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SACRED FLOWERS OF THE AZTECS

BY

WILLIAM EDWIN SAFFORD

Revised and reprinted from the *Volta Review*, Vol. XIV, No. 2,
May, 1912

PRESS OF JUDD & DETWEILER, INC.
WASHINGTON, D. C.

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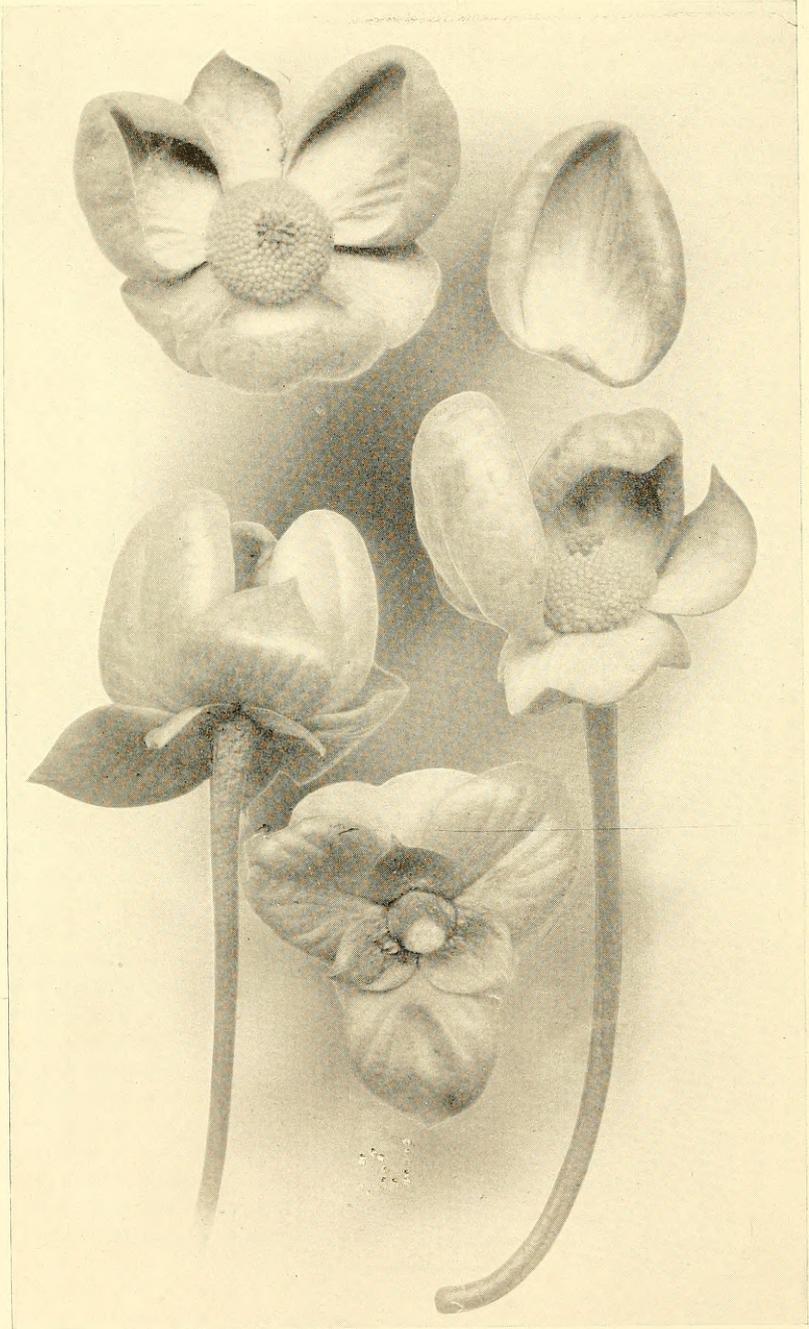


Photo by Mr. C. B. Doyle

THE SACRED EAR-FLOWER OF THE AZTECS (*Cymbopetalum penduliflorum*): NATURAL SIZE

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SACRED FLOWERS OF THE AZTECS

BY WILLIAM EDWIN SAFFORD

THE love of beauty was strongly developed among the ancient Mexicans. Their poems and songs which have come down to us abound in exquisite metaphors and similes, and are sometimes made up entirely of images, recalling flowery meadows, jewels of every color, the thousand songs of the mocking bird, the resplendent feathers of humming birds or the royal trogon, and the lovely hues of the rainbow.

