

MEDICINAL ETHNOBOTANY OF HMONG REFUGEES IN THAILAND

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ABSTRACT.—Every society has a healing system and many groups use medicinal herbs. The Hmong refugees of Southeast Asia possess a knowledge of herbalism that is as yet unknown to the American practitioners who now treat these people. Indeed, Westerners have been suspicious, suggesting that traditional healing arts are a health risk factor. This study attempts to describe Hmong herbal knowledge by identifying plants and their usage. Nine herbalists in a refugee camp were asked to identify plants they use for medicine. Interviews generated more than 150 plant references. Discussion centers around 20 plants used by more than one herbalist. Further documentation and collection of voucher specimens, medicinal preparation procedures, and native concepts of disease and illness promises to be of practical value in discovering both new sources of drugs and inexpensive herbal preparations, in providing health care to the Hmong, and in preserving the herbal lore of a rapidly acculturating group.

INTRODUCTION

The Hmong are one of several groups of Southeast Asians who, during the past decade, have fled their native homeland for temporary asylum in Thailand. The Hmong of Laos, along with other highland Laotians, are notable because they have lived in a remote region and have remained largely dependent upon their indigenous healers for medicine. While acculturative forces affecting the Hmong have gathered momentum in concert with recent political changes, among the older Hmong, especially, medicinal herbal knowledge is still intact and actively practiced. Working in refugee camps with the Hmong, Western health personnel have been intrigued by the Hmong community's tenacity to their indigenous medicine as well as their low utilization of the available Western medical services. In comparison to refugees of other ethnic groups, the Hmong have the lowest per capita rate of visits to Western clinics (unpublished data, COERR Hospital Log, Phanatnikhom).

Since the Hmong language was not written until about 35 years ago when French missionaries created a script (Bliatout 1982:2), legends, medicinal knowledge, and stories have been passed down for centuries through the oral tradition (Barney 1983:37). Those most knowledgeable in the cultural lore are the elder members of the community who, for the first time, received Hmong literacy training in refugee camps as part of a required orientation allowing entrance to the United States or other countries of resettlement. Because of the massive acculturative pressures experienced by this group as they are uprooted from their homeland and transferred to a new continent, as with many isolated indigenous cultures, there is now considerable danger of loss of transmission of medicinal plant lore to the youth of the society. If such knowledge is not soon recorded, not only will it be lost forever, but its potential as a source of new prototype drugs and of researchable low cost medicines for third world populations will not be realized (Elizabetsky 1986).

The suggestion that the Hmong pharmacopoeia contains agents related to diseases—e.g., heavy metal poisoning and sudden unexplained death syndrome (SUDS)—creates further impetus for this study. Several Hmong home remedies (not of herbal origin) recently have been found to be high in lead and arsenic content (Centers for Disease Control 1983:555), but a definitive link between the use of herbal medicines and heavy metal poisonings in the Hmong community has not been established.

The victims of SUDS are predominantly healthy 25-44 year old Asian males who die, often at night after falling asleep. They reportedly suffer labored breathing, screams, or tossing in bed immediately before death (Centers for Disease Control 1981:581). Since the greatest rate of the syndrome among Southeast Asians occurs in the Hmong population, epidemiologists are therefore considering those agents to which the Hmong population is exposed, including traditional medicines (Holtan *et al.* 1984:106).

Several anthropological and medical anthropological works on the Hmong are now available (Geddes 1976; Chindarsi 1976; Lemoine 1972; Vidal 1969; Kundstadter 1985). Lemoine and Vidal (1970) jointly published over 300 ethnobotanical uses, both medicinal and otherwise, of Hmong flora. The purpose of the current study was to continue the identification of Hmong herbal medicines and their uses in a setting where Western medicine is being freely offered but not well received. The high utilization of their traditional healing arts makes current documentation of Hmong herbalism both timely, in terms of preserving cultural knowledge, and potentially rewarding, in terms of finding new and effective medicinal plants.

HMONG HISTORY, CULTURE, AND HEALING

The first recorded history of the Hmong, who are of Sino-Tibetan origin, is found in Chinese literature around 2250 B.C. The Chinese frequently advanced militarily against the Hmong, beginning in the 12th century A.D., which has been a continual stimulus for their migration southward. Through centuries of oppression, the Hmong have demonstrated a love of independence and an ability to organize for military action (LeBar *et al.* 1964:63.) "Hmong", which means "free man" is their own term for themselves, while their Chinese and Thai neighbors may call them "Meo" or "Maio" (Bliatout 1982:2). They arrived in Southeast Asia in the early 1800s and today occupy parts of southern China, Laos, Vietnam, and Thailand with an estimated population of 2,600,000 (Bliatout 1982:2; Chindarsi 1976:1).

