things that they we really care about and that is what I have been doing.

### Has there been a moment or achievement that has been particularly rewarding part of your career?

That is a good question. I never really thought about it because I consider myself fortunate. I have enjoyed the whole experience from the very beginning and I tend not to think about one particular moment. I enjoyed being a graduate student; it was wonderful to be in New York in the 1970s and to be part of the world of anthropology at that time. It was then that I learned that it was really the making of our modern world that it made it possible for plants from around the world to end up in the Caribbean and how very special this was. For example, everyone knows of Mutiny on the Bounty and the introduction of breadfruit to the Caribbean. I was curious to learn more about how plant introduction from around the world has influenced the history and culture of the peoples of the Caribbean.

### Was there a valuable lesson you learned in your work or uncovered through your research that you would like to share with other people?

The things I would like to share the most is that ethnobotany has a lot to contribute to inter-disciplinary studies and to the practical concerns of the people with whom we collaborate. Nevertheless, I often think that ethnobotanists also have a great deal more to contribute to our understanding of the role of plants in human evolution, a neglected subject in our discipline.

### Do have any advice to give budding economic botanists?

I have no advice that I would like to give at this time. However, I have one good wish for budding economic botanists. I hope that over the years they will be as fortunate as I have been to have benefitted from having been a member of the Society for Economic Botany. For me, being a member of the Society for Economic Botany has been a great learning experience and I have especially enjoyed the company of wonderful colleagues I have met over my many years of attending SEB meetings. In fact, I credited a lot of what I have learned about people and plants over these many years to having been an active member of the society. I hope the young people who come up through the ranks will be as fortunate as I think I have been.

## In Memoriam

### Al Keali'i Chock:

#### A Teacher's Teacher

Submitted by Will McClatchey, Valerie McClatchey, and Kim Bridges, [will.mcclatchey@gmail.com](mailto:will.mcclatchey@gmail.com), Woodland Valley Meadows Farm, Eugene, Oregon, U.S.A.

Al was old school and proud to have attended Roosevelt Standard School. In Hawai'i it is customary when meeting people to inform them of where you went to high school. This information is then used as the basis for building communication and understanding relative social status. Al informed us that undoubtedly this is derived from a blend of Pacific and Asian traditions (genetic testing revealed his split as 91% East Asian and 9% Polynesian). This says a lot about Al. He lived his life as a blend of traditions. He was "hapa" in his heart having a great love for Polynesian people and traditions but also being proud and humbled of his ethnic Chinese or pake background. Al and Yona were regulars at important cultural festivals and avid square dancers as well.

Al was mentored as a graduate student by the notorious Harold St. John and Otto Degner. When the Korean War broke out, Al joined the Army and left his Ph.D. project. He never returned to complete his Ph.D. because he landed a series of very interesting and challenging positions that took him into the U.S. Department of Agriculture's Foreign Service where he, Yona, and their three daughters were able to live in a variety of locations around the world, with his most discussed being Germany. Eventually Al worked with the United

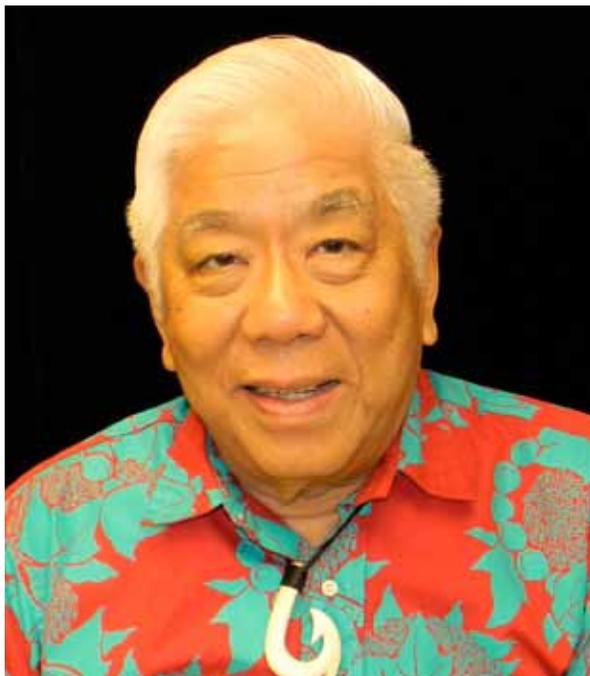
Nations, FAO, before finally returning to his home in Hawai'i. After retirement, Al began to teach ethnobotany at University of Hawai'i alongside Isabella Abbott and a host of top botanists. He was at least their equal in all ways but his degree. Some held this against him, while others recognized his genius and generous gifts of teaching and working in cross-cultural research. Al found acceptance for his science and ideas in the warmth and friendship of the Society for Economic Botany. At SEB meetings, he could usually be found with students, sharing ideas, and helping them explore.

