24th Annual Conference of the Society of Ethnobiology
The Center of Southwest Studies
Fort Lewis College
Durango, Colorado, March 7-10, 2001

Abstracts

Adams, Karen R. (Crow Canyon Archaeological Center)

The White Dove of the Desert, Mission San Javier Del Bac: Why Nopal Juice *(Opuntia ficus-indica)* is Now Used To Protect Mission Walls

Restoration efforts at the 200 year old Hispanic Mission of San Javier del Bac in Arizona now include addition of prickly pear *(Opuntia ficus-indica)* cactus pad juice to lime plaster applied to exterior walls previously covered with non-lasting cement and other modern products. A conservator suggested that adding prickly pear juice would allow the exterior protective coat to both "last longer" and "better". The question of "is this so?" was tackled by an archaeobotanist, an organic chemist, and a restoration architect. The answer focuses on mucilage molecules, and how they form a latticework to both give structure to the lime plaster and allow water molecules to pass through.

Anderson, E.N. (University of California, Riverside)

The Morality of Ethnobiology

Recently, advocacy organizations for indigenous peoples have called into question the morality of ethnobiological research. This paper addresses the issues in detail, and provides a defense of research as well as proposals for further safeguards.

Anderson, M. Kat (Independent)

The Fire, Pruning, and Coppice Management of Temperate Ecosystems for Basketry Material by California Indian Tribes

Straight growth forms of wild shrubs and trees unaffected by insects, diseases, or accumulated dead material have been valued cross-culturally for millennia for use in basketry, yet these growth forms do not occur readily in nature without disturbance. California data from ethnographic interviews, museum studies, and historical literature reviews are presented that demonstrate how fire and pruning were ancient horticultural techniques that were utilized by Native Americans in various temperate ecosystems to shape ecosystem structure, reduce the occurrence of insects and diseases, and activate specific developmental stages in shrubs and trees for twined and coiled basketry. Basketry materials from shrubs, trees, ferns, grasses, sedges, and wildflowers formed 50 percent of the plant material culture of California Indian tribes. Working hypotheses to explain the ecological rationale for indigenous management at both the organismic and ecosystemic level are proposed. Both the magnitude and extent of burning needed to satisfy large basketry material demands are discussed, and the types of potential ecological effects from these cultural practices are explored.

Angel, Aeda (Independent); Robert Bye (Universidad Nacional Autonoma de Mexico)
Steps Towards Understanding a Huichol Taxonomy of Kieri
Kieri ('ki'=house, an ancient Mesoamerican concept), one of the darkest parts of the Huichol universe (wixaritari), is a lethal as well as vital force in metamorphosis. Its vegetal manifestation is the flowering vine *Solandra* (Solanaceae). Its younger brother, kierixa, has been identified as the solanaceous *Datura discolor, D. lanulosa,* and *D. stramonium.* Other plants associated with Kieri are *Brugmansia* (Solanaceae) and members of the botanical families Apocynaceae and Convolvulaceae. These plants will be discussed in the context of Huichol cosmology as recorded in previous studies and in contemporary fieldwork in Jalisco and Nayarit.

Balée, William (Tulane University)
Analytic Uses of Creolization in Ka'apor Ethnobotany
Numerous Ka'apor words for plants and animals seem to have been borrowed from Língua Geral Amazônica (LGA), a Tupí-Guaraní Creole. Some of these borrowings show evidence of marking reversals. Close examination of these borrowings can shed light on the directionality of the introduction of species, and on the origin of folk names for species, including economically important ones. In addition, where LGA influence on words for plants and animals is diverse, modern Tupian languages can be eliminated; it is possible to provide evidence from folk biology relevant to hypotheses concerning the Tupí-Guaraní homeland.

Bannister, Kelly (University of Victoria); Mary Chipesia (Independent); Alex Chipesia (Independent); Louie Notseta (Independent); Fred Jumbie (Independent)
No Beaver, No Beaver Root: The Importance of Animals in Dene Tsaa Tse K'nai Ethnobotany
People of the Dene Tsaa Tse K'nai First Nation (Prophet River Band) live in the boreal forest region of northeastern British Columbia (Canada), an area subject to major development by the forest, oil, and gas industries. A community-based Ethnobotanical study with the Dene Tsaa Tse K'nai in summer 2000 showed that animals can play a key role in human-plant interrelationships. This observation suggests that conservation of animal habitat may be as important as conservation of plant habitat for protecting traditional plant knowledge in the Dene Tsaa Tse K'nai culture. This point is illustrated through the example of a plant locally known as "Beaver Root". Although the plant is commonly used as medicine, local Elders did not know its identity. The plant identity is considered irrelevant since the medicine is not harvested from a plant but is found washed up on lakeshores, due to the activities of local beaver. Declining beaver populations, however, have placed this Dene Tsaa Tse K'nai traditional plant use in jeopardy. This paper outlines some community-led efforts in biological and cultural conservation through ethnobotany with Elders of the Dene Tsaa Tse K'nai First Nation.

