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5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

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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.

UNIVERSITY OF COLORADO
BOULDER, COLORADO

JAMES H. BAKER, A. M., LL. D.,
PRESIDENT.

VEG. PATH. & PHYS.
Grain Investigati

★ DEC 15 1905

Answered.....

January 11, 1905.

Mr. Carlton R. Ball,
Washington, D.C.

Dear Sir:

Thank you for your offer to look over any specimens of Salix. If I had known that anyone was working on them I should have made an effort last summer to get some good collections but I was more especially after some other things and so secured very little Salix material. At present my class in systematic botany is using some of the material and I shall try to save some from the wreck to send you. I may be able to send a very few specimens.

Yours very truly,

Francis Ramaley

Vicksburg, Mich.

Sept., 30, 1939

Mr. Carleton R. Ball,
U. S. Dept of Agriculture
Extension Service
Washington, D. C.

Dear Mr. Ball

I am sending you by express prepaid some salix for identification

I have, so far as possible, included unmounted duplicates for your own use, so only the mounted specimens need be returned to me.

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I have made quite an extensive collection of the willows from different marshes around here and they probably include most of the willows that grow in this particular locality. Some are incomplete as regards to both leaves and flowers but I thought they may indicate something different so that further specimens could be collected later. Some of the plants died before leave could be collected and some did not blossom but the leaves were collected.

I also inclosed the duplicates of specimens of willow sent you last year ~~in~~

All the unmounted specimens are for your own use and ^{you} are perfectly welcome to any and all of them. Should you desire any additional specimens of any of them, I will be more than glad to send to you next year

Yours sincerely F. W. Rapp

P.S.
(Please feel free to make any suggestions you have in mind)

October 28, 1939

Mr. F. W. Rapp,

Vicksburg, Michigan.

Dear Mr. Rapp:

On my return to Washington from a long summer trip, I found your letter of September 30 and accompanying package of willows for identification. I have just now had time to examine this material and an enclosing herewith my list of determinations arranged by five general localities where the collections were made and arranged numerically in each locality. You will note that in three cases there were two different species included under one number. In these cases I have indicated one as "A" and the other as "B" and listed them accordingly.

In the case of one of your specimens, *Salix serissima*, there was an unmounted specimen and an accompanying unmounted duplicate showing fruit collected on July 16. The next cover in the package as it came to me contained an unmounted fruiting specimen collected, if I remember correctly, in mid-August. There was no mounted specimen in this latter cover and as it appeared to have been taken from a different plant I considered it to represent a different specimen although it was unnumbered and accordingly returned it to you with the mounted material.

This extensive collection of material from one general locality and representing collections from the same plant at different dates in a single season is of the greatest value in getting an understanding of the expression of individual plants. Please do not think that the determinations sent you now are necessarily the last word on some of these specimens. It is possible that monographing study which requires much time will arrive at additional conclusions regarding some of these plants. I think, however, that the determinations in the list give a pretty good picture of your material.

- 2 -

I am especially interested to note that not only *Salix discolor* itself but also two varieties of it occur rather commonly in your area. It is rather surprising that only one collection of *Salix humilis* occurs in this lot. This may be caused by the fact that you were specializing in lakes, marshes, and creek bottoms, whereas *humilis* is a plant of the uplands.

I greatly appreciate your generosity in providing duplicate material of both the 1938 and 1939 collections. This will give me opportunity to study this material more carefully in connection with the monographing of the different species.

You ask me to feel free to make any suggestions which may occur and I am glad to take advantage of your permission.

It is not desirable to include both staminate and pistillate specimens under a single number. Obviously they cannot come from the same plant and, therefore, are entitled to separate numbers. Where you have included foliage specimens under a number containing both staminate and pistillate flowers, it seems probable that the foliage specimen represents the pistillate plant. In this discussion I am assuming, of course, that you had your plants tagged and collected the foliage from the tagged pistillate plant.