The floating gardens of the Mexican lakes and the magnificent parks which the Spaniards encountered on their march to the city of Mexico were a source of wonder and admiration to all who beheld them. The floating gardens still exist and are today the principal source of the flowers in the markets of Mexico City, but scarcely a vestige remains of the parks of Montezuma, with their great reservoirs, their irrigating ditches, and the garden plots, which were laid off by intersecting walks.

Flowers adorned the ancient temples and idols; even the priests, while performing their bloody rites, wore wreaths and garlands. No one could enter the presence of royalty without a floral offering, and certain flowers were permitted to be carried only by persons of royal lineage. Certain flowers, herbs, and roots were used by wizards for working their spells; others were used as safeguards from witchcraft and magic, or as amulets for good luck.

It has not been possible to identify all the flowers mentioned by the early writers. Some are well known, though their Aztec, or Nahuatl, names have been superseded by modern names, which are sometimes misleading. Among the latter are the common marigold, which the ancient Mexicans called *cempoalxochitl*, or the "flower with a thousand petals." Now marigolds, botanically known as *Tagetes*, are sometimes referred to as "African marigolds," or "French mari-

golds"; they are, however, of Mexican origin, and were much used by the Aztecs in their religious ceremonies. The Mexican name for "flower" was *xochitl*, and for "tree," *quahuitl*. They formed their names by combining a number of words together, leaving off the terminal *tl* or *tli* from all of the words but the last. Thus the spotted animal called ocelot takes its name from the Mexican *ocelotl*, and to form the name "ocelot-flower" the Mexicans drop the final *tl* of *ocelotl* and call the flower *oceloxochitl*.

THE SACRED EAR-FLOWER

Among the flowers most highly prized by the ancient Mexicans was one called the "flower ear" (*xochinacastli*), or "sacred ear" (fig. 1) (*teonacastli*), the botanical identity of which has only recently been established.* This flower, according to early writers, was valued both on account of its fragrance and for the aromatic flavor of its spicy petals, which were ground up, together with the toasted seeds of cacao, for making chocolate. The earliest account we have of it was written by Padre Bernardino de Sahagun about the year 1569, but his manuscript remained unpublished until comparatively recently. He called it *teunacastli*, from *teutl*, or *teotl*, "god," and *nacastli*, "ear." The first account to be published was that of Dr. Francisco Hernandez, a physician sent in 1570 by Philip II, King of Spain, to study the resources of the New World. Hernandez figured many of the most remarkable plants of Mexico, but he was in no sense a botanist. His figures (fig. 2) were often rude and scarcely recognizable and his descriptions far from adequate. His work, like that of Sahagun, remained unpublished for a long time. It first appeared in a Spanish translation by Ximenez, printed in the

*See Safford, W. E., "The sacred ear-flower of the Aztecs: *xochinacastli*," in the Smithsonian Report for 1910, pp. 427-431. 1911.

city of Mexico in 1615 without illustrations. The Latin addition, with figures made from Hernandez's drawings, appeared in Rome in 1651, long after the death of Hernandez. It was not complete, but embraced only the portions of Hernandez's work relating to *materia medica*. The "ear-flower" he described under the heading "*De xochinacaztli seu flore auriculæ*." The following is translated from Ximenez:

greatest charm and taste, together with a very fragrant odor and flavor to that celebrated drink cacao, which they call *chocolate*, and it imparts to it certain tonic properties and wholesomeness as well. It is said that when drunk in water this flower dispels flatulency, causes phlegm to become thin, warms and comforts the stomach which has been chilled or weakened, as well as the heart, and that it is efficacious in asthma, ground to

