Society of Ethnobiology
32nd Annual Conference
Food: Crops & Noncrops

César de Rochefort, *Histoire Naturelle et Morale des Iles Antilles de L'Amérique.* Rotterdam, 1681, p. 105.

Tulane University
New Orleans, Louisiana
April 1– 4, 2009

Society of Ethnobiology
32nd Annual Conference Schedule

Day 1: Wednesday, April 1st

5:00—7:00 Conference Eve Reception, Latin American Library, Howard-Tilton Memorial Library

Day 2: Thursday, April 2nd

8:00 – 9:00 **Registration** Woldenberg Art Center

9:00 – 9:30 **Welcoming Remarks** Freeman Auditorium, Woldenberg Art Center
William Balée, Department of Anthropology, Tulane University
Michael Alan Bernstein, Senior Vice President for Academic Affairs and Provost, Tulane University

9:30 – 10:00 **Keynote Address** Freeman Auditorium
Manioc: The Root of Amazonian Indian Culture
Robert Carneiro, American Museum of Natural History

10:00 – 11:20 **Plenary Session: Tradition Foods** Freeman Auditorium

10:00 – 10:20 Ecological and Cultural Restoration of Traditional Foods: An Overview of Practice, Ethics and Goals
Gary Paul Nabhan, University of Arizona

10:20 – 10:40 Restoring Historic Fruits in Oasis Orchards of Baja California: Determining a Baseline, Setting Goals and Involving Communities
Rafael Routson, University of Arizona

10:40 – 11:00 Restoring Heritage Livestock Breeds in Pineywoods Communities of Mississippi
Justin B. Pitts, Pitts Farm

11:00 – 11:20 Food From the Ancestors: Eastern Cherokee Heirloom Seeds, Traditional Dishes, and Strategies for Continuance and Revival
James Veteto, University of Georgia

11:30 – 1:00 **Lunch Break**
Student Roundtable Luncheon with Mentors (pre-registration required) LBC 202 Rechler

1:00 – 5:00 **Presentations, Topics Including:**
Conservation, Recovery, and Restoration of Biota and Landscapes
Innovations in Ethnographic Methods
Ethnobiology in the Eastern, Central, and Southwest United States
New Data on Old Plants
General Trends and Prospects for Ethnobiology

5:00 – 5:30 **Movie Presentation** Freeman Auditorium
Kau Fangota: Gleaners of the Sea
Melinda Ostraff

Day 3: Friday, April 3rd

9:00 – 3:40 **Presentations, Topics Including:**
Mesoamerica
California and Northwestern North America
Innovations in Archaeological Methods
Old World
Enigmatic Biota
Roundtable: Publishing

4:00 – 5:00 **General Business Meeting** Freeman Auditorium, Woldenberg Art Center

7:00 –10:00 **Banquet** Qatar Ballroom, Lavin-Bernick Center

Day 4: Saturday, April 4th Field Trips

James Veteto, University of Georgia
Food From the Ancestors: Eastern Cherokee Heirloom Seeds, Traditional Dishes, and Strategies for Continuance and Revival
The Eastern Band of Cherokee Indians are the original agriculturalists of the southern Appalachian mountain region, which has the highest levels of agrobiodiversity in all of North America. The Cherokee have a long and varied list of traditional foods and recipes, both wild and cultivated. A recent feasibility study conducted by The Center For Cherokee Plants determined that although traditional foods, foodways and seeds exist in pockets throughout the Eastern Cherokee reservation and population, the spread of more modern American foods has resulted in significant erosion. This paper will present results from a study of surviving Cherokee heirloom seeds still being grown by farmers and gardeners on the reservation and the associated traditional dishes prepared from them. Strategies for reviving these seeds and foodways so they are more widely propagated and used among contemporary Eastern Cherokees currently undertaken by The Center for Cherokee Plants will be presented and discussed.

Steven Wolverton, University of North Texas
Charles R. Randklev & James H. Kennedy
A Taphonomic Model for Freshwater Shellfish Preservation
Taphonomic studies of properties of bone have been thoroughly studied among paleozoologists who specialize in studying vertebrate remains. Shellfish taphonomy has been thoroughly studied in paleontological marine contexts, specifically regarding the properties of fossil bed formation. With a few important exceptions, taphonomy of freshwater shellfish remains from archaeological contexts has not witnessed the same attention. Here we develop a conceptual model focusing on factors of shell morphology that theoretically relate to differential preservation among different species. We apply the model to six zooarchaeological assemblages of freshwater shellfish remains from north Texas and conclude that shape is the most important factor mediating preservation, that density of shells moderately affects preservation, and that size does not matter.

Jami Wright, Western Washington University
The Interdependent Relationship of Cultural Diversity and Biodiversity: Nez Perce Wolf Recovery in Idaho
The 1995/6 reintroduction of *Canis lupus* into the northern Rocky Mountains has proven to be controversial and volatile. Idaho's Wolf Recovery Program was headed by the Nez Perce who are largely responsible for the survival of *Canis lupus* in Idaho. Idaho state actually enforced legislation prohibiting the expenditure of funds on any type of wolf recovery while fighting on behalf of the interests of ranchers and hunters. The Nez Perce involvement in Wolf Recovery marks the first time a native group has played a role in the reintroduction of an endangered species and has served to revitalize sequestered parts of their own culture. In this case, cultural diversity played a significant role in fostering biodiversity. Conversely, biodiversity revitalized cultural diversity. Thus, cultural variation is a part of, and benefits from, biodiversity.

Felice Wyndham, University of British Columbia
Children Learning the Plant World: Landscape, Ontogeny and Eco-Cultural Salience
I compare the results of two studies of children's plant knowledge inarid ecosystems—one in the Sierra Tarahumara of northern Mexico, and the other in the northern Chaco of Paraguay. Children (ages 4-17) identified names and uses of useful plants, which are analyzed for patterns in learning, asking the question, Why are some plants learned first? Wild food plants are especially well-represented among youngsters' repertoires, as are plants that are 'phylogenetically lonely' and/or of high cultural significance. The experience of the landscape (and plants themselves) in social terms, the ecological and cultural salience of individual plants, and the ontogeny of cognition over the life-span all contribute to a model of how children learn their plant worlds. I present several ways to view these data graphically that enable a quick assessment of a culturally core group of plants that are important to children's interaction with their community ethnobotanies.

Rebecca Zarger, University of South Florida
"Cat's balls and Craboo: Maya children's perceptions of flora and foodways
This paper describes research conducted in a Q'eqchi' Maya community in southern Belize on acquisition and change in subsistence knowledge and strategies over time. Data presented are drawn from a series of pile sort interviews with children ages 7 to 14 and adults to provide insight into the transition from novice to expert on names, uses, and categorization of local flora. In particular, the results suggest that certain wild and semi-cultivated plant species are perceived to be "children's foods," falling into a specific domain of ethnobotanical knowledge considered unique to children, and therefore less desirable for adults to know about, eat, or harvest. These findings contribute to larger debates in ethnobiology about how social categories of difference, like "children" and "adults," shape the content and practice of ethnobotanical knowledge, and to discussions in childhood studies, about whether or not children participate in distinct spheres of culture all their own.

Amanda Tickner, University of North Carolina—Chapel Hill
Archeobotany and historical ecology: an example of subsistence and climate change at an Iron Age Hillfort
This paper presents results from the analysis of an archeobotanical analysis conducted on samples from a Hillfort (Mont Dardon) located in Burgundy, France. The results indicate that subsistence practice decisions may have been influenced by climate change. The Roman Climate Optimum created different climate conditions over time at the site and the changes appear evident in the shifts in the proportions of crops planted. This study is placed in the context of the theoretical/methodological paradigm of Historical Ecology, and the history and potential of archeobotanical studies to contribute to the field of Historical Ecology is considered.

