

have to be argued that coolness in spaces between the shell fragments enables them to withstand Floridian heat-waves. In Virginia, moreover, the ravine-bottoms preferred by the three warmth-loving orchids are about the coolest situations on the Coastal Plain. Their isolated distribution northward, however, can be simply interpreted by the same theory of reaction-control applied in the case of the other set, to the effect that they best obtain the nutriment they require in circum-neutral soils, and beyond their normal areas can withstand the unfavorable environment only in the restricted localities where such soils are prominent.

It is inferred then, that in the cases of these six orchids, and by analogy in those of hundreds of other plants which show similar distribution-relations, the chief reason for isolation beyond the normal areas is not physical (moisture or temperature) but chemical (reaction—acidity or alkalinity).

ETHNOBOTANY.—*Remedial plants of Tepoztlan: A Mexican folk herbal.*¹ ROBERT REDFIELD, University of Chicago. (Communicated by JOHN R. SWANTON.)

The present writer, who is not a botanist, has done little more than collect the plants listed below and the accompanying ethnobotanical data.² The identification of the plants was made by Mr. Paul C. Standley, of the United States National Museum; the Compositae were identified by Dr. S. F. Blake of the Department of Agriculture. To these gentlemen the writer is deeply indebted, and especially to Mr. Standley for further assistance and advice on pre-Linnean descriptions of Mexican flora. A further obligation is owed to Mr. Donald C. Peattie, of Rosslyn, Virginia, who placed the plants in their proper families and furnished botanical notes.

The extensive ethnobotanies which have been collected among primitive peoples testify to the high degree of completeness with which many such peoples have explored their flora. To most primitive peoples no other aspect of the natural environment is as well known. Such knowledge is not, of course scientific. It is unreflective and unsystematized, growing empirically, and never entirely dissociated from magical art. The village populations of Mexico are composed no

¹ Received February 15, 1928.

² This was done in the course of an ethnological study of a Mexican village, made possible by a fellowship granted in 1926–27 by the Social Science Research Council.

longer of primitive (tribal) peoples, but of a folk to whom literacy is not unknown. City ways, much diluted, reach such villages, and city cures for rationally comprehended diseases. An interesting problem in such a village lies in the extent to and manner in which the ancient folk medicine loses ground at the expense of modern treatment, and the effect this has in causing old magical behavior to disappear.

No beginning is made on such a problem in this paper, which is no more than a catalogue of some herbal remedies in use in Tepoztlan, State of Morelos, Mexico. This town was a pueblo of the Tlahuicas, a Nahuatl-speaking tribe closely allied to the Aztecs. Its name occurs in the Mendoza³ and Magliabecchi⁴ codices, and first appears in post-columbian history in the account of Bernal Diaz del Castillo.⁵ Although less than fifty miles from Mexico City, Tepoztlan is still populated by people almost entirely Indian in blood. Both Nahuatl and Spanish are spoken.

It happens that Francisco Hernandez, physician to Philip II and traveler in Mexico in the sixteenth century, a man of both medical and botanical interests, visited Tepoztlan. At least it is true that a good many plants in his list⁶ are described as growing at or near Tepoztlan, Yautepec or Cuernavaca—a cluster of villages in northern Morelos. The writer hoped to be able to compare the uses which Hernandez gave for plants collected three centuries ago in this region with present uses in Tepoztlan, but it proved impossible to identify more than a few on Hernandez's list with plants on the list given below. Some ancient remedial uses probably survive, as do certainly some ceremonial uses (as, for example, decoration of altars with *Plumeria*, still called *cacaloxochitl*, and ceremonial use of *Tagetes*, called *cem-poalxochitl*).

The folklore of present-day Mexico is a close compound of Indian and early Spanish elements. Most of the plants in the following list are indigenous to Mexico, but a few have been introduced from Europe. Such plants are *Ruta graveolens* L., *Ricinus communis* L., *Malva parviflora* L., *Peucedanum graveolens* (L.) Benth. & Hook., *Anagallis arvensis* L., *Borago officinalis* L., *Chrysanthemum parthenium* (L.)

