



Hunt Institute for Botanical Documentation
5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Contact: Archives
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

The Hunt Institute is committed to making its collections accessible for research. We are pleased to offer this digitized version of an item from our Archives.

Usage guidelines

We have provided this low-resolution, digitized version for research purposes. To inquire about publishing any images from this item, please contact the Institute.

About the Institute

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.



This is what the Hawaiians
call "ginger lily" - It is
the Amoryllidaceae Crinum.
Coban has the real ginger -
and I believe ^{Made by} ^{Kodak} The Crinum
grows along the Usunacinto
& rio de la Pasion -
Keep this if you want to -

Thanks for the dahlia - Very elegant!
I appreciate the personal touch
once in a while! Friday Aug 23
[1908]

Dear Wilson.

I just received a letter from Louise. It brought back memories of our mutual concern, and differentiated ideas, of The Book. Let's forget the past arguments & go on FORWARD - Write up any or all flowers & send them on as you do. The more the better. That's all you have to do - nothing more - until we are ready to be examined. Why not? It anyway.

It was good to hear from you - I am at last feeling better & I get up part of each morning & afternoon. I work with my 1 day a week secretary getting my seven months' correspondence caught up.

And on beginning to try to work in the greenhouse, hitched to my little machine. It's like being hung from a chandelier! I've lost 68 plants of my 175 - and many more look sick so want to repot.

A+C has been spending his vacation in the Sierras - has appeared once during the month - He has his own cook! Comes home Sunday, then the shooting weekends start.

All my broad well. Howard happily married & now at Law School. I shall begin to paint any day now - Write me a full letter of all your doings - Love C.

Antigua, 8 Sept 1968

Carol dear,

Your letter of 23 August came last week. Louise and Helen are here; I have had dinner with them and they with me, and Louise said that she also has had a letter from you.

You ask for more write-ups. I cannot do many without the material I left at Gainesville when I rushed down here - I need especially the little color prints because I should make some comments on them in the write-ups.

There really is no use in doing more write-ups until we have a definite understanding about the nature of the book. I took that up with you in my last letter but you have just dodged my questions and asked for more descriptions which we are not lined up to use, as yet. Before I go further I must know if you are going to wait until you have completed the 50 we originally planned (which I believe you have said is hopeless because you can not come down here again); or whether we will get out the book along the original lines with either 36 or 40 pictures - I think we would do well to choose the 36th most interesting ones.

I am sending along 6 write-ups, which I have been able to do without the material I have in Gainesville. I hope I haven't duplicated any of the 6 you already have. I believe these I am sending are about the right sort of thing; I don't feel we want them too botanical nor too detailed. The book is based upon your wonderful paintings - that is the only reason for publishing it. And it is reason enough. No one is going to be much interested in the text matter.

I hope - we all hope - that you are continuing to make progress.

Much love,

ZEPHYRANTHES BREVIPEDES

Flor de Mayo

Amaryllidaceae

With the onset of the rainy season in the Guatemalan highlands, this interesting little amaryllid springs up in open, grassy places. It belongs to a genus of about forty species in tropical and temperate parts of America. One of them, Z. Atamasco, is the Atamasco or Zephyrily of the United States.

The specimen here illustrated has a rather romantic background, because it was collected in the plaza of Iximché, the ruins of the Cakchiquel capital near Tecpán, elevation of about 5500 feet. The region is one of pine and oak forests, many of which were cut, doubtless in early times, to make way for corn fields. Iximché, like Utiatlán and Zaculeu, was not founded at an early date, and was in its prime at the time Pedro de Alvarado marched down from Mexico to conquer and colonize Guatemala. He met a friendly reception at the hands of the Cakchiquel people, and was so well cared for at the start that he wrote home "we could not been better off in our father's house". After a few months, however, the Indians were so badly treated that they abandoned the place, and Alvarado eventually made his capital at what is now called Ciudad Vieja, in the lovely valley of Antigua, which lies at the foot of the Volcan de Agua.

While there are no interesting sculptures at Iximché, there are the remains of many sturdy stone platforms and temple mounds, on which a fine job of restoration has been done by the Swiss archeologist Georges Guillemin. There are not as many wild flowers as in certain other parts of Guatemala, but visitors interested in the background of Guatemala should not fail to include Iximché in their travels.

ACHIMENES LONGIFLORA

Flor de Peña

Gesneriaceae

We did not get the Guatemalan name for this lovely little plant, hence are using the one which Standley and Calderon listed in their preliminary "Plantas de El Salvador". It seems appropriate, for it grows on rocky cliffs and embankments, especially where these are shady and moist. It is abundant along roadsides around the Volcan de Agua, and in many other parts of Guatemala, at intermediate elevations. It springs up in what might seem to be the most unlikely places, as for example, on adobe and masonry walls in the city of Antigua. Its season is late summer and early autumn.

The plant is small, the flowers large and showy. It is a favorite pot plant in the homes of Guatemalan flower-lovers, of whom there about as many as there are inhabitants, while the type is violet in color, as shown in the illustration, there are intermediate shades all the way to white.

It is of sufficient horticultural interest to be described and figured in Bailey's Standard Cyclopedia of Horticulture, from which we learn that there ^{are} perhaps forty species of Achimenes, natives to tropical America. In the North, they are considered to be "greenhouse herbs" which blossom in late spring and in summer. The account goes on to say that propagation is by means of the rhizomes, though cuttings also may be rooted without difficulty. Visitors who travel through the Guatemalan highlands during late summer should not fail to keep an eye out for this lovely little flower.

HELICONIA BIHAI

Platanillo

Musaceae

Standley and Steyermark describe ten species of *Heliconia* from Guatemala. They are all called *platanillo* in Spanish. This is the diminutive of plátano, or banana, and refers to the general appearance of the plant. *Heliconias* do not bear edible fruits. The leaves are sometimes used in the public markets to wrap small quantities of salt and other products.

