Society For Economic Botany Newsletter

PLANTS & PEOPLE

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

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Save the Date

SEB-SoE Joint Conference

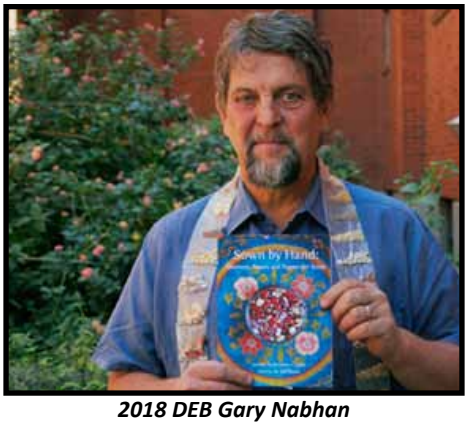
Food Security, Sovereignty, and Traditional Knowledge

Madison, Wisconsin * 3 to 7 June 2018

SOCIETY OF ETHNOBIOLOGY

Eve Emshwiller, 2018 Meeting Coordinator (emshwiller@wisc.edu)

This is the second time that the SEB will be meeting jointly with the Society of Ethnobiology. The mutual interests and the success of the 2014 joint conference in Cherokee, North Carolina, encouraged the two societies to meet again. The 2018 conference theme will be Food Security, Sovereignty, and Traditional Knowledge. Gary Nabhan is the DEB (https://www.garynabhan.com). We could have not chosen a better theme or person to speak. Gary is a MacArthur Fellow and has been writing books on natural history and culture. One of my favorites (Ed.'s comment) is *The Desert Smells Like Rain* (1982) and more currently *Food, Genes and Culture* (2004 and 2013). He has been a bioneer



2018 DEB Gary Nabhan

for generations focusing not only on food but also on community systems, such as slow money and alternative systems to distribute and grow foods. Besides our 2018 DEB, there will be plenary sessions, food sovereignty and seed sovereignty symposia, and contributed talks. Please submit your presentations as diverse topics are welcome. Madison, Wisconsin, is a wonderful location for a conference. It is a mid-size city (est. > 245,000) that is fairly centrally located in the United States, large enough to have relatively easy access by air, but small enough that lodging is relatively economical. It is an attractive city on an isthmus between lakes, surrounded by farmland. The University of Wisconsin-Madison is a large research university with folks studying many aspects of broad-sense ethnobiology/ethnobotany/economic botany, including archaeology of foodways; pastoralism; domestication and evolution of plants under human influence; food, medicinal, and other uses of plants in the past and present; horticulture and agronomy; nutrition; land use and vegetation change; environmental history, etc.

Conference Venue: The University of Wisconsin's Memorial Union
The Memorial Union is the historic student union, which has just completed several years of renovation. The iconic chairs on the terrace overlooking the lake should not be missed.

Ease of Access to Madison, Wisconsin, USA
AirTravel: The MSN (Dane County) airport is 5.4 miles from the conference venue (15 minutes by car, 45-50 minutes by public transportation). It is not a major hub itself, but MSN airport connects to many other hub cities (i.e., Atlanta, Charlotte, Chicago, Dallas-Fort Worth, Denver, Detroit, Las Vegas, Minneapolis, New York, Newark, Orlando, Philadelphia, Salt Lake City, Washington, DC (see https://www.msnairport.com/flight_travel/where).

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Plants & People

The Newsletter of The Society For Economic Botany

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

Notes from the Field

I always love autumn—canning all the vegetables from my garden, preparing for winter in our northern climates, and watching as the leaves change colors amazed by the natural pigments and the hues they create. Hope you are feeling those changes and settling in.

The Fall issue, as always, is filled with many memories and announcements from the annual meeting. Please look for the awards, student comments, and EcoCork field trip review.

The other important news article is that of the details for the 2018 meeting (see pages 1 and 10). So if you are thinking of contributing a talk, poster, or workshop, here are proposed but not finalized submission dates:

Abstract Submission Deadline: February 25, 2018
Early Bird Registration Deadline: March 31, 2018

Remember—this Society is only as great as its members and there are many great members. Get a colleague to join, attend the meetings, participate in discussions and decisions at our business meeting, volunteer for committees, and enjoy the cultural aspects of our Society.

See you in Wisconsin

Trish Trish Flaster

Request from our Treasurer Wendy Applequist

(wendy.applequist@mobot.org)

Although members can pay dues for a calendar-year membership at any time of year, the Society will be grateful if members can renew for 2018 by the beginning of the year: it makes financial planning easier for us, and it ensures that you receive a full 12 months of access to the benefits of membership. Many thanks!

SOCIETY OF ETHNOBIOLOGY

THE SOCIETY FOR ECONOMIC BOTANY EB FOUNDED 1959

Student Reviews of the Conference

Alex Mcalvay (mcalvay@wisc.edu)
I greatly appreciate the opportunity to attend the summer conference in Bragança, Portugal afforded to me by the SEB Student Travel Award. The collaborations forged, friends made, and culture experienced at this conference will stay with me and impact my career as an Ethnobotanist.

The region's rich culture suffused every aspect of the meeting, which showcased local research, spectacular food, crafts, and field excursions. The many talks on local ethnobotany and ecology helped to situate the conference in the hills of Alto Trás-os-Montes. The menu included diverse traditional offerings from salt cod croquettes (Bolinhos de bacalhau), to wild game. Local vendors at the conference venue sold goods made from cork, careto masks, and medicinal herbs. The field trip to Montesinho was beautiful, leisurely, and stimulating, as we wound through villages and fields. On the trip, a preeminent naturalist traced the lines of traditional land management practices on the land, and gave us a taste of the staggering biodiversity of Iberia. We ate cherries on the riverside and looked for fern "flowers" in pasturelands.

