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About the Institute

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

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

Ans 5-7-06.

GRAY HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.,

April 5, 1906.

Dear Mr. Ball:

Kindly pardon my long delay
in replying to your inquiry about
good collections of New England willows.
When your letter came I confidently
expected to have an opportunity to
go over my own collections from
Northern Maine and to send you ere
this some of those species. That, how-
ever, I have as yet been unable to
do, but I have you in mind for
duplicates of the willows when I
have an opportunity to get at my
material.

There are two New Englanders
who are preparing very carefully

(See over)

selected material and from whom
You can doubtless secure good specimens
F. F. Forbes of Brookline, Mass., is
putting up the most perfect specimens
in the group that I have ever seen,
and he has told me that he can
furnish you with most of our species
of eastern Mass.

Mr. Ora W. Knight, 84 Forest Ave.,
Bangor, Maine, is much interested
in the group and can get some good
northern things, but his specimens are
not up to Mr. Forbes's standard.

Pres. Ezra Davenport, Middlebury, Vt.,
always has carefully prepared material,
but I am not sure that he has turned his
attention to willows.

From northern Maine, I fear that
I alone have collected, and as I said,
I shall gladly send you material as soon

5-16-1926
as I am able to get at it.

Recently I have collected mostly
in Eastern Quebec. The set of
which the enclosed is an announcement
contains some good willows of that
region, and that you will find, probably
unorganized, at the National Herb.

I forgot Mr. W.W. Eggleston of
the New York Bot. Garden who has
collected the White Mt. and Green
Mt. species. His specimens are
carelessly made, but I know none
else to turn to just now for the White
Mt. plants.

Sincerely Yours,
M. L. Fernald.

November 29, 1909.

Dr. M. L. Fernald,
Gray Herbarium,
Harvard University,
Cambridge, Mass.

My dear Dr. Fernald:-

I had been purposing to write you with regard to your interpretation of some species of Salix, as soon as I could get myself free from the accumulation of work during a four months' absence. Just now, however, I have an immediate interest in two species and shall be very glad of any light you can throw upon them.

I note in your treatment of the genus in the new Manual, that you maintain E. Wardii Bebb. I have had for a year or two an undisturbed conviction that S. Wardii and S. longipes Shuttlew. were identical species. Can you give me, briefly, the facts that lead you to think otherwise.

In my studies of Rocky Mountain and other western material, I have come to the conclusion, as will appear in the new edition of the Manual of the "Rocky Mountain Flora," that S. fluviatilis Nutt and S. longifolia Muhl represented the same species. As your studies have apparently led you to a contrary conclusion, I will be under much obligation if you will point out, briefly, their distinctive features.

There are a number of other species about which I should like to ask questions or submit notes that would possibly be of interest when time permits.

Very sincerely yours,

Gray Herbarium



Harvard University

B. L. ROBINSON,
Prof. Syst. Bot. and Curator
C. G. PRINGLE, Collector
M. L. FERNALD, Assistant Professor
MARY A. DAY, Librarian.

CAMBRIDGE, MASSACHUSETTS, U. S. A.

Mr. Cateaton R. Ball,
Bureau of Plant Industry,
Washington.

Dec. 3, 1909

Dear Mr. Ball:

Your letter asking about my views of certain willows at hand, and in replying I wish to make it perfectly clear that I in no way consider myself a specialist on Salix. In fact I have always dodged the genus except when temporary conditions have forced me into it. In publishing upon it occasionally I have done so merely in an attempt to clear the particular geographic field in which I am working.

In revising the treatment in the Manual I tried to leave things as they were except where there was very positive evidence that changes were needed.

In regards Salix Wardii and S. longipes I have no field experience whatever. As shown by our herbarium material S. Wardii has ordinarily more whitened lower surfaces of the leaves, which are usually less closely toothed; the staminate aments of S. Wardii are much longer and more slender than in the plant which ^{Angerm.} ~~Debb~~ had marked S. longipes, those of the former ranging from 5-9 cm. long, of the latter from 2.5-4.5 cm. Similarly the white-leaved S. Wardii as shown in our material

3-51-29
Has more elongate pistillate aments (5.5-11 cm.), those
of S. longipes ranging from 3-6 cm. In view of
these herbarium differences and of the fact that I have
never seen the plants growing nor have looked into the
type of S. longipes I feel it wisest to leave S. Wardii
as a distinct plant, thus following Rebb who had
treated them as different species.

In case of Salix longifolia Muhl. (S. interior Pursh)
and S. fluviatilis Nutt. I simply accepted the conclusion
of the latest monographer of the group as probably more
satisfactory than ~~more satisfactory~~ than any hasty
conclusion I could draw from examination of plants I
do not know in the field. In reviewing the material
it seems to me that although the two may be geographic
varieties of one species it would be very unfortunate
and misleading to call them identical. For the eastern
S. longifolia has the leaves very regularly and definitely
toothed, the young capsule pubescent and the pedicels
usually short or obscure. The plant of the more
arid regions has the leaves less definitely and regularly
toothed, the capsules glabrous from the first and on slender
pedicels. All these characters are somewhat evasive
and it is probable that the two plants may be geographic
varieties of one species, but since nothing with the
extreme characters of S. fluviatilis occurs amongst
our eastern materials I cannot feel that the two are
identical.

Sincerely yours,
(over) M. L. Fernald

By the Vienna Code the name S. longifolia Kunth.
is valid, hence its maintenance in the Manual.

