# THE TEXAS PLANT COLLECTIONS OF MARY SOPHIE YOUNG

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**Abstract:** Mary S. Young (1872–1919) was one of the first botanists at the University of Texas. Her specimens from different parts of Texas greatly expanded the herbarium collections of the university and her exchanges with other botanists in the United States further increased the herbarium's holdings. Information on her specimens and collection notebooks along with maps as to where she collected are provided.

**Resumen:** Mary S. Young (1872–1919) fue uno de los primeros botánicos en la Universidad de Texas. Sus colecciones recogidas en todo el estado expandieron significativamente el acervo del herbario. El intercambio de los duplicados de sus colecciones permitió, de igual manera, incrementar la colección. Se proporciona información sobre sus colectas, datos sobre sus libros de campo y mapas de sitios de colección.

**Keywords:** Mary Sophie Young, history of botany, plant collectors, Texas.

> "Inspired by a love and enthusiasm that lent wings to her feet, shortening miles, she sought out the most secret botanical hiding places with untiring zeal. The bold, conspicuous plants, familiar even to the casual observer; those of a more modest and retiring habit, generally little known; and the extremely shy ones that have to be sought in canyons, along perilous cliffs, or hidden among larger companions of plant society: all these imparted to Miss Young the innermost secrets of their social and domestic life."

So is described Mary Sophie Young[1] (Fig. 1) (Tharp and Kielman, 1962), courageous explorer and devoted botanist, who made significant contributions to the botanical knowledge of Texas during her short tenure at the University of Texas at Austin. The beginnings of the University of Texas Herbarium are closely linked with her collections, which formed a comprehensive representation of the flora of central Texas as well as of other parts of the state.[2] Although the first plant collections for the herbarium were made by Dr. William L. Bray in the 1890s (Faust, 1955), Dr. Young's collections laid the framework for profound growth and national recognition of the herbarium by doubling the number of specimens (Young, 1920) through an active exchange program and her own collections.

Born in September 1872 in Glendale, Ohio, Mary S. Young was the last of eight children and the only daughter of Episcopalian minister Charles Huntington Young and his wife, Emma Adams Young (*née* Sainer). Her older brothers contributed to her strength of character and hardiness in the field:

> "When I was a child I was importunate in my desire to go on tramps with my brothers. They reluctantly consented, provided I should hold out and not spoil their fun by getting tired and wishing to return before they were ready. I knew that if I ever offended once I should be barred from going again; and though I was wearied many a time to the point of exhaustion I would have died rather than admit it to them."[3]

Mary S. Young received her Bachelor of Arts degree from Wellesley College in 1895 and taught high school for more than a decade (in Sullivan, Missouri from 1895 to 1897; in Dundee, Illinois from 1897 to 1898; in Fond-du-Lac, Wisconsin from 1898 to 1906; and in Sycamore, Illinois from 1907 to 1908) (Tharp and Barkley, 1946). In the summer of 1900 she began graduate work at the University of Chicago,

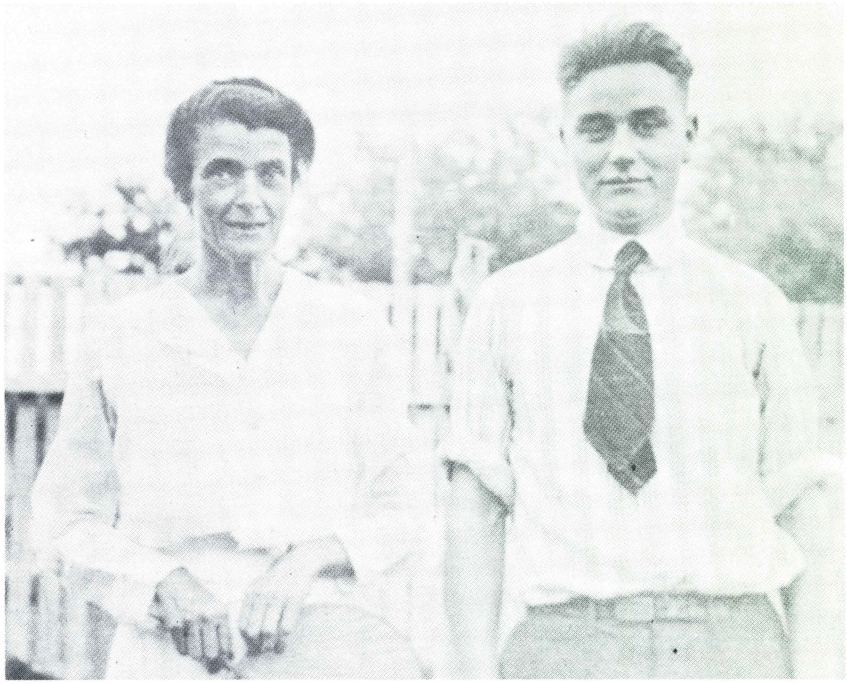


FIG. 1. Mary S. Young and Carey Tharp in August 1914 on their expedition to West Texas. Courtesy of the Texas State Historical Association, Austin.

which she continued through correspondence study while teaching school. She then returned to the University of Chicago in 1906, receiving her M.S. degree in 1907, and graduating with a Doctor of Philosophy in 1910. Her master's thesis and doctoral dissertation on the morphology of the Podocarpineae under the direction of Professors J. M. Coulter and C. J. Chamberlain resulted in two publications (Young, 1907, 1910). Throughout the course of her education she was known as a quiet and dedicated student. Her major advisor, Prof. Charles J. Chamberlain, had this to say about her:

> "Dr. Mary Sophie Young was an ambitious and progressive teacher. Even while burdened with work as a teacher, she sought to improve herself by correspondence study. Two courses in the structure and development of plants were completed while she was teaching in Kansas City, Kansas, and a third course was completed at Fond-du-Lac, Wisconsin. This work was of the highest grade and formed the basis for advanced work and the published researches which have given her a place in the literature of botany. Her keen insight and capacity for work won the respect of her instructors and fellow students, while her quiet, kindly manner made her a good example and an important factor in the social life of the department."[4]