Beckwith, B. R. (University of Victoria)
Emergence of Ecocultural Restoration in Victoria, British Columbia
The Garry oak ecosystems of the Greater Victoria Region are some of the most endangered natural landscapes in Canada. These ecosystems, once intensively managed by local

First Nations, are now highly reduced and degraded because of urban development and Indigenous resource management suppression. Although most restoration efforts in this area continue to focus on invasive species removal, there is a growing awareness for more progressive and holistic restoration projects that incorporate traditional environmental and horticultural knowledge. New applied ethnoecology research on blue camas (*Camassia* spp.) will be introduced as a case study and the efficacy of this research in ecocultural restoration will be explored.

Blosser, Bret (Tulane University)
The Transmission of Entheogen-based Healing Practices from Indians to Afro-Mexicans and Hispanic Mexicans in Central Mexico, 1658 to 1737
Cultural transmission occurred in both directions across numerous cultural boundaries in colonial Mexico. I report here on the transmission of native Mexican healing practices involving the ingestion of entheogens ("hallucinogens") to Afro-Mexican and Spanish-Mexican patients. My analysis is based on three cases documented by the Mexican Inquisition between 1658 and 1737.

Bruno, Maria C. (Washington University, St. Louis)
Not Just Quinoa: Archaeobotanical Identification of Chenopods From Highland Bolivia
The most widely recognized Andean chenopod is the domesticate *quinoa (Chenopodium quinoa). Kañawa (C. pallidicuale)* is another domesticate that is grown in the highest and driest regions of the Andes. While ethnohistoric and botanical work suggests *kañawa* was cultivated in Pre-Columbian times, it has never been documented archaeologically. I present the results of a morphometric analysis of modern chenopods from the southern Lake Titicaca region of Bolivia. This analysis reveals a suite of characteristics that permit the archaeobotanical identification of quinoa , its sympatric weed *C. quinoa* var. *melanospermum,* the wild vermifuge *C. ambroisiodes,* and the forgotten domesticate *kañawa.*

Bye, Robert (Universidad Nacional Autonoma de Mexico);
Edelmira Linares (Independent)
Bioprospection Antecedents in Mexico:
18th Century English Collections from New Spain
The search for useful plants and the amplification of their employment (bioprospection) has been a part of Mexico's history since prehispanic times. During the 1700s, the Apothecaries' Physic Garden at Chelsea (near London, England) was a major European botanical center for medicinal and ornamental plants. As its head gardener (1722-70), Philip Miller successfully propagated Mexican plants sent by Dr. William Houstoun from Campeche and Veracruz between 1729 and 1733. The analysis of Miller's The Gardener's Dictionary (8th ed.) and of specimens and manuscripts at The Museum of Natural History (British Museum) reveal their roles in promoting the knowledge and dispersion of such ethnobotanically important plants as *Datura, Dorstenia, Guazuma, Ipomoea,* and *Mirabilis.* Houstoun's contributions are considered to be the most important in Mexican botanical history during the periods between Francisco Hernández (1570-77) and the Spanish Royal Scientific Expeditions (1787-1803).

Bye, Robert (Universidad Nacional Autonoma de Mexico); Martín Hilerio (Universidad Nacional Autonoma de Mexico); Joel Rodríguez (Universidad Nacional Autonoma de Mexico); Myrna Mendoza (Independent); Gustavo Morales (Universidad Nacional Autonoma de Mexico); Hugo Bolaños (Independent); Mabel Hernández (Independent)
Propagation and Conservation of Medicinal Plants in the Sierra Tarahumara, Chihuahua, Mexico
The propagation of ethnobotanically important plants is an integral part of collaborative conservation programs with indigenous communities. In collaboration with Tarahumara (Rarámuri) and mestizo communities in the Sierra Tarahumara, seeds of such culturally important plants as *Ligusticum porteri* (chuchupate), *Helianthella quinquenervis* (arareco), *Psacalium decompositum* (matarique), *Iostephane madrensis (*cachana), *Cosmos pringlei* (babisa), and *Monarda austromontana* (napaka) were germinated (listed in order from least to greatest percentage). The transplanting of *H. quinquenervis* was most successful and these herbs developed better in composted soils. Riparian habitat restoration includes ex situ propagation of stem cuttings of 6 shrubs.

