



Society of Ethnobiology
30th Annual Conference
University of California, Berkeley
March 28-31, 2007



Program
Schedule
and
Abstracts

30th Ethnobiology Conference Program Schedule

Wednesday, March 28

Welcome Reception and Registration

6:00-9:00 PM Registration and reception at the Archaeological Research Facility Atrium, 2251 College Building on the University of California Berkeley campus.

Thursday, March 29: Morning

Location: Valley Life Science Building (VLSB) Onderdonk Lobby

8:00-8:30 AM Registration opens and coffee in Conference Foyer, Onderdonk Lobby (2040)

8:30-8:50 **VLSB Room 2050: Plenary Opening Remarks & Welcome** by President Eugene Hunn, Society of Ethnobiology.

9:00-11:30 **Poster Session 1: (VLSB) Onderdonk Lobby**

James Kari: Some features of the *Dena'ina* topical dictionary.
Shawn Murray and Alioune Deme: Walaldé: An early western frontier for domesticated Pearl Millet.
Holly Ferguson: A sustainable alternative for eradication of invasive plant species in Arkansas.

9:00 **Session 1: VLSB Room 2040,**
Title: Symposium: Archaeology and Ethnobiology: Recent trends and new perspectives

Chairs: Steve Weber and C. Margaret Scarry

Sites and dietary practices:

9:00-9:20 Karen Adams and Robert Neily: Maize in storage: A pre-hispanic Hohokam farming family tragedy.

9:25-9:45 Ryuji Ishikawa: Probable artificial selection for edible plants at prehistoric Jomon site, Sannai Maruyama.

9:50-10:10 Andrea Weiser and Dana Lepofsky: Foraging on Ebey's Prairie, Whidbey Island, Washington over the past 10,000 years. *

- 10:15-10:35 Break**
- 10:35-10:55 Amber VanDerwarker and Bill Stanyard: Hunting deer and mixing medicine: Zooarchaeological and archaeobotanical evidence of a special-purpose encampment at the sandy site, Roanoke, Virginia.
- 11:00-11:20 Matthew Sayre and Silvana Rosenfeld: Pre-Columbian dietary practice at Conchopata, Peru. *
- 11:25-11:45 Virginia Popper and Barbara Voss: The role of foodways in culture contact: Archaeobotanical evidence from El Presidio de San Francisco.
- 9:00 Session 2: VLSB Room 2050,
Title: Symposium: Acquiring and sharing ethnobiological knowledge in British Columbia, Canada
Chairs: Nancy Turner and Nancy Mackin**
- 9:00-9:15 Introduction
- 9:15-9:35 Kii7iljuus (Barbara Wilson), Nika Collison and Nancy Turner: From abalone to spruceroot baskets: Haida trade and exchange in a dynamic economy.
- 9:40-10:00 Adrian Sanders: Socio-cultural resiliency and landscape learning: A case study in Haida Gwaii.
- 10:05-10:25 Carla Burton, Nancy Turner and Cecil Brown: Sharing innovation: Soapberry (*Shepherdia canadensis*) indigenous use and cultural value in northwestern North America.
- 10:30-10:45 Break**
- 10:50-11:10 Severn Cullis-Suzuki: Kwakwaka'wakw knowledge of Ts'ats'syem (Zosteraceae or eelgrass)
- 11:15-11:35 Carla-Rae Mellott and Nancy Turner: An ethnoecology of Sunt'iny (*Claytonia lanceolata*) on Chunoz Ch'ed, Tsilhqot'in territory, British Columbia, Canada.
- 11:40-12:00 Stuart Crawford and Lynn Yip: Using simulated pitcooks to elucidate the inedibility and culinary importance of black tree lichen (*Bryoria fremontii*)
- 9:00 Session 3: VLSB Room 2060,
Title: Ethnomedicine, healers and health beliefs
Chair: Thomas Carlson**

- 9:00-9:20 Letitia M. McCune: Desert fruits of the southwest.
- 9:25-9:45 Thomas J. S. Carlson: Clinical ethnobotany: Clinic culture.
- 9:50-10:10 Justin M. Nolan, Jordan H. Brandon: Healing in the hills: Medical ethnobotany and the continuity of traditional health beliefs in the Ozark-Ouachita Mountains.
- 10:15-10:35 Break**
- 10:40-11:00 Gary Martin, Abdelaziz Abbad, Mouley Ahmed El Alaoui El Fels, Mohammed El Haouzi, Abderrahim Ourghidi, Abdelghafour Kadouiri, and Fatima Touiti: The roots of trade: Deciphering herbalist knowledge of medicinal plants in Marrakech.
- 11:05-11:25 Denise Glover: Reading within the lines: On the importance of written texts in ethnobiological knowledge, the case of Tibetan medicine.
- 11:30-11:50 Will Tuladhar-Douglas: Canons, trade networks and ecosystems: The perceived status of *Choerospondias axillaries* in central Nepal.
- 12:00-1:30 LUNCH BREAK**

Thursday, March 29: Afternoon

Location: Valley Life Science Building (VLSB), Onderdonk Lobby

1:30- 4:30 Poster Session 2: (VLSB) Onderdonk Lobby

Julie Densmore: Application of an ordinal-scale predation model on ungulate remains from the Eagle's Ridge site, 41CH252, Texas.

Ben Fullerton: White-tailed deer (*Odocoileus virginianus*) marrow and grease exploitation among mobile, pottery-using foragers in southeast Texas.

Charles Randklev, Steve Wolverton and James Kennedy: Prehistoric biogeography: Conservation implications of two unionids in the western Upper Trinity River drainage.

1:30

Session 4: VLSB Room 2040:

Title: Symposium: Archaeology and Ethnobiology: recent trends and new perspectives, continued

Chairs: Steve Weber and C. Margaret Scarry

Subsistence strategies and environmental patterns:

- 1:30-1:50 C. Margaret Scarry: Crop husbandry practices in North America's eastern woodlands.
- 1:55-2:15 Steve Weber, Steve Farmer and Dorian Fuller: Seed, plant and farming signs in the Indus symbol system.
- 2:20-2:40 Naomi Miller: Archaeology and biodiversity preservation at Gordion, Turkey.
- 2:45-3:15 Break**
- 3:20-3:40 Deborah Pearsall and Duncan Neil: Environmental coring in southwestern Guayas Province, Ecuador: Dating of sequences and preliminary results.
- 3:45-4:05 Heather Trigg, Kevin McBride and Melissa Smith: Botanical indications of the impact of the reservation system on the Mashantucket Pequot subsistence practices.

Domestication and Management

- 4:10-4:30 CANCELED: Bruce Smith: Niche construction and the behavioral context of plant and animal domestication.
- 4:35-5:15 Dorian Fuller: Why ploughs matter but sickles don't: a comparative re-assessment of domestication processes in selected Old World crops.
- 5:20-5:40 CANCELED: Melinda Zeder: Early animal management in the Fertile Crescent.
- 1:30 Session 5: VLSB Room 2050:
Title: Symposium: Acquiring and sharing ethnobiological knowledge in British Columbia, Canada, continued
Chair, Nancy Turner and Nancy Mackin**
- 1:30-1:50 Robert Mackin-Lang: Ethnobiological and biotechnological views of sockeye salmon energetics.
- 1:55-2:15 Nancy Mackin and Deanna Nyce: Exchanging social, landscape and architectural knowledge in the Nisga'a Oolichan fishery.
- 2:20-2:40 Jen Pukonen: The TI'aaya-as Ecocultural Restoration Project, Clayoquot Sound, Vancouver Island.
- 2:45-3:15 Break**

- 3:20-3:40 Allison Nyce and Nancy Mackin: Ethnobiological restoration and cultural repatriation in Haida Gwaii and the Nass Valley.
- 3:45-4:05 Marianne Ignace and Ron Ignace: Past and present dimensions of a sentient Secwepemc landscape.
- 4:10-4:30 Tom Hobby and Michael Keefer: The Kootenay Huckleberry case study.
- 4:35-5:15 Leslie Main Johnson and Kenneth Downs: Using anomalies of plant distribution as evidence of past plant use and management in northwestern British Columbia, Canada.
- 1:30** **Session 6: VLSB Room 2060:**
Title: Ethnomedicine, Healers and health beliefs, continued
 Chair: Thomas Carlson
- 1:30-1:50 CANCELED: Jolene Yukes: K'iche' medical ethnobotany and globalization in a Guatemalan town. REPLACED by Anore Jones: Eskimo Cuisine.
- 1:55-2:15 Armando Medinaceli: Wild animals used as medicines by the Mosekene-Tsimane': Indigenous people in the Bolivian Amazon.
- 2:20-2:40 Marlia Coelho-Ferreira: Towards the valuation of medicinal plant use and knowledge: An example from an Amazonian coastal community (Pará state, Brazil).
- 2:45-3:15** **Break**
- 3:20-3:40 Rainer Bussmann and Douglas Sharon: Traditional medicine in southern Ecuador and northern Peru: Changes in practice and plant use from pre-Columbian times to today.
- 3:45-4:05 Rainer Bussmann and Douglas Sharon: Antibacterial activity of northern Peruvian medicinal plants: A low cost laboratory approach to assess biological activity.
- 4:10-4:30 Jennifer Sowerwine: From Laos to California: Changes and continuities in Lu-Mien ethnoecological practices.
- 4:35- 5:00** **Discussion**
- 8:00- 9:30** **Evening Panel Discussion: VLSB Room 2050:**
 "Indigenous Collaborations in Ethnobiological Research",

Moderator: Enrique Salmon, affiliated with the Raramuri (Tarahumara) of northern Mexico,
Shawna Morton Cain, a Cherokee who is a graduate student in Anthropology at the University of Arkansas,
Tirso Gonzalez, originally from Peru who is on the faculty of the University of British Columbia, Okanagan,
Carrie Terbasket, a member of the Lower Similkameen Band, Syilx Nation and the Environmental Coordinator for her band, Hunting and Wildlife Coordinator for the Okanagan Nation Alliance, and Chair and co-founder of the South Okanagan-Similkameen Syilx Environmental Committee (SOSSEC),
Thomas Morning-Owl is an enrolled member of the Confederated Tribes of the Umatilla Indian Reservation, who works with the tribal language program, is a consultant with Tamastlikt, the tribal cultural heritage center, is of Blackfoot and Umatilla ancestry, and co-author (with Gene Hunn) of a book in production to be published by the CTUIR entitled "Our Land 'Tiicham',

Friday, March 30: Morning

Location: Valley Life Science Building (VLSB) Onderdonk Lobby

8:00-8:30 Registration opens and coffee in Onderdonk Lobby

8:30-11:30 Poster Session 3: (VLSB) Onderdonk Lobby

Marsha Quinlan and Robert Quinlan: Medicinal plant knowledge and modernization

in Dominica, W. I.

David Ferrell: Edible Plant Species Diversity in Homegardens of Ngöbe-Guaymí Families, Western Panama

G. K. Sharma: Therapeutic significance of major food plants in the eastern Himalayas.

8:30

Session 7: VLSB Room 2040:

Title: Symposium: Archaeology and Ethnobiology: Recent trends and new perspectives, continued

Chairs: Steve Weber and C. Margaret Scarry

Methods and Approaches in understanding the past

8:30-8:50 Mickey Miller: Late Holocene subsistence efficient in north-central Texas and the role of technology.

