

## TRADITIONAL MEDICINE OF BAJA CALIFORNIA SUR (MEXICO) I.

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(Accepted June 16, 1986)

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### Summary

This study deals with the medicinal use of 30 plants collected in the Municipio de Los Cabos and part of the Municipio de la Paz, Baja California Sur, Mexico. The plants were all taxonomically identified at least to genus level, and their medicinal use, as described to us by elder people, is discussed.

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### Introduction

Until the opening of the transpeninsular highway in 1979, a relative isolation had characterized the population of Baja California Sur, which was mainly relying on locally produced goods (Castro 1983). As a consequence a rich tradition in herbal medicine had persisted in the area, but now with the transition to modern medicine this accumulated knowledge is gradually disappearing. One of the first descriptions of the natural resources of Baja California Sur is that of the Jesuit priest Miguel del Barco (1768), who briefly described some of the medicinal uses of some plants used by the two ethnic groups *Cochimies* and *Pericues*, living then in the area. The present medicinal use of some plants from this region has been described by Coyle and Roberts (1975); nevertheless, no ethnobotanical and ethnopharmacological work has been done in Baja California Sur.

At present, the remnants of traditional medicine are almost exclusively practiced as house remedies using recipes derived from plants, animals or natural inorganic substances. This practice is most widespread in isolated populations, where the knowledge is still preserved among the elders.

Increased access to modern communication systems and transportation has facilitated the sharing of this information among previously more isolated people. At present, plants originating elsewhere in Mexico can be seen growing in local gardens, strictly for their medicinal purpose.

In spite of much effort, it has been possible to locate only one *Curandero* or medicine-man learned in the art of traditional healing. This person still

expresses the belief that sickness is the cause of a combination of external physical conditions and "evil spirits". Accordingly, the cure is obtained by a combination of prayers and treatments with medicinal plants.

Undoubtedly, it could be difficult to trace the origins of these remedies back in time to the indigenous population of the area. Unfortunately, much of this ancient knowledge has disappeared with the absorption of the original habitants into the incoming population (Martínez, 1956). However, some of the elder informants stated that their knowledge of medicinal plants was passed on them by their forebears, who were *Pericues*. Only 10 years ago there were still some *curanderos* or "medicine men", who practiced traditional medicine but unfortunately these did not transfer their knowledge.

## Methodology

The information was obtained by interviewing elder people living in small villages and communities of the Municipio de Los Cabos and part of the Municipio de La Paz (enlarged area in Fig. 1). Many of the informers were quite reluctant to reveal their knowledge of traditional medicine, until a more personal relationship was established with the investigator after several visits. Seventy-one informers were interviewed. All of them were over 70 years old, except for one person who was 40 years old.

In an effort to obtain information concerning the local name, preparation, use, administration and effectiveness of medicinal plants, the informants were asked the following questions: Do you use medicinal plants or house remedies to cure your sickness? Which kind of plants do you use? Does it effectively cure your sickness? How do you prepare it? How long do you take the remedy? How many times a day do you take it? What dosage do you use?

Most of the time the informants showed us the plants they use, allowed us to keep samples of them and helped us with the collecting. Each specimen was collected and labeled indicating number, date of collection, locality and medicinal use. Duplicate herbarium specimens were retained at the Marine Biological Department of the Universidad Autónoma of Baja California Sur (Mexico) for identification. Voucher specimens were deposited at the herbarium of the Biological Institute of the Universidad Nacional Autónoma of Mexico.

## The research area

The state of Baja California Sur covers the Southern half of the Peninsula of Baja California. This Peninsula extends from lat. 32° 30'N to lat. 23°N and long. 110°W to long. 117°N, approximately. The two most important mountain ranges in Baja California Sur are Sierra de la Giganta and Sierra de La Laguna. The highest point of these Sierras rises to nearly 2000 m (6000 ft.) above sea level. These geographical conditions are reflected in climatic



and vegetational zones ranging from desertic near the coasts to temperate up in the mountains, creating an unusually high plant diversity (Coyle and Roberts, 1975).

## Results and discussion

La Paz (160,000 inhabitants) is the capital of the State of Baja California Sur, having a significant exchange of ethnopharmacological knowledge with mainland Mexico due to the presence of several herbal medicine stores in this city. In order to avoid its influence in the traditional medicine of the area, this investigation does not include the city of La Paz, but rather 58 communities located in Municipio de Los Cabos and Municipio de La Paz. Until now 252 local names of traditional medicinal resources have been registered by us in this area. One hundred twenty medicinal plants have been collected of which 30 species have been botanically identified and are reported here.

