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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.

Box 394
Mackinaw City, Michigan
August 16, 1949

Mr. C. R. Ball
Jocelyn St., N.W.
Washington, D. C.

Dear Mr. Ball:

Although he could not remember your exact address, Dr. Rogers McVaugh thought I could contact you as above to inquire about certain willows we have been unable to name.

I have a few specimens of *Salix*, some if not all hybrids, which I have collected in Mackinac County, Michigan. If you would be willing to supply names for these in return for the specimens, please write me and I shall send them along.

Sincerely yours,

Edward G. Voss

Mr. Edward G. Voss,
Box 394, Mackinaw City,
Michigan.

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

23 August, 1949.

Dear Mr. Voss:

Your letter of Aug. 16 is just here. I shall be most happy to study and determine your willows whenever you care to send them. I am always glad to do this, whether I receive duplicates or not, so if you wish any or all of them returned, please say so frankly.

It is only thro the continuing work of local collectors that we specialists get to know and resolve the problems in our chosen groups, so whatever we do for them helps us tremendously.

I have collected in the Traverse Bay area and a little bit in the Upper Penin. That is critical territory, where some southern species stop and some northern ones erupt. I collected *S. pollita* Andersson near Newberry on the Tahquamenon River, which is the "farthest south" for that species in the west. You may well have it in Mackinac Co. also.

I have just finished the treatment of *Salix* for the new ed. of B. & B. *Flus*. Flora. It includes 40 species, with 20 rejected because either hybrids or based on wrong determinations of other species. Now am writing *Salix* of Alaska-Yukon and will have to clear up Hulten's assumptions.

Feel free to send your entire willow collection for review, if you wish. Many discoveries result from such reviews.

Cordially yours

Carlton R. Ball

100 V R. Ball

(over)

Box 394
Mackinaw City, Michigan
August 30, 1949

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

Dear Dr. Ball:

Thank you for your kind letter of August 23. I am sending under separate cover not only the willows from Mackinac County to which I referred in my previous letter, but also some other Mackinac Co. specimens as well as my "entire willow collection" as you suggested. The latter, as you will see, amounts to very little. (I have included very few trees and shrubs in my herbarium.)

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The mounted herbarium specimens have all their data on the label. Data on the specimens in newspaper folders is on a sheet accompanying this letter.

If you see anything you want, by all means keep it, as it would be a relatively simple matter for me to return to the stations and re-collect specimens. Otherwise, I would appreciate the return of the specimens which have collection numbers. Those without numbers you may destroy.

As I must leave Michigan this week, please note that my address until next June will be Denison University, Granville, Ohio.

Enclosed is postage for whatever specimens you return.

Sincerely,

Edward G. Voss

Mr. Edward G. Voss,
Denison University,
Granville, Ohio.

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

3 September, 1949

Dear Mr. Voss:

Your letter of August 30 and the packet of willows are received and I have given them immediate attention. I greatly appreciate the additional information on the unmounted material.

The mounted specimens were correctly named, except for two cases. *S. glaucophylla* Bbb is replaced by *S. glaucophylloides* Fernald. Fernald transferred some of the varieties of the former to his species but did not so transfer Bbb's var. *brevifolia*. Your unmounted specimen seems to be that var. and I have so labelled it. *S. adenophylla* Hook. and *S. syrticola* now become *S. cordata* Michx. (not Muhl.), but absentmindedly I forgot that and OKed the name on the label. I inclose a correction label because I already have repacked the specimens.

Mounted No. 466, *S. subsericea* is correctly named but the three specimens on the sheet represent very different expressions of it and I suspect that they came from three different plants.

No. 396, is *S. Bebbiana* Sarg., unfertilized and possibly hybrid, but the rugose leaves, narrow pale scales, thinly pubescent capsules, long pedicels, and short style are *S. Bebbiana*. The sterile twig is normal mature appearance.

565, *S. nigra* Marshall, or a hybrid. It is abnormal growth, on which some of the shoot and leaves have not developed. But the leaves are green on both sides, rather closely serrate, pubescent while young (as also their petioles and young growth), and with fine vein islets. *S. petiolaris* is glabrous (even in youth), rather coarsely serrate, glaucous beneath, but also with rather small vein islets. The large-leaf twig on 466, *S. subsericea*, is much like *S. petiolaris* but the young leaves are pubescent and the older are so on the midrib. *S. nigra* gets about that far north in Ont. and Wis., but I am not sure about reports from Michigan.

