

The Splendid Haul of Cyrus Guernsey Pringle

Rob Nicholson

A good active collector could make a splendid haul by putting in a season between Monterey and Saltillo including high mountain valleys not hard to reach but involving hard work and some risks. —C. C. Parry to Asa Gray, 1878

If Henry David Thoreau created the model for the New England activist-biologist, then perhaps its finest exemplar was a modest man from the hills of Vermont, Cyrus Guernsey Pringle, whose very name resonates with agrarian Yankee rectitude. Beginning in humble circumstances, Pringle went on to capture the attention of an American president, work with legendary Harvard botanists, and achieve a record of botanical fieldwork in Mexico that is unsurpassed today.

C. G. Pringle was born into a farming family in East Charlotte, Vermont, on May 6, 1838. After attending local secondary schools he enrolled at the University of Vermont in 1859, but soon had to return to the farm because of a death in the family. Pringle became an avid and skilled horticulturist at a young age, developing new strains of vegetables and reporting his results in horticultural journals. His hybridizing work with potatoes was so successful that a seedhouse in New York purchased the marketing rights for new varieties.

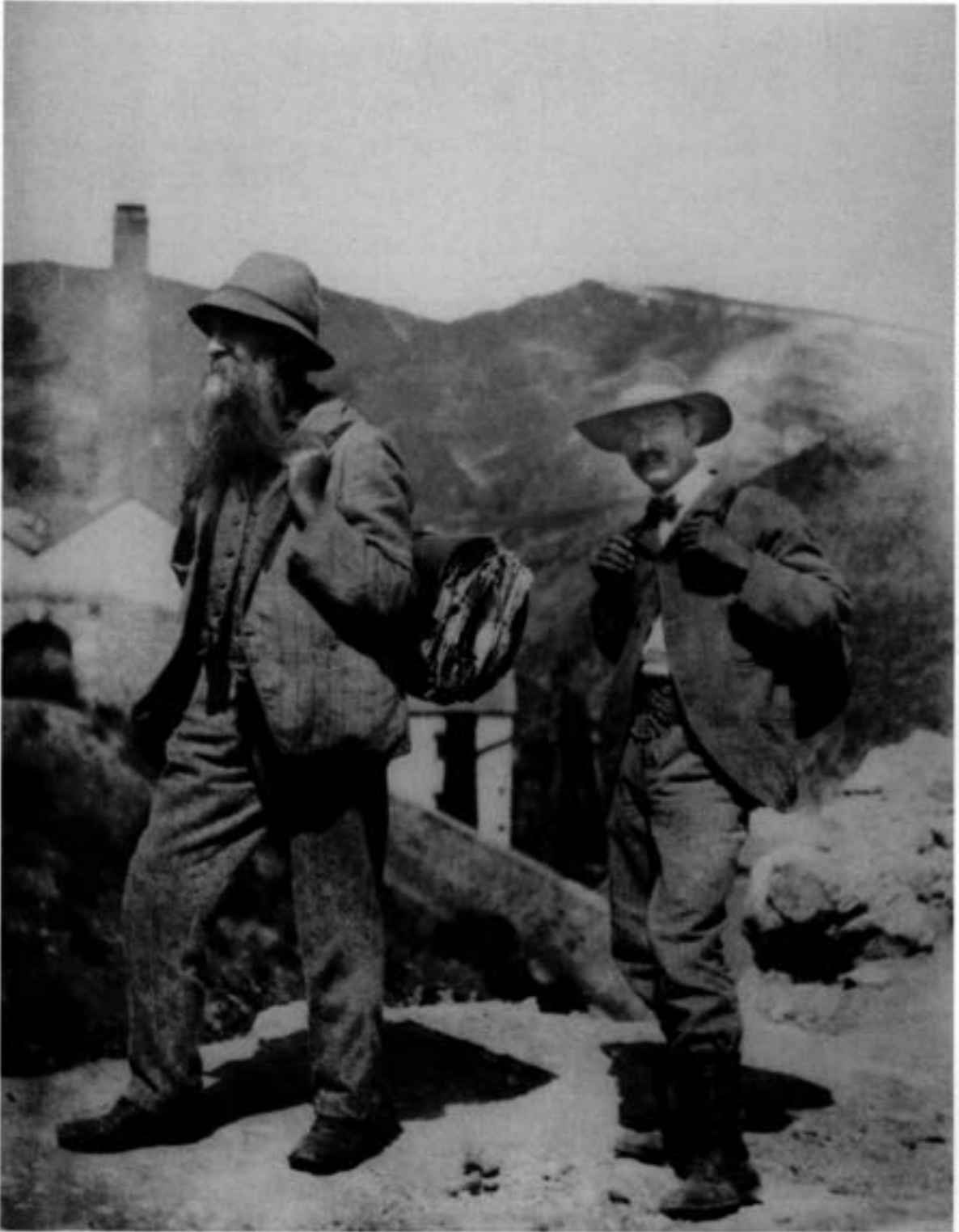
It was not his commingling of plant genes that first brought Pringle public attention, however, but his refusal to be drafted into the Union Army during the Civil War. A devout Quaker and pacifist, he refused to perform any task that would support the war effort, and although draftees could hire proxies to fill in for them, he also refused an uncle's offer to pay his commutation money. The diary of his wartime experience, published in 1918, portrays a strong-willed man of deep faith who remained uncompromising even while sometimes questioning his own zealotry.