Dr. Young arrived at the University of Texas at Austin in the fall of 1910 as an Instructor of Botany. During her first two years at the university, she had full responsibility for the introductory botany laboratory class. She apparently excelled at this task by giving exceptionally clear and concise directions (Tharp, 1921). Because no printed laboratory directions were available, she wrote them on the blackboard to suit the material to be studied. In response to questions by students, she was well-known for asking questions in return to get the students to solve a problem themselves. In her teaching notes for a course entitled Ecological Plant Geography she instructed her students when studying the various plant formations to:

FIG. 2. Old Main Building of the University of Texas where the university herbarium was located from 1914–1919.

> "Read the description, try to read for the pleasure, put yourself in the region, forgetting everything else. Take notes afterward. Get a picture of the vegetation."[5]

In 1912 Dr. Young's professional duties shifted to teaching a course in plant taxonomy and to directing and caring for the herbarium[6] (Tharp and Kielman, 1962). At the time, the Botany laboratories were located on the third floor of the old Main Building (Fig. 2), a building no longer extant that was situated near the current location of the new Main Building, where the herbarium is housed today.

As an energetic and gifted teacher Mary S. Young inspired students with an interest in plants. Welcoming students to join her on hikes for plant material for class and for the herbarium, she covered much of the ecologically diverse central Texas area including the Blackland Prairies to the east and the Edwards Plateau to the west. Specific localities recorded in her collection notebooks and on her specimens include the University of Texas campus, the post-oak woods east of town, along the right-of-way of the International and Great Northern railroad, on Mt. Bonnell, and near the area's watercourses (i.e., the Colorado River, Barton Springs and Creek, Shoal Creek, Waller Creek, Onion Creek, and Bull Creek). Undaunted by the dangers that might beset her, she carried only a collecting can, a light lunch, and a canteen of water on her various jaunts. At the time, the central Texas area was poorly known botanically and in retrospect, encountering new species would have been expected. In keeping with the rest of her personality, Dr. Young was botanically conservative and extremely cautious in her taxonomic assessments. This also may have been in part because her academic training was in plant morphology not taxonomy. Although admitting that some of her collections did not match any published description, she thought this to be due to the sketchy descriptions and not because the plants might be new to science.[7] Young's research on the plants of the Austin area resulted in two publications: "A key to the families and genera of the wild plants of

Austin, Texas" (Young, 1917) and "The seed plants, ferns, and fern allies of the Austin region" (Young, 1920).

In addition to her short collecting forays around Austin, Young took an extended collecting trip each summer from 1914 to 1918 and shorter trips to other parts of the state at other times of the year (Table 2). Collection notebooks for the summers of 1914, 1915, 1916, and 1918 are housed in the Barker Texas History Center of the University of Texas at Austin. In September 1917 she collected in the Texas Panhandle near Canyon City (Tharp and Kielman, 1962), but her botanical records of this period were apparently lost.

As an instructor at the University, Young's financial means were limited. To continue her field work and augment the herbarium collection, she arranged with the University to pay part of her field expenses while she paid the remaining portion.

> "An interesting sidelight on Miss Young's character was revealed when, upon returning from one of her trips, it was discovered that she failed to turn in a complete expense account. The chairman of the department remonstrated with her, but was told that she would have had to live had she been in Austin; that she had submitted the approximate difference between what her expenses would have been at home and what they actually were on the trip."[8]

All of her collections were given to the herbarium along with detailed documentation of her collections and correspondence (Tharp, 1921).[9]

In the present Plant Resources Center at the University of Texas at Austin, Young's collections, reportedly numbering 10,000 sheets (Vegter, 1988) but probably far fewer, are intercalated with the more than 1.1 million specimens now housed at TEX-LL. Although no attempt was made to locate all of her collections, a small subset was gathered. From those collections and her collection notebooks an idea of where and when she collected in the state is furnished (Tables 1–2, Fig. 4). Only on one occasion while she worked at the University of Texas did she leave the state to collect plants. In 1916 during her trip to the Guadalupe Mountains in west Texas, she collected in High Rolls, New Mexico.[10] Her collection notebook indicates she made 68 collections in that area between July 10 and August 1.

Her best known trip was undertaken during the summer of 1914, chronicled in her diary and later published in its entirety (Tharp and Kielman, 1962). On August 2, 1914, Mary S. Young boarded a train bound for Katy, Texas where she transferred to the Southern Pacific line headed for West Texas in the company of Carey Tharp (Fig. 1). Carey, the younger brother of Dr. B. C. Tharp (1885–1964, sebsequent Professor of Botany in charge of the herbarium after Dr. Young's death). Carey Tharp was seventeen at the time, a student at the University, and honing his mathematics skills on the trip. The tickets for their journey totaled $40.00. Arriving on the third of August in Marfa, they purchased two burros, Nebuchadnezzar and Balaam, for $8.00 and outfitted their venture with supplies (Fig. 3). Young's journal relates an encounter with a black bear, shooting of squirrels and rabbits for dinner, killing of a rattlesnake, trouble with the burros, and fairly constant worry about having enough food. Remarks on the vegetation and comments about specific plant species are common in the diary. It is remarkable reading and gives much insight into Dr. Young as well as life in West Texas eighty years ago:

> August 4
> "Start about 2:00 P.M. The burros are not too anxious to go. Carey punches behind and I pull in front. I long to get out of town. The packs wabble and Carey has to shift them every few yards. We wish for a cart. We stop at a house at the edge of town to inquire directions and we are treated with kindness that we shall never forget."
> August 6
> "The [Merrill] canyon is beautiful. I have never stayed in a more beautiful place (except the Alps and Glacier Park)."
> August 9
> "Tank water did not make good coffee. We explored and found the finest kind of a spring a

FIG. 3. Mary Sophie Young and Nebuchadnezzar, August 1914. Courtesy of the Texas State Historical Association, Austin.

little above the windmills. We played in the brook. Carey made some wash tubs — tiled and with faucets and outlet constantly working, so they are no trouble to fill and empty. It was a pleasure to do the family washing."