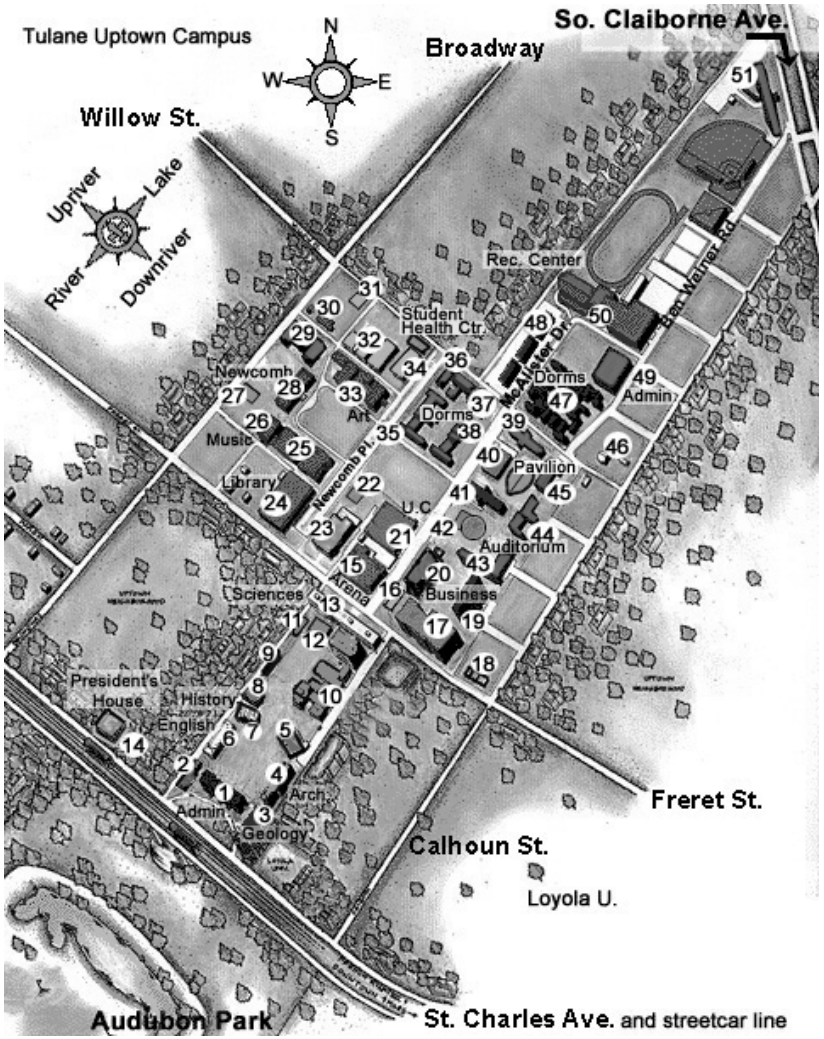
Jan Timbrook, Santa Barbara Museum of Natural History
Some Conclusions About Chumash Plant Knowledge
The Chumash, a group of related indigenous peoples of coastal southern California, experienced severe disruption of their hunting-gathering-fishing lifestyle beginning in the late 18th century. Ethnographer-linguist J.P. Harrington's notes from interviews with elders in the early 1900s preserved considerable Chumash plant knowledge. Based on thirty years of research with this material, a detailed list of plants and descriptions of their roles in Chumash life was published in 2007. Here I will summarize some aspects of Chumash plant management, classification and nomenclature systems, and patterns of usage, as well as offering some suggestions for future research.

Will Tuladhar-Douglas, University of Aberdeen
The Newar trade network for traditional medical goods in the central Himalayas
The Baniyā, a small subcaste of the Newar indigenous group of the Kathmandu Valley of Nepal, managed an extensive cis-Himalayan network for the gathering and redistribution of medical and aromatic materials. While the region they both draw from and supply has diminished due to the the introduction of trans-Himalayan road networks, there are still traces of what was, 60 years ago, a regionally important economic network. After reviewing historical evidence that shows the maximum extent of this trade network — from Lhasa to Delhi, and Kasmir to Sikkim — I will describe research undertaken in summer 2007 in which we identified key groups that still preferentially trade with the Baniyā: (1) medical family lineages in central Nepal (2) regionally active Tibetan medical practitioners (3) incense manufacturers around the Kathmandu Valley.

Nancy J. Turner, University of Victoria
"A Tale of Two Fruits": Highbush Cranberry and Pacific Crabapple in Northwestern North America-Sharing Ethnobotanical Knowledge
Viburnum edule and Malus fusca are two species with edible fruits that have had a long association with humans in northwestern North America. Especially on the North Coast, they are often treated as a "pair," because their tart fruits are both harvested in the late summer and early fall, because they are processed and served in a similar way, and because they both have a high social value, being considered as a status food, served to chiefs and people of high class and used as special gifts for potlatches and other social functions. Despite their similarities, these species have different phytogeographical distributions, as well as differing patterns of dissemination of their names and associated cultural knowledge. Drawing on some concepts in phytogeography, along with other types of evidence, can help to unravel the mysteries of their ethnobotanical origins and how knowledge about them was transmitted across time and space.

John Tuxill, Fairhaven College, W. Washington
Early successional ethnobotanical resources increase the sustainability of rural household subsistence: the case of taj (Viguiera dentata) and its management by Mayan beekeepers in Yucatan, Mexico
Contemporary Maya households in central Yucatan, Mexico combine diverse, small-scale swidden agriculture (milpa) and forest management as central elements of their economic subsistence. Rural populations in Yucatan have increased substantially for decades, with concomitant land use pressures leading to an increased presence and importance of younger, secondary forest habitats. In response, Maya farmers have adapted their production systems to take advantage of early successional resources, such as taj (Viguiera dentata (Cav.) Spreng.) a robust asteraceous herb that thrives in young fallows of former milpas. Previously a minor landscape element in central Yucatan, taj has emerged as a key wild floral resource for beekeeping, which is a major cash income-generating activity for rural Mayan families. Ethnobotanical resources like taj help buffer the loss of mature forest, and allow Mayan farmers to adapt seemingly incongruous land use activities in ecologically sophisticated ways, increasing the sustainability of rural household subsistence in Yucatan.