³ Plate 9 of the Kingsborough reproduction.

⁴ Commentary to Section 62.

⁵ *The conquest of New Spain* (Hakluyt translation), Book 10: (chap. 144) p. 67.

⁶ FRANCISCO HERNANDEZ: *Cuatro libros de la naturaleza y virtudes de las plantas de la Nueva Espana*. Ed. by Peñafiel, Morelia, 1888 (first translated into Spanish and printed in Mexico in 1615).

Bernh., the pomegranate and the citrus fruits. These enter into the herbal pharmacopœia of Tepoztlan today, and into remedies that have precolumbian sources; but in no case, except perhaps *Ricinus communis* L., does such an introduced plant bear a Nahuatl name. No doubt the Spaniards introduced new ways of using wild plants as remedies, and no doubt they seized upon native species resembling those with which they were familiar, and instructed the Indians in their use.

But in the large the folk medicine of such a Mexican village as Tepoztlan is probably more Indian than European. The Aztecs particularly had a vast knowledge and practice of herbal medicine. The extensive list of Hernandez and the frequent references in Sahagun and the other early writers testify to this, as does equally the great body of plant lore of the contemporary Mexican population. Among the Aztecs there was something of a systematic view of disease and its treatment; there was more than one deity presiding over special forms of sickness, that had to be propitiated.

The information embodied in the following list was obtained largely from one informant, a woman of middle age. She had had a little schooling, but her life was one entirely without influence of the written word; she represented the average run of folk-culture of the town. From her were obtained the names and uses of one hundred and five local medicinal plants. (About half of these descriptions were identified with botanical names and appear below.) It is clear that the information of this one person was by no means exhausted. Yet her knowledge was probably not unusually great; she did not assume to be a *curandera* (*Tepahtiani*); as she put it, she did not "know how to boil" (*sabe hervir*). Many of her ethnobotanical items were checked against the knowledge of other persons; sometimes additional but very rarely contradictory information was obtained. The folk knowledge of the village is fairly consistent.

In the list below the Spanish name precedes the Nahuatl term for each plant. A dash in either position indicates that the informant knew no equivalent in the other language. The Nahuatl names, transcribed by a person without phonetic training, probably contain errors. The aspirate or fricative following a vowel which Spanish grammarians indicate with the *salttillo* accent is here indicated with the letter "h." An asterisk indicates that no actual specimen was identified but that the plant is sufficiently notorious to be included.

SELAGINELLACEAE

1. SELAGINELLA CUSPIDATA Spring.

——— *Tepechayotli* ("chayote of the mountains"). A boiled infusion of this plant is taken internally for a disease of pregnancy known as *necaxanilli* ("loosening" of the female organs), in order, it is said "to fix the placenta."

AMARYLLIDACEAE

2. *POLIANTHES (TUBEROSA L.)

Azucena. Omixochitl. This plant does not grow in Tepoztlan, but is imported to combine with a species of *Laelia* for a use described under the next following name. The plant is probably the same as that known under this name to the ancient Aztecs. The name means "bone flower" and refers perhaps to its color.

ORCHIDACEAE

3. LAELIA sp.

——— *Tzacxochitl.* The pseudobulb of this plant is ground with that of *Polianthes* and boiled with sugar and chocolate. The resulting potion is taken by a pregnant woman to prevent the abortion which would otherwise follow when she conceives a sudden appetite that she is unable to satisfy. "All of a sudden she wants to eat something; she cannot get it; so she takes *tzacxochitl* so that the child does not fall."

The plant does not grow in Tepoztlan itself, but is obtained from the *tezcal*, a rocky area on the slopes of the mountain.

URTICACEAE

4. PARIETARIA PENNSYLVANICA Muhl.

Tripa de Judas. Tepanzozmahitli. Relatives of this plant, some of which are doubtless called by this same Spanish name, "the guts of Judas" are eaten as greens in Europe. In Tepoztlan the entire plant is eaten, boiled, as a remedy for "internal inflammations." It also enters into remedial compounds; one such is described below under no. 60, *Chrysanthemum parthenium* (L.) Bernh.

