Anthro 222 Syllabus

Medical Ethnobiology:
The View of Plants and Animals in Traditional Societies

Instructor: Kevin P. Groark

Course Description:

This course is intended for graduate students as well as advanced undergraduates. It provides a comprehensive introduction to theoretically-oriented ethnobiology, with a focus on medical ethnobotany. Broadly defined, ethnobiology consists of “the study of the direct interrelations between humans, plants, and animals, and their evolutionary consequences; the past, present, and future importance of diversity and of change in these interrelations; and the emerging awareness on the part of ethnobiologists of the relevance of these considerations” (Johns 1990:10-11). Ethnobiologists are interested in issues ranging from ethnotaxonomy to the evolution of diet and the search for new drugs. As a discipline, contemporary ethnobiology is situated between fields as diverse as anthropology, biology, psychology, and pharmacology, and integrates the methods and theories of each field. Rather than constituting a weakness, this interdisciplinary diversity has provided the field with a hybrid vigor lacking in more narrowly conceived areas of inquiry, as well as a conceptual relevance that bridges disciplines.

A central goal of class lectures and discussions will be to relate the empirical ethnobiological data we are studying to broader anthropological and epistemological issues, such as: the influence of language on thought, materialist versus idealist approaches in anthropology, the existence of cognitive universals, universalist-comparitivist versus particularist approaches to human knowledge, the relationship between “scientific” knowledge and “folk” knowledge, and the value of adaptationist logic in understanding human thought and behavior. This course, then, provides a concrete focus for addressing and thinking through some of these core debates.

Course Structure:

The course is divided into three general sections. In the first section (Weeks 1.1-7.1), we explore theoretical ethnobiology (the recognition, classification, and naming of plants and animals in traditional societies). The goal for this part of the course is twofold: 1) to provide you with a command of the empirical data and theoretical claims of modern ethnobiology; and 2) to illustrate the ways in which a focus on human classification of the natural world can contribute to our understanding of basic cognitive processes, as well as provide insights into one facet of our shared, universal human nature. This section will be dedicated to an in-depth examination of the empirical data upon which these “universalist” theoretical formulations are based, and will ask the following questions: Why do people everywhere carve the world into roughly similar chunks? How does culture influence the growth and diversification of folk taxonomies? And what are the cognitive bases for this pan-human disposition?

The second section of the course (beginning Week 7.2) moves us from theory to practice. We will examine the many different research approaches subsumed under the label “ethnobiology,” including: ethnopharmacology, the study of plant-based psychotropics, and medical ethnobotany. You will become familiar with some of the basic practical skills needed to carry out ethnobotanical fieldwork, including collection of specimens, preparation of herbarium vouchers, and ethnobiological research design. A small field project will allow you to put these skills into practice. After reading and discussing representative works from each of the approaches
mentioned above, we will have a class discussion about the ethical implications of ethnobotanical research. Although the readings do not exhaust the varied approaches to contemporary ethnobiological research, they provide a roadmap of the dominant trends, allowing you to pursue those questions you find most engaging.

The course closes with a theoretical “recap,” in which we reconsider the place of ethnobiology within the context of evolutionary theory, in particular, as it relates to the field of evolutionary psychology. We will explore the evolutionary implications of human-plant-animal interactions in diet, medicine, and attempt to understand how these unique cognitive and behavioral adaptations to the biotic world might have developed.

Course Requirements:

**Participation and Readings**—While this class admits upper-division undergraduate students, it is paced as a graduate-level seminar in workload and participation requirements. Although I will be lecturing each week, a period will be set aside for discussion and comment—and your participation is essential. Each class meeting has several assigned readings that should be read before class. The reading load is moderate (~50-60 pp. for each meeting), and the discussions will be based on the assumption that you have already read the assigned texts.

**Abstracts**—In order to encourage you to keep up with readings, I am requiring that you prepare brief critical abstracts of each week’s readings. This will serve two purposes: 1) You will have notes in front of you during the discussion (and by the end of the course, you will have an annotated bibliography of key works); and 2) it will provide me with feedback on the clarity of the material, and student concerns. And best of all, these abstracts take the place of a midterm and final. Abstracts are due at the end of each week, in class.

**“Mystery Specimen” Project**—Near the middle of the semester, a small weekend project will be announced. Your task will be to find an unfamiliar plant or animal-based food or medicine, collect basic ethnobiological data, and present your results in a show-and-tell session. Details will be provided in lecture.

**Term Paper**—In addition to participation, each student will write a 20-25 page term paper in which they examine the transcultural use of a particular plant or animal, researching the biology and chemistry of the species in question, as well as its cultural significance. Details, possible topics, and model papers will be provided in the first week of class. An outline and preliminary bibliography is due by the end of the 7th week of classes, and the last two meetings of the semester are dedicated to student presentation of their research.