Common medicinal use of the plants, as agreed by several independent informers from different geographical localities mentioned in Fig. 1, are recorded in Table 1. Information about the dosages administered was difficult to obtain because the quantity used was repeatedly described unspecifically as "a small amount" and so on. Owing to this uncertainty the amounts of plant used in a preparation are not included. The diagnosis presented under the heading "medicinal use" is based on the descriptions of symptoms as related by the informers and are therefore, in several cases, inexact.

In Table 1, the number of informants recommending the use of a certain plant against a specific ailment, divided by the total number of informants mentioning the use of the plant has been included. These data allow an assessment of the distribution of a certain remedy in the area. Although this cannot be taken as a "proof" of medical activity or the lack of activity we feel that a widely distributed remedy may be more likely to show activity since so many people rely on it and since the effectiveness must have been tested in many cases. This does not mean that a cure recommended by only a few informers is without validity but may simply reflect the disappearance of this knowledge.

Some species mentioned in Table 1 are combined with other plants for the same or different use as follows.

*Quina* (*Colubrina glomerata* Benth.) Hemsl.: the bark is boiled in water with *cacachila* (*Karwinskia humboldtiana* Roem & Sch.) Zucc., *guachichila* (*Loeselia ciliata* L.), seeds of *cholla* (*Opuntia cholla* Weber), *hierba del manso* (*Anemopsis californica* (Nutt.) Hook. & Arn.) and *borraja* (*Borago officinalis* L.) as a remedy against malaria, fever and cough.

*Cacachila* (*Karwinskia humboldtiana*): most people are aware of the toxicity of the fruit. Paralysis produced by ingestion of the fruit is treated with a decoction of the leaves, branches or roots of the same plant. The paralyzed extremities are washed and massaged with the decoction.

TABLE 1  
TRADITIONAL MEDICINE OF BAJA CALIFORNIA SUR (MEXICO)

Col. no.	Local name	Botanical name	Plant part	Medicinal use	No. of informants	Preparation	Administration
ASCLEPIADACEAE							
1	Jumete Yamete	<i>Asclepias subulata</i> <i>Decne.</i>	Latex	Ulcer skin corn and wart	2/14 12/14	Latex	Applied directly
BIGNONIACEAE							
9	Palo de Arco	<i>Tecoma stans</i> (L.) Juss.	Flower, branches and bark, all together or separate	Diabetes, blood pressure, stomach ache	15/36 5/36 17/36	Decoction	As tea or instead of water
BORAGINACEAE							
23	Hierba del sapo	<i>Heliotropium curassavicum</i> var. <i>oculatum</i> (Heller) I.M. Johnston ex Tidestrom	Branches	Wounds, inflammation	1/1 1/1	Decoction	Washing the wound
CELASTRACEAE							
3	Mangle rojo	<i>Maytenus phyllanthoides</i> Benth.	Bark	Blood circula- tion wounds, stomach ache, ulcer	2/7 1/7 1/7 3/7	Decoction	Washing wounds or as tea when thirsty
CAPPARIDACEAE							
31	Guaco	<i>Wisizenia refracta</i> var. <i>palmeri</i> (A. Gray) I.M. Johnston	Branches or whole plant	Rheumatism bites of poisonous snakes, black widow or stings of scorpion or insects	3/41 35/41	Decoction, ethanolic extract	As tea or for rubbing the bite or sting with ethanolic extract

TABLE 1 (Continued)

Col. no.	Local name	Botanical name	Plant part	Medicinal use	No. of informants	Preparation	Administration
COMPOSITAE							
21	Istafiate	<i>Ambrosia psilostachya</i> DC.	Root, branches together or separated	Amoebas, worms, stomach ache	1/19 4/19 11/19	Decoction	As tea during 9 days
17	Gordolobo	<i>Anaphalis margaritacea</i> (L.) A. Gray	Branches, flower, root, together or separate	Cold, cough, bronchitis, fever	11/13 1/13 1/13	Decoction	As tea
14	Buena Mujer	<i>Aster spinosus</i> Benth.	Root, or whole plant	Infertility	10/15	Decoction	As tea until conception
24	Escoba Amarga	<i>Baccharis</i> spp.	Whole plant	Paralysis, rheumatism	1/2 2/2	Decoction	Used for bathing, the leaves used for preparation of the decoction are applied at the location of the pain
12	Guatamote	<i>Baccharis sarathroides</i> A. Gray	Branches	Wounds,	19/37	Decoction	Washings, as tea
	Huatamote	<i>Baccharis glutinosa</i> Pers.	Root	loss of hair, kidney pain	9/37 1/37		
34	Romerillón	<i>Baccharis</i> spp.	Branches	Rheumatism	1/3	Fried in a mixture of petrol, gasoline, camphor, liniment and pig fat	Applied by rubbing before going to sleep
30	Apán or Apá	<i>Bebbia atriplicifolia</i> Greene	Leaves or plants	Bites of poisonous snakes and scorpions stings	9/9	Decoction, ground leaves	As tea, applied directly