When Pringle and two other Vermont Quakers were conscripted and sent to a military camp on an island in Boston harbor in late August of 1831, they were thrown into the guardhouse:

Here we are in prison in our own land for no crimes, no offence to God nor man: nay, more: we are here for obeying the commands of the Son of God and the influences of his Holy Spirit. I must look for patience in this dark day. I am troubled too much and excited and perplexed.

Over the next few weeks the prisoners were bullied by their military guards and urged even by other Quakers to agree to hospital work in lieu of active service. Still adamant, Pringle and his fellows were sent to Virginia, and guns were "thrust over our heads and hung upon our shoulders." As they marched toward the battlefield, Pringle had his first glimpse of the after-shocks of battle:

Seeing for the first time, a country made weary with war-blight, a country once adorned with groves and green pastures and meadows and fields of waving grain, and happy with a thousand homes, now laid with the ground, one realizes as he can in no other way something of the ruin that lies in the trail of a war. But upon these fields of Virginia, once so fair, there rests a two-fold blight, first that of slavery, now that of war. When one contrasts the face of this country with the smiling hillsides and vales of New England, he sees stamped upon it in characters so marked, none but a blind man can fail to read, the great irrefutable arguments against slavery and against war too: and must be filled with loathing for these twin relics of barbarism, so awful in the potency of their consequences that they can change even the face of the country.



For twenty-six years beginning in 1885, C. G. Pringle explored the flora of Mexico as a botanical collector for Harvard's Gray Herbarium. Although he hired assistants from both Vermont and Mexico, Filemon Lozano, seen here with Pringle, was his principal assistant from 1902 on.

Despite punishments that at one point included being staked to the ground in the summer sun, Pringle would not relent. Through the intervention of Isaac Newton, the Secretary of Agriculture, who was sympathetic to the Quaker cause, Pringle and his fellows were taken to Washington where their case was brought before President Lincoln. When Pringle's health began to deteriorate, Lincoln "was moved to sympathy on my behalf" and he was paroled on November 6.

After his three-month ordeal, Pringle returned to the family farm in East Charlotte and to his horticultural pursuits. He collected new varieties of grapes, currants, plums, tomatoes, and corn and resumed his hybridizing work with oats, wheat, tomatoes, plums, currants, gooseberries, and potatoes. During the 1870s he began to receive requests from the Boston area for specimens of native Vermont plants. The fern expert George Davenport of Medford, Massachusetts, for example, asked him for rare ferns from the Vermont woods. As a result of joining the Massachusetts Horticultural Society and other local botanical groups, Pringle met Asa Gray, the Harvard botanist who is often called the father of North American botany and whose family were to become lifelong supporters of Pringle's collecting efforts.