8:55-9:15 Alexander Chevalier: Assessing the meaning of wild plants In Precolumbian agricultural contexts

- 9:20-9:40 José M. Capriles Flores, Katherine Moore and Alejandra Domic: The changing role of fish exploitation and consumption during the Formative Period (1500 BC – AD 400) in the Taraco Peninsula, Lake Titicaca, Bolivia.
- 9:45-10:05 Sandra Peacock, Brian Kooyman and Judy van Roggen: Beyond the rim: Adventures in the toss zone.
- 10:10-10:30 Break**
- 10:35-10:55 John Marston: An ethnoarchaeological model for the acquisition of wood resources at Gordion, Turkey. *
- 11:00- 11:20 Sonia Zarrillo: Starch grains in charred pottery residues: results from Loma Alta, Ecuador. *
- 11:25-11:45 Timothy E. Riley: Starch in coprolites: A preliminary study from the lower Pecos.
- 11:50-12:10 Karen Adams and Natalia Martínez: Looking for Early Maize: Paleo-ethnobotanical Studies in Southern Chihuahua, México
- 8:30 Session 8: VLSB Room 2050:
Title: Traditional Ecological Knowledge (TEK)
Chair: Shawna Cain**
- 8:30-8:50 Elda Miriam Aldasoro Maya: The Ñuu Savi (Mixtec) ethnozoological knowledge in a transnational community.
- 8:55-9:15 Carlos R. Ramirez-Sosa: The loss of traditional ethnobiological knowledge in Central America: El Salvador and Panama.
- 9:20-9:40 Jeanine M. Pfeiffer and Ary S. Suhandi: Community-based ecotourism as a mechanism to conserve biocultural diversity.
- 9:45-10:05 Jianhua Wang: Landscapes and natural resource management by Akha people in Xishuangbanna, Yunnan, China. *
- 10:10- 10:30 Scott Herron and Patrick Robinson: Wild rice coalition building in the Great Lakes, North America.
- 10:35-10:55 Break**

- 11:00-11:15 Zoe Dalton: Towards shared leadership: Aboriginal/Canadian relations in the management of southern Ontario's endangered Black Oak savannahs.
- 11:20-11:35 David Cozzo: Lessons from the Canebrake: Eastern Cherokee TEK informs scientific research.
- 11:40-11:55 Shawna Cain: Carriers of culture: Cherokee ethnobiologists in the 21st century.

8:30 Session 9: VLSB Room 2060: Title: Historical Ecology

Chair: Eugene Hunn

- 8:30-8:50 Louis Forline: Putting history back into Historical Ecology: Some perspectives on the recent human ecology of the Amazon Basin.
- 8:55-9:15 Eugene Hunn: The precocious acquisition of ethnobiological knowledge by Zapotec children.
- 9:20-9:40 Steve Wolverton, James H. Kennedy and John D. Cornelius: Paleozoology, a disclosive perspective, and white tailed deer management in central Texas.
- 9:45-10:05 Araceli Aguilar-Meléndez: Analyzing the process of domestication in Mesoamerica based on ethnobotanical data: Chiles (wild and domesticated *Capsicum annuum* L.) as a case study.
- 10:10- 10:30 Priscilla Wehi: Māori management of Harakeke (*Phormium tenax*) and ecological change in New Zealand/Aotearoa: Understanding past processes. *
- 10:35-10:55 Lucile Housley: The hidden gold of the Ceasars: herbarium botanical collections and old style floras.
- 11:00 – 11:20 Usha Lohani: Ethnozoology of Tamang- An Ethnic Group of the Mountainous Region of Nepal
- 11:25-12:00 Discussion: The impact of a Historical Ecological approach**
- 12:00-1:30 LUNCH BREAK**
- Society of Ethnobiology Board meeting, Archaeological Research Facility Atrium, 2063 VLSB.

Friday, March 30: Afternoon

Location: Valley Life Science Building (VLSB) Onderdonk Lobby

1:30-4:30 Poster Session 3: (VLSB) Onderdonk Lobby

Diana Martínez-Yrizar and Cristina Adriano Morán: *Opuntia* and *Salvia*: Diversity and uses in ancient Teotihuacan.

Emily McClung de Tapia and Joram Ríos-Fuentes: *Chenopodium* spp.: On the road to domestication in the pre-hispanic Basin of Mexico.

Cathryn M. Meegan, Karen R. Adams, Scott G. Ortman, and R. Emerson Howell: The color of maize.

1:30

Session 10: VLSB Room 2040:

Title: Symposium: Birds in culture and context – Ethnoornithology in application and theory

Chair: Robert Gosford

1:30-1:40

Introductory comments to the symposium: Eugene Anderson

1:40-1:55

Mercy Muiruri and Patrick Maundu: Conservation concerns in the use of birds in cultural ceremonies among the Maasai of east Africa.

1:55-2:15

Alejandro Hernández-Jaramillo: So live the birds of Belén de Docampadó, Bajo Baudó, Chocó – poster only

2:20-2:40

Shepard Krech III: Augural, powerful, and dangerous birds among Indians in the American south.

2:45- 3:05

Robert Gosford: The stormbird cult in the Central Northern Territory: A migratory cuckoo, aboriginal languages and cultural practice.

3:10-3:30

CANCELED- Berioska Quispe Estrada: Ashaninkas, Machiguengas and Huachipaeris: Environmental relationships of Amazonian communities of southeastern Peru.

3:35-3:55

Eugene Hunn: A Zapotec ethnoornithological sketch from San Juan Gbee, Oaxaca, Mexico.

4:00-4:20

Cecil Brown: Raven=Heron in Mayan Language prehistory: An ethnoornithological/linguistic puzzle.

4:25-4:45

Nicole Sault: Bird Messengers for All Seasons: Landscapes of Knowledge Among the BriBri of Costa Rica

4:50- 5:10

Gregory Forth: Symbolic birds and ironic bats.

- 1:30** **Session 11: VLSB Room 2050: TEK traditional knowledge, continued**
 Chair: Janine Gasco
- 1:30-1:50 Janine Gasco: Cacao cultivation and biodiversity in Soconusco, Chiapas, Mexico.
- 1:55-2:15 Kimberlee Chambers: Gender and agrobiodiversity conservation: Maize in the Bajío of Mexico. *
- 2:20-2:40 Ramona J. Butz: Changing pastoral land management: Charcoal extraction in tropical open woodlands of northern Tanzania.
- 2:45-3:05** **Break**
- 3:10-3:30 George Estabrook: Sheep in Portuguese traditional agriculture.
- 3:35-3:55 Cynthia Fowler: Herpetological and ethnobiological knowledge in Vietnam's Cat Tien biosphere reserve.
- 4:00-4:20 Kirsten Isakson: Tradition? Who needs it? An investigation into the ecological value of traditional ontologies *
- 4:25- 5:00** **Discussion: TEK, knowledge and sustainability**
- 1:30** **Session 12: VLSB Room 2060**
Title: Biological worldviews and their influence on culture
 Chair: Eugene Anderson
- 1:30-1:50 E. N. Anderson: The two wings of the bird.
- 1:55-2:15 Ann Garibaldi, Cecilia Fitzpatrick, Ainslie Campbell, Darrell Matrindale, and Lisa Schaldemose: Through The Lens Of The Applied: Cultural Keystone Species And Social-Ecological Considerations For Land Reclamation
- 2:20- 2:40 Roger Cain: The concealing and the revealing: An interpretive ethnobiological study of the Cherokee Booger mask.
- 2:45-3:15** **Break**
- 3:20-3:40 Carl Keller III: From sacred game to 'tag it and bag it.'
- 3:45-4:05 Kathleen Deaton: Under our feet: Ethnobiology in suburban America.

4:10-5:00 Melissa K. Nelson: Oral tradition, identity and inter-generational healing through the southern Paiute Salt Songs. Film and discussion.

**5:00-5:30 General Business Meeting: VLSB Room 2040
(all invited)**

Friday, March 30: Evening

**5:45-7:00 Reception at the Phoebe A. Hearst Museum of Anthropology
(on Bancroft Ave) (ticket holders only)**

**6:45-8:45 Banquet Dinner Adagia Restaurant: corner of Bancroft and College
(ticket holders only)**

**9:00 Society of Ethnobiology Announcements: 160 Kroeber Hall
(all invited)**

Barbara Lawrence Award

**9:10 Keynote Address, in 160 Kroeber Hall
(all invited and open to the public)**

Otis Parrish, Kashaya Elder and Cultural Attaché for The Phoebe Hearst Museum of Anthropology
“Healing; An Overarching Metaphor to the Environment”

* Student papers entered in the Barbara Lawrence Award Competition

Abstracts by session:

Thursday, March 29: Morning

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8:00-8:30 AM Registration opens and coffee in Conference Foyer, Onderdonk Lobby

8:30-8:50 VLSB Room 2050: Plenary Opening Remarks & Welcome by President Eugene Hunn, Society of Ethnobiology.

9:00-11:30 Poster Session 1: (VLSB) Onderdonk Lobby

James Kari: Some features of the *Dena'ina* topical dictionary.

This poster summarizes features of the forthcoming *Dena'ina Topical Dictionary* (spring 2007 Alaska Native Language Center). These vocabulary lists offer a panoramic view of the central cultural and ecological concepts of the Dena'ina. Over one-hundred Den'aina speakers have contributed words to the book over a thirty-three year period. One goal for this book is to position the Dena'ina topical materials at the intersection of ethnology and linguistics. Some important themes in this lexicon are the geography of Cook Inlet Basin as reflected in terms for marine-oriented biota and the diverse month and wind names. Included are word sets for many specialized fields such as landscape, anatomy and tools. One simple point about method in a topically organized project: because these chapters have been maintained as cumulative files, they have been advanced and refined.

Shawn Murray and Alioune Deme: Walaldé: An early western frontier for domesticated Pearl Millet.

We report on the recovery of plant remains from the mid-first millennium BC agro-pastoral site of Walaldé, in the Middle Sénégal River Valley, West Africa. Among these remains were many charred grains of domesticated pearl millet (*Pennisetum glaucum glaucum*). Although pearl millet was domesticated before the occupation of Walaldé, the grains from this site further document the association of the crop with transhumant cattle and mark an earlier far-western presence than previously recorded. Additional finds include the seeds/fruits of typical West African foods such as: *Celtis*, *Grewia*, *Ziziphus*, in addition to various grass species. herders/cereal agriculturalists and mark an earlier far-western presence than previously recorded. Additional finds include the seeds/fruits of typical West African foods such as: *Celtis*, *Grewia*, *Ziziphus*, in addition to various grass species.

Holly Ferguson: A sustainable alternative for eradication of invasive plant species in Arkansas.