Digitized by Hunt Institute for Botanical Documentation

Feb. 25th., 1910.

Dr. M.L. Fernald,
Gray Herb., Cambridge, Mass.

Dear Dr. Fernald:-

Your very kind favor of Dec. 3rd. was duly received and I was indeed grateful for your prompt reply. In the pressure of office work however, I laid it aside and it has been neglected ever since.

On reading your opening sentences in which you disclaim especial knowledge of the Salices, I reread the letter I had written you and wish to apologize most heartily for what must have seemed to you a dictatorial tone therein. Nothing was farther from my thought. It was just because I have always admired your happy and conservative treatment of such species as you have discussed that I wanted your opinion. I regard your presentation of data in connection with new species as very near ideal. As examples, I might mention your elucidations of S. chlorolepis, S. additilis, S. serissima, etc.

I am sending separately a copy of my treatment of the genus in the New Manual of Rocky Mtn. Botany. That it is open to much criticism, no one knows better than I. I would gladly have maintained the species S. Fernaldii if I could have seen my way clear to do so. The two specific characters assigned by Blankinship

for his species are longer capsules and more oblong leaves. I found material from the Canadian Rockies representing both forms of leaves and of capsules. To some extent, both forms occur on the same plant.

I have been much interested in your notes on *S. longifolia* and *S. fluvistilis*. With most of the western material found in herbaria under the name *fluvistilis*, I agree that our eastern plant has little in common. Most of such material, however, I hold to be *S. exigua* Nutt. There is some material from the Northern

part of the Rocky Mtn. area and from the Pacific Northwest ~~that~~ ^{which} ~~is~~ ^{has leaves} rather more sharply and closely toothed than our eastern plant

~~are~~ of the same green color and of similar texture; the capsules are occasionally silky when young, and the pedicels vary from .5-1.5 mm. long. This plant I have regarded as conspecific

with the eastern plant. About Washington and in the vicinity of New Orleans I have seen the sand-bar willow capsules on quite long pedicels. In Maryland the species appears to have broader leaves than elsewhere.

Very sincerely yours,

Gray Herbarium



Harvard University

B. L. ROBINSON,
Prof. Syst. Bot. and Curator
M. L. FERNALD, Assistant Professor
MARY A. DAY, Librarian

CAMBRIDGE, MASSACHUSETTS, U. S. A.

Mr. Carleton R. Ball,

Bureau of Plant Industry,
Washington, D.C.

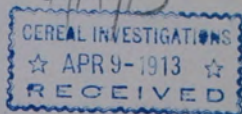
Dear Mr. Ball:

One day last week Mr. F. F. Forbes who has made a detailed study of the Salix petiolaris - subsericea question was here and I opened your package for his inspection. He found true or true sheets of what Mr. Forbes considers good S. subsericea but nothing to suggest S. pellita. This latter is a common species of northern Maine & adjacent Canada and I will look out some material in the undistributed duplicates and send this to you in the return package. Mr. Forbes said that he would send you good material of S. subsericea and he has probably done so by this time.

Sincerely yours,

M. L. Fernald.

Later: I can find only one lot of S. pellita, but that shows good elements,



April 19, 1913.

Prof. H. L. Fernald,
Gray Herbarium, Harvard University,
Cambridge, Mass.

Dear Prof. Fernald:

Your very kind letter of the 7th instant was duly received, and the package mentioned came to hand a few days ago. I have just had time to examine the material and wish to thank you most heartily for the splendid specimen of *S. ~~xellita~~* which you inclosed. This will enable me to become acquainted with the species and to recognize it whenever I meet it in the future.

I also note Mr. Forbes determinations of two of the National Herbarium specimens as *~~subsericea~~*. I am very glad, indeed, to have this identification. I have examined these very carefully, and also the specimens which Mr. Forbes has noted as hybrids between *~~etiolaris~~* and *~~sericea~~*. The more I study this and compare them with the specimens marked "*~~subsericea~~*", the more doubtful I am as to whether the hybrids between these two species can always be distinguished with certainty from the somewhat intermediate species *Salix Subsericea*.

Mr. F. S. Stanley of the U.S. National Herbarium recently called my attention to a query of Miss Mary A. Day as to the combination "*S. ~~Myrtilloides~~ ~~Xypoglauca~~ Fernald*" which I used in a discussion of a species of willow col-

Prof. M. L. Fernald--E.

lected by the Alpine Club's expedition to the Mt. Robson region, the plants of which were reported on by Mr. Stanley in a special number of the Alpine Journal. I trust you will pardon my carelessness in referring to that *S. Pedicellaris* *Hypoglauca* under the name quoted above. In making the tentative determination of this species I wrote down the name "~~X~~ertilloides" and afterwards added your varietal name without changing the specific name, a piece of carelessness which I very much regret.

I inclose herewith 20 cents in postage (letter) to cover the cost of returning the package. Thanking you very heartily for your kindness in this matter, I am

Very sincerely yours,

ORB/BLC

Gray Herbarium



Harvard University

B. L. ROBINSON,
Prof. Syst. Bot. and Curator
M. L. FERNALD, Assistant Professor
MARY A. DAY, Librarian

CEREAL INVESTIGATIONS

OCT. 28 1914

11/27/14

CAMBRIDGE, MASSACHUSETTS, U. S. A.