Chandler-Ezell, Karol (University of Missouri, Columbia)
Animal, Vegetable, and …: Ethnomineralogy, the "Other" Category Which Completes Ethnoecology
Ethnomineralogy, the study of the interrelationships between people and the minerals, or inorganic resources, in their environment, is currently scattered through several disciplines. The goals of this study are to 1) define ethnomineralogy as a unified field of study parallel to ethnobiology within the larger category of ethnoecology and 2) argue that our understanding of people's relationship to their environment is lacking when we ignore the mineral, or "other", category of the environment. This study proposes that the methods, theory, and structure of ethnobiology are ideally suited to the genesis of a new and unified field of study named ethnomineralogy.

Eloheimo, Marja (Independent); George Amiotte (Independent);
Elise Krohn (Independent)
Puget Salish Access to Culturally-Significant Plants
A pilot field study is being collaboratively designed by the Skokomish Tribe, and The Evergreen State College in western Washington State, in which medicinal plants are locally accessed, prepared as botanical medicines, and administered through the Skokomish Health Clinic. This study grows out of previous Tribal/College projects and is one component of a broader study supported by the Northwest Indian Applied Research Institute. This research will examine the hypothesis that post-contact disruption of Indigenous access to plant resources has had negative sociocultural (including economic and health) and ecological consequences, and that improved access will have benefits in both areas. The sociocultural and ecological effects of this improved access to medicinal plant resources on the Skokomish Reservation will be monitored and evaluated.

Enos, Tomas (Independent)
Endangered and At-Risk Medicinals of the Southwest
This presentation takes a look at the primary wild medicinal plants which are threatened

by human development in the Southwest U.S. I will discuss the historical and cultural importance of their utilization as well as the strategies for their preservation. By focusing on efforts to protect them from extinction including cultivation and seedbanking, future generations can continue to use them in our bioregional pharmacopoeia.

Estabrook, George F. (University of Michigan, Ann Arbor)
Giesta (*Cytisus,* Fabaceae): essential wild resource for traditional agriculture in Trancoso, Portugal
Giesta, a broom one to two meters tall, dominates the vegetation on the sandy, granite-derived soils typical of the hillsides of the county of Trancoso, Portugal. One species establishes readily and grows rapidly in fallow rye fields, where it restores nitrogen and organic matter. These benefits are ensured by a belief that three years old brooms provide the most desirable fuel for firing ovens to bake bread.

Fowler, Catherine S. (University of Nevada, Reno)
Southern Paiute Toponomy: Linguistic Clues to Environmental Perception
Between 1932 and 1934, Isabel Kelly was in the field in southern Utah, Nevada, and California, and northern Arizona collecting data on Southern Paiute ethnogeography and general ethnology. During that time she gathered nearly 1,000 place names, including names for various types of water resources, topographic features, spiritual/historic sites, and much more. Etymologies of names are derived from plants, animals, human body parts, geological and other physical features, but rarely from personal names. What Southern Paiute people choose to name as well as the etymologies of the names, provide important clues to their environmental perceptions.

Garibaldi, Ann (University of Victoria)
Cultural Enhancement Through Ecological Restoration
Wetlands fill a unique ecological niche as reservoirs of biodiversity. Humans have long since utilized these sites as areas for food gathering, transportation, and hunting. The choice to practice these traditional activities is eliminated if wetland sites are destroyed. When young people no longer watch elders gather wetland plants, they begin to lose connection to these sites. By reclaiming these areas we not only restore ecological function, we restore cultural practices.

Garibaldi, Ann (University of Victoria), Sandra Peacock (University of Victoria)
Beyond Myth, Beyond Sky: Teaching & Taboo in the Star Husband Tale
Myths, or oral tradition, are vehicles for the cultural teachings of peoples around the globe. Information about landscape, cultural values, spirituality, and healing is imparted through the skill of storytellers. The Star Husband Tale is a story that has been told and retold across North America; in fact, 87 versions of this tale have been recorded from over 47 Native American groups. In this paper we discuss one particular aspect of this tale, the root digging taboo. We begin by providing of an overview of this taboo across North America and then examine the relevance of it to the indigenous groups amongst whom this myth is told.