This study examines a sampling of the most problematic invasive plants in Arkansas as determined by structured interviews with expert botanists currently involved in vascular plant research within the state. Exotic species grow and reproduce rapidly and often deplete soil nutrients and moisture, which can lead to a loss of native species. A standard method for management is the use of herbicides, however they have been associated with environmental and health problems. Hand- harvesting the species that have medicinal and economic value is proposed, as most of these plants were used for healing traditionally in their native habitat before introduction to Arkansas.

9:00

**Session 1: VLSB Room 2040,
Title: Symposium: Archaeology and Ethnobiology: Recent trends and new perspectives**

Chairs: Steve Weber and C. Margaret Scarry

Sites and dietary practices:

9:00-9:20

Karen Adams and Robert Neily: Maize in storage: A pre-hispanic Hohokam farming family tragedy.

A Hohokam farming family living along the Santa Cruz River in southern Arizona In the 11th-12th centuries A.D. harvested over 1,000 liters of loose maize (corn) kernels from a good summer's crop. The family carefully packed the kernels into a large subterranean bell-shaped storage pit, then sealed the pit to guard this important food staple for the coming winter months. However, before any kernels were retrieved, the entire contents of the pit charred, probably due to spontaneous combustion. These stored kernels could have fed five people for a year, a potentially devastating loss for this hard-working farming family.

9:25-9:45

Ryuji Ishikawa: Probable artificial selection for edible plants at prehistoric Jomon site, Sannai Maruyama.

Prehistoric Jomon hunter-gatherers of Japan were supposed to domesticate some edible plant resource. One of Jomon archaeological sites, Sannai Maruyama is dated to the Early and Middle Jomon period (ca. 3900-2300 B.C.). Plant specimen such as seeds of wild grape, elderberries, and mulberries were examined in order to know the possibility of artificial selection given to such edible plants. Wild grape seeds showed significant change for seed size. The seed size variation suggested that wild grape was suffered artificial selection to produce larger seeds and fruits.

9:50-10:10 Andrea Weiser and Dana Lepofsky: Foraging on Ebey's Prairie, Whidbey Island, Washington over the past 10,000 years. *

We decipher the ecological and archaeological history of Ebey's Prairie, a small, resource-rich opening within the temperate rainforest of the Pacific Northwest Coast. We determine activities through time using artifacts, features, and archaeobotanical remains. Regional ecological data inform our discussion of human-influenced prairie persistence throughout the Holocene. Our results show a subtle yet rich reflection of hunter-gatherer land-use, including land management, over the past several millennia. Diversity of remains suggests that indigenous people were not focusing on specific species but were utilizing a diverse ecosystem and fostering the prairie condition through strategic burning.

10:15-10:35 Break

10:35-10:55 Amber VanDerwarker and Bill Stanyard: Hunting deer and mixing medicine: Zooarchaeological and archaeobotanical evidence of a special-purpose encampment at the sandy site, Roanoke, Virginia.

Analysis of plant and animal data from the Sandy site (44RN220) indicate a short-term seasonal encampment geared towards the collection of medicinal plants and the hunting of deer. The plant assemblage is dominated by medicinal plants, namely bearsfoot, with relatively fewer remains of the typical staple plant foods, maize and hickory. Lesser amounts of other plants with medicinal qualities were also identified, including bedstraw, holly, and wax myrtle. Moreover, the faunal remains consist almost entirely of white-tailed deer skeletal elements; analysis of body part distributions produced a reverse utility curve, an outcome that strongly suggests a short-term butchery/kill site.

11:00-11:20 Matthew Sayre and Silvana Rosenfeld: Pre-Columbian dietary practice at Conchopata, Peru. *

In this paper we merge different specialists' data sets in order to integrate the analysis of the material remains of past dietary practices. The systematic study of faunal and botanical remains combined with ceramic and architectural evidence enables us to differentiate distinct food and preparation practices in spatially segregated regions of the Wari site of Conchopata (AD550- 1000). These multiple lines of evidence provide robust means of revealing ancient diet as well as accessing the extent of feasting and other non-quotidian culinary events.

11:25-11:45 Virginia Popper and Barbara Voss: The role of foodways in culture contact: Archaeobotanical evidence from El Presidio de San Francisco.

Paleoethnobotanical analyses of plant remains recovered from the site of El Presidio de San Francisco have provided new perspectives on the role of foodways in culture contact, and about colonial use of the local environment. We examine the dietary choices made by the colonial settlers who had been recruited from Northern Mexico, and the differences in foodways and resource use between soldiering and farming populations at the settlement. Comparing archaeobotanical evidence from El Presidio de San Francisco with findings at mission sites allows a consideration of the differences and similarities between colonial and mission neophyte diets.

9:00

**Session 2: VLSB Room 2050,
Title: Symposium: Acquiring and sharing ethnobiological knowledge in British Columbia, Canada**

Chairs: Nancy Turner and Nancy Mackin

Introduction: This symposium brings together Pacific Northwest Indigenous peoples' biological knowledge from different places within the region as a way to understand how traditional knowledge is acquired and disseminated. From ancient, orally conveyed relationships among people, other species, and environments to restoration/ resource management strategies of the present and future, the symposium explores the dynamism, relevance, and importance of ethnobiological knowledge in sustaining cultures and ecosystems. Papers of this symposium will form part of a Textbook of Traditional Knowledge in Northern British Columbia with the intention of supporting community-based First Nations education.

9:15-9:35

Kii7iljuus (Barbara Wilson), Nika Collison and Nancy Turner: From abalone to sprouceroot baskets: Haida trade and exchange in a dynamic economy.

The Haida are a distinct indigenous people who have resided in their home territory on Haida Gwaii (Queen Charlotte Islands) for thousands of years. They have developed important relationships with the diverse habitats and species of their territorial lands and waters. At the same time, they have increased the extent of their resource base through a wide range of trade networks, extending across Hecate Strait to many mainland locations to as far away as California. In this paper, we explore the documented Haida trade routes and discuss how trade networks have supported Haida culture and economy.

9:40-10:00

Adrian Sanders: Socio-cultural resiliency and landscape learning: A case study in Haida Gwaii.

Social scientists interested in indigenous histories have tended to focus on short-term socio-cultural phenomena using unilinear models. In contrast, I will test the ability of an 'interdisciplinary dialogical framework' to draw meaningful correlations between a human-environment ecodynamics of the *longue duree*. This framework will incorporate ideas from four primary disciplines and other sub-disciplines that originate in anthropology, ecology, geography and history. Combining contemporary technologies in remote sensing and GIS with traditional knowledge of toponyms will be an integral feature of this dialogical process of interpreting the ancient archaeological past embedded in Haida Gwaii landscapes.

10:05-10:25 Carla Burton, Nancy Turner and Cecil Brown: Sharing innovation: Soapberry (*Shepherdia canadensis*) indigenous use and cultural value in northwestern North America.

Shepherdia canadensis (soapberry, or soopolallie) is a dioecious nitrogen-fixing deciduous shrub widespread across Canada and the northern and western United States. Indigenous peoples have developed many unique ways of preparing and serving soapberries, which are bitter-tasting due to saponins and foam into a frothy confection when whipped with water. The berries and plants are also used medicinally. Soapberries, considered inedible over most of their range, are widely traded in northwestern North America, and specialized harvesting methods, processing, and serving implements have likewise been exchanged. Soapberry names in indigenous languages give clues about patterns of exchange across geographic and cultural space.

10:30-10:45 **Break**

10:50-11:10 Severn Cullis-Suzuki: Kwakwaka'wakw knowledge of Ts'ats'syem (*Zosteraceae* or eelgrass)

The Kwakwaka'wakw of the Pacific Northwest once gathered ts'ats'ayem, *Zostera marina* L.; *Zosteraceae* (eelgrass) rhizomes for food. *Z. marina* is a foundation species of estuarine regions, providing substrate and habitat for a diversity of organisms crucial to the marine food web. Contemporary elders recall harvesting considerable quantities of the plants every spring, and have suggested that ts'ats'ayem rhizomes grow thicker and the meadows more productive when sites are routinely harvested. My study has been an interdisciplinary examination of ts'ats'ayem ethnoecology through interviews, harvesting expeditions and an in situ experiment to determine traditional methodology and inquire into the positive growth response to harvest, contributing to the body of 'keeping it living' practices.

11:15-11:35 Carla-Rae Mellott and Nancy Turner: An ethnoecology of Sunt'iny (*Claytonia lanceolata*) on Chunoz Ch'ed, Tsilhqot'in territory, British Columbia, Canada.

Sunt'iny (western springbeauty, *Claytonia lanceolata*) is a geophytic spring ephemeral that ranges throughout the central and southern regions of the province of British Columbia, Canada as well as through many of the Northwestern states of the U.S.A. In these regions, it is commonly found in abundance in alpine parkland environments. In this presentation, I will discuss the results of my Master of Science research on ethnoecological aspects of the Tsilhqot'in First Nation's sunt'iny harvest. This research was located on Chunoz Ch'ed, a mountain known in English as Potato Mountain, located in Tsilhqot'in territory in central British Columbia, Canada.

11:40-12:00 Stuart Crawford and Lynn Yip: Using simulated pitcooks to elucidate the inedibility and culinary importance of black tree lichen (*Bryoria fremontii*).

Many traditional foods, including lichens and some root vegetables, contain indigestible carbohydrates and are often pitcooked to increase digestibility. The effect of cooking duration and acidity was tested on both lichen and camas (*Camassia quamash*). Pitcooking was simulated using clay bakers cooked in an oven. Polysaccharide hydrolysis was quantified by measuring glucose and fructose with an enzymatic assay. Although camas carbohydrates readily broke down with cooking, lichen carbohydrates remained indigestible for all methods tested. But when the foods were cooked together (a common traditional practice), the lichen retained carbohydrates leaching from the camas and doubled the total digestible carbohydrate content.

9:00 **Session 3: VLSB Room 2060,**
Title: Ethnomedicine, healers and health beliefs
Chair: Thomas Carlson

9:00-9:20 Letitia M. McCune: Desert fruits of the southwest.

The use of fruits of the desert from the southwestern region of the United States will be presented in the context of nutrient and health benefits for the Indigenous Peoples of the region. Showcased will be the importance of saguaro (*Cereus giganteus*), prickly pear (*Opuntia* species), sumac (*Rhus* species), chiltepin (*Capsicum annuum* var.) and yucca (*Yucca arizonica*). Traditional harvesting and preparation techniques, nutrients and known compounds will be presented along with the desert's potential to produce plants with antioxidant and antidiabetic benefits.

9:25-9:45 Thomas J. S. Carlson: Clinical ethnobotany: Clinic culture.

While working as a physician in Oakland, California, I have experienced a spectrum of ethnobotanical systems utilized by my diverse patient population represented by over 100 different ethnolinguistic groups, many of which are newly arrive immigrants. I also worked with many of these ethnolinguistic groups while conducting ethnobotanical research in Asia, Africa, and Latin America. This provides a unique opportunity to compare the ethnobotanical systems utilized by people living in the country of origin to those used by immigrants from that country living in northern California. Examples of medicinal and food plants that have been brought into northern California by immigrants from different parts of the world will be discussed.

9:50-10:10

Justin M. Nolan, Jordan H. Brandon: Healing in the hills: Medical ethnobotany and the continuity of traditional health beliefs in the Ozark-Ouachita Mountains.

