



Hunt Institute for Botanical Documentation
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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.

DEPARTMENT OF
REGISTRATION AND EDUCATION

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SPRINGFIELD



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STATE OF ILLINOIS
STATE NATURAL HISTORY SURVEY DIVISION

STEPHEN A. FORBES, CHIEF

URBANA

January 6, 1930.

Dr. C. R. Ball,
Office of Cereal Investigations,
Bureau of Plant Industry,
United States Department of Agriculture,
Washington, D. C.

Dear Doctor Ball:

I have had occasion recently to attempt to catalogue the species of willows known to occur in Illinois. Naturally, I am having some trouble with the task, and it would be a very great help if I could have reprints of what you consider your most helpful articles.

I shall be glad to pay the cost of these or to make any exchange that might be desirable to you.

Very truly yours,

L. R. Tehon.

Botanist.

LRT:A

*P.S. Have you ever gone over the willows
in the University of Illinois Park?*

August 14, 1932.

Mr. J. Wm. Thompson,
3704 Cheasty Blvd.,
Seattle, Wash.

My Dear Mr. Thompson:

Your letter of August 8, and the package of willows, safely received. I have taken pleasure in making prompt determinations and am inclosing the results in the form of a list of those collected by you and two copies of a list of those collected by Mr. Fiker.

The 17 specimens which you wished returned I have identified but am not sending a list as the specimens will be coming back to you soon with some of our collections which the University is sending you.

Your specimens of this years collecting I have kept for my own herbarium as I assumed that you probably would be sending a set of your plants to the University herbarium when you distribute. Those collected by Mr. Fiker I have shared with the University, as I presume that he did not collect in sets for general distribution.

The important thing in the Otis collection is his 1598, *S. piperi* Bebb, which, as I wrote you before, is a relatively rare species, especially in the Puget Sound area, altho that is the type area. I certainly hope that he can collect mature leaves this year or later, in quantity for distribution. The identification is fairly certain, altho I have no good material here to compare it with, and the leaves are only partly unfolded. If I should wish to cite this specimen later, where will it be? And where is he located?

Your No. 8183, *lasiolepis*, is about the north end of its range. Your 8191 which I call *mackenziana*, and several numbers from Fiker, may require revision later. There is some confusion between *lutea*, *mackenziana*, and *prolixa*. The first two belong to Sect. *Cordatae*, and the last supposedly to *Roseae*. It may prove to be the same as *mackenziana* finally, and also what we are now calling *mackenziana* may not be the arctic plant. Hope to work out the puzzle.

Your 8885, *S. brachycarpa*, is worse than interesting. It is intermediate between that species and *glauca* but does not match any variety of either. I leave it tentatively as *brachycarpa*. Probably it is the first record for the State, as I did not include it in Abrams flora of the Coast States, in 1922. I wish it were more typical. It may prove to be new. If it was not changed much during the drying process that might account for its dark color.

Fiker's 1006, *S. cascadiensis*, from Mt. Tiffany, is a good find, as it is away from the Cascade Range. His 572, *S. caudata bryanti* Ball, is the pubescent-twiggid aspect, being the counterpart of *S. lasiandra lancifolia* in having hairy branchlets. His 617, *S. prolixa*, will help solve the problem mentioned above.

His specimens are fairly well dried, but would be worth much more if he would cut off portions 10 to 14 inches long instead of 6-8 inches long, or just picking the short short seasonal shoots off the branchlets as he did in many cases. Picking them off takes as long or longer and the specimen is worth but little, as it gives no idea of habit, or older branchlets. I am taking pleasure in writing him, commending his interest and results.

Most cordially,

Carleton R. Ball

September 22, 1933.

Mr. J. W. Thompson,
3704 Cheasty Boulevard,
Seattle, Washington.

Dear Mr. Thompson:

Your postcard and package are safely received, and I am exceedingly interested in the material you have so kindly sent. I enclose a list of the determinations herewith.

Your No. 8953 is a wonderful specimen of *S. Mackenziana* macrogemma, having entirely developed aments and very long pedicels. The thing that puzzles me, however, is the fact that it has the leaves green instead of glaucous beneath. Is it possible that you dried these specimens with artificial heat? This sometimes has the effect of destroying entirely the glaucous characteristic. On the other hand I occasionally have seen specimens of *Mackenziana* which apparently had been dried normally but still showed unusually green beneath.

recognized
Your No. 9558 must be referred to *S. barclayi*, variety *retundifolia*. I am not sure that this has been recorded as occurring in Washington. The type locality is Kadiak Island, southern Alaska, and it is quite common there and on the Kenai Peninsula. I have seen a specimen or two from the Rocky Mountains of British Columbia. One or two of the Piper and Smith specimens of *barclayi* from Seattle must be referred to this variety. It was named by Andersson three-quarters of a century ago but has never been recorded since. The leaves, as you will note, are not "rotund" but are oval and quite different in appearance from the normal oblanceolate leaves of the species.

