JOURNAL

OF THE

ARNOLD ARBORETUM

VOL. 46 JANUARY 1965 NUMBER 1

LETTERS FROM CHARLES SPRAGUE SARGENT TO REGINALD SOMERS COCKS, 1908–1926 *

Edited by JOSEPH EWAN [1]

WHEN CHARLES SPRAGUE SARGENT DIED IN 1927, after serving 54 years as Director of the Arnold Arboretum, he left a varied and significant legacy of botanical accomplishment. The Arnold Arboretum which he established is a monument to his vision, energy, and ability. His published works are a record of his interest in and knowledge of woody plants. After completion of his *magnum opus*, the *Silva of North America* (1891–1900), Sargent wrote the *Manual of the Trees of North America* which was, in fact, a condensed version of the *Silva*, available to many more interested people than had access to the original work of 14 folio volumes.

The production of a manual with its necessarily concise statements of characterization, distribution, uses, and so forth, entails an enormous effort and a refinement of style not easy to achieve. To obtain the greatest pos-

* In response to a request by the editors of the Journal of the Arnold Arboretum, Professor Joseph Ewan, whose contributions to the history of American botany are well known, has prepared for publication this series of letters from Professor Sargent to Professor Cocks. It is felt that such an extensive paper, to be published in parts in the four numbers of Volume 46, will provide valuable background to the botanical history of a floristically critical area, the southeastern United States, now being studied intensively. *Eds.*

[1] The 302 letters of Charles Sprague Sargent reproduced here have been faithfully transcribed from the originals preserved at Tulane University. They were typewritten by Sargent's secretary who usually did not verify the spelling of place names. The misspelled place names and a few obvious errors in botanical names have been corrected. All the letters carried the heading "Jamaica Plain, Mass.," although it is possible some were written away from the Arboretum during Sargent's excursions. Salutations are uniform, and since they follow the form of the first letter, have not been repeated thereafter. The valediction, "Faithfully yours," which was used consistently has also been omitted. Generic names were not italicized (which must have saved hours in the aggregate!) but have been italicized here. The letters are separated by Arabic numbers and are referred to by number (not by page) in the INDEX TO PERSONAL NAMES and the INDEX TO PLANT NAMES.

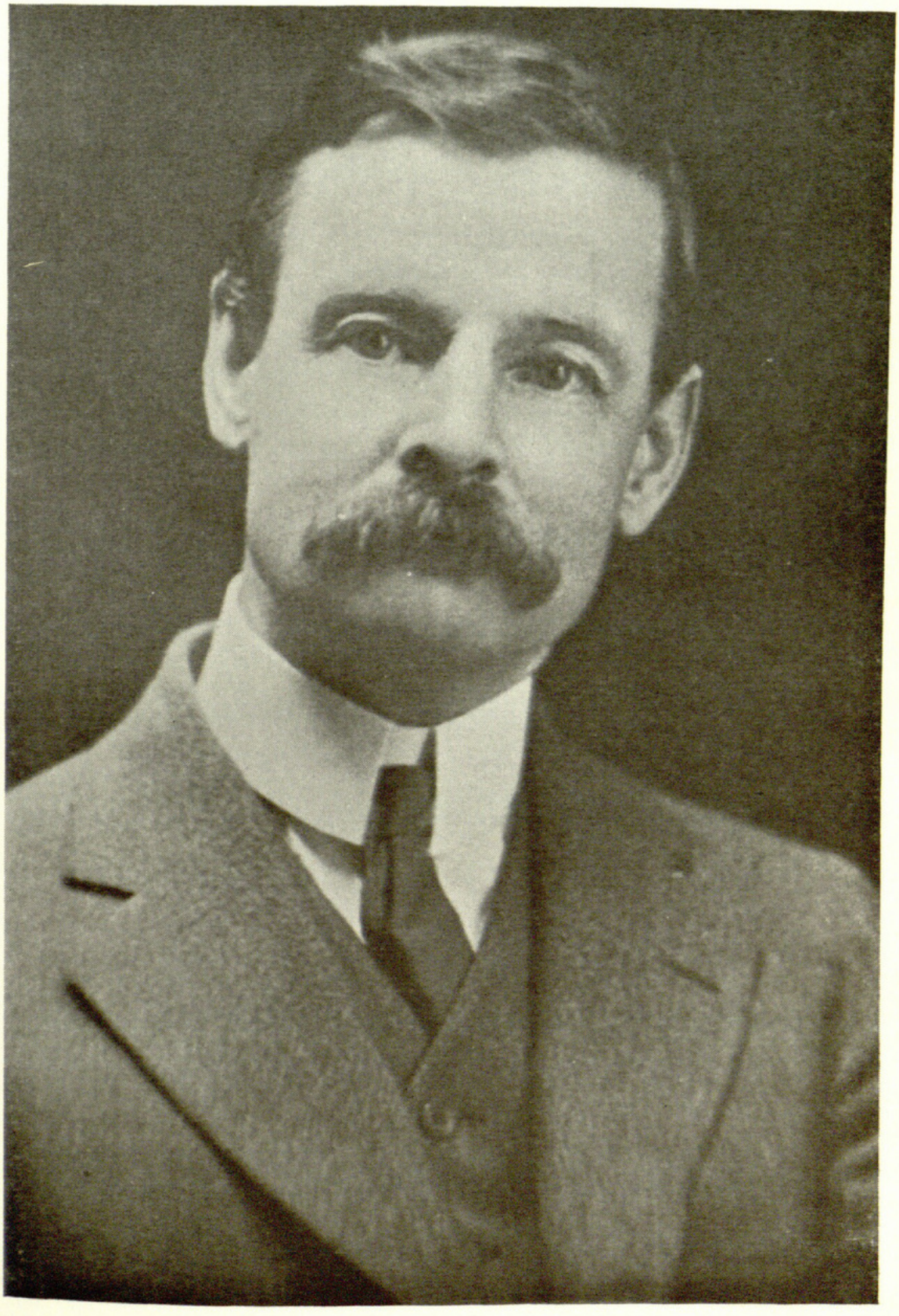
The only published Sargent letters of which I am aware are those selected and annotated by BERNARD HARKNESS of Highland Park Herbarium, Rochester, New York, and published as "Excerpts: letters of Charles Sprague Sargent to Rochester Park Personnel" (Rochester Chapbooks, Publisher, 1961, 51 pp.), chiefly to Mr. JOHN DUNBAR (1859–1927), with footnotes identifying most of the persons mentioned.

sible precision in statements of range and other details, Sargent encouraged correspondents in various parts of the country to provide specimens and all available information about the trees in their particular localities. From the time of publication of the first edition of the *Manual* Sargent worked for approximately fifteen years toward the completion of the second edition. Among the many correspondents who contributed to the effort, Sargent especially mentioned, in the preface to the second edition, Alice Eastwood who collected in Alaska and New Mexico, and Professor Cocks who explored the forests of Louisiana.

Sargent apparently first met Professor Cocks early in 1908. Unfortunately we do not know the content of the first letter Sargent received, for incredibly Cocks's incoming letters were not kept together, and only occasional letters or paragraphs from them may be found pocketed with herbarium specimens in the Arnold Arboretum. Professor Sargent quickly detected the aptitudes and values of his newfound correspondent, for his 302 letters to Cocks, reproduced here, were written sometimes daily, once two in a day, and with few long intervals, until twenty days before Professor Cocks's death on November 21, 1926. Sargent himself died four months later, on March 22, 1927.

Reginald Wodehouse Somers Cocks was born August 31, 1863, at Papworth, Worcestershire, England. He attended Trinity College, Cambridge, where he took the M. A. degree, in 1889, with first honors in classics. His interest in Latin persisted through his lifetime. There is a letter from Benjamin Lincoln Robinson, Curator of the Gray Herbarium, dated February 13, 1917, thanking Professor Cocks for his estimate of a paper which contained some Latin with which he disagreed. In this Dr. Robinson wrote, "I have no doubt that you are entirely right that my Latin contains various slips."

Although there are Cocks specimens in the Tulane Herbarium labelled "Feliciana, March, 1892," and "Feliciana, April, 1895," as well as some collections made in 1897, Professor Cocks's active botanizing began in March, 1898, and continued through that season. On May 27, 1898, he presented his first paper at the meeting of the Louisiana Society of Naturalists on *Selaginella apus* [*S. apoda*] growing in profusion at Mandeville, Louisiana. The Society had been organized July 3, 1897, and incorporated May 1, 1899, with Professor J. H. Dillard as its first president. "Mr. R. S. Cocks, M. A." is listed as a member of the executive committee for the year 1898–99, at the time he was an instructor at Boys' High School in New Orleans. Cocks and Professor George E. Beyer of Tulane completed a series of "excellent lectures on botany and zoology" given under the auspices of New Orleans Free Lecture System, according to a report in the *Gulf Fauna and Flora Bulletin* for June, 1899. June, 1899, included trips as far afield as Lake Charles prairies and Selma, Alabama, the home of Mrs. Cocks, and August, excursions to Alexandria and vicinity. From 1900 on, year after year, regular field trips, with special attention given to the woody plants, were made into all sections of the state. Cocks, like another Englishman, Philip Henry Gosse, first arrived in Canada from England



REGINALD WODEHOUSE SOMERS COCKS

CHARLES SPRAGUE SARGENT

but evidently did not stay in the north. A few herbarium labels suggest that he may have arrived in New Orleans as early as 1890 but this evidence is not wholly trustworthy. On other occasions specimens from opposite sides of the state carry the same month; yet it is highly unlikely that in those days he could have moved about so rapidly. Cocks generally recorded only the month and the year on his labels, and did not number his collections. Professor Sargent subsequently numbered some sheets for easy reference. For example, a *Carya* collection from Clear Lake, Natchitoches Parish, May, 1909, later became number 1765; another from Bayou Lacombe, St. Tammany Parish, across the state, also May, 1909, is number 1766.

After a year as Professor of Botany at Louisiana State University, 1906–07, Professor Cocks moved to Tulane to occupy the newly created Ida A. Richardson Chair of Botany. Mrs. Richardson took an active interest both in living plants and in books about them (our Tulane set of Sargent's *Silva* was her gift). It is notable that, on several occasions, Sargent mentions sending seeds or plants of foreign introductions, recently grown at the Arnold Arboretum, as possible additions to New Orleans gardens. This was in the spirit of Ida Richardson who is credited, and with good evidence, for the introduction of *Cocculus laurifolius*, *Siphonanthus indicus*, and other exotics into local gardens and patios. Through the years Professor Cocks supported the activities of the New Orleans Garden Society, and a volume of his collected papers was presented to the Society by one of its members, Mrs. J. Leo Burthe. Over and beyond his lecturing to garden clubs and his teaching of botany classes (his lecture notes have survived) was his enthusiasm for searching out new plant records for Louisiana. Here Sargent found a devoted colleague. It is abundantly clear from his letters that Professor Cocks conscientiously ran the errands Sargent put to him. And the errands kept coming, *in extremis* with Sargent's advancing concern that the revised *Manual* might not be finished before his life was ended. The first edition of the *Manual* had appeared in 1905 and immediately corrections and additions began to accumulate in the desk copy. When another collector provided a range extension in Louisiana, Sargent wrote Cocks to verify it. Mattoon found *Pinus caribaea* [*P. elliottii* var. *elliottii*] in the Tangipahoa region, and Sargent wrote for Cocks to hunt for it in other parts of the state where it might have been overlooked. From these collecting trips Sargent recognized five new species or varieties of hickory, a new hybrid oak (*Quercus* × *cocksii*) from near Alexandria, a hawthorn (*Crataegus cocksii*) from near Winnfield, and a linden (*Tilia cocksii*) from near Lake Charles. Sargent accompanied Cocks on several field trips over the state, testing revised keys in the field, collecting specimens in flower and fruit, and following up old records made by nineteenth century botanists. The two men marked trees to return to for successive vouchers, especially the oaks where the yields of fruit vary from year to year.