Oct. 28, 1914

Dear Mr. Ball:

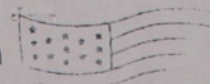
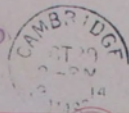
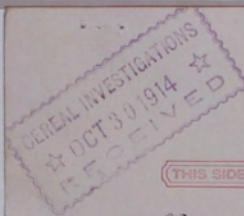
In attempting to clear up my Gaspé & Newfoundland willows some of which have been hanging on my hands for ^{more} ~~fifty~~ years I am forced to disavow several as hers. In the course of this work I have kept stumbling upon the Rocky Mountain species which you treat in ^{Copulset} ~~Tilson's~~ Manual as *Salix pyrifolia*. It is a beautiful species, but I find myself unable to pigeon hole it properly because it seems to have no immediate affinity with *S. pyrifolia*.

The latter species, as shown by the Sampeau material which I have seen as well as by Andersson's account, and the later studies by Bebb, is exactly *S. balsamifera*. We have a cotype of it and Andersson's description is clear: "foliis... subtus pallidioribus et crebre venuloso-reticulatis... stipulis minutis ciliatis" ... Hab. in America boreali ad lacum Winnipeg... et in regione fl. Saskatchewan". This obviously cannot be

the green-leaved shrub of the western Rocky Mountain region treated by you as *S. pyrifolia*. As to the identity of *S. pyrifolia* *obscura* of Andersson I am in some doubt but, judging from some specimens from the Canadian mountains which I take to be it, it is quite remote from your "*S. pyrifolia*". At Hall's names *S. rotundifolia* & *S. rotundifolia* *S. ovata* as well as the name *obscura*, should Andersson's plant prove to be the same, are all untenable for the shrub of Idaho, Washington, & Oregon as they are already used for recognized species. I am therefore marking the plant in our herbarium *S. Balliana* and have inserted a note on it in a batch of willow notes now (see over)

the printer. Before actually publishing the name, however,
I should be glad to have your approval for I do not want to
inflict you with a species which you cannot maintain yourself,
as has been done to me in some cases!

Yours sincerely,
M. L. Fernald,



THIS SIDE OF CARD IS FOR ADDRESS ONLY

Mr. Carleton R. Ball,
Dept. of Agriculture,
Washington,
D.C.

CAMBRIDGE, MASS., Oct. 29, 1914

Dear Mr. Ball:

I am sorry to say that on more detailed study I find it impossible to draw any real line between the green-leaved *Salix* of which I wrote yesterday and *S. Mackenziana*. I am therefore withholding the name I proposed & hope sometime to be able to bestow it on a stouter species. Sincerely yours
M. L. Fernald

Gray Herbarium



Harvard University

B. L. ROBINSON,
Prof. Syst. Bot. and Curator
M. L. FERNALD, Assistant Professor
MARY A. DAY, Librarian

CAMBRIDGE, MASSACHUSETTS, U. S. A.

Nov. 30, 1914

Dear Mr. Ball:

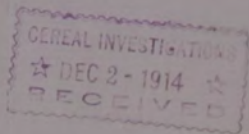
✓ We have a fine sheet of cotypes of Salix Mackenziana and we shall be glad to send down this and the rest of the material related to it if you wish.

As soon as the label forms come from the printer I shall send for the National Herb. cotypes of such of the northern specimens I have recently described as can be spared. If you wish I will send them to you asking you to see that they are placed in the Nat. Herb.

accepted with thanks
12/2/14 LFB

Kinestly yours,

Mr. L. Fernald



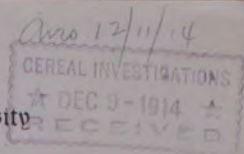
Gray Herbarium



Harvard University

B. L. ROBINSON,
Prof. Syst. Bot. and Curator
M. L. FERNALD, Assistant Professor
MARY A. DAY, Librarian

CAMBRIDGE, MASSACHUSETTS, U. S. A.



Dec. 8, 1914

Dear Mr. Ball:

I am having sent to you the material of Salix Mackenziana (including the greener-leaved plant), also in the package 12 sheets of Newfoundland willows for the National Herbarium. I shall be glad if you will look at this and the other eastern material of Salix vestita, which is Pursh's plant. I am keeping separate in the herbarium the bulk of western material, which is var. erecta Anders. I cannot quite keep it apart as a species, S. Fernaldi Blankinship, but its more elongate, less rufose & less sericeous leaves & its longer & more slender aments mark it as a good geographic variety.

Sincerely yours,

M. L. Fernald

1914?

My dear Dr. Fernald

I hope its frightfully cold in New England for I earnestly desire to keep a small pool of fire on your nose. This is the whyness thereof. In reporting on some willows collected by J. H. Riley in British Columbia I inadvertently, but wholly carelessly, referred to listed one as "*S. myrtilloides hypoglauca* Fern. (in Standley, Plants of the Alpine Club Expedition to the Mt. Robson Region, Can. Alp. Jour. (Spec. No.) 84-85, Feb. 17, 1913).

You promptly, pointedly and pointedly stated that you had never made such a combination, but rather *S. pedicularis hypoglauca*. (Fernald)

Was! Quite true!

But now I note with some chortles of unholly joy you twice made reference to *S. "reticularis"*, instead of "*reticulata*" (See *Rhodora* 16:179, Oct. 1914). This reconciles me again to the work of home.