Your No. 9303 puzzles me greatly. I think it must be a hybrid, partly because it does not match anything else and partly because the aments are apparently stunted and not wholly fertile. The leaves resemble the unfolding leaves of *S. Scouleriana* but the capsules have distinct styles and relatively short stigmas. I therefore am referring it to a possible hybrid of *sitchensis*, though the leaves are not nearly as silvery silky beneath as typical *sitchensis*, as you will note by comparing it with the other two specimens.

Your No. 9297 apparently represents an undecided variety of *scouleriana*, which flowers with the leaves instead of before they appear. I have several specimens from northern California and adjacent Oregon. Most of them, however, have much smaller leaves, probably due to a less favorable habitat. Your specimen is quite luxuriant and I have one other of the same character which just came in from Washington. Previously I have thought the small leaves to be a distinct character.

More study of the Fiker material is needed but I wish to refer especially in this letter to his Nos. 1284 and 1285 from the wet bog at the base of Middle Tiffany Mountain, 6500 feet. They have full-grown catkins but leaves just unfolding. If it is at all possible I wish he would try to get mature leaves yet this year. I think it represents the very rare *S. Tweedyi* (Bebb) Ball which I think has never before been seen in Washington though I have no check on this. These specimens have divaricately branching shoots which strongly resemble those of *S. Richardsonii* of the Arctic, but the young leaves are densely glandular on the margins which is characteristic of *Tweedyi*. Although I have never seen *Tweedyi* with such stout branches this may be due to the altitude and snow effects. In a few days I will write you fully regarding the Fiker material, some of which is too young for satisfactory determination.

With personal regards and appreciation, I am

Very sincerely yours,

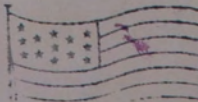
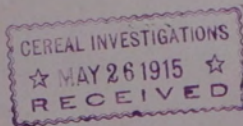
Carleton R. Ball

CRB:CSE

Research Associate

P.S. I have studied Fiker's material more thoroughly and am adding a list of his collections also. You will note that one of them I am still unable to determine and that another, his 1286, is referred provisionally to *S. pennata* Ball. It is a stout, sprangly stem from Tiffany Lake Pass, 7300 feet, which evidently has had its branchlets cut off clean and has short new shoots growing out. It must have been cut by some rodent, I think, because the cuts are like those of a knife instead of like the browsing of cattle or deer. I am much interested to know what ate it. Here too the mature leaves are needed because this shoot is leafless, with unfolding anthers.

If you can give me Fiker's address I will write him directly, if you prefer.



THIS SIDE OF CARD IS FOR ADDRESS ONLY

Mr. C. R. Ball,
U. S. Dept. of Agriculture,
Bureau of Plant Industry,
Washington, D. C.



THIS SIDE OF CARD IS FOR ADDRESS

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Dr. C. R. Ball,
Bureau of Public Administration
University of California,
Berkeley,
Calif.

Fernald

HERBARIUM OF HARVARD UNIVERSITY

CAMBRIDGE, MASS.

25 May, 1915

Mr. C. R. Ball,

Dear Sir: -

The 31 sheets of Salix, recently loaned you from this herbarium, were received today.

Very truly yours,
Edith M. Vincent.

Seattle, Wash. June 5, 1934

Dear Dr. Ball: I received the package of willows and I am sorry that you had to go to such trouble to get them to me. Collecting is coming along fine, and I hope to have a lot of interesting things to send to you later. Can you identify material that I might send about August 1st? I shall have such an enormous collection, if plans work out, that I shall have to work it up piecemeal. Please go to no bother about getting duplicate material to me, as I am 'washed up' in regard to the U. of C. All I care for is identifications. Sincerely yours,

and 6/7/34

J. W. Thompson

ESTO PUBLISHING COMPANY

P. O. Box 46

PASADENA, CALIFORNIA

Program Planning Div.

September 25, 1936.

Mr. Carleton R. Ball,
Agricultural Adjustment Administration,
United States Department of Agriculture,
Washington, D. C.

Dear Mr. Ball:

I'd be very grateful for any help you might be willing to give me with the willows, and would put it all in the next edition of "Wildflowers of Southern California" and give full credit.

I am sadly aware of Jepson's deficiencies---or at least of a lot of them---but I still feel that the various practical reasons which led me to stick to his botanical names were sound. At present I should be inclined to leave them where they are, in the bold type, and indicate corrections in these names in the 6-point type just above.