The zeal of the plant collector and the comradeship of the botanists portrayed in the letters which follow may be gleaned from a letter by Ernest

Jesse Palmer (often mentioned in Sargent's letters) to Professor Cocks dated March 5th, 1926, the year of his death. Palmer wrote "With reference to the *Yucca louisianica* at Ruston L[ouisian]a, of which I sent you a small snap, I regret to say that I have no duplicate material. When I saw it and made the photographs I was travelling with Dr. Small in his truck (the famous "weed wagon"). I took some specimens, but as you know, flowers of these plants are very hard to dry, and as we didn't have much chance for changing dryers on the trip practically all of the material was spoiled, and I only managed to save enough for one meager specimen for our herbarium.

"I was sorry to learn that you have been laid up. Have had a bad cold myself the past month, but have managed to keep going. [Palmer lived thirty-six years after this bout.] Professor Sargent, I am glad to report, has been in much better health and has been at the Arboretum almost every day during the winter. He is truly a remarkable man."

ACKNOWLEDGMENTS

My thanks first, to Professor William T. Penfound, of the University of Oklahoma, formerly at Tulane, for insuring the preservation of the Sargent letters during his years at the University. To Charlotte Ponder for her careful typing of the manuscript, and to Nesta Dunn Ewan for her critical editorial eye and her assistance with the indices, I express my very real appreciation.

1

April 7, 1908.

My dear Professor Cocks:

I want to tell you what a very pleasant day I had in Shreveport, thanks to your letter of introduction. I saw the Mesquite and the *Gleditsia*, although they were not yet in flower. The *Gleditsia* is certainly very close to *Gleditsia aquatica*. There is only one plant of it. I should say now, without having seen the flower, that it would be best to consider it a variety of that species, although the longer pods and greater number of seeds is remarkable. Possibly other individuals will be found.

I noticed in Jackson Square, New Orleans, three or four small trees of what I thought to be an eastern Asiatic *Acanthopanax* which I did not recognize. Do you know anything about these trees, and can you dry some specimens of the foliage for me? Is it possible to find out where these plants came from? I am afraid they are not old enough yet to flower.

This short visit to Louisiana impressed me more than ever with the beauty and interest of the state and I feel very keen to get back and to visit those parts of the state which I have not seen, namely the region east of Baton Rouge and west of Vicksburg.

I hope another year we may be able to manage a trip together. It is a great pleasure to me to make your acquaintance and I hope that I shall hear from you again.

2

April 21, 1909.

You remember that you sent me a specimen of a *Tilia* from Shreveport which I told you was probably *Tilia americana*. I am satisfied now that it is not *Tilia americana*, and that it is perhaps *Tilia leptophylla* which you will find mentioned in Small's Flora. I very much want to get flowers of this Louisiana *Tilia* and to know something of its distribution in the state. The same plant appears to grow on the Red River in Arkansas. Can't you get your correspondents to look out for this tree in Louisiana and especially to obtain good flowering specimens as these have not, so far as I know, been collected?

I wish we were in the woods together now.

3

December 8, 1909.

I now expect to be in Boston at the end of the month and, if you are coming here, I hope you will stay at my house. You can reach Boston very easily from there and also the Arboretum. It would be a great pleasure to me to see you again and to have you as my guest. There are many subjects we ought to discuss about southern botanical explorations.

4

January 17, 1910.

I am very glad to hear that you got home safely and are enjoying warm weather again. Here we have had bitterly cold weather and a good deal more snow, and I am longing for Louisiana or some other country of a milder climate than New England. Many thanks for your package of plants.

#17 is certainly *Aesculus austrina.*

#71, *Sapindus Drummondi.*

#91, *Smilax lanceolata.*

The *Bumelia* from Slidell without fruit is *B. lanuginosa.* The others seem to be correctly named.

It was a great pleasure having you in Brookline.

5

April 8, 1910.

I write to say that I got home safely and to thank you again for all your kindness to me during my visit in Louisiana. I never had a better week or saw finer or more interesting trees, and we certainly must have another trip together before long. I understand that you will obtain flowers of *Aesculus Pavia* for us, flowers of *Crataegus* and *Persimmon* from Lucknow, and fruit of *Salix* from Shreveport and Bayou Sara. Any other specimens will be most acceptable.

I am curious to hear about the Willow at New Orleans. The Shreveport Willow grows at Fulton, Arkansas, and also at Allenton which is about

thirty miles from St. Louis and apparently is a common and widely distributed tree. I cannot believe that it is only *Salix nigra*. A little more study of Louisiana Willows is going to lead to all sorts of surprises. The trouble is we have all been taking too much for granted. I find that we have n't here a copy of Dodson's Bulletin on Northern Louisiana Shrubs. If you can get a copy of it for the library here, I shall be much obliged.

I hope you got home comfortably and found everything all right at home. The mud at Fulton was about three feet deep. I never saw such roads before, but it did not rain and I was fortunate in finding in full flower the Oak I was looking for. I had a good day at Allenton and found there at least five species of *Prunus*, all of which had been passing for *Prunus americana*, and so it goes.

6

April 21, 1910.

Glad to get your letter of the 18th. I am much interested in what you say about *Hamamelis*. Have you perhaps found a third species? The Missouri plant flowers in February and March in a region which must be several weeks earlier than Louisiana. The habit you describe, too, is different. The Missouri plant grows always in the sandy and rocky borders of small streams and spreads into large thickets by underground roots. I should judge from what you say that your plant has not this habit.

How about the Willows at New Orleans and also the *Diospyros* at New Orleans? Did you get the fruit of the Willow at Bayou Sara? I am anxious to hear fuller accounts of your trips since we separated.

It is a very early spring here indeed.

7

May 16, 1910.

I have yours of the 10th and will write you about the plants when they arrive. Pearl Island must be directly at the mouth of Pearl River. I think I have seen the name on old maps. If you have access to a copy of Bartram's Travels, notice what he says about it. I suppose you know that he went as far as Baton Rouge. I cannot think that there is any trouble in finding this island, and I have no doubt the Plum-tree is still growing on it.

I very much hope that you intend to pass August in this part of the world. We will try to give you as good a time as possible.

8

June 7, 1910.

Very sorry to hear that you had such a bad time on Campbell Island,[2] but the fact that you found no Plum tree there may save us a lot of trouble in the future. I have been very busy lately and have only just now been able to look at your plants. We shall send you soon the names of several of them.

[2] Lake Pontchartrain.

With regard to the *Hamamelis*, your plant from Richlands appears identical with the spring-flowering species from west of the Missouri River. Probably it is the same thing which grows at Alexandria, Louisiana. I do not feel so sure of the Covington plant. I collected it there myself and have always felt doubtful about it. We must try and get flowers or find out just when it blooms.

I find that Mohr in 1885 collected your *Lindera* at Opelousas. We have what looks like the same thing, too, from Georgia, and in Missouri there are plants with less pubescence than yours which seems to connect it with the northern form. I am inclined to think now that your plant will have to be considered a variety. Your fruiting specimen which we have was collected June 15th and of course before the fruit was ripe. You ought to try and get mature fruiting specimens.

The Richlands *Diospyros* certainly looks very different both in the character of its tomentum and in the shape of the leaves. I presume that the trees in the New Orleans swamps are the same thing, although the leaves are certainly less cordate and more like those of more northern forms but the tomentum seems identical. The thing now is to get the fruit and the mature leaves. I hope you will be able to manage this. We ought, too, to have mature leaves of the Willows which you collected, and also mature leaves and fruit of the different plums. This I am afraid will prove more difficult, but perhaps you will be able to manage some of them. Any hope from our friends at Shreveport in this matter?

The plum business is very difficult owing to the difficulty of getting material and finding good characters by which to distinguish the different forms. I hope you are arranging to be in this part of the world this summer.

9

June 13, 1910.

Your *Vacciniums* are, —

72, *V. Elliottii*,
79, *V. Elliottii*?
80, *V. stamineum*,
81, *V. vacillans*,
89, *V. stamineum*,
90, *V. vacillans*,
99, *V. glaucescens*,
101, *V. vacillans*.

This I believe disposes of your unnamed plants except the Willows and Persimmons, and it will take some time to work these up.

10

October 12, 1910.

Many thanks for the three lots of plums which arrived today in capital condition. I have to thank you, too, for the Persimmon fruit which came sometime ago. So far as the shape of the fruit of the two kinds is con-

cerned I see nothing very remarkable about it for the fruit of the common Persimmon shows as much or more difference in variation. The pubescence on the Persimmon, too, seems to be a very variable character. The fact that one form grows in water continuously, or nearly continuously during the year, and the other only on dry land is remarkable and we ought to find some other characters beyond the shape of the fruit to separate these. I think there is a difference perhaps in the time of blooming and possibly in the size of the flowers.

Is there any thing new in the *Salix* situation and have you foliage specimens for us?

I hope you are well and enjoying life, and have no University troubles on your hands.

11

December 14, 1910.

I am much obliged for your letter of November 28th (I am ashamed to see how long it has remained unanswered) and for the package of plants.

#8, Pearl River, is certainly *Asimina parviflora*. I do not know any *A. pubescens*.

#9, *C* vii. of Shreveport, is *Crataegus spathulata*.

#11, *C* iii. of Shreveport, is *Crataegus arborescens*.

#13, *Amelanchier canadensis* [var.] *tomentula* Sargent is the best I can do for this. It seems the same as the Covington tree.

#22 and #23, ii. and iii., Shreveport, *Crataegus spathulata*.

I cannot say anything about the plums yet; indeed I am more ignorant about them than I was a year ago, still we will do something with them sooner or later. As you know, it is an extremely difficult genus to collect, because they flower when there is nothing else to collect and the fruit ripens early when it is hot and botanizing is disagreeable.

I have never seen flowers or fruit of *Cephalotaxus japonica*, which seems to be an abnormal garden form with erect branches of some other species. If you have specimens of the flowers and fruit, we shall be very glad to get them.

Have n't you got a lot of Willow material for me? That southern Black Willow question is not yet settled. Indeed there is so much work to do in the south that I do not know which way to turn. I certainly hope to be down in your part of the world again this spring.

We have received through the Department of Agriculture a specimen of *Tilia* collected at Lake Charles which is perfectly glabrous and looks like *Tilia floridana*. We should investigate it.

We have had some cold weather and some snow, but it is not as bad as it was when you were here last year.

12

December 31, 1910.

I hope you are going to be able this winter to further investigate the Louisiana *Hamamelis*. I am describing the Missouri and Arkansas spring-

blooming plants as *Hamamelis vernalis*. The specimens from Covington collected by myself and by you and your specimens from Alto, Richland Parish are certainly different in the pubescence from the Missouri plant. Of course we have n't got any flowers of any Louisiana specimen. In the Gray Herbarium there is also a *Hamamelis* collected at Alexandria which I suppose is the Richland Parish plant. Why can't you take up this matter this winter and get flowers if possible from all these stations, or at least find out whether they do or do not flower in the winter or early spring?

13

January 9, 1911.

Very sorry indeed to hear that you are under the weather. Take care of yourself, pray, for there is lots of work ahead of you if we are ever going to solve all the mysteries of Louisiana trees. It is my hope and intention to pay you a visit this spring either before or after I go to Texas, or at both times. I have not formulated my plans yet.

Mr. Rehder here is working over the North American species of *Malus* and is describing a number of new species and forms. On April 3rd, 1885, I collected at Pinnyville [Pineville], Louisiana, which is just across Red River from Alexandria, specimens of an Apple growing in a glade in the pine woods which we used to refer to *Malus angustifolia*. I do not believe it is that species and probably it represents an undescribed one. It ought to be looked up and fruit should be collected. Of the true *Malus angustifolia* we have from La. two specimens, one collected by me March 26, 1886, at Opulusas [Opelousas], and one collected by you at Bayou Lacombe, No. 1779. I do not remember where Bayou Lacombe is. Both these Louisiana specimens differ from the specimens of the southeast, Georgia, Florida, etc., by the pubescence on the leaves and petioles. I should suppose *Malus angustifolia* would be a common Louisiana plant, especially in eastern Louisiana as we have specimens from Pearl River Valley in Mississippi. This is a thing which ought to be looked up.

I have just finished describing seven species of *Prunus* from Arkansas and Texas, and I do not believe that these descriptions cover any of your Louisiana trees. *Prunus* is a genus which certainly has got to be more carefully studied in Louisiana.

I think we have pretty good material of that pubescent Willow but I hope you will be able to collect Willows wherever you see them in Louisiana as we want more material and more information about these different forms of the Black Willow. I am suggesting calling the Bayou Sara tree *Salix nigra* variety *altissima*, for as it grows at Fulton, Arkansas, this is the tallest of all the Willows I have ever known anything about.