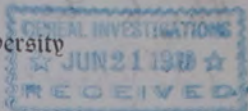
By the way, I greatly appreciate your
kindness if you will look at your No
5281 *S. balsamifera* var. *lanceolata* Bb
Mfd, Valley of Exploits R. Rushy Pond,
Aug. 28, 1901, and see if it is
not the same as the ^{Humphrey} specimen
I sent you from the vic. of Fole
Abillibbi, Quebec ^{on Sept. 15} ~~last fall~~ which
you said would seem to be a
hybrid of *discolor* x *petolaris*.
As I wrote you on Dec 17, 1926
I think this represents an undescribed
sp. related to *S. discolor*. I am not
studying it now but will be in
due time

This spec. is 099791 (C)

Gray Herbarium



Harvard University



B. L. ROBINSON, Curator,
Asa Gray Prof. Syst. Bot.
M. L. FERNALD,
Fisher Prof. Nat. Hist. (Bot.)
MARY A. DAY, Librarian

CAMBRIDGE, MASSACHUSETTS, U.S.A.

June 19, 1918

Dr. C. R. Ball,

Bureau of Plant Industry,
Washington, D.C.

Dear Dr. Ball:

I owe you an apology for my long delay in replying to your letter of February 18 in regard to various willows. We have been entirely without botanical assistance during the war, our stenographer, along with Mr. Mac Bride who was with us, has sought the larger salary of a commercial position, and my own work which is almost wholly the conducting of classes in the college has forced me to neglect correspondence.

In regard to the willows you wrote about I must disclaim any very definite knowledge except in case of Salix vestita and S. Fernaldii. Before he went for service in France Dr. Harold St. John whose thesis was upon the flora of southern Labrador prepared as part of his thesis a detailed study of the variations of S. vestita in

which he recognized Andersson's var. recta
(S. Fernaldii) as the characteristic Rocky Mt.
variety. His manuscript went to Ottawa for
publication and is not yet out.

As to Salix pallescens I have never had
an opportunity to study authentic material.
Dr. Schneider, I believe, thinks it likely to
be the same as S. serissima but is waiting
to see Andersson's material.

Question 3. Salix Banatensis, etc. Here
again I have no illumination. I fear that
I have been misled into supposing me
a Willow specialist! My work outside
tramping is almost wholly floristic and in
attempting to understand clearly the species which
make up the flora I am specially studying - the
region east of the Great Lakes and Hudson Bay -
I stumble into many new things which have to
be published - sometimes in Salix, again in
Antennaria, Juncus or Poa, or any genus
I may be attempting to solve. But I am
forced by the restricted duration of a lifetime
to venture outside my boundary fence only
when the unravelling of local problems forces
me farther afield. It is now some years

19-VI-19.

Gray Herbarium



Harvard University

B. L. ROBINSON, Curator,
Asa Gray Prof. Syst. Bot.
M. L. FERNALD,
Fisher Prof. Nat. Hist. (Bot.)
MARY A. DAY, Librarian

CAMBRIDGE, MASSACHUSETTS, U.S.A.

Will I have given any special attention to Salix,
for when Schneider came along and urged me to
turn the group over to him I had plenty of other
knotty problems in other genera stored away for
study.

I am placing your letter in my gradually
growing manuscript of a new fundamental flora so
that my attention will be again directed to the
questions but I am sorry that I am just now
situated to give you much helpful advice.

Thanking you for your kind letter,

Very sincerely yours,

M. L. Fernald

March 15, 1924.

Dr. M. L. Fernald,
Herbarium of Harvard University,
Cambridge, Mass.

Dear Doctor Fernald:

I am sending you under separate cover a package containing some thirty-seven willows which I collected at various points of the United States during the summer of 1923. As most of them were collected in the autumn they are very largely sterile specimens but I trust may be found of some interest to the herbarium.

Among others I have included rather ample material of the duplicate type specimen of the new variety which I am separating from Salix discolor under the name S. discolor overi. It is characterized chiefly by its large and broadly obovate leaves on fruiting branches and proportionately large and oval or ovate leaves on vegetative shoots. By duplicate type I mean one of a series of specimens collected from the same plant at the same time. I believe that the collection contains also another specimen of this same variety collected only a few miles from the type locality. As a matter of terminology I will be glad to know what terms you use for (1) what I have called here a duplicate type; (2) specimens collected from the type plant at a later date than the type specimen; (3) specimens collected in the immediate vicinity of the type specimen at the same time as but not from the type plant, and (4) plants collected in the immediate vicinity of the type plant at a later date. It seems to me that someone has proposed a series of terms but I am not at this moment able to put my hand on it.

I realize that there is some difference in the case of annual and perennial plants. Only one specimen can be made from a single individual plant and, therefore, literally there can be but one type specimen; whereas, in the case of a plant sufficiently large for division, whether annual or perennial, there would be the possibility of several specimens from an individual. Is the word "ecotype" used in this latter case?

*or small and large
plants. In the case
of small plants*

Very sincerely yours,

C. R. Ball,
Cerealist in Charge.

CRB:SS

Gray Herbarium

Harvard University

L. ROBINSON, Curator
Ass. Gray Prof. Syst. Bot.
M. L. FERNALD,
Fisher Prof. Nat. Hist. (Bot.)
MARY A. DAY, Librarian
EDITH M. VINCENT,
Assistant in Library
IVAN M. JOHNSTON, Assistant



CAMBRIDGE, MASSACHUSETTS, U.S.A.

