Plantae Lindheimerianae
Part III.

By J. W. BLANKINSHIP.

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On the death of Dr. George Engelmann his entire herbarium was presented to the Missouri Botanical Garden by his son, Dr. George J. Engelmann, and became the nucleus of the herbarium of that institution. Among the duplicates that came with the Engelmann herbarium was a considerable number of Lindheimer’s Texas plants, which were at first supposed to be the undistributed portion of the exsiccatae described in "Plantae Lindheimerianae,” but later it was found that they were an undistributed collection made subsequent to the specimens described in that publication and represented the work of Mr. Lindheimer during the years 1849, 1850 and 1851. At the suggestion of the Director of the Garden, these collections have been carefully studied during the present year, and this paper prepared to complete the work of the first two parts of Plantae Lindheimerianae and render the data there contained more accessible to those concerned with the flora of Texas and regions adjacent, while the plants themselves have been labeled and laid out into sets for distribution to correspondents of the Botanical Garden. This final collection of Mr. Lindheimer proves to be of considerable importance, not only from its historical interest, but also from the fact that it contains a large number of the type collections, since described in various publications and many more from the type locality, made by the original discoverer of the species, while the great majority of the species are relatively rare in many of our herbaria, the older distributions having gone largely to Europe. The plants themselves are in a fairly good state of preservation, considering the lapse of more than half a century since their collection, the ravages of the usual herbarium pests and the accidents of transportation and storage during this time.
Mr. Lindheimer, it appears, began collecting and studying the flora of Texas immediately upon his arrival there in 1836, but it was not till about 1842, after the political conditions became more settled, that he collected in any quantity, and early in the following year Dr. George Engelmann suggested to Gray that they cooperate with Lindheimer by naming and distributing his collections of Texas plants, so as to enable him to devote his whole time to this work and thus advance the cause of science in a land then almost wholly unknown botanically. The outcome of this undertaking was the collection of four fascicles of plants bearing the numbers 1 to 754, and the publication of the first two parts of Plantae Lindheimerianae describing a part of them. Fascicle I contained 214 species collected in 1843; Fascicle II represented the 1844 collection with nos. 215-318; Fascicle III consisted of nos. 319-574 of 1845-6; and Fascicle IV, comprising nos. 575-754, was collected in 1847-8. The specimens of the collection of 1849-1851, here treated, were probably intended to form Fascicle V. It appears that the first two fascicles were issued in about 20 sets, only some 9 of which were at all full, while Fascicle IV contained about 40 sets.* The collection of 1849-1851 contains about 650 numbers and there

* The following appear to have been subscribers for the whole or part of the first four fascicles of the "Flora Texana Exsiccata," as shown by Gray's unpublished letters to Engelmann:

Alexander, Dr.; England.
Bentham, George; England.
Boissier Herbarium; Geneva.
Braun, Alexander; Berlin.
British Museum; London.
Buckley, S. B.; Texas.
Cleaveland, Prof. P.; Brunswick, Me.
Durand, Elias.
Engelmann, George; St. Louis, Mo.
Gray, Asa; Cambridge, Mass.
Greene, B. D.; Boston.
Harvey, Prof.; Dublin.
Jardin des Plantes; Paris.

Kew Gardens; England.
Lamson, Prof.; Kingston, Canada.
Leman.
Oakes, William; Ipswich, Mass.
Olney, S. T.; Providence, R. I.
Saunders, William; England.
Shuttleworth, R. J.; England.
Smithsonian Institution, Washington.
Stevens.
Sullivant, Wm. L.; Columbus, O.
Thurber, George.
Torrey, John; New York.
Webb, Barker.
will be some 50 sets for distribution, of which about 35 are fairly full. This last collection of Mr. Lindheimer is therefore about as large as all the others together and duplicates a considerable number of their species. The more recent herbaria will consequently be fortunate in thus being able to secure representatives of this early Lindheimer set of exsiccate.

It appears to have been the original plan of Engelmann and Gray to give a number to each different species collected, but this was abandoned largely in the later fascicles and, in the present paper, a number has been assigned to each separate collection, as far as possible, thus ensuring a single locality and date for each, while the whole has been printed on the label itself, instead of merely the number, as was the case with Fascicles I-IV, where the information was supposed to be supplied by the publication of Plantae Lindheimerianae and often several different collections of a species were issued under a single number. Unfortunately this publication was left incomplete at the end of the Compositae (Bentham & Hooker sequence) for Fascicles III and IV, so that there have been no data given for numbers 449-574 (Fasc. III) and 652-754 (Fasc. IV), as found in various herbaria, and these will be supplied in the present paper, as far as the numbered specimens in the Engelmann herbarium permit. Unfortunately the existence of these numbers beyond 651 of the Plantae Lindheimerianae was not discovered till the printing of the labels of the 1849-1851 collection was so far advanced as to make renumbering impracticable, so that the numbers 652-754 are duplicated in Fascicles IV and V, but this need cause no confusion, as the dates and different form of label will readily distinguish each in herbaria, while the difference in the orders covered (Lobeliaceae-Marsiliaceae of Fasc. IV and Ranunculaceae-Leguminosae of Fasc. V,—B. & H. sequence) will enable the two to be distinguished even in publication.

A certain confusion has also arisen through authors quoting not only the exsiccate numbers but also Lindheimer's collection numbers, when these happened to be on specimens examined in the Engelmann herbarium, or occasionally found
elsewhere. Lindheimer gave a number to each collection in the field, usually with more or less data in German as to habitat, locality, date, etc., his numbers following in order of collection. Engelmann then arranged the collections by orders and species after the Bentham and Hooker sequence, and gave independent numbers to the exsiccatea, following this sequence. However, a large number of Lindheimer's collections were never made in quantity, hence were never numbered for the exsiccatea and have only his own collection label in the Engelmann herbarium, and this must be remembered in quoting Lindheimer specimens, only the Engelmann label being printed. Throughout the present paper both numbers have been given, so as to enable the two to be identified, if needful, Lindheimer's collection number being preceded by "L."

The purpose of the present paper is not only to give a list of the species of this last Lindheimer collection of 1849-1851, preliminary to their distribution, but also to enumerate the species of the missing numbers of parts I and II of Plantae Lindheimerianae, as far as such can be found, and to give an index to the whole, as an aid to other botanists interested in the flora of Texas. There will be added a brief account of the pioneer-botanist-editor, Lindheimer himself, the importance and magnitude of whose work has scarcely been appreciated, and also a general bibliography of Texas botany.

Considerable of the work of classification and determination of the collections treated in this paper was done by Prof. A. S. Hitchcock some 15 years ago, and many of the determinations of Fascicles III and IV are by Engelmann and Gray, while I am indebted to Professor Trelease for advice and assistance in the preparation and arrangement of the work.