During the Vietnam era, many Hmong who feared communist aggression in Laos furnished military intelligence and guerilla support to the American troops who supported the Royal Lao Government. When the U.S. withdrew in 1973, the Royal Lao Government fell. Those who opposed the communists fled and the first of several waves of emigration occurred. Over 100,000 Laotian Hmong have found political refuge in Thailand and perhaps an equal number have died in flight (Garrett 1980:633). Many Hmong have spent years in refugee camps waiting to be resettled or until it is safe to return to their homeland. Over 50,000 others, in return for the support that the hilltribe gave to American military efforts, have been granted permanent asylum in the United States (Hammond, 1984).

Historically, the Hmong farm mountain slopes at elevations over 1600m where they practice slash and burn agriculture, growing rice and corn and raising chickens and pigs for their subsistence. The opium poppy was introduced to the area by the British East Indies Company in the late 1700s, at which time the Hmong started to grow it as a cash crop and for medicinal purposes (Yang 1982:4). Cultivation of opium was legal under the French colonial domination. The harvest was used first for income, for which they traded with the Yunnanese merchants of Chinese descent. Opium was used medi-

nally as a painkiller—especially for the elderly—and its use by healthy young people was considered a disgrace (Koumarn 1983:9).

The Hmong of Laos have more than 20 clans which are patrilineal and exogamous (Yang 1982:3). Among Thai Hmong, villages comprise 30 to 50 households (Kunstadter 1983:330). Leadership is characteristically heirarchical but not dictatorial (Minnesota Refugee Resettlement Office 1980:6). The Hmong Njua (Blue or Green Hmong) and the Hmong Da (White Hmong) are the two major dialects of the Hmong language and the members of different dialects sometimes intermarry (Kunstadter 1983:330).

When a Hmong person becomes sick, the family first employs the knowledge of the household in terms of herbs, massage, simple rituals, or soul-calling practices. If the illness is sufficiently grave, an elder of the household may perform a divining ritual to determine which outside health practitioner is the most appropriate to consult. This may be an advanced herbalist, shaman, or other who has the needed skills (Bliatout 1984:34-37; DeSilva 1984:4A).

The Hmong believe in both natural and supernatural explanations of disease causation (Geddes 1976:97). Natural explanations refer to etiologies such as eating rotten food or traumatic accidents. From this concept arises the body of knowledge about medical measures aimed at specific symptoms, for example, indigenous herbs, massage, bone-setting, and acupuncture. Supernatural explanations of disease, in contrast, refer to the misfortune caused by angered or needy spirits or a "wandering soul" (Tung 1980). The Hmong generally attribute their healing successes to the powers of the spirits (Chindarsi 1976:100). To treat diseases of spirit cause, the Hmong employ a spiritual healer, the most powerful of which is the shaman. The shaman may be male or female and usually obtains a diagnosis while in a trance state and communicating directly with the spirit world. A sacrificial ceremony is often prescribed. He or she may also have skills in the secular practices including herbalism (Bliatout 1984:36; Chindarsi 1976:41).

PROCEDURES

This research took place in Phanatnikhom refugee camp, 90 km southeast of Bangkok, where I worked as a public health nurse for the six months prior to the study. This is an inland camp to which refugees from Laos, as well as Cambodia and Vietnam, are transported for "processing" before being allowed to depart to a third country of permanent asylum.

Hmong community leaders suggested informants/consultants for participation in the study. With the assistance of an interpreter, four male and five female refugees, ages 46-74, were asked to name medicinal plants and report indications for use and method of administration. Their personal collections of medicinal herbs in this lowland refugee camp were precious and few (Fig. 1) because many of the plants had been carried on the long hot journey from the northern highlands camp.

Although I was aware of the importance of voucher specimens in ethnobotanical data collection—an awareness now deepened by Bye's (1986) cogent treatment—I nonetheless found myself in a dilemma: to insist upon voucher specimens or not, realizing that the informant would zealously guard each individual plant much as would a naturalist want to protect an individual of an endangered species. The refugee camp setting heightened the ethical dilemmas always inherent in cross-cultural data collection. Obtaining an informed consent from a member of a non-literate culture is an ethical dilemma in itself. Researchers must strive to obtain true community understanding and support of a project, and to make every effort to return the results of the study, in understandable form, to those who contributed most to its availability.



FIG. 1.—A typical Hmong garden of medicinal herbs.

