

Society for Ethnobiology 34th Annual Meeting



*Historical and Archaeological Perspectives
in Ethnobiology*

Columbus, Ohio
4-7 May 2011

Program of the
34th Annual Meeting of the
Society of Ethnobiology



Historical and
Archaeological Perspectives
in Ethnobiology

May 4 - 7, 2011
Columbus, Ohio

Welcome to the 34th Annual Meeting of the Society of Ethnobiology

This meeting continues a long tradition in our Society. Since the first Society meeting in 1978 – when many of the world’s leading ethnobiologists came together to share ideas – the Society has been at the forefront of inter-disciplinary ethnobiological research. Equally important, since those first days, the Society has created and nurtured a worldwide ethnobiological community that has become the intellectual and emotional home for scholars world-wide. Our meetings are the forum for bringing this community together and our world-class journal is the venue for sharing our research more broadly.

For my part, my deep commitment to the Society began as a student in 1984, at the 7th Annual meetings. At that time, I was fortunate to present the results of my Masters research (while referring to text on glossy erasable typing paper!) in Harriet Kuhnlein’s session on her inter-disciplinary and community-based “Nuxalk Food and Nutrition Project”. This project and indeed my opportunity to be involved in it (as a Masters student in Archaeology, of all things), exemplifies the potential of ethnobiology to make linkages. Looking at the society today, we see abundant linkages between academic disciplines, between academic and non-academic knowledge holders, and between advanced scholars and new researchers. This is what the Society of Ethnobiology is all about.

In the past four years, your Board and many other Society volunteers have worked hard to promote the Society’s goals by focusing on these linkages. The list of accomplishments of our team is long, but here are some of the completed and current projects:

- Total revamping of the web site (twice)
- Restructuring of the Society Board and their duties
- Restructuring of the Membership categories
- Creation of two on-line publication series: Contributions in Ethnobiology, Ethnobiology Letters
- The production of Special Issues in our Journal and the possibility of adding a third issue per year in the regular series
- Widespread advertising of our Society and our Conference
- The creation of local chapters in North America and Europe

- Archiving the Society records with University of Texas archives
 - Making our Journal available on-line by joining BioOne and by scanning of all back-issues
 - The creation of three prestigious awards: the Distinguished Ethnobiologist Award, the Undergraduate Ethnobiologist Award, and the Best Poster Award
 - Increasing our presence on social media through Facebook and Twitter
 - Engaging more students and youth through special events at the conference and creating a position on the board for a graduate student.
- Dana Lepofsky, President

Conference Logo and Theme

The logo for the 34th Annual Meeting of the Society of Ethnobiology alludes to the theme “Archaeological and Historical Perspectives in Ethnobiology”. Its key images are representations of a human hand made of sheet mica recovered from Ross County, Ohio and a series of zoomorphic smoking pipes from the Tremper mound and earthworks in Scioto County, Ohio, all of which are products of the artistic tradition of the ancient people whose culture is labeled “Hopewell” by archaeologists. Hopewellian people are best known today for the many earthen mounds and enclosures they constructed throughout the Eastern Woodlands. Visitors to museums admire their artistry, expressed in finely crafted objects of stone, copper, marine shell, fibers, and other valued raw materials. These persistent and stable traces of Hopewellian ceremonial and economic life reflect a much more dynamic past reality, one grounded in the interactions between people and the other animals and plants with whom they shared their environment.

This theme of interdependence is mirrored in the reliance of ethnobiologists on each other. The ecological knowledge and practice of people living today are best understood in light of the deeper time perspective explored by archaeologists and historians; and study of

Logo and Theme

past human adaptations to ancient environments, which is always implicitly informed by knowledge of living peoples, can be greatly enriched by a better understanding of traditional forms of landscape management, food acquisition, and craft production.

Acknowledgments

Our field trips were made possible through the generosity of a number of people. We are especially grateful to our hosts at Larksong Farm, David and Elsie Kline and their family. We owe them special thanks for opening their home to our group, sharing food and fellowship and enlightening us about the Amish way of living. We would also like to thank Jason Ferrell, graduate student in Anthropology at The Ohio State University; Jennifer Weinberger and Bret Ruby of Hopewell Culture National Historical Park; Brad Lepper of the Ohio Historical Society; and Jeff Gill. We are grateful to Greg Miller for his birding expertise, and to Jacqueline Lipphart for accompanying the trip to Magee Marsh.

As always, the annual conference came together through the diligent efforts of Webmaster Cheryl Takahashi and the Society's officers: Steve Wolverton, Treasurer; Cissy Fowler, Secretary; Denise Glover, Conference Coordinator; and last, but far from least, the dynamic Dana Lepofsky, President.

And, finally, we acknowledge the many, many volunteers who donated their time and energy to make this event happen. In particular, we thank Randee Hunter (Field Trip Coordinator), Kristie Martin (Program Coordinator), Hannah Morris (Poster Coordinator), Paul Patton (Registration Coordinator), and Lise Byars-George (Volunteer Wrangler). All of these key participants are graduate students in the Department of Anthropology at OSU and deserve high praise for taking on and successfully bringing to fruition such a monumental logistical enterprise. A big thank-you is also due to all of the other student volunteers who generously put in time both before and during the conference.

– Kris Gremillion, Local Conference Organizer,
Society of Ethnobiology, 34th Annual Meeting

AWARD COMMITTEES

Poster Award adjudication committee:

Bob Gosford, Ethnoornithology Research and Study Group
Leslie Johnson, Athabaska University
Jane Mt. Pleasant, Cornell University

Barbara Lawrence Award adjudication committee:

Gayle Fritz, Washington University in St. Louis
C. Margaret Scarry, University of North Carolina at Chapel Hill
John Tuxill, Western Washington University

Overview Schedule

WEDNESDAY, MAY 4, 2011

Time	Event
8:30 am - 5:00 pm	Board Meeting
6:30 pm - 9:30 pm	Registration
6:30 pm - 9:30 pm	Welcoming Reception

THURSDAY, MAY 5, 2011

Time	Hayes Room	Garfield Room
8:00 am	Registration, T-shirt sales (9:00) Posters on display	
9:00 am		
9:30 am		
10:00 am		
10:30 am		
11:30 am		
11:30 am		
12:00 pm		
12:30 pm		
1:00 pm		
1:30 pm		II. Traditional Environmental Knowledge: Conservation, Loss, and Resilience (1:30-3:30)
2:00 pm		
2:30 pm		III. Birds in Historical, Cultural and Archaeological Context (3:30-4:20)
3:00 pm		
3:30 pm	Poster presentation visitation period	
4:00 pm		
4:30 pm		
5:00 pm		
5:30 pm		
6:00 pm		

Hyatt Regency Downtown Columbus

Location
Clark Room
Nationwide A Foyer
Peppercorn Room

Nationwide A	Nationwide B	Time
		8:00 am
	Welcoming remarks	9:00 am
	I. Plenary Session: Historical and Archaeological Perspectives in Ethnobiology (9:15-12:00)	9:30 am
		10:00 am
		10:30 am
		11:30 am
		11:30 am
		12:00 pm
	Lunch (12:00-1:30)	12:30 pm
		1:00 pm
IV: Ethnomedicine (1:30-2:50)	VI: Paleoecology and Historical Ecology (1:30-5:10)	1:30 pm
		2:00 pm
		2:30 pm
V: Ethnogeography and Landscape (2:50-4:00)		3:00 pm
		3:30 pm
		4:00 pm
		4:30 pm
		5:00 pm
		5:30 pm
		6:00 pm

FRIDAY, MAY 6, 2011

Time	Hayes Room	Garfield Room
8:30 am	Registration, T-shirt sales (9:00) Posters on display	
9:00 am		
9:30 am		VII. Traditional Cultivation Systems (9:00-10:40)
10:00 am		
10:30 am		
11:00 am		VIII. Perception, Knowledge, and Meaning (11:00-2:50)
11:30 am		
12:00 pm		Lunch (12:00-1:30)
12:30 pm		
1:00 pm		
1:30 pm		VIII. Perception, Knowledge, and Meaning (1:30-3:10)
2:00 pm		
2:30 pm		
3:00 pm		
3:30 pm		
4:00 pm		
4:30 pm		
5:00 pm		
5:30 pm		
6:00 pm - 10:00 pm		Banquet and Variety Show

SATURDAY, MAY 7, 2011

Time	Event
8:30 am - 5:00 pm	Amish farm visit and traditional family-style meal
7:30 am - 5:00 pm	Birding adventure
8:30 am - 4:30 pm	Prehistoric Middle Woodland mound tour

Approximate times of departure from and arrival to the Hyatt. Subject to change.

Nationwide A	Nationwide B	Time
		8:00 am
IX. Traditional Resource Use, Sustainability, and Conservation (9:00-2:50)	X. International Ethnobiological and Ecological Perspectives on Environmental Justice (8:40-12:00)	9:00 am
		9:30 am
		10:00 am
		10:30 am
		11:00 am
		11:30 am
Lunch (12:00-1:30)		12:00 pm
		12:30 pm
		1:00 pm
IX. Traditional Resource Use, Sustainability, and Conservation (1:30-2:50)	XI. Colonization, Modernization, and Change (1:30-3:10)	1:30 pm
		2:00 pm
		2:30 pm
		3:00 pm
Awards		3:30 pm
		4:00 pm
General Meeting		4:30 pm
		5:00 pm
		5:30 pm
Peppercorn Room		6:00 pm - 10:00 pm

Location	Themes
Larksong Farm, Fredricksburg, Ohio	Traditional knowledge, sustainability, and organic farming
Magee Marsh Wildlife Area on Lake Erie	Serious migration-season birding
Hopewell Culture National Historic Park	Geometric earthworks and Hopewell material culture

Oral Presentations

** denotes Barbara Lawrence award submissions*

THURSDAY, MAY 5, 2011

WELCOMING REMARKS

Nationwide A-B

9:00 - 9:15

I. PLENARY SESSION: HISTORICAL AND ARCHAEOLOGICAL PERSPECTIVES ON ETHNOBIOLOGY

Nationwide A-B

Session Chair: Kris Gremillion

9:15 - 9:30 HUNN, Eugene S.

Some Thoughts on Ethnographic Analogies

9:30 - 9:45 MINNIS, Paul

Ancient Puebloan Eats, Then and Almost Now

9:45 - 10:00 LEPOFSKY, Dana and Jennifer KAHN

Cultivating an Ecological and Social Balance: Elite Demands and Commoner Knowledge in Ancient Ma'ohi Agriculture, Society Island

10:00 - 10:15 EMERY, Kitty F.

Medicinal Use of Animal Products by the Maya of Guatemala: Implications for Zooarchaeology

10:15 - 10:30 GLOVER, Denise

Absorbing Text: Internalizing Knowledge of Medicinals through Sensory Experience of Texts

10:30 - 10:45 BREAK

10:45 - 11:00 FOWLER, Catherine S.

"The Past is Prologue:" Reflections of a Boasian Ethnologist on Issues of Great Basin Ethnobiology

11:00 - 11:15 TURNER, Nancy

Plants of the Ancestors: Stories, Names and Evidence for Ancient Plant-People Interactions in Northwestern North America

11:15 - 11:30 BROWN, Cecil H.

Who Were the Olmec? A Paleobiolinguistic Look at America's First Civilization

11:30 - 11:45 HASTORF, Christine A.
Tacking Between Then and Now: A Richer View of Farming and
Feasting in the Andes

11:45 - 12:00 Discussion

12:00 - 1:30 LUNCH

II. TRADITIONAL ENVIRONMENTAL KNOWLEDGE: CONSERVATION, LOSS, AND RESILIENCE

Garfield Room

Session Chair: Sarah Council

1:30 - 1:50 CANNON, Carrie Calisay
Incorporating Hualapai Ethnobotany into the Hualapai Cultural Atlas

1:50 - 2:10 COUNCIL, Sarah K. and MARSHA B. Quinlan
Children's Ethnobotanical Knowledge and Parental Investment in a
Dominican Village

2:10 - 2:30 DAILEY, Mark
The Practice of Forgetting: The Transformation of Traditional Wild
Plant Use in China

2:30 - 2:50 BREAK

2:50 - 3:10 MACKIN, Nancy
Nisga'a Women's Healthy Foods in the Alpine Permafrost and
Subalpine Wetland

3:10 - 3:30 THOMAS, William
Creating Field Guides to Mobilize Ethnobiological Knowledge

III. BIRDS IN HISTORICAL, CULTURAL & ARCHAEOLOGICAL CONTEXT

Garfield Room

Organizer and Session Chair: Bob Gosford

3:30 - 3:50 FERGUS, Rob and Kerry HULL
Birds among the Modern and Ancient Maya

3:50 - 4:10 GOSFORD, Robert A.
Stone Bird Hunting Hides of the Victoria River District of
Australia's Northern Territory

4:10 - 4:20 GOSFORD, Robert A.
The Price of a Parrot - Birds, Sacred Ancient Ground and Twitchers

IV. ETHNOMEDICINE

Nationwide A

Session Chair: Todd Pesek

1:30 - 1:50 ASTON PHILANDER, Lisa*

Hunting Knowledge and Gathering Herbs: An Ethnography of Neo traditional Rastafari Bush Doctors of the Western Cape, South Africa

1:50 - 2:10 MOLLIK, Md. Ariful Haque*, Md. Saifur RAHMAN, Md. Rohimul FARUQUE, Md. Abdur RAZZAK, Bivash Chandra PANDAY, and Bulbul AHMED

Living Knowledge of the Healing Plants: Ethno-phytotherapy in the Local Communities from the Tarash Upazila of Sirajganj District in Bangladesh