Of course the problem of producing a wholly satisfactory popular book on wildflowers is essentially insoluble. As I said in the introduction, I was merely trying to produce a first approximation of a new type, which might be lucky enough to serve a few of the purposes that earlier books didn't cover.

I have spent most of the summer in a rather remote mountain cabin and have had comparatively few reports on how the book works in practice. And practice is just what it takes a lot of at first,--and it didn't come out until what most people think of as "the flower season" is over. However, I had the pleasure of watching a couple of 11-year old girls tearing into it as if it were a brand new book of crossword puzzles; and they seemed to get the right results quite easily and accurately.

Thanks for your interest,

Sincerely yours,

Carl Thurston

Carl Thurston.

(over)

Program Planning Division

October 2, 1936

Mr. Carl Thurston,
Este Publishing Co., Box 48,
Pasadena, California.

Dear Mr. Thurston:

I have your letter of September 26 and have noted your various discussions with interest. You will get a lot of fun out of watching in different persons and group handle identifications with your volume.

I will be very glad to work up the willows of southern California for you but will not be able to give any attention to the problem until midwinter and possibly not then. I am working under considerable pressure as our program expands and no let-up seems in sight.

However, at intervals I will jot down notes that occur to me and be ready when some spare time appears. I take it that there is no hurry, so far as another edition of the volume is concerned. However, I would wish that you would have plenty of time to consider and verify the material I will prepare.

Cordially Yours,

Carleton R. Ball
Exec. Secy., Coordinating Committee,
U.S.D.A., T.V.A., and Land-Grant Colleges.



ESTE PUBLISHING COMPANY

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON

BOTANY

Memorandum for Mr. Coville

When Dr. Shreve visited Washington last fall, he agreed to go over the manuscript of the Cactaceae for the Flora of Arizona. The ranges of the species and the nomenclature need revision. As the case now stands the generic concepts are those of Dr. Engelmann and others. It seems to me that the generic concept of Echinocactus has been altered too much. The genera Echinocactus, Sclerocactus, Ferocactus, Utahia and Pediocactus should be reduced to one genus, the name Echinocactus serving for enlarged genus. On seeing the various plants in the field, it is difficult for me to recognize more than one type, that of Echinocactus. The characters used in the Flora of Utah and Nevada in separating the segregates from Echinocactus seem to have only specific standing and should be so considered. If we allow the splitting up of Echinocactus into a number of genera, then we must in order to obtain a uniform result split up a number of other genera as for instance Pinus, Populus etc.

With respect to the other genera my mind is open to any change that Dr. Shreve may suggest. Dr. Shreve knows more about the Family so far as the Arizona species are concerned than any other botanist living. It would be very desirable to have him attend to this work.

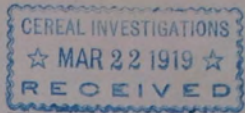
Very respectfully

Ivar Tidestrom

Las Vegas, Nevada.

March 16, 1919.

C. R. Ball



My dear friend!

I find in transcribing my manuscript of Salix nothing about S. perplexa C. R. B. As I am listing my plants according to the belts or zones I am anxious to know where this species grows. If you only ^{find} it from the type locality give me the latter as I can put the species in ^{the} list where it belongs. I recognized 6 belts.

1. Desert and plains

2. Lower cañons

3. Oak or Pinon

4. Aspen 2100 - 2700

5. Spruce 2700 - 3000

6. { Subalpine 3000 +
Alpine

Last Wednesday I had a delightful time at Needles, Cal. - and found one willow - 35 numbers in all. Things have not started at this place except Populus.

Best wishes.

I. T.

Tidestrom Ivar



München, Samstags den 9. Aug. 1909

Aug 9, 1909

Herrn Hochwoulgeboren

erlaube ich mir anbei 12 1/2 meiner Zoologischen Mitteilungen zu überreichen. Die zweite Nummer soll im Oktober d. J. erscheinen und eine Übersicht der auf Zeitschriften, bezüglichen Literatur der Jahre 1908-9 bringen. Um dies möglichst vollständig erreichen zu können, richtet ich an Ew. Hochwoulgeboren die ergebene Bitte, mein Unternehmen

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[Zoologie Anatomie, Systematik Biologie, Zoologie London] bezügl. Literatur - welche auf Kunst zurückgegriffen werden - unterstützen zu wollen.

Hochachtungsvoll

Ad. Toepffer

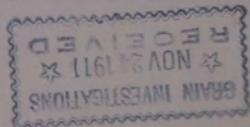
München, 5. November 1911.

Hochgeachteter Herr!

Für die liebenswürdige Überantwortung der mich
aufs höchste interessierenden & interessanten
Brochuren spreche ich Ihnen meinen ergebensten
Dank aus und bitte mir zu erlauben, Ihre
Freundlichkeit durch die Fortsetzung meiner
Salvologiischen Mitteilungen u. d. m. d. zu erwidern.