Gleason, Susan M. (University of California, Riverside)
Digging Ipos-Experiments Related to the Behavioral Chain Analysis of *Perideridia* spp.
Perideridia spp., commonly known as Ipos or yampah, has provided major subsistence crops for groups throughout Western North America. In this paper, behavioral chains will be outlined through the application of ethnobotanical information from those groups using *Perideridia* spp. Additional consideration will also be given to the management strategies, which might have used upon these crops. Over the last three years, experiments have been conducted by the author, which provide more insight into these behavioral chains. The results of these experiments will be examined, along with the behavioral chains themselves, for the potential insight they may give the paleoethnobotanical determination of the past use and management of *Perideridia* spp.

Glover, Denise (University of Washington)
Tibetan Medicinal Plant Nomenclature: A Preliminary Study
A preliminary analysis is conducted of naming patterns in Tibetan medicinal plant nomenclature. Findings show overdifferientiation in sample of *Corydalis, Saussurea, Artemisia, Meconopsis, Iris,* and *Potentilla.* Significant patterns at the subgeneric (folk) level include color differentiation (most often corollaceous), gendered differences ("male" and "female"), as well as differentiation based on animal association. Berlin;s genera-purpose principles of nomenclature (1992) are discussed in reference to their application in such special-purpose domains as medicinal plants.

Huisinga, Monti (Northern Arizona University); Laurie Huisinga (Northern Arizona University); and Kristin Huisinga (Northern Arizona University)
Potential Effects of Restoration Treatments on Culturally-significant Plants in Northern Arizona
The Ecological Restoration Institute conducts landscape-scale research on the restoration of forest ecosystems in the arid Southwest. We focus on preservation of wildlands and fostering sustainable wildland interaction. The Institute works directly with the Kaibab Paiute tribe in northwestern Arizona in managing sagebrush grasslands for wildlife and cultural use. However, the effects of restoration on edible, medicinal, and utilitarian plants utilized by other groups are not currently studied. The impacts of restoration ecology on these botanical resources are assessed with regards to functional use groups and cultural landscapes.

Huisinga, Kristin (Northern Arizona University)
Untitled
The Ecological Restoration Institute conducts landscape-scale research on the restoration of forest ecosystems in the arid southwest. We focus on preservation of wildlands and reconnecting humans to sustainable wildland interactions. The Institute works directly with the Kaibab Paiute tribe in northwestern Arizona in managing sagebrush grasslands for wildlife. However, the effects of restoration on edible, medicinal, and utilitarian plants utilized by other groups are not studied. The assessment of the impacts of restoration ecology on plants of current ethnobotanical value begins here with an evaluation of botanical resources at our field sites that are currently utilized by indigenous and non-indig-

enous groups.

Hunn, Eugene (University of Washington); Darryl Johnson (Independent); Thomas Thornton (Independent); and Priscilla Russell (Independent)
Walking on Egg Shells: Tlingit Traditional Ecological Knowledge And the Management of a "Wilderness" Park
The Huana Tlingit of Southeast Alaska perceive Glacier Bay to be their traditional homeland and "icebox," while the US National Park Service is charged with preserving Glacier Bay as a pristine wilderness. The historic contest for control of Glacier Bay recently became focused on the right of the Huana Tlingit to harvest gull eggs at the famed South Marble Island colony in the heart of Glacier Bay, a site enjoyed as a wildlife sanctuary by thousands of tourists every year. Can Huana tradition and the Park Service mandate be reconciled? We report the results of an ethnographic study of traditional Huana Tlingit gull egg harvest strategies, based on sophisticated knowledge of gull breeding biology and designed to produce a sustainable harvest.

Johnson, Leslie (University of Alberta); Andre Alestine (University of Victoria)
Lookouts, Fish Lakes, and Moose Licks–A Consideration of North Dene Ethnoecology
Northern Dene ethnoecology is perhaps best rendered as "Knowledge of the land." The land is a sentient system that includes lands, waters, the sky, the winds, and all things that dwell there. The Land also contains places of power which may serve to exemplify knowledge of the right way to live, through the stories they embody. As an engaged ecology, Northern Dene ethnoecology is knowledge of how to live on the land. In the Northern Athapaskan world, places are more loci of potential intersection of time, space, and probability, than unchanging entities whose characteristics can be simply and unambiguously recorded.

Johnston, Sue (University of Washington)
The Modification of Hispano Ethnomedical Knowledge in San Luis Colorado As a Response to Environmental Loss and Degradation
Knowledge concerning health, well-being and illness is generated and shaped in the context of multivariable environments. Concepts like the existence of health and disease may remain relatively constant but others such as causal factors that result in illness, appropriate and efficacious treatment for a particular disease or specific cultural implications in relation to an infirmity will continually be renegotiated in response to dynamic circumstances. Local or situated knowledge systems such as those related to traditional medicine are created over time through the process of a specific cultural group's coevolving relationship with its biophysical environment. This talk will examine how the loss of access to and the environmental degradation of a culturally significant geophysical location may affect a community's understanding of well-being and health and how this process may influence the ability to counteract illness.