2:10 - 2:30 PESEK, Todd, Victor CAL, Don Francisco CAAL, and John ARNASON

Maya Mountains Ethnobotany and Ecology Project

2:30 - 2:50 FERRIER, Jonathan, Lana ŠAČIRAGIĆ, Sulejman REDŽIĆ, Sabina TRAKIĆ, Sedic VELIĆ, Emira ALIKADIĆ, Michael J. BALICK, and John T. ARNASON

The Ethnobotany of the Highlanders of Lukomir Bosnia & Herzegovina

V. ETHNOGEOGRAPHY AND LANDSCAPE

Nationwide A

Organizer and Session Chair: Leslie Johnson

2:50 - 3:10 JOHNSON, Leslie

Landscape and Ethnoecology - an Ethnobiological View

3:10 - 3:30 MARK, David

Ethnoecology & Ethnophysiography: 'Scaling Up' Plants to Landscape, or Making Vegetation into Geographic Features

3:30 - 3:50 GILMORE, Michael P and Jason C. YOUNG

Maps from the Forest: Investigating Ethnobiological and Ethnogeographical Knowledge through Participatory Mapping

VI. PALEOECOLOGY AND HISTORICAL ECOLOGY

Nationwide B

Session Chair: Steve Wolverton

1:30 - 1:50 THOMPSON, Victor D. and C. Fred T. ANDRUS

Assessing Habitats of Mollusk Collection and Models of Late

Archaic Settlement along the Atlantic Coast, USA Using Oxygen Isotope Sclerochronology

- 1:50 - 2:10 TALCOTT, Johanna
Paleoethnobotany of the Salt Springs Archaeological Site, Marion County, Florida
- 2:10 - 2:30 MASSAMBA N'SIALA, Isabella and Anna Maria
MERCURI
Palaeoethnobotany from Saharan Archaeological Sites and Related Ethnobotanical Observations (Libya and Niger)
- 2:30 - 2:50 KIMIAIE, Masi and Joy McCORRISTON
Climate, Human Paleoecology, and the Use of Fuel in Wadi Sana (Southern Yemen)
- 2:50 - 3:10 WILLIAMS, Charles E.
What was the "Broken Straw" of Pennsylvania's Brokenstraw Creek?
An Investigative Ethnobotany of Place
- 3:10 - 3:30 BREAK
- 3:30 - 3:50 KISTLER, Logan, Jennifer M. HANEY, and Lee A. NEWSOM
Experimental Investigation of Pathogenic Stress on Phytolith Formation in Wild Gourds (*Cucurbita pepo* ssp. *ovifera* var. *texana*)
- 3:50 - 4:10 FORSTE, Kathleen M. and Susan E. ALLEN
Fireside Stories: Archaeobotanical Investigation of Bronze Age Combustion Features at Sovjan, Albania
- 4:10 - 4:30 LENTZ, D, S. JACONIS, K. MAGEE, C. CARR, and N. DUNNING
Agroforestry Practices of the Ancient Maya at Tikal
- 4:30 - 4:50 BONHAGE-FREUND, Mary Theresa, Leslie BRANCH-RAYMER, and Brad BOTWICK
Late Woodland Maygrass Utilization in the Atlantic Coastal Plain: New Evidence from Beaufort County, South Carolina
- 4:50 - 5:10 TICKNER, Amanda and E. JONES
Agrarian Land Use and Forest Change in Southern Burgundy, France: A Multi-source Study

FRIDAY, MAY 5, 2011

VII. TRADITIONAL CULTIVATION SYSTEMS

Garfield Room

Session Chair: Paul Patton

9:00 - 9:20 TUXILL, John

Will the Milpa become Just Maize? Diversity and Management of Maize, Bean, and Squash Polycultures in Southern Mexico

9:20 - 9:40 MT. PLEASANT, Jane

Rethinking the Role of Shifting Cultivation in Mississippian Agriculture

9:40 - 10:00 PATTON, Paul E. and Michael J. PISTRUI

Moving Beyond the Question: "Were the Hopewell Really Farmers?"
A View from the Hocking Valley, Southeastern Ohio

10:00 - 10:20 ELLIOTT, Cassandra*

A Pressure to Modernize: a Comparison between Traditional and Industrial Agricultural Practices

10:20 - 10:40 GALLAGHER, Daphne

The Archaeology of Farming in Burkina Faso, West Africa

VIII. PERCEPTION, KNOWLEDGE, AND MEANING

Garfield Room

Session Chair: Marsha Quinlan

11:00 - 11:20 CASAGRANDE, David

Cultural and Cognitive Mnemonics of Hot Versus Cold Classification in Tzeltal Maya Medicinal Plant Knowledge

11:20 - 11:40 FRITZ, Gayle

Maygrass (*Phalaris caroliniana*): The Meaning of an Early Native North American Crop

11:40 - 12:00 KOSTER, Jeremy

Ethnobiological Perspectives on Hunted Wildlife in Lowland Nicaragua

12:00 - 1:30 LUNCH

1:30 - 1:50 ALLEN, Susan E.

Voices from a Vanished Wetland Landscape

1:50 - 2:10 CANEVA, Giulia, Alma KUMBARIC, and Valentina

SAVO

The Old Roots of Grape Symbol in the Euro-Mediterranean Culture

- 2:10 - 2:30 SNYDER, Charles
The Embodied Yam: Reframing the Trobriand Botanical Metaphor
- 2:30 - 2:50 QUINLAN, Margaret, and Marsha QUINLAN
Overview of the Ethnobiology of Dogs in Dominica, West Indies

IX. TRADITIONAL RESOURCE USE, SUSTAINABILITY, AND CONSERVATION

Nationwide A

Session Chairs: Jan Timbrook and Michael Pistrui

- 9:00 - 9:20 LLOYD, T. Abe
Growing Roots: Managing a Pacific Northwest Indigenous Root Food
- 9:20 - 9:40 THAPLYAL, Vandana, Sanjeev SHARMA, and Ajay Ballabh BHATT
Sacred Groves in Tribal Area of Western Himalayas as Ethnobotanical Gene Pools
- 9:40 - 10:00 TIMBROOK, Jan
Seagrass and Seaweed: Chumash Use of Marine Plants
- 10:00 - 10:20 ELVIRIADI, Elviriadi, Er Ah CHOY, Abd Rahim Md. NOR, and Hood M. SALLEH
Traditional Management of Secret Forest: Case of Kampar Regency, Riau Province Indonesia
- 10:20 - 10:40 BREAK
- 10:40 - 11:00 COIMBRA Jr., Carlos E.A, James R. WELCH, and Ricardo V. SANTOS
Ethnoenvironmental Knowledge and Territorial Politics: The Case of a Proposed Xavante Indigenous Reserve in Central Brazil
- 11:00 - 11:20 STORCH, Diana
From Soup to Nuts: Ecology, Nutrition, and Consumption of Kunuche
- 11:20 - 11:40 SZPAK, Paul,* Trevor ORCHARD, Russell MARKEL, and Iain McKECHNIE
Interactions between Humans and Sea Otters in Holocene British Columbia: Evidence from Stable Isotope Analysis
- 11:40 - 12:00 PIEROTTI, Raymond
Sustainability of Natural Populations: Lessons from Indigenous Knowledge

12:00 - 1:30 LUNCH

- 1:30 - 1:50 SHIGETA, Masayoshi
Folk in-situ Conservation of Ensete (*Ensete ventricosum*) in Ethiopia
- 1:50 - 2:10 COZZO, David
River Cane [*Arundinaria gigantea* (Walt.) Muhl.] as a Seasonal Food Source for the Cherokee
- 2:10 - 2:30 MUELLER, Jocelyn G and Hama Y. HASSANE
History and Politics of Conservation Policy: A Case Study of Fire Management in the Niger Park W Complex
- 2:30 - 2:50 HERRON, Scott and Roger LABINE
Wild Rice Eco-Cultural Restoration and Revitalization

X. INTERNATIONAL ETHNOBIOLOGICAL AND ECOLOGICAL PERSPECTIVES ON ENVIRONMENTAL JUSTICE

Nationwide B

Organizer and Session Chair: Steve Wolverton

- 8:40 - 9:00 ANDERSON, Gene
Ethnobiological Justice
- 9:00 - 9:20 FIGUEROA, Robert
Restorative Justice and Environmental Heritage
- 9:20 - 9:40 HAYASHIDA, Frances
Archaeology, Ethnobiology, and Environmental Justice
- 9:40 - 10:00 BREAK
- 10:00 - 10:20 HUSTON, Michael A.
The Geography of Injustice
- 10:20 - 10:40 FOWLER, Cissy
Fire's Tensions: Indigenous Fire Ecologies and Burning Regulations in Eastern Indonesia's Seasonally Dry Tropics
- 10:40 - 11:00 WOLVERTON, Steve
Ethics, Values, Philosophy, and Science: Expanding the Role for Ethnobiology in Environmental Justice
- 11:00 - 11:20 Discussion

XI. COLONIZATION, MODERNIZATION, AND CHANGE

Nationwide B

Session Chair: Kandace Hollenbach

- 11:20 - 11:40 HOLLENBACH, Kandace D. and Thomas G. WHITLEY

Acorns and Maize: Pre- and Post-Contact Foodways at the Riverfront Village Site (38AK933), Aiken County, South Carolina

11:40 - 12:00 HUGHES, Jessica

Archaeobotany in Michigan: Analysis of Smudge Pits found at Lyne Site (20BE10)

12:00 - 1: 30 LUNCH

1:30 - 1:50 KASPER, Kimberly*

Continuity in the Face of Change: A Case Study of the Mashantucket Pequot

1:50 - 2:10 JACOBUCCI, Susan and Heather TRIGG

Environmental History and Local Land Use Practices in the Spanish Southwest: Palynology at a 17th-Century New Mexican Ranch

2:10 - 2:30 WELCH, James R.

Post-settlement Landscape Transformation and Dietary Change among the Potter Valley Pomo, California

2:30 - 2:50 CASTANEDA-LANGLOIS, Héctor and Tammy Y. WATKINS

Repurposing Ethnobiological Knowledge: Influences of Cultural Tourism on Biological Resource Use by the Brunka of Costa Rica

2:50 - 3:10 SNIVELY-MARTINEZ, Amy

Perceptions of Change in Horticultural Subsistence Strategies in a Rural Mexican Community: San Francisco Pichátaro, Michoacán

Poster Presentations

** denotes Barbara Lawrence award submissions*

THURSDAY, MAY 5, 2011

Hayes Room

4:00 - 6:30

FEENEY, Kevin

Revisiting Wasson's Soma: Exploring the Effects of Preparation on the Chemistry of *Amanita muscaria*

Poster Presentations, Thursday, May 5

FERRIER, Jonathan, Kimberly L. COLSON, Joshua M. HICKS, Brian KILLDAY, Sabina TRAKIĆ, Sulejman REDŽIĆ, Alain CUERRIER, Michael J. BALICK, and John T. ARNASON

Identification of *Vaccinium* spp. L. (Ericaceae) Natural Health Products from North Eastern North America and Europe by Nuclear Magnetic Resonance (1H NMR) Spectroscopy

GILL, Harneet*

Transmission of Ethnobotanical Knowledge and Community Gardening in Moose Factory, Ontario, Canada

GWALTNEY, Rebecca, Kelly BRUCE, Mason ZEMEL, and Corey WEINSTEIN

Knowledge of Wild Edible Plant Species: A Comparison between Age and Gender in a Brunka Community

HANEY, Jennifer M.

Micromorphological Analysis of North American Cucurbita Seed Testae

JOSEPH, Leigh

Ecological and Cultural Restoration of an iconic Food Plant (*Fritillaria camschatcensis* (L.) Ker-Gawl) in the Squamish River Estuary, British Columbia

KUCK, Sheila*

Examining Wild Edible Plant Knowledge: A Valid Cultural Domain in Illinois, USA

LIPPHARDT, Jacqueline

Examining Impacts of Marine Foraging Strategies in Prehistoric Hawaii

MOLLIK, Md. Ariful Haque, Khadiza AKTER, KB Tanvir Mujahid CHOWDHURY, Md. BADRUDDAZA, Fakir Bellal HOSSAIN, Md. Hafizar RAHMAN, Krishna Nando BHATTACHARYYA, and Shambhu Dutta JOSHI

Knowledge and Use of Medicinal Plants by Local Specialists in a Region of Bilashchhara Lake in the Moulvibazar District of Bangladesh

RAPINSKI, Michel* and Rui LILIN

Geographical Variations in the Phytochemical Profiles of Cree Anti diabetic Medicines

SNYDER, Charles

Community Building and Global Conservation: The Emergent Role

of Modern Zoological Parks

TAYLOR, David and Vi DUONG

A Comparative Study of Food Plant Use in Ho Chi Minh City,
Vietnam and in the Vietnamese Community of Portland, Oregon

THOMPSON, Amanda

Plant and Animal Material Choice in Navajo Textile Production

TRIVEDI, Chandra Prakash

The Vedic Ethnobiology

WYLLIE DE ECHEVERRIA, Victoria

Moolks (Pacific Crabapple, *Malus fusca* Raf.): Knowledge and
Meaning in Gitga'at Culture

Abstracts

** denotes Barbara Lawrence award submissions*

AHMED, Bulbul - Biogene Life Care Bangladesh See MOLLIK, Md. Ariful
Haque (Session IV)

AKTER, Khadiza - Peoples Integrated Alliance Bangladesh See MOLLIK, Md.
Ariful Haque (Posters)

ALIKADIĆ, Emira - Federation of Bosnia and Herzegovina, Foundation for
Sustainable Development See FERRIER, Jonathan (Session IV)

ALLEN, Susan E. - University of Cincinnati **Voices from a Vanished Wetland
Landscape** (Session VIII)

Immediately following World War II, the Albanian dictator Enver Hoxha hailed the
drainage of the vast Maliq wetland in southern Albania as one of his great
political triumphs over the landscape. This mythologization of the drainage
effectively silenced less powerful narratives of loss. Fragments of these narratives
persist in the villages surrounding the wetland. Ethnohistorical research and ethno-
ecological interviews revive memories of this deliberately forgotten landscape, and
reveal considerable multivalency in people's perception and use of the wetland.

