

Medicinal Plants IN MEXICO

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The medicinal use of plants in Mexico predates Spanish contact. Numerous bibliographical sources and codices tell us how the ancient ethnic groups who lived in what is now Mexico made wide use of plants, both for food and to cure illness and alleviate pain. For example, the *De la Cruz-Badiano Codex* (1552) and the *Florentine Codex* written by Friar Bernardino de Sahagún (between 1558 and 1575) list and describe almost 300 medicinal plants and their uses.

Today, many of these medicines and their preparation seem strange to us. The following is the description of the cure for *la enfermedad comicial*, also known as epilepsy or the falling sickness, quoted from the *Cruz-Badiano Codex* (1991: f. 51v):

...the little stones found in the falcon's crop are useful... the root of the *quetzalatzóyatl* [*Barkleyanthus*

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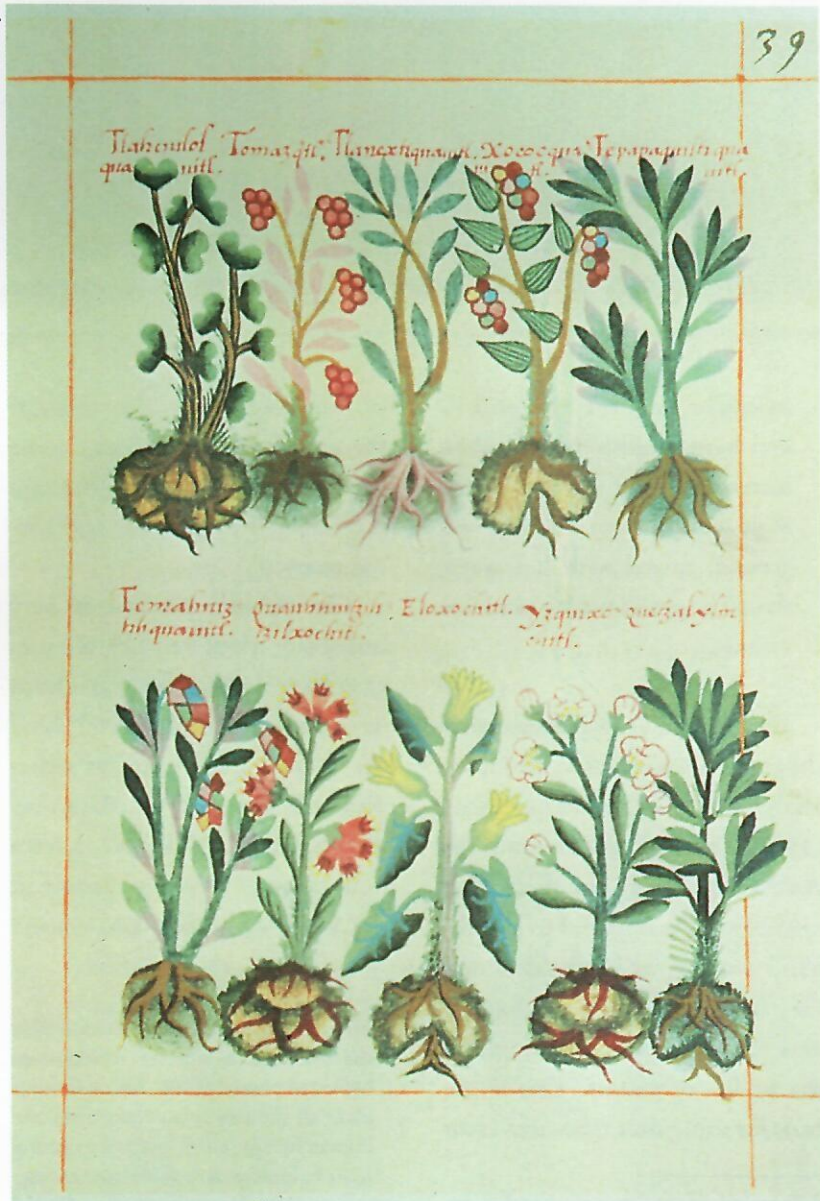


Illustration of medicinal plants from the *De la Cruz-Badiano Codex*.



Photo: Edelmir Linares

Beverage prepared with *nopal* cactus and *zoapatle* used in the treatment of infertility; taken from Sahagún's notes.

salicifolius, known as the *jarilla*]¹, deer horn, whitish incense, white incense, a hair of the dead, burnt mole meat in a pot. All this, well ground, mixed with hot water should be drunk until it produces vomiting.