566, This is *S. Bebbiana* X *S. candida*, as you thought, but there seems to be a little more sign of *S. Bebbiana* so I put that first.

567, *S. lucida* Muhl., as guessed. Typical young growth.

Unnumbered specimens. You were correct about these. The specimen of *S. lucida* is typical except that some of the glands on the petioles are stalked. The leaves are the typical ovate-lanceolate, long-acuminate, with no sign of glaucousness. *S. sericea* has elliptical leaves, acute at both ends, and glaucous beneath. *S. interior* was normal. *S. glaucophylla* is *S. glaucophylloides* Fernald and quite typical of the variety *brevifolia* (Bebb) Ball (sped). You probably will want it, and also the unusual specimen of *S. lucida*, so I return all three. If you do not want the *S. interior*, or any others you can send 'em back some day, when sending others for determination.

In discussing 565, *S. nigra*, I forgot to say that the scales on the old stem, absent are black as in *S. petiolaris* but could be discolored in age. *S. nigra* has 3-5 or more stamens per scale, and *S. petiolaris* has but two. I could not determine number without wrecking this old sheet. Hope you can do it, and also collect more of it.

Thanks for the reprint. If you wish mine, I'll send such as are available, especially those in your field.

P.S. Why not omit # before numbers? The symbol is the accepted sign for "more space". When poorly typed it looks like a 4 or a 7, and mixes me up on numbers, which has happened several times. Anyway, a number in such a connection cannot be anything else. Excuse me, but I have edited on the side most of my life.

Cordially yours,

Carleton R. Ball

Voss, E. S. Aug 30, 1949

Mounted specimens with data on label: ## 432, 423, 433, 693, 533, 434, 465, 466

In folders:

- S. Bebbiana* *unfert*
- # 396 Evidently a hybrid of *syrticola* with something else--perhaps *glaucophylla*. July 2, 1948. Mackinac County, Michigan. Causeway west of St. Ignace (see enclosed - with *specimens* paper). There are some very straggly scraps of willow on the causeway, which I have not collected. Perhaps I can pick them up next summer. The two twigs included in this collection number are not from the same plant, and so do not necessarily represent the same species (or hybrid).
- S. nigra*
- #565 The only thing I can possibly get this down to is *petiolaris*, which I do not know. June 4, 1949. Mackinac County, Michigan. Green Island, Straits of Mackinac ($\frac{1}{2}$ mile south of Pt. La Barbe)
- S. Bebb* x *S. candida* or vice versa
- #566 Evidently a hybrid of *candida*--perhaps with *bebbiana*. June 4, 1949. Mackinac County, Michigan. Green Island.
- S. lucida* @ ant + yng lvs.
- #567 Mackinac County, Mich. Green Island. June 4, 1949

The three specimens with no numbers are from Mackinac County, Green Island, August 4, 1949. I suppose they are *glaucophylla*, *interior*, and *lucida* (altho Dr. F. C. Gates wants to call the latter *serissima*--we shall be glad for your opinion).

I have been working up a botanical survey of this "Green Island:" hence the number of specimens from there. In addition to the species represented in the material I am sending you, the following do occur on the island: *bebbiana* & *syrticola*.

not known

ACC House
Denison University
Granville, Ohio
September 13, 1949

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

Dear Dr. Ball:

The package of willows you examined, as well as your letter, have been received, and I am very grateful for your determinations and comment.

I trust that it will not be bad practice in my to-be-published list of the flora of Green Island to indicate the one willow as you have named it: *S. glaucophylloides* Fern. var. *brevifolia* (Bebb) Ball (ined.)

Thanks for the offer of reprints. I would indeed be interested in anything pertaining to species likely to occur in Michigan.

Perhaps next summer some more plants will turn up which would be of interest to you. Also there is the possibility that some of the material in the Denison University herbarium is valuable; I have been much interested in looking through it lately, and find some extensive Michigan and Ohio collections--the willows have evidently been examined, at least for the most part, by Bebb.

Sincerely,

Edward G. Voss

Mr. Edward G. Voss,
ACC House, Denison University,
Granville, Ohio.

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

21 September, 1949.

Dear Mr. Voss :

Your letter of Sept. 13 was promptly received and I am glad that your packet came back safely.

I note that the willows (older collections) in the University Herbarium have been annotated by Bobb. He was a splendid student, under early and difficult conditions. If I recall correctly, he died, after a lengthy illness, in 1896, the year in which I took my B.Sc. at Iowa State College. Should you wish the herbarium Salices worked over at any time, send them along.