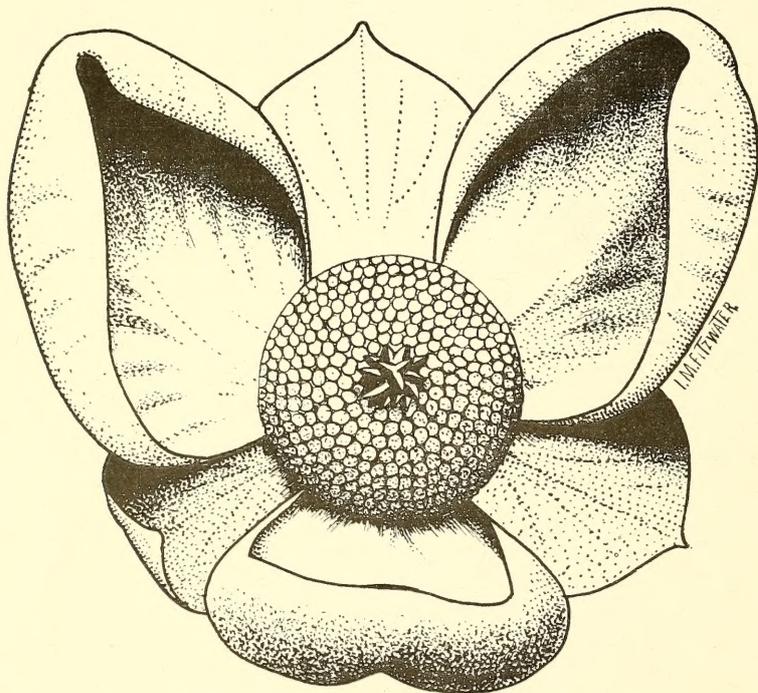


FIG. I. THE SACRED EAR-FLOWER OF THE AZTECS: TWICE NATURAL SIZE

"The flower is divided into leaves shaped almost exactly like ears."—Ximenez

"The *xochinacaztli* is a rare tree, with leaves long and narrow and of a deep green color. Its flowers, borne on a pendent velvety peduncle, are divided into leaves, which are purplish within and herbaceous without, shaped almost exactly like ears, and of a very agreeable odor. It grows in warm countries, and there is nothing else in the *tiangues* and markets of the Indians more frequently found nor more highly prized than this flower. The which is wont to give the

a powder with the addition of two pods of the large red peppers called *texochilli*, with their seeds removed and toasted on a comal, which is a kind of griddle on which the natives toast and make their bread, called by us *tortillas*, adding to the same three drops of balsam and taking it in some suitable liquor."

Since the time of Hernandez many works have appeared in which the economic plants of the Aztecs have been discussed, but in none of them is the



FIG. 2. THE "EAR-FLOWER" AS FIGURED BY HERNANDEZ IN 1576

botanical identity of the *xochinacastli* hinted at, though it is invariably mentioned.

While engaged in studying the plants belonging to the *Annonacea*, or custard-apple family, the writer came upon a photograph in the files of the Bureau of Plant Industry of the United States Department of Agriculture, showing a number of long-stemmed flowers with the three inner petals very much like the human ear in shape. He suspected that these might be the flowers of the sacred ear-flower, for which he had so long been seeking. This photograph (plate) was taken by Mr. C. B. Doyle in the market of Coban, Guatemala, while ac-

companying Mr. O. F. Cook on a mission of agricultural exploration in 1904. Mr. Cook in his notes states that the flowers had a pleasant, spicy odor. They were offered for sale both fresh and in the form of dried black petals curled up on the edges and heavily veined inside. The sepals and outer petals of the fresh flowers were light green and the inner, thicker petals of a pale, dull, salmon color, breaking with a bright orange-colored fracture. No herbarium specimens of the plant were secured at this time, but two years later, in May, 1906, Mr. Cook secured specimens of an annonaceous plant at Jacaltenango, Guatemala, which he did not associate with the aromatic flowers of the Coban market, which proved to be of the same species with them. They were found by the writer in the United States National Herbarium (sheet No. 574411). On tasting the dried petals they proved to have a pungent spicy flavor like nutmegs, or perhaps cubebs. The identity of the *xochinacastli* was revealed.

The *xochinacastli*, or, as it is known botanically, *Cymbopetalum penduliflorum*, is endemic in the forests of northwestern Guatemala and across the border in the Mexican State of Chiapas. The use of its flowers as a spice, once so widely spread, gradually died out, on account of the introduction of cinnamon from the East Indies, which now, together with vanilla, is almost universally used for flavoring chocolate.

VANILLA: THE "BLACK FLOWER" OF THE AZTECS

Vanilla itself is of Mexican origin. It was highly esteemed by the Aztecs, who called it *ttilxochitl* (black flower), on account of the color of its long black pod. This is the fruit of a climbing orchid, which is endemic in the forests of Vera Cruz and other warm, moist regions of Mexico. It takes its common name, vanilla, from the Spanish *vainilla*, signifying a "little legume," *vainilla* being the diminutive form of *vaina*, signifying a scabbard, or slender pod. It is easily propagated by cuttings and is now

widely cultivated in various tropical countries, its flowers requiring to be artificially pollinated to produce pods in all localities except where the plant is na-