AMARANTHACEAE

5. IRESINE INTERRUPTA Benth.

——— *Tlatlancuaye.* The plant is ground up and steeped with other herbs and placed on the lungs and abdomen to reduce the fevers. One such recipe includes rose leaves, wine and coriander.

PAPAVERACEAE

6. BOCCONIA ARBOREA S. Wats.

Gediondillo. ——— A piece of the leaf is plastered on the temple with soap to cure headache. Other plants are sometimes used, and quite commonly a patch of porous plaster.

CRUCIFERAE

7. LEPIDIUM DENSIFLORUM Schrad.

Lantejilla. ——— As with other crucifers, the stinging taste of this plant probably suggested its local use. It is steeped in alcohol and placed on the chest to cure a cold.

LEGUMINOSAE

8. CAESALPINIA PULCHERRIMA (L.) Swartz.

Flor de camaron. ——— This plant of wide distribution, known in English-speaking countries as "Barbados Pride," "Flower Fence," "Dwarf Poinciana," etc., is known in Tepoztlan as "shrimp flower." The leaves are boiled with the flowers of the *cabellito de angel* tree (probably *Ceiba pentandra* (L.) Gaertn.), with manzanillos, raisins, licorice and a fragment of armadillo shell to prepare a remedy, applied externally, for whooping cough.

9. CASSIA LAEVIGATA Willd.

Guajillo. Yehcapahztin. The meaning of the Nahuatl term is "wind-medicine." Perhaps this is in reference to the fact that it is used for troubles of the respiratory tract. The plant is ground in alcohol with *Senecio salignus* DC., and the infusion rubbed on the chest.

10. ERIOSEMA GRANDIFLORUM (S. & C.) Seem.

Guayabillo. ——— An infusion of the leaves is used to wash sore feet.

11. MUCUNA sp.

Ojo de venado. ——— The seed of this tree, its appearance suggesting the local name "deer's eye," is widely worn in Mexico as a charm. The tree does not grow in Tepoztlan but the seeds are imported for sale. In many parts of Mexico the seeds are worn as a charm against the evil eye, but in Tepoztlan they are worn to keep off the evil spirits of the air that cause the disease generally known by the same name, *los aires*, or, in Nahuatl, *Yehyehcahuiliztli*. These evil spirits (*yehyecatzitzin*), are an important cause of disease in Tepoztlan, and besides the numerous herbal treatments which appear in this list for troubles so caused, there are many ritualistic treatments, as well as an elaborate technique for propitiating the malevolent spirits. The *Mucuna* seeds are generally perforated, and bits of colored yarn are put through the holes. Bright-colored yarn is commonly employed in many connections to propitiate *los aires*.

RUTACEAE

12. RUTA GRAVEOLENS L.

Ruda. ——— This European plant with widespread popular remedial associations was introduced into Tepoztlan together with its therapeutic reputation. A recipe there collected provides that the plant be boiled with *Salvia microphylla* H. B. K. and an unidentified plant, apparently a mint (according to Standley), called locally *poleo del monte* or *huatlaxictzi*. The infusion is taken for abdominal pains. The plant is also used to wash persons affected by *los aires* (described under no. 59, *Piqueria trinervia* Cav.).

13. CITRUS AURANTIFOLIA (Christm.) Swingle.

Flor de limon. "Limonxochitl." Lime flowers boiled in water with cinnamon and sugar added form one of the many remedies for a disease known as *la mohina* (fretfulness; peevishness). This disease is characterized by persistent anger or ill-temper. There are a number of such strong emotional states which are considered and treated as diseases in rural Mexico. In *la mohina* various warm flavored drinks are given to soothe the patient.

MALPIGHIACEAE

14. THRYALLIS GLAUCA (Cav.) Kuntze.

——— *Xaxaxacotic.* This plant, together with *Hypericum pratense* Schlecht and two unidentified plants known as *huittatenaxihuitl* and *ihilacatzihuitl*, is boiled and administered to pregnant women suffering from a dis-

ease called *costumbre blanca* ("white menses") or *iztaccocoliztli* ("white sickness"). This remedy is also administered for the different sickness known as *necaxanilli*, referred to under no. 1, *Selaginella cuspidata* Spring.