The species here shown may not be H. Bihai. It may be H. latispatha which the authorities mentioned say is abundant in many parts of Guatemala. We lost interest in *Heliconias* after Carol climbed through a barbed wire fence along the highway not far from Escuintla, waded fifty yards through a swamp in which the coarse, sharp-edged grass was four feet high, and brought back this specimen.

~~For~~ Its handsome inflorescences, which are sometimes cut and used in decorating altars and homes. Standley and Steyermark (Flora of Guatemala) make these comments: "Probably fifty species, natives of tropical America. Several others besides those listed here occur in other parts of Central America, and the genus extends northward into southern Mexico. The larger plants are somewhat like the banana in habit, the smallest ones more suggestive of the genus Canna. They are confined to the lowlands in Central America, never extending far upward on the mountain slopes. In some parts of the tierra caliente they constitute an important and conspicuous part of the undergrowth in the forest or of the coarse second growth thickets, forming colonies of wide extent."

TABEBUIA PENTAPHYLLA

Matilisqueate
Macuelizo in El Salvador)

Bignoniaceae

When it breaks into bloom toward the latter part of the dry season, this tree is the glory of the Central American landscape. It has, indeed, been compared to the flowering cherries of Japan; the resemblance is rather striking. As a wild tree it is abundant at low and middle elevations in the dryer parts of Guatemala, and here and there it is planted as a street tree, for which purpose it is admirably suited, not only for its beauty but also its ability to thrive under somewhat adverse conditions.

Commonly - perhaps we can say typically - the flowers are of a shell pink color, somewhat like that of the Radiance rose, but on the Pacific coast there are many specimens (if they are indeed the same species) with flowers reddish purple; while we have seen a tree in Honduras with flowers almost pure white. We have tried to determine whether or not these varying shades of color come true from seed, but the matter is not yet clear.

The macuelizo is the national flower of El Salvador. It is easily grown from seed and is sufficiently hardy to be successful in parts of Florida. The noted Guatemalan artist, Huberto Garavito, has used this tree effectively in some of his landscapes. It is worth a trip to Central America to see a fine specimen of this tree in full bloom.

RONDELETIA CORDATA

Bouquet de la Reina

Rubiaceae

Years ago, before the construction of the new highway between Guatemala City and Antigua, visitors went by stage coach through Mixco and up a narrow, lovely canyon to San Rafael, where you had lunch at a tiny inn, set among pine and cypress and oak trees and completely surrounded with masses of pink and blue hydrangeas. A little farther on you went over the divide at 7200 feet, dropped down through the little towns of San Lucas and Santa Lucia, then down the steep canyon of the Pensativo into the valley of Panchoy - the site of the old capital, now called Antigua.

After the end of the dry season there were many lovely flowers in the canyon between Mixco and San Rafael. One of them which was sure to catch the eye of the traveler was a slender, graceful shrub which produced the fragrant flowers shown on the opposite page. This *Rondeletia* (we could never find a local name for it, so we have used one which was published in Salvador, but we doubt if it is ~~in Salvador~~ there) belongs to a noble family, the Rubiaceae, which gives such flowers as the Cape Jasmine and useful products such as coffee and quinine.

Rondeletia does not seem to be common in Guatemala, at least we have not observed it in many places.

WIGANDIA KUNTHII

Chocón

Hydrpphyllaceae

When a new road is built in Guatemala which involves deep cuts, one of the first plants to make its appearance on the steep slopes is Wigandia Kunthii. It is also likely to make its uninvited appearance on patio walls, if there are rough spots in which it can gain a foothold. If not removed, it will in time play havoc with the wall, for it becomes a very large, coarse shrub (the stems are sometimes thick enough to be used for firewood). The leaves are large, coarse, and as Tracy Hubbard writes in Bailey's Cyclopedía, not only hispid but very hispid. To make the matter a little more clear, they are covered with stiff short hairs which sting like nettles.

Wigandia has been used as a foliage plant for subtropical bedding in some regions, notably California, but one cannot say that it is really popular. We have never seen it cultivated in any Guatemalan garden, but woe betide the home owner who tries to pull one off the top of his wall, if his cook belongs to the old school and makes tamales from time to time. Tamales do not have the right aroma if do not put several chocón leaves on top of a putfull, before you put the lid on. We wonder how the Mexicans, down through the centuries, have been able to make such tamales without chocón leaves.

THE NEW YORK BOTANICAL GARDEN

NEW YORK 58, NEW YORK

January 6, 1965

Dear Members:

This is the advance notice of a very special event we are planning for October, 1965. The Advisory Volunteers of The New York Botanical Garden will join the Garden in sponsoring a fifteen-day visit to Guatemala.

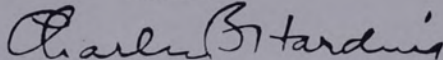
This will be no ordinary sight-seeing trip but one which will combine the best of botanical learning and the local arts and handcrafts. It will be a wonderful holiday in a country which many believe has the most varied and colorful flora in the world. Under the auspices of the Garden, you will be able to visit outstanding estates and private homes, public gardens and institutions, and scenic areas rarely available to tourists.

We will be accompanied by a team of experts headed by our Director, Dr. William C. Steere, who has had vast experience with plants throughout Central and South America. He will be ably assisted by Dr. Pierre Dansereau, the Garden's Assistant Director for Botany and one of the world's foremost ecologists, and Dr. Wilson Popenoe, the dean of Latin American plant pathologists. Mr. Phil Clark of our own staff, who has widely traveled in Central America, will be the Tour Director.

We think this will be pleasurable and profitable for all of us. The Garden will benefit favorably from its role. You will have many advantages because of the Garden's sponsorship which permits an extraordinary visit, attractively priced.

I hope you will want to join us. Let me know if you are interested, and we'll send you the details as soon as they are available.

Sincerely



Charles B. Harding
President



Lake Atitlán, framed by Phoenix palm and banana, shines brilliant blue amid its volcanoes.

GUATEMALA DAY by DAY

By Phil Clark

Mr. Clark is Assistant to the Director (Public Relations) of The New York Botanical Garden.