Kohn, Eduardo (University of Wisconsin, Madison)
The Leaf that Grows Out of Itself: Ecological Perspectivism, Ethnobiological Knowledge, and Biological Impossibilities Among the Runa of Amazonian Ecuador
I examine Berlin's claims that ethnobotanical systems reveal a "basic plan" of nature in

light of the Pan-Amazonian interest in "Perspectivism" (i.e. how different kinds of beings view the world) and Runa understandings of plants that are considered morphologically anomalous. I argue that there exists no vantage that affords people transcendent knowledge of the real. This is because there is no plan of nature that remains unaffected by how it is seen; it is precisely through the different ways that organisms perceive *each other* that the characteristics of an ecosystem are shaped over evolutionary time.

Ladd, Elissa (St. Lawrence University); Stacey M. Chippinelli (St. Lawrence University); Carlos Ramirez-Sosa (St. Lawrence University); Michael H. Temkin (St. Lawrence University)

Untitled

Aristolochia salvadorensis (Aristolochiaceae), an endemic species to southwestern El Salvador, is being studied to determine its population genetics. Plant sample were collected in El Impossible National Park of El Salvador at different altitudes within its range. This plant was selected because of its medicinal values to the local community for treatment of cholera. *Aristolochia salvadorensis* has not been previously studied. We will be looking at mitochondrial DNA that has been isolated from the plant leaves and in addition, pollination syndrome. Future research on this plant includes population genetics and seed dispersal biology.

Lantz, T.C. (University of Victoria)

Traditional Phenological Knowledge (TPK) of British Columbia First Peoples

Many organisms in temperate regions exhibit relatively predictable annual life cycles (phonologies) in response to accumulated heat. Since phenological events generally occur in predictable sequence, the occurrence of one event can indicate imminence of another, and be used to time activities in forestry, fisheries and agriculture. First Peoples have long recognized these phenological indicators and Traditional Phenological Knowledge (TPK) makes up an important domain of TEK. TPK is used to indicate the timing of resource availability and abundance, changes in weather and the seasons, and to mark points in the seasonal round. A survey of ethnographic literature for British Columbia, Canada, and surrounding area revealed over 200 of such indicators in more than 20 linguistic groups. Approximately half of these represent a prominent life cycle event, typically of an important resource. Additional references to phenological knowledge were less direct and often were imbedded in language and traditional conceptions of time.

Litzinger, William (Anasazi State Park Museum); Lisa-Floyd Hanna (Independent); David Hanna (Independent)

The Post Fire Population Dynamics of Mountain Tobacco, *Nicotiana attenuata* Torrey (Solanaceae), at Mesa Verde National Park

Mountain Tobacco, *Nicotiana attenuata,* an important cultural plant, has a long history of encouragement with the use of fire by humans. We conducted a three-year study of the population dynamics of *N. attenuata* after the 1996 fire at Mesa Verde National Park that included an analysis of population density, seed production, and tests to determine the effects of light on seed germination. Our results agree with prior results in that we saw a relatively low density of robust plants the first year, followed the second year by a

denser population. We found the seed production to be roughly the same for both years. No plants were found the third year. These results are consistent with a prior report that inhibitory biomolecules present in pre-fire soils keeps *N. attenuata* seeds from germinating. These are destroyed by fire, but rapidly build up in post fire soils. Our tests show that light inhibits germination of *N. attenuata*. A negative light response insures that minute seeds germinate below the soil surface. Prior reports of a smoke induced germination response for *N. attenuata* are difficult to access because post fire release from inhibitory biomolecules together with this negative light response, can explain the post fire population dynamics that we observed.

Logback, Judy (Independent); Luci Latina Fernandes (University of Connecticut); Pamela Erickson (Independent); Gregory J. Anderson (Independent); Heather Lloyd (Independent)
Untitled
We review the major plant species sustainably harvested for craft production by 200 Quichua Indian artisans in the Callari (a Quichua word meaning ancient) cooperative located in the Upper Napo River region of the Ecuadorian Amazon. The artisans make a variety of non-timber products, including jewelry, pottery glazes, mesh bags, hammocks, place-mats, baskets, and over 15 types of hunting an fishing traps. To preserve their rainforest, the Callari artisans have created a viable economic alternative to logging. They market their crafts directly to Western Europe and North America, with technical assistance from the Jutun Sancha Foundation, a non-profit conservation agency.