The amount of material we have representing Louisiana woody plants is still unsatisfactory and my knowledge about them is even more so. I am counting on you for a good deal of help.

With kind regards and best wishes for the New Year, I am

14

February 10, 1911.

I have today your letter of February 6th and the specimen of Oak. This looks to us like the tree which they call in England the Lucombe Oak and which is supposed to be a hybrid between *Quercus Cerris* and *Quercus Suber*. Hope you will get plenty of Willow material and the Witch Hazel flowers if possible.

To show how poor we are in Louisiana plants I could not find this morning a Louisiana specimen of Liquidambar in our herbarium.

I am going to Florida on the 18th for a few days and I shall return home before going to the southwest. I want to go to Texas before Louisiana, so it will be April, I suppose, before I reach New Orleans. I do not care much where I go in the state but we ought to look up that *Tilia* at Lake Charles; and I should like to go, too, to some more places east of the Mississippi. Opulusas [Opelousas] is always very interesting to me, so I shall be entirely at your disposal.

15

February 15, 1911.

I write another line to remind you that there is a lot to do on *Prunus* in Louisiana in the hope that you may be able to get good flowering material from trees so located that we may get fruit from them later in the season. This is one of the most difficult groups to work up as the fruit is hard to preserve, and it flowers so early that it is necessary to make special trips to get them.

16

March 6, 1911.

The two specimens have arrived. Certainly this is not the same as my spring-blooming Missouri and Arkansas species which has the inner surface of the sepals bright red. This plant of yours is remarkable in the small size of the flowers and of the fruit which is not more than half the size of the ordinary *Hamamelis* fruit. This may be the variety *parvifolia* of Nuttall, a variety afterwards taken up by Torrey & Gray but dropped by recent authors. Judging from the time it flowers, your plant may represent a third species; at any rate we have got to know more about it.

Will you be on the lookout for a yellow-twigged Tree Willow which is common in eastern Texas and which you ought to find in the Shreveport and western Louisiana region? This is either a species or a good variety of *Salix nigra* and we want to know more about it and to get more material.

I am hoping now to go to Texas on March 15th and to meet you at Lake Charles on my way back, but I will write again before I leave home.

17

March 14, 1911.

I am glad, or perhaps really sorry, to hear that Plum trees are so abundant in western Louisiana. I am leaving here on Thursday, the 16th, and

go via St. Louis to Texas. I cannot exactly fix now the date of our meeting at Lake Charles but I will telegraph you from Texas as soon as I know. I may not be able, however, to send word very long in advance, so I hope you will be ready to start at short notice as it will be horrid to be tied up alone at Lake Charles. Will you send me a line to the post-office at San Antonio in about a week from today and tell me if everything will be all right? I think it would be an excellent plan to pay Tracey a visit as I have never met him and possibly something might be gained by doing so.

18

April 4, 1911.

I got home safely and very comfortably as that was an excellent train, to find here the coldest April 1st on record. The ground is still deeply frozen, new ice has formed on the ponds and there is not a sign of leaf or flower of any kind. I wish I were back with you in New Orleans.

Our Lake Charles *Tilia* differs from *Tilia leiophylla* in the absence, or almost absence, of pubescence and in the serration of the leaves. *Tilia leiophylla* has generally rather coarsely serrate leaves, but in all the Lake Charles specimens the teeth are reduced to mucros. Still I think we must consider our plant a form of *Tilia leiophylla,* especially as we have specimens from Fulton with practically glabrous leaves. It will be interesting and important, however, to get flowers and fruit from Lake Charles.

I have specimens of all the Louisiana *Crataegus* described by Beadle and I feel quite sure that the Lake Charles *Crus-galli* tree which we saw is undescribed. I hope you won't fail to get the fruit, and I greatly regret that we did not get flowers or make specimens. I am quite impatient for the specimens of the *Crataegus* from Covington to arrive for I cannot believe that this is *C. brachyacantha.* The bark is different and the peduncles and pedicels are much shorter than those of that species. If it turns out to be new, this is one of the most interesting *Crataegus* discoveries that I have made in years. *C. brachyacantha* is common at Minden and Munro[e], and I see that Bush collected it at Natchitoches.

As you perhaps know four *Crus-galli* species were collected by Beadle near Opelousas. My *C. edita* appears also to grow there, and of course *C. berberifolia.* About Shreveport there are several *Crus-galli* species, but I think you will find the entire western border of the state full of species of this group.

I am very much interested in that *Crataegus* with white bark, cordate leaves and partly grown fruit which we found on our drive from Covington near the schoolhouse. I thought it might be *C. silvicola* but the leaves as I remember them are much too cordate for that species.

I feel quite sure that the Covington *Viburnum* is *V. pubescens. Viburnum dentatum* seems to be confined entirely to the Appalachian region. I ought to see what you have taken for *V. molle.* I hope you won't forget good specimens from any localities of the Louisiana *Sambucus* as this genus is pretty puzzling.

I have ventured to order and send to you a telescope for your driers after the pattern of mine, which has proved very satisfactory in strength and lightness. Please accept it in memory of the pleasant days we have passed together in Louisiana. Notice, too, that I have had it made much deeper than my own and draw from this fact your own conclusions.

I hope to hear from you very soon about your work since I left. If *Prunus* and *Crataegus* are to be finished within three years there is not a moment to lose.

19

April 6, 1911.

The *Vitis* which we collected at Lake Charles is *V. canescens*. You collected the same thing two or three years ago at Richland Parish and called it *V. labrusca*. I do not see that the books credit Louisiana with *V. canescens*.

The Highbush Blackberry of which we saw so much at Lake Charles and Covington is *Rubus Andrewsianus* of Blanchard.

20

April 19, 1911.

The package of plants has arrived and I am very glad to see them. The *Malus* from Covington appears to be *Malus angustifolia*, but we want to get good fruiting specimens of this and a handful or two of fruit. It is an entirely different plant from the one at Pineville. This I hope you have looked up for I very much want to get the fruit, having good flowering specimens already.

The *Viburnum* from Glen Gordon is not *Viburnum pubescens* but *V. scabrellum*.

The *Crataegus* I cannot distinguish from *C. brachy*[*a*]*cantha* and I believe we shall find it has blue fruit.

The *Euonymus* from Covington is *E. americanus*.

What you call *Vitis canescens* from Glen Gordon is *Vitis cordifolia* and different from the Lake Charles plant which I told you by mistake was *canescens*. There is no *Vitis canescens*; it should be *V. cinerea*. The Covington plant seems different from that from Lake Charles.

The shrubby *Vaccinium* from Covington is *V. stamineum*. You have also collected this from Shreveport. It is desirable to get good fruiting specimens of this.

The *Rubus* from Claybourne is the same as the tall-growing species from Lake Charles. The oldest name for this is *R. argutus* of Link, which must supersede *R. Andrewsianus*. The little *Rubus* from Glen Gordon with prostrate stems is *R. trivialis*. The Dewberry from Lake Charles with the large flowers and fruit is, I feel satisfied, an undescribed species.

I hope you found the *Malus* from Opelousas which, if it is *angustifolia*, is a very tomentose form of it.

I hope you are going to be able to clear up many doubts and mysteries

this season and that you will make good headway with *Prunus*, *Malus* and *Crataegus*.

21

June 10, 1911.

Do you know anything about the writer of the enclosed? Possibly he may be made useful as a collector or in connection with your proposed garden.

I shall hope to hear from you soon again about the various plants in which we are interested.

22

July 22, 1911.

The enclosed may interest you, although I daresay you are in communication with this lady.[3] I suppose it was her uncle who was associated with Riddell. I know of no other publication by Carpenter.

How are you getting on and what is the Plum situation? I hope good, for in Texas and Arkansas there is no fruit whatever. And how about *Malus*, *Crataegus*, etc.?

I hope that you are not worn out by the heat and that I shall soon hear from you again. I cannot think that it has been hotter in Louisiana than it has in Boston this year. We have never known anything like it or experienced such a drought.

Let me hear from you when opportunity offers.

23

August 26, 1911.

How are you and what is the botanical situation? I hope that you won't be too late for the fruit of *Aesculus Pavia* from Mandeville as we want it for a subject for one of Mr. Faxon's plates. I think it would be well to gather it before it is ripe, although it should be fully grown. Perhaps the best way would be to wrap up a fruiting branch in paper and send it by mail. This might give better results so far as the drawing goes than a dried specimen.

Any word of the *Malus* from Pineville which we are very keen to get hold of? *Prunus* in Texas and Arkansas is behaving very badly this year and there is no fruit on any of the plants. I hope it is doing better in Louisiana.

I am just back from a short trip to Colorado where I had a few good botanical days and from whence I returned via the Great Lakes, which I found a most interesting trip.

24

December 19, 1911.

It is a long time since I have heard from you. I hope you are well and that the botanical situation is not too much for you.

[3] Mrs. SLAUGHTER of Ruston, La., who provided information on WM. M. CARPENTER for Professor Cocks (cf. Tulane Graduates Mag. 3: 122. 1914).

I was looking at Louisiana *Crataegus* in the herbarium the other day and it is astonishing what a small amount of material we have from that state and how little I know about it. The Plums and Apples, too, are weighing rather heavily on me. Have you got any more plants to send us from this year's collecting?

I hope you will have a very pleasant Christmas and a happy and prosperous New Year.

25

February 3, 1912.

It is a long time since I have heard from you but I hope this does not mean that you are not well. I hope to be in Louisiana coming from Texas early in April and I want to meet you somewhere and make another trip with you. I hope you will be able to manage this.

The Louisiana *Prunus* situation is in bad shape as only fragmentary material has so far been collected. I think it is desirable that you make a Plum journey early and before I get to Louisiana, otherwise we shall miss them again. For example, numbers 1 and 2 of the Butler plantation were well out of bloom on March 28, 1910; from Laurel Hill to Covington we have leaves only. #1 from Clear Lake was out of bloom March 30th. Shreveport plants were all out of bloom April 1st, and specimens collected at Opelousas were out of bloom March 20th. Bush's collections at Natchitoches April 1st, 1909, were long out of bloom.

I should think it would be desirable to look over the state for Plums as early as March 10th, or perhaps even earlier in the south. The trees should be carefully marked to insure mature leaves and fruit later in the season.

I want very much to go with you to that place north of Alexandria to look for the *Malus* which you have n't been able to find. I am very sure it is an undescribed species.

As for Louisiana *Crataegus* the situation, I hope, is not hopeless but I think we must confess that we are making very little headway with it. Please let me hear from you.

26

March 28, 1912.

I am still pretty shaky but the doctor tells me that I can probably get off in a week or ten days for Louisiana. I do not know about the trains yet, but would n't it be feasible for us to meet say at Munroe and drive from there to Alexandria? How long would this take and would it be a feasible trip? It would at least show me a new country. Or I could perhaps get to Alexandria quicker than I could to New Orleans, look up the Apple across the river, then go on to Shreveport and Natchitoches, and return to New Orleans.

Let me have an answer to this if you can before I start. If not, I will telegraph you when I find out if I can really go and tell you when and where I will be.

27

October 16, 1912.

Returning from a short journey in Missouri I find your letter of September 26th and the package of specimens which you have been good enough to send us.

I cannot do much with the *Crataegus* unless you have the notes on the color of the anthers. This is essential to a correct determination of these troublesome things. Have you also fruit? I can say, however, that No. 1 N.O. is *C. viridis* and xi. and xviii. of Natchitoches are *C. brachyacantha*. *C. brachyacantha* was the species which we found so abundant a year ago last spring near Covington. The *Malus* and *Vacciniums* I will write about as soon as the specimens are mounted.

28

February 18, 1913.

We have a specimen of a Maple collected by you at Natchitoches April 27, 1911, with fully grown fruit. It is a very distinct form of the Sugar Maple and perhaps an undescribed species. There is nothing like it in our herbarium. I am writing to you now to suggest that as this tree had fully grown fruit on the 27th of April it must flower very early, probably some time before we get to Natchitoches. It is desirable if possible to get flowers this spring as we may want to publish a plate of it if it turns out to be new. Do you remember the tree? Is it common, etc.? The nearest Sugar Maple to this station which we know is at Fulton, Arkansas, and there is another at Boerne, Texas, which must be four or five hundred miles away.