We shared an office with Al for about 10 years and it would be a very long essay to describe all that he taught us. Suffice it to say that **ALLOVED** working with young students, especially those interested in learning more about the ethnobotany of their ancestors, wherever they were from. Students flocked to his Hawaiian ethnobotany courses because of the way he spoke. He could spin interesting and real stories, bringing to life the roles of plants in our lives.

Al was an active participant in SEB meetings right to the end. Just before he left us, he organized and chaired a symposium for last year's meeting and gave several presentations. Alvin Keali'i Chock, 87, died on September 12, 2018. He is greatly missed.

For a draft biography organized by Al see <https://sites.google.com/site/alkealiichock/>

Al Keali'i Chock, ku'u kumu akamai Teacher, kupuna, Magical beloved friend. We miss you sorely.



### Jim Duke

New Hope Network recently honored Jim into their Hall of Legends and here is a short notice about Jim. There will never be enough said that expresses the greatness of this Distinguished Economic Botanist. There have been several memorials to this unique mentor. Please see an extensive article in *Herbalgram* (17 Feb 2018).

James A. "Jim" Duke (4 April 1929–10 December 2017) was an American ethnobotanist and herbal medicine advocate. Jim was born in Birmingham, Alabama and received his doctorate in botany from the University of North Carolina in 1961. He was the author of numerous publications on botanical medicine, including the CRC Handbook of Medicinal Herbs and Medicinal Plants of the Bible. Many of his books were illustrated by his wife of over 50 years, Peggy Duke. Jim was perhaps best known for his 1997 bestseller, *The Green Pharmacy* and his Phytochemical and Ethnobotanical Databases compiled while at the USDA.

During the late 1970s, he was chief of the Plant Taxonomy Laboratory, Plant Genetics and Germplasm Institute of the Agricultural Research Service, USDA. Throughout his career and into "retirement," he led many eco-botanical tours focusing on ethnobotany, most often in the Amazon basin of Peru. He also taught for many years at Maryland University of Integrative Health (formerly Tai Sophia), usually barefoot in his Green Farmacy Garden. Jim's 20 years of post-USDA compiled data has been licensed to Botanica Elaborum, a company owned by Jim's family and several investors. Botanica Elaborum and Vitrean America are collaborating to make Jim's phytochemical database accessible for commercial and educational applications, including research to discover new medicines.

Jim was an excellent musician and a fair poet, sometimes writing botanical lyrics to well-known songs like John Prine's "Paradise." His published songs that he shared after his DEB presentation is titled "Herbalbum." He enjoyed near weekly jam sessions with the Critical Mass Band, the critical members being his son John on guitar, Jim Weed on hammer dulcimer and Jim himself playing "stand up" bass (in quotes because he could no longer stand up). Jim died at his home in Fulton due to a range of mostly self-diagnosed and untreated conditions, ranging, "worrywortism" and xerostomia.

Jim's legacy is carried on in both the southern and northern hemispheres of the Americas. The Amazon Center for Environmental Education

## In Memoriam

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and Research (ACEER) has established the James A. Duke Ethnobotanical Fellowship to increase opportunities for research by Latin American graduate students that fosters biodiversity conservation in the Peruvian Andes and Amazon. Also in Peru, Shaman Guillermo Rodriguez of Explorama maintains and facilitates educational use of the ReNuPeru Ethnobotanical Garden near the Napo River, which is still visited by a University of Maryland class he led for several years and is now led by FDA scientist Andrea Ottesen. To the north, Duke's beloved Green Pharmacy Garden in Fulton, MD, is in the capable hands of Garden Director Helen Metzman with support from the Maryland University of Integrative Health and the Duke family.

Jim is survived by his wife Peggy, his son John, his daughter Celia, and five grandchildren. Countless scientists, herbalists, and gardeners were inspired by his teachings, his writings, and his good-humored songwriting. Jim's passion for botanical medicine, good folk music and cheap wine will be long remembered.