EUPHORBIACEAE

15. *RICINUS COMMUNIS L.

Digerillo. Axaxaxoxihuitl. The leaves are boiled and administered internally for fevers. The informants knew no remedial use of the seeds, but said that the flowers, when dry, are pressed and the oil extracted for burning.

ANACARDIACEAE

16. SCHINUS MOLLE L.

Pirun. ——— This common tree, introduced from Peru, enjoys a wide variety of local names and usages, both curative and culinary, in Mexico.⁷ In Tepoztlan, among other uses, the leaves are steeped in water and applied to parts of the body affected with rheumatism.

MALVACEAE

17. MALVA PARVIFLORA L.

Malvas. ——— This plant, of European introduction and folk medicine, is boiled with *Piqueria trinervia* Cav., *Verbena polystachya* H. B. K., and a rose known as *rosa de Castilla*, and the infusion taken internally for fevers.

18. MALVAVISCUS CONZATTII Greenm.

Flor de molenillo. Atlatzompililli. This plant enters into recipes for cough medicines. It is boiled with *Caesalpinia pulcherrima* (L.) Swartz, and a piece of armadillo shell, both of which are often used in other combinations to treat coughs.

GUTTIFERAE

19. *MAMMEA AMERICANA L.

——— *Pitzli.* This word means simply "kernel." It is more particularly applied to the stone of the mamey which, ground, enters into cathartic compounds in Tepoztlan.

HYPERICACEAE

20. HYPERICUM PRATENSE Schlecht.

Sangrinaria. ——— European relatives of this plant are rich in folk associations. In Tepoztlan the Mexican plant is an ingredient in the remedy described under no. 14, *Thryallis glauca* (Cav.) Kuntze.

CACTACEAE

21. HELIOCEREUS SPECIOSUS Britton & Rose.

——— *Ahuaxochitl.* The name, meaning simply "thorn-flower," was doubtless applied to many cacti. The flowers of this species are boiled, and the infusion taken internally for colds.

⁷ PAUL C. STANDLEY. *Trees and shrubs of Mexico.* Contr. U. S. Nat. Herb. 23: 661. 1923.

LYTHRACEAE

22. HEIMIA SALICIFOLIA (H. B. K.) Link.

Yerba jonequil. Xonecuilli. This herb is ground up in alcohol and applied very hot for rheumatism, as one takes the steam-bath in the *temazcal*, (the pre-Columbian sweat-house still in general use throughout rural Mexico.) Hernandez has a "*xonecuilpahtli*" which he says was used as a remedy for colds, but it is not possible to identify his description.

PUNICACEAE

23. PUNICA GRANATUM L.

Granada. ——— The leaves of the European pomegrante are used as a wash for the lips when they are affected by a disease characterized by whiteness of the lips and known as *camapalaniliztli* ("rotten mouth"). The leaves of the guayaba (*Psidium guajaba* L.) are added and both roasted and ground before making the infusion.

OENOTHERACEAE

24. OENOTHERA MEXICANA Spach.

Yerba del golpe. ——— As its name indicates, this plant is used for bruises. An infusion is made and minor lesions are washed in it.

UMBELLIFERAE

25. PEUCEDANUM GRAVEOLENS (L.) Benth & Hook. (Syn: *Anethum graveolens* L.)

Hinojo. ——— This European plant forms an ingredient in recipes for remedies taken internally to reduce restlessness during fevers. In one such recipe the following are boiled together with this plant: *Flor de tilia* (*Tilia* sp.); *flor de manita* (not identified); *flor de nacahuite* (*Solanum fontanesianum* Dunal); *la peonia* (*Peonia* sp.); nutmeg; cinnamon; and magnesia powder.