What is the prospect of the season, is it going to be early or late? I will let you know a few days before I start for New Orleans.

29

February 25, 1913.

I am much obliged for the specimen of Maple which arrived today. I think it is safe to refer it to *Acer leucoderme* Small.

Please write me again about the season and how vegetation is coming on.

30

April 12, 1913.

We arrived in New Orleans safely but Tracey failed to turn up there. From New Orleans we went to Natchez, staying there about thirty-six hours and then came home from Chattanooga, arriving here last night. I have been quite anxious about you for I am afraid the rain which started in after we left Natchez has made a great deal of trouble in the Red River Valley and that you are prevented from doing some of the work you were going to do.

I have n't had time to do much with plants since I got home but the Opelousas *Malus* seems to be very near *Malus ioensis* var. *Palmeri*, and

the species from Win[n]field to be a form of *Malus angustifolia* with remarkably acuminate leaves. It can hardly, however, be specifically distinct. At Natchez we found *Hydrangea quercifolia* very common. Has this ever been found in Louisiana where it ought to grow I should think, but we have no specimens from anywhere west of Alabama? I had supposed that it was an Appalachian species but finding it at Natchez makes me think it may grow south of Natchez and possibly across the river. I also found at Natchez what I believe is my *Aesculus splendens* although I have n't seen the fruit yet and I think that we found the same species at Winnfield. If so this is rather a fine plant for the Louisiana flora. That little *Viburnum acerifolium*, if it is that species, is certainly interesting for this appears to be an Appalachian species, at least we have no specimens taken west of Alabama and none from west of the Mississippi River. These ought to be looked up. Although *Quercus breviloba* is credited in my Manual to Louisiana I do not find that we have any specimens of it from that state. I should suppose that if it occurs there at all it would be about Shreveport as it is common at Fulton.

I have n't taken time yet to find out the things which you have n't sent us, but I will write you again next week. Please let me hear what happened to you after we parted. I have n't seen anything so fine anywhere on this journey as the woods at Opelousas.

31

April 15, 1913.

A few of the Louisiana plants which we do not have in the herbarium are *Mimosa strigulosa, Parkinsonia aculeata, Desmodium* if there are any woody species, and *Erythrina herbacea*. Have you ever seen this last assume the habit of a shrub or small tree, in southern Florida perhaps a tree of considerable size?

Of *Quercus laurifolia* we have only the specimen with young leaves collected by us at Lake Charles two years ago. I should be glad to have fruiting specimens from Lake Charles and from other parts of the state.

I will send you a list of other Louisiana desiderata as soon as I have time to look them up.

You are O.K. with *Prunus Munsoniana.*

32

April 15, 1913.

As the copy of your paper, for which many thanks, appeared this morning I am afraid you had to shorten your trip and were unable to get to several of the places you hoped to visit. Too bad!

It looks as if we were never going to get at the bottom of the Louisiana *Crataegus*. Mr. Rehder, who is working up *Malus*, has made a new variety of *M. ioensis* which he calls *creniserrata*. The type for this is the Pineville plant. He refers to it also the Crowley and Opelousas plants. In regard to Crowley I find that you are right and that we have fruit from there and

some fragmentary leaves. I shall be very glad to get leaves collected now with the young fruit, especially leaves of vigorous shoots as it is always important to collect these. Your *Malus angustifolia* from Covington, etc., is behaving very badly and does not seem to belong to the typical form of that species as it turns out to have hairy pedicels, etc. I wish you would collect some more material of this plant from that region with good vegetative leaves, etc. If *Malus angustifolia*, which we have always believed to be perfectly glabrous, is going to behave in this way it will make additional trouble for us.

33

April 19, 1913.

As you know, Louisiana was not credited in my Manual for *Avicennia nitida*. We have a specimen from you gathered at Grand Isle. Can you give me the range of the species in Louisiana, that is the range east and west on the coast? Is it always shrubby in Louisiana or sometimes a tree? I do not know where Grand Isle is, but perhaps you will tell me.

34

April 21, 1913.

As I wrote you, we consider the Pineville plant the type of *Malus ioensis* variety *creniserrata*, nov. var. Rehder. The Natchitoches plant which we have from you in flower only is referred to this variety although it looks a little different. The Opelousas and Crowley plants we now refer to *Malus ioensis* var. *Palmeri* Rehder. The type of this variety is in southwestern Missouri, but this form is common in southeastern Missouri and in Arkansas.

You understand that what we have always called *Malus angustifolia* now has to be called *Malus coronaria*. Rehder makes a new variety of this, variety *puberula*, the type of which is the Winnfield plant. I found exactly the same thing at Natchez and we are referring to this variety all your specimens from eastern Louisiana. So far as our specimens show we have no typical *M. coronaria* or *angustifolia* from Louisiana, all your specimens having more or less pointed leaves and hairy pedicels, while in the real *coronaria* the leaves are usually rounded at the apex and the entire plant is glabrous. As I wrote you the other day, I hope you will get more material from eastern Louisiana.

Now in regard to the *Crataegus* which we collected: Opelousas, #1, a *Viridis* species, by roadside, distinguished from *C. viridis* by the bark. Fruit needed.

C #2 agrees well with *C. tersa* of Beadle.

C #3, the *Crus-galli* species with small corymbs, does not fit in with any described species. Of course we want fruit of this. C #4 we were badly fooled by; it is not a *Crus-galli* at all but *C. brachyacantha*.

C #5, a *Viridis* species. No flowers.

Winnfield #1. I don't know this.

#2. This was the small slender tree near the quarry, certainly a distinct new species. Fruit certainly should be obtained.

Lake Charles. The thornless *Crus-galli* in yard on roadside to English Bayou. I don't know this.

These are all we collected this year. I do not think there ought to be much trouble with the Louisiana species if we can only get material for, with the exception of *C. brachyacantha*, *apiifolia* and *spathulata*, they all belong to the *Viridis* and *Crus-galli*, with the exception also of that plant we found in western Louisiana which belongs to some other group. It looks something like *C. silvicola* of Beadle. I collected a number of years ago specimens of a good many *Crus-galli* forms from Mendum [Minden] which I think is a field which should be investigated.

I will write you again about *Crataegus* in the course of a few days. I am very anxious to hear from you and what happened to you after we separated.

35

April 30, 1913.

Too bad that the weather is so much against us; still if we keep on I think we shall get to the bottom of our Louisiana problems.

I understand that Robin's Flora is a supplement to his general Travels in three volumes, and if the librarian of the Howard Library can get us a copy of the whole work I shall be greatly indebted to him and to you.

We have a wonderful season here this year and have never had so many flowers before.

Better luck next time you start out!

36

May 20, 1913.

I have this morning the package of your plants, for which many thanks.

Carya Nos. 1 and 3 from Bernice is *C. alba*. No. 2 from Bernice I don't know. The *Carya* from West Feliciana, Nos. 1, 2 and 3, I don't know. No. 4, *C. alba*. No. 5, *C. cordiformis*.

When I say I don't know I mean that I don't feel sure about this without more material. Of course we ought to have fruiting specimens in the autumn.

Acer appears to be *A. floridanum*, and all the specimens of *Malus* can be referred, we think, to *M. coronaria* var. *puberula*. The Selma *Ilex* is *I. longipes*.

Have you ever found the *Hydrangea* west of the Mississippi River? There is still, I think, two Maples and another *Malus* to come from Natchitoch.

I never heard from that banker whom I asked to send the *Malus* specimen. Can't you stir him up on the subject?

Mr. Harbison, who collects for the Arboretum in the southeast, has been to Selma this spring to look for the *Molles* species of *Crataegus* you told

me about and for the *Ilex*. I told him that you had a plantation near Selma and he apparently lost a good deal of time in trying to locate it. He even went to the court-house to look for a Cocks owning property in that part of the world. I suppose the trouble was that the plantation does not stand under your name but under that of some member of your wife's family. Harbison will be back there sometime this year and I wish you would write me how he can find your plantation and also the exact localities for the *Molles* species of *Crataegus* and for the *Ilex*.

I hope the world is treating you kindly and that you are coming north this summer. There is a lot of work which ought to be done in Louisiana in the autumn.

37

June 18, 1913.

I am glad to get your letter. The Holly from Selma is *Ilex longipes* of Chapman.

The last Maple you sent from Natchitoches appears to be *Acer leucoderme*, but we also have had from the same region from you in previous years what must be *Acer floridanum*; in fact these Natchitoches Maples do not behave very well and show a tendency to too much variation. *Acer nigrum* from there we have never seen yet but I hope you will be able to get it this autumn.

I am going to write you in a few days about the Louisiana things which especially need looking up this autumn. I am glad in the meantime that you are in such a good field as you report Selma to be. By all means send the Plums and collect everything woody you can lay your hands on, and please pay especial attention to the Hickories. Harbison has been to Selma two or three times in the interest of the Arboretum and will be back there probably this autumn but I am afraid not until after you have left.

I gather from your letter that you don't expect to come north this summer. I wish you would let me know about this and, if you are coming, when you will be here and how long you expect to stay. I hope in any case nothing is going to interfere with work in Louisiana this autumn.

38

June 25, 1913.

I have your note of June 21st and the box of Plums. I do not know this plant if it is not a late-ripening variety of the Chickasaw. I suppose you are making specimens. I have made out the following memorandum of plants in Louisiana which need looking after this autumn:

Opelousas.

Crataegus #1, a *Viridis* species on the bank by roadside east of Opelousas.

Crataegus #3, low rich woods fifteen miles west of Opelousas, a tomentose *Crus-galli* species.

Crataegus #5, a *Viridis* species in low wet woods, fifteen miles west of Opelousas.

The *Quercus*, like the Post Oak, but growing in low wet woods. Mature leaves and fruit of this should be collected.

Quercus ludoviciana, new hybrid, Sargent. Our hybrid tree fifteen miles west of Opelousas. I have described the tree with the above name in the new part of Trees and Shrubs. Fruit and mature leaves needed.

The red-flowered *Aesculus* in woods east of Opelousas, perhaps *Aesculus Pavia* but the leaflets are too pubescent below.

Malus.

Mature leaf specimens of the species in the woods fifteen miles west of Opelousas, probably *M. ioensis* var. *Palmeri*.

Hickory #1, large tree with smooth bark in woods east of Opelousas. The trees marked 3 and 4 are probably this form.

Hickory #2, large tree in woods east of Opelousas, with rather rough bark.

Winnfield.

Crataegus #1, the *Crus-galli* species by roadside close to town.

Crataegus #2, the very tall slender tree near quarry, no doubt a new *Crus-galli* species.

Malus coronaria, var. *puberula*. The type of this variety is from Winnfield. Fruit and leafy shoots are needed.

The red-flowered *Aesculus* which I believe is my *Aesculus splendens*. It is important to get the fruit of this for if it proves to be *Aesculus splendens* this is a new species for Louisiana.

Hickories.

Two species in woods near quarry.

A large Hickory in yard in Winnfield. This is probably an undescribed species.

Lake Charles.

Crataegus #1. On road to English — Irish? — bayou. The tree is in a yard, about fifteen feet high, with stem a foot in diameter and wide-spreading branches.

Hickory. The tree with pale close bark in the low woods along the river, common. The young leaves are bright red. This is probably an undescribed species and perhaps the same as one of the Hickories in the woods east of Opelousas.

We should have autumn leaves and fruit of the following Hickories: Bernice II, West Feliciana; Nos. 1, 2 and 3, Bayou Lacombe, 1785, May 1908; and #1766, May 1909.

We need good material of *Malus* from Crowley and of the two forms at Natchitoches, with fruit and leaf shoots. Also from Natchitoches more specimens of the three forms of *Acer*, *A. floridanum*, *A. leucoderme* and *A. nigrum*; the last I have never seen.

I have a great deal of incomplete *Crataegus* material from Shreveport, Munroe, Richmond, Natchitoches and Crowley, but it seems to me that it would be better to concentrate this autumn on the things which we saw this spring and which I have enumerated above, and try and get these finished up. If we don't begin pretty soon and finish some of these doubtful Louis-

iana trees we shall never get anywhere I am afraid. There are apparently more species of *Crataegus* at Natchitoches than anywhere else in Louisiana and of course it is desirable to collect fruiting specimens and number the trees this autumn if they are in good condition with the view of completing them in the spring, but as I have already said it is most important to finish up the things which we got this spring.