In 1880 Pringle was given three commissions to collect in the western United States. For Dr. Gray he was to collect plants of general botanic interest; for the U.S. Census Department, he was to explore the region's forests under the direction of the Arnold Arboretum's Charles Sprague Sargent and submit systematic, geographical, and economic data; for the American Museum of Natural History's Jesup Collection of North American Woods, he was to obtain large samples of wood, also under Sargent's direction. This work would keep him in the West from 1880 until the fall of 1882.

But during the course of Pringle's expedition, disputes arose between Sargent and Morris K. Jesup. Jesup was a wealthy New Yorker who had helped found the American Museum of Natural History and who was underwriting the Museum's effort to collect logs from every tree species in the United States. Jesup was depend-

ing on Sargent to direct his cadre of plant collectors on behalf of his wood collection, but the two men disagreed about which species to prioritize, and Jesup bristled at what he saw as extravagant expenses. As a result of these disputes Sargent began pressing Pringle for faster results, and after receiving a particularly bullying set of demands in October of 1882, Pringle cabled his resignation from Arizona. Explaining the conflict in a letter to Asa Gray, he wrote:

All season [Sargent] has goaded me on to completion of the Museum work, demanding impossibilities of me. He wished me to suspend in great measure (or entirely so) my own collecting, but offered no terms to compensate me. I suspended the Museum work for my own but thirty-three days in an entire season. Yet I am charged with unfaithfulness, incapacity, and even, as I understand it, with dishonesty. I recollect saying I should endeavor to please Mr. Sargent but that he should never make me his hack. I expect him to be terribly angry and give me a bad name [13 November 1882].

Gray continued as Pringle's patron and appointed him to the Gray Herbarium as a botanical collector. Gray wrote to Pringle saying that he preferred him to collect in Mexico, "in new ground." From then on, Pringle's arena for plant collecting would be Mexico, where he undertook 39 expeditions between 1885 and 1909, some lasting as long as ten months.

Pringle did continue to collect for Sargent occasionally. His field entry of November 10, 1907, reads:

Once again I spend another happy day on the mountainside above the Valley of Mexico . . . I collect a half dozen species in scores and cones of two pines for Professor Sargent, *P. teocote* and *P. pseudostrobus*.

And on four occasions Pringle shepherded through Mexico the eminent pine taxonomist George Russell Shaw, helping him find and identify a large number of Mexican pines, an exceedingly complex group. In 1909 the Arnold Arboretum published Shaw's work as *The Pines of Mexico*.

Cyrus Pringle always began his expeditions by boarding the train at Charlotte for the long trip



DRAWING BY A. F. LUCHEL, GARDEN AND FOREST 2 (1897) 85

C. S. Sargent called Pachycereus pringlei one of the most interesting of Pringle's many Mexican discoveries. This drawing, made from a photograph taken on San Pedro Martin Island, shows what is surely one of North America's strangest and most remarkable forests. Sometimes more than thirty feet in height, P. pringlei is thicker and more ponderous than any other known cactus. Its flowers are scattered along the ribs, two or three feet from the top.

southward. He usually brought with him some young men from the local area as assistants, but these Vermont farmboys often wilted in the heat and difficult conditions of Mexico. 1886 was a particularly bad year, with two expeditions cut short so that Pringle could return home with sick assistants. His journal entry for Sunday, July 25, reads like a Vermonter's haiku:

The boys rested, I dried plants. Elmer getting worse. Fred disgusted with Mexico.

And on the following day, the surrender:

It having become apparent that Elmer could not stand the water, food, and climate of Mexico, it was decided best for him to return home: and as it seemed unsafe to send him alone, I could see no way but to take him home. Fred was ready to go, too, so we packed up and took the train in the evening.