March 21, 1924.

Mr. C. R. Ball,
Bureau of Plant Industry,
Washington, D. C.

Dear Mr. Ball:

Thank you very much for the collection of 37 Willows which has just come, and which we are naturally very glad to have.

I have tried to see just what S. discolor, var. Overi is, and some time when you are up here I hope you will look at our material, for I cannot see why this broader-leaved shrub is not the S. discolor of much of the region about the Gulf of St. Lawrence, but in the East it is pretty hard to draw any line which is at all satisfactory between the narrower-leaved and the broad-leaved extremes.

Just as your package came I had got out material from the Gaspé region for you, and that is going by parcel post, - a package containing 36 sheets which will be of interest to you.

In regard to your question of terminology: I remember that 20 to 30 years ago O. F. Cook published a paper in which he gave names to the different kinds of type specimens. I cannot lay my hand directly upon it, but he doubtless will tell you at once the reference. I remember that he had various terms, - topotype, paratype, isotype, etc., etc. I doubt if he went quite so far as your question involves. If not, it would be a good thing to have a word for material from the exact specimen, such as we constantly encounter in case of trees and shrubs.

Very sincerely yours,

MLF/FMG

M. L. Fernald
25669 near *Chlorolepis antimimica*

Gray Herbarium



Harvard University

G. L. ROBINSON, Curator
Ass. Gray Prof. Syst. Bot.
M. L. FERNALD,
Fisher Prof. Nat. Hist. (Bot.)
CHARLES A. WEATHERBY, Assistant
RUTH D. SANDERSON, Librarian
IVAN M. JOHNSTON, Assistant
LESLEY C. BROWN, Bibliographer

CAMBRIDGE, MASSACHUSETTS, U.S.A.

April 13, 1925.

Mr. Carleton R. Ball,
Bureau of Plant Industry,
Washington, D. C.

Dear Mr. Ball,-



Thank you for your letter giving more details in regard to Salix subsericea. We have also material in considerable quantity from Maine, Vermont and the Province of Quebec, where I personally collected the species. The treatment in the Emendations of the Manual was taken quite literally from Mr. Forbes's article in Rhodora xi. 9-12 (1909). The Maine material is very much more silky than that from Massachusetts, Connecticut and New York, but my specimens from Megantic County, Quebec, are no more so than the shrubs around Boston. Personally, I do not care for Schneider's ^{disposition} ~~diagnosis~~ of the shrub as a hybrid, for hereabouts it seems to be a perfectly clear species just as Mr. Forbes pointed out in 1909. In other areas I have not been able to follow it up through the season, but it impressed me as a perfectly definite thing.

Sincerely yours,

M. L. Fernald

MLF/RMG

June 5, 1925.

Prof. M. L. Fernald,
Gray Herbarium,
Harvard University,
Cambridge, Mass.

Dear Professor Fernald:

I am sending you, under separate cover, copy of print from a photograph of the specimen of Salix delnortensis Schneider, collected by Dr. Abrams in Del Norte County, Calif. I think this is the only collection made since the type material was obtained. So far as I am aware, the type material had a very limited distribution, and it occurs to me that this photograph may be of value to the Gray Herbarium.

The two staminate plants were wedged in among the leaves of this specimen and not directly attached to it, but I think they belong to the species.

Very sincerely yours,

C. R. Bell,
Senior Agronomist in Charge.

CRB/ecs

Encl. also a label to use
if photo used as specimen.

Gray Herbarium



Harvard University

J. L. ROBINSON, Curator
Ass. Gray Prof. Syst. Bot.
M. L. FERNALD,
Fisher Prof. Nat. Hist. (Bot.)
CHARLES A. WEATHERSY, Assistant
RUTH D. SANDERSON, Librarian
IVAN M. JOHNSTON, Assistant
LESLEY C. BROWN, Bibliographer

CAMBRIDGE, MASSACHUSETTS, U.S.A.

June 8, 1925.

Mr. C. K. Ball,
Bureau of Plant Industry,
Washington, D. C.

Dear Mr. Ball,-

I thank you heartily for the fine photograph
of Salix denortensis which we are extremely glad to have
for the Herbarium.

In pulling over the duplicates of some recent
collections, I found 8 willows which I thought would be
of some interest to you. These will be going forward to
you very soon as an exchange from the Gray Herbarium.

Sincerely yours,

M. L. Fernald

MLF/RMG



May 25, 1927.

Dr. M. L. Fernald,
Gray Herbarium,
Harvard University,
Cambridge 38, Mass.

Dear Dr. Fernald:

Your card of May 19 was promptly received, and the package of willows mentioned therein came yesterday.

As I am just leaving town, I have not had time to open it, but I have the liveliest anticipation of the joy I shall get out of the material. Please accept my thanks in advance, and I shall write you again when I get back and have time to study the contents of the package.

Very sincerely yours,

Carleton R. Ball,
Senior Agronomist in Charge.

CRB-BWG

Address:
Extension Service, U.S. Dept. Agri.

January 10, 1939.

Dr. Merritt L. Fernald,
Harvard Botanical Museum,
Cambridge, Massachusetts.

Dear Professor Fernald:

I am much interested to know if the resolution we prepared was adopted by the Botanical Society of America at its meeting in Richmond. Unfortunately, I was not able to remain over until the following day.