GEM-BLUE Lake Atitlán sparkles amid pine-clad volcano peaks, gleaming pink orchids dangle from an oak gray-draped in Spanish moss, Indians in flowered trousers bargain at market in deep-voiced Maya-Quiché, and a shimmering green parrotlet screams among the tree-ferns.

All this is Guatemala, is *still* Guatemala, even as the little Central American republic teeters on the brink of a new age. And it all awaits The New York Botanical Garden's October 22-November 6, 1965 Tour, a tour which will be unique with its botanical guides, including some of the top specialists in the field, as well as its entree to Guatemala's leading private homes, gardens, and plantation estates, visits to tropical agricultural centers, and its informed view, with Guatemalan guides, of the life of the Indians, their handicrafts, markets, and colorful costumes.

A few of the highlights, taken from my notebook that was written during a preliminary trip and projected into next fall's tour dates, will give you a picture of what your Guatemalan vacation promises.

FRIDAY, OCTOBER 22. You meet most of the tour's botanical and horticultural experts—one to every twenty people—at Kennedy International Airport. The tour specialists include such men as Dr. William C. Steere, the Garden's Director and a veteran of many tropical American expeditions, and Dr. Pierre Dansereau, the Garden's Assistant Director (Botany), and a world-famous ecologist. After a six-hour jet flight, you arrive in Guatemala City and have a cup of Guatemala's famous coffee, while tour officers handle custom's details. Your hotel, reached via an avenue lined with the "African tulip tree" (*Spatodea campanulata*) is the Guatemala-Biltmore, a modern Spanish building of comfort and style. Air is bracing at this elevation of forty-nine hundred feet where, as near as it is to the Equator, temperatures are always springlike. You meet the tour's other horticultural specialist at dinner—he is the renowned Guatemala expert, Dr. Wilson Popenoe, an American whose name is a legend in Guatemala where he has spent a good part of his life. You are told that Guatemala does not have the problem of impure water, which causes tourist sickness in so many countries.

SATURDAY, OCTOBER 23. Today's agenda takes you to a garden and a museum which furnish introductions to the tour's twin emphases: plants and people. You see a cross section of the national culture, past and present, in the

Archaeology and History Museum in Aurora Park, with its carefully staged stone artifacts from the Mayan pyramids and archaeological zones of Guatemala. Here the colorful regional dress of the Indians of the various sections of the Republic is displayed. Equally interesting is the visit to the fabulous plant-collection garden of Don Mariano Pacheco Herrarte, an impressively active octogenarian and his country's most notable plantsman and botanical collector. He may himself escort the group through the garden which is particularly distinguished for the native Guatemalan plants, especially the many indigenous orchids. Here you see your first *Monja Blanca*, or White Nun orchid (*Lycaste skinneri alba*), the dazzling national flower. The garden as a whole gives you a living sketch of the fantastically varied plant life Guatemala possesses in her tropical lowlands and temperate highlands.

SUNDAY, OCTOBER 24. After church or late breakfast and a swim in the hotel pool, you lunch, then visit the town house of one of the Republic's leading coffee-finca owners. Doña Julia de Plocharski, with a rare sense of design, has

Speaking Cakchiquel, these two men of Sololá rest on a park bench during market day. Their gray-striped jackets are embroidered with stylized bats—since they are of the Clan of the Bats; their skirts are black, brown, and white check and the trousers striped red, white, and blue, and other colors.



landscaped her own outstandingly beautiful garden; it contains many unusual shrubs and flowering plants, from both temperate and subtropical climes. You also visit Minerva Park, high above the city, to see the relief map of Guatemala—a great help in orienting you for the coming trip. It was made in concrete in 1905 and shows all the mountains, rivers, forests, coasts, and towns of Guatemala.

MONDAY, OCTOBER 25. You're off, riding comfortably by car and accompanied by an English-speaking Guatemalan driver-guide and three companions from the tour. Moving seventy-four miles northwest, mostly through mountains, you are surprised by the combination of what seems to be tropical flowering plants and pine forests. The botanists explain, during one of the roadside plant stops, that these are not tropical but warm-temperate plants, many of which are familiar to you as house plants at home. Suddenly you sit up in amazement. Just ahead, cradled in a circle of cloud-shrouded volcanoes, lies shimmering Lake Atitlán. Another thrill moments later—groups of fifteen-foot tree dahlias, crowned by masses of giant, yellow-centered, pink blooms, with the lake and drooping-needle Montezuma pines for a backdrop. You reach your hotel, Casa Contenta on the lake, and there's time to freshen up before lunch. You have a small cottage to yourself, set in a flamboyantly flowering garden. The lake climate causes many plants to produce immense blossoms; geraniums and begonias with huge flowers serve as foundation plants in front of the cottage, and walls are atumpled with blazing purple and red bougainvilleas, red-orange flame vine (*Pyrostegia ignea*), blue trumpet (*Thunbergia laurifolia*), and Easter-lily vine or heralds-trumpet (*Beaumontia grandiflora*). Lunch is in a dining hall which is richly dignified with heavily carved mahogany beams, doors, and furnishings. A waitress wearing shadow-weave *huipile* and head-dress serves the meal, using mahogany serving plates. After roaming around the garden-grounds and the Cakchiquel-speaking village of Panajachel, you take a cooling swim in the lake.

Cost of the fifteen-day tour, including all expenses both air and ground and a \$400 tax-exempt donation to The New York Botanical Garden, will total \$1198. For further information about the itinerary and prices, or application for tour membership, write: The Garden's Guatemala Tour, The New York Botanical Garden, Bronx, New York, 10458.

TUESDAY, OCTOBER 26. You visit the market town of Solalá, high above Lake Atitlán. The men of the village wear gray woolen coats, with stylized black bats embroidered on the back, and brown and white plaid skirts over blue, pink, and white-striped trousers. Women wear blue, white, and red headpieces, wide sashes and blue skirts. The people, like the natives of Panajachel, speak the Cakchiquel language. After lunch at Casa Contenta, you join the botanists for a hike up the road from the lake, marveling at views of the lake from higher elevations, investigating the roadside flora which includes a magnificent shining violet shrub *salvia*, and photographing the falls which, alternately frothing and crystalline, tumble hundreds of feet down the mountainside into the lake.