I am sending you separately some seven more recent reprints. Many papers touching Mich. species are out of print now. (I mean that my reprints are out of stock).

I did the willows for Dean's Trees of Indiana and Shrubs of Indiana and all of the included species occur in Michigan. I had some reprints but all are gone, very probably you have the publications. I have turned in the *Salix* mss. for the new ed. of Britton & Brown Illus. Flora, which includes all the area to west line of Minnesota.

It will be quite proper for you to refer to *S. glaucophylloides* var. ~~xxx~~ *brevifolia* (Bobb) Ball (ined.), as you suggested. This reminds me to get the new combination published as soon as possible. Unluckily, I am working on two publications covering areas which do not contain this species or variety so will have to wait for some more general paper later, unless there is some other combination needed. I do not believe in publishing 2-paragraph papers, altho it adds to the list very rapidly.

Mrs. Ball's (step)mother graduated from Denison (then the Granville Female Seminary, but now included in Denison. She then was Mary Caroline Moore and the year was about 1885, or 1883. She is still living with another daughter in N.J. and is still very active.

Trusting that you are having a busy and helpful senior year, I am

Cordially yours,

Carleton R. Ball

(over)

UNIVERSITY OF MICHIGAN

ANN ARBOR

DEPARTMENT OF BOTANY

November 11, 1952

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

Dear Dr. Ball:

Three years ago, when I was studying at Denison University, you very kindly determined some troublesome willows for me and clarified for me some of my questions regarding the genus.

In the intervening time, some more specimens have accumulated which have been giving me difficulty. These include some of my own collections, including some flowering material which will not run in Fernald's new keys, and a few sheets from the herbarium of the University of Michigan Biological Station.

Would you be able to look these over if I should send them to you this fall? I shall await your reply before sending any.

Sincerely yours,

Edward G. Voss

Edward G. Voss

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

Dear Dr. Voss:

14 November, 1952.

Your letter of Nov. is just here. I will be glad to determine the willows at any time, so send them along.

I've just struggled painfully with the crops of some 38 willow ptarmigan (and 1 Rock Ptarmigan) from northern Alaska, and worked out about 5 willow species from buds, twig fragments, stipules, and 2 leaves.

Please indicate which specimens are to be returned, and which, if any, are to be kept by me. I am just as glad to determine when all are to be returned, but knowing in advance saves time and correspondence.

Cordially yours, Carleton R. Ball

THE HERBARIUM OF THE UNIVERSITY OF MICHIGAN

MUSEUMS BUILDING, ANN ARBOR, MICHIGAN

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

Date November 18, 1952

Number of packages 1

Prepaid ☒ Collect ☐

Shipped by Parcel Post ☒ Express ☐

Freight ☐

The Herbarium of the University of Michigan is sending you herbarium specimens as indicated here: Gift

Return of borrowed material Exchange For identification ☒ Loan

Note concerning loaned material:

Return of this loan is expected before by prepaid express or parcel post. Extension of this period may be granted on request. The herbarium will be glad to receive a copy of the publication in which these specimens are mentioned. All material included in this loan must be returned at one time. Packing should be carefully done to avoid breakage of specimens. The blue duplicate sheet is to be signed and returned immediately upon receipt of the material. The pink duplicate sheet is to be retained by the borrower as a record of the loan and is to be mailed under separate cover when the specimens are returned. The pink duplicate will be returned to the borrower when the returned loan has been received and checked, indicating cancellation of the loan.

Description of Specimens

7 sheets of Salix as follows:

Ehlers 4665 (Ehlers Co.)
 Walp 221 (Cheboygan Co.)
 Ehlers 2402 (Cheboygan Co.) -- 2 sheets
 Ehlers 2845 (Cheboygan Co.)
 Ehlers 3640 (Cheboygan Co.)
 Ehlers 3679 (Cheboygan Co.)

Digitized by the University of Michigan Herbarium for Botanical Documentation

(over)

Address all correspondence concerning this material to

RECEIVED THE ABOVE MATERIAL IN GOOD ORDER:

18 December, 1952.

Prof. Edward G. Voss,
Dept. of Botany, Univ. of Michigan,
Ann Arbor, Michigan.

Dear Professor Voss:

It is just a month since you wrote me and sent me the package with three lots of *Salix*: your collections from northern Michigan, 7 sheets from the Herb. of the Univ. Mich., and 8 from Herb. of the Univ. Biological Station.

This long delay in completing the determinations has three causes: company, very dark cloudy weather, and Christmas activities. However, I have done what I could and am sending the package back tomorrow. It goes under frank, so I am inclosing the stamps you sent me. I still am a collaborator for the Dept. Agric., under which I have always done the willows as a needed sideline. When I keep the specimens, I do not use the frank.