If this resolution was adopted, I would like to have its exact wording for inclusion in the manuscript on which I am now working covering administrative relationships in natural resources. If it was adopted by the Society, will it appear in print in any journal or any summary of the Botanical Society meetings, and if so, at about what date?

I am sorry that it did not occur to me while we were framing this resolution to suggest the inclusion of a recommendation that some administrative attempts be made to control the destructive spread of the Japanese honeysuckle in our eastern woodlands. I will be glad to know if you think this matter should be taken up. *Interview* I drove several hundred miles through Virginia. We saw there a very *Recently* vast picture of how this smothering foreigner is injuring and even destroying native vegetation through that area. I have observed it also in many areas in the Appalachian highlands and believe that it is time that some definite thought is given to its destructive effects.

sent Under separate cover, I am sending two willow publications which have appeared since my last shipment.

I am unable to find any record that I have been sending copies to the Gray Herbarium Library in recent years. If ~~it is found that~~ an additional supply can be ~~disposed of~~ *used* there, I will be very glad to send them.

Cordially yours,

Carleton R. Ball,
Executive Secretary.

humilis rigidiuscula

Address: Extension Service,
U. S. Dept. Agri.

March 7, 1939.

Dr. Merritt L. Fernald,
Curator, Gray Herbarium,
Harvard University,
Cambridge, Massachusetts.

My dear Dr. Fernald:

I am somewhat in doubt as to the authority for the combination *Salix humilis rigidiuscula*. The antecedent circumstances are about as follows:

Andersson published in 1867 (Mon. Sal. PlII) his *Salix humilis longifolia rigidiuscula*. In this publication he did not designate ranks but the form is the one he used when he was publishing varieties and forms. On the contrary, when he was publishing subspecies he put the names in black-faced type and indented them under one of his numbered species, as for instance on F109.

He repeated this quadrinomial combination a year later in deCandolle Prodrromus (Vol. 16, Pt. 2, R236) but in this case he made his intention more evident by using a Greek letter for the varietal name and a numeral before the name of the form.

In the 7th edition of Gray's Manual, Robinson and Fernald published (R326) the combination *Salix humilis* var. *rigidiuscula* Anders. Apparently this was an action raising Andersson's form to varietal rank.

Schneider comments on this in the Journal of the Arnold Arboretum (8:22 1920). Later in the same Journal (3:76, 1922) he inserts *Salix humilis* var. *rigidiuscula* Robinson and Fernald.

Recently, in naming a specimen representing this variety, I used the following form: *Salix humilis rigidiuscula* (Andersson) Robinson and Fernald. I was promptly called on this with the statement that apparently there had not been the publication of such name and authorship.

I will greatly appreciate your interpretation of the situation. It seems to me that Robinson and Fernald made a new combination but apparently omitted an indication of it. It seems to me also that Schneider assumed that the variety published in Gray's Manual was not the form published by Andersson and that, therefore, he omitted Andersson's name from the combination.

There is one important difference between Andersson's description and yours. Andersson says the leaves are densely pubescent beneath whereas you indicate that they are glabrescent beneath. From a long acquaintance with this form and from having collected it in many States, I know that it is nominally pubescent in the juvenile and early season stages and becomes glabrescent or entirely glabrous by late autumn. With this knowledge it did seem that both descriptions may well have applied to the same entity.

Dr. Blake, with whom I discussed the matter this morning, has called to my attention your discussion of a somewhat similar case in *Bidens* published in *Rhodora* (15:78, 1913).

Appreciating your consideration of this matter, I am

Cordially yours,

Carleton R. Ball,
Executive Secretary

WASHINGTON, D.C. December 13, 1946 No. 199

McLACHLEN BANKING CORPORATION 15-59
511

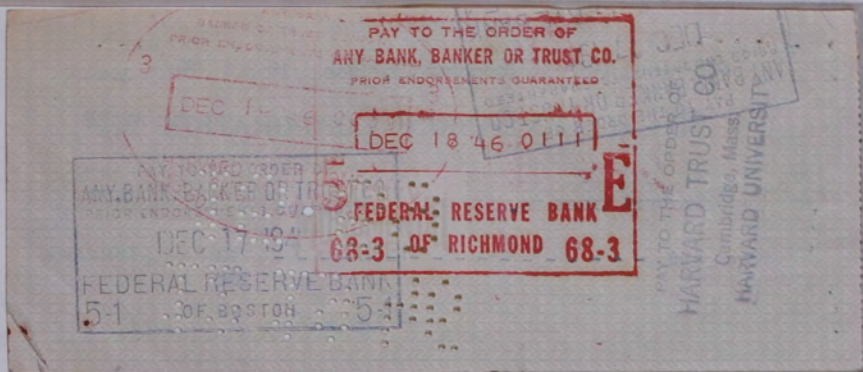
PAY TO THE ORDER OF Harvard Trust Co. \$ 5.70

Five and 70/100 DOLLARS

Carlton R. Ball

AMERICAN BANK NOTE COMPANY, N.Y.

Digitized by Hunt Institute for Botanical Documentation



Digitized by Hunt Institute for Botanical Documentation

M.L. Fernald

3814 Jocelyn St., N.W.,
Washington 15, D.C.

March 31, 1947.

Harvard Trust Co.,
Cambridge 38, Massachusetts.