--- See FORSTE, Kathleen M. (Session VI)

ANDERSON, Gene - University of California, Riverside **Ethnobiological Justice**
(Session X)

Environmental justice is now a large field with a generation of hard work behind
it. The time has come to interface Euro-American ideas of environmental justice
with the extremely sophisticated and long-developed environmental ethics of our
traditional partners, the small-scale cultural groups of the world. Descriptions of

traditional ethical systems are amazingly few, but several good ones now exist. This paper considers Hopi, Navaho and Nuu-chah-nulth ethics, including concepts of respect, appropriateness, and sustainability. Concepts such as Nuu-chah-nulth isaak (respect) and Navaho hoozho (beauty-and-harmony) are examples of important ethical concepts that have no real equivalent in Euro-American ethical systems but have enormous potential for environmental ethics.

ANDRUS, C. Fred T. - The University of Alabama See THOMPSON, Victor D. (Session VI)

ARNASON, John T. - University of Ottawa See FERRIER, Jonathan (Session VI and Posters); See PESEK, Todd (Session IV)

ASTON PHILANDER, Lisa* - University of Arizona **Hunting Knowledge and Gathering Herbs: An Ethnography of Neotraditional Rastafari Bush Doctors of the Western Cape, South Africa** (Session IV)

South Africa's rich history of diverse traditional medical practices has given rise to an emergent ethnomedicine that is gaining prominence through its healers, bush doctors. Incredible syncretism is observed amongst this homogenous group of middle-aged coloured urban males. From an estimated 200 bush doctors, 62 were interviewed. Their stated mission is "to heal all people" through the reintroduction of KhoiSan healing traditions, an indigenous ancestry largely rejected by coloureds during apartheid. Through a shared knowledge of medicinal plants, elements of a globally recognized eco-religion and sociopolitical movement, Rastafari, are combined with several South African medical customs. The consumption, trade and sale of local herbs represent efforts to embody the landscape, reassert links to indigeneity, renew respect for a lost heritage, and claim rights to resources. By evoking tradition within a tolerant philosophy, bush doctors develop a racially equitable and ecologically sustainable platform for health through the provision of affordable medicines.

BADRUDDAZA, Md. - North South University Bangladesh See MOLLIK, Md. Ariful Haque (Posters)

BALICK, Michael J. - The New York Botanical Garden, Institute of Economic Botany See FERRIER, Jonathan (Session IV and Posters)

BHATT, Ajay Ballabh - HNB Garhwal University, Srinagar, Uttarakhand, India See THAPLYAL, Vandana (Session IX)

BHATTACHARYYA, Krishna Nando - Tarash Kalyan Sangstha Bangladesh See MOLLIK, Md. Ariful Haque (Posters)

BONHAGE-FREUND, Mary Theresa - Alma College **Late Woodland Maygrass Utilization in the Atlantic Coastal Plain: New Evidence from Beaufort County, South Carolina** (Session VI)

Research into Late Woodland subsistence in the Atlantic coastal region has generally focused on shell mounds and marine resources. This reflects, in part, the relatively sparse recovery of macroplant remains throughout the lower Southeast. To date there has been no convincing evidence of pre-maize gardening, or even

of significant harvesting of wild starchy and oily-seeded species in this region. In data recovery of Site 38BU1335 in Beaufort County, South Carolina a single Late Woodland period hearth yielded a relatively large quantity of maygrass fruits. These caryopses likely indicate that maygrass was either cultivated, or represents a managed wild “crop.” This discovery is significant because it is one of the earliest documented instances of potential maygrass cultivation in the Atlantic coastal region. Together with a limited number of additional macroplant remains, these data provide new insights into plant use and terrestrial-based subsistence practices of the lower Southeast during the Late Woodland period.

BOTWICK, Brad - New South Associates, Inc. See BONHAGE-FREUND, Mary Theresa (Session VI)

BRANCH-RAYMER, Leslie - New South Associates, Inc. See BONHAGE-FREUND, Mary Theresa (Session VI)

BROWN, Cecil H. - Northern Illinois University and University of West Florida
Who Were the Olmec? A Paleobiolinguistic Look at America’s First Civilization
(Session I)

Paleobiolinguistics uses the comparative method of historical linguistics to reconstruct the biodiversity known to human groups of the remote, prehistoric past. Plants and animals familiar to speakers of ancient, non-recorded ancestral languages can be recovered through lexical reconstruction involving comparative analysis of the biological vocabulary of modern daughter languages. This presentation uses paleobiolinguistics to locate homelands of groups of Mesoamerica that spoke Mayan and Mixe-Zoquean proto-languages. This involves matching reconstructed biological inventories of these proto-languages with known geographic distributions of species. Focus is on determining what language or languages were spoken by Olmec people. Olmec culture, which flourished from 3400 to 2100 years before present in the Tuxtlas region of southern Veracruz (Mexico), is often cited as the New World’s first civilization. Olmec plant inventories are identified through archaeological analysis of macro-botanical remains and assessments based on the modern flora of the Tuxtlas region. Comparing the reconstructed botanical inventories of Mayan and Mixe-Zoquean proto-languages with that of Olmec suggests that these languages could have been spoken by bearers of Olmec civilization. However, paleobiolinguistically, Mayan proto-languages are the more likely candidates for Olmec speech.

BRUCE, Kelly - Duke University Organization for Tropical Studies; Grinnell College See GWALTNEY, Rebecca (Posters)

CAAL, Don Francisco - Q’eqchi’ Maya Healers Association See PESEK, Todd (Session IV)

CAL, Victor - Belize Indigenous Training Institute See PESEK, Todd (Session IV)

CANEVA, Giulia **The Old Roots of Grape Symbol in the Euro-Mediterranean Culture** (Session VIII)

Paleobotanical and archaeological records and historical documents support the Caucasian origin of *Vitis vinifera* and of its ancient diffusion in the Euro-Mediterranean and Euro-Asiatic regions where was domesticated about ten millennia ago. Grape had an important role in ancient agriculture and day-life; it was related to Osiris' myth, but mostly to Dionysus-Bacchus. An ongoing study is analyzing plant iconography of sculptures and paintings in different cultural contexts and has led to the identification of grape in hundreds of artifacts. We hypothesized that its importance in ancient ethnobotanical culture could explain the grape's symbolism and its transformation through time. Morphological characteristics of grape and features of wine (color, stimulating effects) gave rise to the association of the plant with the vegetative force of nature and life itself. Finally, the use of grape as symbol of life, and of wine as symbol of blood, has persisted in the Christian religion through millennia.

CANNON, Carrie Calisay - Hualapai Department of Cultural Resources **Incorporating Hualapai Ethnobotany into the Hualapai Cultural Atlas** (Session II)

The Hualapai Indian Reservation is located in northwestern Arizona on one million acres of land situated along a 108 mile stretch of the south rim of the Grand Canyon. Hualapai ethnobotanical knowledge is in danger of being lost and Hualapai elders of the tribal community have expressed concerns that their tribal youth are not learning about their plants and landscape. The goal of the study has been to research, create, and incorporate a Hualapai ethnobotanical database into the existing Hualapai Cultural Atlas Geographic Information Systems Geodatabase Project. The methodology for the ethnobotanical database included reviewing published and archival materials, conducting ethnographic interviews with Hualapai elders, conducting participant observations during harvesting activities, and acquiring photographs of plant species, pressed plant specimens, and geo-located harvesting landmarks. The resulting ethnobotanical database provides a comprehensive central location for Hualapai ethnobotanical knowledge to be retained and archived for the Hualapai Tribe and their future generations.

CARR, C. - University of Cincinnati See LENTZ, D.L. (Session VI)

CASAGRANDE, David - Western Illinois University **Cultural and Cognitive Mnemonics of Hot Versus Cold Classification in Tzeltal Maya Medicinal Plant Knowledge** (Session VIII)

Explanations for the ubiquity of hot versus cold (humoral) plant classification throughout Latin America remain elusive. I interviewed 28 Tzeltal Maya to verify a medicinal plant domain using consensus analysis and test hypotheses that humoral classification is a cognitive mnemonic (facilitating recall of plant use) or a cultural mnemonic (facilitating cultural transmission of knowledge). Consensus about medicinal plant use was high, but interviewees were uncertain about humoral classification, contradicted their own classifications on 41% of occasions, and tended to recall a plant's medicinal use before its humoral property. Agreement about humoral classification was not correlated with knowledge about medicinal use ($r_s = 0.10$, $P > 0.50$). Medicinal uses of many plants were well known despite little agreement about the plants' humoral properties. Humoral classification is probably

not a cognitive or cultural mnemonic for the Tzeltal. It likely results from semantic extension and may symbolically legitimize the knowledge system.

CASTANEDA-LANGLOIS, Héctor **Repurposing Ethnobiological Knowledge: Influences of Cultural Tourism on Biological Resource Use by the Brunka of Costa Rica** (Session XI)

This study uses current and historical knowledge and practices of biological resource use among the Brunka of Costa Rica to examine the influence of cultural tourism on the contemporary uses of traditional resources. The Brunka's use of natural resources in Costa Rica was documented in 1959 by Doris Stone, when most people in the area depended on natural resources and subsistence agriculture. With the current national focus on tourism, Brunka have adapted traditional crafts and social activities to cater to the tourist industry. While they still use natural fibers, dyes and other materials to produce their crafts, preferences of the tourist market have changed traditional uses of these resources. One response has been a shift from production of utilitarian wares to decorative ones. This study compares the changes in the corpus and praxis of Brunka ethnobiological knowledge since 1959 within the context of changing social and economic environments.

CHOWDHURY, KB Tanvir Mujahid - Biogene Life Care Bangladesh See MOLLIK, Md. Ariful Haque (Posters)

CHOY, Dr. Er Ah - University Kebangsaan Malaysia See ELVIRIADI, Elviradi (Session IX)

COIMBRA Jr., Carlos E.A. - Fundação Oswaldo Cruz **Ethnoenvironmental Knowledge and Territorial Politics: The Case of a Proposed Xavante Indigenous Reserve in Central Brazil** (Session IX)

Brazil is noteworthy for its long governmental tradition of promoting indigenous interests and demarcating federal indigenous lands. Presently, strong emphasis is placed on local environmental conservation and the sociocultural continuity of specific ethnic groups. In the case of the Xavante in Central Brazil, these principles are closely related to public concern with the integrity of the cerrado biome. They also involve an emerging dynamic in which rapid population growth contributes to intense landscape use and, consequently, presents challenges for the continuation of certain valued cultural practices. In this paper, we discuss how Xavante ethnoenvironmental knowledge contributed to our recent anthropological evaluation of the proposed Wedezé Indigenous Reserve, an area continually used by this group since the mid-1800s. We highlight the conservative nature of Xavante environmental management as compared to nearby agribusiness and the central relevance of ethnoenvironmental knowledge for the long-term wellbeing of the Xavante people.

COLSON, Kimberly L. - Bruker BioSpin See FERRIER, Jonathan (Posters)

COUNCIL, Sarah K - Washington State University **Children's Ethnobotanical Knowledge and Parental Investment in a Dominican Village** (Session II)

Caribbean horticulturalists learn most traditional ecological knowledge through vertical transmission, yet children's TEK knowledge has not yet been used to assess parental investment. This study identified culturally salient plant species that

residents of an eastern Dominican village learn as children. Then, 52 children (ages 4-17) participated in a “plant walk” along a “staged” route containing the 50 core plants. Individual children’s ethnobotanical knowledge was assessed based on proper plant identification. Family, social and demographic data were also collected for each child. It is hypothesized that father-present children will demonstrate a marked knowledge of the local flora, and that compared to father-absent peers, and that children residing in compounds with larger extended families will display high plant recognition scores due to an increased availability of alloparents. Results will be discussed in terms of parenting dynamics of rural Caribbean ethnobotany.

COZZO, David - EBCI Extension Center/North Carolina State University/RT-CAR **River Cane [*Arundinaria gigantea* (Walt.) Muhl.] as a Seasonal Food Source for the Cherokee** (Session IX)

River cane [*Arundinaria gigantea* (Walt.) Muhl.] was ubiquitous in the lives of Southeastern Native Americans, being a component of housing, sleeping and sitting mats, benches, basketry, and utensils. It is sometimes mentioned as a food source, but little description is available. River cane flowers in early summer and this timing would have been advantageous in the Cherokee’s yearly food cycle. This paper examines historic references to the use of river cane as a food source and its potential as a seasonal carbohydrate source in the Cherokee diet.

CUERRIER, Alain - Zmaja od Bosne See FERRIER, Jonathan (Posters)

DAILEY, Mark -- Green Mountain College **The Practice of Forgetting: The Transformation of Traditional Wild Plant Use in China** (Session II)

What is happening to traditional knowledge and practices related to wild plant use in China? This paper draws on ethnographic research in China’s Fujian Province to address this question, focusing on the ecological, economic, political, and sociocultural bases underlying shifts in wild botanical knowledge and practice. In particular, the roles of centralization, commodification, and standardization of botanical knowledge are examined. Finally, do changing values and practices reflect a wilful agency to forget on the part of Chinese citizens, or are they more properly understood as a “politics of disappearance”?