One suggestion regarding the making of the collections themselves I think will be helpful to you. I note that in many cases you have picked off several short flowering or foliage twigs, sometimes only two or three inches long. I think you will find it more informing if you cut the outer end of an entire branchlet with these small twigs attached. As the mounting sheets are sixteen inches long, twigs up to that length can be cut. The longer twigs with the side-shoots attached give a fair picture of how the plants look in nature and that, of course, is what a specimen ought to do. Leaving the short twigs attached to the larger branchlet shows the angle at which they grow out from the branchlet and the distance at which they are spaced on the branchlet. Collecting fewer larger specimens also saves a great deal of labor and expense in mounting because three or four gummed strips will hold down a main branchlet with all the lateral shoots attached.

In mounting loose leaves, aments, etc., I find it much more convenient to use small paper packets. I enclose one of the common sizes I use. You will note that it is made from a spoiled sheet of paper, but a white tablet of cheap paper could be used equally well. By unfolding it you can get the dimensions and can see that the pattern for cutting it easily can be made from a sheet of cardboard such as the back of a tablet. From ten to a dozen can be cut at once by clipping the cardboard form to that many sheets. Folding of course is very easily done one at a time. Besides the size I am enclosing, I use one about two-thirds as large and another which is narrow but much longer for those species which have leaves from eight to twelve inches long.

- 3 -

I neglected to mention my great interest in the material which I have named *Salix subsericea*. This species normally is somewhat intermediate between *S. sericea* on the one hand and *S. petiolaris* on the other, but usually has leaves smaller than either one. The full-grown leaves of *S. sericea* are silky pubescent on the lower surfaces. The full-grown leaves of *S. petiolaris* are glabrous on both sides. The full-grown leaves of *S. subsericea* are somewhat gray pubescent on both surfaces. The aments of *S. sericea* are subsessile or very shortly peduncled. The aments in *petiolaris* and *subsericea* are leafy peduncled. The capsules of *S. sericea* are short, blunt, and short pedicelled. The capsules of the other two species are longer, more pointed, and much longer pedicelled, making the aments rather lax. In general, the capsules of *S. subsericea*, however, are a little shorter and a little blunter than those of *S. petiolaris*. Your specimens seem to differ from those collected in New England and New York in having relatively large leaves, practically as large as those of *S. sericea*. I shall hope to give some more study to this material a little later and it may be here is something to which attention should be directed again next year.

Greatly appreciating your help in these problems, I am

Cordially yours,

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Carleton R. Ball,
Executive Secretary

VILLE DE MONTRÉAL



CITY OF MONTRÉAL

SERVICE DES TRAVAUX PUBLICS
PUBLIC WORKS DEPARTMENT

LE JARDIN BOTANIQUE DE MONTRÉAL
MONTREAL BOTANICAL GARDEN

4101 EST. RUE SHERBROOKE

November 26, 1952.

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

Dear Dr Ball:

I have taken the liberty to send you a parcel containing a few Salix collected in Yukon. They are part of a collection that someone made there and which I have just finished *making*.

I will be very glad if you have time to determine them. You may keep the specimens, as they are duplicates.

Would it be possible to be favored with a set of your reprints? I am writing a Flora of Quebec and as, some day or other, I will have to fight with the genus Salix, your different papers will come very handy then.

Do you want some of my own reprints? They deal with phytogeography mostly. Just let me know.

Yours very truly,

Marcel Raymond
Marcel Raymond

MR/LG

(See over)

Professor Marcel Raymond,
Montreal Botanical Garden,
4101 Est. Rue Sherbrooke,
Montreal, Prov. Que., Canada

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

4 December, 1952.

Dear Professor Raymond:

Your letter of November 26 came promptly, and the packet of *Salix* from the Yukon arrived in due time. I have given these specimens immediate attention and inclosed the list of determinations.

Many of the specimens (these of 1950) are very juvenile but I am certain of their identity down to the species. I thank you for the permission to keep the specimens, which will be useful in my work on the arctic flora. Let me assure you, however, that I always am glad to determine collections even if all of the specimens are to be returned. I always learn something from the study and the lists, with localities and dates, are useful in determining ranges.