This study examines ethnomedical plant knowledge in thirty two communities across the Ozark-Ouachita Mountain regions of Arkansas, Missouri, and Oklahoma. Structured interviews with expert respondents revealed a core set of widely distributed but perceptually distinctive species used frequently in traditional Native American and Euro-American healing compounds. The most relevant species are shown to display a high proportion of bioactive alkaloids, which are themselves concentrated within a limited number of plant families represented in the study. While traditional and modern medical systems can and do coexist throughout the region, ethnomedical plant knowledge is influenced by ecological variables, such as regional forest composition and seasonal fruiting patterns, and by cultural variables, such as ethnicity, age and geographic remoteness.

10:15-10:35

Break

10:40-11:00

Gary Martin, Abdelaziz Abbad, Mouley Ahmed El Alaoui El Fels, Mohammed El Haouzi, Abderrahim Ourghidi, Abdelghafour Kadouiri, and Fatima Touiti: The roots of trade: Deciphering herbalist knowledge of medicinal plants in Marrakech.

As part of a long-term study of wildlife trade in the marketplaces of southern Morocco, we are currently focusing on the trade in medicinal roots, which are locally gathered, sometimes toxic, difficult to identify and in general vulnerable to over-harvesting. We have inventoried more than 80 plant species in southern Morocco that yield useful roots, of which about half are commercialized. Semi-structured and structured interviews with 35 herbalists in Marrakech revealed interesting patterns of knowledge of a selection of 34 of the most important roots. While some roots are available in all stands and are easily recognized by

herbalists and consumers, others are a source of confusion and substitution.

11:05-11:25 Denise Glover: reading within the lines: On the importance of written texts in ethnobiological knowledge, the case of Tibetan medicine.

Research in ethnobiology has long focused on oral traditions, for good reason. However, literacy is an integral part of many traditional systems, such as that of Tibetan medicine. In this presentation I will discuss how the Tibetan doctors with whom I worked in Rgyalthang (Yunnan Province), PRC interact with medical texts in terms of plant classification and pharmacology. I argue that these texts (old and new) in many ways function as “cognitive anchors” for doctors, whose conceptualizations of important medical terminology and materia medica are crystallized around articulations in Tibetan language. I therefore encourage more consideration of written texts in ethnobiological research.

11:30-11:50 Will Tuladhar-Douglas: Canons, trade networks and ecosystems: The perceived status of *Choerospondias axillaries* in central Nepal.

Choerospondias axillaries ([Roxb.] BL Burt and AW Hill) is a valued medicinal plant in central Nepal. It is used by several different communities, but only some of them consider it to be an ‘officially recognized’ medicine. By looking at the textual sources (Sanskrit, Newari and Tibetan) that demonstrate the boundaries of legitimate medicinal practice, and setting this received tradition into tension with (1) the actual floristic inventory of the area and (2) the extensive trade networks that move valued medicinal ingredients from areas of availability into areas of lack, I will show that there is a clear lag between the recognition of a specific plant, its commercial exploitation and its eventual canonization within the medicinal-textual tradition.

12:00-1:30 **LUNCH BREAK**

Thursday, March 29: Afternoon

Location: Valley Life Science Building (VLSB), Onderdonk Lobby

1:30- 4:30 **Poster Session 2: (VLSB) Onderdonk Lobby**

Julie Densmore: Application of an ordinal-scale predation model on ungulate remains from the Eagle’s Ridge site, 41CH252, Texas.

A model of carrying capacity and harvest pressure effects on ungulate prey is applied to faunal remains from the Eagle's Ridge site, which is a unique assemblage because it spans the adoption of pottery during prehistory in southeast Texas. People maintained a mobile foraging subsistence strategy during the transition. The adoption of pottery changes subsistence contingencies, which should be visible in faunal data. In particular, harvest pressure on ungulate prey, as a high-value food resource, should fluctuate in a predictable manner using our model. Harvest pressure should decrease as cooking and storage technologies improve.

Ben Fullerton: White-tailed deer (*Odocoileus virginianus*) marrow and grease exploitation among mobile, pottery-using foragers in southeast Texas.

The development of pottery technology is typically associated with sedentary, food producing cultures. However, in southeast Texas, prehistoric foragers adopted pottery in the absence of these traits. Since pottery often functions as a part of the larger subsistence strategy, understanding how subsistence changed is important for explaining why this new technology was adopted. Under optimal foraging theory, a predictable consequence of the cooking and storage advantages of pottery include intensive use of within-bone nutrients of vertebrate resources. White-tailed deer remains from the Eagle's Ridge site (41CH252) are used to evaluate these relationships using a taphonomic bone-fragmentation model.

Charles Randklev, Steve Wolverton and James Kennedy:
Prehistoric biogeography: Conservation implications of two unionids in the western Upper Trinity River drainage.

Archaeological remains of two unionid species (*Megaloniaias nervosa* Rafinesque, 1820 and *Quadrula pustulosa mortoni* Conrad, 1836) were excavated on the West Fork of the Trinity River in northern Texas. The discovery is important because little is known about the late Holocene hydrology of this drainage, and the effects of modern human impacts on the Trinity River are unclear. These freshwater mussel remains suggest a stable perennial flowing stream existed roughly 600 to 1000 years ago, which clarifies pre-modern hydrological conditions in the drainage system. In addition, the archaeological remains extend the documented modern biogeographic ranges of both species.

1:30

Session 4: VLSB Room 2040:

Title: Symposium: Archaeology and Ethnobiology: recent trends and new perspectives, continued

Chairs: Steve Weber and C. Margaret Scarry

Subsistence strategies and environmental patterns:

1:30-1:50

C. Margaret Scarry: Crop husbandry practices in North America's eastern woodlands.

Considerable attention has been devoted to documenting the existence of indigenous crops in North America's Eastern Woodlands and to understanding the timing and reasons of their replacement by maize, beans and squash. However, husbandry practices have received only passing attention despite their relevance for these topics. I argue that the terms horticulture and agriculture, often associated with indigenous crops and maize respectively, have misleading connotations. Most indigenous crops would be more efficient to plant and harvest if grown in "pure" stands. In contrast, the widespread intercropping of the "three sisters" attests to their productivity when grown in mixed stands.

1:55-2:15

Steve Weber, Steve Farmer and Dorian Fuller: Seed, plant and farming signs in the Indus symbol system.

An unexpectedly large percentage of the signs in the Indus or Harappan symbol system represent what appear to be seeds, sprouts, plants, farm animals, agricultural tools, fields, and farming paraphernalia. While many of these signs are highly stylized, pictographic variants of others exist that allow us to make reasonable guesses concerning their precise referents. The most interesting of these variants have anthropomorphic forms, suggesting that links not only existed between these symbols and agriculture but with religious-ritual ideas as well. In this talk we show a representative number of these symbols in their inscriptional contexts and discuss the potential light they throw on Indus agricultural rituals, temporal and regional variations in farm output, and agricultural means of exchange. Emphasis is placed on regional variations in the farming signs found on apparent ritual artifacts and on the possibilities of correlating symbols with what is known of Indus agriculture from archaeological studies. We end with discussion of the use that future studies of the temporal and geographic distribution of these symbols might provide in helping distinguish agricultural production and rituals in different Indus microecologies, which varied widely in temperature, rainfall patterns, planting seasons, and agricultural output.

2:20-2:40

Naomi Miller: Archaeology and biodiversity preservation at Gordion, Turkey.

Areas rich in both archaeological sites and native plant communities are commonly threatened by economic development. This is the case at Gordion, a Phrygian site with associated burial mounds about 90 km southwest of Ankara. A long-term project that attempts to improve vegetation while at the same time preserve the archaeological resources of the region has had successes and failures, all of which will be discussed.

2:45-3:15

Break

3:20-3:40

Deborah Pearsall and Duncan Neil: Environmental coring in southwestern Guayas Province, Ecuador: Dating of sequences and preliminary results.

Sedimentary cores were extracted from former mangrove swamps in SW coastal Guayas province. Mangrove swamps are low-energy environments in which sediments carried from surrounding drainages build up. Microfossils extracted from swamp cores may capture regional patterning in vegetation—the composite picture of human and natural processes on the landscape—in settings which lack natural lakes. We provide an overview of the core sequences recovered from three localities, focusing on dating and sedimentation patterns. An interesting finding is a period of very rapid sedimentation across all sequences at 14C BP 6100. We discuss possible interpretations of this event and present preliminary microfossil results.

3:45-4:05

Heather Trigg, Kevin McBride and Melissa Smith: Botanical indications of the impact of the reservation system on the Mashantucket Pequot subsistence practices.

Forced relocation and territorial reduction were strategies that European colonial powers commonly employed to subdue indigenous populations. Prior to colonization in the 17th century, the Pequot of Connecticut occupied 160,000 acres from which they maintained a mixed subsistence strategy of agriculture and hunted/gathered coastal and upland resources. The reservation, imposed during the late 17th century, reduced this to 30000 inland/upland acres. The macrobotanical remains from two sites, a 17th century fortified village and an 18th century farmstead, are compared to examine the temporal continuities and differences in subsistence practices as the Pequot struggled with the impacts of colonization and a reduced and bounded territory.

Domestication and Management

4:10-4:30

CANCELED: Bruce Smith: Niche construction and the behavioral context of plant and animal domestication.

Ongoing efforts to gain a better understanding of the initial domestication of plants and animals are being carried out both at the species level and at regional scales of analysis. Relatively little attention has been focused, however, on the nature of the connection between such regional models and the domestication of individual species. This review considers how such larger-scale regional developmental trajectories were linked to the actual initiation of relationships of domestication by humans. The general concept of *niche construction* is

employed to frame consideration of this intersecting, proximate behavioral context within which human societies established and sustained relationships of domestication with target species.

4:35-5:15

Dorian Fuller: Why ploughs matter but sickles don't: a comparative re-assessment of domestication processes in selected Old World crops.

This paper examines aspects of the domestication syndrome that can be studied from archaeological remains, including seed size and in cereal crops the loss of natural seed dispersal. The rate at which these features evolved and the ordering is examined in einkorn wheat, barley, rice from China, mung and urd beans from India, and African pearl millet. This highlights disjunction in cereals between seed size increase and dispersal and contrasts between cereals and pulses. This implies that conditions that were sufficient to select for larger seed-size in Poaceae were not sufficient in Fabaceae. It is proposed that animal-drawn ploughs (or ards) provided the selection pressure for larger seeds in legumes. In addition, model of cereal domestication by sickle harvesting may be wrong.

5:20-5:40

CANCELED: Melinda Zeder: Early animal management in the Fertile Crescent.

Standard techniques for documenting animal domestication have relied on tracking morphological changes thought to be the result of human management. However, morphological changes clearly tied to human/animal interaction are either: 1. not unique to a domesticatory relationship or 2. occur too late in the domestication process to be helpful in tracing the leading edge of this process. Moreover, body-size reduction (the indicator used most widely) can no longer be accepted as a valid marker of initial domestication. Instead, demographic profiling of harvest populations, in particular sex-specific harvest profiles, are capable to capturing both the transition from hunting to herding, as well as evolving hunting strategies leading up to this transition. Work in the Eastern Fertile Crescent is highlighted, and the implications for a general understanding of animal domestication in the Near East and elsewhere are discussed.