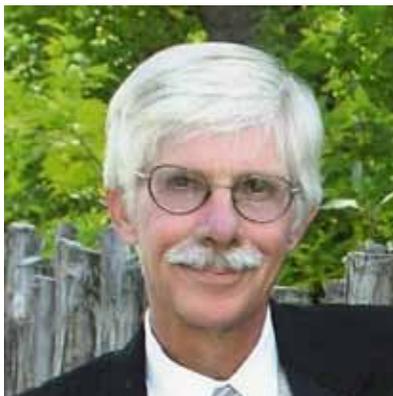


### Dr. Hugh D. Wilson, TAMU November 2018

*The Taxonomy Community Remembers Hugh*

I am saddened to report the death of my friend and botanical mentor, Dr. Hugh D. Wilson, retired Emeritus Professor of Biology and former Curator of the TAMU Herbarium at Texas A&M University.

Wilson was known for the study of the floras of Ohio and Texas, with focus on conservation of rare species and habitats, and for his ethnobotanical research and early molecular work on *Lagenaria*, *Cucurbita*, and *Chenopodium*. His enthusiasm for taxonomy, ethnobotany, floristics, conservation, and specimen digitization inspired many of his students to become botanists or pursue related fields, and I am lucky to count myself among them.



Wilson was the curator of the TAMU Herbarium (now combined with Texas A&M's Tracy Herbarium, TAES) and was an early, visionary promoter of specimen digitization, herbarium data standards, online collections browsers, and regional consortium building—many years before these ideas became widely embraced and adopted. He was instrumental in the creation of one of the earliest online herbarium specimen browsers (for TAMU and TAES), and provided leadership for both iterations of the region's herbarium consortia (first, the Digital Flora of Texas Consortium, and later, the Texas-Oklahoma Regional Consortium of Herbaria (TORCH)). Wilson's insistence that botanical data should be digitized so they could be easily shared and updated, and then eventually combined and mined for research—long before Big Data was a thing—made him a pariah, in his own opinion. In my opinion, he is one of the giants upon whose shoulders many of us now stand.

In lieu of other forms of commemoration, please take the time to accompany your students in their fieldwork, or invite them to accompany you in yours.

—Amanda K. Neill

## Ethnobotanews

*continued from page 13*

aptitude for working at the intersection of science and policy.

- Recipients of the AIBS Emerging Public Policy Leadership Award receive a trip to Washington, D.C., to participate in the AIBS Congressional Visits Day, an annual event where scientists meet with lawmakers to advocate for federal investment in the biological sciences, with a primary focus on the National Science Foundation. The event will be held on March 18-20, 2019. Domestic travel and hotel expenses are paid for the winners.
- Policy and communications training, including information on the legislative process and trends in federal science funding, and how to engage with policymakers and the news media.
- Meetings with lawmakers to discuss the importance of federal investment in the biological sciences.
- A one-year AIBS membership, including a subscription to the journal *BioScience* and a copy of "Communicating Science: A Primer for Working with the Media."

The 2019 award is open to U.S. citizens and U.S. permanent residents enrolled in a graduate degree program in the biological sciences, science education, or a closely allied field. Applicants should have a demonstrated interest in and commitment to science policy and/or science education policy. Prior recipients, including Honorable Mentions, are not eligible for the award.

Applications are due by 05:00 PM Eastern Time on January 14, 2019. The application guidelines can be downloaded at <http://www.aibs.org/public-policy/eppla.html>.



## Events and Meetings

*I am sorry that this has passed. David Katerere Tshwane University of Technology, person in South Africa, so please keep in touch with him for annual meetings and activities in South and Southern Africa.*

We are excited to unveil the programme for PharmaConnect Africa 2019 Conference & Expo to be held from the 3– 5 April 2019 at Glenhove Events Hub in Johannesburg, South Africa. We can confirm the participation of SAHPRA, Zazibona, MCAZ (Zimbabwe), NDA (Uganda), IGCEB, DTI, The Innovation Hub, HPASA, GBMSA and key representatives from Industry, Academia, policymakers and for the first time in 2019, patient groups.