WEDNESDAY, OCTOBER 27. You take a launch across Lake Atitlán to the town of Santiago Atitlán, a village of Tzuru-hil-speaking Indians. The women wear bright red, tightly wrapped skirts, white *huipiles*, and "halo" head-dresses made by wrapping ribbon around the head; the men wear white shirts, red sashes, and short, white trousers embroidered with butterfly-like figures.

THURSDAY, OCTOBER 28. Today is market day at Chichicastenango, seventeen miles in the mountains to the north. Joining your driver-guide and traveling companions, you begin the exciting ride past the falls and, ever twining upwards, through increasingly dense forests of pines and oaks, branches of which are loaded with bromeliads, many displaying their strange red or yellow flower-stalks. You stop at one point to examine along the roadside a blazing magenta butterwort (*Pinguicula* sp.) which resembles the Af-

Textiles, made on hand- or foot-loom, are among Guatemala's most important products and are widely sold in markets.





Garden of the Papal Nuncio to Guatemala is landscaped in the Spanish tradition with flowering and foliage plants along the paths. Norfolk-Island-pine (*Araucaria excelsa*) dominates the central court, gardenia and night-flowering, willow-leaved jessamine (*Cestrum parqui*) perfume the colorful garden. It will be one of many open to the Tour.

rican violet. The botanists tell you the leaves are used to turn milk sour and that in a few weeks the leaves will have folded like an accordion into stemless succulent rosettes for the dry season—an observation which makes you realize why these late October, early November weeks were selected for the tour: the inconvenience of the rainy season is just past, but the countryside is still flowering and green.

At noon you reach the mountain top, to be confronted with a bustling market, in which fabric, pottery, woven palm, carved wood, masks, silverware, and stone idols are sold, and a bizarre religious center. Here the Maya-Quiché continue the pagan rites of their ancestors . . . in a Catholic church. The sights on the steps and within Santo Tomas Church are unbelievable—clouds of black *pom* smoke rising heavenward from the stairs, the church alight with gleaming candles to which the squatting Indians chant ancient Maya-Quiché prayers while sprinkling flower petals on the floor. The men wear black shorts and vests embroi-

dered in red. Lunch is at the charming Maya ^{Inn} and Hotel, with music from a marimba orchestra. You return to Casa Contenta for dinner.

dered in red. Lunch is at the charming Maya ^{Inn} and Hotel, with music from a marimba orchestra. You return to Casa Contenta for dinner.

FRIDAY, OCTOBER 29. You start early for Quetzaltenango, fifty-five miles to the north, with a stop at the mountain-top market of San Francisco el Alto. Here woolen rugs and blankets, loomed in the area, are the specialty. On the way, you gasp with surprise at the intricate terracing of wheat mountains for grazing of black sheep and for raising wheat and corn. Guatemala's "Scotsmen" shepherds startle you, too, wearing brown and black woolen "kilts" in the cold mountain air. Quetzaltenango, now Guatemala's second city and an important industrial center, particularly for the making of woolen fabrics (you can buy materials for suits or coats), nonetheless retains its Spanish Colonial flavor. It was founded in 1524 by the Spanish conqueror of Guatemala, Don Pedro de Alvarado. Our hotel for the night, the Bonifaz, though of recent construction, is in the Spanish

up the steep road to the Chichicastenango market. The shirt is in reds, purples, and greens, and the jacket and skirt mark this man as a resident of Sololá. Flowers play important roles in the social and religious lives of Guatemala's Indian peoples, special kinds used for various events.



Revival style, and its baronial barroom has the mood of an hacienda house in old Mexico.

SATURDAY, OCTOBER 30. Today's trip south and east to Antigua takes you along the lowland highway through exciting tropical jungles. You stop several times to admire the flora—red powder-puff caliadra, green plumes of tree-ferns, purple sobralia, orange-colored epidendrum orchids, giant-leaved philodendrons, and wild ginger and bamboo crowded along rushing streams. You stop to investigate a plantation where black pepper, rubber, cacao (source of chocolate), and vanilla orchids are grown. You pass banana plantations and fields of the fragrant grasses from which citronella and lemon tea are produced. Lunch at noon is in "Santiaguito's" near Cocales, where an excellent meal is served in an amazing palm-frond woven oasis of modernity in the primitive tropics. You arrive during the afternoon at Antigua, once again in the cooler altitudes. Today's trip, the longest day's driving on the tour, was one hundred and thirty miles, mostly tropical. You welcome the comfort of your room in swank Hotel Antigua and, after freshening up, take a dip in the pool.

SUNDAY, OCTOBER 31. You attend Mass in one of the

years. You shop directly from the Indian handicraftsmen, mostly personal friends of Dr. Popenoe, at their looms in Antigua and in nearby Santiago Sacatepéquez, where the famous Guatemalan dolls are made.

MONDAY, NOVEMBER 1. You rise early for an all-day outing to three neighboring coffee-fincas (or estates)—all startlingly horticultural as well as interesting agriculturally. The *Finca El Zapote*, in the tropics near Escuintla, for example, has sixty acres of lawns and five artificial lakes stocked with fish and planted with water-lilies. At the *Finca La Profundencia*, owned by one of the world's outstanding orchidists, Hugh Cragg, you see rolling lawns set off by plantings of exotic jungle natives and greenhouses filled with rare Central-American orchids and bromeliads and the hybrids Mr. Cragg has created. The growing and drying of coffee is also demonstrated. The third finca, that of San Martir, owned by Impresa Electrica, was landscaped by the Garden Club of Guatemala. Roadside plants on the side of the volcano El Agua include blue *Achimenes longiflora* and a fiery orange dahlia named for Dr. Popenoe.