At the bottom of the list I have asked two questions. Any information you can give me will be appreciated. Such discrepancies between numbers and dates occur not infrequently and I like to have them straightened out on the labels, if possible. Hunker and 60-Mile Road I knew, but not the Jackson Out locality.

I will be very glad to send you very soon such of my reprints as are still available. Unfortunately, most of the earlier ones are all gone. I have done *Salix* for the new edition of Britton and Brown, Illustrated Flora. I think that it appears in Vol. 2, which may already be published. It should be of help to you on the willows of Quebec. I suppose that you are in touch with Dr. Gerhard Gerdner of Montreal, and here Ernest Inpage of Rimouski. For them I have named an enormous number of *Salix* collections through the years, which should enable you to determine the ranges of all species occurring there, and to become better acquainted with the less common ones. I will be glad to help in any way that I can.

As to your own reprints, which you so kindly offer, I will be glad to have any that contain data on species of *Salix* and their habitats and associations with other plants. At my age (almost 80) I no longer am accumulating other literature.

Cordially yours,

P.S. I neglected to say that the packet was crushed. Carleton R. Ball in the mails because the two carton boards were not stiff enough to prevent bending. As the twigs mostly were very short, they were not broken, but many anemones were broken off.

P.S. 2. I am sorry that one of the carbons I was using had been placed against another carbon at some time and so put some black on the back of this letter, which I trust that you will excuse. GRB.

Heimer. Watzdorfstr. 73 I 20/7.9.

Hochgeehrter Herr!

Ich bin mit dem Studium und
der Vervollständigung meines Herbariums
der Flora von Ost-America beschäftigt
und frage an, ob ich die Ehre
haben kann, mit Ihnen in botanische
Tauschverbindung (exchange of herbarium
specimens) zu treten? Ich correspondiere
bereits mit verschiedenen amerikanischen
Botanikern und würde mich sehr
freuen, auch mit Ihnen in Verbindung
zu sein. Ich kann Ihnen circa
1200 gute species, auch viele
Palmaceae und Solanaceae senden.

Ich würde von Ihnen
Alles acceptieren, was Sie mir senden
können und acceptiere gern von

(See over)

jeder Art 1-5 Exemplare (i will
accept 1-5 large specimens of each
species) - Wenn Sie mit mir tauschen
wollen, bitte ich Sie, mir eine Sendung
zu machen und ich will Ihnen
eine schöne Gegenendung machen!
Gern erwarte ich Ihre Antwort und
bitt mit größter Hochachtung
Ihr sehr ergebener!

Edward Martin Reineck

Adresse: Herbarium E. M. Reineck.

Weimar, Germany.

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Mr. Carsten Ray Ball, Esquire.
Washington, D.C.

F. REPPERT & GO.

Druggists,

107 West Second Street.

11-17-98

Muscatine, Iowa, NOV 16 1898 189

Mr. Carleton R. Ball,
Ames, Iowa,

Dear Sir,

Your favor of the 7th inst duly received. I must ask your indulgence for not sooner getting the specimens to you. I did not feel well for a week or so. — Also, when we moved from one residence to another last spring I boxed up a lot of specimens (5-6 boxes) among these were some of the Willows. As is generally the case — I found them in the last box overhauled. Have them all together now excepting my two or three Colorado specimens.

Have been requested by Prof. Udden to furnish a list of the

September 30, 1942

Mr. P. L. Ricker,
Forage Crop Investigations, B.P.I.

My dear Ricker:

I have just read with much interest your note in Science on "Standardized Plant Names". You were very restrained in your language. The section on willows was submitted to me when in galley proof and little opportunity for change. I submitted a discussion of the good and bad names found therein but have never consulted the printed volume to see what, if anything, was done about it.

If you are compiling a list of exceptions, and wish notes on the ~~at~~ willow names, I can work them up later.