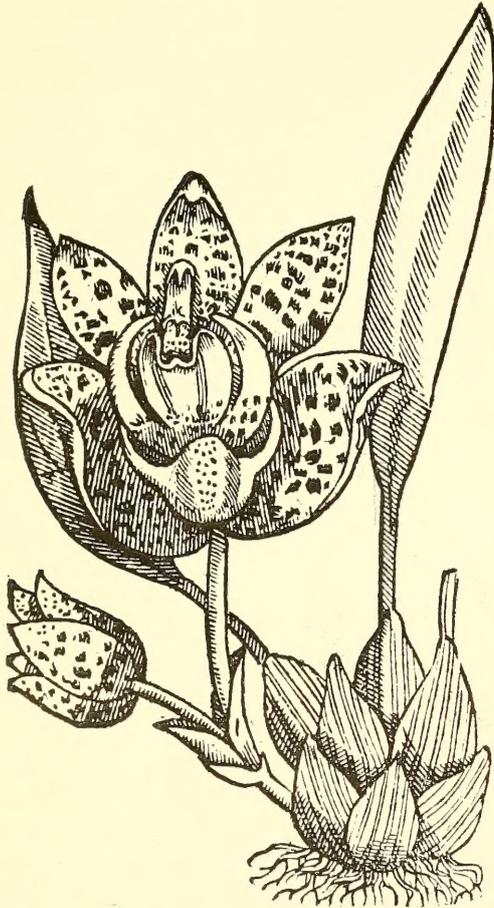


FIG. 3. THE SERPENT-HEAD FLOWER AS FIGURED BY HERNANDEZ IN 1576

tive. This is probably owing to the absence of certain insects which naturally perform this task.

Another beautiful orchid, perhaps the most highly esteemed of all the Mexican flowers, was called *coatzontecomaxochitl*, the "serpent-head flower." There may have been more than one species called by this name, but that which was figured by Hernandez (fig. 3) is known botanically as *Stanhopea oculata*. The genus *Stanhopea* to which it belongs was named

in honor of Earl Stanhope, at one time president of the Medico-Botanical Society of London. So greatly was this flower admired that it was adopted as the symbol or coat of arms of the learned Lincean Society of Rome in the seventeenth century. It is epiphytal in its habit, with broad plicated leaves growing from a cluster of pseudo-bulbs attached to the mossy limbs of trees, and large, nodding, fragrant flowers variegated with various colors. It is not surprising that the ancient Mexicans attributed magic properties to it and regarded it as sacred. In speaking of it, Padre Ximenez says: "No words can worthily describe nor pencil depict the beauty of this flower, which is greatly esteemed and highly valued by the Mexican princes." It grows attached to rocks or tree trunks, whence it is brought to the gardens of the Mexicans and there serves as a beautiful ornament, producing its lovely flowers at intervals, season after season, and filling the air with its fragrance. The accompanying drawing (fig. 4), made by Mr. Theodore Bolton, is interesting not only for its artistic beauty and accuracy, but also for the contrast it offers to the stiff figure of Hernandez. The latter, though rude, is far better and more accurate than most of the drawings in his work above referred to, and is sufficiently exact for the determination of the botanical species of the plant depicted.

THE OCELOT FLOWER OR TRINITY PLANT

The *oceloxochitl*, or "ocelot flower," to which I have already referred, is known botanically as *Tigridia pavonia*. It has somewhat the form of a "mariposa lily," but it belongs to the Iris family instead of to the *Liliaceæ*. Its generic name and its common Spanish name, "flor del tigre," are scarcely applicable, since tigers are marked with stripes, while this beautiful flower is spotted, rather like a leopard. It is sometimes called "Hierba de la Trinidad," or Trinity plant, from the shape of its perianth, its three stamens, and its three stigmas. Hernandez's figure (fig. 5) is very stiff and quite