It may be a measure of the botanist's iron constitution that three weeks after his return to Vermont he boarded a train for Mexico a third time that year. O. W. Barrett, a Vermont botanist who had collected with Pringle both in Mexico and Vermont, described the difficulties faced by Pringle and his assistants:

Usually, one Mexican helper would be left at the "base" to guard the property and to "change dryers," while an American assistant and perhaps a peon or two would "fare afield." The "base" might be a hacienda, a village inn, or a way station or water-tank on some railway. Changing the dryers two to four times a day, for 500 to 1,000 specimens, was a tedious, though not difficult task in the "Mesa" regions during the "dry season"; but in the "Tierra Caliente" valuable plant material sometimes "sweat" and blackened when hot dryers were insufficient. Nearly all the field work was done between nine and

noon; rains were liable to come on suddenly in the afternoon, and hail, terrific lightning, and blinding dust storms were not rare from the Rio Grande to Oaxaca, during most of the year. To tramp an hour, often over rough Indian trails carrying three to four quarts of water (in the largest canteen he could obtain), a plant press full of paper, and the lunch, was just a prelude to the three hours or more of active collecting over the chosen ground. Usually fifty to seventy specimens of each of the two to five species were taken each field day . . . [Davis 1936, 9–10].

Asa Gray had hired Pringle for a maximum salary of \$800 a year from the Gray Herbarium and \$200 from Harvard's Botanical Museum. After the death of Gray in January of 1888 and of Sereno Watson, curator of the Gray Herbarium, in 1892, support from Harvard disappeared, although Gray's widow, Jane Loring Gray, tided Pringle over with a personal loan, later burning the note in honor of her husband's memory. In 1893 Pringle was reinstated at Harvard with a reduced salary that fluctuated through the years. He supplemented his stipend in a variety of ways. Interestingly, he was an early worker in the field of bioprospecting, supplying specimens for the Instituto Medico Nacional de Mexico and for two American pharmaceutical firms, Eli Lilly & Co. and Parke, Davis and Co. In his diary, Pringle wrote that:

[T]he Instituto Medico Nacional is not a medical school but an institution endowed by the nation for botanical study and the investigation of the remedial values of plants by the physicians of the city. Extensive collections of plants are being gathered here, and there are laboratories for chemical and bacteriological study. I was gratified to find my Chihuahua herbarium preserved here intact and to learn it was esteemed of highest value, that it is to be kept separate, and to be extended by my present and future collections [7 September 1891].



Pringle in his herbarium, which was installed at the University of Vermont, Burlington, in 1902. At his death in 1911 the number of his specimens approached 155,000. "[He] liked to boast—his only jest of this sort—that he could call over 10,000 plant acquaintances, and a few botanical friends, by their proper names—though he was not certain as to who the president in Washington might happen to be" [O. E. Barrett in Davis 1936, 13].

More regularly, however, he earned extra income by selling mounted duplicates of his specimens to subscribers in the U.S. and abroad—thus the fifty to seventy specimens of each species mentioned by Barrett above. Pringle referred to this added burden in a letter of 1887:

Would not like to hear the howl of forty disappointed subscribers. Yet to travel free and light and to collect but a few specimens, how easy!

The list of recipients of Pringle's specimens, now in the archives of the Pringle Herbarium at the University of Vermont in Burlington, includes leading botanists and forty herbariums, among them the Smithsonian Institution, the British Museum, the California Academy of Science, the Royal Botanic Gardens at Kew and Edinburgh, the New York Botanic Garden, and the Missouri Botanic Garden. Sets were sold from each year's haul and although the numbers of specimens offered each year varied, the price was always ten cents per herbarium sheet. It was not a lucrative business, and Pringle struggled financially for most of his life.

The list of Pringle's Mexican specimens numbers 15,719 separate taxa, with representatives from 21 of the 30 Mexican states. In all of North America, he collected a phenomenal 500,000 herbarium specimens of 20,000 different species during the course of his thirty-five-year career. Because so much of his work was done in remote areas of Mexico, these included approximately 1,200 species new to science.