DUNNING, N. - University of Cincinnati See LENTZ, D.L. (Session VI)

DUONG, Vi - University of Portland See TAYLOR, David (Posters)

ELLIOT, Cassandra* - Quest University Canada **A Pressure to Modernize: A Comparison Between Traditional and Industrial Agricultural Practices** (Session VII)

As the pressures of globalization and modernization increase over time, traditional agricultural practices and knowledge become obsolete. These pressures have created a shift away from a food system dependant on millions of farmers to a system controlled by few agribusinesses. Modern agricultural practices emphasize production, capital gain, input intensity and crop consistence. In contrast, traditional agricultural practices emphasize localization, biodiversity, shared genetic resources and a cultural appreciation for many different crops. Shifts from traditional agricultural to modern agriculture will have significant implications for the biodiversity of culti

vated and wild plants. In the face of global environmental problems, it is essential that agriculture remains resilient to maintain and increase food security. Cultural and biological diversity are essential to agricultural resilience; if one method or crop fails, there are many to compensate. Cultural diversity can maintain biodiversity if the pressure to modernize is reduced and the number of conservation projects continue to grow.

ELVIRIADI, Elviradi - University Kebangsaan Malaysia **Traditional Management of Secret Forest: Case of Kampar Regency, Riau Province Indonesia** (Session IX)

Kampar people is one indigenous people in Indonesia had cultural continuity for long time before contact with people from the outer world. The “Rimbo Larangan”(secret forest) fact suggests that their traditional management had achieved sustainability in relationships to their ecosystems with the ritual for nature. Data were collected with in-depth interview method to traditional leaders. The results show that Kampar people with ethno biology perspective use some types of plants as construction materials, species as medicinal plants, kinds of vegetable food source, plants species as a supporter of traditional ceremonies. The governance principles used by traditional knowledge in secret forest management and other resources provided resource resilience. This research suggests that a link exists between traditional management and ethno biological knowledge in local people.

EMERY, Kitty F. - Florida Museum of Natural History, University of Florida **Medicinal Use of Animal Products by the Maya of Guatemala: Implications for Zooarchaeology** (Session I)

In my recent ethnoarchaeological research with the lowland (Itzaj) and highland (Tz’utujil) Maya I have explored a long-standing tradition of animal carcass and product use for medicinal and medico-ritual purposes. Animal carcasses, portions, and products are curated, processed, and used primarily by women, most often to treat women and children. Materials are sometimes curated over generations, shared with other community members, and used in highly standardized, repeated practices. These activities, including the discard of medicinally used remains, differ from other uses of animals and their products in ways that may be recorded in the archaeological record. These traditions have important implications for zooarchaeological research since they create distinctive use and discard patterns.

FARUQUE, Md. Rohimul - Peoples Integrated Alliance Bangladesh See MOLLIK, Md. Ariful Haque (Session IV)

Federación de Comunidades Nativas Majuna (FECONAMAI) See GILMORE, Michael P. (Session V)

FEENEY, Kevin - Washington State University **Revisiting Wasson’s Soma: Exploring the Effects of Preparation on the Chemistry of *Amanita muscaria*** (Posters)

R. Gordon Wasson’s theory identifying the Vedic Soma as the *Amanita muscaria* mushroom has been criticized for failing to explain how pressing and filtering Soma, as described in the Rig Veda, supports his theory of Soma’s identity. Several

critics have reasoned that such preparation should be unnecessary if equivalent results can be obtained by consuming the raw plant, as is done with *Psilocybe* mushrooms. In order to address these criticisms, anecdotal accounts of *Amanita muscaria* inebriation were collected and analyzed to determine the impact of preparation on *Amanita muscaria*'s effects. The findings of this study demonstrated that the effects of *Amanita muscaria* were related to the type of preparation employed, and that its toxic effects were considerably reduced by preparations paralleling those described for Soma in the Rig Veda. While unlikely to end debate over the identity of Soma, this study's findings help to solidify the foundation of Wasson's theory.

FERGUS, Rob - Rosemont College **Birds Among the Modern and Ancient Maya**
(Session III)

Ongoing field work by the authors among seven Mayan linguistic communities in Mexico, Guatemala, and Belize reveal details about the important roles that birds play in the daily lives of modern Mayan hunting, farming, and urban communities. These discoveries shed additional light on birds as depicted in Mayan ethnohistorical accounts as well as Ancient Mayan texts and iconography. Individual birds play specific roles in Mayan mythology and social practices, while birds in general are frequently viewed as spirit messengers that play important roles in forecasting social, meteorological, and ecological events in the community.

FERRIER, Jonathan - Centre for Advanced Research in Environmental Genomics, University of Ottawa; Federation of Bosnia and Herzegovina, Foundation for Sustainable Development **The Ethnobotany of the Highlanders of Lukomir, Bosnia & Herzegovina** (Session IV)

This article is the first presentation of wild medicinal plants used by the Highlanders of Lukomir, Bjelašnica, Bosnia and Herzegovina. The Highlanders of Lukomir are a group of 60 semi-nomadic families speaking the Bosnian language. The Highlanders are historically Bogomil, a heretical medieval Balkan sect, who remain surrounded by a number of ancient architectures and biofacts. Twenty five people were interviewed resulting in 64 species from 40 families used as adaptogens or to treat ailments. There were a number of rare and endangered species known as poisons or used as medicine, that are endemic to the Bjelašnica, Lukomir region. The average consensus on individual plant use was five; while maximum consensus reached 15. These results demonstrate a cohesive ancient tradition of medicinal plant use among healers in Lukomir, Bosnia and Herzegovina. This work facilitates the development goals of Bosnia and Herzegovina's, Municipality of Konjic by increasing timely access to natural medicine health care, providing bilingual photographic trail-guides, and zoning for conservation of Europe's most diverse endemic botanical region, stewarded by one of Europe's last known tribes.

--- **Identification of *Vaccinium* spp. L. (Ericaceae) Natural Health Products from North Eastern North America and Europe by Nuclear Magnetic Resonance (1H NMR) Spectroscopy** (Posters)

Vaccinium spp. L. (Blueberries, Cranberries, and Bilberries) of the Ericaceae family have been used traditionally by indigenous cultures of the Circumboreal Region for

treating a variety of disease conditions. Evaluation of the constituents in extracts from various *Vaccinium* species show variation in the quantities of the bioactive compounds. This study uses Nuclear Magnetic Resonance (¹H NMR) Spectroscopy for evaluating metabolomes from crude botanical extracts to produce information on (1) the taxonomic identity of the plant through NMR Fingerprinting and (2) quantities of bioactive metabolites from plants for an NMR based methodology for natural product quality control. Several populations of 11 *Vaccinium* species were collected in Canada and Former Yugoslavia, and prepared as alcohol extracts prior to analysis by ¹H NMR. Chemometric analysis of the NMR spectral data clearly differentiate populations of *V. angustifolium*, *V. boreale*, *V. corymbosum*, *V. macrocarpon*, *V. myrtilloides*, *V. myrtilus*, *V. ovalifolium*, and *V. uliginosum* to circumscribed species and establishes metabolomic standards in relation to source environments.

FIGUEROA, Robert - University of North Texas **Restorative Justice and Environmental Heritage** (Session X)

It has been several decades into the Environmental Justice Movement now, domestic and global forms of the movement pervade more and more discussions and have certainly intimated, implied, and included dimensions of ethnobiology. This presentation initially outlines some of the critical ways that environmental justice studies is both explicitly and implicitly integrated with ethnobiology. From this first discussion, a consideration of emerging concepts and arenas of environmental justice-- especially regarding considerations of environmental heritage and environmental identity-- will be discussed to elaborate on the ways that restorative justice, or reconciliation processes, have surfaced in the ever-expanding environmental justice frame. Two cases will be discussed: Minamata City, Japan and Uluru-Kata Tjuta National Park, Australia; in order to provide diverse accounts of environmental justice struggles that represent interdependence between reconciliation efforts and ethnobiological relations.

FORSTE, Kathleen M. - University of Cincinnati **Fireside Stories: Archaeobotanical Investigation of Bronze Age Combustion Features at Sovjan, Albania** (Session VI)

Archaeobotanical remains associated with combustion features can provide abundant information about ancient diet, resource preparation and use, and environmental conditions. Spatially intensive sampling of Middle and Late Bronze Age (ca. 2600 – 1200 B.C.) hearths and ovens from the lakeside settlement of Sovjan, in southeastern Albania, provide a rich dataset for investigating these issues. Recovered macroremains include both domesticated and wild taxa, represented by seeds, wood, and chaff elements. Cultivated crops include *Panicum miliaceum* (millet), *Hordeum vulgare* (hulled barley), *Triticum monococcum* (einkorn wheat), *T. dicoccum* (emmer wheat), *Lens culinaris* (lentil), and *Pisum sativum* (pea). Analysis suggests functional differences in the use of open hearths and ovens, changes in resource use over time, the existence of a suite of preferred food combinations, and preferential exploitation of riparian forest habitats for the collection of wood for fuel. In addition, differences in the presence of cereal chaff and grain within

these features suggest shifts in socioeconomic organization within the community at this time.

FOWLER, Catherine S. - University of Nevada, Reno **“The Past is Prologue:” Reflections of a Boasian Ethnologist on Issues of Great Basin Ethnobiology (Session I)**

Having been trained by a first generation Boasian, I have always favored a holistic approach to field work. The indigenous peoples of the Great Basin of western North America have been hunter-gatherers for roughly 14 millennia, developing relationships with the region’s environments and resources throughout that time. In order to try to understand something about these processes, I have tried in my work to include data and approaches from ethnography, linguistics and archaeology (I’m woefully out of date in biological anthropology). Through combinations of these plus museum studies, I have looked at economic and cognitive ethnobiology, traditional environment and resource management, landscape perceptions, migration theories, and the relationships of these to the region’s material culture (particularly textiles). Problems and approaches are profiled.

FOWLER, Cissy - Wofford College **Fire’s Tensions: Indigenous Fire Ecologies and Burning Regulations in Eastern Indonesia’s Seasonally Dry Tropics (Session X)**

Anthropogenic fires in the seasonally dry tropics enflame tensions between cultural survival, ecosystems integrity, and government legislation. On the island of Sumba, farmers depend on fires to produce food and achieve other socio-cultural goals. Yet, despite tremendous geographical variation, one Zero Burn law prohibits all landscape fires across Indonesia thereby criminalizing farmers, discounting fire’s nutritional functions, and misconstruing fire ecology. While men and women of all ages possess expert knowledge and skills in their burning practices, their motives are not always benevolent or benign and their fires are not always predictable or controllable. Most anthropogenic fires are productive horticultural tools, however fires have heterogeneous (beneficial, detrimental, neutral) effects on plant communities. The duplicitousness of anthropogenic fires complicates easy judgments of indigenous peoples as skilled or unskilled, fires as ‘good’ or ‘bad’, and the neo-colonial government as ‘just’ or ‘injust’. Clearly, though, legislative reform is needed. The Indonesian government’s aim to create a fire-free national landscape and a zero-burn social order is problematic. What fire policies would maximize health and justice?

FRITZ, Gayle - Washington University in St. Louis **Maygrass (*Phalaris caroliniana*): The Meaning of an Early Native North American Crop (Session VIII)**

A recent overview of archaeological maygrass fostered a greater appreciation of its geographic range, longevity, and centrality as a component of indigenous eastern North American agricultural systems. An unexpected consequence of the research—to be highlighted in this paper—is the observation that maygrass occurs repeatedly in contexts implicating its use as a symbolically-loaded food or drink. Furthermore, maygrass seems to have served as a marker of cultural identity, an essential food, for Cahokia-related Mississippians moving beyond the Central Mississippi River valley.

GALLAGHER, Daphne - University of Oregon **The Archaeology of Farming in Burkina Faso, West Africa** (Session VII)

Despite occupying a similar savanna environmental zone, growing similar crops, and generally eating the same dishes, the modern peoples of Burkina Faso exhibit a remarkable diversity of farming practices. In this paper I will expose the great time depth of these societal choices within the general constraints imposed by environment by comparing paleoethnobotanical and spatial data from archaeological investigation of two different regions of Burkina Faso, one farmed prehistorically using a more spatially intensive and one a more extensive agricultural strategy. In addition I will discuss some of the implications of these choices for general debates on the sustainability of traditional farming practices, and suggest the potential benefits of the long-term perspective afforded by archaeology.

GILL, Harneet - Laurentian University **Transmission of Ethnobotanical Knowledge and Community Gardening in Moose Factory, Ontario, Canada** (Posters)

The relationships between plants and people among the Moose Cree of the James Bay Lowlands have been affected by centuries of European economic, religious and political influence, including the introduction of agriculture. The Cree of Moose Factory, Ontario today have fewer opportunities to learn about edible plants since people spend less time in the bush. From interviews with adults and elders I conducted during the summer of 2010, as well as historical accounts, I will discuss the ways in which ethnobotanical knowledge has been passed on or not, and how new knowledge has been incorporated into Cree life. Although gardening has largely been replaced by imported produce, the community garden we started in 2010 demonstrates how the community is seeking to renew its connections to its land through a blend of traditional and non-traditional practices. This poster also describes the garden and its potential for teaching both new and traditional skills and knowledge.

GILMORE, Michael P. – New Century College, George Mason University **Maps from the Forest: Investigating Ethnobiological and Ethnogeographical Knowledge through Participatory Mapping** (Session V)

This talk will discuss in detail a community-based participatory mapping project that was carried out in collaboration with the Maijuna of the Peruvian Amazon. This project will be used as a case study to explore the role that participatory mapping can play in investigating ethnobiological and ethnogeographical knowledge. Participatory mapping can provide a wide, rich, and diverse range of data ultimately shedding light on how indigenous and local communities use, perceive, and interact with their environment and resources. Additionally, this talk will also explore the use of participatory mapping in biocultural conservation and community empowerment to further delve into the true power of this methodology.