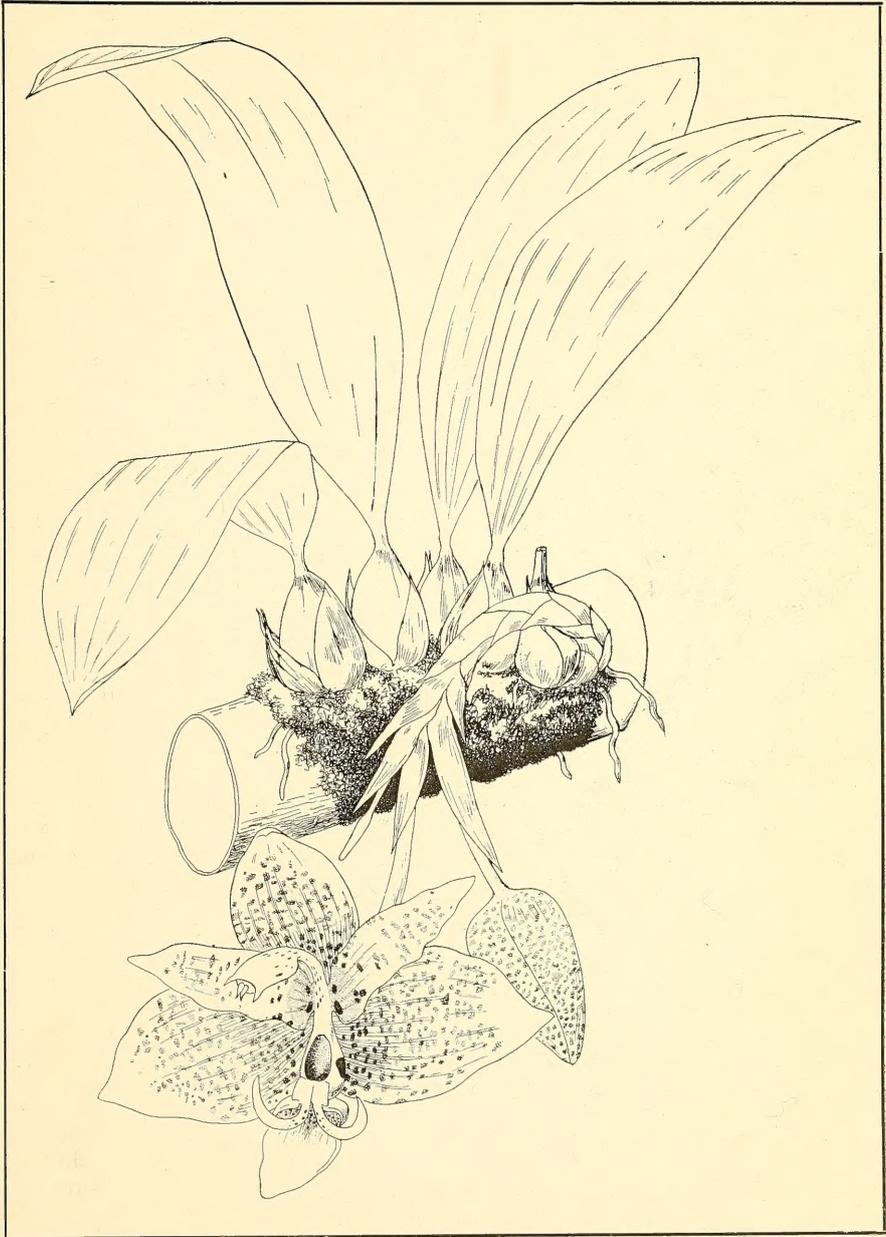


FIG. 4. THE SERPENT-HEAD ORCHID (*Stanhopea oculata*) REDUCED ONE-HALF

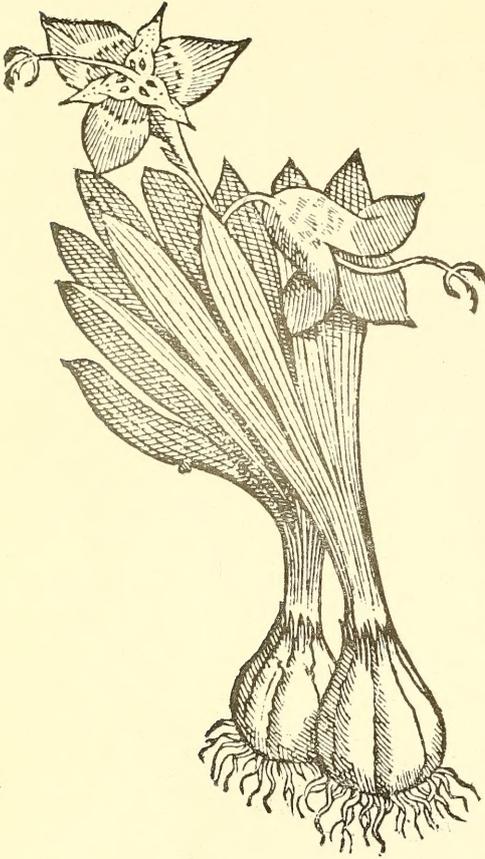


FIG. 5. THE OCELOT FLOWER AS FIGURED BY HERNANDEZ IN 1576

inadequate to suggest the exquisite beauty of the flower, which is faithfully represented by Mr. Theodore Bolton (fig. 6). The divisions of the perianth are either yellow or orange red richly variegated with tawny or reddish spots, which at once suggest the markings of some leopard-like animal. The starchy roots, called by the Aztecs *cacomiltl*, are edible and have somewhat the taste of chestnuts. They were also reputed by the ancient Mexicans to be efficacious in fevers.