Through the conference, I made new friends, contemplated new collaborations, saw outstanding talks, and was exposed to exciting ideas. It was a pleasure to meet many people whose names I had previously only seen in print, talking with Council members and past presidents on varied topics that included evolutionary consequences of traditional management, crop wild relatives in the Caucuses, ethics of facilitated transmission of traditional knowledge with invasive plants and many others about similarly diverse topics. These encountered satisfied my interests in many spheres of ethnobotany and expanded my horizons.

As a student, the conference felt welcoming and comfortable. The student events engaged with local culture, including a tasting of herb-infused homebrew in the castle overlooking the town. I was impressed by the research of many other students' work, evident in talks and at the extensive poster session. The travel award also allowed me to share my own paper: "Redomestication of feral turnips in Mexico: phenotypic and genetic evidence," prompting a wealth of feedback and ideas from the audience. I encourage all students to submit posters and papers at our annual meetings as the results give you a perspective on how you are doing and where to venture next.

It was a pleasure to hear 2017 Distinguished Economic Botanist, Roy Ellen, whose broad address intersected more domains of ethnobotany than it missed. Drawing on his work in Southeast Asia, he took an economic lens to the movement, value, and decision-making around plants. With amazing fluency in ecological, cognitive, and agricultural realms, he demonstrated the utility of economics as a framework for theory-building in ethnobiology.

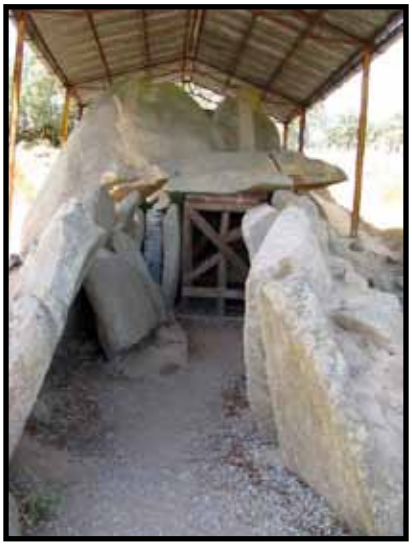
The dedicated hard work of Ana Maria Carvalho and other organizers made the meeting effective and seamless to the attendees, while providing a phenomenal blend of intellectual stimulation, camaraderie, culture, and place. I am truly grateful for the travel award and for this once-in-a-lifetime experience that catapults my career in ethnobotany. SEE YOU AT MY HOME—WISCONSIN—IN 2018!

Matthew Bond (mb2286@hawaii.edu)
One of the most exciting things about SEB 2017 was the opportunity to network with other ethnobotanists. Whether new to the field or veterans, from Europe or distant islands, everyone at the meeting had valuable experiences and perspectives to share. Many students expressed interest in developing a toolkit of ethical guidelines and ideas for returning knowledge to the communities we work with. Although journal articles publish the results of previous ethnobotanical work, they rarely share information about the process of community engagement. The students of SEB would like to collect stories of how previous ethnobotanists have built ethical research relationships as models and inspiration for our own research. If you have stories of how you or other researchers have worked with communities (whether the outcomes were positive or not) and how they gave back to these communities, please share them with myself or the other members of the SEB Student Committee. Together, we can provide a foundation for the ethics of the next generation of ethnobotanists.

Panoramic photograph of Bragança, Portugal

Cromeleque dos Almendres

Cromeleque dos Almendres is a celtic stone ritual site in the vicinity of Guadalupe, near Evora, Portugal. The site rivals Stonehenge, England in size, complexity, and age. It is firm documentation of Celtic settlement long before Roman conquest. The ruin has older smaller site wihtin the other. The 90+ standing stones are set analgalous with ritualistic meaning, certainly a calendar as it aligns with the movement of the sun. Others believe it can be a religious center or a burial site but we did visit burial sites which were different and pictured here.



2017 Annual Awards

Due to the success of our Meeting coordinator, Ana Maria Carvalho, (anacarv@ipb.pt), the attendance exceeded our expectations. Thank you.

With the large international attendance, we had many student submissions for the Fulling and Morton Awards. Because this is a coveted award by SEB, we are particular about our criteria and judges. We had a diverse team of international judges for whom I am most grateful.

Matthew Bond received the Edmund H. Fulling Award for best oral presentation by a young professional for his presentation "Biocultural Impacts of Climatically Shifting Plant Distributions"

AND

Lucas Pawera received the Julia F. Morton Award for best poster presentation by a young professional for his poster "Could Bio-Cultural Refugia Safeguard Important Reservoirs of Traditional Plant Knowledge in Highly Industrialized Countries?"

Honorable mentions were given to Charles Wagner (North Carolina State University) for his Fulling submission: "Novel Ethnopharmacology of Antibiotic Plants from Medieval Celtic Herbal."

AND

Francesca Scotti, Anastasia Agapouda, Anthony Booker, Debora Frommenwiler, Eike Reich, and Michael Heinrich for "Quality of Saint John's Wort (Hypericum perforatum L.): An Investigation of Marketed Products."

The Society offers support for our students, young scientists in the field. Helping defray the cost of fieldwork, the Richard Evan Schultes Research Award is the embodiment of this spirit. This year the award was given to Ashley Glenn (University of Canterbury at Kent/Missouri Botanical Garden). Congratulations and thanks to the awards committees for your time to choose our best candidates.