Undoubtedly, today, these remedies seem unacceptable, but if we analyze them as San Filippo does (1992), we can understand the Aztecs' reasoning. For them, this *mal comicial* was linked to a problem located in the head; this is why they based their cure on ingredients from the head which ensure the return of reason. This is the basis for using deer horn and a hair

¹ Botanical identification provided by the authors.

of the dead. They also thought the smoke from the burnt mole would penetrate the brain through the ears and the nostrils and hasten recovery.

The cultural context is very important when we study the uses of medicinal plants, because it helps us to understand the reason behind the preparation of certain remedies and the empirical data they were based on. When we, as ethnobotanists,² interview people in the field, we record and respect

² Ethnobotany: the science which studies the interactions and the relationships between plants (from an individual plant all the way to an ecosystem) and human beings (on all levels of organization) in biological, cultural and ecological contexts, in geographical and social space, and through time.

the information they share with us. If they mention, for example, that red *toronjil* (*Agastache mexicana*) is used together with the other two *toronjiles* (the white and the blue or Chinese) to make the remedy more effective, this is an important piece of empirical data which gives us clues that we can corroborate and analyze scientifically.

The first time we documented this information it seemed strange

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to us, since red and white *toronjiles* were taxonomically recognized as the same species. However, people in the field pointed to differences between them. With the help of Drs. Federico García and Ofelia Collera from the UNAM's Chemistry Institute we investigated the differences. The combined results of the phytochemical study and the morphological study allowed us to separate the *toronjiles* into two different subspecies, with different chemical properties (Bye, *et. al.*, 1987). A related study (Galindo, 1982) about the pharmacological effects of aqueous extracts demonstrated that the red form relaxes smooth muscles, while the white one has the opposite effect. In this way, we were able to show that the empirical knowledge of generations was correct and that the effects of the two *toronjiles* are complementary.

At the beginning of this example we mentioned three *toronjiles*

and so far we have only discussed two. The third is the one from the Old World (*Dracocephalum moldavica*). Why is it also added to the remedy if the historical sources make no mention of it?

We suppose that this was the result of syncretism and aimed at attributing certain status to the cure. In this way it became acceptable and was taken by people from different levels of society until it became one of the most highly regarded cures for nervous diseases and *susto* (or "fright," a cultural disease).³ In Mexico, the use of medicinal plants is a daily practice, regardless of religion, beliefs or social stratum. Proof enough of this can be found just by visiting the mar-

³ *Susto* is caused by a sudden, strong fright; the patient—whether child or adult—suffers from loss of appetite, insomnia and "sadness." Children cry through the night and do not wish to be left alone. The cures for *susto* vary. [Editor's Note.]



Close-up of the *toronjil* plant (*Agastache mexicana*).

Photo: Edelmira Linares



Illustration of the *De la Cruz-Badiano Codex*; a remedy for the treatment of epilepsy.

kets of medicinal plants where a great number of species are for sale, both fresh and dried. In only one, the Sonora Market, we collected almost 500 species after working 15 years on gathering and documenting samples of the most common species. The *hierberos* (herb sellers/practitioners) mix the plants on site and recommend remedies according to the illness. Most remedies require several species, which are combined depending on their characteristics and qualities (related to the "cold-hot" gradient) (Linares, Bye and Flores, 1990). For example, the preparations for treating cardiac illnesses are "fresh," while those for gastrointestinal or respiratory problems are usually "hot." Knowledge of plants and their prepa-

Photo: Edelmira Linares

rations takes years to acquire, is considered a special gift, and is passed on from one generation to another. The majority of the people who sell medicinal plants have many years experience and work in the family tradition.

In some cases, their name reflects the agricultural activity of their community of origin. For example, for generations people who cultivate *epazote* (*Teloxys ambrosioides*) call themselves *epazoteros*. Unfortunately, modern living, the influence of television, the exodus of peasants to the United States and the limited economic possibilities available in Mexico's countryside have meant that the new generations are not interested in acquiring this age-old wisdom.