GLOVER, Denise - University of Puget Sound **Absorbing Text: Internalizing Knowledge of Medicinals through Sensory Experience of Texts** (Session I)

Based largely on my own experiences with Asian (particularly Himalayan-Tibetan in orientation) traditions of medicine and environment, I have been advocating for attention to historical, textual sources of ethnobiological knowledge. Currently I

am interested in exploring the influence of sensorial experience—such as bodily movement, rhythm, and sound—in the process of textual interaction and memorization of knowledge about natural kinds among doctors of Tibetan medicine. Although medical texts are not only memorized by these doctors (they are studied in other ways), when it comes to knowledge of medicinal substances—their names, properties, potencies, attributes, etc.—memorization (largely by recitation) is a key interactive mode in which texts are processed. Thus texts in this way do not function as documentary repositories, from which one retrieves information when needed; they function as scores that one uses to internalize information. The connections between written, historical text, oral/aural learning, and knowledge of natural kinds are therefore considered and discussed.

GOSFORD, Robert A. - Ethnoornithology Research & Study Group **Stone Bird Hunting Hides of the Victoria River District of Australia's Northern Territory** (Session III)

In the Victoria River district of the Northern Territory local Aboriginal groups have long constructed stone hides to hunt a variety of hawks and kites. In this presentation I will discuss the construction, use and distribution of these hunting hides and present material from several interviews with Bill Yidumduma Harney, an elder of the Wardaman language group.

--- **The Price of a Parrot - Birds, Sacred Ancient Ground and Twitchers** (Session III)

In early 2010 the Australian birding community was abuzz with news that large numbers of the Princess Parrot, *Polytelix alexandrae*, had moved from their traditional breeding and foraging grounds in the remote deserts of western Australia to an area within 4 hours drive of Alice Springs in central Australia. In this presentation I will examine the issues and conflicts that arose between local Aboriginal owners and custodians of the land, land managers and birdwatchers over access to the site where the birds were found, near to the oldest site of recorded human occupation in central Australia.

GWALTNEY, Rebecca - Duke University Organization for Tropical Studies; Providence College **Knowledge of Wild Edible Plant Species: A Comparison Between Age and Gender in a Brunka Community** (Posters)

Wild edible plant and fungi species are invaluable resources for indigenous communities because they provide nutritional value, dietary diversity, and an opportunity for food security. Studies suggest that increasing acculturation in some communities has resulted in the loss of traditional ecological knowledge (TEK) regarding wild foods, a trend that may lead to decreased nutrition and diversity in indigenous diets. In the Brunka indigenous communities in Costa Rica, no research has been done to assess this suggested trend of a diminishing wild food cognitive domain. This study aimed to determine the differences in wild food knowledge among informants of varying ages and genders in Boruca, a main Brunka community. Free-listing was used as a method to evaluate individual knowledge. A species informant curve revealed that approximately 59 species comprise the wild food cognitive domain of adults in Boruca. Our results also indicate that there is a

direct linear relationship between age and number of species mentioned..

HANEY, Jennifer M. - The Pennsylvania State University **Micromorphological Analysis of North American Cucurbita Seed Testae** (Posters)

Seeds are frequently recovered and highly diagnostic archaeological remains. Accurate identification of archaeobotanical seeds to possible subgeneric ranks is essential for understanding the changes and development of plant taxa throughout the process of domestication. Taxonomic assignments are traditionally achieved through macromorphological observation and morphometric analyses, however this may be hampered by the sometimes degraded and fragmentary condition of many archaeological seeds. As members of the *Cucurbita* genus (Cucurbitaceae) are among the earliest and most geographically widespread domesticated plants in the New World, accurate means of assessment are critical for documenting the process of domestication. Lema et al. (2008) have demonstrated the potential for seed testa micromorphology as a means for distinguishing modern South American *Cucurbita* species and subspecies. This current pilot study investigated whether the microscopic characteristics identified by Lema et al. (2008) are similarly applicable to North American *Cucurbita* taxa.

--- See KISTLER, Logan (Session VI)

HASSANE, Hama Y. - Institut International d'Ingénierie de l'Eau et de l'Environnement See MUELLER, Jocelyn G. (Session IX)

HASTORF, Christine A. - University of California, Berkeley **Tacking between Then and Now: A Richer View of Farming and Feasting in the Andes** (Session I)

Paleoethnobotany has always been strongly supported by ethnography, and modern farming studies gain much from learning of the domestication process as well as the range of past farming strategies. While plant use changes constantly, we can learn much from studying multiple settings. Ancient and modern field systems, feast foods, and trade in foodstuffs open up a deeper view of the ingredients that people valued as well as the strength of tradition and memory within groups. Despite a series of conquests and revolutions, we can still compare the past and the present land use, farming, and feasting to learn of both settings through the other. I will illustrate this dynamic of the past and the present using examples from the Bolivian Altiplano.

HAYASHIDA, Frances - University of New Mexico **Archaeology, Ethnobiology, and Environmental Justice** (Session X)

Archaeology provides a long term perspective on humans and the environment that has been used to (1) recover information on lost ethnobiological knowledge and practices that can be applied to current problems of sustainable food production and resource management, (2) model the long term dynamics of what are termed socio-natural systems, and (3) generate cautionary tales about overexploitation. Applying these "lessons from the past" in any useful way requires explicit recognition of the relations of power in the past that shaped decisions about resource use and production, and the same forces that shape those decisions today. To begin to develop an archaeology that can be applied to issues of environmental justice we

need to reassess disciplinary and institutional boundaries, the current structure of funding and training, and the role of archaeology in modern political economies.

HERRON, Scott - Ferris State University; University of Michigan Biological Station **Wild Rice Eco-Cultural Restoration and Revitalization** (Session IX)

In the Great Lakes, wild ricing was a seasonal subsistence activity of many communities and cultures in both ancient pre-contact and post-contact periods. Many ecological and cultural factors will be discussed as to why both wild rice and its harvesting and processing into a storable surplus food declined over the last century. The author will detail his personal ethnobotanical quest to give back to the cultures he learned from in the last century to establish the Native Wild Rice Coalition this century, dedicated to sustain, restore, and protect native wild rice communities in the Great Lakes Region and promote understanding of the cultural and natural values of wild rice. Growing the number of wild rice harvesters, harvest opportunities, and people transforming a natural resource into a cultural and economic one has been an eco-cultural success story. A transferable model of a locally-relevant, ethnobiological project or movement will be described that will engage both indigenous and immigrant (non-native) human populations in transforming the world into a better place for future generations.

HICKS, Joshua M. - The New York Botanical Garden, Institute of Economic Botany See FERRIER, Jonathan (Posters)

HOLLENBACH, Kandace D. - University of Tennessee, Knoxville **Acorns and Maize: Pre- and Post-Contact Foodways at the Riverfront Village Site (38AK933), Aiken County, South Carolina** (Session XI)

The Riverfront Village site (38AK933) in North Augusta, South Carolina, includes significant Early Mississippian (AD 1000-1200), Early Contact (AD 1600-1670), and Late Contact occupations (AD 1670-1730) of native peoples. Salvage excavations at the site by Brockington and Associates produced numerous flotation samples that yielded a wide range of economically important foodstuffs. These allow us to make comparisons between the foodways of native peoples prior to and shortly after Contact, as well as a century after Contact, noting both continuity and changes through time in use of major staples, native cultigens, and Old World plants.

HOSSAIN, Fakir Bellal - South Asian Women's Rights Organization Canada See MOLLIK, Md. Ariful Haque (Posters)

HUGHES, Jessica - University of Cincinnati **Archaeobotany in Michigan: Analysis of Smudge Pits Found at Lyne Site (20BE10)** (Session XI)

Smudge pits, used frequently by Native Americans, can potentially provide a magnitude of information about pit function, exploitation of plant resources, and seasons of use. A number of smudge pits have been found at the Lyne site (20BE10) located on the terrace above the Fort St. Joseph site (20BE23) in Michigan, a site containing both Native American and colonial artifacts. Radiocarbon dates on carbonized maize from a smudge pit places the deposits between AD 1660 and 1760 suggesting it's contemporaneous with FSJ. The contemporaneity of the Lyne site

with FSJ suggests an opportunity for assessing shifts in plant use related to contact between French settlers and Native Americans, especially via fur-trade-related activities. Plant remains recovered from these features include corn cobs, nutshells (hazelnut), seeds (raspberry and blackberry), and wood remains (maple, hickory, ash among others). This analysis focuses on smudge pits from the Lyne within an interpretive context developed in the Master's thesis of David Martinez (2009 OSU) on FSJ archaeobotany.

HULL, Kerry - Reitaku University See FERGUS, Rob (Session III)

HUNN, Eugene S. - University of Washington **Some Thoughts on Ethnographic Analogies** (Session I)

Archaeologists are sometimes critical of the use of “ethnographic analogy” for interpreting archaeological data. I believe that archaeological data can only be understood in terms of ethnographic analogies. The problem, then, is which ethnographic analogies are relevant to particular archaeological cases, and with what appropriate caveats. I believe ethnoecological ethnographies provide a solid basis for such interpretation, with due allowance for environmental, technological, and social parameters of local adaptations. I will illustrate this point with data from the Columbia Plateau of Northwestern America.

HUSTON, Michael A. - Texas State University **The Geography of Injustice** (Session X)

Environmental injustice is correlated with other social and economic injustices, suggesting that most injustice results from human actions. However, there is a global pattern of injustice imposed by environmental conditions that is rarely discussed. Poverty and many other social, economic, and environmental problems are severe within the tropics, and improve with distance away from the tropics. The problem with “tropical paradise” is that deficient soil nutrients in areas with abundant rainfall, or deficient rainfall in areas with higher nutrients, severely limit agricultural productivity. Low agricultural productivity is the root cause of much of the poverty, and related problems of malnutrition, disease and environmental injustice that are concentrated within the Earth's tropical belt. Efforts to reduce environmental and social injustice and achieve a healthy and sustainable future for humanity will continue to fail until we recognize and address this natural global inequality in the food resources for all life on Earth.

JACOBUCCI, Susan - University of Massachusetts Boston **Environmental History and Local Land Use Practices in the Spanish Southwest: Palynology at a 17th-Century New Mexican Ranch** (Session XI)

During the 17th-century colonization of New Mexico, Spaniards introduced new flora and fauna. These introductions together with many colonial activities shaped the landscape; nevertheless, this marginal environment was a potent force in structuring colonizers' practices, particularly the production of subsistence goods such as wheat, maize, and livestock. The scale and nature of colonists' agricultural beginnings are not well understood. Here we use pollen recovered from a 17th-century Spanish New Mexican ranch to identify vegetation changes associated with land

use activities and ultimately to understand the complex cultural and environmental relationships between the Spanish colonists and their landscape.

JACONIS, S. - University of Cincinnati See LENTZ, D.L.

JOHNSON, Leslie - Main Athabasca University **Landscape and Ethnoecology - an Ethnobiological View** (Session V)

Landscape is a concept often taken for granted in ethnobiological work, treated as setting, described in geographic or biological terms. Landscape is productive to examine as the (literal) foundation of ethnobiological work: where are the people located, the plants and animals of interest distributed? By what categories or broad evaluations do the people describe the lands on which they move and derive their living? What are the implications of these understandings? Landscape work is intrinsically transgressive of spatial scales and levels of meaning or generality. How language structure, environmental and social characteristics shape perception, classification, and interaction with local environments and the “natural world” are important aspects of ethnobiological research. Similarly, questions of how these relationships are altered or exist within today’s globalized world of migration and dis-located networks, and what the implications of the medley (or cacaphony) of contrasting visions and understandings of Nature and the Land, and human relationship to it, are of key significance in the early 21st century.

JONES, Elizabeth Anne - University of North Carolina Chapel Hill See TICKNER, Amanda (Session VI)

JOSEPH, Leigh - University of Victoria **Ecological and Cultural Restoration of an iconic Food Plant (*Fritillaria camschatcensis* (L.) Ker-Gawl) in the Squamish River Estuary, British Columbia** (Posters)

Riceroot (*Fritillaria camschatcensis*) was an important food plant to the Squamish First Nations. The population of this species in the Squamish territory is very sparse due to extensive habitat loss. There is currently a great interest on behalf of the Squamish Nation to explore opportunities for restoring the population of this species back to levels that would be high enough to sustain a certain level of food harvesting in the future. Towards this end, we intend to plant propagules of this species into an experimental native plant garden to be located in the Squamish estuary. In this setting, experimental harvesting and management mimicking traditional practices can be carried out without further depleting existing populations. There is great cultural and ecological importance in strengthening the populations of this food plants for future generations to enjoy.

JOSHI, Shambhu Dutta - Community Health and Environmental Society Nepal See MOLLIK, Md. Ariful Haque (Posters)

KAHN, Jennifer - Bishop Museum See LEPOFSKY, Dana (Session I)

KASPER, Kimberly* - University of Massachusetts, Amherst **Continuity in the Face of Change: A Case Study of the Mashantucket Pequot** (Session XI)

This lecture focuses on the historical dynamics of Native American environmental interactions under the challenges of colonization. Indigenous plant use is examined

at one of the oldest and most continuously occupied reservations in the United States, the Mashantucket Pequot, located in southeastern Connecticut. Two complementary data sets are intertwined to explore the adaptive strategies related to plant use: 1) archaeobotanical data from ten Mashantucket Pequot sites dating between 1675-1800 A.D; and 2) historical accounts which include colonial documents and Mashantucket Pequot oral histories. Through an analysis of the use of different ecosystems and food, medicine and fuel resources, I draw attention to the continuities and transformations of “traditional” Native American plant strategies. This type of synergistic and collaborative research turns our attention to how different cultures, when faced with conflict and competition for resources, make decisions and (re)conceptualize their socio- natural world.

