SACRED FLOWERS OF THE AZTECS

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THE SACRED EAR-FLOWER OF THE AZTECS (Cymbopetalum penduliflorum): NATURAL SIZE
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 vestiges 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 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 Some are well known, though their Aztec, or Nahuatl, names have been superseded by modern names, which are sometimes misleading.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 temocahtli, or the "flower with a thousand petals." Now marigolds, botanically known as Tagetes, are sometimes referred to as "African marigolds," or "French marigolds"; 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" (xochinacaztli), or "sacred ear" (fig. 1) (teonacaztli), 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 1560, but his manuscript remained unpublished until comparatively recently. He called it teuacaztli, from teotl, or teotl, "god," and nacaztli, "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

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 rochinacaztli seu flore auricula." The following is translated from Ximenez:

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

"The rochinacaztli 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 tiangués and markets of the Indians more frequently found nor more highly prized than this flower. The which is wont to give the 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 flatulence, 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 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
While engaged in studying the plants belonging to the Annonaceae, 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 accompanying 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 cubeb. 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 tlilzochitl (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 native. 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 Linnean 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 ocelotochitl, 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 Liliaceae. 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. 3. THE SERPENT-HEAD FLOWER AS FIGURED BY HERNANDEZ IN 1576
FIG. 4. THE SERPENT-HEAD ORCHID (Stanhopea oculata) REDUCED ONE-HALF
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. The flowers have no corolla, but

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 *cacomitl*, 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 *macpalxochiquiahuitl* (hand-palm flower-tree), which bore peculiar flowers, 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

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

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**FIG. 6. THE OCELOT FLOWER: DRAWING BY THEODORE BOLTON, REDUCED ONE-HALF**
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 Sterculia 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 growing 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 Tohuca. 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 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 pharmacopoea, 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

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(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.

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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.

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THE AMERICAN ASSOCIATION TO PROMOTE
THE TEACHING OF SPEECH TO THE DEAF
is a Philanthropic Society, incorporated in 1890 under the
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Official Headquarters
915 N. St. Paul St., Rochester, N. Y.

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"To aid Schools for the Deaf in their efforts to teach
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"By providing schools for the training of articulation teac-
hers;

"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, dis-
seminate information concerning methods of teaching speech
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"By using all such other means as may be deemed expedient,
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magazine, and issues from time to time monographs relating to the teaching
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In addition to its special work in promoting the teaching of speech to the
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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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