Tulane University Campus Map



21 Lavin-Bernick University Center, Qatar Ballroom

24 Howard-Tilton Memorial Library, Latin American Library (4th Floor)

27 Rogers Memorial Chapel

33 Woldenberg Art Center, Freeman Auditorium & Woodward Way

Schedule of Presentations: April 2-3
Freeman Auditorium & Rogers Memorial Chapel

Day 1: April 2		
Time	**Freeman Auditorium**	**Rogers Memorial Chapel**
1:00 – 1:20	**Conservation, Recovery and Restoration of Biota & Landscapes** Chair: Maria Fadiman	**Ethnobiology in the Eastern, Central and Southwestern United States** Chair: Jessica Bowes
	Using Indigenous Science to Restore Traditional Food Resources Nan McDonald, Willamette Resources & Education Network	Iroquois Agriculture: Examining the Amounts and Types of Food Produced in an Indigenous Cropping System Jane Mt. Pleasant, Cornell University
1:20 – 1:40	Edible and Medicinal Plants as a Tool for Creating Useful Prairie Restoration Kelly Kindscher, University of Kansas	Ethnobotany of the "Little Brother of War": Plants of the Cherokee Stickball Game David Cozzo, Western Carolina University
1:40 – 2:00	Interdependent Relationship of Cultural Diversity and Biodiversity: Nez Perce Wolf Recovery in Idaho Jami Wright, Western Washington University	Old Meets New on the Reservation: Indigenous Use of Domesticates and Wild Plants on a Colonized Landscape Kimberly Kasper
2:00 – 2:20	"Sacred Seeds" – Keeping the Source of Traditional Knowledge Alive Ashley Glenn, Missouri Botanical Garden	Biocultural Diversity and Medicinal Ethnobotany in the Arkansas Ozarks Shaina Parks, University of Arkansas
2:20 – 2:40	**coffee or tea**	"Specialized Agriculture in the Prehistoric Casas Grandes Region: an Ethnobotanical Analysis of upland and floodplain sites" Joelle Morgan, University of Oklahoma
2:40 – 3:00	Risk and Resilience: The Role of Secondary Crops in Species and Cultural Conservation in Boumba, Niger Jocelyn Muller, Tufts University	"Negroes Working Patches": A Macrobotanical Analysis of an Antebellum Slave Cabin Sub-Floor Pit at Thomas Jefferson's Poplar Forest Jessica Bowes, University of Massachusetts Boston
3:00 – 3:20	Tree Poaching for Art and Survival in Zimbabwe Maria Fadiman, Florida Atlantic University	**coffee or tea**
	Innovations in Ethnographic Methods Chair: Rebecca Zarger	**New Data on Old Plants** Chair: Paul Minnis
3:20 – 3:40	Children Learning the Plant World: Landscape, Ontogeny and Eco-Cultural Salience Felice Wyndham, University of British Columbia	Liarka: Wild Edible Plants Integral to the Cuisine of Ethnic Albanias (ARBËRESHË) in Southern Italy Cassandra Quave, University of Arkansas
3:40 – 4:00	Restoring the Kwakwaka'wakw T'aki'lakw, Increasing the Productivity of an Estuarine Salt Marsh Root-Food Abe Lloyd, University of Victoria	Chile in the North American Southwest Paul E. Minnis, University of Oklahoma
4:00 – 4:20	Recipe Contests Among Rurla Adi Women: Innovative Method to Enhance Conservation of Biocultural Diversity Dr. Ranjay K. Singh, Centra	Arrowroot and Llerén: The Arcaheology of Two Neotropical Root Crops Deborah Pearsall, University of Missouri
4:20 – 4:40	"Cat's Balls and Craboo": Maya Children's Perceptions of Flora and Foodways Rabecca Zarger, University of South Florida	**General Trends and Prospects for Ethnobiology** Chair: Dana Lepofsky
		Yucatec Maya Botany and the "Nature" of Science Gene Anderson, University of California Riverside
4:40 – 5:00	Culturally Relevant Plants in an Early Years Setting Sheila Grieve, Athabasca University & Assiniboine Community College	Ethnobiology at the Crossroads: Where do we come from? What are we? Where are we Going? Dana Lepofsky, Simon Frasier University

Rafael Routson, University of Arizona
Kanin Routson, Gary Paul Nabhan, University of Arizona
Jesús Garcia, Kino Fruit Trees Project, Arizona-Sonora Desert Museum

Restoring Historic Fruits in Oasis Orchards of Baja California: Determining a Baseline, Setting Goals, and Involving Communities

The cultivation of perennial fruit crops in the desert oases of Baja California, Mexico was introduced by Jesuit missionaries between 1713 and 1757 and embraced by Spanish immigrants and surviving Cochimí Indians, who continue to be the stewards of these orchards today. Over the last two decades, selected sites at ten of these oases have received protection as Indigenous reserves (2), as RAMSAR wetland reserves (2), as landscapes in biosphere reserves (1), and as historic sites protected for geo-tourists by INAH(10). Residents at some oases have been told by government agencies to limit current and future plantings to fruits historically grown there, but only five species, Mission olives, Mission figs, Mission grapes, dates, and pomegranates were perceived as "historically acceptable." Our recently completed rapid assessment survey of oasis agro-biodiversity indicates that 57 perennial crop species have been introduced since 1713 and 56 are currently cultivated. However, from Jesuit records, we have documented that not 5 but 20 species were introduced to these oasis orchards by 1757, and should be considered suitable for restoration efforts. Many of the historic land races or razas criollas are still grown at one or more of the oases. We therefore propose a participatory community-to-community exchange of these heirloom fruits to both re-diversify and maintain the cultural landscape integrity of Baja California's historic agricultural oases.

Jan Salick, Missouri Botanical Garden
Anja Byg, Nanci Ross

Crops and Climate Change in Tibet

Previously, we conducted detailed studies of Tibetan agriculture in the eastern Himalayas (Salick et al. 2005). However, climate change is rapidly affecting the environment of this area through warming temperatures, reduced snow pack, receding glaciers, increasing and increasingly variable precipitation, avalanches, landslides, and changing seasons. As a result, climate change rapidly affects Tibetan agriculture. Planting and harvesting seasons are earlier and the Tibetan calendar that predicts these is altered. Crops are changing with lowland crops (e.g., vegetables, peaches and walnuts) being grown at higher elevations and highland crops (e.g., buckwheat) being abandon in the lowlands. Crop varieties are changing dramatically (e.g., increases in winter wheat and barley) and new crops are taking over (e.g., grapes). Diseases and pests (e.g., rats, flies, mosquitoes) are increasing and food is spoiling (affecting human health). Organic matter is breaking down quickly, changing soil management. Forests are extending upward to higher elevations and non-timber forest products (e.g., mushrooms and medicinal plants) are changing distributions and phenologies. Nonetheless, Tibetans are actively and creatively adapting to (e.g., wine production) and even mitigating (e.g., sacred sites, increasing soil organic material, afforestation) climate change. Indigenous peoples such as Tibetans deserve a seat at the table of climate change policy.

Dr. Ranjay K. Singh, Centra

Recipe Contests among Rural Adi Women: Innovative Method to Enhance Conservation of Biocultural Diversity

Women of traditional communities are custodians for conserving biocultural diversity and secure the food and livelihood security. They act as informal learning institution for human being and transmit intergenerational environmental knowledge. This paper demonstrates means and ways of organizing participatory "recipe contests" of uncommon forest plants, field crops and other wild resources among rural women of East Siang district, Arunachal Pradesh, India. The objective was to enhance informal learning on indigenous biodiversity conservation and capture the diversity of traditional foods and related knowledge. The organized contests showed a sound knowledge of diversified foods on biocultural resources, preparation methods and demonstrated more than 50 indigenous forests and wild plants. They also demonstrated location specific ecological knowledge. Elder women provided an insight on coping strategies on ensuring food and nutritional security during crisis. The costmary chief and elder women further helped in diffusing food-contest based knowledge systems among younger and non-participating members.

Erik Terdal, Northeastern State University
Rhea VanDeVusse, Hillcrest Medical Center

Achioté (Bixa orellano L.) cultivation for food color, flavor and health by Maya women in Belize, Central America

Annatto (Bixa orellano L.) is a neotropical shrub cultivated world-wide in tropical regions as a source of a natural food colorant. In Belize, annatto is known by the Mayan name Achioté. We present preliminary data on the cultivation, harvest, processing, sale, distribution and use of achioté in the Cayo District. Our data was gathered as part of an ongoing study of medicinal plant use by the Maya in this area of Belize. Achioté-specific data for this presentation was gathered by semi-structured interviews in January, 2009. We interviewed people involved in the production and sale of achioté in one town and three villages. Cultivation is primarily by Maya-speakers and entirely by women. The number of shrubs per household ranged from one to seven. Harvest and processing is done by women as seasonal work. Achioté is used in traditional stews for color and flavor as well as for perceived health benefits.

Sandra Peacock, University of British Columbia - Okanagan
David Pokotylo, University of British Columbia - Vancouver
Brian Kooyman, University of Calgary
Refurbish, reuse, recycle: The life history of earth ovens
Archaeologists have long recognized a correlation between earth oven size and antiquity but were unsure how to explain this pattern. Group size, the kinds and quantities of roots cooked, and oven reuse through time have all been proposed as possible explanations. We present evidence from our on-going investigations at White Rock Springs, one of the largest root-processing sites on the Canadian Plateau, that proposes increasing oven size is linked to multiple reuse events over the last 2000 years. These findings call into question previous interpretations and provide new insights into the processes of root food intensification in the region.

Deborah Pearsall, University of Missouri
Arrowroot and Llerén: The Archaeology of Two Neotropical Root Crops
Arrowroot (Maranta arundinacea) and llerén (Calathea latifolia [=C. allouia]) (both Marantaceae) are root/tuber crops of the lowland Neotropics. While arrowroot is still in commerce today, as a source of easily digested starch, neither it nor llerén rival the importance of manioc, yam, and sweet potato in traditional tropical forest agriculture. Yet the archaeological record of the lowland tropics, informed by new data from starch and phytolith studies, suggests that these obscure root/tuber crops were not always on the "other minor crops" list. In this presentation I review the current distribution and uses of Maranta and Calathea species in the Neotropics, and describe recent microfossil studies in the Caribbean, Central America, and northern and western South America that provide new insights into the antiquity and importance of these crops.