TUESDAY, NOVEMBER 2. Today is All Soul's Day, or Day of the Dead, and colorful observances with use of the mari-



Gardens around the green stone National Palace on the central square in Guatemala City are in the formal Spanish style, with collections of exotic plants on display in patterned beds. Phoenix palms and cercidium trees are shown above.

tastefully reconstructed Spanish Colonial churches in this city of handsome ruins. Antigua was almost from its founding in 1543, one of the great centers of the New World, with universities, opera, and high society, when nothing but primitive frontier settlements existed north of Mexico. Until its destruction by volcano and earthquake in 1773, it was the capital of Central America and the Spanish conquerors and their Indian subjects lavished some of their finest artistic efforts on its creation. Much of this grandeur remains, somehow; for many, given additional grace by the time-softened ruins. Charm is added the ruins by their settings, often of massed wild poinsettias. You will be shown around the city and will visit private gardens, including the famous Spanish Colonial house and garden of our tour expert, Dr. Popenoe, who has lived in Antigua for many

gold add interest to the twenty-five-mile trip into Guatemala City, where we return to the Hotel Guatemala-Bilmore. You view the gardens of Guatemala City's main square, touring the National Palace and Metropolitan Cathedral, and shop in the central market during the afternoon.

WEDNESDAY, NOVEMBER 3. Those taking the two-day Tikal side-trip leave early for the airport and the two-hour flight to Tikal. There in rain forest they explore the ruins of this largest Mayan city of the old Empire, first discovered in 1848 and in recent years uncovered and partly re-assembled by University of Pennsylvania archaeologists. The city, probably mainly a religious and ceremonial center, flourished as early as 320 A.D. Activity mysteriously ceased and the city was apparently abandoned about 869 A.D., with its magnificent painted stelae, pyramids, and palaces

Carmona, Retana, Pastores
JANUARY-FEBRUARY

left to the jungle, where amid the monkeys and exotic birds it moldered until recent times. Botanists accompany the tour group and guide them through the rain forests, much as the archaeological guides lead them in exploration of the ruins. Simple but adequate accommodations and meals are supplied at "Jungle Lodge."

You visit the exclusive La Canada development with its contemporary landscaping, along the great ravines south of the City, and stop at several private homes and gardens in the area. During the afternoon, you visit other of the city's

fascinating historical and architectural landmarks.

THURSDAY, NOVEMBER 4. During the morning, you view several gardens in the embassy residential neighborhood, including that of the United States Ambassador. During the afternoon, you are free for shopping in the downtown area. The tour is rejoined this afternoon by the Tikal expedition group.

FRIDAY, NOVEMBER 5. During the day, you visit gardens on the outskirts of and in the city itself.

SATURDAY, NOVEMBER 6. You fly home.



GUATEMALA A BOTANICAL PARADISE

By Julian A. Steyermark

Dr. Steyermark, a specialist on *Rubiaceae*, is a member of the staff of the Instituto Botánico of Caracas, Venezuela. He is an authority on the Flora of Guatemala and a coauthor with P. C. Standley of *The Flora of Guatemala*, eight volumes of which have been published. Dr. Steyermark collected plants throughout Guatemala on two major expeditions related to work on this Flora. He has also written for scientific and popular publications and is author of several books, the latest *Flora of Missouri* (1963).

GUATEMALA, land of the quetzal bird, is a botanical paradise. Whoever visits this Latin American country, finds a land admirably suited to plant adventurer and plant fancier alike. Guatemala has just about anything to satisfy everyone, not only for the experienced botanist and horticulturist, but also for the plain gardener and plant lover.

Guatemala is able to satisfy every taste because of its tremendous diversity of landscape, climate, altitude, and soils. Here are mountains and volcanoes by the score, picturesque alpine-like lakes and meadows, cool temperate oak and pine, fir, or cupressus forests contrasting with giant tropical liana-hung trees of rain forest and moisture-laden, moss-festooned cloud forests, while hot deserts and steaming jungles contrast with cold, windswept summits of volcanoes and high mountains. Here are topographic features ranging from steep canyons, caves, everglade-like country,

sulfur fumaroles and springs, waterfalls, clear spring-fed mountain streams to dark brown waters of lowland areas.

Here is a land where north meets south, where such familiar northern trees as fir (*Abies*), juniper (*Juniperus*), bald cypress (*Taxodium*), hop hornbeam (*Ostrya*), American hornbeam (*Carpinus*), sweet gum (*Liquidambar*), and box-elder (*Acer negundo*) are found at their southernmost known limits of geographical distribution, while such South American genera as *Greigia*, *Crumenaria*, and *Aphanactis* and such species as *Plantago tubulosa* and *Werneria nubigena* attain their northernmost outposts. Here in Guatemala the familiar partridge-berry (*Mitcbella repens*) has found an isolated refuge in a remote cloud forest of the Sierra de Las Minas at its southern known limit. Other familiar eastern and southern United States plants, such as supple-jack (*Berchemia scandens*), Virginia creeper (*Par-*



Talouma mexicana, a member of the Magnolia Family, is to be seen in Guatemala. From Helen O'Gorman: *Mexican Flowering Trees and Plants*.

O.K. BY DR. S. 12/66

(Essential information, but not in sentence form)

Guatemala - area 48,300 sq. mi. state of Mississippi. Part of ancient land mass Paleozoic era. Volcanoes- 14 major- Tajumulco 13800 ft. formed Cretaceous, completed Pliocene. bridges gap in Pacific Cordillera - path of dispersal and barrier. Central plateau older - sedimentary and metamorphic Paleoz, Meso, and Terti Peten limestone sedimentary Mezo. and Ceoz.

Richest flora - varied elevations and soil more than 8000 species vascular plants, many endemic to specific spots. Also northernmost of many South American, and southernmost of many North American

Hundreds of Orchidaceae, Leguminosae, Compositae, many nowhere else.

(To supplement the following lists of plants, I have another list showing family, species, and translation, or common name.)