Mack, Cheryl (Gifford Pinchot National Forest)
A Burning Issue: Native Use of Fire in the Mount Rainier Forest Reserve
A review of early Forest Service documents stored in the National Archives and Records Administration revealed detailed reports for forest fires for the years 1904 and 1905, for the area that is now within the Gifford Pinchot National Forest, in Southwest Washington State. Fully half of theses fires were attributed to purposeful burning by Indians, and analysis of the pattern of fire occurrence provides insight into native people's attempts to manage forest resources, particularly huckleberries, through the use of fire. These documents chronicle the time period when Forest Service policy and management began to interfere with traditional burning practices.

Mandaville, James P. (University of Arizona)
Bedouin Arabic Plant Classification: A Nomadic Pastoralist Case
Concepts and classification of the plant world among the Bedouins of east-central Arabia are influenced by the vegetation ecology of their hyper-arid habitat and an overriding concern for the nourishment of ruminant livestock. The structure includes several labeled intermediate categories with an almost inextricable meshing of general purpose and grazing-type classifications. A rich specialist terminology relates to plant age and condition. Several features, including a low number (200) of terminal taxa and the virtual absence of folk-species, seem to place this classificatory scheme closer to those of hunter-gatherers that those of subsistence agriculturists to date.

Miller, Verna (Nicola Tribal Association-TMIXW Research)
Untitled
Tmixw Reaearch will enhance the understanding of Nle'kepmx indigenous science. To date the western scientific perspective of the natural resource sector has ignored the wisdom of indigenous people. This paper addresses the research methodologies from the perspective of the Nle'kepmx people of the Nicola Valley. The research team is revisitng the traditional methods of resource management to prove that indigenous science has validity not only from an indigenous perspective, but to show that there is a place fro indigenous science that transcends the western/contemporary scientific views and methodologies. The Nle'kepmx Elders and community members have taken a strong leadership role in directing the research which is based on collections of local oral history. The Supreme Court of Canada Delgamuukw court decision has implication for this research.

Nolan, Justin M. (University of Missouri, Columbia)
Ethnobotanical Knowledge Variation in Missouri's Little Dixie
This study investigates knowledge variation in Little Dixie, a folk cultural region in Missouri. Data were obtain from 20 "novices" and "experts" who free-listed the names and uses for wild plants and rated them for usefulness, ecological value, beauty, and overall appeal. It is hypothesized and demonstrated that novices are more cognizant of plants with high perceptual and ecological salience, while experts display knowledge of less abundant species with high use potential. Accordingly, novices emphasize beauty, a form-based variable, while experts prioritize ecological value, a function-based variable, when ranking the species. These results suggest that ethnobotanical knowledge among novices is based on morphological, imagistic perceptions while expert knowledge is based on abstract, culturally acquired utilitarian factors.

Osterman, Deane (Kalispsel Tribe of Indians)
Problems with bullheads
Fishery resources are an integral component of northwest aboriginal cultures. Classification and naming systems are elaborate and reflective of aboriginal dependency on fishery resources. Reconstruction of ethnoichthyological systems relies heavily on secondary research. Previously collected ethnobiological data are often unreliable in that the terms collected do not necessarily label the intended species. Such is the case with "bullheads" (Ictaluridae: *Ictalurus* spp.) and sculpin (Cottidae: *Cottus* spp.). The problem with bullheads is illustrative of the potential for confusion when scientific, vernacular, and native naming systems collide.

Piniero, Maricel (Independent)
Women and Homegarden in Ecuador
Marginalization of women and environmental degradation are two major problems in development. In particular, the diversity of food crops may erode as a function of development since people allocate more and more land to hybrid cultivars. Local women have been affected by development integration to varying degrees; and those who have historically cultivated and maintained various landraces are not immune. This paper presents an analysis of the role of women in maintaining home gardens-arenas purported to serve

as repositories of biodiversity. Furthermore, I discuss the impact of development integration on women's ability to define new identity and negotiate constrains in terms of their role in the conservation of food crops cultivated in the home garden.

Ramirez-Sosa, C.R. (St. Lawrence University) and
M.B. McDonnell (St. Lawrence University)
Medicinal Plants of El Salvador: The Effectiveness of Traditional Healing
Seven species of medicinal plants, *Hamelia patens* (Rubiaceae), *Calea urticofolia* (Compositae), *Calea ternifolia* (Compositae), *Tagetes lucida* (Compositae), *Aristolochia salvadorensis* (Aristolochiaceae), *Calycophyllum candidissimum* (Rubiaceae) and *Myroxylon balsamum* (Leguminosae) from El Salvador were tested for antimicrobial activity. These plants are used by local people, including midwives, in El Salvador to treat infections. Ethanol (95%) extractions were used to assess the antimicrobial properties of the plants against bacteria and fungi. None of the plants inhibited the growth of all the bacteria tested, but all plant extracts affected at least one culture. Our results verify the effectiveness of these medicinal plants.