KILLDAY, Brian - The New York Botanical Garden, Institute of Economic Botany See FERRIER, Jonathan (Posters)

KIMIAIE, Masi - The Ohio State University **Climate, Human Paleoecology, and the Use of Fuel in Wadi Sana (Southern Yemen)** (Session VI)

This study integrates wood charcoal assemblages with climate, environmental, and archaeological data sets in Wadi Sana, Yemen, to address the availability and use of wood fuels by South Arabian hunter-herder groups from 7200 BP to present. Fuel use most often is a major source of carbonized macrobotanical remains. This evidence provides significant reflections of land cover and use as well as human interactions with surrounding landscape. Wadi Sana drains the southern plateau of Southern Yemen's arid highlands and contains a closely integrated archaeological and paleoecological dataset within its Early Holocene alluvial terraces and adjacent rock shelters. The Early Holocene environment, regulated by a stronger Southwest Asian monsoon, was moister than present, providing a marshy winter grazing area for cattle herders, whose construction of hearths and food preparation strategies changed over time. A typology in hearth construction technique is evident in Wadi Sana where many hearths are visible eroding at the surfaces and in wadi cut-banks of ancient silt beds. The evaluation of the Holocene landscape history is presented based on alluvial stratigraphy as well as the examination of the effects of climate and anthropogenic change. Data suggest that despite a Middle Holocene weakening of the monsoon, the dominant vegetation in Wadi Sana was much like today and that landscape manipulation by humans did not substantively impact this fragile ecosystem prior to the introduction of camels.

KISTLER, Logan - The Pennsylvania State University **Experimental Investigation of Pathogenic Stress on Phytolith Formation in Wild Gourds (*Cucurbita pepo* ssp. *ovifera* var. *texana*)** (Session VI)

Silica phytoliths formed in plant tissues are useful to archaeologists because of their diagnostic value and longevity in ancient deposits. Paleoecology, site formation processes, plant domestication, and other topics are routinely addressed using phytolith assemblages, especially when macrobotanical remains are not preserved. However, little research has been conducted to document the effects of common ecological variables on phytolith formation. Here, we investigate the effects of mosaic virus and bacterial wilt disease on diagnostic scalloped phytoliths in the rind

of a wild-type gourd. We observe no difference between control plants and individuals with mosaic virus. However, we observe a significant difference between plants with bacterial wilt disease and control plants, with diseased individuals carrying a greater proportion of large-diameter scalloped phytoliths. This and similar phenomena could potentially confound archaeological interpretations of phytolith assemblages, and the effects of this and other ecological variables should be studied in a diverse range of taxa.

KOSTER, Jeremy - University of Cincinnati **Ethnobiological Perspectives on Hunted Wildlife in Lowland Nicaragua** (Session X)

In this study, Mayangna and Miskito adults in Nicaragua completed a series of exercises to investigate their perspectives on hunted wildlife. A free-listing exercise elicited 17 wildlife species that were the subject of further investigation. Unconstrained pile sorts reveal perceived similarities among the species. Finally, informants were asked to rank the species based on the extent to which they are associated with the use of hunting dogs. Consensus analysis indicates that there is high agreement on the rankings, and the aggregated rankings closely parallel harvest data from a yearlong study that documented the use of dogs and other hunting accessories (e.g., firearms). There were noteworthy outliers in the analysis, however, and a possible explanation is that informants are inferring that dogs are useful for some species because they are valuable for hunting other, perceptually similar species. In addition, the consensus analysis reveals sex-related subgroup agreement in the rankings, but the rankings of neither men nor women seem to more closely correspond to the harvest data.

KUCK, Sheila - Western Illinois University **Examining Wild Edible Plant Knowledge: A valid cultural domain in Illinois, USA** (Posters)

Integration into a capitalist economy and geographic location are commonly assumed to influence plant knowledge and uses. The need to understand how and why plant knowledge is shared in non-indigenous cultures becomes more important as the issue of sustainability increases globally. Preliminary research comparing these variables to an Illinois community's county statistics would suggest that a valid cultural domain of wild edible plants would be unlikely to exist due to integration into capitalism and lack of access to wild edible plants. However, initial consensus analysis documents the existence of a cultural domain of wild edible plants within this community. This research analyzes why and how wild edible plant knowledge is being retained in a rural community located in a metro county primarily dependent upon service sector employment. Potentially significant factors affecting plant knowledge are family, occupation, or recreational organizations.

KUMBARIC, Alma See CANEVA, Giulia (Session VIII)

LaBINE, Roger - Native Wild Rice Coalition; Lac Vieux Desert Band of Lake Superior Chippewa See HERRON, Scott (Session IX)

LENTZ, D.L. - University of Cincinnati **Agroforestry Practices of the Ancient Maya at Tikal** (Session VI)

This study is designed to assess the impact of Maya agroforestry practices on the

Tikal environs across its nearly 2000 year occupation history and evaluate the potential of the forested environment to provide the needed food, fuel and structural material. Vegetation surveys covering over 6 ha of forests in various habitats were conducted. These surveys, coupled with Landsat 7 imagery, were used to create a biomass calculation of the modern forest currently blanketing the ancient community. Aggregate pollen profiles were used to estimate the forest cover during times of Maya occupation. Ethnographic studies provided a means of evaluating the polity's wood needs for construction, cooking, plaster preparation and pottery manufacture which were substantial in a population that has been estimated between 45,000 and 285,000 inhabitants. Our results inform the understanding of forest resource use that sustained the polity through time and, ironically, may also have contributed to its ultimate demise.

LEPOFSKY, Dana - Simon Fraser University **Cultivating an Ecological and Social Balance: Elite Demands and Commoner Knowledge in Ancient Ma'ohi Agriculture, Society Islands** (Session I)

Anthropological views of past human-environmental interactions are influenced by the data sets used and the subjects of study. In this presentation, we seek a balanced view of ancient human-environmental interactions in the Society Islands. We explore the social and ecological contexts of agricultural production by incorporating archaeological and ethnographic data as well as the motivations and actions of Ma'ohi elites and commoners. Both the elite and commoners contributed to long-term agricultural productivity. The elite did so through periodic restrictions on harvesting; the farmers contributed ecological knowledge acquired through generations of on the ground experience. Our examination of the archaeological remains of agricultural systems in the 'Opunohu Valley indicates that the roles of elite and commoner played out differently depending on their social-spatial proximity. By refocusing our analyses on all players in the production system, a more nuanced understanding of the range of ancient environmental and social interactions emerges

LILIN, Rui - University of Ottawa See RAPINSKI, Michel (Posters)

LIPPHARDT, Jacqueline - The Ohio State University **Examining Impacts of Marine Foraging Strategies in Prehistoric Hawaii** (Posters)

Prehistoric Hawaiian populations utilized many resources to satisfy daily nutritional demands. Fish were one of the most important sources of food for prehistoric populations throughout Hawaii. This project focuses on an archaeological collection of fish remains recovered from the Kohala coast, located on the northern portion of the island of Hawaii. The goal of this research project is to better understand prehistoric foraging strategies and to determine if resource depression (i.e., declines in harvested fish) occurred in prehistory. This will be done using data obtained from the analysis and quantification of fish remains. The distribution of species and any changes in size across time and space will be analyzed and mapped. These results will provide insights into the dynamics of prehistoric foraging in Kohala, and allow for further assessment of settlement patterns and population growth over time.

LLOYD, T. Abe - University of Victoria **Growing Roots: Managing a Pacific Northwest Indigenous Root Food** (Session IX)

The Kwakwaka'wakw of Coastal British Columbia traditionally managed four edible root producing estuarine salt marsh species in a garden system called the taki'lakw. Euro-Canadian colonialism disrupted taki'lakw management in the early 20th century and they have remained fallow since then. This paper explores the effect of simulated traditional management on the in situ productivity and palatability of one of the four root species, *Argentina egedii* (Wormsk.), Rosaceae. Root data were collected six months after the application of till, till and weed, and control treatments. The experimental treatments significantly increased root density but decreased both root length and thickness. No difference in root biomass was observed between the treatments and the control. Laboratory tannin analysis suggests that roots are most palatable during their winter dormancy, which coincides with traditional harvesting practices. Experimental management, in part, has led to renewed interest in estuarine salt root foods among the Kwakwaka'wakw.

MACKIN, Nancy **Nisga'a Women's Healthy Foods in the Alpine Permafrost and Subalpine Wetland** (Session II)

Northern Indigenous peoples worry that nutritious foods are becoming less available in their communities during these times of accelerated climate, landscape, and social change. In the past, Nisga'a women harvested foods and medicines in the mountains of their Nass River Valley homelands, on the northernmost coast of British Columbia, Canada. Working with Elders and young women, we collected and photographed berries, greens and medicinal plants from two traditional food-production sites: Lax Bilak, a subalpine wetland, and Angeekskw, a glacial permafrost area that served as a refuge during the great flood, and where we found the greatest diversity of berries and other foods. Elders offered each plant's Nisga'a name, how it was harvested and prepared, and stories and shelters associated with women's food collection. They expressed worry about the rapidly melting glaciers and the loss of knowledge about and access to traditional foods which were an important part of remaining healthy.

MaGEE, K. - University of Cincinnati See LENTZ, D.L. (Session VI)

MARK, David - University at Buffalo **Ethnoecology & Ethnophysiography: 'Scaling Up' Plants to Landscape, or Making Vegetation into Geographic Features** (Session V)

Recently, ethnosience has turned attention to landscape. Two different approaches have been used. The core of Landscape Ethnoecology is to identify uniform patches of "habitat types." Ethnophysiography delimits and classifies landscape features. Ethnophysiography has an ontological commitment to objects or object-like features, whereas landscape ethnoecology has an ontological commitment to fields. A key concept in landscape ethnoecology is ecotopes, "the smallest ecologically-distinct landscape features in a landscape mapping and classification system." Although many landscape ethnoecology papers also discuss types of landforms and waterbodies, it is difficult to fit these into an ontology based on ecotopes. But

vegetation, an important component of landscape, is equally difficult to fit into the features or objects view that underlies ethnophysiography. This paper will review these approaches and suggest ways to integrate both approaches into a unified ethno-theory of landscape. Examples will be drawn from fieldwork with the Yindjibarndi (Australia) and Navajo (USA) peoples.

MARKEL, Russell - University of British Columbia See SZPAK, Paul (Session IX)

MASSAMBA N'SIALA, Isabella - University of Modena and Reggio Emilia **Paleo-ethnobotany from Saharan Archaeological Sites and Related Ethnobotanical Observations** (Libya and Niger) (Session VI)

Archaeobotanical remains from archaeological contexts provide information on the past relationships between human populations and environment. Within the multidisciplinary studies carried out in different sites of Sahara desert, pollen and seeds/fruits helped to reconstruct past environments giving details on the flora and vegetation cover during the early and middle Holocene. Plant remains are generally known to be effective tools to reconstruct plant landscape evolution, as they permit to study diachronically environmental changes. Data from burials, rockshelters and caves enhance our knowledge of ancient customs of plants use, which can be often correlate with the current use of the same. Ethnobotanical observations on Tuareg today use of plants are a key reference to interpret archaeobotanical data, especially for food and medicinal plants. An example of this type of approach is the studies on *Citrullus colocynthis* (L.) Schrader, a wild and toxic plants used for human nutrition and traditional medicine.

McCORRISTON, Joy - The Ohio State University See KIMIAIE, Masi (Session VI)

McKECHNIE, Iain - University of British Columbia See SZPAK, Paul (Session IX)

MERCURI, Anna Maria - University of Modena and Reggio Emilia See MASSAMBA N'SIALA, Isabella (Session VI)

MINNIS, Paul - University of Oklahoma **Ancient Puebloan Eats, Then and Almost Now** (Session I)

The ethnographic record has been a tremendous resource for understanding the ancient past of the Puebloan World in the U.S. Southwest and northwestern Mexico. However, there are two issues with using the ethnographic record that have not been adequately addressed. First, there were often dramatic but underappreciated changes during Spanish colonization. Second, the ethnographic Puebloan record represents only portion of the ancient Puebloan World.

MOLLIK, Md. Ariful Haque - Practical Academy on Wise Education and Research Foundation Bangladesh **Knowledge and Use of Medicinal Plants by Local Specialists in a Region of Bilashchhara Lake in the Moulvibazar District of Bangladesh** (Posters)

Ethnomedicinal studies were carried out to collect information on the use of

medicinal plants by the local communities in Bilashchhara Lake of Moulvibazar district, Bangladesh. Medicinal plants have been used both in the prevention and cure of various diseases of human societies. Ayurveda, Homeopathy, Sidda, Unani, etc are our traditional systems of medicines. Ethnomedicinal data were collected using semi-structured interviews, field observations, and group discussions. A total of 36 medicinal plant species distributed in 29 genera, and 23 angiosperm families are documented in these studies. The medicinal plants are listed with botanical name, local name, family name, parts used, and medicinal used. It was observed that the availability of these medicinal plants is decreasing at an alarming rate. These present studies was clearly indicating that the status of the medicinally important plant in this area is urgently needed to proper documentation and a better conservation measures to be under taken.

--- **Living Knowledge of the Healing Plants: Ethno-phytotherapy in the Local Communities from the Tarash Upazila of Sirajganj District in Bangladesh** (Session IV)

Tarash is an upazila of Sirajganj district in the division of Rajshahi, Bangladesh. Tarash is located at 24° 26' 0" N, and 89° 22' 30" E. It has 26254 units of house hold and total area 297.2 km². Information on ethnobotanical significant for used in various diseases of plants was obtained through interviews with 13 herbalists, 29 farmers, and other 48 local inhabitants living in 24 villages in Tarash upazila. We surveyed total 28 plant species belonging to 24 genera, and 21 families are reported. All plant samples were later identified at the Bangladesh National Herbarium. We observed that the documented plants were mostly used to cure boils, swelling, fevers, dysentery, bronchitis, toothache, sexually transmitted diseases, headache, diarrhea, and colds. Some cultural believes and traditional practices associated with traditional medicines were found to contribute much to the conservation of plants in the area. Therefore, the plants used as traditional healthcare system need urgent conservation.