1:30

Session 5: VLSB Room 2050:

Title: Symposium Acquiring and sharing ethnobiological knowledge in British Columbia, Canada, continued

Chair, Nancy Turner and Nancy Mackin

1:30-1:50

Robert Mackin-Lang: Ethnobiological and biotechnological views of sockeye salmon energetics.

Northwest Coast Indigenous fishers' collective knowledge of how specific migration routes influence well-being and abundance of

salmon is compared here with biotechnological measurements of energy levels and reproductive capability of Sockeye salmon (*Oncorhynchus nerka*) traveling upriver migration routes of varying length and elevation. Interviews with Chief Harry Nyce, Director of Nisga'a Fisheries in the Nass Valley, Northern British Columbia, showed that First Nations phenological knowledge is based on a much longer observation period than biotechnological research, and that place-based traditional knowledge can work with biotechnology to benefit health and longevity of salmon populations.

1:55-2:15 Nancy Mackin and Deanna Nyce: Exchanging social, landscape and architectural knowledge in the Nisga'a Oolichan fishery.

Oolichan (*Thaleichthys pacificus*), also known as "savior fish", were a necessity of life for Northwest Coastal and adjacent interior indigenous peoples, as they were the first fish to return to the rivers after winter. The Nisga'a First Nation, whose homelands are central to the traditional oolichan culture complex, facilitated knowledge exchange across temporal and geographic space as neighbouring peoples traveled the "grease trails" to the Nass River where they could trade goods, ideas, and alliances for valued oolichan oil and other products. We look at how stories, traditions, and building technologies associated with the Nisga'a oolichan fishery encode cultural and ecological knowledge and how on-going exchanges of that knowledge encourage stability, adaptability, and innovation.

2:20-2:40 Jen Pukonen: The Tl'aaya-as Ecocultural Restoration Project, Clayoquot Sound, Vancouver Island.

The Nuu-chah-nulth of coastal British Columbia used to maintain gardens of plants with edible roots on their estuarine tidal flats. Although the roots were valued as an important food source, knowledge and use of these root vegetables has declined. The Tl'aaya-as Project was suggested by Ahousaht hawilth (hereditary chief) Umeeek, to restore and revitalize these food traditions as a way of promoting and maintaining important knowledge about traditional plant foods. The project has involved students and community members in the research and re-creation of a Nuu-chah-nulth root garden of kuuxwapiihmapt (*Fritillaria camschatcensis*), ?a?iic'uqmapt (*Trifolium wormskjoldii*) and tlicy'upmapt (*Potentilla anserina* ssp. *pacifica*).

2:45-3:15 **Break**

3:20-3:40 Allison Nyce and Nancy Mackin: Ethnobiological restoration and cultural repatriation in Haida Gwaii and the Nass Valley.

For thousands of years, British Columbia's First Nations have communicated within and across cultures to build diversity, strength, and adaptability. We compare two distinct processes – cultural repatriation and ethnobiological restoration – as parallel ways along which First Nations are working to regain healthy, productive, and stable communities and ecosystems. Restoration and repatriation concepts are distilled from cultural and ecological rejuvenation projects in Haida Gwaii and the Nass Valley. These Northern British Columbian experiences suggest that when repatriation and restoration are carried out within indigenous cultural systems, the results rekindle traditional language usage, sustainable economic opportunities, and well-being of people and ecosystems.

3:45-4:05 Marianne Ignace and Ron Ignace: Past and present dimensions of a sentient Secwepemc landscape.

In this paper, we explore various dimensions of Secwepemc/Shuswap sense of place, as connected to the knowledge and use of flora and fauna on the land. Teknonyms (place names) provide information about historical and ongoing resource use activities on the land. The system of naming landforms grafts the forms of the human body and other fauna onto a sentient landscape, and a complex set of verbs and deictics in Secwepemctsin (Shuswap language) connects human activity on the land to the resources, allowing Secwepemc resource gatherers to communicate and predict plants and animals on the land. In the final section of the paper we will discuss the impacts of current environmental change on our ways to find our way around in the landscape.

4:10-4:30 Tom Hobby and Michael Keefer: The Kootenay Huckleberry case study.

Huckleberries (*Vaccinium membranaceum*) are amongst the most important of wild berries in BC. They are increasingly becoming a commodity in short supply, especially when the needs of wildlife and subsistence harvesters are taken into account. Despite the increasing human demand, it is believed that the supply of berries is decreasing due to fire suppression and silvicultural practices. This Non-Timber Forest Product Case Study, funded by the Sustainable Forest Management Network examines social, ecological and economic context of this delectable berry in British Columbia's Kootenay region.

4:35-5:15 Leslie Main Johnson and Kenneth Downs: Using anomalies of plant distribution as evidence of past plant use and management in northwestern British Columbia, Canada.

In northwest British Columbia, long indigenous occupancy and management of the landscape has had pervasive ecological effects. In

such an environment discriminating “natural” and “anthropogenic” distributions may be problematic. Elucidating the influence of First Nations on the distributions of key plants may be approached through analysis of the anomalous distributions of plant species which are known to be ethnobotanically important in relation to known travel corridors and other sites of historic and pre-contact occupation. Our research focuses upon anomalies in the distribution of two key economic: Pacific Crabapple; and rice root lily in the Skeena River region.

1:30

Session 6: VLSB Room 2060:

Title: Ethnomedicine, Healers and health beliefs, continued

Chair: Thomas Carlson

1:30-1:50

CANCELED: Jolene Yukes: K'iche' medical ethnobotany and globalization in a Guatemalan town. REPLECED WITH Anore Jones, Eskimo Cuisine.

Discussing two books on plants and animals used by native Alaskan's.

1:55-2:15

Armando Medinaceli: Wild animals used as medicines by the Mosekene-Tsimane': Indigenous people in the Bolivian Amazon.

It's known that traditional medicine of indigenous groups in the Amazonia, includes the use of wild animals as an important resource of medicines. This project focuses on wild animals used in the traditional medicine of four communities of the Mosekene-Tsimane' indigenous group in the Bolivian Amazonia. As results, 41 ethnospecies used for this people were identified belonging to 6 taxonomic categories (Mammals, Reptiles, Birds, Fish, Insects and Amphibians), from these, the indigenous people obtain 64 zootherapeutical resources to cure up to 47 different diseases. At the end a comparison of the traditional knowledge by ages and gender is shown.

2:20-2:40

Marlia Coelho-Ferreira: Towards the valuation of medicinal plant use and knowledge: An example from an Amazonian coastal community (Pará state, Brazil).

Different perspectives of plant therapy have drawn increased interest in Brazil. Some perspectives examine the conservation of different ecosystems while others seek out new pharmaceutical potential, as in the recent rise in industrial phytotherapy. Still, others are concerned in disseminating information towards the valuation of medicinal plants in basic health care. This latter perspective is examined in this paper, drawing on fieldwork among women head of households and plant specialists from the Amazonian coastal community of Marudá, Pará State, Brazil. In this respect, botanical and ecological information are cited as well as ethnopharmacological aspects of medicinal plant use.

2:45-3:15

Break

3:20-3:40

Rainer Bussmann and Douglas Sharon: Traditional medicine in southern Ecuador and northern Peru: Changes in practice and plant use from pre-Columbian times to today.

This paper examines changes in traditional medicinal practice use of medicinal plants in Northern Peru and Southern Ecuador, the core of the old Central Andean “Health Axis”. The roots of traditional healing practices in this region go at least as far back as the Moche period (CE 100-800). Starting in colonial times, Ecuador and Peru developed striking differences in the use of Traditional Medicine. Although about 50% of the plants in use at the colonial period have disappeared from the popular pharmacopoeia, the plant knowledge of the population is much more extensive than in other parts of the Andes.

3:45-4:05

Rainer Bussmann and Douglas Sharon: Antibacterial activity of northern Peruvian medicinal plants: A low cost laboratory approach to assess biological activity.

Extracts of 43 medicinal plants from the Trujillo and Chiclayo areas in Northern Peru were screened for antibacterial activity against *Staphylococcus aureus*, *Escherichia coli*, and *Proteus vulgaris*, using the agar-diffusion method. Eighteen species showed activity against at least one of the bacteria.

4:10-4:30

Jennifer Sowerwine: From Laos to California: Changes and continuities in Iu-Mien ethnoecological practices.

As a result of the American war in Indochina ending in 1975, more than 950,000 Southeast Asian refugees, including over 10,000 Iu Mien from the highlands of Laos, were resettled in the United States. The purpose of this study is to contribute to our understanding of California’s biocultural diversity by evaluating the ethnoecological practices of California’s Iu-Mien. Utilizing ethnographic and ethnobotanical methods, I conducted nine household interviews, surveyed 4 home gardens, and interviewed 16 California forest and other public land officials to assess how the Iu Mien have applied their ethnoecological knowledge to their new environment.

4:35- 5:00

Discussion

Friday, March 30: Morning

Location: Valley Life Science Building (VLSB) Onderdonk Lobby

8:00-8:30 Registration opens and coffee in Onderdonk Lobby

8:30-11:30 Poster Session 3: (VLSB) Onderdonk Lobby

Marsha Quinlan and Robert Quinlan: Medicinal plant knowledge and modernization in Dominica, W. I.

Every rural Dominican knows several “bush” medicines, though individuals’ knowledge varies. We present the effects of education, employment, consumerism, parenthood, age, and gender on the number medicinal plants individuals can recall. Age positively associates with number of species listed, which may reflect relative disinterest among the young, but may simply indicate continual lifetime learning. Contrary to predictions, modernization via commercial occupation and consumerism is positively associated with herbal knowledge. Gender, age, occupation and education are significant predictors in multivariate analysis. Significant interactions among the variables suggest that modernization has complex effects on Dominican ethnomedicine.

David Ferrell: Edible Plant Species Diversity in Homegardens of Ngöbe-Guaymí Families, Western Panama.

Three Ngöbe- Guaymí home gardens in Bocas Del Toro Panama were mapped and inventoried for edible plant species diversity. Thirty-seven species across thirty genera and twenty-two families were identified during walk through interviews. Digital photography and videography supplemented collaborator testimony. Ngöbe-Guaymí families are being displaced throughout the archipelago as foreign real estate investment begins to dominate the landscape. The tourism boom that is fueling this development is changing the economy of the region. This study aimed to establish a baseline for measuring cultural erosion and loss of traditional botanical knowledge in the coming years through home garden size and diversity.

G. K. Sharma: Therapeutic significance of major food plants in the eastern Himalayas.

Ethnomedicinal studies on the commonly used food plants were conducted in one of the remotest parts of the eastern Himalayas. The Himalayan mountain complex is a rich source of medicinal folklore with its diverse flora and indigenous systems of medicine. Furthermore, it has richly contributed to modern medicine and continues to provide additional insight in improving human health locally and around the world. This preliminary study may stimulate further documentation of traditional folklore where we may find new and more effective drugs for the treatment of human afflictions.