Ramirez-Sosa, C.R. (St. Lawrence University)
Extracting ethnobotanical knowledge from urban and rural population in El Salvador
A quantitative ethnobotanical research project is currently being conducted to determine how urban and rural adolescents acquire or loose ethnobotanical knowledge. This study addresses the following questions: Who is the primary source of knowledge? Is the knowledge being transmitted to younger generations? Are there differences between rural and urban adolescents with respect to ethnobotanical knowledge? To accomplish this task, we have developed a questionnaire, which after two trials in the field is effective and allows us to manage the data on more sophisticated. This presentation will discuss the designing and testing of this type of questionnaires.

Rhoades, Robert (University of Georgia) and
Virginia Nazarea-Rhoades (University of Georgia)
Cultural Invisioning of Land Use Change in Nanegal, Eduador
Driven by migration and colonization, Nanegal has been converted from a forested landscape to one dominated by pasture and sugar cane. While restoration ecologists argue for stabilization and reversal, local people view most of the changes as "progress." A joint objective of the Future Visioning and Ethnoecology projects is to test the "fit" between modelers' rules and predictions pertaining to land conversion and local people's perceptions of the same changes. Story completion test was used for culturally "ground-truthing" a modeler's set of "derived rules" vis-à-vis local models and aspirations. The results point to the need to make local viewpoints heard because they do no necessarily correspond to scientific models that guide research and policy.

Ruppel, Kristin T. (Columbia University)
One Nation Undivided
The fractionation of American Indian land ownership is at once a salvation of the tribal land base, and the bane of tacit ecological knowledge among American Indians. Based on ongoing research into the recent proliferation of grassroots Indian land ownership

organization in the American West, this paper discusses the problem of fractionation, its history, and some of the emerging possibilities for a solution to this insidious and chronic crisis of land tenure in Indian Country.

Shebitz, Daniela (State University of New York)
An Ethnobotanical Study of Sweetgrass: a means to integrate TEK and SEK
This project uses both Native American traditional ecological knowledge (TEK) and scientific ecological knowledge (SEK) to understand the ecological requirements for, and the current and past distribution of *Hierochloe odorata,* sweetgrass. This species is of great cultural significance to the Haudenosauneee, or Iroquois Confederacy. Native basket weavers report that sweetgrass populations have diminished and it is now difficult to find. This presentation will include both the TEK of sweetgrass gatherers and SEK derived from botanical studies that were used to determine the status of sweetgrass and examine possible threats to it population.

Sikkink, Lynn (Independent)
Traditional Medicines in the Marketplace: the Business of Health in Bolivia
This paper examines the use and sale of traditional medicines both as part of ancient healing practices and emerging business opportunities in Bolivia. Contrasting the marketing of herbal remedies in rural settings and urban marketplaces, the paper explores how medical practices and beliefs are transformed in urban settings where they are filtered through the marketplace and run up against a variety of other traditions, cures, and belief systems. Using ethnobotanical and interview data collected during 6 months of research in Bolivia in 2000, my research addresses issues in both economic and medical anthropology.

Stevens, Michelle L. (Jones & Stokes)
The Contribution of Traditional Resource Management by California Indians to Riparian Restoration
In this paper, I will discuss the opportunities and constraints of incorporating Traditional Resource Management (TRM) into riparian and wetland restoration design, construction and adaptive management. An expanded repertoire of restoration objectives and management strategies are created by the synergism of restoration and TRM. The modern challenge is to determine how and when it is appropriate to incorporate TRM into restoration projects. Extensive ecological and cultural modifications occur in the present landscape, such as impaired water quality, pesticides, toxins, and the presence of exotic plants and animals. I would like to discuss the challenges experienced in specific restoration projects.

Timbrook, Jan (Santa Barbara Museum of Natural History)
Exhibiting Ethnobotany: A Basket Case
"Strands of Life: The Nature of Native American Basketry" was a special exhibition in summer 2000, featuring more than 500 baskets from the Santa Barbara Museum of Natural History. Several Indian basketweavers were involved in exhibit planning, installation, and associated programs. For these Native people, the most important component showed the plants from which baskets are made – what they look like, how they are man-

aged and prepared, and the essential role they play in Native life, past and present. This component also had great appeal for visitors, suggesting that ethnobotany is a valuable tool in public education and environmental advocacy.