Student Travel Winners:
We encourage students to attend our annual meetings. To support this effort, we have donations from members to support student travel.
Here are the 2017 winners: Betsabe Castro (bcastro@berkeley.edu), Charles Wagner (cswagner@ncsu.edu), Alex McAlvay (mcalvay@wisc.edu), and Karen Heeter (kejohnson@frostburg.edu).

Klinger Book Award
The winner of the Klinger Book Award is Michael Blake for his book, Maize for the Gods, published by University of California Press.

Dan F. Austin Award
Many of you know of the recent passing of Dan Austin, our ever-dedicated journal book editor. We had the first award presented at the 2017 annual meeting for an edited volume. This award goes to Curating Biocultural Collections: A Handbook, edited by Jan Salick, Katie Konchar, and Mark Nesbitt and published by the Royal Botanic Gardens, Kew, in association with the Missouri Botanical Garden.

Charles Heiser Jr. Mentor Award
Student established this award several years ago and this year it honors a favored professor, Dr. Tinde van Andel (Wageningen University). This award, chosen by students, spotlights dedicated educators who foster the development of the field by example and through student mentoring.

Again, a big congratulations to all recipients and the invaluable judges.

2017 Conference Workshops Photos

Poster Session

President-Elect, Sunshine Brosi participating in Sonja Peters' Workshop on Caribbean cosmetics. Photo by Trish Flaster.

Workshop: Herb Walk

Ethnobotanews

An April announcement from the American Herbal Pharmacopeia, AHP, was about the "Botany Bill" (officially The Botanical Sciences and Native Plant Materials Research, Restoration and Promotion Act, HR 1054). The purpose of the bill is to promote botanical research, sciences, and education; generate demand for native plant materials; and authorize related federal activities.

You can access the entire bill at https://www.congress.gov/115/bills/hr1054/BILLS-115hr1054ih.pdf or a summary at http://www.plantconservationalliance.org/files/pca/Botanical%20Sciences%20Bill%20Summary%202.17.pdf. If you are interested in getting involved, the Plant Conservation Alliance Non-Federal Cooperators Committee is coordinating advocacy efforts. To learn more, visit their website at http://www.plantconservationalliance.org/botany-bill.

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Our Student Committee 2017-2018

After receiving a record number of applications, our student committee voted to expand our team from nine to eleven student members. We hail from diverse programs worldwide, and hope our diverse perspectives will increase student involvement in Economic Botany, broadly defined.

Alexander O'Neill (alexander.o.neill@duke.edu)
President of the Student Committee. Alex is a graduate candidate at Duke University's Nicholas School of the Environment pursuing dual masters in Environmental Management (MEM) and Forestry (MF). He has spent several years conducting ethnobotanical fieldwork South Asia, first as a David L. Boren Scholar in Nepal and later as a Fulbright-Nehru Research Scholar in Sikkim. After graduation, Alex hopes to join teams at the U.S. Department of State integrating science into evidence-based policies.

Susanne Masters (info@susannemasters.com)
Vice President of the Student Committee. Susanne is a PhD candidate at University of Leiden working to document the wild harvest and trade practices of edible orchids. After receiving her MSc in Ethnobotany, Susanne engaged in diverse fieldwork experiences worldwide—from Hong Kong and Yunnan to Turkey and Madagascar. She is particularly keen to promote connections between science and people enjoying outdoor pursuits, and writes about plants and the outdoors for an assortment of publications from Orchid Review to the BBC.

Aja Grande (aja_grande@brown.edu)
Undergraduate Ambassador. Originally from Hawaii, Aja now resides on the southern coast of New England at Brown University. Under the concentration of Science, Technology and Society (STS), she has combined biology and the humanities to focus on Ethnobotany. Last year, she founded the Ethnobotany Society at Brown as an official club dedicated exploring the relationships among plants and people. As active president, she intends to expand this network by connecting Brown University students with other scholars.

Betsabe Castro Escobar (bcastro@berkeley.edu)
Graduate Ambassador. Betsy is a third-year PhD candidate in the Integrative Biology Department at the University of California-Berkeley. Her general research interests lie at the intersection of evolution, tropical ecology, biogeography, and ethnobotany. She is especially interested in how humans can promote evolutionary responses and plasticity in culturally significant plants in the Caribbean Basin. Calabash trees (Crescentia spp.) are the focus of her current research.

Danielle Nicole Cicka (danielle.nicole.cicka@emory.edu)
Graduate Ambassador. Danielle is an MD/PhD candidate at Emory University. As she constructed her academic path and learned from ethnobotanists, she envisioned how to utilize plant-based therapies sustainably to fill the gap in the world's healthcare needs. For her PhD research, she hopes to incorporate an ethnobotanical approach to drug discovery from natural products in ultimate support of finding novel therapies, supporting local communities, preventing neglected diseases, and providing accessible health care.

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US Politics and Botany

This is an older posting from the National Sciences Collections, but it still is relevant and I encourage our domestic members to keep up their correspondence with their congress people to uphold science and botanical support.

President Trump's FY 2018 Budget Request Would Slash Most Science Programs
In mid-March, President Trump released his first budget request, which seeks historically deep budget cuts for non-defense spending in order to increase defense spending.

The biggest losers in the spending plan are the Environmental Protection Agency (EPA; -30 percent), Department of Agriculture (-29 percent), and the State Department (-29 percent).

Among the many programs that are targeted for elimination are the Institute of Museum and Library Services (IMLS), ARPA-E (Advanced Research Projects Agency-Energy), and international climate programs.