FLORISTIC BELT 1. Achras, zapote. (chicle) --- Sweitenia macrophylla (mahogany), Brosium alicastrum (cow tree), Rheedea edulis, Lucuma campechiana, Calophyllum brasiliense var. Rekoii, Cryosophila argentea, species Ficus (fig), Piper, Psychotria

BELT 2. mangrove swamps --- Rhizophora mangle (Common mangrove) Laguncularia racemosa, Conocarpus erecta, avicennia nitida

BELT 3. Palms: Orbignya cohune, Cryosophila argentea, Hexopetion mexicanum, Calyptogyne, many Chamaedoreas. In same forests: Andira inermis, Calocarpum mammosum (Sapote), Entada gigas, Bauhinia hondurensis sp. Ficus (fig), many Araceae (climbers), Bromeliaceae, Orchidaceae Peperomias, Mosses, Hepatics. Some are found in Bocacosta too.

BELT 4. Pinus caribaea, Curatella americana, Byronima crassifolia, many grasses, sedges, legumes and compositae

BELT 5. Majority types found widespread Sinaloa Mex. to Panama. Flowering trees conspicuous: Ceiba pentandra (Kapok), Gliricidia sepium Bursera simaruba, (naked Indian), Cochlospermum vitifolium, Sterculia apetala

BELT 6. Ruprechtia deamii, crescentia alata, Juliana adstringens, Karwinskia calderonii, Jacquinia aurantiaca, Erythraexxxx oxylon, fiscalense; sp. Cassia, Acacia, Bursera; Cacti: Cephalocereus maxonii, Lemairocereus eichlamii, Acanthocereus pentagonus, Pereskia autumnalis. Also: Portulaca pilosa, Talinum triangulare, Sida angustifolia, Conobea pusilla, Compsonia decumbens, Bredia teres, Evolvulus alsinoides, Pim-

BELT 7. *VOCHYSIA HONDURENSIS*, *Engelhardtia guatemalensis*, *Calocarpum viride*, *Hymenaea courbaril*, *Persea scheideana* (avocado), are all common. Isolated are northern genera: *Magnolia Berchamia*, *Gelsemium*, *Liquidambar Carpinus*, *Rhus*. Abundant rain in Orchidaceae.- *Ondontoglossums Monja* ~~XX~~ *Blanca* (national flower) and *Bromeliaceae*

BELT 8. *Dussia cuscatlanica*, *Erblichia xylocarpa* var. *wellsii*, *Billia colombiana*, *Sloanea ampla*, *Heisteria macrophylla*, *Lunania mexicana*, *Mollinedia guatemalensis*, *Louteridium mexicanum*,.

BELT 9. Broad leaved trees, epiphytes, xerophytes, moisture loving including cloud forest types. 4500 - 7000 warm sun-cool nights. tree ferns orchids begonias, aroids, bryophytes. Sp *Quercus*, *Ilex*, *Prunus*, *Hellocarpus*, *Alnus* (Alder), *Oreopanax*, *Xalapense*, *Garrya laurifolia*, *Olmediella betschleriana*, *Ostrya virginiana* (Hop Hornbeam), /var. *guatemalensis*, *Cestrum aurantiaca*, *Sambucus oreopola* (Elderberry) *S. mexicanus*, *Turpinia occidentalis*, *Cornus disciflora* (dogwood), *Roupal loranthoides*, *Dahlia popenovii* (is this *Pinnata*?) *Geranium mexicanum*, *Chiranthodendron pentadactylon*, (Hand flower tree).

Endemic curiosity: *Rojasianthe superba* on upper forested volcanoes

BELT 10. Several regions between 5000 to 12500 ft. *Cupressus*, *Juniperus*, *Abies* (firs), *Taxodium* (bald Cypress) are at most South.

Juniperus forest with pines extensive areas in Sierra de los Cuchumatane
Pinus: *o ocarpus*, *strobiliformis*, *ayacahuite*, *montezumae*

8000 - 11000 ft. *Abies* (firs) *guatemalensis*, with *Cupressus lusitanica*
Pinus ayacahuite (white pine)

Buddleia megaloccephala, *Oreopanax capitatum*, are common; also *Rubus trilobus*, *Fuchsia cordifolia*, *Lycianthes quichensis*, *Pernettya ciliata*, *Acaena elongata*, *Oxylibus glanduliferus*, *Arracacia Bonnell-Smithii*

BELT 11. ALPINE. open places on tops of volcanoes or high plateaux in the Cuchumatanes-usually over 10000 ft. Very distinct. Dwarf herbs, and shrubs, some entirely local, some also known as result of reduced temper
Characteristic: *Draba volcanica*, *Arctostaphylos cratericola*, *Luzula* ~~rac~~ *racemosa*, *Geranium alpicola*, *Aplopappus stoloniferus*, *Gnaphalium vulcanicum*, *Arenaria bryoides* var. *guatemalensis*, *Vaccinium selerianum*, *Werneria nubigena*, *Weldenia candida*, *Muchlenbeckia vulcanica*, *Alchemilla pinnata*, *Potentilla heterosepala*, many grasses esp. *festuca*.
Some of these are also known in Andes, high peaks of Mexico, or our Rocky Mts.

* *ature* *Pliestocene* relics migrated south as result of reduced temp.

~~BELT 12~~

v

Small scattered distinct areas: salt flats, sulfur deposits, lakes at all elevations, and swampy meadows

My special observation to be explained: limestone, or calcium deposits forming square basins and terraces along the Usumacinto, below or near Aqua Azul.

TAKEN FROM DR. STEYERMARK

U. S. A. TREES at their southern limit:

ABIES (fir)
ACER NEGUNDO (Box Elder)
CARPINUS (American Hornbeam)
LIQUIDAMBAR (Sweet Gum)
JUNIPERUS (Juniper)
OSTRYA (Hop Hornbeam)
TAXODIUM (Cypress)

OTHER PLANTS FROM SOUTH AND EASTERN U. S. A.