Much of the data concerning the life and work of Mr. Lindheimer has been supplied by his son, Mr. M. E. Lindheimer, of Austin, Texas, and his daughters, Mrs. Sida Peipers, of St. Louis, and Mrs. Anna Simon, of New Braunfels, Texas, without whose assistance many facts would have escaped my knowledge.
LINDHEIMER, THE BOTANIST-EDITOR.

"Unsere Handlungen werden jedoch nicht bloß von einfachen Gedanken und Willensbeschüssen geleitet. Der Zufall, oder vielmehr die Macht der äusseren Ereignisse und gar mannichfaltige Nebengedanken haben ebenfalls einen grossen Einfluss auf unsere Handlungen."—Lindheimer.*

Though the name of Lindheimer is well known in the botanical and German editorial world, his actual personality and the events of his adventurous life are largely a matter of tradition. Special pains have therefore been taken to investigate his career and the influences determining its chief events and to present this modest, studious, Nature-loving editor and philosopher, as he appeared to those around him.

Ferdinand Jacob Lindheimer was born in Frankfort-on-the-Main, May 21, 1801, and died at New Braunfels, Texas, Dec. 2, 1879. His father, Johann Hartmann Lindheimer, was a prosperous merchant of Frankfort, but died when his youngest son, Ferdinand, was yet a child. He was also related to the poet Goethe, whose maternal grandmother was the daughter of Attorney Lindheimer of the Imperial Chamber,† the ancestor of both, while the family itself is said to be derived from that of von Lindheim, one of its members having contracted a morganatic marriage and his descendants adopting the name Lindheimer.

The youth Ferdinand was given the best education obtainable, attending a preparatory school in Berlin and finishing his education at Wiesbaden and Bonn, taking his degree at the latter university in 1827, after which he accepted a position in the Bunsen Institute (Erziehungsanstalt) in his native city and taught there till 1833, when it was closed by the government and both he and George Bunsen were compelled to emigrate, after the failure of the political conspiracy of April 3 of that year, in which they appear to have been implicated.‡

‡ This particular school of Bunsen was noted for its political activity, no less than six or its teachers being condemned between 1826 and 1833. Allgemeine Deutsche Biographie. 18: 697. Leipzig. 1883.
Apparently young Lindheimer soon after closed out his business affairs, and, taking his patrimony, sailed for America early in the spring of 1834. He landed at New York,* took the steamer to Troy, went by way of the Erie Canal to Buffalo, across the lake by steamer and down the Ohio Canal from Cleveland to Portsmouth. From here a river steamer carried him down the Ohio and up the Mississippi to St. Louis, from which he went to the German settlement at Belleville, Illinois, where the Engelmanns, Hilgards, Koerner, and many others of his friends and fellow townsmen had entered farms and established homes. He gives an account of his life there himself,† a fair sample of his general style of composition:

"In a forest in St. Clair County in the State of Illinois, stood an abandoned log-house, which eight young men, mostly newcomers, had chosen for their provisional dwelling. Not far distant from it was the hospitable farm of Forest-master E., who had arrived a short time before from Rhenish Bavaria with a numerous family. The eight young men shared the living expenses with them. I am convinced that each of the eight will still recall the pleasure of the moment when the tone of the ox-horn sounded through the forest, calling them to dinner with that kind family, which, like most families, consisted not wholly of male companions.

"A great, carefully-planned drive-hunt, in which few wild animals were shot, moderately productive hunting for prairie-hens, and from time to time a rousing banquet, to which the neighbors were invited, shortened our time for us in a delightful manner.

"Though this aimless and thoughtless life was for a time pleasant for all of us, yet it was not for the far niente and the 'aus der Tasche zehren nicht der Zweck,' for which we had come to America. The forest and the prairie had already put on their pale autumnal mantle and a single 'norther' betokened the coming winter. The roof of our old log-cabin was so open that we could make astronomical observations from our beds, and the great chimney, in the last cold winter,

† Aufsätze und Abhandlungen. pp. 78, 79.
was so little able to warm the room that a certain doctor, who daily jotted down his notes, was compelled to use two pens, so that, by warming one after another, the ink would not freeze while writing. Who then can blame that, with such an outlook upon a North American winter, a *horror frigidus* overcame us and an irresistible desire for the South overmastered us?

"Yet once more we held a great 'Commers,' for which at this time (1834), the material had to be hauled from St. Louis, a day's journey away. Out of the unhinged doors of our great log-house a long table was made and in the evening the courtyard was filled with the saddled horses of our guests, so that it appeared as if a squadron of cavalry had entered and was seated around our long table in a joyful banquet.

"A few days later, six of the company, who were the fore-runners of a southern emigration, took passage on a steam-boat down the Mississippi with the intention of making an expedition on foot through Texas and Mexico."

During October the travelers lingered in New Orleans trying to find some way to get to Texas, which at this time was a *terra incognita*, the borderland between two hostile civilizations and ravaged alternately by bandits and Indians, and not even a map of the country could be found. Three of their number became discouraged and returned to St. Louis, and so the trip overland with packhorses to the City of Mexico was reluctantly abandoned. While here, one Baron von Seefeld endeavored to enlist them in a filibustering expedition to Mexico in an attempt to restore Bustamente to the Presidency, and another proposed that they accompany a vessel outfitting to search for the hidden treasure of the pirate Lafitte—another name for a marauding voyage against Mexican commerce. Finally they secured passage on a coasting schooner bound for Vera Cruz and soon found themselves in the *tierra caliente* of the tropics with the snow-clad Orizaba looming in the distance.

They waited here for a few days till a pack-train set out for the interior and accompanied it to the new German settlement at Cordoba. Here Lindheimer and Otto Friederich built themselves a cabin on a spur of Mt. Orizaba and made
collections in Natural History, particularly of insects, which later were sent back to Germany and acquired some note. After a time, however, the brothers, Otto and Eduard Friedrich, purchased plantations, while Lindheimer managed a distillery on the sugar-plantation of Sartorius and Lavater, but after about a month a chance fire destroyed the cane-fields, and the works in consequence had to shut down. Lindheimer then formed a close friendship with a Mr. Gründler, who had a coffee plantation not far distant, and the two lived pleasantly for some time in their bachelor quarters on the estate.

It was about this time that the Texas uprising came and the Mexican papers were filled with bombastic articles against the Americans and the short work Santa Ana, "the Napoleon of the West," would make of them, when once he should get his army there. Lindheimer was already disgusted with the unsettled conditions of Mexico and the consequent insecurity of life and property, and convinced of the inherent incapacity of the Latin races to develop a strong and lasting civilization, while his Teutonic blood drew him to his cousins of the North, so after some sixteen months in Mexico, though several good positions were offered him there, he again set out for Vera Cruz and took the first vessel for New Orleans, after refusing a commission in the artillery in the Mexican Army of Invasion, offered by his friend, Colonel Holzinger.