Cordially yours,

Carleton R. Ball
Executive Secretary

UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF PLANT INDUSTRY

WASHINGTON

Look up Dayton

DIVISION OF
FORAGE CROPS AND DISEASES

October 6, 1942

Dr. Carleton R. Ball
Extension Service
U. S. Department of Agriculture

Dear Dr. Ball:

I fully realize that probably no one could have done the editing of S. P. N. without someone making a lot of criticisms. It was a tremendous job and Dayton did his best as he saw it and he unfortunately tried to put over a lot of his own pet ideas on common names, probably influenced some by Coville's ideas but going a bit further and probably not realizing the storm of protest that would arise from taxonomists. The taxonomists however were not at all interested in the common names in the original mss in most cases and paid little or no attention to those outside of their pet groups in the proof. Their suggestions then were not always followed. I saw nothing but Lospedeza. If I had known what was going on on native plants I certainly should have made a very vigorous protest to Dayton and Kelsey and got a lot of botanists to do likewise.

I began checking one of the first copies received and within a very few days submitted a list of over 1000 exceptions to the Dept. Committee appointed to pass on it of which Dr. Lamont was Chairman and I urged the taxonomists in S. P. I. to do likewise which many of them did and of course with all of the protests to the Committee they could hardly fail to not approve it.

I am keeping a record of all serious differences and probably now have around 200. Clute in July Am. Bot. is good. Fosberg has one in a recent Midland Naturalist and Mason has a rich one in Madrono about May or June. Of course they all had small circulation to Science.

If you kept a copy of your suggestions on Salix and can get time to bring them over at any time I have a copy of S. P. N. that you can check them on. Also I would be glad to copy the notes into my copy. I expect however to move to Beltsville about Nov. 1. My room is 5649, Phone 2922.

Yours truly,

P. L. Ricker

P. L. Ricker, Asst. Botanist.

The Torrey Botanical Club

OFFICE OF THE EDITOR IN CHIEF

21 December 1917

Dear Dr. Bale:

In getting your MS ready for the printer I noticed that apparently you do not refer to three of your references listed at the end: They are: (9), Fernald & Wiegand 1910; (16) Macoun 1890; (18) Rosendahl & Britton 1928.

I have sent it to the printer. perhaps you can insert on the galley proof ~~where these~~ these three references in the proper place.

Yours Rickett

H. W. Rickett

UNITED STATES DEPARTMENT OF AGRICULTURE
EXTENSION SERVICE
WASHINGTON 25, D. C.

3 May, 1955.

Professor J. C. Ritchie,
Dept. of Botany,
University of Manitoba,
Winnipeg, Man., Canada.

Dear Dr. Ritchie:

Replying to your letter of March 21, I am happy to say that identification of your *Salix* collections from the Hudson Bay area of Manitoba and Keewatin has been completed. I regret the delay, caused partly by some large shipment from Idaho already on hand when yours arrived, and partly by much dark and cloudy weather which hampered microscopic work.

I inclose a list of the determinations. As I had arranged the material by Sections of the genus, before making final study, I have typed the lists in the same order, including those of Mrs. Beckett in the same list with yours.

I congratulate on your attempts to determine some of them and trust that you will continue so to do.

It is possible that the occurrence of *S. arbusculoides* at Hudson Bay is an *new* extension of its range from Alaska, but I have not yet looked this up.

In your letter of Feb. 9 you spoke of a few duplicates, not mounted, which would be sent, but were included in this carton. I always am happy to determine specimens, without regard to duplicates, so do not let that worry you.

The carton is repacked and addressed, as above, and will go by franked mail shortly. I still have an appointment from the Department for doing work of this kind for the States and Provinces of the U. S. and Canada.

I inserted 4 duplicates which I found here, and if they are of use to you there you will be most welcome.