Here's how other science programs fared:

- Funding for the National Institutes of Health would be reduced by $6 billion (-18 percent).
- Competitively awarded agricultural research grants would be flat funded at "about $350 million."
- Funding within the Agricultural Research Service would be "focused…to the highest priority agriculture and food issues," a euphemism that usually indicates budget cuts.
- The U.S. Geological Survey's budget would be cut by nearly 15 percent.
- The Department of Energy Office of Science would lose $900 million (roughly -16 percent).
- $250 million would be cut from National Oceanic and Atmospheric Administration grant programs that support coastal and marine research and education. The Sea Grant program, which provides research, education, and extension services, would be eliminated.
- The National Aeronautics and Space Administration's budget was largely spared, with only a 1-percent cut proposed, although the agency's focus would be shift away from "Earth-centric research" to "deep space exploration." The Earth Science program would lose $102 million, terminate four mission areas, and reduce funding for Earth science research grants.
- No details were provided about the National Science Foundation.

The cuts to EPA are even deeper than the administration had sought just a few weeks ago, according to news reports. If enacted, EPA would have to eliminate 3,200 employees from its 15,000-member workforce. Funding for the EPA Office of Research and Development would be cut in half to $250 million. STAR grants appear to be targeted for deep cuts or even elimination. President Trump is also seeking a termination of $100 million in programmatic spending on climate change initiatives at EPA, as well as reductions to programs that are restoring the Great Lakes and Chesapeake Bay.

The 2018 spending plan does not include details about how the cuts would be implemented. Further details are expected in May, when the rest of the president's budget will be released.

The budget request also includes a proposal to increase defense spending in fiscal year 2017 by $30 billion, which would be partially offset by a $18 billion cut to domestic programs.

The Natural Science Collections Alliance is a Washington, DC-based nonprofit association that serves as an advocate for natural science collections, the institutions that preserve them, and the research and education that extend from them for the benefit of science, society, and stewardship of the environment. NSC Alliance members are part of an international community of museums, botanical gardens, herbariums, universities, and other institutions that house natural science collections and utilize them in research, exhibitions, academic and informal science education, and outreach activities. Website: www.NSCAlliance.org.

2017 Conference Workshops Photos

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Workshop making traditional couscous

YUM!

Our Student Committee 2017-2018

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Grady Zuiderveen (gjz5033@psu.edu)
Graduate Ambassador. Grady is a PhD candidate in the Department of Ecosystem Science and Management at Pennsylvania State University. Originally from western Michigan, he developed a keen appreciation for medicinal plants in the United States, and is currently researching medicinal herbs that are native to the Appalachians.

Ghita Heidt (gdh11@my.fsu.edu)
Graduate Ambassador. Ghita is a graduate candidate at Florida State University in the Department of Anthropology. Her interests center around on ethnobotany and, in particular, the conservation of plants of both biological and cultural importance.

Jason Irving (dittander@gmail.com)
Graduate Ambassador. After earning a BA in International Politics, Jason worked for two years as full-time forager. He then moved to London to study for a BSc in herbal medicine, and set up his own business leading walks through London parks on the plant identification and wild foods. Following this, he worked for several years at Kew Gardens on a database of medicinal plant names. Jason will soon begin postgraduate study at Kent with an MSc in ethnobotany, and then a PhD in the harvesting of wild plants in Jamaica to supply the trade to the United Kingdom.

Joe Modzelewski (joe.modzelewski@gmail.com)
Undergraduate Ambassador. Joe is an undergraduate at McGill University with a passion for people-plant interaction both in the realms of ethnographic and archaeological study. This summer, Joe worked with the NGO Fauna Forever in Peru, where he learned about the importance of local communities in medicinal plant conservation.

Matthew Bond (mb2286@hawaii.edu)
Graduate Ambassador. Matthew, a PhD candidate at the University of Hawai'i at Manoa, is interested in the ethnobotany of Oceania. In particular, he is interested in why people use certain plant species and plant parts medicinally, rather than others, and tests how the people, plants, and illnesses around you affect your medicinal plant knowledge. He has extensive fieldwork experience, and just returned from a summer experience in the Solomon Islands.

Santosh Rana (rana.1.santosh@gmail.com)
Graduate Ambassador. Santosh is a PhD candidate at Kunming Institute of Botany studying Pan-Himalayan Fabaceae. Originally from Nepal, he has worked with international teams from Griffith University, Cornell-Nepal Study Programme, and the International Union for Conservation of Nature. In 2017, he received a Rufford Grant to study highly traded medicinal plants in Nepal, including Rheum nobile.

Publications

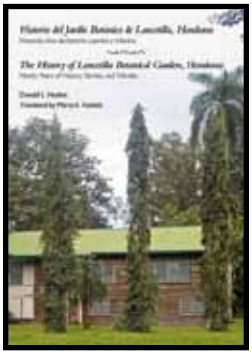
Ethnopharmacology, by Michael Heinrich and Anna Jager. Wiley, 2015 ISBN9781118930748

This is a text made rich by the contributions of several contributors, many of whom are our members, past presidents, DEBs, and Council members. The chapters cover a broad range from specific biological indications botanicals, perspectives in geographic regions, conservation, IPR, and current pharmacological research areas.

Like Ethnobotany and Economic Botany, Ethnopharmacy is a multidisciplinary subject defined differently by many in the text as a science of pharmacology and traditional medicine, the study of medicinal plants by cultures and their relevance to pharmacology, a selection of medicinally used plants to study their therapeutic actions, interaction among plants and people and how they are to promote well being, and how social sciences have influenced their use.
This text is a great read to demonstrate the range of topics Ethnopharmacology includes.