August 11

"I started up the canyon to collect, but, managing to shoot two rabbits, had to come back with them.

"It started to rain at noon and we finished frying the rabbits by Carey holding a parasol over the fire. The parasol used to belong to a baby carriage. We found it in the kitchen. When the storm came up we moved into the one clean room in the house. It did not rain so very much or hard, but ten minutes after it started, the creek rose five feet in five minutes.

"The gallery was too wet to sleep on that night, so we had to go inside. The rats in the front room bothered me. I imagined them eating all our provisions. We climbed the mountain back of the house that evening."

August 14

"This was the day that we went to Livermore.[11] We started up the gully back of the house somewhere around 9 a.m. carrying two canteens, two knapsacks, two guns, and a botany can. For lunch we had a can of baked beans, four teacakes, and two cakes of chocolate. . . .

"We finally lost the trail and, as we had no idea which was Mt. Livermore, aimed for the most attractive looking mountain. We certainly did some climbing, and Carey with the two canteens must have had a hard time. We went up a very steep long slope, then around the top of that small mountain, only to find ourselves cut off from the next mountain, the one with high rock bluffs topping it, by deep ravines. . . .

"Of course, there are no trails in these mountains, but what makes them so hard to climb is the fact that long grass and shrubby plants cover the rocks and loose stones in many places so that one is very much impeded and beside cannot tell where he is going to put his foot. . . .

"There is a beautiful gorge in our mountain with a small stream of water running down it in a broken waterfall. After you climb the first flight of stairs it opens up with a much more beautiful cut than it looks from below. It is, in vegetation, like the streams of the northern Rockies. I found several old acquaintances. It looked possible to climb higher, but I came to one place where my courage was not quite enough. More trips in that region would pay, but those places are so inaccessible!"

September 11

"I went to the mountains[12] Friday. There is a trail up the canyon, partly along the hills, partly down in the bottom. The canyon zigzags so that one travels twice the distance. This truly is the devil's country. It is hot. The hills are gravelly and with loose stones so that one's footing is never sure. This is the first place I have not been sure-footed on rocks. Even up in the mountains where you leave the river deposit and come to 'the formation' the hills are all loose rocks. Then the vegetation — every bush — reaches out its claws and catches your clothes if it does not tear your skin.

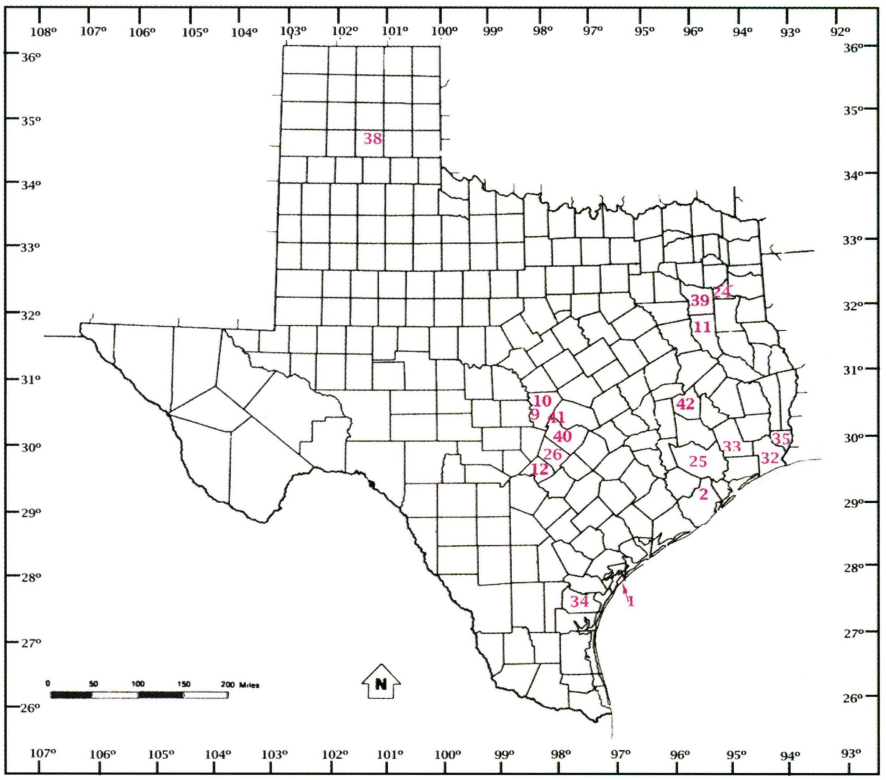
"The mountains are a little more like the Davis Mountains than these hills here. There is some grass and candlewood and creosote gradually disappear. There is no timber, but I found a few scrubby oaks and cedars in the gullies."

Her journal, which has the diary interspersed with her collection notes, indicates that she made 391 collections on her 1914 trip. On this trip, as on all her other trips, Young collected ferns and all seeds plants she encountered from grasses and sedges to cacti and large trees. Her botanical notes indicate plants associations, habitat and microhabitat characteristics, and plant attributes, such as flower color and plant height. She also recorded any known uses of a plant. For example, she writes that *Euphorbia* is used commercially for gum. None of these notes, however, was transcribed onto her labels.