Cordially yours,

Carleton R. Ball



UNIVERSITÉ DE MONTRÉAL
FACULTÉ DES SCIENCES
INSTITUT BOTANIQUE

1265, RUE SAINT-DENIS

MONTRÉAL, CANADA

FRÈRE MARIE-VICTORIN, F.E.C., D.Sc., M.S.R.C.
Directeur de l'Institut et professeur titulaire

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ALICE KÉROACK, *Aquarelliste*

CLAIRE BRUNEL, *Assistante*

CÉCILE LANOUE, *Assistante*

February 18, 1939.

Dr. Carleton R. Ball,
Washington, D. C.

Dear Sir:

I am carrying on research the monography of the Salicaceae (Populus and Salix) of northeastern America. As I know you are working extensively on the genus Salix I am asking if it would be too much to ask to send me reprints of the various papers you published on this question.

I made studies during this summer at the Gray Herbarium and since two year I am undertaking a field work to give a good account of the species.

Hoping I shall have the honor of receiving your reprints and thanking you very much, I am, dear Sir,

Yours very truly,

Ernest Rouleau
Ernest Rouleau,
Curator of the herbarium.

P. S. Is it possible to begin an exchange of specimens of Salix between you and this Institution.

Nguluko-Likiang, Jan. 6, 1924

Dr. Frederick V. Coville,
U. S. Dept. Agriculture,
Washington, D.C.

My dear Mr. Coville:

Under separate cover I am sending you small specimens (flowering) of some 300 rhododendrons of which we secured seeds. These specimens are fragments which served for the identification of the fruiting plants and for the collecting of seeds of these particular species. Each fragment is labeled and bears two numbers; one is the number of the flowering specimen in the herbarium collection where usually five sheets of well preserved specimens of each number are to be found, the second number (the higher one) represents the fruiting specimen in the collection and also the seeds sent under separate cover. I have saved these fragments as I thought they will give you some idea of the Rhododendrons sent in, as it will take several months ere the herbarium collection will reach America. But please do not judge the Rhododendrons too much by these fragments; they are only meant to give a superficial idea of what is represented in the seed collection. Of many of the samples which served for the collecting of the seed, the flowers have dropped off or were so broken up that I had to throw them away; this holds especially good of the large leaved and large-flowered species.

In the herbarium collection each species is represented by five, well dried flowering and fruiting specimens. This large collection (the last number is 11698) I despatched today for Yunnanfu via Tolly in twenty horse-loads; they will be 22 days enroute from here to Yunnanfu.

In a recent letter from Dr. Fairchild he seems to be a bit discouraged regarding the large number of species of Rhododendrons of which I secured seeds. I may again suggest that San Francisco probably the Golden Gate Park will be the best place where the complete collection can be kept together, as the cool summers of San Francisco will be the thing for these plants. Write to McLaren the Superintendent of Golden Gate Park or to Miss Alice Eastwood if she is still alive; she has always taken a keen interest in the living plants in the park and I am certain that she will do her best to get these Rhododendrons established. They have unlimited space, and what I have seen of their Rhododendron valleys in the park, the plants there do exceedingly well and were a glorious sight in April.

I cannot too strongly recommend Golden Gate Park, San Francisco, as the most likely place where the whole collection will thrive to perfection. If we get them established in one place so much the better; seed can then be secured easily later on without going to these remote regions on the Tibet border and into Tibet proper.

I will write to Miss Eastwood and will tell her what I wrote to you.

With the kindest regards, I remain,

Very sincerely yours,

Joseph F. Rock.

GRINNELL COLLEGE

GRINNELL, IOWA

DIVISION OF
NATURAL SCIENCES

March 4, 1952.

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

Dear Dr. Ball,

Next year I plan to offer courses in Plant Taxonomy and Plant Ecology here and in addition to have several students doing individual work in Taxonomy, and we have little of recent taxonomic literature. I should greatly appreciate reprints of any of your papers that you may have available for distribution. You may be sure that they will be put to much use.

Very Truly Yours,

Norman H. Russell

Norman H. Russell
Instructor in Biology

15 sent 12 apr 52

(over)

GRINNELL COLLEGE
Professor Norman H. Russell,
Div. Natural Sciences,
Grinnell College, Grinnell, Iowa.