So crude was the knowledge of the sailing masters of those days that this particular ship was wrecked off Mobile, Alabama, while the captain confidently believed he was beating off Matamoros, and Lindheimer was compelled to swim to land. Arriving at Mobile, he enlisted at once in a company of volunteers forming to aid the Texas revolutionists. This company was composed mostly of Irishmen under command of Captain Robertson, and on its arrival in Texas was stationed on Galveston Island, as a kind of coast defense in case Mexico should undertake to land troops at that point. This company was ordered by General Houston to join him, when he was concentrating his army for the battle of San Jacinto, but the battle was begun earlier than was expected and it did not reach him till the day after the battle, April 22, 1836.
After the army was disbanded, Lindheimer seems* to have come north to St. Louis and spent the summer of 1839 and probably the following winter here, but the climate was too severe for his lungs and again he took up his residence in the new republic of Texas. He located near Houston and engaged in truck-farming (1840-1843), but the land proved poor and the business unprofitable, so, urged by his friend, Dr. George Engelmann of St. Louis, he decided to give up this work and devote himself to that of collecting the largely unknown flora of Texas and depend upon the sale of his specimens for a living.

He had always been fond of botany and devoted much time to his favorite study while in the university with Engelmann and other botanists. He collected largely on his trip to Mexico and continued his botanical work even during the excitement of the Texas revolution, as many specimens in the Engelmann herbarium will attest, so that now, when in doubt as to his vocation in life, he naturally turned to that which he liked best, as long as it should afford him a means of livelihood. Moreover, the region in which he was situated was largely unknown botanically, only a few collectors† having previously visited it and the results of their work not having been published. The scattering collections already sent to Engelmann showed clearly the need of a scientific investigation of the plants of this borderland between the American and Mexican floras, and he urged Dr. Gray, who was then just establishing the Botanical Garden at Cambridge, to join with him and Lindheimer in the exploitation of this unique flora. Accordingly advertisements were inserted in several botanical journals, and in the spring of 1843 Lindheimer began collecting plants in quantity for distribution.

The first year he was not very successful, owing to various misfortunes, and a part of the collection of 1844 was lost in transmission, but the collections of 1843 and 1844, containing 318 numbers, were distributed as planned and their descrip-

* A number of specimens in the Engelmann herbarium are labeled "St. Louis. 1839. Lindheimer," while similarly we find he was at San Felipe, Texas in March and New Orleans in April of that year on his way up.
† Berlandier, Drummond, Riddell and Leavenworth.
tion was issued by Engelmann and Gray as Plantae Lindheimerianae,* Part I, in 1845, while the collections of 1845 to 1848 were in part described in 1850 as Part II of the same. The collaboration of Engelmann and Gray in this publication led to a life-long friendship between them and proved of the greatest advantage to both in the prosecution of their scientific work. Gray with his larger herbarium and library did many of the critical determinations for Engelmann, while the latter kept more in touch with the various exploring expeditions, which made St. Louis their outfitting point, and supplied many of the field botanists to accompany them, and his critical studies in some of the most difficult genera are still regarded as classics in botany. Indeed the influence of Engelmann in the study of the flora of the Middle West is marked and the great work done in America by the German botanists of the last century deserves more than passing notice.

No one can do much in systematic botany in America without soon becoming acquainted with the names of Engelmann, Lindheimer, Geyer, Fendler, Wislizenus, Gattinger, Hilgard, Lüders, Richl, Rugel, Eggert and a host of others of German origin. Many of these, like Engelmann and Lindheimer, were trained in the German universities and came to America to secure the freedom denied them in their native land. Others, as Maximilian and Roemer, simply made scientific expeditions into unexplored regions of the United States and published the results of their work on their return to Germany, while many others devoted their spare moments to botany through mere love of Nature, without intention of publication or hope of reward, and it was these that turned to Engelmann for encouragement and assistance in their work. Geyer, Fendler and Lindheimer did practically all their work in cooperation with Engelmann, while many other botanists of German descent looked to him for assistance in their botanical

* Plantae Lindheimerianae, Part I, was issued about Sept. 23, 1845 and Part II about May 27, 1850, as shown by Gray’s unpublished letters to Engelmann: the names given in part I therefore antedate those of Scheele in vols. 21 and 22 of Linnaea and in Part II all those of Scheele subsequently published.
difficulties, and the accumulated labors of these collectors and students have made known to the world a great part, probably the greater part, of the native flora of the western United States.

The half-century succeeding the Napoleonic wars was a period of great unrest in Germany. Napoleon's policy had tended to break down the smaller German principalities and to arouse a feeling of resistance and unity among the various political groups speaking the German tongue, while the success of the French people in their several popular insurrections inspired their neighbors also with the hope of freedom. This desire for political rights and national unity led to the uprising of 1830 and the revolution of 1848, and finally resulted in giving the Germans a constitution and a united Fatherland. Yet, while this struggle was going on, there was a large and continuous stream of German emigration, greatly increased after each political disturbance. America received the greater part of these exiles, who settled chiefly about Milwaukee, St. Louis and Cincinnati.

This constant absorption by the Anglo-Saxon race of the strongest and most independent of the German blood finally became a source of solicitude to those who had the good of the Fatherland at heart and led in 1844 to the formation of a company of twenty-five German princes and nobles entitled the "Verein zum Schutze deutscher Auswanderer in Texas," usually called the Adelsverein or Mainz Company, which had for its object "To conduct the German emigration, as far as possible, to a single favorable selected point, to assist the emigrant upon his distant journey and in his new home and to work for strength therein, that a new home shall be secured for them beyond the sea;"* the evident intention being to Germanize Texas, then a republic with a small cosmopolitan population, and to keep the emigrants in touch with the Fatherland.

Prince Carl zu Solms-Braunfels, whose speeches and writ-

ings had aroused great enthusiasm for this scheme of colonization, was appointed General Commissioner for the Company and came to Texas in May, 1844, to prepare the way for the expected immigration. He purchased a grant of land in what is now Comal County, and when the first instalment of five ships and 150 families arrived at Galveston in November, 1844, he conducted them to Port Lavaca and then up the Guadalupe to its junction with Comal Creek, where he founded the city of Neu Braunfels, named for his old German home, and erected his "castle" upon an eminence near by, after the old German custom.

Mr. Lindheimer, learning of this effort at German colonization, met the immigrants on their arrival on the coast, was gladly received into the company on account of his local knowledge, and assigned a share in the land-allotment at New Braunfels, where he thereafter made his home. There is a good description of Lindheimer at this time in Roemer's "Texas" (p. 133):

"In the first days of my sojourn in New Braunfels I formed an acquaintance, which was highly prized and very agreeable during the whole time I remained there, and to which I now look back with special pleasure.