During the summer of 1915 Mary S. Young once again headed out to West Texas to collect plants. This time she visited the Chisos Mountains arriving apparently by train in Marathon in early August and departing in mid-September after making 541 plant collections. According to notations in her collection notebook, Carey Tharp accompanied her on this trip as well. She collected in the area that is now Big Bend National Park both in the mountains and along the Río Grande.

The following summer she ventured even further west to the Guadalupe

FIG. 4. Map(facing page) showing where Mary S. Young collected in Texas. Above: localities east of the Trans–Pecos. Below: localities in the Trans-Pecos region. Numbers are referenced in Table 1.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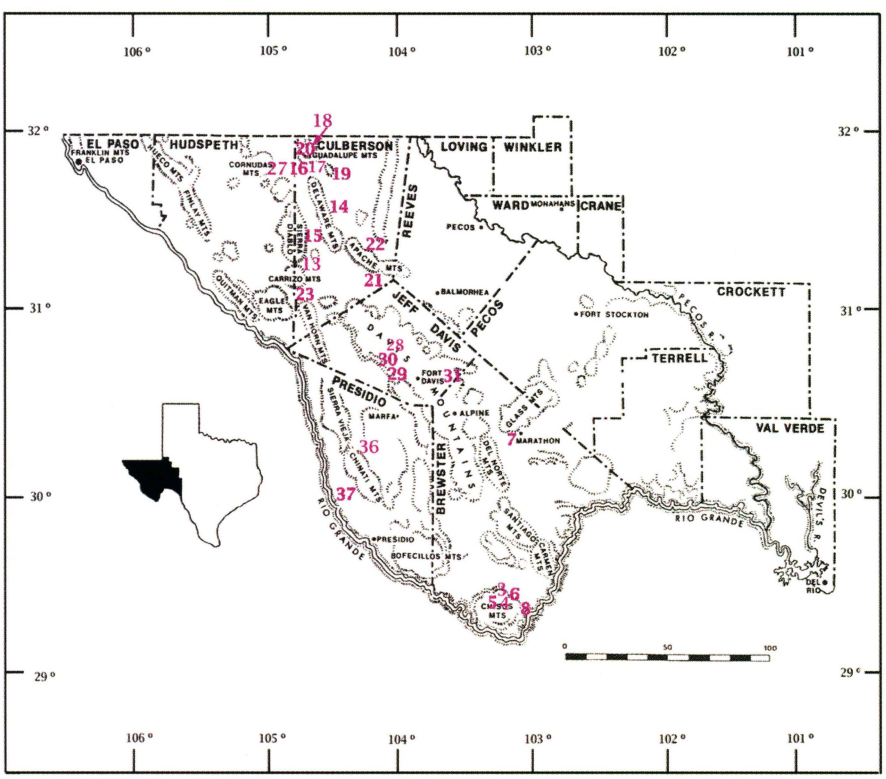
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EAGLE MTS
BALMORHEA
JEFF DAVIS
PECOS
FORT STOCKTON
CROCKETT
TERRELL
VAL VERDE
PRESIDIO
FORT DAVIS
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TABLE 1. Localities where Mary S. Young collected in Texas.[1] Specific dates can be found in Table 2.

| County | Map # | Locality | Latitude | Longitude | Dates (Mo., Yr.) |
|---|---|---|---|---|---|
| Aransas | 1 | Rockport | 28°01'13"N | 97°03'15"W | Mar.–Apr. 1914 |
| Brazoria | 2 | Alvin | 29°25'25"N | 95°14'38"W | Apr. 1918 |
| Brewster | | Chisos Mountains | | | Aug.–Sep. 1915 |
| | 3 | Green Gulch | 29°16'22"N | 103°16'71"W | Sep. 1915 |
| | 4 | Lost Mine Mountain | 29°16'32"N | 103°15'28"W | Aug. 1915 |
| | 5 | Emory Peak | 29°14'44"N | 103°18'12"W | Sep. 1915 |
| | 6 | Rock Spring | 29°16'13"N | 103°11'18"W | Aug. 1915 |
| | 7 | Near Marathon | 30°12'18"N | 103°14'39"W | Sep. 1915 |
| | 8 | Rio Grande R., nr San Vicente | 29°09'12"N | 103°01'24"W | Aug. 1915 |
| Burnet | 9 | Granite Mountain | 30°35'17"N | 98°18'03"W | Apr. 1913 |
| | 10 | Marble Falls | 30°34'41"N | 98°16'21"W | Apr. 1916 |
| Cherokee | 11 | Gallatin | 31°53'27"N | 95°08'43"W | Apr. 1916 |
| Comal | 12 | New Braunfels | 29°42'10"N | 98°07'27"W | Apr. 1917 |
| Culberson | 13 | Baylor Mountains | ca. 31°15'N | ca. 104°45'W | Sep. 1916 |
| | 14 | Delaware Mountains | 31°30'00"N | 104°36'00"W | Sep. 1916 |
| | 15 | Figure Two Ranch | 31°27'42"N | 104°50'50"W | Sep. 1916 |
| | | Guadalupe Mountains | | | Aug. 1916 |
| | 16 | El Capitan | 31°52'38"N | 104°51'27"W | Sep. 1916 |
| | 17 | Guadalupe Canyon | 31°49'09"N | 104°49'29"W | Sep. 1916 |
| | 18 | McKittrick Canyon | 32°03'22"N | 104°29'00"W | Aug. 1916 |
| | 19 | Pine Spring | 31°53'55"N | 104°49'17"W | Aug.–Sep. 1916 |
| | 20 | Signal Peak =Guadalupe Peak | 31°54'00"N | 104°52'00"W | Aug. 1916 |
| | 21 | Kent | 31°04'09"N | 104°13'00"W | Aug. 1916 |
| | 22 | Seven Heart Gap | 31°15'20"N | 104°30'30"W | Aug. 1916 |
| | 23 | Van Horn | 31°02'23"N | 104°49'49"W | Sep. 1916 |
| Gregg | 24 | Kilgore | 32°23'10"N | 94°52'32"W | Apr. 1916 |
| Harris | 25 | Harrisburg | 29°43'05"N | 95°16'46"W | Apr. 1918 |
| Hays | 26 | San Marcos | 29°52'59"N | 97°56'28"W | May 1912 |
| | | | | | Nov. 1916 |
| Hudspeth | 27 | Salt Basin | 31°53'45"N | 105°05'04"W | Sep. 1916 |
| Jeff Davis | | Davis Mountains | | | Aug. 1914 |
| | | | | | Sep. 1918 |
| | 28 | Limpia Canyon | 30°46'38"N | 103°44'38"W | May 1914 |
| | | | | | Sep. 1918 |
| | 29 | Merrill Canyon | 30°32'00"N | 104°22'29"W | Aug. 1914 |
| | 30 | Mount Livermore | 30°37'59"N | 104°10'01"W | Aug. 1914 |
| | 31 | Fort Davis | 30°35'17"N | 103°53'39"W | Sep. 1918 |
| Jefferson | 32 | Port Arthur | 29°53'55"N | 93°55'43"W | Apr. 1918 |
| Liberty | 33 | Dolen | 30°25'30"N | 94°53'51"W | Apr. 1914 |
| Nueces | 34 | Bishop | 27°35'09"N | 97°47'56"W | Mar. 1914 |
| Orange | 35 | Orange | 30°05'34"N | 93°44'11"W | Apr. 1918 |
| Presidio | 36 | Chinati Mountains | 29°54'17"N | 104°27'48"W | Sep. 1914 |
| | 37 | Ruidosa Hot Springs | 30°02'17"N | 104°35'53"W | Sep. 1914 |
| Randall | 38 | Palo Duro Canyon (near Canyon City) | 34°58'49"N | 101°55'46"W | Sep. 1917 |
| Smith | 39 | Troup | 32°08'40"N | 95°07'13"W | Apr. 1915 |
| Travis | 40 | Austin[2] | 30°16'01"N | 97°44'34"W | Oct., Nov. 1913 |
| | | | | | Feb.–Apr., Oct.–Nov. 1914 |
| | | | | | Apr., Oct. 1915 |
| | | | | | Mar., May 1917 |
| | | | | | Mar., Apr.–May 1918 |
| | 41 | Bee Creek | 30°17'49"N | 97°47'14"W | May 1911 |
| Walker | 42 | Huntsville | 30°43'24"N | 95°33'02"W | July 1913 |
| | | | | | June 1914 |