Todt, Donn L. (Ashland Parks Department)
Two Tobaccos
Throughout much of the Far West, Native Americans traditionally harvested tobacco from intentionally sown patches. When their cultivation of tobacco ceased, the ranges of these species contracted markedly. Why? Experimental cultivation of *Nicotiana quadrivalvis* and *Nicotiana attenuata* within the northern portion of the California Floristic Province suggests that a lack of disturbance coupled with competition from indigenous species inhibit the ability of these tobaccos to survive without human assistance. Experimental cultivation elucidates cultural-ecological characteristics that influence the biogeography of these species.

Trusler, Scott (University of Northern British Columbia)
Lessons from the land: Traditional burning of Gitxsan and Wet'suwet'en Huckleberry Sites
Gitxsan and Wet'suwet'en people in northern British Columbia have traditionally relied on black huckleberry *(Vaccimium membranaceum)* as a major component of their diets. The ecological requirement of this species and regional climate necessitated active management using techniques of landscape burning to ensure sustainable, abundant huckleberry harvests. I investigated four traditional huckleberry sites with histories of intensive management in Gitxsan and Wet'suwet'en house territories in the Skeena and Bulkley drainages. Ecological, fire history and cultural hertitage data collected from these sites facilitates improved understanding of traditional huckleberry management strategies and techniques. The varied ecological and topographical characteristics of the managed huckleberry areas investigated suggests that Gitxsan and Wet'suwet'en people were managing a diverse range of site types, possibly to mitigate the risk of poor huckleberry yields on any particular site type.

Turner, Nancy (University of Victoria); Mary Thomas (Independent); Ann Garibaldi (University of Victoria); and George Nicholas (Simon Fraser University)
Valuing Those Soggy, Boggy Places: The Cultural Significance of Wetlands in British Columbia
Wetlands have long been distinguished by ecologists as hotspots of biodiversity . Yet the immense cultural value of these sites often goes unrecognized. Historically, wetlands have been significantly altered throughout North America; British Columbia has been no exception. The loss of wetlands has represented a significant loss of cultural knowledge and heritage for First Peoples. In this paper, we document the ecological and cultural history of wetlands and the impacts of their loss to the cultural heritage of the First Peoples. We provide case examples of some key wetlands of southern British Columbia and the history of their alteration and loss. Finally, we propose ways in which wetlands restoration can enhance biological and cultural values.

Weingartner, Lori (Independent)
Some Population Genetic Consequences of Traditional Ecological Activities
TEK(traditional ecological knowledge) describes the resource management practices of indigenous cultures. Even with ample ethnographic data it is difficult to determine the long-term ecological and evolutionary impact of TE activities. Known TE modified plant populations may bear the fingerprint of those activities and their subsequent impact. This paper develops models applying the theoretical population genetics to known TE activities, describes the results of simulation data testing those models, and demonstrates the unique potential of theoretical population genetics for evaluating the historic processes leading to the genetic architecture of existing TE modified plant populations.

Welch, James R. (Tulane University)
Potter Valley Pomo ethnobotany in the writings of Dr. John Hudson (1857-1936)
John W. Hudson, a medical doctor turned ethnographer and collector for the Columbian Field Museum of Chicago, conducted extensive research among the Potter Valley Pomo of Mendocino County, California, from 1890 through the 1920s. His field notes, unpublished manuscripts and miscellaneous documents include an unprecedented wealth of ethnobotanical data, constituting what may be the most complete record of plant use by any indigenous Californian group. This paper presents the results of the first systematic analysis of his writings. It explores how the intersection of unique historical circumstances and individual personalities yielded a rich perspective of human interactions with the botanical environment during this early period in Mendocino County history.

Wright, Karen A. (Northern Arizona University)
Archaeobotanical Evidence of Cotton, *Gossupium hirsutum* var. *punctatum*, on the Southern Colorado Plateau
Substantial archaeobotanical evidence exists for primitive cotton *(Gossupium hirsutum* var. *punctatum)* cultivation on the southern Colorado Plateau during prehistoric times. Ancient Puebloan sites have yielded cotton bolls and plant parts. To identify centers of cotton cultivation through time, macroremain evidence from archaeological excavation reports was examined and mapped. To address the potential for cotton horticulture above the Mogollon Rim, several strains of *Gossypium hirsutum* were grown in experimental gardens at three elevations in northern Arizona. These experimental crops were compared morphometrically with cotton remains from archaeological sites in an attempt to establish race affiliations between historical strains and archaeological cottons.