**Required Texts:**


Course Reader with additional required articles and book sections: Available from Westwood Copies.
Course Grading:

| Participation             | 15% |
| “Mystery Specimen” Project | 10% |
| Abstracts                 | 25% |
| Term Paper                | 50% |

Lecture and Reading Schedule

Presented below is a lecture and reading schedule for the course. The readings listed under each class description should be read before you come to class. [Required readings for the first half of the course will come from Berlin (1992) and the reader. All required articles (as well as any labeled “optional”) are in your course reader]. References for all assigned articles, lecture citations, and “suggested readings” can be found in the general bibliography at the end of the course outline.

Introduction to the Course and the Field of American Ethnobiology

1.1—Course Introduction: The Nature of Ethnobiology


1.2—Ethnobiology and the Development of American Ethnoscience


Classifying Nature Across Cultures: Ethnobiological Classification, Folk Taxonomy and Nomenclature

2.1—Introduction to Ethnobiological Classification


2.2—The Folk Genus I


**3.1—The Folk Genus II & Folk Species**


**3.2—The Influence of Culture on Ethnobiological Classification**


**Higher Order Taxa and the Role of Function & Symbolism in Ethnobiological Classification**

**4.1—Higher-Order Taxa I: Intermediate & Covert Taxa**


**4.2—Higher-Order Taxa II: Life-Forms, Unique Beginners & the Very Tips of the Tree of Life**


**5.1—Class Discussion: The “Ultimate Test of Ethnobiological Theory”**

There are no assigned reading for today, except for a general review of class and reading notes in preparation for our class discussion. This exercise is framed around Hunn and Berlin’s “Ultimate Test of Ethnobiological Theory” (described in Berlin 1992:78-80).

**Intra-Cultural Variation and Opposing Viewpoints**

**5.2—Cultural Transmission & Variation in Ethnobiological Systems**


6.1—Alternative Formulations and Critiques


Evolution, Cognition, and the Development of Ethnobiological Thought

6.2—The Evolution of Ethnobiological Systems and the Development of Scientific Biology


7.1—Natural Kinds and Mental Modules: The Cognitive Bases of Folk Taxonomy


Practical Skills and Ethnobiological Research Design

7.2—Basic Field Skills (**Outlines and Preliminary Bibliographies of Research Paper Due Today!)


8.1—*Class presentation of field projects*

Come to class prepared to discuss your finds! If it is tasty, safe, and inexpensive, bring enough for everyone to sample!

**Ethnobiological Field Trips**

8.2—*Field Trip to Local Botanical Garden*

Trip to local botanical garden to see medicinal and economically significant plants. Will discuss morphology, habitat, and the importance of collecting basic ecological data on ethnobiological specimens. Garden curators will talk to us about the important role of gardens in preserving biodiversity and storing germplasm.

9.1—*Field Trip to University Herbarium*

Visit with curators and learn how botanical specimens are mounted, identified, and stored. Learn the archival importance of voucher specimens, and why interdisciplinary research is essential to modern ethnobiology.

**Ethnopharmacology, Medical Ethnobotany, and The Marketing of Traditional Knowledge**

9.2—*Ethnopharmacology and The Search for Plant-Based Drugs*


10.1—*Medical Ethnobotany and Consensus Theory in Evaluation of Folk Pharmacopoeias*


10.2—Psychoactive Ethnobiology I: Red Ants & Ayahuasca


11.1—Psychoactive Ethnobiology I: Tobacco


Groark, Kevin P. (Manuscript). The Angel in the Gourd: Therapeutic and Protective Uses of Tobacco (Nicotinana tabacum) among the Highland Maya of Chiapas, Mexico. To be submitted to *Journal of Ethnobiology* (Optional)

11.2—Psychoactive Ethnobiology III: Coca Leaf


Ethics in Ethnobiology: Ethnopharmacology, Local Knowledge, and IPR

12.1—Ethics and Intellectual Property Rights (IPRs)


12.2—Equitable Compensation and the Pursuit of New Drugs


Evolution, Adaptation, and the Origins of Diet and Medicine

13.1—Chemoecology and Human Adaptation to Plant Chemicals


13.2—Phytochemicals and The Evolution of Medicine


Student Paper Presentations

For the next two meetings, you will be running the show! Each student is expected to present a brief, 10-15 minute presentation on the subject of their term paper. Slides are welcome, but not required. Food and drinks will be provided.

14.1—Presentations of Student Research Papers
14.2—Presentations of Student Research Papers, cont’d

15.1—Closing Comments: Future Directions and Careers in Ethnobiology