MT. PLEASANT, Jane - Cornell University **Rethinking the Role of Shifting Cultivation in Mississippian Agriculture** (Session VII)

Anthropologists, ethnobotanists, and historical ecologists have asserted that Mississippian Period farmers grew maize and associated crops using shifting cultivation. Some have further surmised that maize-based cropping systems under shifting cultivation were inherently unstable and may have played an important role in the decline of Cahokia and other Mississippian communities. But a more thorough examination of the components of shifting cultivation, coupled with an analysis of soil properties, suggests that shifting cultivation may not have been a pervasive cropping strategy for Mississippian farmers. Since declining soil fertility is a key rationale for farmer to fallow their fields in shifting cultivation, I look specifically at soil fertility parameters to enhance our understanding of these early maize systems.

MUELLER, Jocelyn G. - Tufts University **History and Politics of Conservation Policy: A Case Study of Fire Management in the Niger Park W Complex** (Session IX)

This paper examines the interaction of local knowledge and global knowledge

in the development of conservation policy throughout the last century in Niger, through a case study of fire management in and around Parc W. Within the context of the global discourse and history of fire management policy, we examine the interface between local knowledge and western knowledge on the national and regional levels in Niger and consider the role of local residents, state agents and foreign institutions as knowledge holders, interpreters and users in this interaction. We draw attention to the changing role of the local agent of the state in interpreting the local to global discourse, and identify the implications for the promotion of local knowledge in using external measures to validate and legitimize such state actors. This paper explores how local integration in natural resource management can become a model for how states can open the democratic space for the engagement of rural populations.

NEWSOM, Lee A. - The Pennsylvania State University See KISTLER, Logan (Session VI)

NOR, Dr. Abd Rahim Md. - University Kebangsaan Malaysia See ELVIRIADI, Elviridi (Session IX)

ORCHARD, Trevor - University of Toronto See SZPAK, Paul (Session IX)

PANDAY, Bivash Chandra - Practical Academy on Wise Education and Research Foundation Bangladesh See MOLLIK, Md. Ariful Haque (Session IV)

PATTON, Paul E. - The Ohio State University **Moving Beyond the Question: “Were the Hopewell Really Farmers?” A View from the Hocking Valley, Southeastern Ohio** (Session VII)

Theoretical models aimed at explaining Middle Woodland settlement and subsistence can be divided into two general approaches: (1) the dispersed sedentary food producers model and (2) the complex foragers model. The construction of both models has relied heavily on data from south and central Ohio, particularly the Licking and Scioto Valleys. The neighboring Hocking Valley has received limited attention with respect to answering many of the questions concerning the lifeways of Middle Woodland populations despite its early contributions to establishing the Eastern Woodlands region as an independent center of plant domestication. Avoiding the dichotomies of the aforementioned theoretical models of sedentary or mobile and forager or farmer, we apply Rafferty’s (1985:116) concept of sedentariness as “the reorganization of a society’s energy-capture systems so that energy is used more efficiently or more energy is captured” to archaeobotanical and architectural data from the Hocking Valley. This perspective results in what we term the Residential Stability Model for understanding the domestic economy of Ohio Middle Woodland.

PESEK, Todd - Cleveland State University **Maya Mountains Ethnobotany and Ecology Project** (Session IV)

The Maya Mountains Ethnobotany and Ecology Project (MMEEP) is a ongoing transdisciplinary team of doctors, scientists, traditional healers, elders and community members of the Q’eqchi’ Maya people of the Maya Mountains, Belize,

Central America. We are working toward the development of culturally relevant, sustainable, holistic healthcare via traditional medicine and traditional botanical knowledge. The project focuses on evaluating the safety and efficacy of traditional medicines for the prevention and treatment of ailments in local communities. Our efforts promote health and facilitate the conservation of Maya biodiversity, traditional healing and culture but also serve as a model for cross-cultural exchange of indigenous technologies to other North American groups.

PIEROTTI, Raymond - University of Kansas **Sustainability of Natural Populations: Lessons from Indigenous Knowledge** (Session IX)

Attempts to manage natural populations sustainably are often unsuccessful, especially schemes assuming equilibrium as the natural state. MSY approaches are particularly unsuccessful because they assume that if an experienced adult is killed, it is readily replaced. Indigenous concepts assume that populations are regulated by individuals that “control” accessibility. Indigenous Americans were very practical and aware of the changeable nature of environments and populations. Their concepts may be based on experience with exceptionally productive and experienced individual animals, without whom populations might collapse. Data from two long-term studies demonstrate that 80-90% of successful reproduction in natural populations is the result of 3-5% of the individuals in that population. Results from archaeological studies show that Indigenous hunters may have specifically avoided taking older, more experienced members of a population. Similar results are found in all long-term studies of natural animal populations.

PISTRUI, Michael J. - Ohio University See PATTON, Paul E. (Session VII)

QUINLAN, Margaret - Pullman School District **Overview of the Ethnobiology of Dogs in Dominica, West Indies** (Session VIII)

Of all of the animals with whom humans interact, dogs have a unique position as our first domesticate and most frequent animal partner. We explore the reciprocal relationship between humans and dogs in a remote village on Dominica. Methods include participant-observation and semi-structured interviews with ten dog-owning families, and free-list interviews on canine ethnoveterinary treatments with 15 adults residents. Dominican dogs are critical to family economics, perceived safety, and companionship. Villagers care for their own dogs on a daily basis and treat them with bush medicines (home remedies) when the dogs fall ill. Yet, it is common to view others’ dogs with derision and suspicion, and many local dogs succumb to foul play.

QUINLAN, Marsha B. - Washington State University See COUNCIL, Sarah K. (Session II); See QUINLAN, Margaret (Session VIII)

RAHMAN, Md. Hafizar - Stamford University Bangladesh See MOLLIK, Md. Ariful Haque (Posters)

RAHMAN, Md. Saifur - Stamford University Bangladesh See MOLLIK, Md. Ariful Haque (Session IV)

RAPINSKI, Michel* - Institut de Recherche en Biologie Végétale, Montréal **Geo**

geographical Variations in the Phytochemical Profiles of Cree Antidiabetic Medicines (Posters)

Rhododendron groenlandicum and *Sarracenia purpurea* are used as traditional medicines by the Cree Nation of Eeyou Istchii to treat diabetes related symptoms and have exhibited antidiabetic activity in 3T3 cell adipogenesis and C2C12 cell glucose transport respectively. Through ethnobotanical surveys, Cree Elders and Healers have mentioned that the plant's medicinal potential augments in northern communities. While there are few studies focused on the phenomenon, there is evidence that phenolic compounds are produced in greater quantities as latitude increases to protect the plants from photoinhibition. Thus, with longer daytime periods occurring at northern latitudes we hypothesized that northern populations of *S. purpurea* and *R. groenlandicum* will have higher concentrations of phytochemicals and a stronger biological activity. Accessions from Cree communities in northern Quebec were collected on a north-south gradient and extracted in 80% EtOH. Polyphenols were identified and quantified from ethanolic extract using RP-HPLC-DAD-ELSD. Though not linearly related to latitude and day length, phytochemical results indicate a geographical variation in polyphenol concentrations and distinct chemotypes between communities.

RAZZAK, Md. Abdur - Jönköping University Sweden See MOLLIK, Md. Ariful Haque (Session IV)

REDŽIĆ, Sulejman - Zmaja od Bosne, University of Sarajevo See FERRIER, Jonathan (Session IV and Posters)

ŠAČIRAGIĆ, Lana - Cross Cultural Health Initiative, Ottawa See FERRIER, Jonathan (Session IV)

SALLEH, Dr. Hood M. - Muzium Warisan Akademik, University Kebangsaan Malaysia See ELVIRIADI, Elviriadi (Session IX)

SANTOS, Ricardo V. - Fundação Oswaldo Cruz See COIMBRA Jr., Carlos E.A. (Session IX)

SAVO, Valentina See CANEVA, Giulia (Session VIII)

SHARMA, Sanjeev - WWF-India, Himachal Pradesh, India See THAPLYAL, Vandana (Session IX)

SHIGETA, Masayoshi - Center for African Area Studies, Kyoto University, Japan
Folk in-situ Conservation of Ensete (*Ensete ventricosum*) in Ethiopia (Session IX)

In the last 20 years of my fieldwork in southwestern Ethiopia, I have been observing the people gradually abandoning the sacred forests of wild enset, influence of cash economy, development of modern education, and increase of non-agricultural livelihood. Ensete is in a state of "Crisis" facing decreasing trends in amount and area, diet due to the shift to maize, diversity of varieties, and local knowledge. To reverse these trends, local people are making efforts to establish a participatory land-race conservation center in the village, and mobilizing local farmers, students, local NGOs and GOs, and researchers for the activities. People are also hoping to create a joint-effort network within and beyond the area to share the knowledge. In this

paper, I will describe the people's movement and basic census data on the landrace diversity. I focus on the "Good practice", variance of "cognitive selection", and surviving potential interest to ensue.

SNIVELY-MARTINEZ, Amy - Washington State University **Perceptions of Change in Horticultural Subsistence Strategies in a Rural Mexican Community, San Francisco Pichátaro, Michoacán** (Session XI)

The purpose of this thesis is to explore to what degree and how horticultural subsistence strategies are changing in an indigenous rural Mexican community. A case study research design was utilized to explore change, and perceptions of change that is occurring in home garden practices of San Francisco Pichátaro, Michoacán. Research methods included in-depth interviews of home garden owners, a community-wide socioeconomic survey, participant observation, and secondary data collection. I found that change is occurring in Pichátaro regarding agricultural activities and that for the most part community members are conscious of that change. Home gardens have been adapting to increasing market participation during the last four decades, however most recently a shift from household participation in diversified on-farm activities to specialized off-farm activities is occurring, leading to abandonment of many home gardens in the community.

SNYDER, Charles - Washington State University **The Embodied Yam: Reframing the Trobriand Botanical Metaphor** (Session VIII)

The importance of yams in the Trobriand Islands has been a topic of interest to anthropologists for over 75 years. The recursive nature of the Trobriand botanical metaphor connecting the physical characteristics and life cycle of the yam to Trobriand conceptualizations of life and death has been thoroughly and convincingly detailed through the years. This paper will seek to reframe the botanical metaphor around the centrality of the lived experience shifting the focus away from the yam and onto the body. By redirecting this focus toward the physical experience of the human body as the basis for interpretation, new light may be shed on Trobriand ceremony, reproduction, and botanical propagation among other topics. The implications of this shift for interpreting Trobriand culture and the broader context of Austronesian society will be discussed.

--- **Community Building and Global Conservation: The Emergent Role of Modern Zoological Parks** (Posters)

Animal husbandry for the purpose of collection and display has been pursued for thousands of years. In the last 80 years, the collection and display of wild animals has evolved from static sideshow to a professional specialty. Zoos worldwide claim to be leaders in wildlife conservation through direct practice and through public education, while critics claim that zoos are a voyeuristic enterprise built on novelty and profit. Using a case study approach and examples from American inner city and rural schools, this paper will analyze the debate and present an often neglected and unrecognized role of the modern zoo as a vehicle for social justice. Furthermore, the emerging roll of zoos in worldwide in situ conservation programs will be discussed.

STORCH, Diana - University of Arkansas **From Soup to Nuts: Ecology, Nutrition, and Consumption of Kunuche** (Session IX)

Kunuche is a traditional Cherokee soup made from hickory nuts (*Carya* spp.), prepared according to similar recipes for centuries. Proposed research will use ethnoecological, biochemical, and anthropological methods to investigate the ecology, nutrition and consumption of kunuche among the Western Cherokee. Much is unknown about the true preparation and consumption of kunuche, its nutritional importance, and the impact of hickory nut harvesting on the environment. The frequency of kunuche consumption has dropped in recent decades just as the amount of sugar included in its preparation has risen drastically. This has implications for the health of the Cherokee community, which suffers from high rates of nutrition-related diseases such as diabetes. Quantitative data on nut harvesting, nutritional analysis and fatty acid profile of kunuche, and the content of the antimicrobial compound, juglone in kunuche will be collected. In addition, the expressive, symbolic, and emotional components associated with kunuche will be explored.

SZPAK, Paul* - University of Western Ontario **Interactions between Humans and Sea Otters in Holocene British Columbia: Evidence from Stable Isotope Analysis** (Session IX)

We examined the isotopic composition ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) of sea otter (*Enhydra lutris*) bone collagen from late Holocene (ca. 5200 years BP – AD 1900) archaeological sites in northern British Columbia, Canada. These data suggest that sea otter diets were composed primarily of benthic invertebrates, with a very low reliance on epibenthic fish. Given the large number of potential prey for sea otters based on studies of extant populations, there is very little isotopic and thus dietary variability in BC sea otters during the late Holocene, suggesting a lack of individual dietary specialization. This lack of piscivory and dietary specialization, combined with the abundance of sea otters in faunal assemblages, is suggestive of top-down control on sea otter populations through consistent, but sustainable, hunting by aboriginal peoples.