It is incongruous to find one of the world's best collections of Mexican flora in an old brick building that is surrounded by powdery snow through much of the year. The Pringle Herbarium at the University of Vermont holds many Mexican type specimens (the initial collection of a plant), and even today taxonomists working on the Mexican flora depend on loans from this repository to establish accurate generic relationships. For example, Pringle's herbarium contains five type specimens of *Tigridia*, a member of the iris family that is also known as clownflower because of its spectacularly colored blossoms. The botanist Elwood Moiseid used these and many of Pringle's other *Tigridia* specimens to make taxonomic revisions of the genus in 1965. They were used again in 1994 by A. Espejo and A. R. Lopez-Ferrari, two researchers from the Universidad Nacional Autonoma Mexico. Given the availability of new technologies, Cyrus Pringle's complete collections may one day return to Mexico in digitized form via CD-Rom.

The journal that served as the principal outlet for Pringle's writings about the Mexican flora was *Garden and Forest*, which was published

weekly under the guidance of C. S. Sargent from 1888 to 1897. Its first issue included Pringle's notes on his discovery of extreme northern populations of *Begonia gracilis* var. *maritima* and *Dahlia coccinea*. Of the begonia he wrote:

When botanizing last September upon the cordilleras of North Mexico some two hundred miles south of the United States Boundary, I found growing in black mould of shaded ledges—even in the thin humus of mossy rocks—at an elevation of 7,000 to 8,000 feet, a plant of striking beauty, which Mr. Sereno Watson identifies as *Begonia gracilis*, HBK., var. *Maritima*, A.DC. From a small tuberous root it sends up to a height of one to two feet a single crimson-tinted stem, which terminates in a long raceme of scarlet flowers, large for the genus and long enduring. The plant is still embellished by clusters of scarlet gemmae in the axils of its leaves. Mr. Watson writes: "It was in cultivation fifty years or more ago, but has probably been long ago lost. It appears to be the most northern species of the genus and should be the most hardy." Certainly the earth freezes and snows fall in the high region, where it is at home [*Garden and Forest* 1 (1888): 7].

In addition to the more than thirty articles that Pringle wrote for *Garden and Forest*, other botanists, including Sereno Watson and the fern expert George Davenport, contributed articles based entirely on Pringle's Mexican collections. In fact, Pringle's work in Mexico and the plants he found there constitute a running theme throughout the life of the journal. In the sixth issue he began "The Forest Vegetation of Northern Mexico," the first of four series of articles on the Mexican flora; for those who plan to collect there, it is an invaluable primer. Another series, "Notes on the Ligneous Vegetation of the Sierra Madre of Nuevo Leon," shows Pringle writing for his armchair audience, people who would probably never follow in his tracks:

Across this Sierra Madre range the traveler by train of the Mexican National Railroad between Monterey and Saltillo is borne almost as swiftly and gently as though by the enchanted tapestry of the Arabian Nights. Looking backward and to the south-east as the train mounts the mesas of Garcia and nears the base of the mountains, he sees several successive ranges with serrated summits rising one above the other and receding



THE Tiger-flower, the well known *Tigridis Pavonia*, a native of the valleys of southern Mexico, early attracted the attention of the Spanish conquerors, and became known by reputation under the name of *Tigridis flos* long before it had been seen by any botanist. It was first described by L'Obel (Lobelius) in his *Plantarum Historia*, published at Antwerp in 1576, where he gives a very rough but recognizable wood-cut of the plant . . . Hernandez also describes it in the *Historia Plantarum Navæ Hispaniæ* (1651), giving the same Latin name, *Flos tigridis*, and the Aztec name, *Oceloxochitl*. He speaks of it as growing in gardens and cultivated fields about the City of Mexico, as though it were cultivated both for its flowers and for its edible bulbs. . . . Upon the description by L'Obel, and on account of its brilliant, though fugitive, flowers, it has maintained its place in gardens ever since.