THE "DEVIL'S-HAND FLOWER"

Among the trees regarded by the Mexicans with superstitious veneration was one growing near the city of Toluca, called *macpalxochiquahuilitl* (hand-palm flower-tree), which bore peculiar flowers,

sometimes called "devil's hands." Only one tree of the kind was supposed to exist. It was of great age and had lobed leaves somewhat like those of a plane tree, but the flowers have no corolla, but

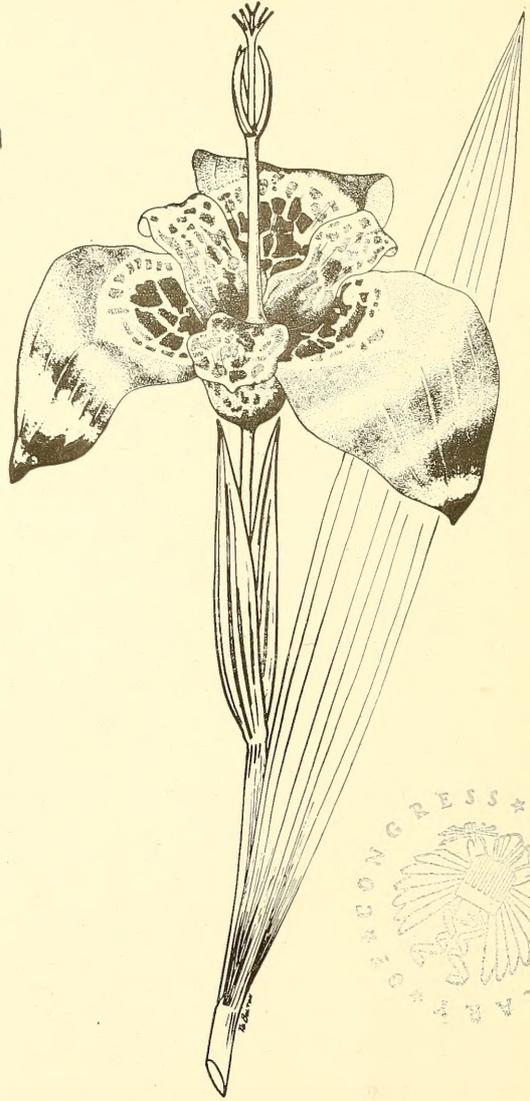


FIG. 6. THE OCELOT FLOWER: DRAWING BY THEODORE BOLTON, REDUCED ONE-HALF

in its place a cuplike, five-parted calyx, at the bottom of which are five yellow cavities filled with nectar. The remarkable feature of the flower is the form of the stamens, which grow together like

the fingers of a human hand, from the palm of which issues the style. The stamens are bright red and are tipped with appendages resembling claws. Botanists have placed this tree in the Ster-



FIG. 7. THE HAND-FLOWER AS FIGURED BY HERNANDEZ IN 1576

culia family and named it *Chiranthodendron platanoides*. They have found that its nearest relative is a shrub growing on the upper Sacramento River, in California, called *Fremontodendron californicum*. The latter has palmately lobed leaves, which are rusty beneath, like those of the hand-flower tree, and its calyx is also provided with nectaries, which are much visited by bees. The occurrence of a single tree was at first a source of wonder, but the mystery was solved by the discovery of a whole grove of the trees in Guatemala. It is interesting to note that these were found grow-

ing on the slope of the Volcano de Agua, near the ancient town of Antigua, at an elevation above the sea of about 8,000 feet; so that it is not surprising that the specimen which established itself in Mexico, whither it had been brought in pre-Columbian times from Guatemala, had found a congenial home at about the same elevation in the soil of the volcano of Toluca. The figure here presented is the exaggerated drawing of Hernandez (fig. 7), which may be compared with the accurate figure of Mr. Bolton (fig. 8), drawn from a herbarium specimen brought home from Guatemala by Mr. William R. Maxon, of the United States National Herbarium.