New Book on the Lancetilla Botanical Garden, Honduras
Hazlett, D. L. 2017. *Historia del Jardín Botánico de Lancetilla, Honduras: Noventa años de historia, cuentos y tributos. The History of Lancetilla Botanical Garden, Honduras: Ninety Years of History, Stories, and Tributes*. Sida, Bot. Misc. 47. Botanical Research Institute of Texas, Fort Worth, Texas, U.S.A. Price: $17.95

This Spanish/English book (130 pp) on the Lancetilla Botanical Garden is now available. It has about 20 color photographs and four general components: 1) Tributes to Honduran botanists and personnel at the Lancetilla Botanical Garden; 2) Stories about native and exotic plants; 3) A historical timeline of the Lancetilla garden and banana companies in Honduras; and 4) Dates of key conservation efforts along the Honduran north coast. This is the first detailed book regarding Lancetilla's history and is one of few bilingual ethnobotany/folklore books about Honduras. The author was director of the Lancetilla from 1978 to 1980: Donald L. Hazlett, PhD, Ethnobotanist.



Education

The Ethnobotany Society at Brown University
Aja Grande (aja_grande@brown.edu)

Every expedition stems from a question, a wonder about the lush and uncharted. Just two months into the winter after the election of Trump, the task to unite the biological with the social sciences seemed necessary, yet somewhat of an enigma. Who would dare to start an anomalous group at such a politically tender time? My reason was human curiosity and inquiry about life outside of my sphere led me to found the Ethnobotany Society at Brown. When the society became institutionally recognized with over 70 members, I began a journey with other students to connect inside-classroom content with the community beyond the university walls, both physically and intellectually. Our outings entailed visiting Lincoln Woods for a mycology excursion, touring the greenhouse of a local farmer from Laos, hosting a seminar on chemical plant extraction, and dispersing botanical knowledge via aphrodisiac cards on Valentine's Day, in addition to building an online resource (http://students.brown.edu/ethnobotany-society/resources).

The greatest learning experiences stem from surrendering what is already known. Confrontation with these inward foundations of truth is coupled with reward. Similar to most innovative groups, building this society's foundation called for an abandonment of the lifestyle I toiled so hard to maintain—a career as an intercollegiate swimmer. Transitioning from chlorinated pool waters to earthly terrain has not been easy task. Although all goals of competing on a Division I level were buried in the forfeit of athletic merit, the lessons I gained through that experience remain engrained in my character.

Fellow peers, I encourage you to adventure past the safety of the known, for your previous devotion will be evident on your next expedition in ways that you will least expect. The key is to pick a direction and commit. Though grueling, the feat of dedicating full attention to the construction of something original will earn distinction among peers.

At the end of the 2017 summer, the Ethnobotany Society tucked away an eight-week long summer reading session (http://students.brown.edu/ethnobotany-society/bulletin) on Ethnobotany in the 21st century, and has collected over a dozen exciting submissions for a Fall journal issue. As I begin to assume the two-year position as student representative at SEB, I offer advice to take three simple actions: leave your comfortable spot, explore the unknown, and share what you learn with others. It is through this process that one is able to embrace and contribute to an extraordinary world filled with people and plants.

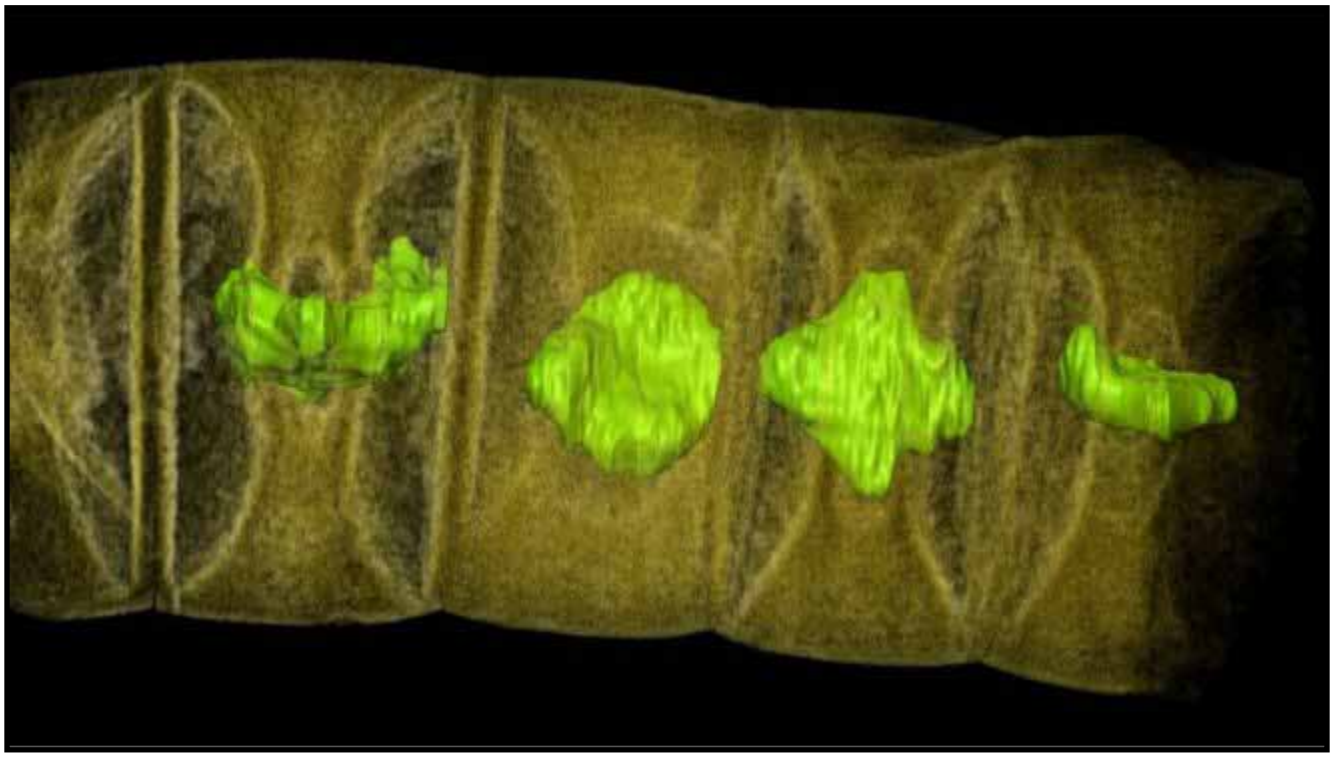
(Ed.: Isn't this what we all seek from our ethnobotanical experiences? Bravo!)