Wistaria frutescens and *macrostachya* appear to run together and we are inclined to consider the latter a variety of the former. I certainly collected the two plants at Covington. We have no fruiting specimens of *Wistaria* from Louisiana and if you come across any this autumn I wish you would make specimens from the different localities.

39

July 9, 1913.

Many thanks for the second lot of Plums which have arrived safely.

I have n't seen Harper's Alabama book yet but I believe I have ordered it. It is not perhaps surprising that it is n't complete as his botanical observations are chiefly made from the windows of moving trains.

Have you seen Small's new edition of The Flora of the Southeastern States? I cannot see that he says much about Louisiana plants in it, and he has certainly missed all the interesting new things in the way of trees and shrubs that have been found in the south in late years. It does n't seem to me that this book, in spite of its great size, adds much to our knowledge of the subject.

I do not believe it is any hotter in Alabama than it has been here during the past week and I hope it is n't as dry there as it is here.

40

July 18, 1913.

I have yours of the 18th and the lots of Plum fruit, for which many thanks. Sardis must be a great Plum country, and I hope you are drying leaves and making notes of the different forms.

I am off tonight for Puget Sound, but shall be back at the end of three or four weeks. Anything you send in my absence will be taken care of.

I return Hedrick's letter. His statement confirms my belief that it is impossible to tell much about Plum trees from herbarium specimens alone. I cannot believe that *Prunus Watsoni* grows in Alabama.

41

August 15, 1913.

I am just back from the Pacific coast and find here your letter of July 17th and the leaf specimens of the Sardis Plums.

We feel quite sure that your No. 7 is not *P*[*runus*] *pennsylvanica*. I do not know what it is but it looks like a new species of Cherry. You better send some notes about the size, habitat, etc., of this tree. No. 8 is not *P. mitis* and also looks as if it might be a new Cherry. No. 5 is, as you say,

P. umbellata, and I think you are right in referring No. 6 to *P. munsoniana*. I am afraid I cannot throw any light on the other specimens.

The Selma region seems to be a terror for Plums and I hope we shall get to the end of them sometime.

I hope you are all right for the autumn campaign in Louisiana for it is important to clear up some of these Louisiana mysteries. By all means collect Crabapples from the Selma region. There is probably one new species there with leaves very pubescent on the lower surface.

I've just written Harbison to suggest that he go at once to Selma & look over the Plum field with you.

42

August 27, 1913.

W. H. Lamb of the Forest Service of the United States pronounces an Ash collected by Dr. J. S. Schenck May 1901 in a Palm Swamp, New Orleans, and previously referred to *F*[*raxinus*] *profunda*, to Britton's *F. Michauxii*. Do you know anything about this? Specimens of *F. Michauxii* which I have seen look distinct. Leaflets on the under surface are slightly pubescent and the wing of the seeds is short and broad. This may be a good species.

43

September 24, 1913.

I find that from southern Missouri I can best reach Louisiana at Munroe and I suggest that we meet there instead of at Shreveport, then from Munroe we can go in either direction. It looks as if I could be there on the 8th or 9th of October, but I will telegraph you two or three days in advance of my arrival. I think, however, you had best be there on the evening of the 8th.

44

September 30, 1913.

In looking over the plant you recently sent we find that the *Ilex*, a small shrub from the banks of the Alabama River, is *Ilex monticola*. There is a second specimen of this species from Sardis. The *Bumelia* is *B. lycioides*.

Vitis No. 1 is *V. cordifolia*.

Vitis No. 2 is *V. aestivalis*.

I am leaving on Thursday and shall be able to telegraph you probably from St. Louis two or three days in advance of my reaching Munroe.

45

October 20, 1913.

We had a couple of good days with Harbison on Mobile Bay and finally got home on Friday. Hickories are very abundant on the shores of the Bay and there is but one species there, a Pignut, which shows remarkable variation.

The Winnfield *Sambucus* is *S. canadensis* variety *submollis* Rehder, which appears to be the common form west of the Mississippi from Missouri to Texas. The *Sambucus* which we collected at Opelousas and which appears to be common in the neighborhood of New Orleans and along Mississippi Sound is *Sambucus Simpsonii* Rehder, a species first distinguished in western Florida south of Tampa Bay. It is sometimes a small tree and appears to be very common in all of southern Louisiana, Mississippi and Alabama. The Florida plant, as I remember it, did not have the bright red petioles, and these were not noticeable in plants which I saw about Mobile. The very shining leaves are very unlike those of any form of *Sambucus canadensis* and this I think is a good addition to your Louisiana flora.

I wish you would dry me a specimen of what they cultivate in New Orleans as Rose of Sharon as I do not seem to be able to place this plant from memory. I hope, too, you will send specimens of the different forms of *Ligustrum* which they cultivate in New Orleans with deciduous leaves, and the *Araucarias*. Indeed we should be glad of herbarium specimens of any of the uncommon trees and shrubs cultivated in New Orleans as there ought to be representatives in this herbarium of every woody plant cultivated in the United States.

I will write again soon about some of your other plants. I hope you have got over the hardships of Opelousas.

46

October 25, 1913.

The *Ilex* with solitary fruit on short pedicels which we collected at Winnfield is *Ilex monticola*. This is the first time that we have had any indication that this species grows west of the Mississippi River, and Small gives its western locality as Alabama. Perhaps this therefore is a new addition to the Louisiana flora.

I think we shall have to call the *Viburnum* which we supposed might be *V. prunifolium V. rufidulum* as the buds are covered with the rufous tomentum of this species which varies on the petioles.

I find that there is n't a specimen of *Persea borbonia* from Louisiana in our herbarium. I suppose it is a common enough tree in the state and I wish you would let us have a specimen. I should be much obliged, too, if you will sometime take a look at *Acer Drummondii* as it grows in the swamps and give me some idea of the size this tree attains under favorable conditions, both in height and trunk diameter, and also some notes on the character of the bark. I don't remember that I have ever been close to the tree and if it is to be considered a species I must have more facts about it than I have at present.

47

November 10, 1913.

We have sent the plants named on the enclosed list to Mr. Marshall, Superintendent of the Audubon Park, to whom I also send a list.

Cupressus funebris is an important Chinese tree which ought to do well in New Orleans, and I hope a good place will be selected for it. I don't know as there is much to say about the other plants.

I will write a line also, as you suggested, to Mr. Morgan, President of the Audubon Park Commission.

48

November 18, 1913.

I have your letter of November 13th as well as the Louisiana specimens of Hickory. Of Nos. 2, 3 and 7 from West Feliciana there are no nuts, No. 2 of course being *C. cordiformis*. Of No. 3 of Grand Ecore there are no nuts.

No. 6 from Natchitoches looks like *C. pallida*, and I think No. 2 from Natchitoches is the same although there are no nuts of this. No. 7 from Natchitoches is *C. ovata* approaching variety *Nuttallii*. No. 8 Natchitoches looks like *C. ovata* but there are no nuts. No. 9 Natchitoches is *C. myristicaeformis* but there are no nuts and we should be glad to have them. You speak of having found *C. laciniosa* at Natchitoches but I don't find either nuts or leaves in the package.

I feel helplessly confused about the southern Pignut Group. The more material I see the worse the confusion becomes.

You certainly did not send the specimen of the Oak which you took for *Q. breviloba*.

I think you had best send me a specimen of your arborescent Alder from Selma that I may feel sure of the species. When are you going to send me the lists of trees from your Alabama place? Such a list certainly should be published.

P.S. — Please send us some of your printed labels for these last specimens.

49

November 26, 1913.

I have your note of November 21st and the nuts, for which many thanks. We had to use some of your labels with the nuts and I wish you would send me about fifty of your blank labels for future use. I will write you in a day or two about the Selma Apples and Hickories.

My correspondent in Natchez, who is not a botanist,[4] has found there what I feel quite sure is *Carya texana* which is called Pignut. My correspondent writes, — "One who travels in the adjacent Louisiana country tells me that the Bitter Pecan or Pignut is thick in the swamps and that representatives of German dealers have taken the output of the sawmills for use in the making of carriages. The wood is said to be very tenacious." This may be *Carya texana* and it would be interesting if you could get into touch with some one in that part of the state and find out about it. She also writes, — "I hear of a nut somewhat larger, thin-shelled and very sweet in the West Feliciana Parish."

[4] Miss C. C. COMPTON.

You once told me that you had heard of a flat Pecan somewhere near Baton Rouge and it is possible that this may also be *texana* which is evidently much more widely distributed than we had supposed. If it grows in Natchez there is no reason why it should not be in West Feliciana.

50

November 28, 1913.

In regard to your Alabama *Malus* Nos. 1 and 2 appear to be the same and look very much like *M. ioensis*, var. *Palmeri*. Before we can be absolutely sure of this, however, we should see the flowers. No. 3 is most like *M. fragrans*, I think must be a new species; certainly judging by the leaves it is a very distinct form.

51

December 3, 1913.

I am glad to get your letter of November 27th and to hear that the plants arrived safely.

Although I wrote both to the Superintendent of the Park and to the Chairman of the Park Commission I have never heard a word from either of them. They seem to have curious ways in your town. I understand from your letter that the express bill has been settled by the Park people and I will interview our expressman on the subject. I do not think the plants which you said you sent on "Monday" have yet turned up.

52

December 6, 1913.

I have your package of plants. The *Hibiscus* from New Orleans is *H. mutabilis* from southern China. The Oak from Natchitoches, called by you *Quercus brevifolia*, is *Quercus stellata Margaretta*. The *Ilex Amelanchier* is all right. This is the first time we have ever had any wild specimen of this plant, having known it only from a plant in cultivation. This we have lost and we very much want to get it again either by seeds or roots. Possibly this can be managed next year. We shall be glad, of course, to get flowering specimens. Can you make Harbison understand just where it grows?

The *Viburnum* from Natchitoches is *V. scabrellum*. Your *Vacciniums* Nos. 1, 2, 3 and 5 are *V. Elliottii*. No. 7 is *V. stamineum* or one of the allied species; and Nos. 4 and 6 are *virgatum* which has not before been in our herbarium from Louisiana.

Rosa humilis is all right. The *Rubus* from Winnfield is, so far as we know, an undescribed species. We collected the same thing at Washington.

In regard to your three *Acers* from Natchitoches No. 1 is *floridanum*, No. 2 *leucoderme* var., certainly a very curious looking form, and No. 3 *leucoderme* like the typical plant.

I think this will account for all your specimens. I hope you will soon send us another supply.

53

December 20, 1913.

Your last package of plants has arrived. In regard to *Rubus*, Nos. 2, 4 and 7 are *R. trivialis*; the others all seem to be the common Highbush Blackberry which we have collected together. It is nearest *R. Andrewsianus*, at least it should be referred to that species until the southern Blackberries are more critically studied than they have been.

I find that the older name for *Zizyphus vulgaris* is *Z. sativa* Gaertner.

54

February 24, 1914.

Your *Cornuses* have arrived and seem to be correctly named, except what you call *C. sericea* is *C. obliqua* or *Purpusi*, the western and apparently the southern form of *C. amomum*, the correct name for *C. sericea*. We have had no specimen of this form so far south and I am glad to have it.

In regard to the Sassafras business, Fernald in the January 1913 number of Rhodora has taken up a White Sassafras, first distinguished by Nuttall under the name of *S. variifolium* var. *albidum*. This variety is distinguished by its glabrous branchlets and leaves which are glabrous when young. According to Fernald, it grows from western Massachusetts to the Carolina mountains. According to Nuttall, the inhabitants of the Carolinas distinguish the two forms by the names of the White and Red Sassafras, the root of the White Sassafras being much more strongly camphorated than the ordinary sort and nearly white. No one says anything about the wood of this variety but if the roots are white the wood might be. I think it would be well to look at Sassafras in Louisiana and see if you can find it with glabrous branchlets and leaves. By the way, we have no specimen of Sassafras from Louisiana.

I am sorry about the flowers of *Acer Drummondii*. Have you no specimens that you can spare us? Does not *Acer Negundo* grow in eastern Louisiana? I have it from the state only from Shreveport and Opelousas? I should like to see the eastern Louisiana specimens. There are no specimens either from Mississippi or Alabama here.