Day 1 (3 April)	Day 2 (4 April)	Day 3 (5 April)
<b>Regulatory</b> Moderator – Dr Judy Coates (PSSASG)	<b>Education and Training</b> Moderator –Mr Vivian Frittelli (GBMSA)	<b>Medical Cannabis</b> Moderator – Prof David Katerere (TUT)
<b>Reliance &amp; Worksharing – Lessons for Africa</b> <i>Relying on others, stretching resources</i> WHO rep - TBA <i>New SAHPRA, New Pathways</i> Mabatane Davis Mahlatji (SAHPRA) <i>Zazibona Reliance Victories</i> Farai Masekela (Zazibona / MCAZ) <i>Industry Experience</i> David Gibbons (Roche)	<b>Biologicals &amp; Biosimilars</b> <i>ICGEB Innovation in Biosimilars</i> Dr Natasa Skoko (ICGEB, Italy) <i>SAHPRA Approach to Biosimilars</i> Dr Henry Leng (SAHPRA advisor) <i>Biosimilar Market Trends – the ones to watch</i> Randall Crisp (Clarivate)	<b>The Global Medical Cannabis Business</b> <i>The Medical Cannabis in Europe</i> Marco Capiello (Enecta, Italy) via skype <i>Is South Africa Falling Behind? Griffith</i> Molewa (SAHPRA) <i>Medical Cannabis in Lesotho - Lessons from the Mountains</i> Prof Sunny Aiyuk (NUL) <i>Growing weed – what is the science?</i> Dr Ashwell Ndlela (ARC) <i>Medical Cannabis Business – another bubble?</i> Randall Crisp (Clarivate)
	<b>INFO SESSION:</b> <i>Re-engineering SAHPRA: A Status Report</i> Dr Alice Sigobodhla (SAHPRA)	
<i>Reliance – what it means us</i> Patient Group presentation	<i>Biosimilar and us</i> Patient Group presentation	<i>Medical cannabis in Cancer management</i> Patient Group presentation
<b>Clinical Trials</b>	<b>Local Pharmaceutical Production</b>	
<i>Worksharing in RCT Reviews</i> SAHPRA rep - TBA <i>Lessons from the East Africa</i> Eng. Jennifer Gache (EAC) <i>Industry Perspectives</i> TBA	<i>Beyond the buzz: Critical requirements for a successful technology transfer</i> Dr Paul Nkansah (US) <i>Tech transfer experiences in South Africa...are we winning?</i> Dr Skhumbuzo Ngozswana (Kiara Health) <i>EAC Regional Pharmaceutical Plan of Action - Lesson to be Learnt</i> Eng. Jennifer Gache (EAC) <i>The Bionac Experience – the long walk</i> Sandra Lambert	

## Sponsorship and Exhibition

PharmaConnect Africa 2019 is an ideal platform to market your services and products to a wide and diverse audience. We would therefore like to invite you to sponsor the event and/or exhibit your services and products at the venue or on our website. Please see website for more information.

Website: <http://www.pharmaconnect.co.za>; Email: [nano@pharmaconnect.co.za](mailto:nano@pharmaconnect.co.za)

We look forward to your active participation.

Yours faithfully, Prof David Katerere, Chair [Katereredr@tut.ac.za](mailto:Katereredr@tut.ac.za)

## BGCI February 26 News

*I am sharing the Botanical Garden Conservation International (BGCI) activities as finally, conservation and climate change are in the conversation everywhere.*

Dear Friends,

We are pleased to be bringing you the sixth Big News from BigPicnic—an international, multi-stakeholder project that aims to generate debate by bringing together the public, scientists, policymakers, and industry to help address the global challenge of food security.

We are launching our BigPicnic Recommendations, which will support policymakers and informal learning sites to implement the project findings. This series of six policy briefs is being launched at the BigPicnic Final Festival which is happening in Madrid, this week! Download them from [BigPicnic.net](http://BigPicnic.net). For more updates follow us on Twitter @BigPicnic\_EU.

The BigPicnic Final Festival took place on 27 February 2019 at Real Jardín Botánico de Madrid in Spain. The event brought together educators, policy-makers, and stakeholders to celebrate the findings of the project and discuss how policy recommendations can be implemented in Europe and beyond. Visit <https://www.bigpicnic.net> for more on the following topics.

### Bees in the City

“The Natural History Museum, University of Oslo hosted a science café about the potential competition between wild bees and honey bees in the city.”

### Smoothies

“At the University of Innsbruck, we wrote a diploma thesis about sustainable nutrition. The aim of this was to develop a theory-driven approach to teaching sustainable nutrition. To establish a relationship between several aspects of the topic, we decided to employ the current trend for smoothies.”