"At the end of the village and at some distance from the last houses stood, half-hidden amid a clump of elms and oaks and hard by the brink of Comal Creek, a cabin or small house, which, with its enclosed garden in front, afforded by its appearance and position a true picture of the idyl. As I for the first time approached this simple, rustic habitation, I beheld before the entrance of the cottage a man busily engaged in splitting wood and apparently not unaccustomed to this labor. So far as the thick black beard, which covered his whole face, permitted it to be seen, he appeared to be a man at the beginning of the 40's. He wore a blue blouse open in front, yellow leather breeches and coarse shoes, such as are customary with farmers in this country. Beside him lay two beautiful brown-spotted bird dogs and fastened to one of the neighboring trees was a dark-colored pony.

"According to the description, the man could only be the one for whom I sought and who answered me in the language
of a cultured man, though in a mild, almost shy-sounding voice, which ill accorded with his rough exterior, and whose answer to my direct question, confirmed my supposition. It was the botanist, Mr. Ferdinand Lindheimer from Frankfort-on-the-Main. Residing in Texas for a considerable time he had by several years' zealous plant-collecting acquired a permanent scientific reputation, as regards the botanical knowledge of Texas, which had before been almost totally unknown and had been visited transiently but once before by an English botanist named Drummond.

"After Lindheimer had received at the German schools and universities the best available scientific education and special training in the ancient classics, he taught for a time in one of the higher educational institutions, but his dissatisfaction with the political condition of his native land for more than a decade and perhaps also his thirst for adventure drove him beyond the sea. He went first with several congenial companions to Mexico and lived there for some time in the neighborhood of the charmingly situated Jalapa upon the produce of a pine-apple and banana plantation, and went later to Texas, in order to take part as a volunteer in the latter part of the Texas war for independence against Mexico.

"After the close of this war he endeavored to live for some time as a farmer and to improve a farm, but this manner of life also did not appeal to him, and he decided, particularly at the urging of a friend in St. Louis, to gratify his inclination from earliest youth, a cherished delight for botany, and at the same time make it a means of livelihood. He bought a two-wheeled covered cart with a horse, loaded it with a pack of pressing-paper and a supply of the most indispensable provisions, namely, flour, coffee and salt, and then set forth into the wilderness, armed with his rifle and with no other companion than his two hunting dogs, while he occupied himself with collecting and pressing plants and depended for his subsistence mainly upon the results of the chase, often passing whole months at a time without seeing a human being.

"When, then, in the late fall of 1844, the first large train of German immigrants under the leadership of Prince Solms arrived in Texas, Lindheimer joined them and was joyfully
received by the new comers, as a man with knowledge and experience of the country. He went with them to Comal Creek and when the city of Neu Braunfels was founded here in the spring of the following year, renouncing all other claims to land, he asked of Prince Solms for himself a spot of ground, small and worthless, but charmingly situated upon the steep bank of the incomparably beautiful Comal Creek, and here he built a little cabin and began now, with more leisure and convenience than he had ever before enjoyed in Texas, to explore systematically the rich and, for the most part, still unknown flora of the country around him.

"He was soon convinced, however, that he could not collect plants effectively and at the same time conduct his domestic affairs properly, however simple they might be. If, for example, he returned home of an evening all tired out with plant-collecting, he still found it necessary to prepare his own supper; if he tore his clothing among the thick bushes of the river forest, he himself must take up his needle and thread and repair the damage; if he needed a clean shirt, he had to go down to the river and wash it. He chose the right means to thoroughly remove all these inconveniences of his lonely bachelorhood. He sought for himself a consort and found her in a daughter of one of the recently arrived immigrants. The cabin on the Comal* has proven sufficiently large for two and everything goes on therein according to wish, though in primitive simplicity."

This account by Roemer, though inaccurate in some particulars, represents fairly well the difficulties under which Lindheimer labored at this time in the midst of his botanical work. He was married to Eleonore Reinarz of Aachen at San Antonio in 1846, and two sons and two daughters resulted from this union, all of whom are still alive.

Lindheimer and Roemer made many botanical excursions together during 1846 and the value of the latter's collections

* Though a new and more commodious home was later erected beside the "cabin on the Comal" to meet the exigencies of an increasing family, this little log hut of pioneer days long remained as the oldest building in New Braunfels. The accompanying picture is from an aquarelle by Mr. Henry E. Peipers, a son-in-law of Lindheimer; copied by permission.
is largely due to Lindheimer's aid in the work. At the end of the season they appear to have exchanged a set of the collections made by each during the year, and Roemer, on his return to Germany, placed Lindheimer's with his own botanical specimens in the hands of Adolph Scheele, Pastor at Heersum near Hildesheim, who prepared a list of the species for Roemer's "Texas," and published the descriptions in Linnaea from 1848 to 1852 in his "Beiträge zur Flor von Texas." Not only did he publish the "new species" of Roemer's collecting, but also those found among Lindheimer's duplicates,* though he knew that Engelmann and Gray had already undertaken to describe these collections in their Plantae Lindheimerianae, and so industriously did he continue his work that he soon completely outdistanced his American competitors and left little for them to describe. This may have had something to do with the discontinuance of the Plantae Lindheimerianae, but not the slightest blame can be attached to Lindheimer, for he doubtless had no idea that any publication on his own collection was intended at the time the exchange was made. Nor was this the chief cause of the discontinuance of Engelmann and Gray's publication, for not only was this left unfinished at the end of the Compositae, but also all other lists then in course of publication by Gray, as the Plantae Wrightianae, Plantae Fendlerianae and Plantae Novae Thurberianae,—all crowded out by the pressure of more urgent work and publication, and never completed.

In 1846 the tide of German immigration turned northwestward to the Piedernales (or Padernales) River, where Friederichsburg was founded in what is now Gillespie County, and Lindheimer accompanied a train of settlers to this point early in 1847 and collected in this vicinity till September, when he pushed still farther north into the Indian country along with the Darmstaedter Kolonie,† the so-called "communistic colony of Bettina," which occupied lands between the Llano

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* Of the species from Texas described as new by Scheele, 73 were collected by Lindheimer and 66 by Roemer.
and San Saba Rivers, recently purchased of the Indians. This particular colony was composed of members of a higher class of intelligence and education than the average and afforded congenial companionship for the naturalist Lindheimer. He collected in this region till the fall of 1848, when the inroads of the Indians and the dissensions of the colonists caused the disruption of the society, and he returned to Comanche Spring, near San Antonio, where his friend, von Meusebach, had located a farm, and here he pursued his botanical work during the season of 1849.

Lindheimer himself was perfectly fearless of danger in his wide botanical excursions and his immunity from the Indians is largely due to that fact, though he appears to have been held by them in extreme reverence as a "medicine man," who wandered aimlessly about securing herbs for his decoctions and incantations, and many are the stories told of his adventures with them during these troublous times.* He returned to New Braunfels in the fall of 1849 and his work during the next two years was almost wholly in that vicinity. The collections of these last three years (1849-1851), which have never been distributed or described, are the subject of this paper. After this time Lindheimer never collected plants in quantity and only indulged in his love for botany as a recreation and to build up his own herbarium.