Justin B. Pitts, Pitts Farm
Restoring heritage livestock breeds in Pineywoods communities of Mississippi
The Pineywoods of the Gulf Cost is a unique habitat that was historically shaped by the grazing of mixed herds of livestock. Heritage breeds of the Gulf Coast include the Pineywoods cattle, Baylis line of Spanish goats, Gulf Coast native sheep, and Cotton Patch geese. Working with farmers, several breed registries, and the American Livestock Breeds Conservancy, we are not only bringing back these breeds, but using them to help restore the Pineywoods communities as working landscapes. With the Crescent City Farmers Market, Renewing America's Food Traditions, Slow Food New Orleans and other groups, we have also been giving people a taste of the Pineywoods, promoting the market recovery of these breeds.

Timothy Riley, Palynology Laboratory, Texas A&M
Starch Research among Hunter-Gatherers: Some Initial Results and Future Directions
To date, most archaeological starch research has focused on the identification of starch granules from domesticates associated with horticultural populations. Few studies have applied this line of inquiry to the hunter-gatherer record. This presentation presents the initial results of several studies of starch residues recovered from hunter-gatherer sites in North America. The starch research in this current study includes: a groundstone analysis of a late Archaic/Formative component of the Bonneville Estates Rockshelter, Nevada; a groundstone analysis of an open-air Late Archaic site in Williamson County, TX; and a coprolite analysis from the Early Archaic component of Hinds Cave, Texas. Initial results from these studies will be presented, along with a discussion of some of the issues and limitations associated with focusing starch research on wild plant resources. The role of starch analysis in the identification of incipient horticulture and agricultural expansion will also be discussed.

Nanci Ross , Missouri Botanical Garden
Footprints of the Maya: Pre-Colombian forest gardens still visible in modern tree species composition
Ecology and ethnobotany were integrated to assess the impact of ancient Maya home 'forest gardens'¾tree-dominated home gardens containing a diversity of tree species used for daily household needs¾on the modern tree species composition of a Mesoamerican forest. Researchers have argued that the ubiquity of these ancient gardens led to the dominance of Maya useful species in the contemporary forest; however, this pattern may be localized depending on ancient land use. The tested hypothesis was that species composition will be significantly different between areas of dense ancient residential structures (High density) and areas of little or no ancient settlement (Low density). Sixty three plots (31 High density and 32 Low density) were censused around the El Pilar Archaeological Reserve in Belize. Species composition differed significantly with higher abundances of commonly utilized 'forest garden' species still persisting in High density forest areas despite centuries of abandonment.

Day 2: April 3		
Time	**Freeman Auditorium**	**Rogers Memorial Chapel**
9:00 – 9:20	**Mesoamerica** Chair: Cecil Brown	**Innovations in Archaeological Methods** Chair: Steven Wolverton
	Footprints of the Maya: Pre-Colombian Forest Gardens Still Visible in Modern Tree Species Composition Nanci Ross, Missouri Botanical Garden	Total Organic Carbon Assay as a Screening Tool in Archaeological Residue Analysis Andrew Barker, University of North Texas
9:20 – 9:40	Human Relationships with Cycads (Zamiaceae) in Oaxaca Mark Bonta, Delta State University	Starch Research Among Hunter-Gatherers: Some Initial Results and Future Directions Timothy Riley, Texas A&M
9:40 – 10:00	Development of Agriculture in Prehistoric Mesoamerica: The Linguistic Evidence Cecil H. Brown, Northern Illinois University	**coffee or tea**
10:00 – 10:20	**coffee or tea**	
10:20 – 10:40	Early Successional Ethnobotanical Resources Increase the Sustainability of Rural Household Subsistence: The Case of Taj (Viguiera dentata) and Its Management By Mayan Beekeepers in Yucatan, Mexico John Tuxill, Fairhaven College	A Taphonomic Model for Freshwater Shellfish Preservation Steven Wolverton, University of North Texas
10:40 – 11:00	Achioté (Bixa orellano L.) Cultivation for Food Color, Flavor and Health By Maya Women in Belize, Central America Erik Terdal, Northeastern State University	**Old World** Chair: Will Tuladhar-Douglas
		Archeobotany and Historical Ecology: An Example of Subsistence and Climate Change at an Iron Age Hillfort Amanda Tickner, UNC Chapel Hill
11:00 – 11:20	**California and Northwestern North America** Chair: Sandra Peacock	Crops and Climate Change in Tibet Jan Salick, Missouri Botanical Garden
	Some Conclusions About Chumash Plant Knowledge Jan Timbrook, Santa Barbara Museum of Natural History	
11:20 – 11:40	Wocas: Primary Plant Food of the Klamath Tribes, Southern Oregon Lucile Housley, Bureau of Land Management	Geographical Barriers and Their Influence on Indigenous Knowledge Muhammad Ghufran, Quaid-i-Azam University Islamabad
11:40 – 1:00	**Lunch Break**	
1:00 – 1:20	"Tumplines" – A Look at the History and Ethnobiolgoy of Northwest Coast Burden Straps Leslie Main Johnson, Athabasca University	The Newar Trade Network for Traditional Medical Goods in the Central Himalayas Will Tuladhar-Douglas, University of Aberdeen
1:20 – 1:40	"A Tale of Two Fruits": Highbush Cranberry and Pacific Crabapple in Northwestern North America – Sharing Ethnobotanical Knowledge Nancy J. Turner, University of Victoria	**Enigmatic Biota and Icons** Chair: Marc Blainey
		Ethnobiology and Crypto-Species: Some Observations From Eastern Indonesia Gregory Forth, University of Alberta
1:40 – 2:00	Digging Sticks, Woodworms and Lizards: The Practical and Symbolic Division of Labour in Secwepemc Society Marianne Ignace, Simon Fraser University	Naming a Phantom – the Quest to Find the Identity of "Ulluchu" Rainer Bussmann, Missouri Botanical Garden
2:00 – 2:20	Refurbish, Reuse, Recycle: The Life History of Earth Ovens Sandra Peacock, University of British Columbia – Okanagan	**coffee or tea**
2:20 – 2:40	Ancient and Future Orchard Gardens in Nisga'a and Tsimshian Tradition Nancy Mackin	El Ritual del Hobre-Pajaro – The Bird-Man Cult of Orongo, Rapa Nui Robert Gosford, Ethnoornithology Research & Study Group
2:40 – 3:00	**coffee or tea**	Ayahuasca Use amongst the Cashinahua and the Santo Daime Church: Correlations Between a Sacred Beverage and Cultural Worldview Marc Blainey, Tulane University
3:00 – 3:20	Kwakwaka'wakw use of the Edible Seaweed Lheq'estén (Porphyra abbottiae); Stability and Change Amy Deveau, University of Victoria	**Roundtable** Future Directions and Trends in Publishing in the Field of Ethnobiolgoy Rick Stepp, University of Hawai'i/ University of Florida
3:20 – 3:40	Rooting out Meaning: Interpreting Interior Salish Narratives Michele Johnson, University of British Columbia – Okanagan	

Poster Display
Woldenberg Art Center, Woodward Way
Friday, April 3rd 9:00-4:00

Janelle Baker, Univeristy of Calgary, Athabasca University

"We eat it like the cows": Wixarika (Huichol) use of Amaranthus hybridus as a famine food

My poster will demonstrate the manner in which Wixárika (Huichol) people from northwest Mexico use Amaranthus hybridus as a famine food. A. hybridus is a pioneer plant that grows throughout North America and belongs to a group of edible wild, leafy plants known as quelites in Mexico. Wixáritari (pl.) clean the plant from their maize crops during the rainy season when the leaves are abundant, young, and tender, and take them home to eat since this is the time of year when food supplies are diminished. Wixáritari acknowledge this plant's importance to their survival in times of food shortages. Elderly Wixáritari tell young people about having to eat the plant in times of crisis (such as political conflict) and so pass on their knowledge about how to find and consume the plant. Wixárika oral traditions and ceremonies also inform people about how and why they should demonstrate respect for amaranth.