The informants, displaced from their homeland, threatened by a sense of cultural loss, insecure about their chance for eventual resettlement and a return to freedom, were politically powerless and eager to make American contacts. In this setting, the researcher is a representative of a highly technological, poorly understood, encroaching and powerful culture touting one of the western world's more sophisticated concepts. In light of this situation, rather than risk unethical practice or ill-will, which would jeopardize the reliability of the information, I chose to limit voucher specimens to what was freely offered and to supplement this meager record with photographs. The seeds and barks which were given to me were often not suitable for definitive identification. Yet the trust engendered by non-invasively collecting data and by returning the information in understandable form to the Hmong people would most serve the aim of the project, to promote good will and understanding between the Hmong community and the Western scientific community.

Garden specimens, dried specimens, and photographs were used during the interviews. Scientific names given are those "assigned" by the herbalists when they recognized photographic plates from Chinese Medicinal Herbs of Hong Kong (Li and Cheung, 1978, 1980, 1982). Family names were obtained from Perry (1980), with one exception, *Stahlia-inthus involucratus*, which was obtained from Hutchinson (1973).

The focus of this report is on those plant medicines referred to independently by two separate herbalists. Medicines used consistently by different herbalists represent those with the greatest likelihood of being pharmacologically active (Trotter 1983). The population of a refugee camp is derived from many different communities, thus is it conceivable that the uses reported by two different herbalists are widespread among the

Hmong. It was considered that two herbalists were referring to the same plant if one of the following occurred: (a) both herbalists identified the same photograph by Hmong names that did not conflict (although sometimes no Hmong name was known by one of the herbalists) or (b) they used the same Hmong name when referring to a plant medicine that was not pictured in the books or (c) they both provided the researcher with plant parts sufficient to conclude that they were referring to an identical species.

FINDINGS

Of over 150 plant references obtained, 20 plants were used to two of the nine herbalists. Of these, eight were used for identical or similar indications. The findings are summarized in Table 1. Those plants without tentative botanical nomenclature are listed by their Hmong names in part 2 of Table 1. Each of the nine herbalists reported at least one medicinal plant mentioned by another interviewed herbalist.

In some instances, the Hmong indication was not readily translatable into a Western counterpart. In such cases, the Hmong word for the indication has been included in the reported data. Neither the pharmacopoeia nor the translations of perceived illnesses are considered complete.

CONCLUSION

The Hmong person, forced between the extremes of two cultures, must both learn to adapt and meet the challenges of preserving cultural identity. Medicinal plants are a major part of their rich heritage. It is unfortunate that, at times, Hmong persons clash with conventional Western practitioners over the use of medicinal plants. Unless a specific medicine is known to be harmful, the Western practitioner should not interfere with its use. Herbal knowledge handed down for centuries through the oral tradition likely has merits. Some of these plant medicines may have valuable uses; others may be related to the Hmong's experience of Sudden Unexpected Death Syndrome (SUDS), of heavy metal poisoning, or be otherwise toxic. This study attempts to describe Hmong herbal knowledge by identifying plants and their usage. Further documentation and collection of voucher specimens, medicinal preparation procedures, and native concepts of disease and illness promises to be of practical value in discovering both new sources of drugs and inexpensive herbal preparations, in providing health care to the Hmong, and in preserving the herbal lore of a rapidly acculturating group. The scientific community should support efforts to further investigate the nature of these herbs. Hmong leaders and individuals should be made aware of the benefits of such research and should be encouraged in taking an active role in preserving the knowledge and determining the pharmacologic and toxic properties of these herbs.

ACKNOWLEDGEMENTS

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TABLE 1.—*Medicinal Plants Used by More Than One Herbalist.*

Scientific name Hmong name Family	Part Used	Preparation	Indication(s)	Method of Use
<i>Aloe vera</i> L. var. <i>chinensis</i> (Haw.) Berg.	(1) liquid from leaf		(1) burns	(1) topically
	(2) liquid from leaf		(2) prevent rabies dogbite	(2) topically
Tshuaj Kub Cev or Po Nyuj	(3) leaf	(3) cold infusion	(3) high fever with convulsions	(3) orally
Liliaceae	(4) leaf	(4) cold infusion	(4) weak limbs after convulsions	(4) orally
<i>Curcuma zedoaria</i> (Berg.) Rosc.	(1) root (bulb)	(1) chop very fine; mix with water	(1) coma coming on as death approaches (Mob Yuas)	(1) orally
Qhiav Dub	(2) root (bulb)	(2) chopped; use with root of Wam Khoo ; infusion may be made	(2) dysentery	(2) eat roots or drink infusion
Zingiberaceae				
<i>Equisetum debile</i> Roxb.	(1) stems	(1) decoction; mixed with root of Suab Xov Tooj (<i>Lygopo-</i> <i>dium japonicum</i> (Thunb.) Sw.)	(1) painful, difficult urination; kidney stones (Mob Txeeb Zig)	(1) orally
Rag Deg	(2) stems	(2) crushed until soft	(2) broken bone (Lov Txha)	(2) applied topically
Equisitaceae				