8:30

Session 7: VLSB Room 2040:

Title: Symposium: Archaeology and Ethnobiology: Recent trends and new perspectives, continued

Chairs: Steve Weber and C. Margaret Scarry

Methods and Approaches in understanding the past

8:30-8:50

Mickey Miller: Late Holocene subsistence efficient in north-central Texas and the role of technology.

Most Researchers agree that there was an uninterrupted transition in the subsistence economy between the Late Archaic (3500-1250 bp.) and the Late Prehistoric periods in north-central Texas. The nomadic hunter/gatherers of both periods practiced a broad-spectrum subsistence economy focused on white-tailed deer, rabbit and turtle. However, foraging indices comprised of these taxa indicate an increase in high-rank resources in the Late Prehistoric in terms of both costs and benefits. This could be due to the technological advent of the bow and arrow in the Late Prehistoric period.

8:55-9:15

Alexander Chevalier: Assessing the meaning of wild plants in Precolumbian agricultural contexts

The systematic use of flotation devices, as well as the application of microanalyses, allows us now to recover a broader spectrum of plants from archaeological sites, and specifically wild taxa. Thanks to ethnographic works, we know that wild plants do play an important role in pre-industrial economies. If our vision of past plant use is changing, the lack of interpretive tools, together with the variability of human behavior, challenge our ability to understand the socio-economical meaning of wild plant presence in pre-Columbian societies. I will illustrate these issues with examples taken from Peruvian Formative archaeological sites dated between 1800 and 100 BCE.

9:20-9:40

José M. Capriles Flores, Katherine Moore and Alejandra Domic: The changing role of fish exploitation and consumption during the Formative Period (1500 BC – AD 400) in the Taraco Peninsula, Lake Titicaca, Bolivia.

Archeologists working in Lake Titicaca have emphasized agricultural intensification as the primary factor in the emergence of the Tiwanaku state (A.D. 400-1100). Here, we argue that productive potential of fish was significant in the economic development of the region. We present an initial assessment of data regarding fish exploitation, consumption, and discard during the Formative Period (1500 B.C. – A.D. 400) of the Taraco Peninsula, Bolivia. The density, frequency, and proportion of fish remains from over 250 flotation samples are analyzed. A

developmental model of fish utilization in the region is proposed and related with processes of environmental and sociopolitical change.

9:45-10:05

Sandra Peacock, Brian Kooyman and Judy van Roggen:
Beyond the rim: Adventures in the toss zone.

While the root foods and plant materials Plateau peoples put *into* ancient earth ovens are important, equally intriguing is what they threw *out* when the pit-cooking was over. Evidence from White Rock Springs, a 2000 year-old root-processing site in British Columbia, suggests ovens were re-used over time, the features growing larger through multiple cooking and cleaning events. These multiple events are most fully represented in the toss zone beyond the oven's rim. In this paper, we examine macrobotanical, microbotanical and other archaeological evidence from inside and outside earth ovens to develop a more complete picture of past use.

10:10-10:30

Break

10:35-10:55

John Marston: An ethnoarchaeological model for the acquisition of wood resources at Gordion, Turkey. *

Archaeological excavations at the ancient city of Gordion, Turkey, have yielded thousands of pieces of charcoal from over 3000 years of occupation. A behavioral ecology model for wood use at Gordion, based on regional ethnographic and experimental data, predicts that different plant species will be preferred for different technological functions. Detailed archaeological analysis of the depositional contexts of each sample is still ongoing, but suggests that wood species were consciously selected for specific uses, although environmental constraints limited the availability of preferred species during several occupation periods.

11:00- 11:20

Sonia Zarrillo: Starch grains in charred pottery residues: results from Loma Alta, Ecuador. *

The nature of starch to gelatinize when exposed to heat has discouraged paleoethnobotanists from attempting analysis of charred food residues from pottery. Pottery is found in almost all regions of the world, has a long history of use, and when present at sites is often ubiquitous due to its durability. Thus, applying starch analysis to charred pottery residues represents a significant new technique. This paper will present results of analyses of cooking-pot residues from Loma Alta, Ecuador that show that maize was consumed as food there by at least 3350-3000 Cal BC, representing the earliest directly-dated maize in South America.

11:25-11:45 Timothy E. Riley: Starch in coprolites: A preliminary study from the lower Pecos.

This study presents the preliminary analysis of starch grains recovered from more than coprolites dating to the Early Archaic component of Hinds Cave (41VV456), located near the Pecos River in Southwest Texas. While pollen, phytolith, macrofossil, steroid, and DNA studies of coprolites are increasingly common, starch has largely been neglected. Currently, starch analyses are becoming an important component of modern archaeobotanical studies; this paper addresses the potential of starch for expanding our understanding of past human diet, specifically through coprolite research. I also plan to focus on the benefits, problems, and limitations of starch studies in human coprolites.

11:50-12:10 Karen Adams and Natalia Martínez: Looking for Early Maize: Paleo-ethnobotanical Studies in Southern Chihuahua, México

The paleoethnobotanical program of a new archaeological project to research early maize (*Zea mays*) cultivation sites in southern Chihuahua supports the main objectives of the project, which are to understand the different environments for early agriculture, and to assess how maize could have been integrated into local economies. Archaeobotanical samples examined to date shed light on both subsistence and other uses of plant materials. Reference collections of modern plants in the local region were developed, and important information was contributed through interviews with local maize farmers.

8:30 **Session 8: VLSB Room 2050:**
Title: Traditional Ecological Knowledge (TEK)
Chair: Shawna Cain

8:30-8:50 Elda Miriam Aldasoro Maya: The Ñuu Savi (Mixtec) ethnozoological knowledge in a transnational community.

The Ñuu savi (Mixtec) people of Santiago Nuyoo, Oaxaca (Mexico), have been migrating to the US for more than fifteen years and have formed a transnational community. This research proposes a first approach to the study of the impact of transnational life on the maintenance, value and transmission of their Traditional Environmental Knowledge (TEK). It also examines the extent to which TEK has become a dynamic component of their redefined ethnic identity. This project involves a multi-sited ethnography to document TEK both in the community of origin and its satellite communities in northern Mexico and in the U.S.

- 8:55-9:15 Carlos R. Ramirez-Sosa: The loss of traditional ethnobiological knowledge in Central America: El Salvador and Panama.
- Traditional Botanical Knowledge is lost as fast as biodiversity disappears from most tropical ecosystems. In some cases like El Salvador, this trend started with the introduction of monocultures like coffee and sugarcane. In other, like Panama, the new waves of immigration and the so-called development are having detrimental effects on the livelihood of native communities. This paper analyzes such trends and compares what occurred in El Salvador and what is occurring in Panama to illustrate how we need to be concerned not only with the loss of biological diversity but also the rapid loss of ethnobiological knowledge.
- 9:20-9:40 Jeanine M. Pfeiffer and Ary S. Suhandi: Community-based ecotourism as a mechanism to conserve biocultural diversity.
- The most bioculturally rich communities are often the most socio-economically and institutionally impoverished, with limited means to protect their biological diversity or cultural heritage. Active maintenance of ethnobiological knowledge and practices (i.e., agrobiodiversity, wild-harvested foods, herbal medicines, crafts, rituals, and traditional narratives and arts based on native biota) is often undercut by the lack of economic or political incentives to do so. Cultural tourism, or ecotourism, can help retain or revitalize biocultural diversity by honoring, popularizing, and financially supporting ethnobiological traditions. A matrixed analysis of case studies from Southeast Asia, Africa, and the Americas outlines how elements of biological and cultural diversity are directly or indirectly conserved through ecotourism programs managed by local communities. The review concludes with suggestions for how collaborative researcher-community ecotourism ventures can be established and financed.
- 9:45-10:05 Jianhua Wang: Landscapes and natural resource management by Akha people in Xishuangbanna, Yunnan, China. *
- A landscape is a cultural representation of the environment. It reflects its holders' ecological knowledge, worldview, and needs. Different groups of people may perceive different landscapes in the same environment, which may lead to conflicts between groups in access to and control over natural resources. Therefore, landscape provides a new approach to studies of natural resource management. This paper is an attempt to employ the concept of landscape to the study of dynamic changes of natural resource management by Akha people as they contact with various states in Xishuangbanna, Yunnan, China over time.
- 10:10- 10:30 Scott Herron and Patrick Robinson: Wild rice coalition building in the Great Lakes, North America.

A multistakeholder grassroots ethnobotanical coalition has been built in Michigan, Wisconsin, and Minnesota to restore wild rice populations, ecosystems, and sustainable use of manoomin (*Zizania palustris*). A discussion of strategies including community meetings, a regional conference, restoration projects, management plans, and undergraduate research along with a Native American Studies course credit offering for student conference participation will be analyzed. Projections for future coalition activities will be highlighted and the use of this wild rice coalition case study will be proposed for teaching upper level ethnobotany and ecology at undergraduate institutions in the Great Lakes.

10:35-10:55 Break

11:00-11:15 Zoe Dalton: Towards shared leadership: Aboriginal/Canadian relations in the management of southern Ontario's endangered Black Oak savannahs.

This presentation will focus on the possibilities for, and challenges to, collaboration on ecological restoration efforts in southern Ontario's endangered Black Oak savannah landscape. Themes covered will include the political and communications context within which shared leadership of such efforts may emerge, as well as the ways in which indigenous research principles may be applied to building a relationship in which First Nations people and understandings of the landscape may come to play a central role in its recovery.

11:20-11:35 David Cozzo: Lessons from the Canebrake: Eastern Cherokee TEK informs scientific research.

Rivercane (*Arundinaria gigantea*) was one of the most important materials of culture for southeastern Native Americans, providing aspects of housing, sitting and sleeping mats, baskets, blow guns, and household utensils. Concern for acculturation among the Eastern Cherokee stimulated cultural revitalization programs, placing new demands on much needed natural resources. The Revitalization of Traditional Cherokee Artisan Resources initiative brings together Cherokee artisans and researchers to inform restoration efforts from the perspective of Cherokee traditional ecological knowledge.

11:40-11:55 Shawna Cain: Carriers of culture: Cherokee ethnobiologists in the 21st century.

Focusing on rural isolated Cherokees residing in northeastern Oklahoma, this study examines the cognitive expertise and active relationships of contemporary Cherokee tribal members with local indigenous woodland environments. Inventories and explorations of current knowledge and worldviews held by modern hunting and

gathering specialists revealed a number of unique relationships between Native language, rurality, gender, age and access to historic gathering locales. Quantitative and qualitative data provides evidence that supports the significance of Cherokee elders as dynamic scholars of human-ecological relationships, and valuable purveyors of traditional culture and praxis.

8:30 **Session 9: VLSB Room 2060: Title: Historical Ecology**
 Chair: Eugene Hunn

8:30-8:50 Louis Forline: Putting history back into Historical Ecology: Some perspectives on the recent human ecology of the Amazon Basin.

