Journal of Ethnopharmacology, 1 (1979) 279 - 284

EVIDENCE OF AN ETHNOMEDICAL FORM OF AVERSION THERAPY ON THE UNITED STATES–MEXICO BORDER

ROBERT T. TROTTER, II

Department of Behavioral Sciences Pan American University, Edinburg, Texas 78539 (U.S.A.)

(Received January 24, 1979; in final form June 7, 1979)

Summary

Ethnographic data are presented on the use of a seed, *haba de San Ignacio* (*Hura polyandra* L. and *Hura crepitans* L.) to promote an aversion to the consumption of alcohol by problem drinkers in Mexican American and Mexican national populations on the United States–Mexico border.

Introduction

Evidence has been ucovered of an indigenous, ethnobotanical, form of aversion therapy within the context of Mexican American and Mexican folk medicine (*curanderismo*) along the Eastern part of the United States–Mexico border. Folk healers (*curanderos*), herbalists (*yerberos*), and housewives utilize herbal remedies (*remedios caseros*) to produce a reduction in or a cessation of antisocial drinking patterns of family members. Reported in this paper is one such remedy, which is prepared from a seed locally called "*haba de San Ignacio*" (*Hura polyandra* L. or *Hura crepitans* L.).

Research area

The ethnographic data for this report were collected in Southern Texas and Northern Tamaulipas, Mexico. The primary site for the research was the area called "The Lower Rio Grande Valley" or "*El Valle*". The Valley stretches from the mouth of the Rio Grande River, on the Gulf of Mexico, to a point approximately 125 miles up the river. On the United States side of the border, the population forms a habitation strip composed of nearly continuous, small and medium-sized towns that run the length of the Valley. On the Mexican side of the border, the population is concentrated in two large cities, Reynosa and Matamoros, and in scattered small *colonias* and ranches.

The population on the United States side of the border is an estimated one-half million people. Nearly eighty per cent of those people have Spanish surnames, and are primarily of Mexican descent. The rest are predominately of Anglo-Saxon descent, at least culturally, with less than one-half of one per cent of the population being Black. The population on the Mexican side of the border is an estimated three-quarters of a million people. Most are of Hispanic descent, with small enclaves of Christian Arab, Chinese, and Native Americans (*Indios*).

The border, and the historical conflicts and confluences centered there, have created the current multicultural area that exists in the Lower Rio Grande Valley. Three major sociocultural groups exist there: Anglos or Anglo Americans, Mexican Americans, and Mexican Nationals. Many similarities can be found in the values, beliefs, and attitudes of all three groups; however, enough differences in language, behavior, and beliefs exist between any one group and the other two to necessitate each group being considered as belonging to a distinct, but interacting, cultural system.

The Rio Grande River forms a boundary, but absolutely no barrier, to both physical and social interchanges amongst people in the area. Language usage, however, does produce some significant barriers to social and cultural interchanges. Most of the Anglos in the Valley are monolingual in English, while most of the Mexican Nationals are monolingual in Spanish. This situation greatly reduces information transfer in both directions. The majority of the Mexican Americans in the area appear to be bilingual, although some speak only English or only Spanish.

The information interface, produced by the existing language usage patterns, has created a situation wherein the knowledge of the existing folk medical treatment of alcohol abuse is concentrated in the Mexican American and the Mexican National populations, but is virtually unknown in the Anglo population. A similar situation holds true for a vast amount of the ethnobotanical knowledge available in the Valley area, especially that preserved by the *curanderos*. There is an extensive store of information commonly available about both indigenous botanical resources and those found in local stores that stock herbs and botanical remedies (*boticas* and *yerberias*); however, ethnobotanical knowledge in the Anglo population appears to be limited to a small number of plants and other "medicinal" products, such as aloe Vera (*Aloe barbadensis* Mill), which is called *sávila* in Spanish, turpentine, aspirin, and the beans of the mesquite tree. Therefore, the following ethnographic information is pertinent only to the Mexican American and the Mexican National populations of the border area.

Ethnographic data

Curanderos on both sides of the border were found to treat alcoholism and alcohol abuse on a regular basis. In addition to the professional healers, the owners of a number of *boticas* and *yerberias* in the area, who, although

not necessarily *curanderos*, also occasionally dispense information on herbal remedies*, were found to recommend several botanical remedies to their customers to reduce or eliminate drinking problems in husbands, children, and other relatives. One of the remedies most frequently recommended by these resources is a seed called "*haba de San Ignacio*" (*Hura polyandra* L. or *Hura crepitans* L.).