This was about the toughest job I have had in a long while, and that accounts for the queries against some of the suspected hybrids. I have made rather extensive note on most of them, in the determination lists inclosed.

A single sheet from one plant, taken at one time in the year, is but a fragment of the total expression of the plant. We greatly tagged, used, plants and collections from them in spring, summer, and autumn, and a sheet of all the different expressions seen at each one of these seasons. I have as many as 6 or 7 sheets from one plant on the same date.

I suspect that you sent me only the peculiar and freakish specimens and therefore I did not get the more normal expressions of these or of closely related species, as one does in ordinary shipments. The thing that really puzzles me is that Ehlers 4665 and 11993 of Frank Gates, which is very much like it. It would be fine if one or both of these could be located and collected at different seasons.

What Fernald did to *S. petiolaris* is a shame, as I pointed out in my publication. His insistence on *S. subsericea* as a hybrid of *S. petiolaris* and *S. sericea* is more understandable because it is intermediate in hairiness, capsule shape, and capsule size. I still think that it is a species, but I noted very wide variations in looking through a series of specimens.

I will look up just what Fernald did with *S. emm. cordata* Michx. (not Muhl.) and *S. sylvicola* Fernald, but will not hold up this letter any longer. I seem to recall that he changed his mind quite a distance.

After wrapping the package, I am afraid that I did not attach annotation labels to 4665 and 11993. I inclose some that you may use if I did not do so.

Many thanks for the 4 specimens I kept, and with all good wishes for the Christmas and the New Year which follows, I am

Cordially yours

Carlton R. Ball
Collaborator

Professor Edward G. Voss,
Dept. of Botany, Univ. of Michigan,
Ann Arbor, Michigan.

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

10 August, 1952.

Dear Professor Voss:

In cleaning up accumulated papers, I find two reprints you sent me probably some months ago. I greatly appreciate them, even if belatedly acknowledged.

Congratulations on "The History of Keys and Phylogenetic Trees in Systematic Botany." We need more knowledge of history in every branch of science, and in every field of human activity. It seldom is provided by those just starting their scientific careers. But I feel that history is worth more when written by the younger men, with fewer prejudices, and more likely to be given attention by the many others of like age.

I am glad to see the Huron Co. paper because it shows that there is interest in conservation of natural resources, activity successfully carried forward by Federated Women's Clubs, and rapid follow-up by botanists. I am glad also that I could be of a little help.

As to the new Britton and Brown, when they asked me to do *Salix*, I wrote Dr. Gleason that, if it was to be illustrated, a special effort should be made to have the illustrations of organs accurate, especially as to relative of capsule, styles, and stigmas, and pedicels in *Salix*. They asked me to send typical leaves, and aments of each species and promised to accurately depict the organs. *Longley*

Hoping that all goes well with you, including the weather, I am

Cordially yours,

Carleton R. Ball

Voss Mich.

"Prof." Edward G. Voss,
Dept. of Botany,
University of Michigan,
Ann Arbor, Michigan.

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

16 December, 1953.

Dear Mr. Voss:

I have run across the packet of 9 willows collected by you in Michigan last summer, and your ~~124~~ letter of Oct. 4, sending them for check and return of some of them. Annotations on the sheets show that I have checked them soon after their arrival. Why no reply was made and none returned, I cannot now say. We had been in Michigan on vacation, and I had an extra lot of work here, which probably are the reasons but not any excuses.

Inclosed is a list of the 9 specimens with data and my comments. If the three sheets of "S. canadica X" really are hybrids instead of physiologica (ecologic) expressions, they would seem more likely to be hybrids of S. patellaris by long and narrow leaves. Of course, S. pedicellaris may have done it. As I noted, there usually is some clue to the second species in a hybrid, but seldom real proof. The plant must be much closer to one parent or the seeds would not be fertile and the plant never would have been produced.

Now as to the return of some of the specimens. You know that I always am perfectly willing to return all of those sent me, as I learn much by the study. From the inclosed list, you will note that only the three specimens of 1899 (a,b,c) have labels reading "Herbarium of - I - I - I". If you wish any of the others returned, please let me know. I will not ship them till after the Christmas rush in any case, as the mails are swamped now.

Delighted to know that you will achieve the Ph. D. soon. It takes lots of hard work but is worth it. I worked for the B.Sc. and M.Sc., but was given my Ph. D. on the 50th anniversary of the founding of Iowa State College.