The flowers described in this paper are only an index to hundreds of beautiful

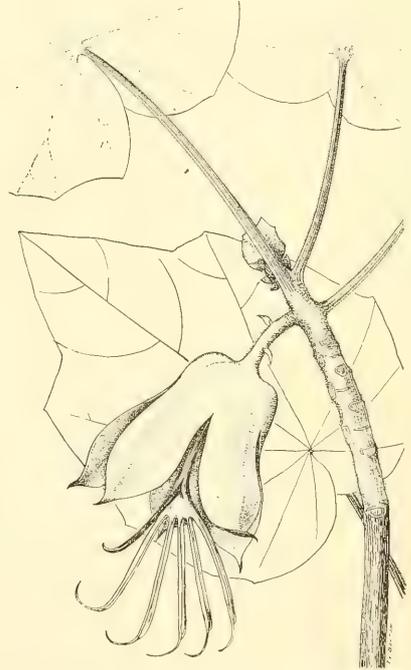


FIG. 8. THE HAND-FLOWER (*Chiranthodendron platanoides*) REDUCED ONE-HALF

and curious vegetable products which the Spaniards encountered in the New World. The virtues attributed some of these were fanciful; others proved to be valuable additions to the pharmacopea, while others, such as Indian corn and cacao, have assumed an important place in the world's economy.

THE VOLTA BUREAU

For the Increase and Diffusion of Knowledge Relating to the Deaf

Superintendent

HARRIS TAYLOR, 35th Street and Volta Place, Washington, D. C.

Curator

EDWARD L. DENT

The Volta Bureau aims to preserve in its fire-proof library in Washington, D. C., the literature of the world relating to the education of the deaf, and to the means of ameliorating their condition.

Its collections include the principal works upon the Education of the Deaf, or deaf-and-"dumb"; the published Reports of Schools for the Deaf in America and other countries; Files of the newspapers and periodicals published by and for the Deaf, with most, if not all, of the extinct newspapers of the Deaf, and much unpublished material, available for research work, including the following:

- (1) A card catalogue of more than 50,000 deaf children admitted into special schools for the deaf in the United States during the nineteenth century (1817-1900), with full details concerning them taken from the private records of the schools.
- (2) Voluminous MSS. containing authentic information concerning 4,471 marriages of persons deaf-from-childhood (deaf-and-dumb), supplied by the families themselves, with details concerning the parents and other ancestors, and the brothers and sisters and children of the partners in marriage. Many of the details have been transferred to cards to facilitate the preparation of statistical tables.
- (3) The special schedules of the Deaf used by the Census Office in 1900, containing detailed information concerning 89,287 persons returned as deaf or "deaf-and-dumb" in the Twelfth Census of the United States. The information is authentic because supplied by the deaf persons themselves. The perforated cards used by the Census Office in tabulating the returns are also preserved in the Volta Bureau.
- (4) The special schedules of the Blind used by the Census Office in 1900, containing detailed information concerning 64,763 persons returned as Blind in the Twelfth Census of the United States. The information is authentic, because supplied by the blind persons themselves. The perforated cards used by the Census Office in tabulating the returns, are also preserved in the Volta Bureau.

The above-mentioned material (1 to 4), being of a confidential nature, cannot be thrown open to the general public, but the Volta Bureau welcomes *bona fide* investigators and will give them free access to the material under suitable restrictions relating to the use of names, &c.

The Volta Bureau forms a medium of exchange between the Schools for the Deaf of the world. It distributes the reports of American Schools for the Deaf to foreign schools, and the reports of foreign schools to American schools.

It supports a Teachers' Information Agency, and keeps on file a list of teachers seeking appointments and a list of Superintendents and Principals desiring teachers for deaf children.

**THE AMERICAN ASSOCIATION TO PROMOTE
THE TEACHING OF SPEECH TO THE DEAF**
is a Philanthropic Society, incorporated in 1890 under the
laws of the State of New York.

Official Headquarters

945 N. St. Paul St., Rochester, N. Y.

Business Office

The Volta Bureau, 35th St. and Volta Place, Washington, D. C.

The objects of the Association as defined in its certificate of incorporation are:

“TO AID SCHOOLS FOR THE DEAF IN THEIR EFFORTS TO TEACH
SPEECH AND SPEECH-READING—

“By providing schools for the training of articulation teachers;

“By the employment of an agent or agents who shall, by the collection and publication of statistics and papers relating to the subject and by conference with teachers and others, disseminate information concerning methods of teaching speech and speech-reading; and

“By using all such other means as may be deemed expedient, to the end that no deaf child in America shall be allowed to grow up ‘deaf and dumb,’ or ‘mute,’ without earnest and persistent efforts having been made to teach him to speak and read the lips.”

In pursuance of these objects the Association supports a summer school for the training of articulation teachers, and contributes towards the maintenance of a normal class of instruction at the Clarke School for the Deaf, at Northampton, Mass.

Conventions of articulation teachers and summer meetings of the Association are held from time to time in various parts of the United States, with the object of improving the methods of teaching speech to the deaf by means of lectures and discussions by specialists.

The Association publishes THE VOLTA REVIEW, an illustrated monthly magazine, and issues from time to time monographs relating to the teaching of speech to the deaf.