[1] Latitude and longitude taken from the U.S.G.S. World Wide Web site (http://www.mapping.usgs.gov).

[2] Mary S. Young collected extensively in the Austin area. Label information and collection notebooks indicate she collected along the International and Great Northern Railroad, Barton Springs and along Barton Creek, Mt. Bonnell, Onion Creek, Shoal Creek, Waller Creek, Bull Creek, and the University of Texas campus.

TABLE 2. A chronological list of Mary S. Young's plant collecting in Texas.

| Year | Month | Day | Locality (number on map |
|---|---|---|---|
| 1911 | May | 15 | Travis Co.: Bee Creek (41) |
| 1912 | May | | Hays Co.: San Marcos (26) |
| 1913 | April | 1 | Burnet Co.: Granite Mt. (9) |
| | July | | Walker Co.: Huntsville (42) |
| | October | 10, 21–22, 25 | Travis Co.: Austin (40) |
| | November | 22, 27 | Travis Co.: Austin (40) |
| 1914 | Febuary | 21 | Travis Co.: Austin (40) |
| | March | 15 | Nueces Co.: Bishop (34) |
| | | 21, 22 | Aransas Co.: Rockport (1) |
| | | 28, 29 | Travis Co.: Austin (40) |
| | April | 4, 11, 25, 29 | Travis Co.: Austin (40) |
| | | 18, 19 | Liberty Co.: Dolen (33) |
| | | 22 | Aransas Co.: Rockport (1) |
| | | 25 | Liberty Co.: Dolen (33) |
| | May | 12–14 | Jeff Davis Co.: Limpia (28) |
| | June | 1 | Walker Co.: Huntsville (42) |
| | August | 6–30 | Jeff Davis Co.: Davis Mts. |
| | | 6, 27 | Jeff Davis Co.: Davis Mts., Merrill Canyon (29) |
| | | 14, 21 | Jeff Davis Co.: Davis Mts., Mt. Livermore (30) |
| | September | 6–13 | Presidio: Ruidosa Hot Springs (37) |
| | | 8, 11 | Presidio Co.: Foothills of the Chinati Mts. (36) |
| | October | 25 | Travis Co.: Austin (40) |
| | November | 16, 30 | Travis Co.: Austin (40) |
| 1915 | April | 3, 9, 18, 30 | Travis Co.: Austin (40) |
| | | 12 | Smith Co.: Troup (39) |
| | August | 5–21 | Brewster Co.: Chisos Mts. |
| | | 11–13 | Brewster Co.: Chisos Mts., Lost Mine Mt. (4) |
| | | 23, 24 | Brewster Co.: Chisos Mts., Rock Spring (6) |
| | | 26–30 | Brewster Co.: Banks of Rio Grande, near San Vicente (8) |
| | September | 1–11 | Brewster Co.: Chisos Mts. |
| | | 10 | Brewster Co.: Chisos Mts., Emory Peak (5) |
| | | 11 | Brewster Co.: Chisos Mts., Green Gulch (3) |
| | | 16, 17 | Brewster Co.: Near Marathon (7) |
| | October | 30 | Travis Co.: Austin (40) |
| 1916 | April | 10, 12 | Cherokee Co.: Gallatin (11) |
| | | 13 | Gregg Co.: Kilgore (24) |
| | | 29 | Burnet Co.: Marble Falls (10) |
| | August | 4, 5 | Culberson Co.: near Kent (21) |
| | | 7 | Culberson Co.: Seven Heart Gap (22) |
| | | 6–8 | Hudspeth Co.: Salt Basin (27) |
| | | 10, 13–14,18, 28 | Culberson Co.: Guadalupe Mts. |
| | | 13–15, 21 | Culberson Co.: Guadalupe Mts., Pine Spring (20) |
| | | 22 | Culberson Co.: Guadalupe Mts., top of Signal Peak (Guadalupe Peak) (21) |
| | | 29–30 | Culberson Co.: McKittrick Canyon (19) |
| | September | 5–6, 9, 12, 13 | Culberson Co.: Guadalupe Mts. |
| | | 9 | Culberson Co.: Guadalupe Mts., Guadalupe Canyon (18) |
| | | 9 | Culberson Co.: Guadalupe Mts., El Capitan (17) |
| | | 14 | Culberson Co.: Guadalupe Mts., Pine Spring (20) |
| | | 14 | Culberson Co.: Ridge of Delaware Mts. (15) |
| | | 14–16 | Hudspeth Co.: Salt Basin (28) |
| | | 15–16 | Culberson Co.: Figure Two Ranch (16) |
| | | 16–17 | Culberson Co.: Near Baylor Mts. (14) |
| | | 16–17 | Culberson Co.: Near Van Horn (24) |
| | November | 25 | Hays Co.: San Marcos, San Marcos River (27) |