55

February 26, 1914.

I have been looking over the Louisiana Hickories and I do not get very much comfort from them but send you the following notes:

Opelousas, East. #5: this is the tree with close smooth bark but with the buds, fruit and foliage of the Shagbark, *C. ovata*. This is the most interesting perhaps of the Louisiana Hickories, for if it is a species or even a variety it changes all our ideas about the Shagbark Group of the genus. If we should consider it a hybrid what would be its parentage? We saw but one tree and it is most desirable to locate others in that Group and try

to get flowering specimens and young leaves this spring. 1 and 3; on the bank of the bayou. We thought these were the same, but notice that the rachis and midribs of the young leaves of #1 are very pubescent, and that of #3 are perfectly glabrous. #4 appears to be the same as #3. #3 and #4 have very large buds and I cannot place them, or #1 either, although #1 may possibly be a tree which is common on Mobile Bay.

Opelousas, West. #1 and 2, the two trees standing near each other in an open wood not far from the swamp which you crossed in the spring to find the large tree of *Crataegus brachyacantha*. #1 has pear-shaped and #2 subglobose fruit; they are probably the same and I believe an undescribed species or a form of the Winnfield Yard tree, distinguished by hairy branchlets and the yellow scales on the fruit. I have seen what seems to be the same thing from Florida and Georgia. It is very important to collect these two numbers in their spring condition that we may see if the young leaves are covered with yellow scales like those of the Winnfield yard tree. #4, "rich woods west of Opelousas; close pale bark; young leaves fragrant and red like the Lake Charles tree." This we did not relocate in the autumn.

Winnfield. The yard tree; this so far as I can tell now is an undescribed species. We have sufficient material. Like so many other species it has both globose and pear-shaped fruit, for I take for granted that the trees in the yard are of one species. #2, "tall tree in woods". This may be the same as the yard tree but I am not sure. The leaves look all right but I can find little trace on the buds of the yellow scales which are so conspicuous on those of the yard tree. The fruit of #2 is depressed-globose. I should like to see the young leaves of this tree. I do not remember where it is. Was it at the last place we went to in the afternoon, in open ground on a slope north (?) of the town where we found also a large Plum tree? On April 6th at Winnfield, "in dry woods", we collected a specimen with young leaves white tomentose on the lower surface and only sparingly pubescent above. The branchlets are red, slender and glabrous. This I suppose is one of the trees in the low ground before we got to the quarry. In the autumn we collected in this region *C[arya] alba* but the tree we collected from in the spring is not *C. alba*. What is it? We missed it in the autumn.

Munroe. In dry woods near Munroe we collected specimens of *C. alba* and of a tree of the Pignut Group with very slender pubescent branchlets and small buds; leaves with broad leaflets and pubescent petioles and rachis. Old nuts from the ground of what was probably this tree are very small. This appears to be a common tree in dry woods near Munroe. I do not know it.

Bernice #2. Only young leaves and flower-buds. Can this be the same as the yard tree at Winnfield? The region for it would, of course, be all right. It ought to be looked up.

West Feliciana. #1 looks like *C[arya] porcina*. The buds are much larger than those of the northern tree. #2, no nuts. Can this be the Winnfield yard tree? #3, *C. ovata*, no nuts. #4; the nuts look like those

of *C. megacarpa*. I find no foliage of this. #6, *C. porcina*? #7 and 8: I do not know if these may not be the same as the Munroe Pignut. They are pubescent like that tree, but the nuts are much larger than the old ones we picked up from the ground.

Bayou Lacombe. I can say nothing about two very fragmentary specimens, Nos. 1766 and 1785.

Lake Charles. I think that we have to begin all over again. You turned to the right at the river after passing Irish Bayou and I to the left. Along the river I found trees with bright red, fragrant leaves on April 2d, and pale close bark. Is it possible to say if the tree you collected from is the same? This Lake Charles tree must be undescribed. I believe the same thing is west of Opelousas.

Lucknow.[5] Of the tree with small, rather thick-shelled pear-shaped fruit which I have sent to you I have not seen foliage and know nothing about it.

Natchitoches. #1 and 2. I have no idea what these are. #5 seems to be a pear-shaped *C. alba* with rather small buds. #6 looks like *C. pallida*, but it is the only station west of Selma I know for it and it should occur at intermediate stations. Does this tree have pale bark and does it grow in low ground or on high ridges? I should like to see young leaves. #7, *C. ovalis* with small fruit. #10: I think this is a new species which grows also at Fulton, Arkansas. Young leaves and flowers are important as well as notes on size, habitat, etc. #xi, a pear-shaped *ovata*! What is the bark like. #3, Grandcone.[6] The fruit looks like that of one of the forms of *C. ovalis* but the buds are covered with yellow scales. Unless it is another *C. pallida* it is too much for me. Natchitoches seems to be the storm centre for everything that ought and ought not to grow in Louisiana.

I do not want to describe any new species or varieties of *Carya* until next winter, so that we may have the benefit of another season's field work. It is important that the trees of Lake Charles, east and west of Opelousas, Lucknow, Bernice and West Feliciana, should be visited this spring. Winnfield is less important and there is still much to be done there. If you are able to get good spring material it may be desirable for me to go to Louisiana again in the autumn and take another look at some of these trees, for I feel that we are not going to get any right conception of them except by constant field observation. West of Opelousas there is the new apple (#2) of which flowers are needed, and it would be well to get apples from Crowley as your correspondent seems to have given out.

I expect to go to southern Florida this spring, leaving here on the 16th of March, and to stop in Georgia and South Carolina probably on my way north. You may think that Louisiana Hickories are bad, but I am inclined to think that those in south-western Missouri and in the southeastern states are even more troublesome.

Let me hear what the prospects are of your being able to do a good deal of field work this spring. Harbison is to go to Selma for your Plum flowers

[5] Sw. of Rayville, Richland Parish.

[6] Error in original letter for Grand Ecore?

as soon as he hears from a friend there that the season is opened. I hope you do not feel that we know anything yet about the Louisiana Plums.

56

April 16, 1914.

I am back from the south where, although the spring was very backward and the weather rather cold, I saw much to interest me and was able to extend southward the range of a number of trees. Just before I left I had a note from you saying you were sending me flowers of *Acer Drummondii*, but the package has not yet arrived. I suppose it will turn up in time.

I am inclined to think you are right in supposing there are two quite distinct *Lindens* in Louisiana, one quite glabrous and the other covered on the lower surface of the leaves with stellate pubescence. The former is well represented at Lake Charles; the latter we found at Winnfield and Opelousas, and you found it at Natchitoches. This appears to be the common species of eastern and southern Texas, except on the coast where *Tilia pubescens* occurs. It is desirable to get flowers of the pubescent form from Natchitoches or some other convenient station.

I am more than ever convinced how little we really know about our southern trees and how much there is still to do. I think I found on the Caloos[a]hatchee River in Florida what must be a new Water Hickory or, if not a species, a very distinct variety. I see Small credits Louisiana with *Cyrilla parvifolia* but we have no specimens from the state in our herbarium.

I am anxious to hear what success you have had with the Hickories this spring.

57

May 20, 1914.

I have taken a look at your Hickory specimens. No. 6 at Natchitoches, if the flowers and fruit are from the same tree, is something I do not know at all. It has slender branchlets and small buds of a Pignut but the young leaves are as pubescent as those of *C[arya] alba*. The nut is very much compressed and the husk splits readily. If there are many trees like this, I do not see why it is not a new species.

No. 10, Natchitoches. Is there not a mixture here? The flowering specimen is *C. alba* but the fruiting specimen is one of the Pignut group.

There appear to be no flowers of xi. Natchitoches and 3 Grand Ecore, and no fruiting specimens of 12, 15 and 16 Natchitoches and 20 Grand Ecore. Note that 12 Natchitoches and 20 Grand Ecore have the yellow scales on the young leaves of the yard tree at Winnfield and of the trees with the round and pear-shaped nuts of West Opelousas. I should suppose there was something in the scales of the young leaves of specific value which may help us.

East of Opelousas B, 9, 13, 14 and xi. seem to be new numbers of which there are no fruiting specimens.

West Feliciana 10 and 13 are, I suppose, new numbers but we have no fruit to match them. I believe that the round and pear-shaped fruits of 1 and 2, West Opelousas, belong to one species and that there is no character in the shape of the fruit in Hickories.

I hope you are well and not too hot.

58

June 17, 1914.

I have read with much interest your Notes on the Flora of Louisiana, No. 1,[7] but why not follow the rules of the Vienna Congress, as you do in some cases, and call *Quercus acuminata Q. Muehlenbergii* and *Magnolia foetida M. grandiflora*? Also why not write "*canadensis*" in *Cercis canadensis* with a lower case *c* when you write *caroliniensis* with one?

I do not seem to remember *Pinus glabra* from West Feliciana. Did I have a specimen from there? Of course I know it is in Covington and in Jackson, Mississippi.

I am looking a little into *Tilias* and I find two specimens of yours which I think with our present lights will have to be called *T. americana*. One was collected at Alexandria in June 1905 and the other at Wakefield, West Feliciana, June 1907. Unfortunately neither specimen is numbered. Do you suppose it would be possible to locate these trees? You once insisted that the St. Charles *Tilia* was different from the one at Natchitoches. There are certainly two species at Lake Charles, one like the Natchitoches and Shreveport tree with very thin leaves with scurfy pubescence on the lower surface which soon rubs off or on some individuals is persistent, and the other which is entirely glabrous. The former is *T. leptophylla*; the latter seems undescribed. You collected this last in flower May 12, 1911, but not in fruit. We have, however, a poor fruit specimen collected by Andrew Allison in the vicinity of Lake Charles (No. 322, no date) which came to us from the National Museum at Washington. Do you remember the tree from which you collected the flowers and can you locate it? We collected on March 26, 1911, *Tilia leptophylla* at Lake Charles and no doubt you were looking for our tree when you made a specimen on May 12th of that year. This May 12th tree should certainly be looked up and investigated further. *Tilia leptophylla* appears to be the species of Opelousas and Winnfield, and I presume is the common Louisiana Linden.

There is a *Tilia* collected at Selma by Harbison with large leaves oblique at the base and covered below with silvery white tomentum, which occurs also on the petioles and peduncles, and the young branchlets are stellate-pubescent. I do not think that this can be *T. heterophylla*. The specimens were collected May 5th in young bud. This tree should be investigated and collected. Is it too late for the flowers now? Fruit, of course, is also needed. Judging by Harbison's material, this tree can hardly be referred to any of the described species. It is evident that there are several more Tilias in the southern states than were formerly recognized. I am working on Hickories and am going to write you about them very soon.

[7] Published in Plant World 17: 186–191. 1914.

If your wife has been in Washington I presume she has entirely recovered. I certainly hope so. I hope you are going to have a good summer in Alabama. I am going over to England for a few weeks on the 9th of July but shall be back in time for the south in the autumn.

59

June 24, 1914.

I have yours of the 20th and the specimens. The Linden from Selma looks like *Tilia americana*. I suppose for the present, at least, it will have to be so-called. Your specimen from Avery Island is not like either of the Lake Charles species, and if it is common west of the Mississippi River I have not seen it there before. I have seen specimens of what I believe to be the same thing from River Junction, Florida. I hope you will gather and press a number of specimens with flowers or young fruit of *Tilia* which you say is common on your place, for we have by no means got to the bottom of this Linden business yet.

Your *Amelanchier* looks most like *A. sanguinea* which is a northern species. You better send me specimens of your *Azaleas* or anything else interesting.

Can you not arrange to stop here on your way south from Maine? I expect to be back on the 25th of August and it will be a great pleasure to see you and your wife here, and it would give us an opportunity to talk over many things about the autumn campaign. I suppose you could stop in Boston as well on the way south as on the way north.

I hope I shall hear from you again before I leave on the 8th of July.

60

June 29, 1914.

Many thanks for yours of the 24th with the Lindens. No. 2 certainly looks like [*Tilia*] *leptophylla*, and No. 3 like Harbison's plant. This seems to me the same as your Avery Island species. If I am right in this it makes its distribution from western Louisiana to western Florida. The general outline of the leaf looks like that of *heterophylla*, but the tomentum on the lower surface is less dense, and this new tree has more or less pubescent branchlets, peduncles, pedicels, etc. The range, too, is quite different and I do not see why it is not a good species. I hope you will keep watch of it.