BERCHEMIA scandens (Supple jack)
GELSEMIUM Sempervirens (Carolina Yellow jasmine)
PARTHENOCISSUS Quinquefolia (Virginia creeper)

PLANTS FROM WESTERN U. S. A.

ARBUTUS
CALOCHORTUS
CASTILLEJA
CUPRESSUS
POTENTILLA
SYMPHORICARPOS
ERYSIMUM
LUPINUS
PENSTEMON

SOUTH AMERICAN PLANTS at their NORTHERN extreme

(Mahogany)
(Chicle)
CRUMENARIA
APHANACTIS
GREIGIA
PLANTAGO tubulosa

The time has come to tally these again. I wish to know which are NOT significantly Guatemalan - what we need to add (and which of these will be available in September), and if so where - a few more specie names - and the families marked F. All those identified by Molina are marked M, otherwise they are named by you, or a few by my friends, Elizabeth McClintock, or John Thomas (at Stanford), or by me in consultation with Standley and Steyermark.

<u>#</u>	<u>Genera</u>	<u>Specie</u>	<u>Family</u>	<u>Location</u>
1.	Achimenes	longiflora	Gesneriaceae	Alotenango
2. M	Aplelandra	schiedeana	Acanthaceae	Alotenango
3.	Bourreria			Antigua
4.	Caesalpinia	pulcherrima	Leguminosae	near Escuintla
5. M.	Calliandra	houstoniana	Mimosae	near Antigua
6.	Cassia	indecora	Leguminosae	Chimaltenango
7.	Canna	edulis	Cannaceae	near Escuintla
8.	Castilleja	temuiflora	Scrophulariaceae	on Volcan Agua
9.	Cattleya	aurantiaca	Orchidaceae	Chinaxtla, San Martin Escuintla
10.	Cattleya	skinneri	Orchidaceae	Palin
11.	Chiranthodendron	pentadactylon	Sterculiaceae	on Fuego
12.	Cobaea	villosa	Polemoniaceae	on Agua
13.	Cochlospermum	vitifolium	Cochlospermaceae	above Salama to Cobar
14. M	Cordia		Solanaceae	near Zacapa
15.	Dahlia	Maxonii	Compositae	on Agua
16.	Dahlia	popenovii	Compositae	on Fuego - W.P. garden
17. M.	Echeveria	maxonii	Crassulaceae	viaje Maria tecum
18. M.	Fuchsia	splendens		on Fuego
19.	Gliricidia	sepium	Leguminosae	near Escuintla
20.	Guaiacum	guatemalensis	Zygophyllaceae	near Zacapa
21.	Heliconia	bihai	Misaceae	near Escuintla
22. M.	Ipomoea	carnea	Convolvulaceae	on Fuego
23. M.	Kohleria	elegans	Gesneriaceae	near Finca Moca
24. M.	Lamoureauxia			near Zacapa
25.	Lobelia	laxiflora	Campamilaceae	near Antigua
26.	Oncidium	splendens	Orchidaceae	native where? this SF.
27.	Petrea	volubilis	Verbenaceae	W.P. garden Antigua
28. M.	Portlandia		Rubiaceae	Antigua
29.	Plumeria	rubra mutation of ?		near Zacapa
30. M.	Robinsonella	cordata	Malvaceae	on Fuego
31.	Rondeletia	cordata	Rubiaceae	old road Guate. to Anti
32. M.	Salvia	wagneriana	Labiatae	on Fuego ^{Sau Raphael}
33.	Sprekelia	formosissima	Amaryllidaceae	W.P. garden Antigua

#	Genera	Species	Family	Location
34.	Tabebuia	donnell-smithii	Bignoniaceae	Finca Moca
35. M.	Tabebuia	rosea	Bignoniaceae	near Escuintla
36.	Tecoma	stans	Bignoniaceae	Motagua Valley
37. M.	Tillandsia	ionantha	Bromilia	on Volcan Agua
38. M.	Tillandsia	rodrigueziana	Bromilia	on Volcan Agua
39. M.	Tithonia	longiradiata	Compositae	near Chimaltenango
40.	Weldenia	candida	Commelinaceae	viaje Maria Tecum
41.	Wigandia	kunthii	Hydrophyllaceae	Guatemala City to Antigua Motagua Valley
42.	Yucca	elephantipes	Liliaceae	Antigua
43.	Zephyranthes	brevipes	Amaryllidaceae	Iximche
44.	Triplaris			near Escuintla

SMALL FLOWERS TO DO OVER IN GROUPS ? BY LOCATION, SEASON, OR GENERA?

45. M.	Salvia urica (lavender) with red, blue		Labiatae	on Fuego
46. M.	Fuchsia microacanicensis + 2 others			Iximche and Fuego
47.	Bouvardia have 2 sketched			Finca Moca & Agua
48. M.	Crusea calocephalus, Cuphea pinetorum, Coreopsis? small Dahlia pop., Lamoureauxia multifida			all on Fuego
49. M.	Tagetes remotiflora * 2 others			Chimaltenango road

HAVE PRESSED AND PHOTOED (not painted) all from near Finca Moca, February

50. M.	Argemone	mexicana	Papaveraceae	
51. M.	Dyssodia	grandiflora	Compositae	
52. M.	Jacobinia	umbrosa	Labiatae?	
53. M.	Odontonema	tubiforme		
54. M.	Quamoclit	grandiflora		
55. M.	Sanchezia	parvibracteata		

PLANNED BUT NOT DONE AT ALL YET

56. M.	Erythrina	poeppigiana ?		near Finca Moca
57.	Lycaste	skinneri alba	Orchidaceae	where and when??
58.	Ondontoglossum	grande	Orchidaceae	where and when ?