Nora Bridges, University of Memphis

Poco a Poco: Procurement of Plants in an Andean Community

This research endeavor explores health care decision-making among the caretakers of Andean households in southern highland Ecuador. This project seeks to better understand how women use plants, or plant derivatives, to care for their own health as well as that of their family. Also, to be investigated are the hierarchies of resort, as well as the utilization of the various popular, lay, and professional sectors of health care. Theoretical issues of authoritative knowledge are at play. Methodology includes an extensive literature search, ethnographic mapping of gardens and naturalista shops, participant-observation, guided tours of personal medicinal gardens aiding in creation of plant inventories, informal interviews, and in-depth semi-structured interviews. The arenas in which information were garnered were naturalista shops, which sell nutraceuticals and botanical preparations, as well as women's personal medicinal gardens, and the local hospital that relies on plant utilization for therapeutic purposes.

Carla Eskow, College of the North Atlantic-Qatar

Keith Williams, Intisar Abdulla, Aisha Ghani, Asma Zahid, Maria Bakhsh, Sahar Al Kaldi, & Sara Bilal, College of the North Atlantic - Qatar

From Acacia to Ziziphus: Arabian plants to nourish the body and earth

Development of the oil and gas industries in Qatar and the subsequent urbanization and industrialization of this country over the past sixty years have had profound influences on both public health and ecosystem health. This societal shift has resulted in a dramatic increase in the incidence of 'diseases of affluence' – which are diseases that result from an increase in wealth, and the degradation of arid lands – desertification. This study has involved a thorough review of the literature concerning 170 of the most commonly occurring plants in Qatar for their potential to treat both diseases of affluence and to restore degraded arid lands. This data will be used to generate a ranking score for more in-depth profiling of plants which will be geared towards selected stakeholders that can use the reports to help treat diseases of affluence and the desertification in Qatar.

Monica Nicolaides, University of Calgary

Sandra Peacock, University of British Columbia Okanagan

Brian Kooyman, University of Calgary

Reusing the Pits: A Case Study of Earth Oven Reuse from the Hat Creek Valley, British Columbia

This poster presents the results of our excavations of a single earth oven at EeRj 1, a large multi-component camp and root-processing site in the Hat Creek Valley, British Columbia. Excavations of the oven revealed multiple rock-lined basins, full of fire-cracked rock, wood charcoal and other charred plant materials, and the remains of ancient root cooking events. This better than average stratigraphy allowed us to collect a series of eight radiocarbon age estimates from the oven's inside basin and from the oven's outer rim and toss zone. These dates revealed repeated use of the oven beginning some 2000 years ago and continuing up until European contact, about 300 years ago. At present, EeRj 1 provides the most extensively dated example of earth oven construction, refurbishing and reuse on the Canadian Plateau.

Paul E. Minnis, University of Oklahoma

Chile in the North American Southwest

The first cultivated Chile (Capsicum annuum) seed from the prehispanic U.S. Southwest/ far northwest Mexico is discussed as is its archaeological context. The history of Chile from its near absence in this region in prehispanic times to its subsequent popularity among postcontact groups is considered.

Joelle Morgan, University of Oklahoma

Specialized Agriculture in the Prehistoric Casas Grandes Region: an Ethnobotanical Analysis of upland and floodplain sites

Food was an essential part of the rise of Casas Grandes one of the premier polities in the U.S. Southwest and Northern Mexico. However, there has been very limited ethnobotanical research on this community. The results of the analysis of the first modern assemblage of plant remains for near Casas Grandes are discussed in relation to specialized agricultural production and anthropogenic ecology. These works complement recent work that documents the integral role plants played in Casas Grandes tradition and political dynamics.

Jane Mt. Pleasant, Cornell University

Iroquois Agriculture: Examining the amounts and types of food produced in an indigenous cropping system

In the northeast woodlands, intercropped corn, beans, and squash was a productive and stable agricultural system for several hundred years. It was the foundation for the economic and political power of the Iroquois Confederacy from the 15th through 18th centuries. The agronomic characteristics of this cropping system, commonly called the Three Sisters, have been well documented. But few scholars have addressed the food value obtained from this cropping system. Using field experiments conducted in New York, I will evaluate the Three Sisters in terms of carbohydrates, protein, fats, and essential vitamins and minerals that Iroquois farmers produced with this traditional cropping system. Information from these experiments can also be used to estimate the population levels that could be supported by Iroquois farmers during the colonial period.

Jocelyn Muller, Tufts University

Iro Dan Guimbo

Risk and Resilience: The role of secondary crops in species and cultural conservation in Boumba, Niger

Social and ecological research and case studies give evidence, which seeks to both characterize resilient systems and describe how these systems move through the adaptive cycle thereby gaining or losing resilience. It now remains for ethnobiologists to work toward the understanding of the interaction of these systems. This paper explores how agriculture and the promotion of secondary crops or the weeds of agriculture can support social-ecological resilience. Based on ethnobiological participatory research conducted in southwest Niger from 2005 until 2008, we examine how current agriculture practices affects the biodiversity of farms and presence of socio-ecological keystone plants. Using farmer interviews and vascular plant surveys of the farms, this research demonstrates how by promoting certain key plants farmers have been able to increase the species diversity on their farms, turned field borders into productive parts of the farms and using secondary crops as both key elements of both risk and resilience.

Gary Paul Nabhan, University of Arizona

Ecological and Cultural Restoration of Tradition Foods: An Overview of Practice, Ethics and Goals

Unlike most ecological restoration projects which have restrictions of plant or animal use once restoration processes are initiated, a growing number of field initiatives have as one of their goals the community-based sustainable use of a traditional food or foods that have historically declined in the foodshed. This suggests a planning, implementation and evaluation process that ensures biological (genetic) recovery of a threatened population, ecological restoration of a habitat, cultural renewal and adaptation of foodways traditions under a different political ecological context, and perhaps, a more dynamic ethics. Some of these projects are for wild species, some for domesticated species, but many involve a spectrum of so-called wild and agricultural habitats (such as the Pineywoods ecosystem). The Renewing America's Food Traditions collaborative and Indigenous Restoration Network are collaborating on further documentation of success stories of such community-based projects, especially those under indigenous control that involve researchers and restorationists in service to communities. We will briefly highlight efforts with native oysters, bison, mesquite, potatoes, and apples.

Shaina Parks, University of Arkansas

Biocultural Diversity and Medical Ethnobotany in the Arkansas Ozarks

The Arkansas Ozarks provide a diverse social and ecological context for examining medical ethnobotanical systems. Like other rural cultures of the US, the Ozark Mountain region is rapidly delocalizing, resulting in the fragmentation of folk medical knowledge. This study compares the cultural and ecological components of folk medical knowledge. Ten residents of the rural Ozarks and ten residents of the more urbanized Arkansas River Valley were consulted in the study. Successive free-lists were obtained from each expert, including each species' mode of preparation and therapeutic application. The results suggest that a cohesive health belief system binds these biocultural subregions together, despite the differences in forest species composition that separate them.

Kelly Kindscher, University of Kansas

Edible and Medicinal Plants as a Tool for Creating Useful Prairie Restoration

For prairie and other habitat restorations, there has not been a history of including plant species that people would use for edible and medicinal purposes. Restorations have primarily focused on providing habitats for animals and also have focused on increasing plant species diversity. Data analysis of species planted in Midwestern tallgrass prairie restorations illustrates that not only have edible and medicinal species not been a focus of planting efforts, but that they are under-represented because these species may not necessarily be the standard, showy conservative prairie species, typically used in restorations. Echinacea, Prunus, and other edible and medicinal species should be added to prairie restorations, not just to increase species diversity, but also because if useful species are added, people will make more use of these restoration sites. With human use and care, these ethnobotanically-rich prairie restorations will more likely been managed and appreciated by the communities where they are found.

Dana Lepofsky, Simon Fraser University
Felice Wyndham, University of British Columbia & Sara Tiffany

Ethnobiology at the Crossroads: Where Do We Come From? What Are We? Where Are We Going?