Gentlemen:

I am sorry to bother you about a matter which presumably was not a matter of error by your company, in any way. Here are the circumstances.

In the summer of 1946, I sent a manuscript ~~for~~ to Dr. M.L. Fernald, of the Gray Herbarium of Harvard University, for publication in the Journal, Rhodora, of which he is editor in chief. It was accepted.

In early December of 1946, I received the galley proof of my paper, for correction. With the proof came a bill for \$5.70, which the statement said was payable to the Harvard Trust Co. I assumed that this was advance payment for reprints of my paper which I had ordered.

On December 13, 1946, I mailed you my check No. 199, in the sum of \$5.70, together with the invoice which seemed to require it. I have no recollection now of the exact wording of the invoice or statement.

The check was cashed promptly, and was returned to me with my December bank statement. It is covered with stamped indorsements of Dec. 17 and 18, including yours.

Please tell me, if your records can show it, to whom this bill was rendered and for what service or items. Dr. Fernald states that he has no knowledge of it. It may have been intended for the Gray Herbarium, or for Rhodora (Journal of the New England Botanical Club), or for some other unit of Harvard University.

A stamped and addressed envelope is inclosed for your reply. Thanking you for and help you can give, I am

Cordially yours,

Carleton E. Ball

WLB - jef

Dr. M. L. Fernald,
Gray Herbarium,
79 Garden Street,
Cambridge 38, Mass.

3814 Jocelyn St., N.W.,
Washington 15, D.C.

December 1, 1947

Dear Dr. Fernald:

In looking up a *Salix* paper by Leon Kelso in *Rhodora* (Vol. 36), I ran on to your discussion of the hybridity obsession in your paper on *Draba*. I enjoyed both your comments and the quotations from L.H. Bailey.

Floderus claimed not only that nearly all willows are hybrids but also that he could distinguish and name multiple hybrids from fragmentary dried herbarium specimens. The material of the Canadian Natl. Herbarium came back with specimens named as having two, three, four, and even five parents. That was bad enough, as no geneticist, creating his hybrids from known parents and studying them in the living condition and throughout their life span, would ever dream of trying to determine multiple parents from dried (and fragmentary) material.

But Floderus went even farther. In naming his quadri- and quinti-hybrids, he placed the names of the alleged parents in different order on sheets from the same locality, in order of the amount of influence each had exerted on the offspring. And there was no possible way of filing such sheets in a herbarium and ever finding what you wanted when you wanted it.

I have suspected that there was a frustration psychology behind that theory of his, and the German practice of of recognizing eight categories with Latin names (species, subspecies, variety, subvariety, form, subform, sub-subform, and sub-sub-subform. After World War I, there was world-wide depression. These European botanists were unable to travel and collect, and exchanges were greatly reduced. Their urge to publish new plants was unsatisfied, so each group invented a scheme whereby they could go on publishing endless novelties from old material. I once collected all the expressions from a single plant of an introduced willow from Germany and found five different named minor categories on the one plant. There may have been more.

I noted also your review of Rydberg's *Flora of the Prairies and Plains*. You could have said more and still have been truthful. One of his most provoking practices was to compare a new species or variety with others not closely related and omitting comparison (and often any mention) of the ~~most closely related~~ closely-related forms from which it could be separated with difficulty or not at all.

Cordially yours,

P.S. In his mammals, he often did not place closely related species near each other.

Carleton R. Ball

Dr. M. L. Fernald,
14 Hawthorn Street,
Cambridge 38, Massachusetts.

3814 Jocelyn St., N.W.,
Washington 15, D.C.

4 April, 1949

Dear Dr. Fernald:

I am inclosing a manuscript entitled: Willow Hybrids : *Salix hebecarpa* Fernald and *S. simulans* Fernald, with a view to possible publication in Rhodora. On page 6, there is discussion of the prostrate habit and of the rooting of plants on the different sheets of the four collections finally assigned to *S. hebecarpa*. I will be glad to have you add a footnote ~~regarding~~ containing your own knowledge of how much ascending or erect growth, if any, there was in these four. The footnote will be equally welcome, whether the mss. is accepted or rejected for Rhodora.

I am only sorry that I could not have made an equally critical study of the material on which *S. athabascensis* and *S. fallax* of Raup were based. I received only one sheet of *S. athabascensis* of Raup's collecting from Gray Herbarium and one cannot base judgment on that. Later I hope to study them all. Probably will get up to New York and Boston this summer. However, such study can in no way affect the conclusions here set down. It only can settle two more species.

Cordially yours,

Carleton R. Ball

Gray Herbarium



Harvard University

REED C. ROLLINS, DIRECTOR
M. L. FERNALD,
FISHER PROF. NAT. HIST. (BOT.) EMERITUS
CHARLES A. WEATHERBY, RESEARCH ASSOCIATE
FRANCIS WELLES MUNNELL, RESEARCH ASSOCIATE

ROBERT C. FOSTER, ACTING CURATOR
RUTH D. SANDERSON, LIBRARIAN
MARJORIE W. STONE, BIBLIOGRAPHER
BERNICE G. SCHUBERT, ASSISTANT

79 GARDEN STREET
CAMBRIDGE 38, MASSACHUSETTS, U.S.A.

April 20, 1949.

Dr. Carleton R. Ball,
3814 Jocelyn Street, N. W.,
Washington 15, D. C.