PRIMULACEAE

26. ANAGALLIS ARVENSIS L.

Coralillo. ——— The leaves of this European plant are boiled and applied to inflammations.

OLEACEAE

27. *FRAXINUS sp.

Fresno. ——— The leaves of the ash are mixed with wine and applied as a poultice for headache.

LOGANIACEAE

28. BUDDLEIA SESSILIFLORA H. B. K.

Lengua de vaca. Pahtlaxoxoctic. The Nahuatl name of this plant means "green medicine." It is common in Tepoztlan and used for a variety of ailments.⁸ The leaves are applied to the lungs to reduce fever. Mixed with suet the leaves are applied to the gums as a poultice for toothache. The plant also has a (probably purely magical) use in connection with cookery. Tortillas are cooked on a flat clay griddle, the *comal*. Some of the leaves of this

⁸ As elsewhere in Mexico. See STANDLEY, Contr. U. S. Nat. Herb. 23: 1145. 1924.

plant are ground in *nejacote* (*nexacotl* or *nexatl*—the water in which corn is cooked with lime). Lime is added to these ground leaves and the preparation rubbed on both faces of the *comal* the first time the *comal* is used. Otherwise it is said the *comal* would break. Sometimes, when the *comal* is used thereafter, the preparation is rubbed on the upper face only.

POLEMONIACEAE

29. BONPLANDIA GEMINIFLORA Cav.

——— *Tetzotzo*. This plant is boiled together with *Solanum nigrum* L., and the infusion taken as a purge. *Verbena polystachya* H. B. K. may also be added.

30. LOESELIA MEXICANA (Lam.) Brand.

Espinoncillo. ——— This plant does not grow in Tepoztlan but is brought in from near by Cuernavaca. The leaves are boiled and the infusion taken as a purgative in fevers.

HYDROPHYLLACEAE

31. WIGANDIA KUNTHII Choisy.

Flor de chichicascle. *Tzitzicaztli* or *pahpatlanuac*. The leaves are ground and boiled and the infusion taken for abdominal pains.

BORAGINACEAE

32. BORAGO OFFICINALIS L.

Boraja. ——— This European plant is steeped in water and the infusion drunk to cool fevers.

33. TOURNEFORTIA DENSIFLORA Mart. & Gal.

Yerba rasposa. ——— The leaves are rubbed on blisters. The scabrous character of the leaves suggests a counter-irritant.

VERBENACEAE

34. VERBENA POLYSTACHYA H. B. K.

Yerba de San Jose. *Zanhuanaxictzi*. The Nahuatl name of this plant is of course a hybrid term. It is puzzling to find a plant referred to in one of two idioms in current use as Saint Joseph's plant and in the other as the plant of Saint John. A use is described in connection with no. 17, *Malva parviflora* L.

35. LIPPIA DULCIS Trev.

Yerba dulce. ——— Widely known in Mexico under this name, in Tepoztlan the plant is boiled with the flowers of a tree, probably *Ceiba pentandra* (L.) Gaertn., (known as *cabellito de angel* or *xiloxochitl*), and manzanillos to make a remedy applied externally for coughs.

LABIATAE

36. OCIMUM MICRANTHUM Willd.

Albahaca. ——— A little of this mint is placed in the ear to stop earache.

37. SALVIA MEXICANA L.

——— *Tlapachichin*. A use of this plant is described under no. 54, *Viguera grammatoglossa* DC.

38. SALVIA MICROPHYLLA H. B. K.

Mirto. ——— A use of this plant is described in connection with no. 59, *Piqueria trinervia* Cav.

39. HEDEOMA PIPERITA Benth.

Tabajillo ——— This plant is boiled with brown sugar and the liquid taken internally for abdominal pains.

SOLANACEAE

40. NICOTIANA TABACUM L.

Tabaco cimarron. Cuahuhtl. The Nuhuatl form given in Simeon's dictionary and elsewhere is *cuauhtl*, but the local informant gave the form indicated above. The remedial use in Tepoztlan is of a boiled infusion as a wash to the abdomen for abdominal pains.