| | | | |
|---|---|---|---|
| 1917 | March | 24 | Travis Co.: along Onion Creek, near Austin (40) |
| | | 31 | Travis Co.: along Barton Creek, near Austin (40) |
| | April | 29 | Comal Co.: New Braunfels, Landa Park (13) |
| | May | 4 | Travis Co.: Along International & Great North ern Railroad, Austin, Texas (40) |
| | | 6 | Travis Co.: Edwards Plateau, near Austin (40) |
| | September | 4–14 | Randall: Palo Duro Canyon (2) |
| 1918 | March | 9, 12, 15, 18, 22 | Travis Co.: Austin (40) |
| | April | 1–5, 8–15, 27 | Travis Co.: Austin (40) |
| | | 18–19 | Orange Co.: Orange (36) |
| | | 21 | Jefferson Co.: Port Arthur (33) |
| | | 22 | Brazoria Co.: Alvin (3) |
| | | 22 | Harris Co.: Harrisburg (26) |
| | May | 2, 4, 8, 13–18 | Travis Co.: Austin (40) |
| | September | 4–15 | Jeff Davis Co.: Davis Mts., Fort Davis (32) |
| | | 6 | Jeff Davis Co.: Davis Mts., Limpia Canyon (29) |

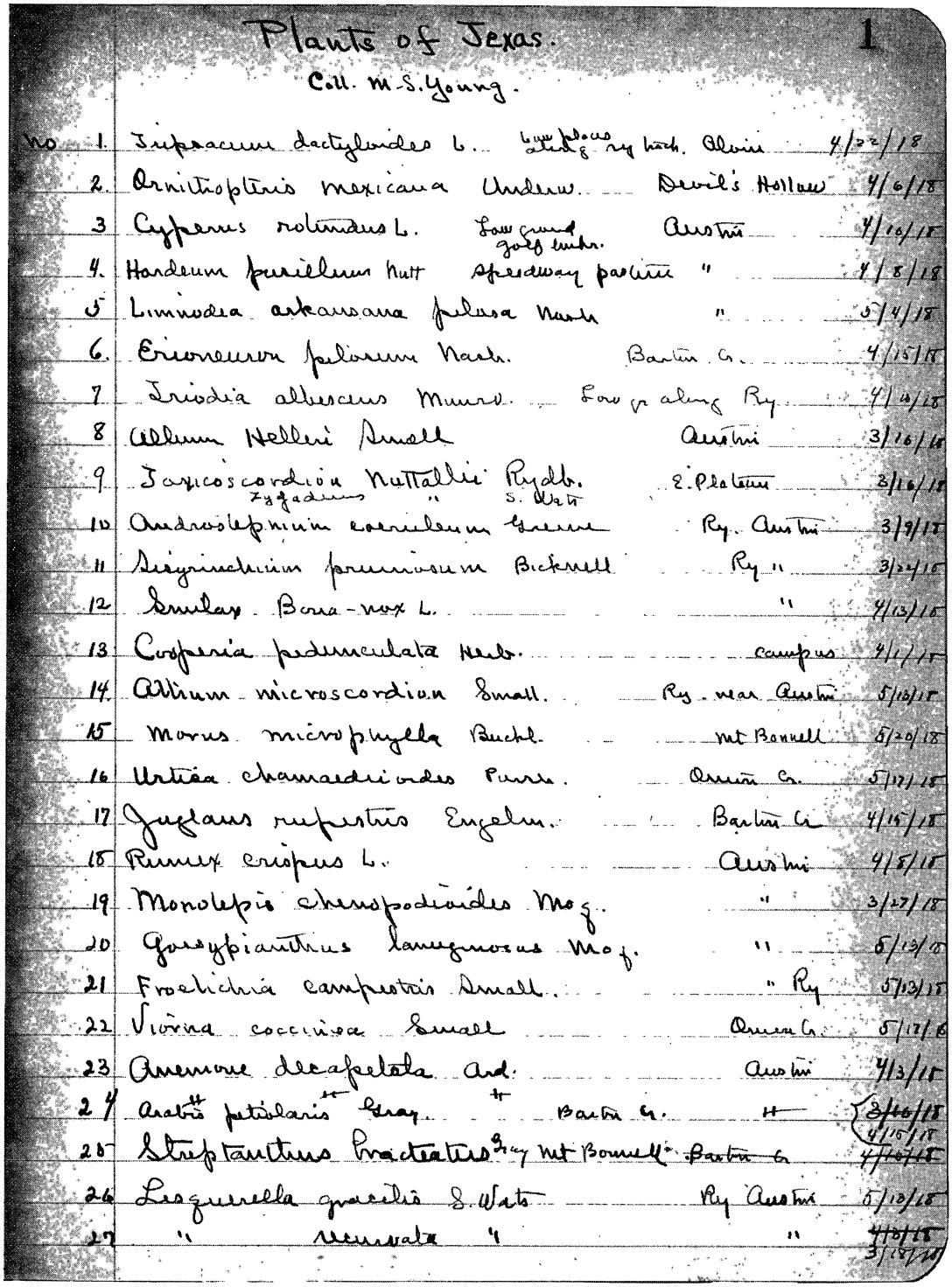
Mountains, spending from August 4 through September 17, 1916 collecting in Hudspeth and Culberson counties in the Guadalupe Mountains and the surrounding high desert. She made 407 collections on this trip. The first entry in her collection notebook is in Kent, and the last in Van Horn, both towns serviced by the railroad. In between she collected in Salt Basin and several localities now inside Guadalupe National Park including Pine Spring, Pine Canyon, McKittrick Canyon and Signal Peak (now called Guadalupe Peak).