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

12 April, 1952.

Dear Professor Russell:

Your letter of March 4, asking for reprints of my *Salix* paper, has been shamefully neglected. I have been so driven by a paper trying to show what Hulten of Sweden did to American botany in his treatment of the Willows in his *Flora of Alaska and Yukon*, that other matters seem to have been forgotten.

Today, I am mailing you 15 of my reprints, all that I have in stock now, and trust that you may find some of them useful for the purposes named. Some of these are concerned with serious errors made by others in treating American willows. Small's renaming of *S. floridana* seems to have been deliberate, and he was known on one occasion to say "let the suckers find out the facts".

I was in error in saying 15 reprints, for one of them is only the portrait of Dr. Setchell, which was published in my paper: Dr. Setchell and Alaska Willows (*Madroño* 5:231-232, pl. 24, 1940). It may be of interest to you and your students.

You may be interested also in another paper of which I have no reprints now. It is *Illustrating Plant Organs for Taxonomic Purposes* (Castanea: Journ. So. Appalachia Bot. Club 8:67-71, 1943). It discusses the differing shape of the leaves on the basal, central, and apical portions of a willow twig, and the differences in size and shape of the leaves on spring and summer twigs and autumn shoots (sprouts).

My treatments of *Salix* are found in Coulter and Nelson, *Rocky Mountain Botany*; Abrams, *Illus. Flora Pacific States*, and the forthcoming edition of the *Illus. Flora of the Eastern U.S.* Also in the just published *Flora of Idaho*, by Prof. Ray J. Davis, Dept. Botany, Idaho State College, Pocatello, Idaho (for sale by him at \$7.70).

Just now I am trying to finish the Willows of Arctic America, for J.P. Anderson, of Iowa State College, but was slowed down by the necessity of finding out what Hulten had listed under the misleading names he used (It was a plenty. None of his new species is new, and he list three species or more which do not occur in Alaska. The specimens cited for two species represent three different species in each or two cases).

If I can be of further service, please let me know.

Cordially yours,

Carleton R. Ball

Sask

Dr. R. C. Russell,
Dept. Botany, Univ. of Sask.,
Saskatoon, Sask., Canada.

December 21, 1944

Dear Dr. Russell:

Some weeks ago I received a copy of the Revised and Annotated List of the Plants of Canada, by the late Dr. Fraser and yourself. I greatly appreciate being remembered with it. I wish also to extend hearty congratulations on your completion of what must have been an enormous task. We need more such lists. I had some correspondence with Professor Fraser and was glad to help with willows.

I now have had time to examine the list of Salices with care and submit the following notes for what they are worth.

S. borelayi Ands. This is credited to McKague, which indicates a Breitung collection. I have determined his willows for several years and have no specimen from Sask. It may be that I so named one collection and later changed the det'n. If you can give me the No. and coll. date, I will check on it. This species is not known from Sask. but occurs in the mountains of Alberta.

S. Bebbiana var. perrostrata (Rydb.) Schm. I am glad that you did not follow Rydberg in maintaining this as a species. Your stated reasons are valid. That being true, it seems rather too bad that you did not follow the same principle with S. linearifolia Rydb. and S. gracilis Anders. They bear exactly the same relations hip to S. interior and S. petiolaris, respectively, that perrostrata does to S. Bebbiana. Rydberg was publishing manuals for sale and that always influences judgement. Officials of the N.Y. Bot. Gard. admit that that was true of both Rydberg and Small.

S. curtiflora Ands. You cite this from a manual. Properly it is S. pseudocordata (~~Rydb.~~) (Ands.) Rydb. I have specimens from Macdowell and from west of Eagle Creek on Grd. Trunk Ry. It is probable that some specimens credited to S. myrtilifolia really belong here.

S. desertorum Rich. This species is not yet accurately known. When it is, some of the material placed under S. glaucops probably will belong here.