41. SOLANUM FONTANESIANUM Dunal.

Flor de nacahuite. Nacahuixochitl. The plant is boiled and the liquid taken internally for cough.

42. SOLANUM MADRENSE Fernald.

Flor de clamaclancle. Tlamatlantli. This plant, boiled and mixed with alcohol, is used as a remedy when a nursing baby vomits. The mother washes her breasts with the preparation and also takes a little internally. Then the child is allowed to nurse. A suggestion by the informant that the trouble came from teething tempts the writer, inexperienced in Nahuatl etymologies, to derive the local name from a Nahuatl root meaning "to quiet" and the word *tlantli* (teeth).

43. SOLANUM NIGRUM L.

Yerba nora. Tohonechichi. Both the Spanish and the Nahuatl names are common in Mexico for species of *Solanum*. This one in Tepoztlan is boiled and mixed with alcohol and applied externally for inflammations and swellings. It is also used as a wash to cool fevers.

44. DATURA CANDIDA L.

Florefundia (Florepondia) or Bomba. ——— The petals are coated with grease and placed on the gums to alleviate toothache.

45. *LYCOPERSICUM ESCULENTUM Mill. (Syn: *Solanum lycopersicum* L.)

Jitomate. Xitomatl. An infusion of tomato leaves is applied to granular eruptions.

SCROPHULARIACEAE

46. CASTILLEJA ARVENSIS C. & S.

Saummyate. Catoxictzi. European species also have uses in folk medicine. The Tepoztlan use is described in connection with no. 59, *Piqueria trinervia* Cav.

ACANTHACEAE

47. JACOBINIA SPICIGERA (Schl.) Bailey.

Muicle. ——— This name is apparently a corruption from Nahuatl, but the informants regarded it simply as a Spanish term. Standley⁹ gives several Mexican remedial uses and also mentions its employment as a dye. In Tepoztlan the plant is boiled in water with sugar and taken by pregnant women. It is one of a number of plants which are collected and brought to Mexico City to sell there.

CAPRIFOLIACEAE

48. SAMBUCUS MEXICANA Presl.

Sauca. ——— A use of elder is indicated under no. 55, *Bidens leucantha* (L.) Willd.

⁹ STANDLEY. Contr. U. S. Nat. Herb. 23: 1345. 1926.

COMPOSITAE

49. *SENECIO*. sp.

Lechugilla. Palancapahtli. This plant is boiled with the stone of the mamey, and with the yellow elder, *Tecoma stans* (L.) H. B. K., and an unidentified plant known as *sacasili*, and the resulting infusion taken internally by children suffering from constipation or indigestion.

50. *SENECIO SALIGNUS* DC.

Jarilla. Ac-chayatl. This plant, ground in alcohol, is combined with *Cassia laevigata* Willd. The infusion is applied externally for respiratory diseases. Standley¹⁰ gives this same local name for the Valley of Mexico, and mentions several remedial uses.

51. *TAGETES FLORIDA* Sweet.

Pericón. Teyatl. The aromatic plants of this genus make them particularly eligible for folk-medicinal uses. In Tepoztlan the flowers of this species are steeped in water and the infusion used to wash new-born babies during the week after birth. At this time the mother bathes in the *temazcal*, the indigenous sweat-house of stone. If no *temazcal* is available, she may instead wash herself with this infusion.

52. *TAGETES ERECTA* L.

Simpasuchi. Cempoalxochitl. The "African" marigold of our gardens is the well-known "flower of the dead" of the ancient Aztecs. The plant is widely known throughout Mexico under some modification of the original Nahuatl name, still in use in Tepoztlan. The plant is frequently mentioned under this name in the sixteenth century writings. It was used by the Aztecs to decorate altars and as a part of floral offerings to certain gods. It still has such ceremonial-religious uses in Tepoztlan.¹¹ It is also used remedially, the flowers being boiled and the infusion drunk for stomach troubles.

53. *ALOMIA ALATA* Hemsl.