### Stop Eat Peat

“The team at the University of Warsaw took part in a conference entitled “Food-Peatlands-Climate: Understanding the Connections to Save Peatlands.” We discussed BigPicnic, throughout which we have been making connections between food and farming, and protection of the environment.”

### Is Bio Better?

“Botanic Garden Meise organized six science cafés on topics that emerged from our co-creation activities. Particularly interesting was the science café on the advantages and disadvantages of organically grown food and of Community Supported Agriculture as an alternative agro-economic model.”

## Grants and Awards

*I know this entry is late, but please contact Annie to find out more.*

Hi Ethnobotanist Mentors and Friends!

We just launched the call for nominations for the Equator Prize 2019. This year's winners will feature innovative, nature-based solutions for climate change mitigation and/or adaptation and sustainable development at the local level.

I'm requesting to share information with your networks and/or to nominate groups that you've worked with. In general, we are requesting support in two areas:

**One:** *Please spread the word on your personal/institutional social media channels.* For this purpose, we have put together a trello board with ready-to-post material in English, Spanish, French and Portuguese. The trello board can be found here: <https://trello.com/b/RCgMBR9d/equator-prize-2019-social-media>.

**Two:** *Circulate this announcement* to your local partners and contacts and encourage them to submit nominations, which are available in eight languages. Self-nominations are accepted.

Please find the official announcement attached in English, French, and Spanish. Materials in Arabic, Chinese, Russian, Portuguese, and Indonesian are available at <https://www.dropbox.com/sh/pkmz11w9k1d31is/AAD-CV09nNrE0G1NKrmpRS3Ma?dl=0>.

The nomination platform is available in 8 languages here. It contains all relevant information on eligibility requirements, selection criteria and how to nominate. For further information please visit [www.equatorinitiative.org](http://www.equatorinitiative.org). The nomination deadline is 26 February 2019.

Winners will be invited to participate in a series of policy dialogues and special events during the United Nations General Assembly in New York in September 2019. As in the past, we will also support ceremonies at the national level for additional exposure for winners at the country level.

If you have any questions, please don't hesitate to let me know!

Annie Virnig, Knowledge Management & Capacity Building Specialist Global Programme on Nature for Development  
[anne.virnig@undp.org](mailto:anne.virnig@undp.org)  
[www.equatorinitiative.org](http://www.equatorinitiative.org) ; [www.undp.org](http://www.undp.org)

## 2019 SEB Meeting Grants

### SEB is again offering grants for international and national students.

For SEB 2019 in Cincinnati, we will provide up to eight travel grants for student and/or post-doctoral scholars to attend the meeting! These merit-based awards will be made to current SEB members in the amount of \$590 to be used towards transportation and lodging. Awardees will also receive complimentary registration to the meeting. Visit our "Student/PostDoc Travel Awards" page at [econbot.org](http://econbot.org) to learn more. The Society is also offering up to eight travel grants for Society members from developing nations. Learn more about Developing Nations travel awards at "Developing Nation Travel Awards" page of [econbot.org](http://econbot.org).

The deadline to apply for these awards is March 18th. APPLY TODAY!

SEB 2019 Registration site is open! <<https://www.eiseverywhere.com/ereg/index.php?eventid=399466&>>

**Abstract Submission** <[https://2019.sebconference.org/engine/abstract\\_submit/](https://2019.sebconference.org/engine/abstract_submit/)>

### Additional Travel Awards

2019 Meeting Coordinators have received NSF funds for domestic student travel. We have a form (below) that students can fill out to apply for a \$500 travel grant to attend the SEB meeting.

#### SEB Student Travel Request Form 2019

Please email the completed Travel Request Form to Alexandra Golden ([goldenad@mail.uc.edu](mailto:goldenad@mail.uc.edu)) by 11:59pm EST on April 21, 2019.

Name: \_\_\_\_\_

Contact email: \_\_\_\_\_

University or Organization: \_\_\_\_\_

Home Address: \_\_\_\_\_

Where are you traveling from? City: \_\_\_\_\_ State: \_\_\_\_\_ Country: \_\_\_\_\_

Are you presenting? Yes      No

If yes, paper or poster: \_\_\_\_\_

Any extra assistance required?

\_\_\_\_\_

Who is your Advisor/mentor?