The field of ethnobiology is at a crossroads. The insights of ethnobiology are increasingly called for in mainstream disciplines, yet ethnobiology itself is not wielding the influence it might. We report results of a 2008 survey of members of the Society of Ethnobiology (SoE, 126 respondents) and the International Society of Ethnobiology (ISE, ~100 respondents). Though we share a surprising number of members, the two societies fulfill different roles in ethnobiology—the SoE has an academic emphasis and draws most members from North America and anthropological traditions while the ISE strives to be a meeting ground for all stakeholders internationally and draws more biologists. Both societies need to increase efforts at reaching young/student ethnobiologists. 61% of SoE and 87% of ISE respondents favor collaboration between our societies. We present possibilities and invite discussion on how to build synergies between these societies to leverage the insights and applications of ethnobiology to contemporary ecological and social issues.

Abe Lloyd, University of Victoria

Restoring the Kwakwaka'wakw T'aki'lakw, Increasing the Productivity of an Estuarine Salt Marsh Root-Food

The Kwakwaka'wakw traditionally managed four edible root producing estuarine salt marsh species in a garden system called the t'aki'lakw. Euro-Canadian colonialism disrupted t'aki'lakw management in the early 20th century and they have remained fallow since then. This paper examines how traditional management can be used in the ethnoecological restoration of the t'aki'lakw. Historical and contemporary ethnographic accounts were used to build a model of traditional t'aki'lawk management, which was tested using a quantitative in situ experimental methodology. The hypothesis that traditional management increases the productivity of tleksem (Argentina egedii (Wormsk.)) was tested. Root data were collected six months after the application of till, till and weed, and control treatments. Active treatments significantly increased root density and decreased both root length and width over the control. No difference in root biomass was observed between treatments. This restoration successfully created greater Argentina density which, when mature, may substantially increase root biomass.

Nan MacDonald, Willamette Resources & Education Network

Using Indigenous Science to restore Traditional Food Resources

Camas, (*Camassia quamash*), has been identified as one of the most important food resources of the historic indigenous people of the Willamette Valley in Oregon. The Willamette Resources and Education Network's, Ethnobotany Resource Project, is collaboration between state, federal, tribal, and private partners in an effort to help identify and restore traditional Camas fields within a 2500 acre urban wetland reserve. Partners are using Indigenous Science to help understand the value of this food resource and the manner in which it can be best developed. Presentation will include details of current project area, use of prescribed fire to maintain and enhance traditional food resources, and the ethics surrounding the preservation of cultural traditions and Indigenous Science in a contemporary environment.

Nancy Mackin, University of Victoria

Ancient and future orchard gardens in Nisga'a and Tsimshian tradition

Complexes of culturally important trees and shrubs – "orchard gardens" – were often associated with longhouse villages of Nisga'a and Tsimshian peoples of Northwestern British Columbia, as documented through oral history, interviews and botanical surveys. Nisga'a oral histories describe such orchard gardens as an unusual diversity of edible and ornamental tree and understory species situated close to extended family dwellings. Four ethnobotanical gardens, now being established with Nisga'a and Tsimshian community involvement, are modeled upon described and extant historic orchard gardens. Each new garden is associated with a health or education centre and includes transplanted specimens from nearby orchards, berry-picking grounds, and other traditionally managed food sites. The roles assigned to these new gardens, which will feature Pacific crabapple (Malus fusca) and other key food plants, include preserving genetic diversity, enhancing nutrition, and communicating long-held cultural practices to future generations.

Marsha Quinlan ,Washington State University
Sarah Council, University of Arkansas Fayetteville
Christine Stordeur, Washington State University

Terracing Meets Recycling in Dominican Rainforest House-Gardens

In communities with steep terrain and heavy rainfall, terracing and other means of containing soil are necessary for gardening. This presentation is a photo essay describing and depicting the ways that residents of a remote Caribbean village reinvent and recycle trash into landscaping equipment that serves to terrace and contain soil. Methods include photography in the context of participant-observation and interviewing. Creative use of trash serves two functions. Garbage provides durable landscaping materials. Further, in the absence of sanitation, this garden recycling converts objects considered as potential health hazards into objects of health-oriented home gardening.

Aaron Sedgwick, University of Wisconsin - Stevens Point

Schmeeckle Reserve Restoration Project

The Society of Ethnobiology – Stevens Point is conducting a restoration project in Schmeekle Reserve, the university's wildlife sanctuary, beginning spring 2009. The project aims to restore a parcel of the park to a vegetation composition and diversity resembling its historic anthropogenic condition. Both traditional and modern methods of restoration will be used to promote the desired level of herbaceous diversity. Initial methods will involve mechanical removal of non-native vegetation, followed by herbicide spot-application when necessary. Removal of non-native shrubs will be the first process in restoring the parcel. Creating secondary succession will be accomplished by maintaining a fire regime that mimics historical burning, greatly increasing local biodiversity. Seed from over fifty extirpated species characteristic of Oak savannah will be broadcast each fall. The harvesting strategy for culturally significant plants will be determined with respect to local abundance and unique ecology.

Leona Shaw, University of Northern British Columbia
Beverly John, John Prince Research Forest Jane Young, University of British Columbia

The Ecology of Food and Medicine Plants as Defined By Tl'azt'en Nation

This community-based research is part of a Community-University Research Alliance (CURA) project between Tl'azt'en Nation and the University of Northern British Columbia. Tl'azt'en Nation is part of the Carrier (Dakelh) linguistic group and their traditional territory inhabits approximately 6500 km² of land in north-central British Columbia. The knowledge collected includes Traditional Knowledge relating to both the ecology of food and medicine plant gathering sites and the criteria for gathering of individual plants by Tl'azt'en Nation. Unfortunately, much of this knowledge is being lost and by recording this information, the knowledge gained can be used to teach younger generations about food and medicine plants and their gathering sites. This study may also be used to consolidate information relevant to the protection of traditional food and medicine plant gathering sites, which can be formulated into policy for Tl'azt'en Nation's continued management of their traditional lands.

Keith Williams, College of the North Atlantic-Qatar
Alyaa Zahran, Shaikha Al Hajri,& Farha Al Kuwari, Qatar University
Susan Madzia, Sahar Al Kaldi, Aisha Ghani,& Intisar Abdulla,College of the North Atlantic-Qatar

Traditional Ecological Knowledge of Desert Truffles in Qatar: family harvesting dynamics and sustainable management

Gathering desert truffles is a cultural practice that has remained intact despite the rapid socio-economic changes due to the exploitation of petroleum reserves in Qatar. Desert truffles, belonging to the genera Terfezia and Tirmania, are native to Qatar, and grow in mycorrhizal association with the roots of the desert sunflower, Helianthemum spp. This research also suggests that Phaeangium lefebvrei, previously undocumented here, also grows in Qatar. Telephone interviews of Qatar Nationals revealed that almost 71% of the population hunts for desert truffles. 88% of this sample goes truffle hunting as a family activity. Despite the high value of desert truffles (up to 60USD/kg in Qatar), only 1 of 17 interviewed Qatari respondents actually sells harvested truffles. Desert truffle gathering is an important cultural activity in Qatar. Traditional knowledge of desert truffles in Qatar could be used to manage for sustainable harvest, protection of biodiversity, and the restoration of degraded aridlands.

Abstracts of Presentations

Gene Anderson, University of California, Riverside
Yucatec Maya Botany and the "Nature" of Science
The Yucatec Maya of the Yucatan Peninsula have the most extensive knowledge of plants so far documented for a small-scale indigenous society. They recognize around 1,000 taxa, and have extensive knowledge of the phenology, ecology, and uses of all of these except the most rare and obscure. They also have a philosophy of knowledge, expressed through words for knowing and for place, situation, orientation, and the like. This raises questions about "science" and about such terms as "folkbotany." Students of science, from Philip Kitcher to Stephen Jay Gould to Bruno Latour, have recently addressed issues of "science" as philosophy and practice, and its differences from religion and folk knowledge. The Maya case tests and extends this body of enquiry.