In addition to its special work in promoting the teaching of speech to the deaf, the Association, through a Superintendent, now carries on the work of the Volta Bureau in Washington, D. C., an institution dealing more generally with the education of the deaf and the amelioration of their condition.

(For Work of Volta Bureau See Over)

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The Association welcomes to its membership all persons who desire to promote the teaching of speech to the deaf. Membership dues, \$2.00 a year, with no entrance fee. Life membership, \$50.00. THE VOLTA REVIEW is sent free to members. The REVIEW is published monthly (with no July or August issues). Subscription price to non-members, \$2.50 a year.

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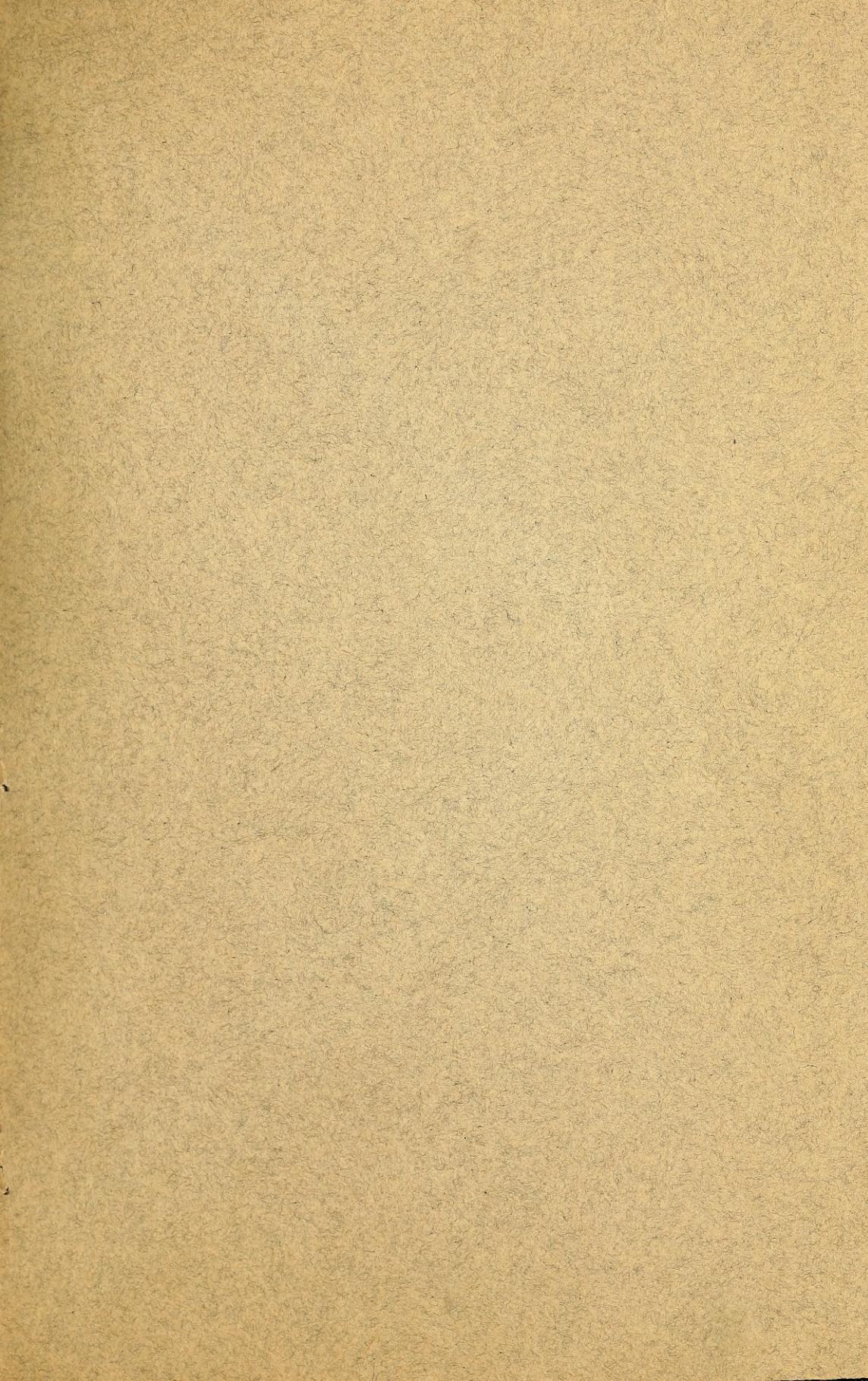
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