Name: \_\_\_\_\_

Email: \_\_\_\_\_

Please have your advisor/mentor email an informal letter of reference to Alexandra Golden ([goldenad@mail.uc.edu](mailto:goldenad@mail.uc.edu)) by 11:59pm EST on April 21, 2019. Your Travel request form cannot be considered until we receive the requested letter from your advisor.



## Publications

*continued from page 12*

networks of native seed collectors, farmers, and growers working to develop seed, nurseries, and seed storage facilities to supply adequate quantities of appropriate seed, and restoration ecologists who know how to put the right seed in the right place at the right time.

Making Progress is a collection of these collaborative efforts and successes. This document highlights over 160 projects and the work being done to address each goal of the Seed Strategy, followed by ecoregional projects that illustrate the extent of collaborations that are underway to lay the foundation for a more comprehensive network of collectors, testers, and growers to make native plants more available across the country.

The Strategy and Making Progress was developed through the Plant Conservation Alliance including the Federal Committee, chaired by the Bureau of Land Management with representatives from 12 federal agencies: Department of the Interior (BLM, Bureau of Indian Affairs, U.S. Fish and Wildlife Service, U.S. Geological Survey, and the National Park Service), Department of Agriculture (Agricultural Research Service, National Institute

of Food and Agriculture, Natural Resources Conservation Service, and U.S. Forest Service), Department of Transportation (Federal Highway Administration), the Smithsonian Institution, the U.S. Botanic Garden, as well as over 370 partners within the Non-Federal Committee, chaired by Chicago Botanic Garden.

PCA's Medicinal Plant Working Group mailing list  
MPWG@lists.plantconservation.org  
[http://lists.plantconservation.org/mailman/list-info/mpwg\\_lists.plantconservation.org](http://lists.plantconservation.org/mailman/list-info/mpwg_lists.plantconservation.org)

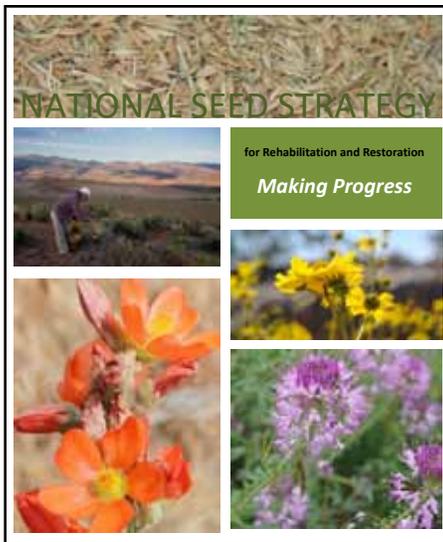
A New York Botanical Garden scientist and his colleague have named a new species of lichen that can be identified in part because of its bright glow under ultraviolet light in honor of a media and entertainment figure who has been in the spotlight for four decades—Oprah Winfrey, who was born in the region where the lichen is found. It is the first plant species named for Ms. Winfrey.

The new species, *Hypotrachyna oprah*, was discovered in the southeastern United States by James

C. Lendemer, Ph.D., an Assistant Curator in the Botanical Garden's Institute of Systematic Botany, and Jessica L. Allen, Ph.D., an Assistant Professor of Biology at Eastern Washington University. The new species is considered rare and was possibly confused with another lichen species in the past. Drs. Lendemer and Allen describe *Hypotrachyna oprah*, which they have given the common name "Oprah's sunshine lichen," in a paper for *Castanea*, the journal of the Southern Appalachian Botanical Society.

To read the full press release, go to:  
<https://www.nybg.org/content/uploads/2019/02/Oprah-Lichen-Release.pdf>

With the world's forests under increasing threat, "The Tree Dialogues," a three-part lecture series at The New York Botanical Garden, features accomplished authors in compelling talks followed by conversations about eco-activism, plant intelligence, indigenous practices, and how people can learn from, protect, and live with trees and the natural world.



The featured speakers are Richard Powers, National Book Award-winning author of 12 novels, including *The Overstory*; Peter Wohlleben, author of the best-selling *The Hidden Life of Trees* and *The Secret Wisdom of Nature*; and William Bryant Logan, arborist and award-winning author, including *Sprout Lands: Tending the Endless Gift of Trees*.

The lectures take place on Thursday, March 7; Wednesday, March 13; and Tuesday, May 21, 2019, beginning at 10:30 a.m. in Ross Hall at NYBG.