LIST OF FINISHED PAINTINGS GUATEMALA

AUG. '65

M = identified by Molina

#	Gen.	Sp.	F.	Place	Time	YES	NO
24	1. Achimenes	longiflora	Gesneriaceae	Alotenango	Nov		
M	2. Apheandra	schiedeana	Acanthaceae	"	"		
	3. Boufferia	huanito or formosa	?	Antigua	June		
	4. Caesalpinia	pulcherrima	Leguminosae	near Escuintla	all year		
M	5. Calliandra	houstoniana	Mimosae	" Antigua	"		
	6. Sanna	edulis	Cannaceae	" Esc.	"		
	7. Cassia	indecora	Leguminosae	" Antigua	Nov		
	8. Castilleja	tenuiflora	Scrophulariaceae	on Agua	"		
	9. Cattleya	aurantiaca	Orchidaceae	common	Feb		
	10. Cattleya	skinneri	"	near Esc.	"		
	11. Chiranthodendron	pentadactylon	Sterculiaceae	on Fuego	Jan		
	12. Cobaea	villosa	Polemoniaceae	on Agua	Nov		
	13. Cochlospermum	vitifolium	Cochlo--aceae	to Coban above Salama	Feb		
M	14. Cordia	?	Boraginaceae	Motagua Valley	June		
	15. Dahlia	maxoni	Compositae	on Fuego	Nov Jan		
	16. Dahlia	popenovi	"	"	" - Jan		
M	17. Echeverria	maxoni	Crassulaceae	viaje Maria Tecum	June		
M	18. Fuchsia	splendens	Onograceae	on Fuego	Feb		
	19. Glicicidia	sepium	Leguminosae	near Esc.	Jan		
	20. Guaiacum	guatemalensis	Zygophyllaceae	Motagua V.	June		
	21. Heliconia	bihai	Musaceae	near Esc.	Nov		
M	22. Ipomoea	carnea	Convolvulaceae	on Agua	"		
M	23. Kohleria	elegans	Gesneriaceae	at home	Feb		
	24. Lobelia	laxiflora	Campanulaceae	common	all year		
	25. Oncidium	splendens	Orchidaceae	at home	?		
	26. Petrea	volubilis	Verbenaceae	Antigua	June		
M	27. Portlandia	?	Rubiaceae	"	"		
	28. Plumeria	rubra mut. of?	Apocynaceae	"	"		
M	29. Robinsonella	cordata	Malvaceae	on Fuego	"		
	30. Rondeletia	cordata	Rubiaceae	San Raphael	Nov		
M	31. Salvia	wagneriana	Labiatae	on Fuego	Feb		
	32. Sprekelia	formosissima	Amarylliaceae	Antigua	Nov		
	33. Tabebuia	donnell-smithi	Bignoniaceae	near Finca Moca	June		
M	34. "	rosea	"	" Esc.	Feb		
	35. Tecoma	stans	Bignoniaceae	Motagua V.	"		
M	36. Tillandsia	ionantha	Bromeliaceae	on Agua	Jan		
M	37. "	rodrigueziana	"	"	"		
M	38. Tithonia	longiradiata	Compositae	Chimaltenango	Nov		
13	39. Weldenia	candida	Commelinaceae	Maria Tecum	June		
	40. Wigandia	kunthi	Hydrophyllaceae	common	"		
	41. Yucca	elephantipes	Liliaceae	Antigua	"		
	42. Zephyranthes	brevipes	Amarylliaceae	Iximche	"		
M	43. Triplaris	melaenodendron	Polygonaceae	near Esc.	Jan		
M	44. Amoreuxia	palmatifida	Cochlospermaceae	Motagua V.	June		

some work to be done on # 3, 28, 33, 34, 36, 37,

M = Molina

PLANNED BUT NOT DONE YET

#	Gen.	Sp.	F.	Place	Time	Yes No
45.	Lycaste	skinneri	alba	Orchidaceae	Coban	
46.	Ondontoglossum	grande	"	"	at home	
SKETCHED PRESSED & PHOTOGRAPHED FINISH OR NOT?						
M	47.	Erythrina	poeggigiana	Leguminosae	near Esc.	Jan
	48.	Bixa	orellana	Bixaceae	" "	Nov
	49.	Cestrum	parqui?	Solanaceae	" Finca Moca	Jan
M	50.	Bouvardia	1 nubigena	Rubiaceae	Iximche?	June
			2 ?			Jan
M	51.	Fuchsia	1 microacananensis	Onograceae	on Fuego	Jan
			2 ?	Iximche		Feb
			3 ?	Maria Tecum		Jan
M	52.	Tagetes	1 remotiflora	Compositae	Chimaltenango	Nov
			2			
			3			
M	53.	Thryallis	glauca	Malpighaceae	Alotenango	Nov
	54.	Tradescantia	? (large)	Commelinaceae	"	"
M	55.	Salvia	1 urica lav.	Labiatae	on Fuego	"
			2 red			"
			3 blue			"
			4 viol			"
M	56.	"Fuego Bouquet" Nov.				
		Crusea caloccephalus,	Cuphea pnetorum, Lamoureauxia multifida, Dahlia pop. Coreopsis?	(Lythraceae)		Nov

HAVE PRESSED & PHOTOGRAPHED ONLY FINISH??

M	57.	Argemone	mexicana	Papaveraceae	common	Feb
M	58.	Dyssodia	grandiflora	Compositae	near Finca Moca	"
M	59.	Jacobinia	umbrosa	Acanthaceae	"	"
M	60.	Odontonema	tubiforme	"	"	"
M	61.	Quamoclit	grandiflora	Convolvulaceae	"	"
M	62.	Sanchezia	parvibracteata	Acanthaceae	"	"
M	63.	Kallstroemia maxima	"Tribulus"	Leguminosae	Motagua V.	June
	64.	unidentified:				
			blue thistle(Ground)	Iximche		June
			little red bean	Volcanoes		Nov
			"Solomon Seal"	Maria Tecum		June
			blue lupine Large	Agua		Nov
			Lantana			all year

EVERY PLANT SHOULD HAVE 4 OR 5 NAMES: Genus, Sp., Family, English and/or local (Nahuatl)
 Location, type of, time in bloom and /or mature seed
 description
 Use locally history story