Andrew Barker, University of North Texas
David Baxter, Barney Venables, & Steve Wolverton, University of North Texas
Total Organic Carbon Assay as a Screening Tool in Archaeological Residue Analysis
The study of organic residues recovered from artifacts (e.g., pottery remains) has potential to reveal new information about the historic and prehistoric relationships between humans and their environments. Unfortunately, organic residue analysis is generally time consuming and expensive, making it impractical for standard archaeological investigations. In this paper, we evaluate the utility of total organic carbon (TOC) analysis as an inexpensive screening tool by using it to test a selection of archaeological potsherds from southwestern Colorado. We hypothesize that TOC analysis will identify those samples that are likely to yield analyzable quantities of organic residues, thus helping to target samples for more specific analysis, such as gas chromatography – mass spectrometry of lipid residues and/or liquid chromatography – mass spectrometry of protein residues.

Marc Blainey, Tulane University
Ayahuasca Use amongst the Cashinahua and the Santo Daime Church: Correlations between a Sacred Beverage and Cultural Worldview
Ayahuasca tea is a potent "entheogen", a term denoting plants and chemical substances that induce mystical experiences. The altered states of consciousness brought on by this tea are interpreted as personal encounters with a spiritual Otherworld in the religious traditions of two South American groups: the native Cashinahua and a syncretic new religious movement called the Santo Daime. Through drinking ayahuasca, both the Cashinahua and the Santo Daime believe that the infinite knowledge contained in this Otherworld can be tapped by individual human beings, resulting in the attainment of greater self-knowledge. Cosmological beliefs shared by these two groups considered alongside some linguistic evidence suggest the possibility that Cashinahua ideology might have informed the 20th century establishment of the Santo Daime church. Furthermore, this paper will explore the conspicuous correlations between the general phenomenology of the ayahuasca experience and the cosmological beliefs of cultures that express an affinity for imbibing ayahuasca.

Mark Bonta, Delta State University
Human relationships with cycads (Zamiaceae) in Oaxaca
Summarizes and analyzes the results of ethnographic fieldwork in Zapotec, Chontal de Oaxaca, Mazatec, and Chinantec regions of the state of Oaxaca in southern Mexico in 2008. Discusses religious, decorative, alimentary, and other uses of Dioon, Ceratozamia, and Zamia cycads, as well as their contemporary and historical ethnoecology. The prevailing model of cycad conservation via peasant nurseries is critiqued, with applicability to Mexico as a whole.

Jessica Bowes, University of Massachusetts Boston
"Negroes working patches": A Macrobotanical Analysis of an Antebellum Slave Cabin Sub-Floor Pit at Thomas Jefferson's Poplar Forest
Macrobotanical analysis has been underutilized in studies regarding African American slave diet and subsistence. This paper demonstrates the ability of macrobotanical remains to inform archaeologists on slave foodways, plantation social relations, and the slaves' relationship and interaction with their environment. Excavations at Thomas Jefferson's Poplar Forest have uncovered a sub-floor pit of an antebellum slave cabin that allows for such macrobotanical research. The cabin was occupied from the 1840s through 1858, and possibly as late as the abolition of slavery in the 1860s, while the plantation was under the management of Edward S. Hutter. This analysis reveals the potential of these macrobotanicals and how they can contribute to our understanding of slave life in the twenty years leading to the end of slavery America.

Lucile Housley, Bureau of Land Management
Wocas: Primary Plant Food of the Klamath Tribes, Southern Oregon
Since time began, the Klamath Tribes of Oregon and northern California claim that wocas (seeds of the yellow water lily, Nuphar luteum ssp polysepalum) has been one of their primary plant foods. The past and present rich history of the plant will be demonstrated in photos, ethnographies, language, and its important role in culture and survival for these peoples in their lakeside homes will be discussed. The geographic distribution of this waterlily is throughout the American and Canadian West. Some tribal peoples eat the starchy rhizome, but the Klamath are one of the few people who utilize the seeds. Nutrition, specialized equipment for collecting and processing, present day availability in the Klamath Basin and other parameters will be presented from the tribal point of view. The role of wocas in sustaining the culture of this once terminated tribe will add to the importance of its preservation and restoration.

Marianne Ignace, Simon Fraser University
Ronald Ignace, SFU Kamloops & Celia Nord, Simon Fraser University
Digging Sticks, Woodworms and Lizards: The Practical and Symbolic Division of Labour in Secwepemc Society
Ethnographic information recorded by James Teit about the Secwepemc and neighbouring Plateau peoples in the early 1900s includes a few scant details about icons and images on digging sticks and other artifacts which symbolize root digging trenches, lizards and snakes descending mountains, and woodworms. Ethnographic information from Secwepemc elders provides further information about the symbolism attached to certain animals and plants, and how this information in turn relates to the male/female division of labour in ritual and practical activities. These invoke Secwepemc principles of étsxem ("practising" or the "spririt guardian quest"). However, they also entail practical principles of training in the environment and recognizing species. As we argue, they entail aspects of resource management practices in the full sense.

Leslie Main Johnson, Athabasca University
"Tumplines"- a Look at the History and Ethnobiology of Northwest Coast Burden Straps
The burden straps called "tumplines" in the anthropological literature are a distinctive carrying device used by Gitksan, Witsuwit'en and other peoples of the northwestern part of British Columbia, Canada. The burden straps are warp-faced patterned straps woven from yarn with either a string or yarn weft, and are typically 3 or 4 meters in length and about 6 cm wide. They are woven with a rigid heddle technology unlike other local weaving and basketry techniques. The straps were employed in a number of different ways to carry burdens and children in the recent past. These enigmatic straps are considered traditional, and there are Gitksan and Witsuwit'en terms for the straps and the rigid heddle frames they are woven on. This paper will examine evidence for the origin of burden strap technology, and will describe uses, patterns, and ethnographic contexts.

Michele Johnson, University of British Columbia-Okanagan
Sandra Peacock
Rooting Out Meaning: Interpreting Interior Salish Narratives
Indigenous stories are imbued with multiple levels of meaning, and Interior Salishan narratives are no exception. The story of Grizzly and the Roots, for example, is set in a time long ago when ancestors took animal shapes and landscapes were transformed. It speaks of place and stewardship, food preferences and practices, of the relationship between the sexes, and to the trained listener, conveys a series of culturally relevant messages. In this paper, we explore how, as ethnobiologists, we might best interpret these multiple levels of meaning to reveal the ecological lessons within such narratives.

Kimberly Kasper, University of Massachusetts
Old Meets New on the Reservation: Indigenous Use of Domesticates and Wild Plants on a Colonized Landscape
This paper explores plant based interactions at twelve Historic period Mashantucket Pequot sites on the Mashantucket Pequot Reservation in southeastern Connecticut. These sites, which date between 1660-1860 A.D., reflect critical transformations of "traditional" subsistence strategies which enabled the Mashantucket Pequot to sustain themselves on an ever-changing landscape. This study will examine the adaptive stratigies of the Mashantucket Pequot community, which are reflected in their integration of Old and New World plants, as they respond to increasingly restricted access to traditional habitats and a shrinking land base. Through an analysis of the domesticated crops and wild plants, we can gain an understanding of the decisions involved in the plant-related aspects of Mashantucket Pequot foodways and subsistence strategies which ultimately help to reconstruct the cultural landscape of the Mashantucket Pequot Reservation.

Gregory Forth, University of Alberta

Ethnobiology and Crypto-Species: Some Observations From Eastern Indonesia

Despite the occurrence of zoological crypto-species in folk biological classifications, rarely have ethnobiologists considered these in any detail. 'Crypto-species' refers to animal categories recognized by local peoples which are not attested by scientific zoology and are not readily explicable (or easily explained away) as spiritual beings or purely or largely imaginary entities. Focusing on the eastern Indonesian island of Flores, this paper considers three such categories and different ways in which they may be interpreted. These are: a large Varanid lizard, a wild feline, and a reputedly extinct hominoid creature. It is argued that ethnozoologists, working closely with local people and with a privileged access to local cultures and languages, have a special advantage, not only in uncovering such categories but interpreting them in a way that provides insight into both local systems of knowledge of animals and local eco-systems.