Notes for Young's September 1917 to Canyon City in the Panhandle of Texas are unfortunately lost. Her collections document a short trip between September 4 and 14 to that area.

In 1918 Young returned to the Davis Mountains and between September 4 and September 19, made 386 collections. This time it appears that she based herself in Fort Davis and took day trips into nearby canyons and to Mount Livermore.

Her field notebooks indicate that she did not follow a sequential numbering system, but rather began with the number "1" every collecting trip. Most M. S. Young specimens lack collection numbers or, if there is a collection number, lack other collection data. A list summarizing localities is provided (Table 1) as well as a sample page from one of her collection notebooks (Fig. 5). These collecting trips (Table 1, Table 2) reveal that she collected throughout the state from the Guadalupe Mountains (Culberson County) in west Texas, east to Port Arthur (Jefferson County) on the Gulf coast, as far north as Palo Duro Canyon (Armstrong County), and as far south as Rockport (Aransas County) (Fig. 4). She apparently traveled to all of these places by train.

Young corresponded and exchanged specimens with other botanists in Texas and throughout the United States. Her notebooks indicate that she sent as exchange over 750 specimens to J. M. Greenman[13]. She also sent collections to the Rev. L. H. Lighthipe[14] (290 sheets), John Marshall Grant, Ira W. Clokey[15] (mostly sedges, 247 total) and the Gray Herbarium (202 specimens). Monographs and revisions indicate that some of Mary S. Young's collections found their way to the Philadelphia Academy of Natural Sciences (PH) and the United States National Herbarium (US) (Barkley, 1947). In December 1917 she spent several weeks at the Missouri Botanical Garden identifying her collections (Anonymous, 1917) and donated a few of her collections to MO (Anonymous, 1918). Some of her collections can also be found at F, MICH, NY, and WTU (Vegter, 1988). Within Texas her specimens are found at North Texas State University (NTSC) in Denton (Barkley, 1947) and Sul Ross State University (SRSC) in Alpine, in addition to



Plants of Texas. 1

Coll. M. S. Young.

| No | | | | |
|---|---|---|---|---|
| 1. | Tripsacum dactyloides L. | Low place & ravine back. | Austin | 4/22/18 |
| 2. | Ornithopteris mexicana Underw. | | Devil's Hollow | 4/6/18 |
| 3 | Cyperus rotundus L. | Low ground golf links. | Austin | 4/10/18 |
| 4. | Hordeum pusillum Nutt | Speedway pasture | " | 4/8/18 |
| 5 | Limnodea arkansana fulvescens Nash | | " | 5/4/18 |
| 6. | Eriocaulon pellucidum Nash. | | Barton Cr. | 4/15/18 |
| 7 | Triodia albescens Munro | Low ground along Ry. | | 4/11/18 |
| 8 | Allium Hellerii Small | | Austin | 3/16/18 |
| 9 | Jaxicoscordium Nuttallii Rydb. Zygadenus S. Wats | | E. Plateau | 3/16/18 |
| 10 | Androstephium coeruleum Greene | | Ry. Austin | 3/9/18 |
| 11 | Sisyrinchium pruinosum Bicknell | | Ry " | 3/24/18 |
| 12 | Smilax Bona-nox L. | | " | 4/13/18 |
| 13 | Cooperia pedunculata Herb. | | campus | 4/1/18 |
| 14 | Allium microscordium Small. | | Ry. near Austin | 5/10/18 |
| 15 | Morus microphylla Buckl. | | Mt Bonnell | 5/20/18 |
| 16 | Urtica chamaedroides Poir. | | Austin Cr. | 5/17/18 |
| 17 | Juglans rupestris Engelm. | | Barton Cr | 4/19/18 |
| 18 | Rumex crispus L. | | Austin | 4/5/18 |
| 19 | Monolepis chenopodioides Moq. | | " | 3/27/18 |
| 20 | Gossypianthus lanuginosus Moq. | | " | 5/13/18 |
| 21 | Froelichia campestris Small. | | " Ry | 5/13/18 |
| 22 | Vivina coccinea Small | | Austin Cr. | 5/17/18 |
| 23 | Anemone decapetala Ard. | | Austin | 4/3/18 |
| 24 | Aristida petalaris Chapm. Gray | | Barton Cr. | 3/16/18 4/10/18 |
| 25 | Stipa tenuissima Trinius Gray | Mt Bonnell | Barton Cr | 4/10/18 |
| 26 | Lesquerella gracilis S. Wats | | Ry Austin | 5/13/18 |
| 27 | " recurvata " | | " | 4/10/18 3/18/21 |

FIG. 5. Sample page from 1918 collection notebook now housed in the Plant Resources Center.