TALCOTT, Johanna - The Pennsylvania State University **Paleoethnobotany of the Salt Springs Archaeological Site, Marion County, Florida** (Session VI)

Excavations at the Salt Springs Archaeological Site (8MR2322) in the Ocala National Forest, Florida, revealed a submerged, Middle to Late Archaic (approx. 6000-4000 years rcbp) black earth midden with exceptional organic preservation. The initial paleoethnobotanical analyses have focused primarily on the significance and implications of two important economic plant taxa from the Cucurbitaceae family: the gourd/squash (*Cucurbita* sp.) and the bottle gourd (*Lagenaria* sp.). The materials from this site provide valuable insight into the biogeography of both gourd species as well as ancient pre- or non-agricultural management and manipulation of these and other wild plant resources.

--- See HANEY, Jennifer M. (Posters)

TAYLOR, David - University of Portland **A Comparative Study of Food Plant Use in Ho Chi Minh City, Vietnam and in the Vietnamese Community of Portland, Oregon** (Posters)

We will be presenting preliminary data comparing food plant utilization in Ho Chi Minh City, Vietnam with that of the Vietnamese immigrant community of Portland, Oregon. Our goal in this study is to determine the degree to which the diversity of utilized crops has changed in the immigrant community, and what are the factors that influence this change. We utilize market surveys and interviews in both Vietnam and Portland in order to make this comparison. The results of this study will improve our understanding of dietary changes in the Vietnamese community and potential health implications for this group.

THAPLYAL, Vandana - WWF-India, Himachal Pradesh, India **Sacred Groves in Tribal Area of Western Himalaya as Ethnobotanical Gene Pools** (Session IX)

In many countries, the communities follow the practice of setting aside certain patches of natural vegetation as “sacred groves” dedicated to a deity or village God. In India sacred groves are found all over the country. Plant species have been traditionally protected and conserved in the sacred grove. The growing demand for land and natural resources, rapid urbanization and pressures of population growth today threaten the preservation of these sacred groves. Consistent efforts are required to conserve these patches of rich biological diversity. WWF India has initiated action to develop conservation programme including the preparation of an inventory of these groves and document their biodiversity with the objective to develop strategies for the rejuvenation and conservation of sacred groves. Ethnobotanical importance of 17 sacred groves have been studied with the documentation of 22 tree, 32 shrub, and 42 herb species from Kinnaur district of western Himalayan region of India.

THOMAS, William - Montclair State University **Creating Field Guides to Mobilize Ethnobiological Knowledge** (Session II)

If Ethnobiological knowledge is to become a tool for building a sustainable future for both cultures and ecosystems, we must go beyond the production of inventories to demonstrate the relevance of this knowledge to solving problems. Nowhere is this more important than the conservation of biodiversity. In this paper, I demonstrate the potential of a field guide for birds to mobilize Ethnobiological knowledge for conservation. Drawing on fieldwork with the Hewa people of Papua New Guinea, I will discuss the development of a Hewa field guide written to facilitate cross-cultural communication between scientists and pre-literate naturalists. By employing graphics as well as written information, this guide has enabled a predominately pre-literate community to communicate with conservation NGO's and spurred a conservation initiative called the Papuan Forest Stewards that is based upon Ethnobiological knowledge.

THOMPSON, Amanda **Plant and Animal Material Choice in Navajo Textile Production** (Posters)

Textile weaving is a long standing tradition in the Navajo Nation. There is dispute as to the exact time that textile production began, but historic textiles woven by Navajo can be dated to at least three hundred years B.P. As the Navajo have encountered other societies and different materials, coloration techniques, and design

have been accepted or rejected in their textile practices. A study was undertaken with Navajo weavers in 2010 in Arizona and New Mexico to understand the current practices of fiber and yarn selection, coloration selection, and design selection. In-depth interviews, discussions, and studio work were held with practitioners to document the current use of materials that are used in textile creation and use. From this research, an understanding of decisions and planning of textile products and the resources that were chosen for textile projects was identified. In addition an inventory of plants, animals, and sources was collected.

THOMPSON, Victor D. - The Ohio State University **Assessing Habitats of Mollusk Collection and Models of Late Archaic Settlement along the Atlantic Coast, USA using Oxygen Isotope Sclerochronology** (Session VI)

Oxygen isotope analysis was performed on Mercenaria and *Crassostrea virginica* from the Sapelo Island Shell Ring. This study is based on the observation that temperatures are similar in all of the habitats surrounding the island, but the $\delta^{18}\text{O}_{\text{water}}$ trends across the habitats co-vary with salinity. Accordingly, the shells grown in these habitats contain sinusoidal oscillations in $\delta^{18}\text{O}$ through ontogeny due primarily to seasonal temperature variation, but the absolute values reflect the salinity ranges of each habitat. Assuming a constant oxygen isotope/salinity gradient since the time of site occupation, it appears that both of these mollusks were exploited over nearly the full range of their salinity tolerances. While precise estimate of distance to collection cannot be made, these data suggest that mollusks were harvested at considerable distances from the site. In addition to providing insight into past subsistence strategies, this research establishes a new method of assessing catchments area and mobility practices.

TICKNER, Amanda - University of North Carolina, Chapel Hill **Agrarian Land Use and Forest Change in Southern Burgundy, France: A Multi-source Study** (Session VI)

This paper discusses historic land use patterns in the agricultural community of Uxeau Commune, Burgundy, France over the last 250 years, using archaeological survey, historical maps within a GIS, and historical documents such as government cadastral data, agricultural reports, and population records as primary sources. We see a dynamic pattern of land use in which vineyards, woods and pasture (of varying types) are found in differing proportions over time, and in similar locations, sometimes even replacing each other. This suggests that at different times vineyards or pasture were potentially more important economically/socially than woods, and vice versa, as these land use practices alternate. In this paper we will discuss the trends of continuity and change in the presence of forests, pastures and vineyards, the relationship between the land uses and the reasons for land use change.

TIMBROOK, Jan - Santa Barbara Museum of Natural History **Seagrass and Seaweed: Chumash Use of Marine Plants** (Session xxx)

Most significant were the knowledge of kelp forests as good fishing grounds and the reliance on surf-grass (*Phyllospadix*) in material culture, documented in the archaeological record from the offshore islands. Occasional uses in food prepara-

tion, medicine and ceremony were also described. The wealth of terrestrial plant resources available to the Chumash may have reduced the importance of marine species.

TRAKIĆ, Sabina - Zmaja od Bosne, University of Sarajevo See FERRIER, Jonathan (Session IV); - Bruker BioSpin See FERRIER, Jonathan (Posters)

TRIGG, Heather - University of Massachusetts Boston See JACOBUCCI, Susan (Session XI)

TRIVEDI, Chandra Prakash - Vedic Research Institute, Ratlam M.P. India **The Vedic Ethnobiology** (Posters)

The modern Biology has established the fact that the life on the earth has originated from a single cell with cell division. All living organisms are composed of cells and they arise from other cells. The roots of ethno-biology are in Vedic Biology. The three sons of Sudhanvan-developing coaservates, who is said to have been descendant of Angirasa -viscous sap. The cell has been termed as Ribhu, and its various stages have been named as Ribhu, Ribhukshan, and Vaja. The nucleus has been termed as Brihaspati, the chromosome as Yama-Yami. The DNA has been named as Tvashta and Vivasvat, the chlorophyll is named as Parna-mani. As they are the only source of organic matter on the earth hence they have been termed as celestial race and wealth for the nature. The natural forces, they have synthesized the cell body with generation of life energy in the cell.

TURNER, Nancy - University of Victoria **Plants of the Ancestors: Stories, Names and Evidence for Ancient Plant-People Interactions in Northwestern North America** (Session I)

Indigenous Peoples have occupied areas of northwestern North America for at least 12,000 years. The early peoples arriving here would have had access to many plant species, some new and others familiar from past places of occupancy. Several lines of evidence can give hints about people's plant use in ancient times: dated archaeological remains of plants and plant-related artifacts; paleoecological and phytogeographical data; linguistic data; and traditional narratives. From intersections of these lines, certain plant resources can be identified as likely candidates for ancient ethnobotanical applications. These species include edible fruits edible greens, edible inner bark of trees, and root foods, as well as plants used for construction, fibre, fuel and medicines. Although most of these have diminished in use since the coming of Europeans into the region, a number are still well known in contemporary times, and are likely to continue as culturally important species into the future.

TUXILL, John - Fairhaven College of Interdisciplinary Studies, Western Washington University **Will the Milpa Become Just Maize? Diversity and Management of Maize, Bean, and Squash Polycultures in Southern Mexico** (Session VII)

Arguably the most famous traditional polyculture is the interplanting of maize, beans, and squash characteristic of Native American agriculture and the Meso-american *milpa*. What may be less widely appreciated is the level of detail at which farmers combine different landraces of these three crops to meet specific eco-

logical, agronomic, and economic objectives. Drawing primarily on a case study from Yucatan, Mexico, I document the landrace diversity present in milpa polycultures and describe their management by Mayan farmers. I also assess prospects for the persistence of traditional maize, bean and squash polycultures in the face of problematic trends in milpa, such as reduced fallow periods and the widespread use of herbicides. I find that Mayan farmers continue to be surprisingly resilient in adapting and modifying their cultivation techniques to maintain beans and squash in association with their staple maize crops—a sign of the enduring importance of milpa in rural Mesoamerica.

VELIĆ, Sedic - Zmaja od Bosne, University of Sarajevo See FERRIER, Jonathan (Session IV)

WATKINS, Tammy Y. See CASTANEDA-LANGLOIS, Héctor (Session XI)

WEINSTEIN, Corey - Duke University Organization for Tropical Studies; Colgate University See GWALTNEY, Rebecca (Posters)

WELCH, James R. - Fundação Oswaldo Cruz **Post-settlement Landscape Transformation and Dietary Change among the Potter Valley Pomo, California** (Session XI)

Historical documents suggest that major landscape transformations occurred in Mendocino County, California, soon after the arrival of the first non-indigenous settlers in the early 1850s. In Potter Valley the wholesale appropriation of land for agricultural activities interrupted indigenous environmental management practices and decreased access to food resources. In this paper, I present how these historical processes impacted Potter Valley Pomo foodways, drawing on unpublished ethnobotanical research conducted by homeopathic doctor and amateur anthropologist John W. Hudson (1857-1936). I highlight how food security was compromised by modification and circumscription of specific vegetation types, such as woodlands. I also discuss the historical adoption of non-native plants as important dietary items. By the 1870s, starvation, disease, slavery, massacres, and migration significantly reduced the valley's indigenous population. Nevertheless, the Potter Valley Pomo maintained a rich and dynamic knowledge of wild plant foods into the first decades of the twentieth century.

--- See COIMBRA Jr., Carlos E.A. (Session XI)

WHITLEY, Thomas G. - Brockington and Associates See HOLLENBACH, Kandace D. (Session XI)

WILLIAMS, Charles E. **What Was the “Broken Straw” of Pennsylvania’s Broken-straw Creek? An Investigative Ethnobotany of Place** (Session VI)

Brokenstraw Creek meets the Allegheny River below Warren, Pennsylvania. The rich alluvial environment at the confluence of these two streams, now called Irvine Flats, provided productive habitation sites for Seneca and Delaware Native American tribes through the mid-1700s. The name “Brokenstraw” is thought to be derived from the original Seneca and Delaware place names for the area, later perpetuated by French and English explorers. This “broken straw” was said to be a species of grass that grew taller than a human, dying back in the winter and litter-

ing the ground with its dead stems. What was this grass species? Using data from contemporary botanical surveys of the area, and historical observations and plant records, I identified a suite of species that could include the “signature grass” of Brokenstraw Creek. I suggest that not one, but several, tall grasses of an alluvial grassland community provided the basis for the creek’s name.

WOLVERTON, Steve - University of North Texas **Ethics, Values, Philosophy, and Science: Expanding the Role for Ethnobiology in Environmental Justice** (Session X)

Ethnobiologists produce many kinds of data about human interactions with environments, ranging from archaeological studies of deep time to ethnographic field studies that challenge the meaning of the terms “human” and “environment.” Science, a sense-making-system common in Western societies, provides a powerful analytical tool for comprehending such data, but it is well known that scientists may or may not communicate their findings in manners that influence socio-political values about conservation, sustainability, environmental justice and other important concepts related to environmental ethics. Ethnobiologists work in settings that entail temporal, spatial, and/or cultural scale shifts, providing what philosopher Albert Borgmann terms a disclosive perspective that reveals profound aspects of ecological, biological, geological, and anthropological knowledge. As a result, Ethnobiology provides a wide umbrella for and a bridge between multiple disciplines ranging from those that analyze cultural materials to those that require cultural participation, to those that argue for changes in value systems.

WYLLIE de ECHEVERRIA, Victoria - University of Victoria **Moolks (Pacific crabapple, *Malus fusca* Raf.): Knowledge and Meaning in Gitga’at Culture** (Posters)

In this study, I am examining the folk classification systems and ethnobotanical uses of moolks or Pacific crabapple (*Malus fusca* Raf.) by the Gitga’at people of Hartley Bay, British Columbia. This species has historically been an important resource for food, materials and medicine for indigenous peoples throughout most of its range along the Pacific coast of North America, including the Gitga’at, who also recognize approximately five unique varieties. Through interviews with elders, knowledge about how the cultural importance of crabapples is expressed in their folk taxonomy, linguistic knowledge, ethnobotanical uses and management strategies will be recorded. In addition, botanical and environmental data will be collected from crabapple populations for comparison with cultural data. The appeal of this work to Hartley Bay community is that they are interested in preserving knowledge transmission between generations and maybe exploring the possibilities of cultural tourism ventures, of which crabapples could be a focus species.

YOUNG, Jason C. - Miami University See GILMORE, Michael P. (Session V)

ZEMEL, Mason - Duke University Organization for Tropical Studies; Colby College See GWALTNEY, Rebecca (Posters)

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