Yerba de Santa Maria. Zohuapahtli. The Nahuatl name, an ancient one applied no doubt to other plants, suggests a remedy for female ailments ("woman medicine"). The use cited in Tepoztlan is of the plant ground and taken in a cup of alcohol with sugar and egg for palpitations.

54. *VIGUIERA GRAMMATOGLOSSA* DC.

——— *Acahual.* An infusion of the plant is applied to the chests of children suffering from respiratory diseases, such as croup. The other ingredients named are lemon flowers and *Salvia mexicana* L.

55. *BIDENS LEUCANTHA* (L.) Willd.

——— *Tzitziquilitl.* This plant, together with *Sambucus mexicana* Presl., forms an ingredient in a remedy for eye troubles. The two plants are boiled up with some raisins and the umbilical cords each of a boy and of a girl. For this remedial use umbilical cords in Tepoztlan are not buried as in some other Mexican villages, but kept. "They are worth twenty-five centavos." The presence of the umbilical cords in the remedies is due to a magical application of the fact that an important trouble of the eyes occurs in babies (no doubt *ophthalmia neonatorum*). It is supposed to be caused by the approach to the baby of someone who has recently had sexual intercourse.

56. *STEVIA MICRANTHA* Lag.

——— *Calpancatoxictzi.* The plant is boiled, mixed with alcohol, and taken internally as a remedy for those ailments thought to be caused by the evil spirits of the air (*los aires*, already referred to under no. 11, *Mucuna* sp.).

¹⁰ STANDLEY. Contr. U. S. Nat. Herb. 23: 1627. 1926.

¹¹ As in many other Mexican communities. See, for example, FREDERICK STARR. Notes on the ethnography of Southern Mexico. Proc. Davenport Acad. Sci., 8: 28.

57. *CALEA ZACATECHICHI* Schlecht.

Prodigiosa. Ahuapahtli. The plant is boiled and the infusion beaten up with egg and sugar and drunk for biliousness. Hernandez lists a plant with the same name, of undetermined identity, used at that time for similar ailments.

58. *BACCHARIS* sp.

Popote. Popotl. The roots are steeped in alcohol and placed on the gums to relieve toothache.

59. *PIQUERIA TRINERVIA* Cav.

Harta reina or *Alta reina.* ——— This plant forms a frequent ingredient in mixtures of herbs used in washing the body (it may also be taken internally) of a person afflicted by *los aires*, the evil spirits of the air already referred to. *Los aires* are found wherever there is water—near ravines, springs, fountains or water-tanks. A person going to such a place to wash or bathe may offend these spirits and in return be visited with a variety of complaints, of which the most characteristic are pustular eruptions and paralysis. Treatment of this disease—for the wide range of possible symptoms does not prevent it from being regarded as one disease, a visitation,—is in part accomplished by conciliation of the spirits through gifts and in part by treating the patient. The essential element of this treatment is washing with herbs. There are probably many recipes for such herbal compounds, the most used in the entire Tepoztlan pharmacopœia. This plant is almost invariably included. One such compound includes *Salvia microphylla* H. B. K., *Castilleja arvensis* C. & S., egg, and an unidentified plant known as *arretillas* or *pipiloxihuitl*. *Piqueria* is also employed for fevers (see under no. 17, *Malva parviflora* L.). The leaves may be used to wash a child afflicted with *el daño* (see under no. 60, *Chrysanthemum parthenium* (L.) Bernh.).

60. *CHRYSANTHEMUM PARTHENIUM* (L.) Bernh.

Alta mesa. ——— This European plant, generally known as feverfew in United States gardens, receives its local name from a corruption of *altamiza*. Its European folk reputation came with it to Mexico. In Tepoztlan the plant is common. It is cooked with *Parietaria pennsylvanica* Muhl. to form a remedy administered internally to children afflicted with *el daño*. *El daño* (the hurt; the injury) bears the Nahuatl name of *oquitzahztitihque* ("making them cry"). It is the local form of the evil eye. When people with "bitter hearts" (*yolchichihque*) look upon children and praise them, the children begin to cry and can not be comforted until some one or another of the accepted remedies, some herbal, some ritualistic, is applied.



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