The German colonization society of Mainz practically ceased operations upon the admission of Texas as one of the states of the Union, and the attempt to found a semi-feudal principality in America failed, as all other such attempts had failed before, but it resulted in giving to Texas a large and industrious German population, which continued to spread and prosper till the need of a newspaper in their own mother-tongue became a necessity and the inhabitants of New Braunfels proposed a subscription to defray the expenses of securing a press and printing materials to establish one. Early in 1852 a mass-meeting of the citizens was held to elect the editor and publisher of the new German organ, and three candidates

were proposed. Mr. Lindheimer was elected unanimously to this position and assumed with it the obligation of "standing security for the total cost, outlay, etc." of the paper. About two-thirds of the amount required was subscribed and he contributed the balance, so that the first number of the Neu Braunfelszer Zeitung appeared in November of that year—the first German paper in Texas worthy of the name. After the beginning of the publication of the Zeitung, many of those who had contributed to its purchase desired that Mr. Lindheimer return the amount of their subscriptions in printing, advertisements and subscription to the paper or in cash, which was done, and the paper became his personal property. For twenty years he was editor and publisher of this paper, and only the infirmities of age compelled him to lay aside his duties. The Neu Braunfelszer Zeitung was nominally Democratic, but was really intended and actually conducted impartially in the interests of the whole people and the editor was ever fearless in guarding them against private interest and political graft, always, however, leaving his columns open for the expression of the views of his opponents. With his customary modesty he never republished any of the praise received from out-of-town newspapers and was able to say on his retirement that he had never spoken against his convictions in his editorial management. His work as editor "yielded him but little pleasure and many annoyances, but, as in other things, here too the work itself was pleasure enough for him. The contents of the paper were frequently above the heads of the majority of his readers, but he did not write to suit the masses, but to uplift them, and thus the first 18 volumes of the Neu Braunfelszer Zeitung offer, even at the present day, a rich treasure of instructive reading to the educated man."

In addition to his work as editor, during his later life Mr. Lindheimer assumed many public duties. He conducted a private free school for advanced pupils. He served as Superintendent of Public Instruction in his county for several terms and was the first Justice of the Peace of New Braunfels, till increasing age forced him to rest from his labors.

His botanical work can be best appreciated by remember-
ing the difficulties and dangers, the poverty and hardships under which his collections were made. He discovered and made known to the scientific world an enormous number of new species of plants from central Texas and many of these will ever bear his name. The beautiful Lindheimera texana is already not infrequent in ornamental cultivation and links his name with the country of his adoption, while many plants grown from seeds of his collection are found in the Missouri Botanical Garden at St. Louis, in the Botanical Garden at Cambridge, Mass., and elsewhere. His private herbarium at his death came into the hands of Prof. Emil Dapprich of Milwaukee, Wisconsin, and was on exhibition at the World's Fair at Paris. On Dapprich's death in 1903 it came into the possession of the German-English Academy of Milwaukee, where I understand it still remains.

Mr. Lindheimer was a careful observer and a patient collector, and the notes accompanying his collections add greatly to their value. The specimens of his last collection (1849-1851) will go to many herbaria in America and abroad and well exhibit the care and faithfulness of his work. It is to be regretted that time dealt not more leniently with them. A number of his new species he himself described and named, but many of the names he suggested were found preoccupied and others given.

Unfortunately many of Mr. Lindheimer's most valuable papers were published only in the Neu Braunfelser Zeitung and the New York Staats-Zeitung, and are all inaccessible to readers except in the German tongue. A number of his principal scientific, philosophical and historical essays collected from these papers have been republished in Germany under the title: "Aufsätze und Abhandlungen von Ferdinand Lindheimer in Texas,"* but the greater part are unknown and inaccessible to the general reader. In the "Aufsätze," his simple, direct, philosophical style is always interesting.

* A volume of 176 pages published anonymously by one of his former pupils, Dr. Gustav Passavant, at Frankfort a. M. in 1879, the year of Mr. Lindheimer's death. See the "Allgemeine Deutsche Biographie." 18: 697. Leipzig. 1883.
and his meaning clear, quite different from the usual complicated, involved German sentence.

Mr. Lindheimer was a man of medium height, with blue eyes and black hair and beard, which in age became snowy white. He possessed a strong, active body, which he had developed in youth in the "Turnverein," and retained much of his bodily vigor in his old age. He was quiet and deliberate in manner, temperate and regular in his habits and a good conversationalist, though loath to boast about himself or much discuss his past history. He never became excited or used strong language. A "freethinker" in his opinions, yet he counted many priests and pastors among his best friends and never antagonized religious institutions. He did not believe in slavery, but espoused warmly the Southern cause at the outbreak of the Civil War.

There is much in this quiet, modest, unassuming man and his unselfish devotion to duty, that resembles his compatriot, General Houston. But, while the talents of the latter led him to war and political strife, Lindheimer turned to books and the beauties of Nature. Both were friends of the Indian, and indifferent to the accumulation of property, while they never allowed their own interests to come in conflict with the public weal. He ever loved freedom and independence, the simple life and intellectual enjoyment, and the reward for his labors was the esteem of his fellow-men. May Germany give us many such of Nature's noblemen!
As the "Plantae Lindheimerianae" was left unfinished at the end of the Compositae (Bentham and Hooker sequence) for the last two fascicles, it results that the numbers 449-574 and 652-754, which were distributed without names, localities and dates, yet remain in herbaria without such data, so that, as these fascicles contain many type collections, particularly of Scheele, I will endeavor to supply this information as far as the specimens can be found in the Engelmann herbarium at the Missouri Botanical Garden, and thus round out the work of the previous publication. In many cases the same number was issued in both fascicles III and IV, the latter, for 1847-8, have the (IV) affixed in the following enumeration. A few numbers enclosed in brackets are taken from Gray's list, but are not found in the Engelmann herbarium.

**FASCICLE III. 1845-6.**


452. **Diospyros texana** Scheele. (New Braunfels. May 1846).


L. 218 is the type collection of *Bolivaria Grisebachii* Scheele. Linn. *25 : 254*.


This latter the type collection of *Asclepias longipetala* Scheele. Linn. *21 : 757*.


Type collection; Linn. *21 : 760*.


462. [*Erythraea texensis* Griseb. New Braunfels. April 1848 (IV)].


Type collection of *G. Lindheimeriana* Scheele. Linn. *21 : 753*. 


L. 319 appears to be the type collection, though Scheele (Linn. 21:747) gives July as the date of collection; the other label data are identical.


Possibly the type collection, though Scheele credits it to Roemer. **E. Redowskii cupulatum** Gray.


L. 312 above is the type collection of S. Lindheimerianum Scheele. Linn. 21: 766. It is doubtful if S. triquetrum and S. Lindheimerianum are more than large and small leaved forms of the same species and only study in their native habitat can determine this question with certainty.