I want to describe as new a Hickory from Starkville, Mississippi, a large tree with dark rough bark and ovate fruit with a husk of medium thickness, and a slightly angled nut. The Starkville tree is peculiar in the *ovalis* group, to which it belongs, in the tomentum on the lower surface of the young leaflets, and in the dark rough, not scaly, bark. Your No. 10 of Natchitoches, although I have no young foliage, can probably be referred to this species. Do you remember anything about it?

I do not remember if I told you that I think we must call the Winnfield yard tree and 1 and 2 from West Opelousas *C. arkansana*. They all vary among themselves and from the type, but unless we are going to make a

species of practically every Hickory tree a good deal of allowance has got to be made for variation.

I hope you are keeping a sharp lookout for Selma Hickories for I feel practically as much in the dark about the southern species as I did two years ago.

61

July 7, 1914.

I have yours of the 2d and the package of Lindens. The perfectly glabrous and very coarsely toothed leaves are those of what we have considered *Tilia americana*. I think it can be so considered until we find out something to the contrary. The species which you have not sent before with leaves brownish below and covered with very fine pubescence is *Tilia Michauxii*, and the white-leaved species is certainly the same as that from Avery Island and River Junction, Florida. I have n't seen this tree from any part of Louisiana but Avery Island.

I expect to be back here on the 24th of August, and if by any chance your return has been delayed please let me find a letter from you then telling me where you are and what your plans are.

62

November 6, 1914.

We got home safely a couple of weeks ago and saw more Hickories in Texas and in Arkansas than we did in Louisiana this time. About the Louisiana species I shall write you later.

I have arranged to send Palmer to Natchitoches early next spring and to let him make his headquarters there through the season, or long enough to solve the botanical problems of that mysterious place. I think we can depend on him to make a good collection.

I wish you would send me a specimen of the arborescent form of *Rhus glabra* either from Alabama or Louisiana. I should like, too, Louisiana specimens of the variety of *Taxodium* which you first reported from the state. The further west the specimen comes from the better. I should also like to have for purposes of future reference a specimen of *Pinus glabra* from Bayou Sara, as this so far as I know is the extreme western station reported for this species.

We are having wonderful weather here but it is still dry. Do not work too hard over your class. Real botany is much more important.

63

November 25, 1914.

Many thanks for the western specimens of *Prunus*. I hope to live long enough to get these things straightened out but the prospect at present does not seem to me very good. It is a tough proposition.

It is not surprising that *Carya texana* should be found near Shreveport. I believe it is a very widely distributed tree.

I am very sorry to hear about the losses in your family. It is an awful business altogether and I am afraid the end is still far distant.

64

December 21, 1914.

I am taking another look at your *Prunuses* from Alabama and Louisiana and report as follows:

Sardis 1 and 3, *P. angustifolia*, the latter with unusually broad leaves, but I suppose it is a vigorous shoot.

Umbellata, 2, 4, 5, 8, and 11 from River Road.

VI., *munsoniana*.

15 and 16, leaves only, may be the same.

VII., the new Cherry, no flowers and the tree destroyed.

9, evidently the Big Tree Plum.

Natchitoches 1, *munsoniana*.

Natchitoches 6 and 7, only flowers.

Natchitoches 3, 4 and 5, *P. tarda*.

Shreveport 17 and 20, *P. tarda*.

Ruston 2, fruit but no leaves.

10, *munsoniana*.

4 may be *P. americana*. This number is worth looking up.

9 may be a small-leaved Big Tree but there are no flowers or fruit.

The common Plum of Louisiana is what we have called for the present the Big Tree Plum. I refer the following numbers to it: 20, 21, West Feliciana. 1, the Butler place. 4, Laurel Hill. Ventree's Plantation, April 27, 1910. Laurel Hill, ii., iii. 1, open woods, Hammond. ? Butler place, 2. Covington, March 28, 1911. Natchitoches, 11. Ruston, 6 and 8. Ventree's plantation, i., ii. Pineville, September 20, 1912. Archibald, 18. Shreveport. k., iii. Alta, 93, 14. Clear Lake, 1. Mhoon Plantation, i., ii. This is a common tree from Missouri to San Antonio, Texas, and, judging from your #9 from Sardis, extends into Alabama, although this is the only Alabama specimen I have seen. It appears to vary greatly in the size of the fruit, in the time of flowering, and in the time of the ripening of the fruit. I tried to make two or three species of it but I am afraid they are not very good, with the exception perhaps of *P. reticulata* which has distinctly thicker leaves, smaller flowers and very late-ripening fruit. It ought to be possible to find some characters in the bark, and #2 from the Butler place may be distinct.

I do not think the color of the fruit makes much difference in Plums as most of the species have red and yellow fruits. *Prunus munsoniana* is probably only introduced into Louisiana and Alabama as it is a more western species which has been cultivated for a great many years and is beginning to establish itself in many different parts of the country.

I am still in doubt about the right name for the Big Tree Plum. It may be the *Prunus mexicana* of Watson, based on a very poor specimen of northeastern Mexico, or it may be that my *Prunus arkansana* is the name for it.

It is unfortunate that the red-fruited Plum which Bartram found on one of the islands off the Louisiana coast has disappeared.[8] This was described by Rafinesque as *P. coccinea* which, if it is the Big Tree Plum, would be the oldest name. It may, of course, have been a red-fruited form of *Prunus umbellata* which appears to be common in the east Gulf States.

With the compliments of the season and all good wishes for the New Year, I am,

65

January 1, 1914 [1915!]

I can report about your West Feliciana Hickories as follows:

2, 3, 6, 10, 13 and 20 I refer to *Carya megacarpa* Sargent, although of #3 we have no fruit. Next to *Carya alba* this is the commonest coast Hickory from South Carolina to Louisiana, extending into western Mississippi and probably into western Louisiana. It appears to run into *C. porcina* and I am now thinking of making both, that is *porcina* and *megacarpa*, forms of *C. ovalis*.

West Feliciana #1, April and October 1914, which is very pubescent, is either another species, or, judging by the nuts, a variety of *megacarpa*. Notice that #1, April 20, 1913, is perfectly glabrous. I have n't kept this specimen.

#7 and 8 are the pubescent tree like #1 of 1914. 1785 of 1908 is evidently the same, but as there is no fruit I have not kept it.

1766 of 1907 is evidently *megacarpa*. I have n't kept this.

I believe that *C. arkansana* or *C. texana* get into Louisiana at Natchitoches but I am not ready to say much yet about the western Louisiana Hickories.

I hope that you are well and that 1915 is going to treat us all better than 1914 has, although present appearances for the happiness and prosperity of the world do not seem particularly good.

P.S. — I suspect that numbers 3, 4, 9, 13 and 14 of East Opelousas are the same as #1 of West Feliciana.

66

January 7, 1915.

I have yours of the 14th. Am very sorry to hear about the grippe.

Prunus is very difficult, especially when one does not see the plants growing. I have no doubt from what you tell me that your 1 and 3 of Sardis must be separated from *angustifolia*, for the time of the ripening of the fruit certainly ought to have some specific significance. I will look at the specimens again.

It is my plan to let Mr. Palmer, who is collecting for the Missouri Botanical Garden and the Arboretum, make his headquarters at Natchitoches

[8] *Travels* 423. 1791. Francis Harper (Naturalist's ed. *Travels* 598. 1958) suggests *Prunus hortulana* Bailey. Rafinesque (*Fl. Ludoviciana* 435. 1817) quotes Bartram almost word for word, even to the "subulated point" of the leaf!

this year in the hope that he will be able to make a pretty complete collection of the flora of that region. As he can reach Shreveport easily from Natchitoches I understand it ought to be a good place of operations for work about Shreveport and eastern Texas. I think if he can make a good collection in that part of the state it ought to simplify work for us in the other parishes. I wish you would tell me how early you think he ought to get to Natchitoches to get the earliest things, which I suppose will be *Prunus* and perhaps *Salix*. I should like to have him there early enough to get all the Plums as they come into flower.

67

January 11, 1915.

Thanks for your letter received on Saturday. I went to look at those Plums again before finally deciding about *reticulata, arkansana,* etc. The type of *P. mexicana* is in the Gray Herbarium; it is a miserable scrap. The leaves look a good deal like what I call *arkansana.*

Carya #1 from Lake Charles, the tree with stellate pubescent petioles and rachis, young leaves very red and fragrant, growing in low wet ground. The branchlets are glabrous but pubescent in your specimen of October 1913. Is this the same? Flowers have never been collected and are needed. Your specimen from Lake Charles, October 1913, is probably this #1. I do not know anything like this but we ought to find it in other places if it is a species, for Hickories are generally pretty widely distributed. We ought to see more of this tree. My only other Lake Charles specimen from you is #2, September 1914. I have also two unnumbered specimens of fruit collected at Lake Charles by you in 1913; they are both pear-shaped and one is much larger than the other. Do you know to what they belong?

#4, east of Opelousas, with red and fragrant young leaves, may be this #1 of Lake Charles but the pubescence is quite different. The fruit is pear-shaped but then the shape of the fruit does not count for much apparently. Is n't #5 from Natchitoches the same as #1 from Lake Charles?

#1 of East Opelousas, the tree with globose fruit, between the road and bayou and close to the road, may represent a new species. I do not find flowers and young leaves of this. Did you ever collect them?

This is only a slight dose of what I will give you soon on the Hickory situation. If you think the trees in one state are difficult, how about the whole country? It is a tough proposition but I hope we are making a little headway.

68

January 14, 1915.

I have had to give up the idea of our #5 of East Opelousas as a form of *C. ovata* with smooth bark. The nut is reddish, not white, and not sufficiently angled for *ovata.* The leaflets are constantly seven, while it is rare

to find seven leaflets in *C. ovata* and of a different shape; and the branchlets are too slender. I understand that your numbers 9, 13 and 14 from the same region are trees with smooth pale bark.

5 and 9 from Natchitoches which you think the same as 5 from Opelousas I believe are *C. megacarpa*, although the leaves are somewhat pubescent. The fruit of these numbers is distinctly pear-shaped and shows the yellow scales of *megacarpa*. I hope that in these scales we have found a good specific character. I have drawn up a description of Opelousas #5, for which I shall propose the name of *C. leiodermis*. I do not see why it has not got to go into a new group but I want to know more of this tree.

#2 of Natchitoches seems like a tree which is growing at Starkville, Mississippi, which I am calling *megacarpa stellipila*. The fruit of your specimen is smaller but the pubescence on the young leaves is the same, and your plant is certainly some kind of a *megacarpa*.

#1, Natchitoches, *C. megacarpa*.

#7, Natchitoches, *C. ovata*.

#13, Natchitoches, *C. megacarpa*.

#10, Natchitoches, the leaf specimen is *C. alba*, but the fruit under this number seems to be *C. megacarpa*.

#1, West Feliciana, seems the same as #2 Natchitoches, that is var. *stellipila*.

#7, West Feliciana, *C. megacarpa*.

#8, West Feliciana, seems the same as 1, West Feliciana.

#4, West Feliciana, of which there is no leaf specimen, is probably a *megacarpa*. Have you leaves of this? If #4 is *megacarpa*, this leaves none of the West Feliciana numbers unaccounted for, but there are still many problems west of the Mississippi.

69

January 20, 1915.

I feel sure that there is some mixture in Natchitoches #6. The flowering specimen seems to be *Carya alba*, while the mature leaves and fruit under this number belong to an entirely different group. I do not suppose you remember anything about this.

70

January 22, 1915.

Have you any evidence that *Carya cordiformis* grows anywhere on the Louisiana coast? I have specimens from West Feliciana and from the neighborhood of Opelousas. I have nothing from Lake Charles or the Covington region.

71

January 27, 1915.

I have yours of the 22d. I have about finished now all I can do on Hickories until I get more information and then shall take up the Lindens, about which I will write you later.

I should not think there would be any necessity for your going to Natchitoches again if Palmer does his work as well as I hope he will, and in a week or so I will make suggestions for spring work. I very much hope to get to Louisiana myself again this spring for a few days but I do not know if I can manage it. If I do, of course we must meet somewhere.