For more details, see the media alert here:  
<https://www.nybg.org/content/uploads/2019/02/Media-Alert-The-Tree-Dialogues-Lecture-Series.pdf>



**THE TREE DIALOGUES**  
*With the world's forests under increasing threat, this series invites award-winning & best-selling authors for compelling conversations on critical environmental issues, eco-activism, indigenous practices, plant intelligence, & more. Join us for fascinating insights into the many ways we can learn from, protect, & live with trees.*

## Nature Apps for 2019

Submitted by Gail E. Wagner  
gail.wagner@sc.edu

**iNaturalist** (FREE) The community for naturalists  
<http://www.inaturalist.org>

This app is very user-friendly. Over 1 million people worldwide who have signed up for iNaturalist have observed over 193,000 species in over 15 million observations. Since 2014, it is housed by the California Academy of Sciences. As stated on the web page: (1) Record your encounters with other organisms and maintain life lists, all in the cloud (i.e., no storage space used on your device); (2) Crowdsourcing Identifications: Connect with experts who can identify the organisms you observe; (3) Learn About Nature: Build your knowledge by talking with other naturalists and helping others with their identifications; (4) Create Useful Data: Help scientists and resource managers understand when and where organisms occur (data are shared with scientific data repositories, such as the Global Biodiversity Information Facility); (5) Become a Citizen Scientist: Find a project with a mission that interests you, or start your own; and (6) Run a Bioblitz: Hold an event where people try to find as many species as possible. Once you've sign up, you can enter photos from your device, even old ones, and the geotagged data and time are saved. Add notes, or more than one photo of the same organism. Others confirm your identification, or suggest differently. For example, before I went to the 2016 SEB conference at Pine Mountain, KY, I logged on to see what observations had been made there earlier in the week, giving me an idea of what plants I might see flowering during my visit! Wherever you are, you can see a map of what observations have been made around you. You also have the ability to restrict what information is shown connected to your posts, such as whether or not your address is visible.

**Map of Life** (FREE) Putting biodiversity on the map <https://www.mol.org/>

With this app, you can see a list of all the known species for where you are standing (What's Around Me), or for any other area in the world (Search the map). Or, you can search for species. You can also record your sightings to share with others. The species lists include pictures and descriptions, a wonderful tool to get to know what is around you! However, among plants, the app lists only trees, cacti, and palms. According to their web page, Map of Life is built on a scalable web platform geared for large biodiversity and environmental data. It endeavors to provide "best-possible" species range information and species lists for any

geographic area in the world. The Map of Life assembles and integrates different sources of data describing species distributions worldwide. These data include expert species range maps, species occurrence points, ecoregions, and protected areas from providers like IUCN, WWF, GBIF, and more. All data assets are stored, managed, backed up, and accessed using a hosted cloud instance.

**Nature Passport** (FREE) was written to encourage children to go outside.

A compass leads you to North – suggested activities; East – safari (record nature sightings and consult your field guide to identify animals); South – journal; and West – bookmarks (access your bookmarked activities). This app was developed through the efforts of Ben Klasky: view his 2014 TEDxRainier talk (12:38) Get Hooked on Nature, at <https://www.youtube.com/watch?v=ArhJLa4xbNk&t=29>

**Lake Observer** (FREE) a mobile app for iOS and Android for recording lake and water quality observations, by GLEON (Global Lake Ecological Observatory Network). <https://www.lakeobserver.org/>

**Nature Melody** (FREE) natural sounds for listening: set on a timer, or set as an alarm clock to wake you in the morning!

**QuestaGame** (FREE) You are entering an innovative space <http://portal.questagame.com/>

Here's one I haven't tried yet. Its mission as a mobile game is to get players outdoors to discover and help preserve life on this planet. All I know at present is that you submit a sighting (a photo) from anywhere. Get expert feedback on identification and earn rewards. Join or create a clan, quest, or territory: build your collection. Compete with users worldwide. QuestaGame currently works in the USA, Australia, the UK, India, Mexico, the Netherlands, New Zealand, the UAE, and Canada, with new countries coming on board every few weeks. QuestaGame is a global venture started in the town of Canberra, Australia in 2013.