Oceloxochitl

This species is the only one hitherto known belonging to the true *Tigridia* section of the genus, having large flowers and decurrent stigmas. . . . *T. Pringlei* is a recent discovery made by Mr. C. G. Pringle in the mountains of Chihuahua, much farther to the north than any other species has ever been found. . . . it is very closely related to *T. Pavonia*, and if color alone were to decide, it might be considered a variety of it, though differing markedly even in that respect from the old species. . . . In cultivation at Cambridge [Massachusetts] this season the bulbs commenced to bloom in July and continued to flower for several weeks.

S[ereno] W[atson]

[*Garden and Forest* 1 (1888): 388-389]

far away in the soft blue haze [*Garden and Forest* 3 (1890): 337–338].

A short note, “The Home of the Jacobean Lily,” shows that not only did Pringle collect and distribute bulbs (without being sure of their identity), but that he sent them as far away as Kew Gardens in London for trial.

It is with some surprise that I hear that bulbs collected last autumn on the foothills of the Cordilleras of western Chihuahua, having flowered at Kew prove to be *Sprekelia formosissima*. So near our borders! The bulbs were found about six inches deep in light brown soil of ledges or rocky hills, dry situations, where the soil of ledges were not crowded upon by many other species. Buried at this depth it is very likely that the bulbs are out of reach of frost. The plants were in leaf throughout the autumn, and grew sometimes even in beds, which at flowering time, probably when the first rains came early in July, must be a brilliant sight [*Garden and Forest* 1 (1888): 309].

While Pringle did occasionally collect live plants for the commercial nursery market, especially *Tigridia* bulbs and orchids, he was primarily a botanical collector. Having seen many of his specimen sheets at the University of Vermont, I can vouch for their being not only of highest quality in terms of mounting and character sets (important identifying floral features), but also tantalizing as potential garden plants. His *Salvia* collections would put to shame the selection currently available in nurseries. *Salvia roeneriana* (#10,160) shows beautiful *Heuchera*-like felted leaves in a basal rosette with a spike of cardinal red flowers. In Iguala Canyon in Guerrero State he found *Salvia muralis* (#10,328) with two-and-a-half-inch flowers of reddish-orange. My favorite is *Salvia sessei* (#8,378), with its huge balloonish bracts of pink, but I would like to propagate them all.

Despite poverty and physical hardship, Pringle continued to work in Mexico even after his trusted assistant Filemon Lozano, in 1909, “reasons with me out of the kindness of his heart, advising me to come no more.” Pringle returned for two more short visits, making the last of his 39 expeditions in October 1909. He passed away at the age of 73, on May 25, 1911, after a short bout of pneumonia. A plaque hon-

oring him at the Pringle Herbarium bears a quote from his old mentor, Asa Gray, calling him “the prince of botanical collectors.” Again O. W. Barrett:

Doctor Pringle, unlike his rivals in the Mexican field, was wont to “make a clean sweep”—taking specimens of all the species of trees, shrubs, and herbs in each region he “worked,” not merely “skimming” the area for likely “cream” of new species. He easily could have gleaned a much greater percentage of new species in the same regions in half the time he did spend; but he conscientiously adhered to his principles, from his deep love and respect for his chosen work—hence the world today has what might be called true Pringle photographic records of Mexican flora instead of incomplete and personally biased sketches of scattered areas. By grouping the Pringle herbarium sheets from a given locality, we have an accurate panorama of the plant population thereof. Probably no other plant collector has ever followed this plan so well over such a vast territory [Davis 1936, 9–11].

Pringle’s tens of thousands of dried and pressed specimens give us a portrait not only of an assemblage of plants at a certain place and time, but of the man himself—industrious, enraptured by nature, and above all else, the consummate field botanist.

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Rob Nicholson, who manages the conservatories of the Smith College Botanic Garden, Northampton, Massachusetts, has made several plant-collecting trips to Mexico.