With the best of wishes for the merry Christmastide and the happy New Year, and all of the years which follow after, I am

Sincerely yours,

Carleton R. Ball

UNIVERSITY OF MICHIGAN

ANN ARBOR

DEPARTMENT OF BOTANY

January 30, 1954

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

Dear Dr. Ball:

Pa. my

Your letter of January 22 and the packet of willows which you returned have both been received. Many thanks for your troubles.

Dr. McVaugh has just informed me that the Gray Herbarium Index has credited me with the combination "*Salix glaucophyll-
loides* var. *brevifolia*." I am most unhappy that this confusion has arisen. In the fall of 1949, I was preparing my list of the flora of Green Island, Mackinac Co., and, being yet an inexperienced undergraduate with no study of the International Rules, wrote you about your determination of one of my collections as "*S. glaucophyllloides* var. *brevifolia* (Bebb) Ball (ined.)." You responded that "it will be quite proper" for me to refer to it as such in the list I was preparing for publication. So the Ohio Jour. Sci. 50:187 (1950) thus has it listed. Now I realize that technically this must be cited as "*var. brevifolia* (Bebb) Ball ex Voss," unless by chance you published the combination earlier (you take it up in your treatment in the new Illustrated Flora). Too bad this was before the rules required citing of the basonym!

Sincerely yours,

Edward G. Voss

Edward G. Voss

THE HERBARIUM OF THE UNIVERSITY OF MICHIGAN

MUSEUMS BUILDING, ANN ARBOR, MICHIGAN

To Dr. Carleton R. BallDate Feb. 10, 19583814 Jocelyn St., N. W.Number of packages 2 oneWashington 15, D. C.Prepaid ☒ Collect ☐Shipped by Parcel Post ☐ Express ☒
Freight ☐

The Herbarium of the University of Michigan is sending you herbarium specimens as indicated here: Gift

Return of borrowed material Exchange For identification ☒ Loan No. 411

Note concerning loaned material:

Return of this loan is expected before Aug. 8, 1958 by ~~prepaid~~ express or parcel post. Extension of this period may be granted on request. The herbarium will be glad to receive a copy of the publication in which these specimens are mentioned. All material included in this loan must be returned at one time. Packing should be carefully done to avoid breakage of specimens. The blue duplicate sheet is to be signed and returned immediately upon receipt of the material. The pink duplicate sheet is to be retained by the borrower as a record of the loan and is to be mailed under separate cover when the specimens are returned. The pink duplicate will be returned to the borrower when the returned loan has been received and checked, indicating cancellation of the loan.

Description of Specimens

52 mounted sheets of Salix, as follows:

(32 for re-study of annotations)

Dodge 331 Voss 1878
 Dachnowski 6-25-06 Erlanson &
 Hermann 256 Hermann 5022
 McDonald 5706 No cal. 5-14-70
 Dodge 4-30-96
 Rapp 2964(b)
 Spalding 5-13-30
 Dodge 6-23-12
 Dodge 6-21-12
 Dodge 8-17-11
 Dodge 7-2-16
 Dodge 6-14-14
 McVaugh 9354
 Dieterle 1572
 McVaugh 9303
 Farwell 687-1888
 McDonald 5029
 LaRue 8-1-14
 Walp 237
 Spalding 5-11-80
 Dodge 6-19-14
 Walp 208
 Dodge 4-28-96
 Davis 5-14-92
 Dachnowski 6-06
 McVaugh 12582
 McVaugh 12497
 Voss 1967
 Dodge 342

(20 for checking)

Erlanson 1594
 Hanes 8-13-53
 Zimmerman 81
 Zimmerman 67
 Zimmerman 815
 Dreispach
 7026
 7026
 8377
 7647
 7654
 7006
 7005
 7029
 7032
 7040
 8392
 8393
 7111
 7104
 6813

128

(NOTE: ~~128~~ sheets from other herbaria
 also in shipment; see letter from E.
 G. Voss)

Box had not been
opened. w.a.Returned express
collect March 3, 1958

No letter sent.

W. A. Archer

because Voss took
 advantage of Ball
 not only by flooding
 him with spec. but
 also by asking Ball
 to return spec. to
 the institution,
 from which Voss
 had borrowed them.
 Thus saving Voss
 the trouble.

Address all correspondence concerning this material to
Dr. Rogers McVaugh,
Curator of Vascular Plants

RECEIVED THE ABOVE MATERIAL IN GOOD ORDER:

Signed _____ Date _____