Dear Dr. Ball:

Pardon my delay in acknowledging your paper on supposed willow-hybrids. I have delayed with the hope that our material, which was loaned to you, might be back and available. As yet it has not come in and I, naturally after many years, do not remember whether individual plants were prostrate or not.

The paper can be published late in the year. There are ahead of it many papers.--all we can find space for (especially when they are long) for many months to come. Brief notes, which help fill a last page, can be handled more quickly.

Sincerely yours,

M. L. Fernald

M. L. Fernald,
Editor-in-Chief of Rhodora.

MLF:c

(over)

Dr. M. L. Fernald,
Gray Herbarium of Harvard U.,
79 Garden Street,
Cambridge 38, Massachusetts.

3814 Jocelyn St., N.W.,
Washington 15, D.C.

22 April, 1949

Dear Dr. Fernald:

I have your letter of April 20, and apologize heartily for my delay in returning the Salices borrowed from the Gray and Arnold Arboretum Herbariums. A succession of unexpected events, including out-of-town visitors, has slowed down a lot of work under way. Those are reasons but not valid excuses.

However, the packet (carton) has been returned to the National Herbarium, through which it was received, and I trust that you receive the material promptly.

Appreciating your courtesy in the loan, I am

Cordially yours,

Carleton R. Ball

GRAY HERBARIUM:

- 1 *S. atabasensis* Raup (not studied)
- 4 *S. pedicellaris* var. *temescens* Fern.
- 11 *S. hebecarpa* Fernald

1 unnumbered coll. of 1905;

4 No. 206;

4 No. 207 (type)

2 No. 25,686;

2 *S. similans*;

2 Miscellaneous;

20

ARNOLD ARBoretum:

2 *S. atabasensis*

1 *S. hebecarpa* No. 25,686

Dr. M. L. Fernald, Editor Rhodora,
Gray Herbarium,
Cambridge 38, Massachusetts.

3814 Jocelyn St., N.W.,
Washington 15, D.C.

25, October, 1949

Dear Dr. Fernald:

I am inclosing corrected galley proof of my paper entitled: Willow Hybrids, etc. I am amazed, as well as happy, at getting the proof so soon, only little more than 6 months after submitting the manuscript. It is my 173rd publication.

It also was a very clean proof as far as printers errors go. The type-setter did seem to have a phobia on "pedicellaris", which he commonly spelled with a final a.

Five of the corrected errors were in my manuscript and are listed here for your information. If there is charge for these I'll be glad to pay it.

Galley 9. Footnote 6. The doubling of the "ces" in fuscescens was my error.
2nd. paragraph from bottom. Omission of the 2nd parenthesis.)

Galley 10. Par. 5. "as " omitted from line 6.

Par. 5. "capsules," inserted twice in line 10.

Par. 6. "ex" omitted from "smaller", line 10.

I hate to think that I was that careless in reading my manuscript before submission, but these errors are all uncorrected in my carbon copy.

Appreciating your efforts on this paper, I am

Cordially yours,

Carleton R. Ball

P.S. I inclose order for reprints.

Dr. Merritt L. Fernald,
Gray Herbarium, Harvard University,
Cambridge, Massachusetts.

3814 Jocelyn St., N.W.,
Washington 15, D.C.

2 August, 1950.

Dear Dr. Fernald:

I have just obtained a copy of the 8th edition of Gray's Manual and wish to congratulate you on the completion of a most significant and gigantic undertaking. It well may be regarded as the fruit of a lifetime.

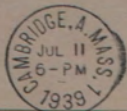
In the preface, I was much pleased to see your insistence on retaining the capital initial for personal specific names and your rejection of the brazenly manufactured common or colloquial names never used by the persons who live with the plants.

I congratulate also on giving the translation of the latin names and an explanatory note on persons for whom plants were named. Likewise, I am most of species happy to see the unusually large space given to descriptions/in difficult genera like those comprised in the grass, sedge, and willow families, for example.

I am almost amazed that you were able to get by with that, in these days when manual descriptions must be held to the bare minimum.

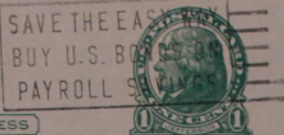
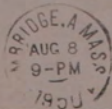
Cordially yours,

Carleton R. Ball



THIS SIDE OF CARD IS FOR ADDRESS

Prof. Carleton R. Ball
Extension Service
U. S. Department of Agriculture
Washington
D. C.



THIS SIDE OF CARD IS FOR ADDRESS

Dr. Carlton R. Ball,

3814 Jocelyn Street N.W.,

Washington 15,

D. C.

Fernald
GRAY HERBARIUM OF HARVARD UNIVERSITY

CAMBRIDGE, MASS.,

July 11, 1939

Dear Prof. Ball:

This is to acknowledge the receipt, in excellent condition, of 21 sheets of Saxif. coactilis. Not sending coupon no. 1 immediately makes no difference at all when the material is returned as promptly as this.

Very truly yours,
R. D. Sandereson

GRAY HERBARIUM OF HARVARD UNIVERSITY

79 GARDEN STREET

CAMBRIDGE 38, MASS.

Aug. 8, 1950.

Dr. Carlton R. Ball,
3814 Jocelyn St. N.W.,
Washington 15, D.C.

Dear Dr. Ball:

Thank you very much for your cordial note regarding the new Manual.

You may be sure that it was not the work of a day, but a long drawn-out job.

Sincerely yours, M. L. Fernald