These two species appear to intergrade in Texas.


The specimen of III not found. This is a co-type, according to the label; Mex. Bound. Surv. 2: 121.


487. Antirrhinum antirrhiniflorum Small. 1847.

490. [Stachys umbrosa Scheele].
492. Scutellaria versicolor Nutt. var. bracteata Benth.  
   May 1848 (IV).
   1846.  
   Type collection of Salviastrum texanum Scheele. Linn. 22: 585.  
495. Hedeoma Reverchoni Gray.  L. 84. Guadalupe  
   River. May 1846.
496. H. acinooides Scheele.  L. 374. Upper Guadalupe  
   May 1845.—L. 87? Upper Guadalupe. April 1846.
   M. tenuiaristata Small.
   April 1845.
   April 1845.—L. 145. (New Braunfels). April 1846.  
   —New Braunfels. April 1848 (IV).
500. Verbena canescens HBK.  L. 77. (New Braunfels).  
   April 1846.  
   Linn. 21: 755.
   May 1848 (IV).
   Aug. 1845.—L. 121. San Antonio. April 1846.—  
   June 1844.—L. 111. New Braunfels. May 1846.—  
505. Siphonoglossa Pilosella Torr. Shady woods, New  
   Braunfels. 1846.
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L. 323 is the type collection of Dipterocanthus Lindheimerianus Scheele. Linn. 21: 764.


Apparently a co-type; Am. Jour. Sci. II. 15: 322.


Type collection of A. villiflora Scheele. Linn. 22: 149.


L. 279 is the type collection of E. Lindheimerianum Scheele. Linn. 22: 149.


519. Stillingia angustifolia Engelm. L. 141. Upper
*S. sylvatica* *linearifolia* Muell. DC. Prod. 152: 1158.

Type collection; Linn. 34: 47.

Type collection; Linn. 34: 180. Also the type collection of *T. scutellariaefolia* Scheele. Linn. 25: 587, which Mueller refers to *T. nepetaefolia scutellariaefolia* Muell. DC. Prod. 152: 934, not knowing the two to be identical.

Type collection; DC. Prod. 152: 729.


L. 223 is the type collection of *Tyria myricaefolia* Scheele. Linn. 25: 581.


528. **Euphorbia Roemeriana** Scheele. L. 89. (New Braunfels). April 1846.
Type locality; Linn. 22: 151. Boiss. DC. Prod, 152: 143.

L. 90a is the type locality; Linn. 22: 152.

The latter is the type collection; Linn. 22: 153.

The latter the type collection of E. rupicola Scheele. Linn. 22: 153.


Apparently a co-type collection; Pac, Ry. Surv. 4: 136.


Type collection of Ornithogalum texanum Scheele. Linn. 25: 146.
This and var. angusta Torr. apparently mixed in this collection.
Cooperia pedunculata Herb. Comale Cr.? 1845.—1848.


[C. tetrasstachya Scheele. Linn. 22: 347.]


[Carex scaberrima Scheele. Linn. 22: 345.]


561. *Stipa ciliata* Scheele.


Type collection of *Setaria polystachya* Scheele. Linn. 22:339.


Type collection of *Paspalum sericeum* Scheele. Linn. 22:341.


Type collection; Am. Jour. Sci. II. 3:56. n.
FASCICLE IV. 1847–1848.


Pubescence thinner and lighter colored than in the typical form, possibly approaching E. mollis Small.


666. **Nemophila phacelioides** Nutt. New Braunfels. April 1848.


669. **Castilleia purpurea** Don. L. 385. April 1847.


671. **Mimulus glabratus** HBK. Guadalupe River near New Braunfels. May 1848.

672. **Salvia farinacea** Benth. New Braunfels. April, May 1848.


683. **Eriogonum tenellum** Nutt. var. **ramosissimum**
Co-type collection; DC. Prod. 14: 20.

"On rocky mountains on the plateaus."

685. POLYGONUM SCANDENS L. L. 480. Llano River.
Oct. 1847.

Type collection; DC. Prod. 152: 738.

DC. Prod. 152: 1158.

Co-type collection; Linn. 34: 47.

689 & 690. A. RADIANS Torr. var. GERANIIFOLIA Muell.

691. CROTON GLANDULOSUS L. var. LINDHEIMERI Muell.

691b. C. GLANDULOSUS L. var. SEPTENTRIONALIS Muell.
Type collection; DC. Prod. 152: 686.

July 1846.

693. EUPHORBIA SERPENS HBK. L. 1. Llano River.
Aug. 1848.

694. E. ANGUSTA Engelm. "From the crevices of lime-
stone rocks from a thick, black, ligneous root; many erect stems. On the knobs near the Cibolo and Sabinas."
June, July 1847.


696 & 697. E. HETEROPHYLLA L. New Braunfels. April
1848.
702. URTICA CHAMAEDRYOIDES Pursh. New Braunfels. April 1848.
A small diffuse form about 1 cm. high with leaves 4-7 mm. long.
708. NEMASTYLIS ACUTA Herb. New Braunfels. April 1848.
"On rocky soil; bushes 4-6 feet high, gregarious; characteristic of the mountain region."
Plants vary from 5 cm. to 6 dm. high.
722. Panicum lachnanthum Gray. 1847.
A small slender form with the panicles partly or wholly included in the upper leaf sheath (var. expansa Thurber in Engelm. Herb.)
728. Panicum Curtissii Steud. 1847.
Co-type collection; Proc. Am. Acad. 18: 196.
734. Eragrostis interrupta Trelease. 1847.
See Beal’s Grasses of N. Am. 2: 483.
748. C. contraria A. Br. forma minor. Friederichsburg. 1847. See Braun-Nordstedt, Fragmente. 144.


754. Riccia fluitans L. "On the muddy bottom of Comal Creek under water." 1847.
SPECIES COLLECTED IN COMAL COUNTY AND REGION ADJACENT IN 1849-1851.

In the following list the general sequence of orders is that of the published "Plantae Lindheimerianae," and the numbers immediately succeed those of Part II, so as to secure general uniformity with that publication, of which this is a continuation. Each number represents a separate collection and, when the species is the same as that of a previous collection, the number of such previous species follows in parenthesis, those of the unpublished issues being preceded by III or IV to indicate the fascicle. After the specific name, is given Lindheimer's collection number (L.), as these have been quoted in a number of publications from sets or specimens already distributed. The regularity with which he numbered his collections has made it possible to supply much of the missing data for each number, but all localities and dates thus supplied are given in parenthesis, so as to distinguish them from data found on labels. The references given are mainly to literature where the specimens are quoted or the synonym mentioned. The genus Carex is strangely missing from this collection and it is probable that it was sent to some specialist and misplaced or forgotten, as Lindheimer was urged by Gray not to neglect this genus, as collectors are so apt to do.