Historical ecology rethinks processes involved in the formation and transformation of ecosystems. Complex interactions between humans and natural habitats are often responsible for the formation, maintenance and creation of landscapes; however, historical depth has been largely ignored or not examined thoroughly. Archaeological and botanical data help settle some of these issues but ethnoecology and ethnohistory are also necessary in fine-tuning time scales. Anthropogenic areas represent both past and present practices, also implying interactions between cultures. Closer detail must also be given to implications of management. Drawing on indigenous and peasant examples from Amazonia, this paper reassesses some of these findings.

8:55-9:15 Eugene Hunn: The precocious acquisition of ethnobiological knowledge by Zapotec children.

It is well established that subsistence-based “indigenous” communities support substantial ethnobiological inventories of 500+/- named categories each of plants and animals and that these categories index complex ethnoecological understandings of local environments. It is less widely recognized that children master in substantial measure this traditional environmental knowledge between the ages of six and ten with little or no formal instruction. I summarize here results of a plant trail and other systematic studies of such “precocious acquisition” by Zapotec-speaking children in San Juan Gbëë, Oaxca, Mexico, and discuss the theoretical import of these results.

9:20-9:40 Steve Wolverton, James H. Kennedy and John D. Cornelius: Paleozoology, a disclosive perspective, and white tailed deer management in central Texas.

Paleozoological datasets are used to add time-depth to ecology and wildlife biology. Predator eradication in central Texas and historic-period disappearance of Native American hunters has resulted in pest-level white-tailed deer (*Odocoileus virginianus*) populations. Differences in deer body size between prehistory and today are

expected because overcrowding of deer has led to high intraspecific competition and stunted growth. Modern deer from hunted populations are significantly larger than those from unhunted populations, and hunted deer are similar in size to prehistoric ones. This research highlights evolutionary effects of top-predator removal on deer populations and surrounding biological communities in central Texas.

9:45-10:05 Araceli Aguilar-Meléndez: Analyzing the process of domestication in Mesoamerica based on ethnobotanical data: Chiles (wild and domesticated *Capsicum annuum* L.) as a case study.

Cultural data to reconstruct the origin of chiles has been neglected in previous botanical studies. This work documents the linguistic, historical, and modern ethnological data of wild and domesticated *C. annuum* L. to get insights about the origin of the crop. Extending the work of Pickersgill and associates, this study suggests that the origin of domesticated *C. annuum* L. is somewhere in Mesoamerica, and most likely took place as multiple events as opposed to a single event of domestication. Also, the unexpected findings of this study raise questions about how we discuss "wild" versus "domesticated" plants, especially in terms of domestication "events" as opposed to ongoing evolutionary processes.

10:10- 10:30 Priscilla Wehi: Māori management of Harakeke (*Phormium tenax*) and ecological change in New Zealand/Aotearoa: Understanding past processes. *

The history of harakeke (*Phormium tenax*) has been entwined with human history in New Zealand. Prior to European colonisation, this monocotyledon was essential for the survival of the indigenous Māori people. Today, harakeke is ubiquitous. But has it always had such a widespread distribution? Was it actively managed by Māori, and if so, how? Research methods included analysis of historical documents, ancestral sayings, and herbaria and pollen records. Ancestral sayings clearly identify indigenous practices and knowledge of harakeke ecology. Records demonstrating extensive cultivation and management suggest that landscape modification, including manipulation of successional processes, is probably greater than previously recognised.

10:35-10:55 Lucile Housley: The hidden gold of the Ceasars: herbarium botanical collections and old style floras.

Botanical herbariums often contain not only pressed plants attached to annotated sheets, but they also have accompanying field notebooks describing the locations of the plants and some contain Indian plant names and uses.. Several examples will be explored and tales woven

to illustrate the value of this information: two collectors illustrated are Martin W. Gorman and Henry Spalding. Another resource where hidden plant uses can be excavated is in the “old” floras, Kearney and Peebles’, *Arizona Flora* and the original Jepson’s *A Flora of California*. Sometimes these treasures are “right under our noses” if we only know where to look.

11:00 – 11:20 Usha Lohani: Ethnozoology of Tamang- An Ethnic Group of the Mountainous Region of Nepal

Nepal, although a tiny Himalayan country occupying only .09% of the total land surface of the world, is endowed with topographical, climatic, cultural and biological diversities. Topographical and climatic diversities have given rise to specific niches, which harbor unique assemblages of flora and fauna, some of which are endemic to the country. There are a number of groups of indigenous people who have been interacting with these biological resources accumulating a rich body of knowledge about their use, management and conservation. Tamang is one of the groups of the indigenous people of the country. Although there is growing trend of erosion of indigenous knowledge system globally, Tamangs still harbor fairly good knowledge about animal use. Animals have been their main source of protein and healing compounds. Some of the animals are still used as omen indicators and weather predictors. They have been using many of the animal resources in their magico-religious sphere. Thus the Tamang-animal relationship has remained intact both at a material as well as a spiritual level from the very early period.

11:25-12:00 **Discussion: The impact of a Historical Ecological approach**

12:00-1:30 LUNCH BREAK

Society of Ethnobiology Board meeting, VLSB.

Friday, March 30: Afternoon

Location: Valley Life Science Building (VLSB) Onderdonk Lobby

1:30-4:30 **Poster Session 3: (VLSB) Onderdonk Lobby**

Diana Martínez-Yrizar and Cristina Adriano Morán: *Opuntia* and *Salvia*: Diversity and uses in ancient Teotihuacan.

Opuntia and *Salvia* are common in the botanical samples of several excavations undertaken in Teotihuacan. It is generally assumed that a single species of each genus was used for food. The detailed study of

the macro-remains has shown that these ideas are partially true. In this paper we present some of the identified species of each genus and suggest the uses that they could have had at Teotihuacan. These are the results of the integration of data obtained from the botanicals materials, the archaeological contexts and an analysis of 16th century documents.

Emily McClung de Tapia and Joram Ríos-Fuentes:
Chenopodium spp.: On the road to domestication in the pre-hispanic Basin of Mexico.

A revision of archaeological specimens of *C. berlandieri* spanning Middle Formative through Late Postclassic occupations (ca. 800 BC-AD 1500), together with morphometric analysis of modern fruits of the central Mexican subspecies, suggests that archaeological remains from this region while probably cultivated are not generally domesticated. We explore the implications of this evidence for prehispanic plant use and the domestication of *huauhtzontli*, a cultivated chenopod distributed throughout the highlands of Central Mexico.

Cathryn M. Meegan, Karen R. Adams, Scott G. Ortman, and Emerson Howell: The color of maize.

Farmers in northern Mexico and the pueblos of the southwestern United States report using maize kernel color in planting and other decisions. In a project conducted by Iowa State University agronomists, different varieties of native American maize grown in an identical environment under optimal conditions promoted maximum trait expression in the plants. Here we explore the relationship between kernel color, morphological features, and growth and development of several maize landraces to assess how closely color and plant growth and reproductive traits are related. We focus on Puebloan varieties of maize, as these appear to have the greatest conservation of color.

1:30

Session 10: VLSB Room 2040:
Title: Symposium: Birds in culture and context – Ethnoornithology in application and theory
Chair: Robert Gosford

1:30-1:40

Introductory comments to the symposium: Eugene Hunn

1:40-1:55

Mercy Muiruri and Patrick Maundu: Conservation concerns in the use of birds in cultural ceremonies among the Maasai of east Africa.

The Maasai are a pastoral community in southern Kenya and northern Tanzania. They still uphold their traditional lifestyle characterized by

ceremonies. The circumcision ceremony, *emurata*, is preceded by killing of birds for headgear. Each initiate has to kill approximately sixty birds of mixed species and keep on replacing spoilt bird skins. Research was carried out to find the significance of birds in Maasai ceremonies and conservation status. Birds such as Schalow's Turacos, Grey Helmet Shrike have been affected perhaps due to hunting, but hard data on actual causes is lacking. The Maasai do not usually kill birds for other reasons.

1:55-2:15

Alejandro Hernández-Jaramillo: So live the birds of Belén de Docampadó, Bajo Baudó, Chocó- poster

Belén de Docampadó belongs to the municipality of the Bajo Baudó, the Afrocolombian communities are the owners of these territories, habitants identified 92 species of the 124 species registered in the area, 75 represent particular ethnographic aspects, of them 65% was associated to nutritional uses, 28% to recreation activities, 9% to activities of "witchcraft" and 8% were associated to origin myths. The percentage of species with probability of risk of local extinction corresponds to 15%; that combined to the impact to the timber extraction demonstrates the necessity to implement alternative economic viable for the conservation birds and local traditional knowledge.

2:20-2:40

Shepard Krech III: Augural, powerful, and dangerous birds among Indians in the American south.

This paper addresses the salience of various birds in the traditional native cultures of the Cherokee, Chickasaw, Choctaw, Catawba, and other indigenous people in the American south. The analysis draws on a book in process, *Spirits of the Air*, and focuses especially on whether or not it is possible to arrive at satisfactory conclusions about the cultural meaning of birds or human-bird relationships among people for whom, both native people and anthropologists admit, much cultural information has been lost and might remain forever partial and opaque due to the ravages of time, language loss, and relocation. Among birds, the focus is on those that rise to the level not simply of being noted (by native people) but that figure in important and interesting, although sometimes inscrutable and indefinite, ways in the lives of native people.

2:45- 3:05

Robert Gosford: The stormbird cult in the Central Northern Territory: A migratory cuckoo, aboriginal languages and cultural practice.

The Stormbird (Kurrakurraja, Channel-billed Cuckoo, *Scythrops novaehollandiae*) is the largest member of the *Cuculidae* and is a significant species in the cultural and ceremonial practices of several Aboriginal language groups in the north and central areas of the

Northern Territory of Australia. In this paper I will examine aspects of the cultural relations between Aboriginal peoples and Kurrakurraja. I will examine naming similarities throughout Kurrakurraja's migratory range and the particular cultural significance of Kurrakurraja for one language group in the central Northern Territory and its role in continental-scale ceremonies across Australia's Top End.

3:10-3:30

CANCELED Berioska Quispe Estrada: Ashaninkas, Machiguengas and Huachipaeris: Environmental relationships of Amazonian communities of southeastern Peru.

This study illustrates the importance of the traditional knowledge of three Amazonian communities of the Southeastern Peru, its recovery and conservation, analyzing the connection between the Amazonian tradition and the diversity of birds. Taking of data included the coexistence with the communities and the implementation of surveys. As a main result it was found that in spite of the cultural and geographical differences among these groups, it exists in general the same conception of the ecosystem and mainly of the birds. It discusses in this study that they have been conserved through the time starting from this knowledge traditional many species of birds. This supports the theory that the conservation of the biodiversity of birds is benefited by the active presence of indigenous communities in areas of high ecological relevance.

3:35-3:55

Eugene Hunn: A Zapotec ethnoornithological sketch from San Juan Gbee, Oaxaca, Mexico.