Haba de San Ignacio appears to be most frequently used by wives who are attempting to alter the drinking patterns of a spouse. Since the plants are not commonly grown in the Valley, the seeds are purchased at local *boticas* or *yerberias*. A quick recent survey indicated that about three-fourths of the local shops had the seeds; the others knew about them but either did not carry them or were currently out of stock.

Individuals are instructed to prepare the seed by roasting it well on a *comal* or griddle until it is thoroughly cooked. The covering is peeled from the cooled seed and the meat of the seed is placed in a *mocajete* (mortar and pestle), then ground into a fine powder. This powder is placed in food or drink that will be consumed by the person with the alcohol problem. The normal dosage, or at least the one that was recommended to the author, is a couple of pinches of the powder per meal. However, it is extremely probable that this dosage is interpreted in a liberal spirit by those who are trying to eliminate the disruptive behavior of a problem drinker in their family. The problem drinker is normally given the remedy without his or her knowledge; however, on at least two occasions *curanderos* stated they had used the herbal with the patient's knowledge, when the drinker, rather than a relative, had asked for help in eliminating a drinking problem.

When the individual to whom *haba de San Ignacio* has been administered consumes alcohol later in the day or the evening, he becomes nauseated, vomits and may have some diarrhea. Informants who used the *remedio* indicate that when the therapy is conducted over a period of time the therapy works in one of two ways. Often the therapy works as intended, to form an aversion to alcohol consumption for the alcohol abuser. The therapy is especially effective where the family of the drinker reinforces the aversion reaction and the cessation of drinking. On the other hand, this therapy is not always controlled, consistently applied, or knowledgeably reinforced, and the aversion reaction does not always proceed in the desired direction. As one informant stated, "sometimes this *remedio* works, and the man stops drinking; but other times he just stops coming home for dinner". Apparently, the remedy works frequently enough for this type of therapy to remain in common use for alcohol-related problems.

Botanical data

Haba de San Ignacio is a chocolate-brown seed, with reddish highlights, and is about the size and shape of a quarter, although considerably thicker.

*There are several other forms of treatment of alcohol problems utilized by the local folk healers, *curanderos*, including magical cures.

The seeds, found in local herb stores, come from one of two species of trees that are members of the spurge family*, *Hura polyandra* or *H. crepitans*. *Hura polyandra* is distributed primarily in tropical Mexico, while *Hura crepitans* is found in Central and South America and probably does not occur in Mexico (Standley 1961). It is impossible to distinguish between the two species on the basis of their seeds alone, since the species are distinguished only by differences in the structure of their stamens (Standley 1961). We have not had time to grow representative varieties to the maturity necessary for closer identification of the species in use in the Valley; therefore, information on both species is given below.

The trees that produce *haba de San Ignacio* grow throughout the tropical areas of the Americas and are called by a variety of local names. In Mexico the plant (*Hura polyandra*) is called *haba de San Ignacio, ovillo* (Michoacan and Guerrero), *javilla* (Yucatan, Veracruz, Morelos, and Oaxaca), *arbol del Diablo* (Oacaca), *solimache* (Yucatan), and *coatatchi* (Martínez 1959, 1962). In pre-Columbian times, the plant was called *quauhtlatlatzi* (Pesman 1962), or *cuauhtlatlatzin* (Martínez 1959), the exploding plant, by the Aztecs. In Venezuela the plant (*Hura crepitans*) is known as *habillo, cieba blanca*, and *jabillo* (Blohm 1962), while in Colombia it is known as *cieba bruja* and *barbacosa*, and in Brazil it is called *assacu* (Altschul 1973). The trees have two English common names, sandbox tree and monkey dinner bell (Hardin and Arena 1969). The last name cannot be explained; however, the tree is called the sandbox tree because the dried fruits were used in earlier centuries to hold fine sand in which to blot ink (Pesman 1962).

The trees are large, growing to 15 or 20 meters, and have greyish bark, with conical spines on the young trunk and branches. The flowers are monoecious, and the leaves alternate (deciduous, long-petiolate, cordate–ovate, glabrous, crenate–dentate). The fruit of the tree is basically pumpkin-shaped (depressed-globose), 8 to 10 cm broad, with about 15 cells. The seeds, used in the *remedio*, are reddish-brown, round and flattened, about 3 cm in diameter. The fruit has the unusual property of exploding when it is ripe, flinging the seeds some distance from the tree, in all directions, in pieces that look like sections of citrus fruit (Standley 1961; Martínez 1959, 1962; Pesman 1962; Blohm 1962; Altschul 1973).