Journal of Threatened Taxa
Here is a journal that may interest some members. The majority of articles are focused on animals, but some, as that below, are on those we love most, flora.

Pavithra, Mundamoole, Kandikere R. Sridhar, and Ammatanda A. Greeshma, "Macrofungi in two botanical gardens in southwestern India." 2017. *Journal of Threatened Taxa*, 9(17) pp. 9962–9970. DOI: http://dx.doi.org/10.11609/jott.2747.9.3.9962-9970

"Oldest Plants on Earth" Discovered

By Helen Briggs, BBC News, Science & Environment (http://www.bbc.com/news/science-environment-39267153)
14 March 2017



Synchrotron-based X-ray tomographic microscopy revealed structures typical of red algae. ***Image by Stefan Bengtson***

The origins of plants may go back hundreds of millions of years earlier than previously thought, according to fossil evidence. Ancient rocks from India suggest plants resembling red algae lived 1.6 billion years ago in what was then a shallow sea. The discovery may overturn ideas of when relatively advanced life evolved, say scientists in Sweden. They identified parts of chloroplasts, structures within plant cells involved in photosynthesis. The earliest signs of life on Earth are at least 3.5 billion years old. The first single-celled microscopic life forms evolved into larger multi-cellular eukaryotic organisms (made up of cells containing a nucleus and other structures within a membrane).

Therese Sallstedt of the Swedish Museum of Natural History discovered some of the fossils. She described them as "the oldest fossil plants that we know of on Earth in the form of 1.6 billion year old red algae."

"They show us that advanced life in the form of eukaryotes (like plants, fungi, and us humans/animals) have a much deeper history on Earth than what we previously have thought," she told BBC News.

Red algae from the Baltic Sea ***Image by SPL***

Tree of Life
The scientists found thread-like fossils and more complex "fleshy" colonies in sedimentary rock from central India. Both have characteristics of modern red algae, a type of seaweed.

Co-researcher Prof. Stefan Bengtson of the Swedish Museum of Natural History added: "You cannot be 100% sure about material this ancient, as there is no DNA remaining, but the characters agree quite well with the morphology and structure of red algae."

The oldest known red algae before the present discovery date back 1.2 billion years. The Indian fossils are 400 million years older, suggesting that the early branches of the tree of life began much earlier than previously thought.

Claims of ancient life are always controversial. Without DNA evidence, confirmation must rest on whether more fossils can be found.

There is also debate over whether red algae belong in the plant kingdom or in a class of their own. Modern red algae are perhaps best known for two commercial products—gelatinous texturing agents used in making ice cream—and nori—the seaweed used to wrap sushi.

The research is published in the journal, PLOS Biology.

2018 SEB Meeting

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While investigating connecting flights, attendees might want to compare with fights to Chicago–O'Hare Airport (ORD). Some flights are enough lower in price to Chicago (ORD) that it is less expensive to fly to ORD and then take the Van Galder bus to Madison (currently $60 round trip between Madison and O'Hare airport (http://www.coachusa.com/vangalder/ss.ohareairport.asp). The Van Galder bus leaves from ORD toward Madison every hour to 1.5 hours between 6:30 am and 11:00 pm. The bus trip takes only 3 hours and brings you directly to a stop across the street from the conference venue.

Ground Travel: Train travel has a lower carbon footprint than flying, and although there is not train service directly to Madison, an alternative route on the Van Galder bus goes to Union Station in downtown Chicago. That allows those who prefer not to fly to reach Madison by taking a train to Chicago (https://www.amtrak.com/regions/midwest.html) and then a bus to Madison. Just don't expect the Amtrak trains to run on time, as they can be quite late. There are also different bus lines that reach Madison from Milwaukee and Minneapolis.

Housing

We have reserved a block of rooms in a dorm, Ogg Hall, (http://map.wisc.edu/s/ps4vfy00) that is a few blocks from the Memorial Union, the conference venue. The rate of $47.23 for double occupancy and $70.48 for single occupancy includes breakfast and taxes. They will find you a roommate if you don't already have one. There are also several hotels within walking distance from the Memorial Union, which will also offer shuttle services to and from the venue.

Food

Most housing options come with breakfast included. During the days of scientific sessions, there will be coffee/tea breaks in mid-morning and mid-afternoon. Lunches and suppers are on your own in most cases, except for the opening reception, mentor lunch, and banquet. Fortunately, there are LOTS of excellent options for food. There are dining options within the Memorial Union and beer, brats, and popcorn available on its iconic lakeside terrace. There are many varied food carts at lunchtime just a block away on the "Library Mall." Also, the entire 15-minute walk along State St. from the east end of the campus to Capitol Square is lined with restaurants of many cuisines from around the world, all within walking distance of the conference venue.