**Catalogue of Life** <http://www.catalogueoflife.org> According to their web page, Catalogue of Life is the most comprehensive and authoritative global index of species of animals, plants, fungi, and micro-organisms currently available. It consists of a single integrated species checklist and taxonomic hierarchy. The Catalogue holds essential information on the names, relationships, and distributions of over 1.8 million species. This figure continues to rise as information is compiled from diverse sources around the world. The Catalogue

of Life is used to support major biodiversity and conservation information services. It is recognized by the Convention on Biological Diversity as a significant component of the Global Taxonomy Initiative and a contribution to Target 1 of the Global Strategy for Plant Conservation. It is widely used by organizations and individuals worldwide, including research scientists, policy and decision makers, citizen scientists, and other global biodiversity programs. You would use the Catalogue of Life because you are looking for a species list, classification, or basic species information in a particular group that you are not specialized in.

**Missouri Conservationist** (FREE) the Missouri Dept. of Conservation monthly magazine

One of the few magazines I read cover to cover every month. It is outstanding! I also have bought most of their excellent books, which are full of color pictures and yet are inexpensive. When I lived in Missouri I had a free print subscription to this magazine, and all these years I've lived outside of Missouri, I gladly pay a small fee for a print subscription: now you can read it for free online! In the app store, scroll down until you see MO Conservationist under News.

**TreeBook** (FREE) Guide to 100 common trees in North America, it includes photos, hand-drawn images, and range maps, along with tree descriptions. It begins with a key to the leaves.

**PlantSnap Plant Identification** (\$2.99) Take a picture of plant flower or leaves, and it instantly tries to identify the plant for you. Or, you can call up a picture you've already saved in your phone album, but the app then adds a copy of the photo to the end of your album (which you can later delete if you want). You can save your collection of pictures (or not). Of the first four I tried, it did not identify bay myrtle leaves, but did identify the other three sets of leaves, one of which included a flower.

**FloraQuest** (\$7.99) by Alan Weakley out of the herbarium at the UNC, Chapel Hill – author of *Flora of the Carolinas and Virginia*. For iOS devices only. Keys to naturally occurring plants in the Southeast and Mid-Atlantic, illustrated glossary, and allows you to report observations or view others' observations.

**Topo Maps** (\$7.99) <https://topomapsapp.com>. You can map your location and set waypoints, which is great for recording fieldwork where you are collecting samples. I'm not sure whether the maps extend outside of the United States.



## Economic Botany Business Office

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Lawrence, KS

### Promoting SEB Members and Ethnobotany on Social Media

Submitted by Susanne Masters; Twitter @Ethnobotanica, [www.susannemasters.com](http://www.susannemasters.com)



You don't have to be on social media to use it to promote your work and ethnobotany. On the SEB Twitter account, we are sharing opportunities, ethnobotanical news, and news about our members. If you have an upcoming event or publication, email to let us know and we can share a link via the SEB Twitter: <https://twitter.com/sebotany>. Send the link, a couple of explanatory sentences, and if possible a photo to [seb@econbot.org](mailto:seb@econbot.org) and we will share the news. If you have a Twitter account let us know your Twitter name so that we can tag you in the Tweet.

On the SEB Student Twitter account <<https://twitter.com/SEBotanystudent>>, we are sharing funding and employment opportunities, Tweets from fieldwork, news about student members, and learning opportunities. SEB members can email a link, a couple of explanatory sentences, and if possible a photo to [students@econbot.org](mailto:students@econbot.org) and we will share the information. If you have Twitter let us know your Twitter name so we can tag you in the Tweet.

Instagram is image driven so on the SEB students Instagram <https://www.instagram.com/sebotanystudents/>, we are sharing photos of fieldwork, ethnobotanical studies, SEB members, learning opportunities, and funding opportunities, writing a few sentences to explain the images. If SEB members have relevant images or events to promote email [students@econbot.org](mailto:students@econbot.org) with a photo and a couple of explanatory sentences. If you are on Instagram let us know your Instagram name so we can tag you in the post. Also add in relevant # . (If you are not on Instagram we will work out the relevant # for you).

Use of # (hashtags)—hashtags connect if you are on social media. Using hashtags in Twitter and Instagram can be done by other SEB members as well as from the official SEB and SEB Students Twitter and Instagram accounts. Hashtags are a way that people can find or follow topics of interest that are broader than individual accounts. In particular, Instagram works well with hashtags. We are using #studyethnobotany and #sebstudents on posts about fieldwork or funding opportunities.

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