S. discolor var. ericocephala (Mx.) R. & S. The author is Robinson, not Robbins. I have specimens from Pike Lake and Prince Albert.

S. discolor var. princoides (Ph.) . I have specimens from Boulder Lake, McKague, and Prince Albert.

S. exigua Nutt. You cite it from a manual record. The plant was S. interior var. pedicellata. True exigua comes no farther east than southwest Alta.

S. glaucops Ands. See notes under S. desertorum.

S. gracilis Ands. See notes under S. Bebbiana.

S. Hookeriana Barr. You cite from a manual. This species is confined to sand dunes on the Pacific Coast from SW. Brit. Col. to NW. California. Too bad to carry such an erroneous record forward.

S. ~~linearifolia~~ lasiandra Benth. My determinations of Breitung collections show that from Golburn, Leasross, McKague, Runciman, and Wallwort.

S. linearifolia Rydberg. See notes under S. Bebbiana.

dupl in file + bulletin

S. lucida. The author is Muhl., not "Ball") Same in varietal combinations.

S. melanopsis Nutt. Well handled. This sterile specimen needs further study.

S. myrtillofolia var. *brachypoda*. See note under *S. Barclayi*. This variety seems not to come farther west than James Bay.

S. pseudomonticola Ball. You say "except in the southern part". I collected it east of Regina, Ball No. 2316, on Aug. 17, 1925.

S. salicicola Raup. This is *S. alaxensis* var. *obovatifolia* Ball, separated by leaves broader and rounded at base and petioles more clasping.

- - - - -

S. amygdaloides Ands. Your localities indicate extreme southern range but Breitung collected it at Hudson Bay Jct., Pre Ste. Marie on Red Deer River, and Runciman.

S. candida Fluegge. Breitung collected specimens of both var. *denudata* Ands. and var. *tenuescens* Fernald.

S. humilis var. *rigidiuscula* (Ands.) R. & F. Breitung collected this narrow-leaved variety at Nipawin.

S. interior var. *Wheeleri* Rowlee. This var. with short, broad leaved, usually hairy, was collected by Breitung at Hudson Bay Jct.

Salix subsericea (Anders.) Schneider. You do not list this species but I have a series of typical specimens collected by Breitung at McKague and at Pre Ste Marie on Red Deer River and two collected by myself at Burrows (Pipestone Elect. Dist.) and at Paddockwood.

With best holiday wishes, I am

Cordially yours,

Carleton R. Ball
Collaborator

Mr.
Carleton R. Ball
3814 Jocelyn Street
Washington 15.

Give him list of Bot Gardens
Dr. Wlass
Mar. 7

Dear Mr. Ball:

Your kind letter from February 22th and these most interesting papers of yours have been received with many thanks. Your thorough work has brought further my own Salix-studies for a big step, and your courtesy is deeply appreciated. It was so very difficult for me to learn something about American willows, but now, after studying your publication, I feel I have got some idea.

I am much impressed by some peculiarities in distribution of American willows. There is the case of *S. lasiandra*, which grows in New Mexico as well as in Alaska. It is hardly to be understood that a species of such high range (compared to Algae or Bryophytae) is apt to live in such different ecological conditions. A similar case seems to be *Salix humboldtiana*, which is found from the southern parts of Chile up to Columbia or further. This seems to be an interesting problem for ecologic-genetical studies!

As to your suggestions for Taxonomy of in the genus *Salix* I quite agree with you. If one regards the problem from genetical point of view, the confusion made by some systematics is difficult to understand - and more difficult to find through.

I would like to have some more representatives of American willows ^{in our Salicetum} ✓
Do you think I could get some cuttings from Arnold Arboretum if I would write later in autumn?

Your offer to help me also in the future is accepted with many thanks - but I always will try not to occupy too much of your precious time! Dare I ask for your publications coming? And please - excuse my bad English!

With many thanks,

Cordially yours,

F. Ruttner

(Dr. Friedrich Ruttner)