Social Events

The opening reception will acknowledge our location on homelands of the Ho-Chunk Nation, with cultural presentations on Ho-Chunk history, culture, and music. Other social events will include a student mixer and mentor lunch. We plan to follow recent years' practice with Tuesday workshops including those on teaching.

Field Trips

There are many local attractions that will make interesting field trips. Those that are confirmed so far include a tour of the Aztalan archaeological site (occupied 1100-1250 CE and thought to be affiliated with Cahokia), led by Dr. Sissel Schroeder, Archaeologist at UW-Madison, and also a tour of several sites demonstrating ancient agricultural raised fields and other ancient land modification practices, led by Dr. William Gartner, Department of Geography of UW-Madison.

Other attractions that we hope to include as field trips would include some right within Madison, including effigy mounds within campus and many sites around the city; the UW-Madison Arboretum, which includes the world's oldest prairie restoration and other remnants (https://arboretum.wisc.edu/explore/remnants/); and Olbrich Botanical Gardens, with 16 acres of outdoor gardens and a tropical conservatory. A bit further afield is Growing Power (http://www.growingpower.org/) an urban agriculture and empowerment project with greenhouses and aquaculture in Milwaukee, WI. Wisconsin is famous for beer and cheese, so tours of a cheese factory and brewery would be possible. Other trip options are under development.

So, come join us for a spectacular meeting in Wisconsin!

EcoCork Tour

Trish Flaster (tflastersprint@earthlink.net)

After the annual meeting, a group of members drove to the central part of Portugal. The plains were beautiful with the tan fields of wheat, olive trees, grapes vines, and ancient ruins. But the best tree of them all the most touted in Portugal is the cork, *Quercus suber*. We toured a fifth-generation cork estate where the native forest had been sustained and an active harvest site. Although the recent droughts pushed the harvest up a month, we observed how the men strip the trees of the outer cambium of the cork without any damage to the life of the tree. The trees were last harvested seven to nine years before and only after they had matured for seven years was the virgin cork removed. The average trees were 20 to 60 years of age. When the cork is finally inches thick and the tree well matured, its value increases and it is taken in large strips by carefully separating the cork with a unique hatchet with honed wooden handles. The larger the strip, the higher the prices.

Environmental, Social, and Economic Issues

Eighty percent of all cork comes from Portugal, with smaller amounts form other Mediterranean countries. Most go into bottles, wine of course, but other products have been developed, flooring, trivets, hats, purses…you name it. However, the cork that goes into bottles has a negative footprint versus the aluminum tops we see often today. Please consider this next time you are enjoying a glass of wine. The trees are not damaged by the cork removal, they provide fruit, the acorns, which are consumed in winter by the cherished black pigs.

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EcoCork Tour

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Some concerns are that droughts have been more common and that may be due to the eucalyptus trees that are seen planted in great acreage for pulp and as we witnessed just after our annual meeting. It is apparent that the invasive eucalyptus takes vital nutrients from the soil and a great deal of water from other native plants. The elders in the area of the cork remember more ponds and less droughts. Cork is a natural fire retardant; the thick bark of cork oak is an adaptation to fires, which are common in ecosystems around the Mediterranean. Because cork is fire-resistant, it protects the trunk from being burned and the tree is quickly able to resprout and continue growing.

Cork stripping has a tenuous future. The men who strip the cork are older or middle aged and very few of the younger generations have the interest to learn the trade—a sad event we have seen in many other cultures. If you missed this trip and return to Portugal let us know and we would quickly recommend the EcoCork tour. (PS: Their estate bottled wine is excellent and priced well, in case you get tired of the delicious port!)

Native Nations Rise: Indigenous Solidarity in Action

March 16, 2017, Andrew E. Miller
http://amazonwatch.org/

In mid-March (2017), thousands of indigenous activists and allies traveled to Washington, DC for the Native Nations Rise march, convened by the Standing Rock Sioux Tribe and grassroots indigenous leaders. It was an important moment to bring the fight against the Dakota Access pipeline to the doorstep of the White House, stating unequivocally that far from being over, the North American-wide struggle for indigenous self-determination is kicking into an even higher gear.

The indigenous rights movement is global, and solidarity between indigenous campaigns to defend their collective rights is growing stronger. That multinational support was embodied this last week by Paty Gualinga, international relations coordinator for the Kichwa indigenous community of Sarayaku in the Ecuadorian Amazon. Amazon Watch was honored to facilitate Paty's participation in multiple events on International Women's Day, underscoring the leadership role of indigenous women.

"My people's territory was sold by the government to oil companies," Paty told a gathering at the tipi encampment along the National Mall. "And it's worth saying on this special day for women that we had a big discussion about what to do with the concession. We women decided there would be no negotiating, that there would be no oil drilling, that we were going to resist." Her statement resonated with the audience; she was interrupted by applause several times during her brief intervention.

"Over the course of our struggle, international solidarity has been key to generate pressure and communication. Part of the success was that a people—very far from mass media—were able to expose what was happening, to expel an oil company, to win a legal case. If a community of 1,200 people was able to make the difference and stop a mega-project, we have hope that others can do so as well."

Sarayaku weren't the only ones to send their encouragement to Native Nations Rise. Other indigenous peoples from around the Amazon followed suit with photo messages shared far and wide on social media. Many indigenous colleagues have said they identify with the issues embodied in the Standing Rock struggle: imposition of economic projects on indigenous territories, desecration of sacred sites, threats to water, and militarized repression as a response to peaceful grassroots mobilization.