I recorded an inventory of 69 folk generic bird taxa and a total of 103 terminal taxa for birds in San Juan Gbee, a Zapotec municipio in the Sierra Sur of Oaxaca. I also recorded 190 species of birds in and near that community during several years of intermittent field work 1996-2003. I will briefly compare this ethnoornithological vocabulary and its associated beliefs and practices with comparable systems elsewhere. As seem often the case, small, migratory birds are relatively poorly differentiated as are larger species that are of seasonal or sporadic occurrence. Onomatopoeia is common in naming birds, and certain imitative names are quite creative. Nocturnal birds are widely feared as ill omens, as are certain wrens that nest in abandoned structures. Turkeys and chickens are common domesticates. Curiously, the chicken, a post-colonial introduction, is highly differentiated by breed, while the turkey, an indigenous domesticate, is not. A few wild gallinaceous birds are hunted. The sphinx moth is considered by some to be a "night hummingbird," though others consider that name metaphorical.

4:00-4:20

Cecil Brown: Raven=Heron in Mayan Language prehistory: An ethno-ornithological/linguistic puzzle.

Two very different kinds of bird, ravens and herons, are nomenclaturally linked in the prehistory of Mayan languages of Mesoamerica. Reflexes of Proto-Mayan **jooj* found in daughter languages spoken in highland areas denote ravens, and reflexes in daughter languages of lowland areas designate herons. In the Mayan-language region, the Common Raven is found in the highlands but not in the lowlands, and a species of heron that among all regional herons shows the most (superficial) resemblance to the Common Raven, i.e., the Boat-billed Heron, is found in the lowlands but not in the highlands. When ancient speakers of Mayan languages moved from the lowlands to the highlands or conversely (direction is not definitively known), reflexes of **jooj* respectively shifted in reference from the Boat-billed Heron to the Common Raven or vice versa. This nomenclatural switch was based solely on the superficial similarity of these two extremely different kinds of bird that have nothing in common phylogenetically other than their birdness.

4:25-4:45

Nicole Sault: Nicole Sault: Bird Messengers for All Seasons: Landscapes of Knowledge Among the BriBri of Costa Rica

The rather plain, clay-colored robin is spoken of with affection by Costa Ricans, not simply for its lovely song, but because it "calls the rains" at the end of the dry season. Many birds are important for the messages they send out: predicting the weather or warning about venomous snakes. However, birds do not simply inhabit the landscape—they are beings with knowledge that can benefit people in everyday life, as well as in critical times of change or disaster. People recognize that this requires paying attention, knowing how to interpret the messages, and protecting bird populations.

4:50-5:10

Gregory Forth: Symbolic birds and ironic bats.

Ethnobiologists have long recognized a distinction between 'general purpose' ethnotaxonomies and more specialized ways of classifying plants and animals. Among the latter is 'symbolic classification' (a term here employed somewhat differently from uses in social-cultural anthropology). In this paper I apply the distinction of ethnotaxonomy and symbolic classification in order to consider the conceptual position of bats, considered as a type of 'bird', in the folk ornithology of an eastern Indonesian society. In a way contrary to the predictions of Douglas and other anthropologists, chiropterans are shown to be peripheral to both forms of classification, in a way that contrasts especially with values attached to both nocturnal and diurnal birds of prey.

1:30

Session 11: VLSB Room 2050: TEK traditional knowledge, continued

Chair: Janine Gasco

- 1:30-1:50 Janine Gasco: Cacao cultivation and biodiversity in Soconusco, Chiapas, Mexico.
- Shade-grown cacao cultivation is increasingly viewed as an agroforestry system that can promote biodiversity and provide economic benefits to small-scale producers. In this paper, I review historical and current trends regarding cacao cultivation in the Soconusco region of Chiapas, Mexico. From the prehispanic period until the late 19th century, Soconusco was famous for its high quality cacao. I examine here how and why cacao cultivation in Soconusco is now in decline, I discuss how this is affecting the region's environment and economy, and I explore possible ways to reverse these trends.
- 1:55-2:15 Kimberlee Chambers: Gender and agrobiodiversity conservation: Maize in the Bajío of Mexico. *
- Recent research on women and biodiversity has emphasized the importance of women's knowledge in plant domestication and biodiversity conservation. This paper presents a case study of the differences in women and men's knowledge of landraces of maize in the Bajío of Mexico. Research on crop diversity and conservation needs to include both male and female knowledge. Gendered knowledge results from men and women in a household being responsible for different tasks and sometimes farming separate plots. In addition, economic pressures are increasingly forcing males to be away from the home for extended periods of time, resulting in women becoming the primary agricultural decision-makers.
- 2:20-2:40 Ramona J. Butz: Changing pastoral land management: Charcoal extraction in tropical open woodlands of northern Tanzania.
- In Tanzania's open woodlands, a growing dependency on extractive activities such as firewood collection and charcoal production are placing increasing pressure on local resources. This study investigates land use conflicts that have led to major shifts in resource management and extraction of fuelwood for charcoal production in one Maasai village. Changes in resource use were investigated using randomly stratified, semi-structured interviews, shadowing of charcoal producers, and voucher specimen collection. Population growth, drought, social and economic marginalization, and a lack of other marketable resources are leading to rapidly increasing rates of extraction. Even small imbalances between demand and availability of fuelwood foreshadow potential localized scarcities and degradation of savanna vegetation.
- 2:45-3:05 Break**
- 3:10-3:30 George Estabrook: Sheep in Portuguese traditional agriculture.

For the past several hundred years, rural high granite measa of Beira Alta, Portugal have grown rye cereal to fee urban residents, resulting in a new loss of nitrogen from the rural agro-ecosystem. Nitrogen is returned to the soil by adding copious quantities of organic matter derived mostly from the broom, giesta (*Cytisus*, a nitrogen fixer). However, giesta branches do not rot readily in the soil because the C/N ratio is too high. So farmers keep sheep for excrement to mix with giesta to lower the C/N ratio.

3:35-3:55

Cynthia Fowler: Herpetological and ethnobiological knowledge in Vietnam's Cat Tien biosphere reserve.

The conservation of herpetofauna in Vietnam's Cat Tien Biosphere Reserve requires the coordination of the discordant priorities. People continue to exploit natural resources inside the boundaries of Cat Tien despite the attempts of environmental organizations, governments, armed and un-armed staff. It was long-ago concluded without substantiation from ethnographic research that regional minority groups negatively impact biodiversity and they are thus prohibited from interacting with wildlife. This research report explores ways that Western herpetological and ethnobiological knowledge can be integrated in order to repair the collapse of biodiversity that has occurred in Cat Tien due to social conflict and resource mismanagement.

4:00-4:20

Kirsten Isakson: Tradition? Who needs it? An investigation into the ecological value of traditional ontologies *

Ethnobiology is largely concerned with the documentation and preservation of "Traditional Ecological Knowledge". This knowledge is illustrated in agricultural, medicinal and subsistence practices of indigenous cultures, in which individuals interact directly with their living environment to satisfy their basic needs. As an examination of cultural phenomena that maintain and propagate traditional knowledge, this is an attempt to understand the ecological importance of traditional knowledge. This study observes the presence and perceived importance of traditional ideologies within three Costa Rican indigenous groups and compares that to the sustainability of their agroecosystems.

4:25-5:00

Discussion: TEK, knowledge and sustainability

1:30

Session 12: VLSB Room 2060

Title: Biological worldviews and their influence on culture

Chair: Eugene Anderson

1:30-1:50

E. N. Anderson: The two wings of the bird.

Apparently, there still exists in some quarters a rivalry between “scientific” and “humanistic” anthropologists and anthropologies. This being the case, it is appropriate to restate the classic Boasian, and more broadly Neo-Kantian, framework from which ethnobiology emerged. This theoretical perspective sees scientific and humanistic scholarship as equally necessary and basic to understanding people; the quest for knowledge is one. The cultures we study do not make this particular separation. I have compared scientific and humanistic analyses to the two wings of a bird; the bird cannot fly without both working together, but neither one is the bird itself. Examples from Maya and Northwest Coast cultures provide not only evidence for this, but new and different ways of looking at the enterprise of understanding.

1:55-2:15

Ann Garibaldi, Cecilia Fitzpatrick, Ainslie Campbell, Darrell Matrindale, and Lisa Schaldemose: Through The Lens Of The Applied: Cultural Keystone Species And Social-Ecological Considerations For Land Reclamation

Located amid the oilsands of Alberta, Aboriginal people of Fort McKay stress the “the land” is more than physical environment – it is a dynamic spiritual interplay between plants, animals and humans. For a community who equates human health with environmental health and whose traditional territory is experiencing tremendous amounts of resource development, successful land reclamation is crucial. To help achieve the goal of meaningful reclamation, Fort McKay selected the model of “cultural keystone species” as an approach that would engage community-based habitat and reclamation discussions. This presentation critiques the process of applying that model to facilitate the community’s goals.

2:20- 2:40

Roger Cain: The concealing and the revealing: An interpretive ethnobiological study of the Cherokee Booger mask.

The Cherokee “Booger” dance has been documented and debated for over two centuries. Yet the focal point of the ceremony, the Booger mask, has been largely overlooked by anthropologists. The Booger mask is described as spiritual, expressive, and functional through its construction from native floral and faunal materials. Both the Booger dance and the Booger mask are viewed by outsiders as expressions of ribaldry and distortion. In this study, personal narratives, participant observation, and ethnohistoric materials revealed new pathways toward the source of debate among tribal members regarding the symbolism and social history of the Booger mask and its constituent parts, all of which are rendered meaningful in the context of the dance. Interpretive ethnobiology is shown to illuminate much about the political impact and future direction of Cherokee art forms, in addition to strategies for revitalizing them in Native American communities.

2:45-3:15

Break

3:20-3:40

Carl Keller III: From sacred game to ‘tag it and bag it.’”

3:45-4:05

Kathleen Deaton: Under our feet: Ethnobiology in suburban America.

This paper attempts to bring more attention to an often-overlooked cultural landscape—the suburban yard. Because this landscape is familiar to many Americans, it has not merited much intellectual study. This familiarity, though, is the reason more attention should be taken to understand lawns and homegardens. They speak to the discourses shaping American life—wealth, control, and status—and also reveal the feelings held towards nature of people who live in a very modern world. In this study I found that yards themselves are divided and each division says something unique of the care that has been taken to keep it free of weeds. Lawns can also be divided along lines of gender. The history of the lawn helps explain the motivation for owning a yard, as do the gardener's choices regarding cultivated plants. Whatever the personal choices, suburban yards speak of the culture that has tended them.

4:10-5:00

Melissa K. Nelson: Oral tradition, identity and inter-generational healing through the southern Paiute Salt Songs: “The Salt Song Trail: Bringing Creation Back Together,” Film and discussion.

“The Salt Song Trail: Bringing Creation Back Together,” that I co-produced with the Cultural Conservancy and the Salt Song Trail Project and wrote about in my recently published essay, “Oral Tradition, Identity, and Inter-generational Healing Through the Southern Paiute Salt Songs,” in Andrew Jolivet’s anthology, *Cultural Representation in Native America* (AltaMira Press 2006). The Salt Songs are the sacred songs of the Southern Paiute people. The songs are used in memorial ceremonies, for cultural revitalization and as a spiritual bond for the Southern Paiute Nation of the Southwest. The film explores the historical and spiritual journey and purpose of the Salt Songs and documents a healing ceremony at the Sherman Indian School.