28	Aceitilla blanca	<i>Bidens pilosa</i> L. var. <i>radiata</i> Schulz-Bip.	Whole plant	Diabetes	1/1	Decoction	As tea, cattle may die if they eat the withered plants. As tea
25	Hierba del Venado	<i>Porophyllum gracile</i> Benth.	Leaves or branches	Malaria, diarrhoea, stomach ache, urethritis, cystitis, kidney calculus, pneumonia	1/17 1/17 6/17 1/17 1/17 1/17 3/17	Decoction	
EUPHORBIACEAE							
27	Lomboy blanco	<i>Jatropha cinerea</i> (C.G. Ortega) Muell. Arg. in D.C.	Sap or branches	Haemorrhoids, Mouth infection, wounds, cicatrization	3/31 5/31 29/31	Sap or decoction	Applied directly to the infected area, washing the wound
7	Lomboy colorado	<i>Jatropha vernicosa</i> Brandege	Sap, bark	Tooth ache, wounds (antiseptic and analgesic), haemorrhoids	1/5 2/5	Sap or decoction	Applied directly, washing the wound
11	Ortiguilla	<i>Tragia nepetifolia</i> Cav. var. <i>nepetifolia</i>	Root	Urethritis, cystitis and to facilitate placenta expulsion	2/5 2/4 2/4 1/4	Decoction	As tea once or twice
FOUQUIERIACEAE							
2	Palo Adán	<i>Fouquieria diguetii</i> (Van Tieghem) I.M. Johnston	Flower's sap	Eye cataract	1/5	Sap	Applied directly on the eye
LEGUMINOSAE							
26	Palo Brazil	<i>Haematoxylon brasiletto</i> Karst.	Bark or branches	Poor blood circulation and heart trouble	5/32 28/32	Decoction	As tea two or three times a day, instead of water until cessation of symptoms

TABLE 1 (Continued)

Col. no.	Local name	Botanical name	Plant part	Medicinal use	No. of informants	Preparation	Administration
ONAGRACEAE							
15	Fresno	<i>Ludwigia octovalvis</i> (Jacq.) Raven	Branches	Bites of black widow	2/2	Decoction	Used for bathing, daily
POLYPODIACEAE							
13	Peyote	<i>Pellaea ternifolia</i> (Cav.) Link var. <i>ternifolia</i>	Root	Rheumatism	1/2	Roasted ground and then mixed with hierba del manso ( <i>Anemopsis californica</i> ) and vaseline	Applied to the aching area
20	Hierba del golpe	<i>Thelypteris puberula</i> (Baker) Morton var. <i>sonorensis</i> A. Reid Smith	Whole plant	Pneumonia, bruise	6/8 2/8	Decoction	As tea, poultice applied at the site of the bruise
POLYGONACEAE							
16	Zarzaparrilla	<i>Polygonum leptanthifolium</i> L.	Whole plant	Anemia, skin ulcer, kidney pain, venereal disease, rheumatism	6/10 1/10 1/10 1/10	Decoction	As tea instead of water until symptoms disappear
RHAMNACEAE							
8	Quina	<i>Colubrina glomerata</i> (Benth.) Hemsl.	Bark	Cicatrizing diabetes, fever, malaria, stomach ache	1/22 1/22 12/22 10/22 2/22	Decoction	For washing wounds, as tea, three times a day until symptoms disappear



4	Cacachila	<i>Karwinskia humboldtiana</i> (Roem. & Sch.) Zucc.	Shoot or root	Fever, headache	5/14 2/14	Decoction	As tea, also administered as antidote to poisoning by ingestion of the fruit of this plant
SELAGINELLACEAE							
5	Siempre viva	<i>Selaginella lepidophylla</i> (Hook. & Grev.) Spring	Whole plant	Cystitis, urethritis, kidney pain	2/13 10/13	Decoction	As tea instead of water, until symptoms disappear
SOLANACEAE							
10	Levantate Juan	<i>Nicotiana glauca</i> R. Graham	Bark, leaf	Headache, rheumatism	7/10 3/10	Roasted leaves or bark	Applied to the area in pain
32	Mariola	<i>Solanum hindstianum</i> Benth.	Root or flower	Menstruation, to facilitate placenta expulsion, to fortify the uterus and ear ache	2/7 1/7 2/7 2/7	Decoction	As tea
UMBELLIFERAE							
18	Chuchupate	<i>Arracacia brandegeei</i> Coulter & Rose	Root	Diabetes, kidney pain, stomach ache, rheumatism, blood pressure	1/11 2/11 3/11 2/11 3/11	Decoction	As tea
VERBENACEAE							
6	Salvia real	<i>Lantana glandulosissima</i> Hayek	Leaf	Cicatrizing, cough, rheumatism, ear ache, headache	1/7 2/7 2/7 1/7 1/7	Roasted leaves	Applied to the area in pain