A message of solidarity from the headquarters of the U'wa federation in Cubará, Colombia. Photo credit: ASOU'WA

A multi-ethnic gathering of indigenous peoples from the Ecuadorian Amazon sends their support. Photo credit: CONFENIAE

We are in a woman warrior moment," as stated by Ponca elder Casey Camp-Horinek (4th from right). Culminating a day of inspiring panels and presentations by indigenous women leaders and activists, like Paty Gualinga (3rd from right). Photo credit: Amazon Watch

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Native Nations Rise: Indigenous Solidarity in Action

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This is certainly the case in Ecuador, where the Shuar people are facing large-scale mining within their territory; in Colombia, where the U'wa people have organized to protect their sacred mountain top from "eco-tourism"; and in Brazil, where the Munduruku people continue to fight the construction of mega-dams along their rivers.

Amazon Watch circulated the photos of solidarity on social media and printed them for display during the march itself. Inspired by these images, indigenous activists and allies sent replies of solidarity referencing some of the specific battles our Amazonian colleagues are currently facing. We hope that this exchange contributes to mutual moral support and international movement-building.

Of course, we are under no illusion that these expressions will in themselves stop the DAPL pipeline or mega-projects in the Amazon. They do, however, contribute to a long-term resistance in which solidarity between movements can be a determining factor. In crucial moments, as Paty noted, that solidarity can bring higher profiles, increased pressure, and additional resources that tip the balance of power in favor of frontline indigenous communities.

Saramurillo: Justice This Time for the Indigenous Peoples of the Peruvian Amazon?

From the Ecuadorian Amazon, Sarayaku stands in solidarity with the Sioux Nation in North Dakota in their peaceful struggle against the oil pipeline crossing their sacred land in Standing Rock. Photo Credit: Selvas Producciones 2016.

End Amazon Crude

Imperatriz Leopoldinense samba parade in Rio Carnival 2017. Photo credit: Todd Southgate0

Twitter Action: Ask Amazon's Founder To Support the Real Amazon! Source: http://amazonwatch.org/take-action/twitter-action-ask-amazons-founder-to-support-the-real-amazon.

DAPL Followup

Linda Black Elk has started a clinic for the local people. Donations can be made to the non-profit firm that is assisting them build their unique facility https://massdesigngroup.org

Pollinating the Field

Internship with Fauna Forever, June 2017
Joe Modzelewski (joe.modzelewski@gmail.com)

I had the privilege this past June to work with Fauna Forever in Peru, concentrating in the field of ethnobotany and medicinal plants. Fauna Forever was founded, and is currently headed by Dr. Chris Kirby. For the past 20 years, Fauna Forever, based out of the fast-growing town of Puerto Maldonado, has worked within the Madre de Dios region of Peru striving to promote rainforest conservation through research of animals and plants. They accomplish this while fostering outreach projects with the diverse communities that call the rainforest their home.

Under the supervision and counsel of Juan-Carlos Huayllapuma Cruz, I visited and worked in and among various settings in the Madre de Dios region. The first community we visited was at Las Piedras, known as Boca Pariamanu. The community at Boca Pariamanu is only accessible by boat along the Rio Madre de Dios. They are a mixed heritage population of both indigenous Amahuacan and colonial Spanish. The Boca Pariamanu community, in conjunction with Fauna Forever, has some initiatives currently in the works to preserve their native Amahuacan language, to engage in ecotourism, and to promote conservation practices as they relate to their primary source of income, which is agriculture and the harvesting of rice, plantains, and yucca.

I worked with their community healer, Alberto, to learn about the various medicinal plants that he and the community use in their daily lives to mend and heal all sorts of ailments, to aid in the creation and building of a community medicinal garden, and to gather ethnographic data that will be compiled to formulate a proper plan of action to be implemented for the introduction of ecotourism in the community. For example, one of the concerns for the community is whether or not to allow Ayahuasca tourism once they open themselves to visitors. Although potentially very lucrative, Ayahuasca tourism presents its own pitfalls and dangers in regard to harvesting sustainability and notions of cultural and ritual continuity.

The second community setting we visited was the Malatesta family farm located just outside of Puerto Maldonado. The Malatesta family farm is an agroforestry project that implements organic and sustainable growing practices. Just like the Boca Pariamanu community, the Malatesta family is interested in opening up their farm to ecotourism. Juan-Carlos and I investigated the farm to determine how it could become more conducive to potential visitors. As well, we investigated and identified various medicinal plant species around their property, geocaching points of interests. One mini-project we started was to create signs to label the multitude of medicinal plants as visitors walked the trail around the farm land.

The third setting we visited was the Colpas Tambopata Lodge, which is currently serving as the Fauna Forever research station, located in the Tambopata National Reserve. This is where the majority of the other Fauna Forever interns were stationed, as they worked within the fields of mammal studies, ornithology, and herpetology. Based out of the research centre, Juan-Carlos and I made various vegetation plots to aid in the determination of the forest age-based tree circumferences, DBH, measurements. We also noted and explored the surrounding forest in regard to the various medicinal plants.

Across these diverse settings, Fauna Forever allowed me some incredible opportunities to explore the field of ethnobotany and gain invaluable hands-on experience with a variety of individuals who are passionate about their rainforest and the living communities who share it.

Please enjoy the photos!

Wild ginger, freshly unearthed

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Pollinating the Field *continued from page 14*

Out hunting for medicinal plants with Juan Carlos and the community healer, Alberto

A home from Boca Pariamanu deep within the Amazon basin

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