Other ethnobotanical data

The two species of trees can be considered to have similar properties, according to Standley (1961); however, the active ingredients of *Hura crepitans* are better identified than are those of *Hura polyandra*. The sap of *H. crepitans* contains a toxalbumin (Blohm 1962). The milky sap and seeds are reported as poisonous in the sources listed above, as well as in other

*Subphylum *Spermatophyta*; series *Apetalae*; family Euphorbiaceae.

sources (Tampion 1977; Pammel 1911; Standley 1928). The sap is known to cause skin irritation and possible blindness on contact, while the seeds cause vomiting, diarrhea, and nausea if eaten. In addition, Tampion (1977) states that the plant is thought to contain a phytotoxin which can cause delirium, collapse, and death.

Although there are no reports of the use of the seeds in alcohol therapy from other areas, several ethnobotanical uses are cited by various scholars. Martínez (1959, 1962) cites several early Spanish references to the plant's utility in humoral medicine and more recent uses of the sap of the tree in curing elephantiasis and leprosy. The caustic sap is also used as a fish poison in Colombia (Altschul 1973), as is the bark of the tree in other unidentified areas (Hardin and Arena 1969). Two or three of the seeds can be used as a purgative, while several of the seeds have also been used to poison coyotes (Blohm 1962).

Conclusion

Further study would be necessary to identify those specific chemical properties of the seeds of *haba de San Ignacio* which allow it to be used as an ethnomedical herbal in aversion therapy. Unfortunately, both the financial resources and the academic interest in conducting such a study are currently lacking*. It may be that roasting the seed and/or the relatively small dosage of the plant creates a situation in which nausea and vomiting occur only when the *remedio* is used in conjunction with the subsequent consumption of alcohol, since no ill effects were reported by informants for individuals who consumed the herbal without drinking beverage alcohol. This might suggest the existence of a synergistic reaction between the toxalbumin of the seeds and the alcohol, such action allowing the therapy to be effective. Whatever the case, the application of the herbal, and a similar application of a few other *remedios*, are in common use as one form of indigenous alcohol therapy on the Eastern portion of the United States–Mexico border.

Acknowledgements

Part of the ethnographic research which produced this report was supported by a supplemental grant from the Texas Commission on Alcoholism. The grant allowed the author to study ethnomedical types of alcohol therapy. Other ethnographic data collected were supported by the Regional Medical Program (RMPT Grant #75-1086) to study Mexican American folk medicine.

*Anyone wishing to pursue this problem further is welcome to contact the author at Pan American University in Edinburg, Texas, for a supply of the seeds or other information that would help to identify the active ingredients of the seeds.

I would like to acknowledge my appreciation for the help given me by Dr. Robert Lonard of Pan American University; he suggested several Spanish language sources of botanical materials that led to the eventual identification of *haba de San Ignacio*.

References

Altschul, S. von Reis, *Drugs and Foods from Little-Known Plants: Notes in the Harvard University Herbaria*, Harvard University Press, Cambridge, Mass., 1973.

Blohm, H., *Poisonous Plants of Venezuela*, Harvard University Press, Cambridge, Mass., 1962.

Hardin, J. W. and Arena, J. M., *Human Poisoning from Native and Cultivated Plants*, Duke University Press, Durham, N.C., 1969, p. 93.

Martínez, M., *Plantas Útiles de la Flora Mexicana*, Ediciones Botas, Mexico, 1959, pp. 305 - 308.

Martínez, M., *Las Plantas Medicinales de México*, Ediciones Botas, Mexico, 1962, pp. 427 - 428.

Pammel, L. H., *A Manual of Poisonous Plants*, The Torch Press, Cedar Rapids, Iowa, 1911.

Pesman, M. W., *Meet Flora Mexicana*, Dale S. King, Globe, Arizona, 1962, pp. 160 - 161.

Standley, P. C., *Flora of the Panama Canal Zone*, Contribution from the United States National Herbarium, Vol. 27, Smithsonian Institution, Washington, D.C., 1928.

Standley, P. C., *Trees and Shrubs of Mexico*, Pub. #4461, Smithsonian Institution, Washington, D.C., 1961, pp. 645 - 646.

Tampion, J., *Dangerous Plants*, Universe Books, New York, 1977, p. 42.