*Siempreviva* (*Selaginella lepidophylla* Hook. & Grev.) Spring: the whole plant is boiled in water with *Guatamote* (*Baccharis salicifolia* Ruiz & Pav.) and the "beard" or ear of green corn (*Zea mays* L.). The decoction is used against urinary tract infections (urethritis, cystitis). It is drunk several times a day in place of water until the symptoms disappear. One woman reported success in stopping vaginal hemorrhage by drinking tea prepared from *siempreviva*.

*Gordolobo* (*Anaphalis margaritacea* L.): a decoction of this plant, along with *sauco* (*Sambucus mexicana* Presl ex DC.), *guachichila* (*Loeselia ciliata*), and *borraja* (*Borago officinalis*) taken as tea is used against common cold and cough. The tea is taken before going to sleep until the symptoms subside. A cup of *gordolobo* boiled in goat's milk is taken before breakfast against worms.

*Palo de Arco* (*Tecoma stans* (L.) Juss.): tea prepared from a mixture of shoots from this plant and *istafiate* (*Ambrosia psilostachia* DC.) is taken three times a day to make stomach ache disappear. Tea made from flower of *palo de arco* may be taken twice a day to control blood pressure.

*Buena Mujer* (*Aster spinosus* Benth.): decoction with *gobernadora* (*Larrea tridentata* (Sessé & Moc. ex DC.) Coville) and *hierba del manso* (*Anemopsis Californica*) is taken as tea before breakfast and after dinner for 9 days to fortify the uterus to conceive children. After 3 or 4 months the treatment is repeated until conception.

*Palo Brazil* (*Haematoxylon brasiletto* Karst.): a tea prepared from shoots of this plant with nutmeg and 7 different flowers of *Citrus* sp. is taken to control blood pressure and circulation.

*Lomboy* (*Jatropha cinerea* (C.G. Ortega) Muell. Arg.): the sap is used against *algodoncillo* (mouth infestation). The mouth is washed with a soda solution followed by the sap. The sap is reportedly used successfully against hemorrhoids.

*Apan* (*Bebbia atriplicifolia* (A. Gray) Greene): decoction of a mixture of *apan*, *ramajo blanco* (this plant has not yet been collected), *golondrina* (*Euphorbia* spp.), and *cilantro* (*Coriandrum sativum* L.) is taken as a remedy against poisons. Poultice made of leaves of *apan* and carthamus oil is applied on snake bites or the bite is severed in a cross and washed with decoction of *apan* leaves.

*Guaco* (*Wislizenia refracta* var. *palmeri* (A. Gray) I.M. Johnston): a decoction of the plant is taken as tea tree times daily for rheumatic pains. The sore areas are massaged with ethanolic extracts of the leaves. Poultice made of this plant is used against rash. The leaves heated in oil, are used to rub in poisonous bites, which may also be washed with gasoline and treated with earth and warm urine followed by the application of a roasted piece of *pitaya* (*Machaerocereus gummosus* (Engelm.) Britt. & Rose) or *Stenocereus thurberi* (Engelm.) Buxbaum var. *thurberi*).

*Mariola* (*Solanum hindsianum* Benth.): a tea prepared from flowers or leaves, *rosa de castilla* (*Rosa* spp.), and sugar cane pulp is taken instead of

water to fortify the uterus after childbirth. Flowers of *mariola* may be boiled with *manzanilla* (*Matricaria chamomilla* L.) and *rosa de castilla* (*Rosa* spp.) and taken as tea before breakfast to start menstruation.

### Acknowledgments

This work would not have been possible without the essential collaboration of all the informers of this area who willingly shared their knowledge of traditional medicine. We are grateful to Ing. Homero Fraga of the Agronomy Department of the Universidad Autónoma of Baja California Sur, for his valuable help during the initiation of this project and to the group of the Botanical Department of the Biological Institute of the Universidad Nacional Autónoma of Mexico, for the identification of the specimens (O. Tellez, F. Ramos, J.L. Villaseñor, M. Sousa and T.P. Ramamoorthy). Miguel Domínguez of the Centro de Investigaciones Forestales del Noroeste of Baja California Sur, collected some samples and José Luis León de la Luz of the Centro de Investigaciones Biológicas of Baja California Sur, helped with the taxonomical identification of some samples. Dr. Carsten Christophersen made valuable suggestions during the preparation of this paper. Thanks are also due to the Programa Nacional de Estudios Superiores of the Secretaría de Educación Pública (PRONAES – SEP) for economic support.

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