We think a new focus is needed for the cultivation of medicinal plants in Mexico. If selected species of social and commercial interest are cultivated organically,

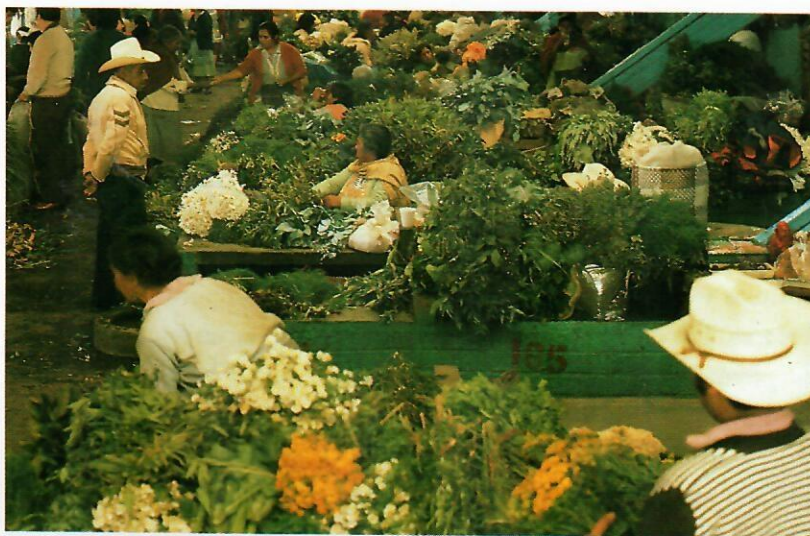


Photo: Robert Bye

The sale of medicinal plants in the Sonora Market, Mexico City.

Mexican peasants with smaller and smaller land holdings would have new economic options. Fostering intensive farming of the most profitable species would produce a better yield. In addition, this kind of farming could place a premium on species which could be dried and sold continuously.

Since the sale of medicinal plants is often difficult and not very prof-

itable, many *hierberos* who collected and grew medicinal plants have decided to look for another line of work. This means that some of today's seller-practitioners lack the traditional knowledge handed down for generations and are forced to seek literature on the topic which can give them reliable information. The desire to know more has led the way for ethnobotanists to be able to document the use of medicinal plants in our country, with the idea that this age-old knowledge should be conserved for the benefit of humanity.


Constant, serious work on the part of several research teams in Mexico has produced very important studies in the last few years, such as the *Atlas de las Plantas de Medicina Tradicional Mexicana* (Atlas of the Plants of Traditional Mexican Medicine), *La Flora Medicinal Indígena de México* (Indigenous Medicinal Flora of Mexico), el *Diccionario Enciclopédico de la Medicina Tradicional Mexicana* (Encyclope-



Photo: Robert Bye

Epazote (*Teloxys ambrosioides*) growing in Santiago Mamalhuazuca, State of Mexico.

dic Dictionary of Traditional Mexican Medicine) and *La Nueva Bibliografía de la Medicina Tradicional Mexicana* (New Bibliography of Traditional Mexican Medicine), all published by the National Indigenous Institute (INI). Besides these conventional bibliographies, the spread of electronic information has encouraged the Center for the Study of Electronic Technology and Computer Sciences (CETEI) and the National Autonomous University of Mexico (UNAM) to produce a CD-ROM entitled *Plantas medicinales de México: Usos y remedios tradicionales*.

We hope that these works will certainly encourage the study of medicinal plants and help ensure the preservation of this biological and cultural heritage. 

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Medicinal Plants of Mexico in CD-ROM

Mexico is well known for its extensive herbal tradition. It is estimated that over 5,000 medicinal plants are used by nearly half the Mexican population in herbal cures and treatments.

The CD-ROM *Medicinal Plants of Mexico: Traditional Uses and Remedies*, produced by the National University of Mexico and the Center for the Study of Electronic Technology and Computer Sciences presents many of the most common and representative native and non-native species used in popular Mexican herbal practices. Its primary objective is to document a vast body of knowledge forming an integral part of Mexican culture that, unfortunately, is in danger of disappearing.

Among its main features this work includes: two language options, English and Spanish; a list of plants destined for male or female illnesses, which at the same time separates their use according to the part of the body to be treated (head, chest, abdomen, genitals or legs); the plants' scientific and common names; explanatory texts written by experts in the field and several videos that are part of the "Uses" section.

The use of medicinal plants is presented here from the perspective of preventive medicine and maintaining good health and therefore should not be considered infallible. Their use in moderation is safe, as shown by their widespread consumption by the general public. 