In this and the preceding lists I have used the term "type collection" to signify the collection from which the original description of the species was made; "co-type" or "co-type collection," to indicate other collections quoted in this description after that first mentioned; and the term "type locality," to indicate other specimens collected later at the locality from which the type collection came.

New Braunfels, where most of the specimens were collected and where Lindheimer had his home, is at the junction of Comal Creek with the Guadalupe River, apparently called the Upper Guadalupe above this point, while Comanche Spring is on one of the heads of the Salado some 25 miles south of west of New Braunfels, and later known as von Meusebach's farm.
“Rocky and shady banks.” Co-type collection; Plantae Wrightianae. 2:7.

Heads of carpels sometimes oblong-ovate.

Plants mostly small, 3-6 dm. high, and leaves mainly aggregate at base.


Gray gives the collection number as 433, but the type in the Engelmann herbarium shows it to be the same as this.

   L. intermedium? Gray; Pl. Wright. 2:15.
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Form tending toward C. obtusifolia Web.


5 dm. or more high.


1.5 dm. high.


1-5 dm. high.


A form tending toward C. stricta Engelm.


Leaves mostly simple but more or less three-lobed.


Plants unusually large, 3-5 dm. high.


Co-type collection; Pl. Wright. 1:52. Specimens unusually large.

Leaflets 5–7, longer and more narrowly oblanceolate than the normal of the species, sparsely appressed pubescent, or glabrous, bright green above and usually drying flat. A form apparently confined to Texas.


These specimens show a decided tendency to form several small heads instead of one large one.

761. D. reticulatus Benth. (New Braunfels. April 1851?).
763. D. velutinus Scheele. (New Braunfels). June 1851. Type locality; Linn. 21: 455.


   V. caroliniana texana T. & G.
   Type collection; Pl. Wright. 1:78, where it is described as var. Lindheimeri Engelm. & Gray.
   "Perpendicular rocks on the Upper Guadalupe 6 miles above New Braunfels." Apparently the type locality.


Leaves scarcely clasping at base, sometimes even cuneate, and obtuse or rounded at apex.


A sparsely canescent, large-leaved form near var. *glabra* T. & G.


The small, narrow, glabrous-leaved form.


Glabrous form; lower leaves much larger and more deeply lobed than the upper.


A large-leaved, canescent form, apparently tending toward *G. Drummondii* T. & G.


The type locality and very similar to the type specimens.


A small-flowered form.


The type collection; Pl. Lind. 2:233.

The C. perennis of Gray and type locality; Pl. Lind. 2:193.


Considered by Lindheimer as his C. texana and apparently from the same region as his type, but most of these specimens approach more nearly the normal leaf of C. Pepo L., of which it is probably only a wild form.

"The small, wild Texas pumpkin (Cucurbita texana) is excellent protection against mice and seed-eating insects. Its narrow neck can be easily closed with a cork and the name of the contents written on the outside."—Lindheimer, Aufsätze u. Abhandlungen. 54.


Leaves mostly divided as in the typical C. texana, but in part lobed much as in C. Pepo.
Type locality and specimens very similar to the type.

Apparently the type collection; Pl. Wright. 1:74.


826. Opuntia macrorhiza Engelm. L. 597. New Braunfels. (July) 1850. (206)
Type locality.

This and No. 826 seem to be the oldest specimens of this species in the Engelmann Herbarium, with the exception of a few flowers and fruits preserved from cultivated plants.


829. Mollugo verticillata L. (No data).


This appears to be a co-type; Pl. Lind. 2:211.


Plants mostly 3 dm. high and leaves 6 cm. in diameter.


844. G. Lindheimeri Torr. L. 27. (Comanche Spring. May 1849?).


The type collection; Pl. Lind. 2:215.


The type collection; Pl. Lind. 2:217, n. Fedia amarella Lindh.


Apparently a co-type.


Type locality.


"Muskit prairies, 12 mi. S. W. of New Braunfels."—Pl. Wright. 1:121.


A very slender, smoothish, widely branching form with leaves less divided than in **A. artemisiaefolia** L., the segments oblong-lanceolate to linear; sterile racemes loosely flowered and heads small (2 mm.): fruit small, with inconspicuous lateral tubercles. A well-marked variety approaching **A. glandulosa** Scheele. Linn. 22: 157.


An unusually large coarse form, 6-9 dm. high, with strigose pubescent leaves and segments relatively few and long lanceolate-acuminate; sterile racemes elongated and heads about 3 mm. diameter.


Leaves in these specimens vary considerably in pubescence and dissection. A well-marked variety.


A glabrate form, varying to densely pubescent in the different specimens and with heads more scattered as if tending toward A. vimineus Lam.


This should probably be B. dentata (DC.), as the fact that Clavigera dentata DC., Prod. 5: 128, is a form variant from the normal is no ground for giving the species a new name. See Pl. Wright. 1:83.


It is doubtful if this variety be more than a small, shaded form of C. discolor Muhl. with tuberous roots.


The collection varies considerably as to size of head and leaf dissection.

899. Elephantopus carolinianus Willd. (No data).


The present collection seems undoubtedly perennial, not annual as stated in the Syn. Fl. 1: 218.


If priority of pagination be followed, this should be **E. Berlandieri texense** (T. & G.).


Some of the specimens approach the type of the species.


A form approaching **E. incarnatum** Walt. in its marked pubescence, thin, subcordate leaves and subpubescent akenes.


A form with leaves almost wholly entire.

Leaves entire throughout.


It is questionable whether this huge Texas sunflower which grows high enough to conceal a train of covered wagons in the bottoms should be considered the same as the small northern species of Montana and Alberta, with smaller flowers and leaves, and which in the most favorable situations rarely becomes more than 12 or 15 dm. high.


Probably the type locality.
Type locality apparently.
"Perpendicular rocks on the banks of the Guadalupe River near New Braunfels exposed to the full glare of the sun." Pl. Wright. 1: 101. Type collection.
Many of these specimens seem near L. punctata Hook.
   An old mature form.
   Type locality. Mainly young plants.


Upper surface of the leaves somewhat too scabrous for the typical form of the variety.


Varying nearly to the typical form of the species in some specimens.


Tall plants with the leaves on the flowering branches greatly reduced.


Fairly representative of the type.


Type locality; Linn. **22**: 146.


Type locality; Linn. **21**: 758.


Leaves very variable in size and texture.


One of the localities mentioned by Torrey in his description of *G. granulatus* in Mex. Bound. Surv. **2**: 165.
   Type locality.


   P. crispa Hemsl. New Braunfels. 1851.

   Type locality: "Upper Guadalupe not far from New Braunfels;" Linn. 21: 760.


   The leaves larger (3.5×6 cm.), glabrous and white pulverulent beneath, and panicked racemes more lax than in the normal of the species.

   Heads either sessile or on peduncles up to 1.5 cm. long; leaves small and narrow (1×3.5 cm.), white pulverulent beneath.


