

BOOK REVIEW

Plants in Indigenous Medicine and Diet: Biobehavioral Approaches. Nina L. Etkin (ed.). Bedford Hills, NY: Redgrave, 1986. Pp. xi, 366. \$24.95.

Most ethnobiologists enter the field with backgrounds in either the social or the biological sciences; rarely do workers have adequate training in both sides of our interdisciplinary field. Much of the literature reflects this unfortunate lack of breadth, and is, in Etkin's words, "botanically uninformed or anthropologically naive." Botanists often make extensive lists of medical and other uses for plants without exploring further the cultural roles these plants play. Pharmacologists tend to view medicinal plants as they would modern pharmaceuticals, assuming that one particular constituent of a plant must be responsible for its apparent efficacy. Anthropologists frequently regard medicinal plants and animals as mere cultural objects, ignoring physiological effects of native treatments.

In an excellent and inspiring introductory chapter, Etkin reviews some of the exceptions, studies that address the interactions among culture, environment, and physiology. She discusses the false dichotomy between food and medicine, how differences between native and Western theories of disease causation affect treatment, and how plant components considered inert by pharmacologists may, indeed, have significant physiological effects. She also reviews various ideological bases for plant selection, e.g., the hot/cold and yin/yang balance theories, and the Doctrine of Signatures.

Unfortunately, the rest of the book does not meet the high standards set forth in the introduction. All of the 16 papers are interesting, and most make valuable contributions to the literature. A few, however, are extremely broad, superficial reviews, or summaries of longer works published elsewhere. A few of these latter cannot be fully understood without referring to the longer publications. In others, the data are too raw or anecdotal. Some of the papers even exhibit the same kind of narrowly focused approach decried by the editor in the introduction. She specifically expresses misgivings about broad-sweeping listings such as those made here by Duke ("Folk Anticancer Plants Containing Antitumor Compounds") and Elwin-Lewis ("Therapeutic Rationale of Plants Used to Treat Dental Infections"). She is quick to point out, of course, that these types of studies are important for other reasons, which is entirely correct. However, listings such as these have been made for years and constitute nothing new, and certainly not the "biobehavioral" approach as outlined by Etkin.

There are a few glaring methodological problems in a few of the papers. For example, the article by Trotter and Logan ("Informant Consensus: A New Approach for Identifying Potentially Effective Medicinal Plants") relies too heavily on modern social science methodology at the expense of botanical and pharmacological insight. The authors state that in their study of medicinal herbs sold in Mexican-American markets in South Texas, some of their specimens were identified by looking up the common names in standard reference works. One of the plants they discuss is *oregano*, identified as *Oriogonum vulgare*. Martínez (1979) lists 16 different plants in four botanical families known by this name (or

a compound of it) in Mexico. One of these (*Lippia berlandieri*) has even been sold as oregano in the United States (Robert Bye, pers. comm.). The specimens in question may indeed be *O. vulgare*, but anyone interested in following up on their results cannot be certain of this.

The central thrust of Trotter and Logan's paper is also open to criticism. They suggest that by interviewing hundreds of informants and selecting those plants most consistently recommended for a specific ailment, one can predict that these species will be most likely to have demonstrable physiological efficacy. The point is that the choice of which plant to use is based at least in part on empirical observations by the users, and that the sum total knowledge of a broad cross-section of the population may be greater than the knowledge of any one individual. This is likely to be correct. It is important to note, however, that all of the species so identified in their study are very well-known species, and most have already been analyzed rather thoroughly. This will likely be the case wherever their technique is applied. Any plant so well-known to the large number of people required by their statistical methods will probably already have attracted the attention of researchers. It is extremely unlikely that a local endemic could be singled out by their methods.

The question of differences between Western and native concepts of disease causation appears in several of the papers. For example, Ortiz de Montellano ("Aztec Medicinal Herbs: Evaluation of Therapeutic Effectiveness") states that while 30% of the plants used by the Aztecs for the treatment of headaches are effective by biomedical standards, more than 90% are successful in producing the effects desired according to emic etiological beliefs. There is, of course, a parallel in the history of Western medicine: leeches worked very well in drawing blood, but the bloodletting itself was ineffectual in alleviating the patients' symptoms. The question arises of which definition is more useful. I think the answer depends on the circumstances and on the goal of the investigator. Should the pharmacologists in search of new plant-derived medicines test only those species reported to be used in the treatment of the illness under study, or should she/he focus on plants that produce a desired physiological reaction? Most screening programs have utilized the former approach, but the latter seems more promising.

On the other hand, a health worker attempting to improve the health care of traditional peoples must be able to distinguish between effective and ineffective treatments from the standpoint of Western concepts of disease etiology. Some writers have shown a tendency to attribute more efficacy to native healing systems than they deserve. Some native treatments are of little or no value, while others are detrimental to the patients' health. While the study of such remedies can be valuable in helping us understand various cultures, a health worker must be able to draw upon centuries of clinical studies in order to gauge effectiveness and to prescribe improvements in treatment. This is not to say that all native treatments are useless; biomedical researchers sometimes dismiss native remedies as ineffective because practitioners of biomedicine fail to understand the mechanisms of action. Western medicine has learned a great deal from traditional healers, and can still learn a lot more. The converse, however, is certainly true as well.

Elwin-Lewis relies too heavily on "phylogenetic groups" as an organizing scheme without adequately explaining what these groups are or why they are used. It is true that species that are closely related frequently share the same or similar chemical constituents, but the author takes this idea a bit too far. Convergent evolution has often produced similar compounds in members of taxa only distantly related.

As a reviewer, I should point out that I discovered numerous minor typographical errors in the book and one table which was completely mislabelled. The title of the table on p. 49 should read "Plants Used to Treat Dental Caries Ordered by Phylogenetic Group."

In summary, I wholeheartedly applaud the interdisciplinary approach outlined in the introduction, but I am disappointed that some of the papers do not represent ideal examples of this methodology.

REFERENCE CITED

MARTÍNEZ, MAXIMINO. (1979). Catálogo de nombres vulgares y científicos de plantas mexicanas. México: Fondo de Cultura Económica.

Joseph E. Laferrière
Department of Ecology and Evolutionary Biology
University of Arizona
Tucson, AZ 85721