TABLE 1.—*Medicinal Plants Used by More Than One Herbalist.* (continued)

Scientific name Hmong name Family	Part Used	Preparation	Indication(s)	Method of Use
<i>Euphorbia antiquorum</i> L. ¹ Xeeb Leej Tsav Euphorbiaceae	latex from stem; leaf	cut stem to draw latex; boil with chicken and papaya; sometimes used with <i>Euphorbia hirta</i> L.	increase flow and amount of breast milk ² (Zoo Poj Niam Muaj Mis)	orally
<i>Jatropha curcas</i> L.	(1) latex from stem	(1) cut stem to draw fluids	(1) oral thrush (contraindication: measles)	(1) apply to oral mucous membranes
Txiv Thooj Ywg Euphorbiaceae	(2) fruit	(2) crush until soft; put the oil from the fruit in the house for the spirit to eat; used with <i>Sapium discolor</i> Muell.-Arg. and <i>Sapium sebiferum</i> Roxb. (all three species have same Hmong name.)	(2) to kill Dab Ntxaug (a greatly feared, powerful spirit, often blamed for epidemics)	(2) not consumed by humans
<i>Lygopodium japonicum</i> (Thunb.) Sw.	(1) root	(1) decoction; boiled with chicken.	(1) weakness	(1) orally
Suab Xov Tooj Schizaceae	(2) root	(2) decoction; mixed with root of Rag Dev (<i>Equisetum debile</i> Roxb.)	(2) painful, difficult urination; kidney stones (Mob Txeeb Zig)	(2) orally

TABLE 1.—*Medicinal Plants Used by More Than One Herbalist.* (continued)

Scientific name Hmong name Family	Part Used	Preparation	Indication(s)	Method of Use
Mirabilis jalapa L. ¹	(1) root (for treating man, should not be forked)	(1) about 1 tsp. finely chopped; decoction made by boiling with chicken or meat.	(1) man: weak, impotent, problem urinating ² (<i>Txiv Neej Qhuav Cev</i>)	(1) orally
Kuab Tub Sab or Paj Kuab Tub Sab Myctaginaceae	(2) (for woman, should be forked.	(2) (about 1 tsp.) finely chopped; mix with chicken or meat.	(2) promote delivery of blood clot after birth	(2) orally
<i>Ocimum</i> <i>basilicum</i> L. <i>Zaub Txig Theem</i>	(1) leaf	(1) mix with <i>Zaub Txib</i> <i>Taum Paj</i> , egg yolk, and sulfur; fry in pork, goat, and chicken oil.	(1) scabies	(1) apply topically
Libiateae	(2) seed	(2) —	(2) foreign object in eye	(2) apply inside con- junctivae as if applying eye oint- ment (seed and foreign object migrate to corner of eye and are easy to remove.

TABLE 1.—*Medicinal Plants Used by More Than One Herbalist.* (continued)

Scientific name Hmong name Family	Part Used	Preparation	Indication(s)	Method of Use
<i>Opuntia dillenii</i> (Ker-Gawl.) Haw.	(1) cactus pad	(1) crush until soft	(1) big spleen	(1) apply topically over spleen
Xeeb Leej Tsav or Xeeb Leej Tsav Loj	(2) pad	(2)a take 3-4 "cuts"; chop finely; mix with egg to eat, or	(2) big liver	(2) orally or topically
Cactaceae		(2)b heat pad over fire; apply over liver.		
<i>Pinus massoniana</i> Lamb.	(1) pollen	(1) cooked with food	(1) leprosy-like disease (Mob Qhe)	(1) orally
Ntoo Thuv Pinaceae	(2) sap	(2) mix with ashes	(2) scabies	(2) apply topically
<i>Piper hancei</i> Maxim.	(1) root	(1) decoction	(1) prolapse uterus (Hlauv Duav)	(1) wash uterus and vagina
Hmab Saw Nyiaj	(2) NA ³	(2) NA ³	(2) gonorrhea	(2) NA ³
Piperaceae	(3) leaf and root	(3) decoction; boiled with chicken; used with two other medicines.	(3) "arthritis" (Mob Laug)	(3) orally

TABLE 1.—*Medicinal Plants Used by More Than One Herbalist.* (continued)