I am sorry to hear that you are likely to find new Plums in Louisiana, the worst proposition that there is.

72

January 29, 1915.

I have yours of the 26th and write to say that I shall be very glad to have a specimen of *C[arya] cordiformis* from the Lake Charles region as it apparently is not a common coast tree.

I have placed the Winnfield yard tree and 1 and 2 from West Opelousas with *C. arkansana*. The Winnfield tree may be all right but I am not very well satisfied with 1 and 2. *C. arkansana* usually grows in high dry ground and has dark deeply furrowed bark. These Opelousas trees were in low ground and had pale bark. I do not know what else to do with them unless to make a new species of them, and I do not like to do this until we can find more individuals. This is a thing still to attend to.

73

February 6, 1915.

I have been through the Louisiana specimens of *Crataegus* again and I do not think that the situation is entirely hopeless. The trouble is that the plants of which we have insufficient material are pretty widely scattered, making it difficult to get what is necessary for their determination. Palmer will look after Natchitoches and I suppose can get to Shreveport where there are still a number of species we do not know.

I have placed *Crus-galli* #3 from West Opelousas with *C. tersa* of Beadle which we found in the same locality, and your *Crataegus* 39 from Natchitoches with *C. edura* Beadle.

In 1901 I collected at Shreveport a *Viridis* species which I now think is *C. velutina* Sarg., the type of which grows on the Red River at Fulton; and Bush has apparently collected it at Natchitoches "by iron bridge." This is a new species for Louisiana. I collected at Shreveport another *Viridis* species with villose corymbs, color of the anthers not given and no fruit. It was in bloom on April 20th and seems distinct. And also on the same date another *Viridis* species with very broad, ovate leaves which had been out of bloom, I should suppose, for two weeks. These two appear to be undescribed species.

At Munroe in 1901 I collected sterile branches of a shrub two to three feet tall with three-lobed leaves on the young shoots. It looks like a *Viridis* species. What is it?

From you I have #16 & 23, a *Viridis* species collected June 1908 at Richlands, with half-grown fruit only. Do you know anything of these?

Natchitoches *Crus-galli* species. You do not give the color of the anthers of xii., xiii., xvi. and xvii. Can you?

Minden. I have several fragmentary *Crus-galli* specimens from Minden, collected by me in April 1901 and by Bush in August of that year. I believe you have never been there. In August Bush collected there "on right hand side of road to prairie west of town, just before getting to spring," a *Viridis* species "with bark and branches rough, dark, scaly and flaky, exactly as in *C. aestivalis* which is beside it." This sounds like the *Viridis* species we saw at Munroe growing with *C. aestivalis*. The specimens look alike. Flowers are much needed.

Pineville. I collected on April 3, 1885, in bud a *Crus-galli* specimen with small, broadly obovate leaves pale and glabrous below and villose few-flowered corymbs, no spines and red branches. Is it not time that this specimen should be cleared up?

You do not give the color of the anthers of your #19 Pineville, April 24, no year.

No number and no fruit from a *Crus-galli* specimen collected by you out of bloom April 5, 1912. This must have flowered very early for a *Crus-galli* species.

I collected in 1901 at Shreveport a very narrow-leaved and distinct *Crus-galli*, twenty stamens, color of the anthers not given.

All the undetermined and undescribed Louisiana species belong to the *Crus-galli* or *Viridis* groups and there are not many of them. The only exception is the plant from Holtonville which had pretty well grown fruit on March 20, 1911, and is therefore a very early flowered species. It may be a *pruinosa* but I am not sure. If it is, it is the earliest flowered of the whole group and hundreds of miles from any other species of the group. This certainly ought to be investigated this year.

Munroe, where there are also *Crataeguses* to investigate, Minden and Pineville seem to me to be the *Crataegus* regions for you to visit this spring if you can manage it. At Munroe there are Hickories to look for and these I will write you about soon. These three places are not very far apart and might, I should think, be conveniently taken in on one trip.

I hope to be able to meet you at Lake Charles, or some other convenient place, about the middle of April.

74

February 19, 1915.

I believe now that we have the Hickories from east of the Mississippi pretty well in hand with the exception of one or two Alabama and Mississippi species or varieties, but there is still a bad lot of them in western Louisiana, southern Arkansas and Texas. I cannot believe now that 1 and 2 of western Louisiana can be referred to *C. arkansana*, variable as that species appears to be. The bark and place of growth won't do. Notice the prominent tufts of white hairs on the margins of the leaves of #2 collected by you in April. These are absent from the young leaves of the Winnfield yard tree which seems to be a good *arkansana*. It is important

to find more of these West Opelousas trees and to learn something about them. Can you undertake this?

#4 of East Opelousas seems the same as West Feliciana 1 and 8, *megacarpa stellipila*.

#1 of East Opelousas I am making a new variety of *C. ovalis*, var. *subglobosa*, distinguished by its large fruit and by the stellate hairs on the rachis and midribs of the leaves. I am sorry we have no winter-buds of this.

#3 of East Opelousas is a pretty good *megacarpa* and I am so considering it. The buds, however, are very large.

This seems to clear up East Opelousas, at least for the present. One new species and a new variety from there are pretty good I think.

One of the interesting things to follow up is the tree "in dry woods" at Winnfield (I suppose this means near the quarry), with leaves hoary-tomentose below and slender branchlets. We thought when we collected it that it was some form of *alba* but of course it is not that. It is nearest *stellipila* but that so far as I know never has the dense hoary tomentum on the under surface of the leaflets. This is certainly an important tree to follow up.

I will write again on the Lake Charles and Munroe Hickories.

75

February 20, 1915.

I cannot make much out of the St. Charles'[9] *Caryas* partly because the specimens are not all properly numbered. This is my fault, however, at least very largely.

Your #1 of October 1913 is certainly a different species from your #1 of September 1914. The fruit #1 of October 1914 belongs, I judge, with the September specimen although it is marked 1 October. Why cannot this be the same as East Opelousas #1, *C. ovalis subglobosa*? Perhaps my specimen collected April 2d, 1913, by river, with bright red unfolding leaves may be the same, and I am not at all sure that your specimen without number, October 1913, may be the same as your #1 of that date. #1 of October 1913 has very pubescent branchlets and buds. I have two lots of Lake Charles pyriform fruit from you marked Lake Charles, English Bayou, and West Lake Charles. These are not numbered but perhaps you can tell me to which specimen they belong. I fear, however, that the whole Lake Charles situation is so mixed up that it can only be straightened out in the field.

On April 2, 1913, the Hickory leaves of Lake Charles were nearly fully grown. To be really useful they should be collected in an ordinary season by the middle of March I should think. Can you run over there for a day about that time and get very young leaves of all the Hickories and then meet me there about the middle of April? It seems to me that we should be there together.

[9] Surely a lapse for Lake Charles?

Carya from Bernice ii. April 9, 1913, is no doubt *C. arkansana*. I can tell nothing about the Munroe material which is too fragmentary. Possibly the tree in the field, the first one we collected from last autumn, is an *arkansana* but I am not sure. In these woods there is a small-fruited species with pale bark which I do not know at all.

If we meet at Lake Charles we might go to Munroe together and then I could get into Mississippi without going to New Orleans. Have you ever been to Delphi which is east of Munroe, and have you ever collected about Fort Hudson? I was there fifty-two years ago but of plants have no recollection except of the Magnolia which was very fine.

If such curious Hickories are found at Natchitoches, Lake Charles, Opelousas and Winnfield, why are there not others in other places in the state, and why is it not up to you to look out for them? I hope Palmer will pretty thoroughly cover Natchitoches and Shreveport and the regions between Shreveport and Texarkana, in Caddo Parish, where I believe that some of the Fulton, Arkansas, trees will be found. I believe you have not been in that corner of the state and I doubt if this has ever been visited by a botanist. So far as I now know the Hickories which need more investigation are 1 and 2 of West Opelousas, that is other stations where this tree should be found, the Lake Charles and Munroe species, and the tomentose Winnfield tree.

The situation is bad, but not as bad as it was. I hope you will be able to make the early visit to Lake Charles.

76

February 23, 1915.

I have yours of February 17th about the earliness of the season and am writing Palmer to advance the time of his arrival in Natchitoches.

I am surprised to find that there is no specimen in the herbarium here of *Castanea pumila* from Louisiana where it must be a common tree.

77

February 25, 1915.

Our large Opelousas *Malus* #2 seems to be the same as the Pineville tree which we have called *M. ioensis creniserrata*. It is certainly a very distinct looking form and perhaps when these things are better known than they are now would be considered a species. The trouble is that of these so-called species of *Malus* there seem to be many intermediates.

78

February 25, 1915.

We are still in doubt for want of material about the common *Malus* at Selma. Judging by the leaves, it is the same as *ioensis* var. *Palmeri*, which is the first species which we collected west of Opelousas, and west of the Mississippi appears to be a common tree.

I am afraid Harbison cannot get to Selma this spring. Is there any one

there who could send you the flowers? There might be some one there who would know enough to gather them fresh and send them to you for pressing.

79

February 26, 1915.

In writing you about *Castanea pumila* I overlooked the fact that we have a leaf specimen collected by you at Covington March 1911. The leaves are remarkably glabrous and very green on the under surface of that species. Sometime perhaps you will be able to get better material.

80

February 27, 1915.

I have this morning your letter of February 23rd about Lake Charles, etc.

I think now in Hickories that we can put a good deal of reliance on characters which have usually been passed over, like the scales on the unfolding leaves and on the winter-buds, therefore I think it desirable that we should get very young foliage of the Lake Charles Hickories this season if possible. That is why I suggested the middle of March but I daresay that would be too early. You can judge of that, however, in New Orleans much better than I can here. I should like very much to go there with you in April for I am particularly interested in those trees, and I think we ought to see them together.

I do not know if it is really necessary to go to Winnfield in the spring as we have material of that tomentose plant, but if we are in Alexandria and going to Munroe it would not be too much trouble to stop off there for a few hours if the trains are running conveniently. I should hate the idea of passing a night there.

The Hickory difficulties are narrowing down now unless some one is unfortunate enough to unearth a new lot of them.

81

April 23, 1915.

We got home safely last night direct from Selma via Montgomery. We had a couple of days in Selma and of course went out to your plantation. I do not think we saw many of the Plums because Harbison did not know apparently how to locate them. As he went about with you at Sardis he did not pay especial attention to exact localities. We saw your caretaker who was much pleased to know that I had seen you so recently and was very anxious for news of your wife. We did not get out to the bluffs on your place but went to Hatch's Bluff, which I suppose has about the same vegetation as yours. There does n't seem to be but one *Tilia* there which looked very much like No. 2 at Lake Charles, but on the other side of the river we found another species with leaves very silvery white and tomentose on the lower surface, and like one of the Florida and Georgia species.

What most interested me at Hatch's Bluff was a tree which looks like a Scarlet Oak but has fruit unlike that of any other Oak I have seen. If it is a Scarlet Oak it is certainly a very distinct variety and possibly it will have to be called another species. I will send you in a day or two a couple of the acorns and cups, and I especially invite your attention to the study of this tree. We only saw one specimen which was standing at the edge of the bluff about two or three hundred yards, I should think, from the point where we reached it across a plowed field close to a negro's house.

We saw the Oak which you called *Quercus Durandii*. It is certainly not the Texas tree of that name or one that grows near Columbus, Mississippi. I suppose, however, that it may be the *Quercus austrina* of Ash[e]. There was only one Plum in bloom and that was a good sized tree on the left-hand side of the road which leads past your place, which we reached by turning to the right at your gate. This tree was in the bottom, and in the bark looked a good deal like *Prunus americana*. I will send you in a few days a bit of my specimen, also the acorns of the peculiar Oak.

Another Plum which interested me was a very large tree with dark, slightly scaly bark, on the right-hand side of Marion Junction Road, just after the crossing of the second bridge on the Orville Road, one mile west of the city limits going out by the Orville Road. This is a large tree at the foot of a rather steep bank and is rather inclining towards the road; it is quite new to me. It was out of flower but I will send you a piece of the specimen. Perhaps you will be able to refer these two specimens to some of your numbers.

We found Mississippi and Alabama very hot, dry and dusty, and in our minds Lake Charles is still the pleasantest place we saw on this trip. I will write you again when I get things somewhat straightened out.

[*To be continued*]