Muhammad Ghufran, , Quaid-i-Azam University Islamabad

Rizwana Aleem Qureshi & Aniqa Batool

Geographical Barriers and their Influence on Indigenous Knowledge

Isolation of human communities due to geographical barriers, the role of these barriers in access restriction to resources, dependence pattern of such communities on plants and indigenous knowledge have been found to be inter linked. This study is based on an interdisciplinary survey conducted in two adjacent valleys of Western Himalayas, which are similar in most of the land features and flora, with no passageway except at an altitude of ca. 5500 m. Comparison of floristic composition, resources, prevailing environmental conditions and ethnobotanical data from survey resulted with marked difference in traditional knowledge of the areas. Angiosperms found in association with timberline vegetation in the Neelum Valley, Azad Jammu and Kashmir and Astore Valley Pakistan are approximately same. This floristic list is represented by 207 species belonging to 138 genera of 42 Angiosperm families. It is found that the family Asteraceae (Compositae) is the largest family represented by 37 species. The second largest family is Lamiaceae (Labiatae) consisting about 17 species. The other families are represented by various number of species ranges from 1-16 species in Neelum Valley of Azad Jammu and Kashmir. Indigenous medicinal species include 146 species belonging to 102 genera and 35 families.

Ashley Glenn, Missouri Botanical Garden

Rainer Bussmann, William L. Brown Center, Missouri Botanical Garden

"Sacred Seeds" - Keeping the source of traditional knowledge alive

"Sacred Seeds" is a network of ethnobotanical gardens established to protect and celebrate traditional knowledge and global diversity of medicinal plants. Located throughout the world, these gardens are designed to reflect the history and culture of the surrounding communities, providing a forum for educating and documenting traditions, sharing seeds and growing methods, and invigorating health and livelihoods. Each garden is adapted to address specific issues of sustainability and to serve the unique interests and economies of the local people. At Missouri Botanical Garden, a native prairie and shade garden, rich in medicinal plants, exposes visitors to the history of plant use on the Great Plains. Educational hands-on courses teach how to use medicinal plants and appreciate traditional plant knowledge around the world. By encouraging traditional plant use while encouraging sustainable practices, we hope to protect both the livelihoods of the community and the health of the surrounding ecosystems.

Robert Gosford, Ethnoornithology Research & Study Group

El Ritual del Hobre-Pajaro - The Bird-Man Cult of Orongo, Rapa Nui

In this paper I will examine the re-discovery, in western eyes at least, of the Bird-Man Cult of Easter Island - familiar to contemporary Chileans as "El Ritual del Hombre-Pajaro."

I will briefly discuss the history of this cult and associated ceremonies, the 're-discovery' of the cult by the English gentlewoman explorer Katherine Routledge and the debates and discussions that have followed from her work, including various re-interpretations of her original findings and research. I shall also examine the contemporary role of the Hombre-Pajaro in in Chilean and Rapa-Nui culture and briefly discuss similar 'bird-man' cults and ceremonies celebrated elsewhere in the Pacific and Polynesia.

Sheila Grieve, Athabasca University/Assiniboine

Culturally Relevant Plants in an Early Years Setting

In the field of early childhood education it is recognized that positive nature experiences have a valuable impact on child development. This project was designed to research plants that would be appropriate for use in the outdoor setting of an early childhood center. The plants chosen are usually considered safe, hardy, and offer a variety of interactional and learning opportunities that can enhance a child's skills in all developmental domains. Many of the plants are food plants. This garden was created for a specific setting, a Headstart Center for Indigenous children in Manitoba, but the information and ideas can be easily adapted to a wide range of outdoor settings, from a small concrete play space using planters to a large space where the plants can grow as a seasonal or permanent addition to the space. Information on how ethnobotanical knowledge is transmitted to children through regular interactions will be included.

Cecil H. Brown, Northern Illinois University

Development of Agriculture in Prehistoric Mesoamerica: The Linguistic Evidence

The development of agriculture in prehistoric Mesoamerica is investigated through use of lexical reconstruction and glottochronology, tools of the comparative method of historical linguistics. This study finds that cultivated and protected plants emerged as significant components of the material culture of native Mesoamericans no later than 7000 years ago, probably in a highland region of southwestern Mexico. The first suite of managed plants of substantial importance to Mesoamericans included AVOCADO, MAGUEY, MAIZE, NOPAL, and SQUASH. From the latter date to around 3200 BP, additional plants developed significance. These included plants such as CHAYOTE, CHILI PEPPER, COMMON BEAN, EPAZOTE, and TOBACCO. Beginning sometime shortly before 3200 BP, the pace at which managed plants became important accelerated substantially, and groups of lowland areas apparently for the first time became involved in intensive plant management. At this later time most cultivated/protected plants that acquired considerable importance for Mesoamericans were those adapted to lowland habitats, such as ACHIOTE, CHICOZAPOTE, GUACIMO, and RAMON. Speakers of Proto-Chinantecan and Proto-Mayan are the first lowland groups for which there is linguistic evidence of plant management. These languages were spoken at the latest around 2400 BP, probably in areas of the Gulf/Caribbean coastal plain. These ancestral languages show large inventories of cultivated/protected plants for which names reconstruct, indicating that their speakers lived in settled farming communities, perhaps the earliest such communities found in the coastal lowlands.

Rainer Bussmann, Missouri Botanical Garden

Douglas Sharon

Naming a phantom – the quest to find the identity of "Ulluchu."

The identity of Ulluchu, an iconic fruit frequently depicted in the iconography of the Moche culture on the Peruvian north coast, has eluded scientists since the discovery of the first paintings in the 1930s, making it the last unidentified "magic" plant of the continent. We conclude from archaeological and botanical evidence that Ulluchu is a term coined by Rafael Larco Hoyle from Quechua roots, and identify the plant as a group of species of Guarea, Meliaceae.

David Cozzo, Western Carolina University

Ethnobotany of the "Little Brother of War": Plants of the Cherokee Stickball Game

Variations on the stickball game were common with Native American groups across North America. The Cherokee stickball game was accompanied with elaborate rituals and a varied botanical pharmacopoeia. Plants were used to impede the opponent and enhance the power, flexibility, and stamina of the members of the home team. This presentation will consider the meaning and application of the various botanical medicines recorded by several ethnographers of the Cherokee.

Amy Deveau, University of Victoria

Nancy Turner, University of Victoria

Kwakwaka'wakw use of the edible seaweed Lheq'estén (Porphyra abbottiae); stability and change

Porphyra abbottiae Krishnamurthy (Rhodophyta: Bangiales) is a species of edible red alga traditionally harvested and processed by coastal First Peoples in British Columbia. It represents a tangible link to traditional food gathering and preparation practices for members, particularly the elders, of the Kwakwaka'wakw First Nation. P. abbottiae is extensively used in contemporary times despite social upheaval that resulted into a weakening in the lines of transmission of the traditional knowledge from elders to younger generations. New technologies and materials have been incorporated into each step involved in harvesting, preparing, and serving the seaweed. Its continued use fosters cooperation within families and communities, encourages the use of nutritious wild foods, and promotes greater food security. In this paper we look at the evolution of the practises and equipment used by the Kwakwaka'wakw from the earliest accounts to the present, and discuss how traditional knowledge can remain relevant to future harvesters.

Maria Fadiman, Florida Atlantic University

Tree Poaching for Art and Survival in Zimbabwe

This study looks at forest use in Victoria Falls, Zimbabwe, Africa, particularly wood curio carving. Although the Ndebele and Shona have been carving throughout their history, they now face the challenge of a weakened economy and thus more people are turning to wood sculpting as a form of livelihood. However, the surrounding woods are becoming deforested due in large part to carvers poaching trees. Locals even poach lower grade trees, because of previous over collection of the preferred wood sources. As more people turn to making crafts, the sustainability of curios seems to deteriorate. However, people are looking into how to support more sustainable harvesting and carving practices. In an effort to maintain Victoria Falls National Park and the surrounding communal lands, Ndebele and Shona are experimenting with carving smaller items, utilizing naturally fallen branches, making use of scrap wood from lumber mills, reducing middlemen, and implementing reforestation programs.