Scientific name Hmong name Family	Part Used	Preparation	Indication(s)	Method of Use
<i>Ranunculus cantoniensis</i> D.C. ¹ Tshab Xyoob Ranunculaceae	(1) root	(1) use with Muaj Tsuas (<i>R. scleratus</i>) and Hmab Laum Liab . Take 5-10 cuts of the roots. Prepare a decoction with or without chicken.	(1) man: weak, impotent, problems urinating	(1) orally
	(2) root	(2) use small amount. Mix with Muas Tsuas <i>R. scleratus</i> L.), blood of mountain goat, Sab Txim Dub ; cook with with chicken.	(2) "arthritis" ² (Mob Laug)	(2) orally
	(3) root	(3) decoction	(3) poor vision	(3) orally
<i>Ranunculus scleratus</i> L. ¹ Muaj Tsuas Ranunculaceae	(1) NA ³	(1) as for <i>R. cantoniensis</i> D.C.	(1) arthritis (Mob Laug)	(1) orally
	(2) root	(2) as for <i>R. cantoniensis</i> D.C.	(2) man: weak, impotent, problems urinating (Triv Neej Qhuar Cev) (Triv Neej Qaug Zog)	(2) orally

TABLE 1.—*Medicinal Plants Used by More Than One Herbalist.* (continued)

Scientific name Hmong name Family	Part Used	Preparation	Indication(s)	Method of Use
<i>Stahlianthus involucratus</i> (King ex Bak.) Craib. ¹	(1)a leaf (1)b root	(1)a decoction; boiled with chicken (1)b NA ³	(1) stomach ache after eating bad food (Mob Kem Plab)	(1) orally
Tsawb Ntug Ntsuab "green banana tree" Zingiberaceae	(2) root	(2) hot infusion	(2) hot inside ("from eating something wrong")	(2) orally
<i>Stephania tetrandra</i> S. Moore ¹	(1) root	(1) finely chopped	(1) stomach ache after eating bad food (Mob Kem Plab)	(1) orally
Hmab Cab Qaib Menispermaceae	(2) root	(2) use 10 or more "cuts" finely chop- ped. May be used with 5 "cuts" of Hmab Laum Liab (<i>Tinospora sagitta</i> Gagn.). Infusion.	(2) stomach ache and intestine pain with hard stool	(2) orally
— Kuab Ib or Kuab Ib Suav ¹	(1) NA ³	(1) used 3 "cuts"; chop finely; mix with egg; toxic in high doses. (Comes from China.)	(1) chronic cough with noisy breath sounds ² (tuberculosis)	(1) NA ³

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NOTES

- ¹Current address: Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ 85721.
- ²This plant used by herbalists for identical indication (denoted 2) or closely related indications.
- ³Indication treated by two herbalists using this plant.
- ⁴Information not available.
- ⁵There are two kinds of gonorrhea called *Mob Kas Cees*.
(a) penis painful with pussy discharge, sometimes accompanied by blister on penis.
(b) no puss, no blister; low stomach and back pain, painful urination; dark yellow urine; pain increases with beef or alcohol consumption.
- ⁶Heimbach, 1979:28.

CRC Handbook of Proximate Analysis Tables of Higher Plants. James A. Duke & Alan A. Atchley. Boca Raton, FL: CRC Press, 1986. Pp. 400. \$100.00 (cloth).

This new reference book from CRC contains tabulated information on the nutritional composition of hundreds of species of vascular plants, compiled from some 22 previously published sources. Information on calcium, phosphorous, iron, sodium, potassium, carotene, thiamin, riboflavin, niacin, and ascorbic acid is included, where these values are reported in the original literature, in addition to water, protein, carbohydrate, fiber, and ash. The authors state in the introduction that the information is also available on computer tape and that they are planning yearly updates of the book.

Two main tables comprise most of the book, both reproduced directly from computer printouts. The first contains data "directly transcribed from original sources," while the second contains the same information "converted to a zero-moisture basis." The authors make a good case for converting the data to a dry weight format; unfortunately, much of the information in the first table is also reported in the same way, as evidenced by the potentially misleading zeroes listed for percent water. Many references which report figures on a dry weight basis do have values for percent water since this can be a valuable piece of information in practical applications. Changing this to a zero detracts from the value of the table. Perhaps one table for fresh weight and one for dry weight would have been a more useful organizing scheme.

The printout is easy to read for the most part (although a few of the pages are miscollated), except that the table is broken into two parts on some pages but not on others. Units and coding information are presented only in the introduction, rather than alongside the numerical data. Only a few of the samples give any indication of preparation techniques, which can be important since cooking, drying, or other processes can significantly change food composition (Kuhnlein 1986).