TEX. She encouraged students and amateur botanists to send collections to her for identification. To H. H. Duval of Bastrop, Texas, she made specific requests for specimens that she could use to exchange for material collected by other botanists (Young, 1918).

In February 1919, Mary S. Young entered the hospital for what she thought would be a minor operation. An untreatable, advanced stage of cancer was found. She never asked the doctor how successful the operation had been, whether she would get well or any other questions. She continued to talk to her friends and colleagues about her future plans. She died March 5, 1919 at the age of 46. Several months after her death, one of Mary Young's friends, marveling that she never discussed her illness, suggested she hadn't realized the seriousness of her condition. The doctor replied:

> "Impossible! No mind so alert could have failed to know. But having realized the hopelessness of the situation, she refused to grieve her friends by a discussion of it. She had the most marvelous nerve and self-control of any patient, regardless of sex, who ever came under my care."[16]

Although Mary Young did not describe any new species herself, names of three taxa are based on her collections, including one honoring her, *Styrax youngiae*.

Asteraceae

*Brickellia brachyphylla* var. *terlinguensis* Flyr. Sida 3: 255. 1968. **United States. Texas:** Aug. 7, 1915, *M. S. Young s.n.* (HOLOTYPE: TEX).
= *Brickellia hinckleyi* Standl. var. *terlinguensis* (Flyr) B. L. Turner

Onagraceae

*Gaura parviflora* var. *lachnocarpa* Weatherby. Rhodora 27: 14. 1925. **United Staes. Texas:** Travis County, Austin, roadside, April 8, 1918, *M. S. Young s.n.* (ISOTYPE: TEX).

Styracaceae

*Styrax youngiae* Cory. Madroño 7: 113. 1943 ("*Youngae*"). **United States. Texas:** U.S.A. May 12, 1914, *M. S. Young s.n.* (HOLOTYPE: TEX). = *Styrax platanifolius* subsp. *youngiae* (Cory) P. W. Fritsch. Common name: Young's snowbell (Gonsoulin, 1974).

At least two other epononymous names have been published.

Fabaceae

*Psoralidium youngiae* Tharp & Barkley, Bull. Torrey Bot. Club 73(2): 131. 1946. = *Psoralidium lanceolatum* (Pursh) Rydb.

Portulacaceae

*Talinum youngiae* C. H. Mull., Torreya 33: 148. 1933 ("*Youngae*"). = *Talinum puchellum* Woot. & Standl.

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## NOTES

1. Mary Sophie Young is not to be confused with Mrs. M. J. Young, the first woman botanist in Texas. Mrs. Maude Jeannie Young (1826–1882), state botanist, taught botany in Houston, collected flowering plants and ferns, and published in 1873 *Familiar Lessons in Botany, with Flora of Texas*, the first scientific text for Texas (Studhalter, 1931).

2. Prior to 1898, Texas plants had been collected by a various botanists including Dr. Jean Loius Berlandier (in 1826–1834), Thomas Drummond (in 1833–1834), Ferdinand J. Lindheimer (in 1843–1852), Ferdinand Roemer (in 1845–1846), Charles Wright (in 1847–1852), Samuel B. Buckley (in 1859–1861, 1866–1884), Lester F. Ward (in 1877), Elihu Hall (in 1872), J. Revershon (1869–1885) (Geiser, 1948), and Dr. Volery Havard (in 1880–1885) (Winkler, 1915), but few or none of these collections remained in the state.

3. Tharp (1921) p. 208–209 and Tharp and Kielman (1962) p.3.

4. Tharp (1921) p. 207 and Tharp and Kielman (1962) p. 2.

5. Mary S. Young notebook, dated 1914/15, Plant Resources Center archives.

6. The herbarium had been started by Dr. William L. Bray who arrived at the university in 1897 and subsequently organized the botany department or "school," becoming its first chairman in 1899 (Winkler, 1915). Bray received all of his degrees under the tutelage of Dr. John M. Coulter (1891–1928). His Ph.D. awarded by the University of Chicago was on the vegetation of western Texas. Bray stayed at The University of Texas for ten years, making modest collections of plants in central and west Texas (Faust, 1955).

7. Comparing Mary S. Young's determinations to the most current identification on over 200 specimens suggests that she was correct as to taxonomic concept over 75 % of the time.

8. Tharp and Kielman(1962) p. 6 and Tharp (1921) p. 211.

9. Some, but unfortunately not all, of those records still exist (M. S. Young, 1914–1919).

10. High Rolls, New Mexico is located about 10 miles east of Alamogordo on highway 82 (Otero County), surrounded by the Lincoln National Forest. It is not known why Mary S. Young chose to collect plants there.

11. Mount Livermore at 8382 feet is the second highest peak in Texas and is located about 18 miles west of Fort Davis (Jeff Davis County).

12. The Chinati Mountains are located in Presidio County. She probably only reached the foothills of the range.

13. Jesse M. Greenman (1867–1951) became curator of the herbarium at the Missouri Botanical Garden and associate professor of botany at Washington University in 1913. Young apparently corresponded and exchange plant material with him there.

14. Young lists Rev. Lighthipe's address as 74 Eaton Place, East Orange, NJ but no further information could be found about him. The New York Botanical Garden has collections by L. H. Lighthipe and M. S. Young (P. Holmgren, pers. comm.) and there is a possibility that the Lighthipe herbarium (including M. S. Young collections) was donated to or acquired by NY.

15. Ira W. Clokey (1878–1950) had an avid interest in *Carex* (Cyperaceae) and exchanged specimens with many botanists during his lifetime. The Clokey Herbarium was deposited at the University of California in 1941 (Mason, 1950).

16. Tharp and Kielman (1962) p. 9.