A small form less than 3 dm. high. This small, densely glandular or viscid pubescent form with wider leaves and shorter corolla tube, extending from Missouri to Texas, should probably be separated as a variety at the opposite extreme from var. *detonsa*, (as var. *texana*).


Type locality; Linn. 21: 752.


Leaves pustulate sebaceous.


1022. **Onosmodium bejariense** DC. Comanche Spring. May 1849.


**Cuscuta pulcherrima** Scheele. (New Braunfels). 1851. (III-475).


On *Helianthus Maximiliani* Schrader.


Form with large cordate leaves.


Form with smaller leaves with more or less basal lobing; S. Lindheimerianum Scheele; Linn. 21: 766.


The pubescent form.


Numbers 286 and 287 of Pl. Lind. 1:48 and 49, were accidentally transposed in the printing, thus differing from the exsiccatae issued.


1087. *S. ballotaeflora* Benth. (No data).


Rather hirsute, but otherwise fairly typical.


Puberulent throughout; leaves unusually wide, ovate-elliptical to linear above; calyx somewhat hirsute.


Type locality; Linn. 22: 586.

A widely branching, broad-leaved form.


1111. **I. paniculata** Kuntze. (No data).


This differs from **R. laevis** L. in its large (3-4 mm. long) sepals and its large (3-4 mm.), dry fruit. It is probable that Nuttall's species will stand on a closer study of this genus. See Trans. Am. Phil. Soc. 5: 167.


1123. **Andrachne phyllanthoides** Coult. L. 47. (Comanche Spring). June 1849. (III-534).


1125. **A. phyllanthoides** Coult. var. **Reverchoni** (Coult.)

Leaves of these specimens are somewhat smaller than those of Coulter's type. I doubt if this be more than a pubescent form of *A. phyllanthoides*.


Foliage nearly glabrous, turning reddish.


Apparently the type locality; Linn. 25: 581.


The type locality; Linn. 22 : 153.


Diffusely twining; leaves narrowly oblong-deltoid, cordate at base; staminate sepals 3, rarely 4.


It seems necessary to retain C. Berlandierii Klotzsch (Linn. 20: 541), with thick, ovate, entire or subentire leaves, passing into C. mississippiensis Bosc on the one hand and into C. reticulata Torr. on the other. C. texana Scheele (Linn. 22: 146) is a form of C. Berlandierii with larger and more acuminate leaves. Apparently the stone of C. Berlandierii may be either smooth or reticulated. It is unquestionably distinct from C. mississippiensis, which is found in the bottoms of the large rivers, while C. Berlandierii occurs normally on high, dry knolls and uplands and rarely attains the dignity of a tree. It extends northeastward into southwest Missouri.


Form with reticulate stone.


Form with smooth stone.


A form with thick, lobed leaves, very hispid on both surfaces.


Ovate-leaved form.
1169. M. rubra L. 1850.
   Ovate-leaved form.

   Form with lobed leaves.

1171. M. rubra L. (No data).
   A form with small, mostly lobed leaves, apparently approaching M. microphylla Buckl.


1181. Q. texana Buckl. (New Braunfels). March 1850.


These specimens are identical with those of Berlandier (Nos. 2317, 2274 and 3026), collected in adjacent Mexico and enumerated by Andersson (Mon. Sal. 16) as of this species, though I do not find it heretofore reported from the United States. It appears to be confluent with S. nigra Marsh. in this region, from which it is easily distinguished by its narrower dull-surfaced leaves.


*C. Fraseri angusta* Torr.

If there be a difference in the time of blooming between this and *C. Fraseri* Torr., as stated in Pl. Lind. 1:29, the two are doubtless distinct species.


Small plants from 1-3 dm. high with leaves from narrowly lanceolate to ovate-cordate.
Small plants, rarely 2 dm. high.
Immature; leaf-blades and petioles unusually long.
Unusually tall plants, 3 dm. or more high.


This probably came from Texas and not St. Louis, Mo., as the species is not known from the latter locality. There is nothing in the brief description of Nees to distinguish this from Coville's H. micrantha aristulata and it is probably a good species, distinguished from H. micrantha Britt. by its large size, 15-20 cm. high, marked acuminate scales and black akenes.


“Muskit grass.” On rocky soil.


*Chaetochloa glauca* Scribn. New Braunfels. (Nov.) 1849.


“In masses near thickets and on slopes.”

Glabrous-leaved form; spikes varying from narrowly cylindrical to narrowly conical. Near *C. composita* Scribn., but most of the spikes narrower than in that species and longer and more acuminate than in *C. caudata*. It is probable that these related forms are all one species under varying conditions.


A form differing from the normal of the species by its narrower empty glumes and elongated 4-5-flowered spikelets. Apparently approaching *E. striatus* Willd.


Close to *E. ligulata* Scribn., but differs in its narrow conduplicate leaf with short (6 mm.) ligule.


“On rocky soil under trees.” Occasionally with proliferous spikelets.


Differs from the Reverchon type in its more strongly convolute, curved, filiform leaves and shorter (1 mm.) awn of the flowering glume. The panicle and spikelets seem normally purplish in both and the long tapering spikelet is characteristic. It differs from *M. trichopodes* Chapm. in its shorter, narrow, appressed panicle, its shorter, involute, filiform curved leaves and smaller size; the spikelets also are longer and more acuminate and the awn shorter.


"On the Salado; thickets and roadsides."


"In large bunches on fertile soil."


The large size of these fronds (1.5 m.), the long pinnae (1-2 dm.), with long falcate acute lobes and the thick texture seem to place our plants here, but it is doubtfully distinct from the smaller D. patens Ktze., which also occurs in this region.


Pinnæ with fewer and more shallow lobes than in the typical form. A similar specimen in the Engelmann Herbarium is given as var. argyrolepis A. Br., but I have not been able to find the description.


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In the preparation of this paper I have also had access to 1. An unpublished MS. containing Gray’s notes on Scheele’s “Flor von Texas.” No date. 2. The unpublished letters of Dr. Gray to Dr. Engelmann. 1840–1883. 3. Numerous letters from members of Lindheimer’s family and others, relating to his life and work. 4. Various newspaper articles and clippings relating to the same, including Lindheimer’s Rückblicke auf das Entstehen und Leben der Neu Braunfelser Zeitung.” (June 21, 1872).
INDEX TO PLANTAE LINDHEIMERIANAE PARTS I-III.

In this index, the names in Roman type have been conformed to the Vienna Code of 1905, as far as was possible in the time at my disposal. Other specific names, regarded as synonyms, are in Italics with cross-references, the modern equivalents and corrections being given for Parts I and II.

The numbers in all cases refer to pages, those of Part I being to the reprint (pp. 2-56), to which it is necessary to add 208 in any given case to make the page correspond with the same in the Boston Journal of Natural History (5: 210-264). The references to pages of the present publication (Part III) are printed in Italics to distinguish them from the pages of Part II similarly numbered.

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