Mit größter Hochachtung
ergebenst H. Tacff.

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The Catholic University of America
Washington, D. C.

SCHOOL OF ARTS AND SCIENCES

Sept. 4, 1933.

DEPARTMENT OF BIOLOGY

Dr. Carlton R. Ball
Research Associate Botanist
Leland-Stanford University, Calif.

My dear Doctor Ball:

While awaiting receipt of your
promised key to my Yoho Park species of willows,
I am herewith enclosing an artificial key I prepared
^{by modifying your "Stephens Flora of Glacier Park,"}
and which I found workable with my Yoho and Hotsithief
Creek species.

In a day or two I intend to parcelpost to you a
package of my entire small Hotsithief Creek collection
of Salix (which now belongs to the Catholic University
here) with tentative names thereof, which I beg you to
kindly check or correct. Unfortunately I have no
duplicates except in the case of one or two species,
but these you may retain.

With the kindest regards,
Yours truly,
Titus Ulke.

Notified Ulke of non receipt Oct. 9

October 17, 1933.

Mr. Titus Ulke,
Dept. Botany,
Catholic Univ. of Am.
Washington, D.C.

Dear Mr. Ulke:

In further reply to yours of September 4, I am inclosing a key to your willows of Yoho Park. This is tentative only, and I will be very glad if you will try it and see how it works.

It is a natural key, as you will note, in that each member is a definite step forward, and not merely a blind guide telling you to go somewhere else, or that what follows merely is not like what went before.

Furthermore, the species and varieties are keyed in their accepted botanical order, and related varieties are kept together. For instance, one could take out all forms having leaves green beneath at the very start. But that would leave far behind some glaucous-leaved forms closely related.

The proposed key follows accepted botanical usage in employing fruit characters as the primary dividing tests. This is its weakness, for many collections do not have fruits or flowers.

I am making all my own keys now with vegetative characters employed for the primary separations and will send you a draft for your species constructed on that basis. It is somewhat more difficult to make but much more satisfactory in use. I gave one to a group of nature lovers this year for their summer school and to their surprise they were able to key the willows accurately.

However, you will note that I have used more than one character in most cases, and always have given two or three in the second and third ranks, so that even without fruits one could soon locate his plant, I think.

I will be much interested to know how this key works with your material.

Cordially yours,

Carleton R. Ball
Research Assoc. in Government Relations.

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA

ROBERT G. SPROUL
PRESIDENT OF THE UNIVERSITY

ROBERT M. UNDERHILL
SECRETARY OF THE REGENTS

September 16, 1931

Dr. C. R. Ball
University Library.

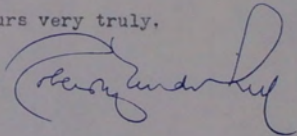
Dear Dr. Ball:

At the meeting of The Regents of the
University of California held on September 15, 1931,
President Sproul reported the valuable assistance you
have given in the work of the Herbarium in the deter-
mination and systematizing of the collections of wil-
lows.

The Regents instructed me to express
to you their appreciation of your assistance. The Uni-
versity is most grateful to you.

Yours very truly,

BM



September 24, 1931

Mr. Robert M. Underhill
Secretary of the Regents
of the University of California
Berkeley, California

Dear Secretary Underhill:

I have your letter of September 16, expressing the appreciation of the Regents for assistance given by me to the Department of Botany of the University. I appreciate the kind words you have written concerning this service.

In my turn I take the greatest pleasure in saying that nowhere have I found a more cooperative and appreciative group of workers than is comprised by Dr. Setchell and his associates in the Department of Botany. The work itself has been a pleasure to me, but the association with this hard-working and public-spirited group has been not only a pleasure in itself but an inspiration in the somewhat tedious work of determining the accumulated material.

Very sincerely yours,

Carleton R. Ball
Research Associate in
Federal-State Relationships in
Agriculture and Natural Resources

CRB:LS

MISSOURI BOTANICAL GARDEN

2315 TOWER GROVE AVENUE

ST. LOUIS 10, MISSOURI

PROSPECT 5567

November 14, 1951

Dear Dr. Ball,

I write to answer your letter of November 8th regarding my visit to Dr. Gilmore W. Soule. I was able to visit him as I had hoped and I told him of your wish that he might be able to give further information regarding certain willows he had collected. He regretted that he was unable to say more than that if his notes said such and such then such and such was what he had observed at the time.

I wish I could feel so certain of my own notes! I have found it easy to make a mistake.

I am sorry that I could not obtain for you any further information. Have you seen the Aleutian specimens collected since the war by various University of Michigan parties? These might have fuller data. They are deposited at the University of Michigan.

With all good wishes,

Sincerely yours,

George B. Van Schaack
George B. Van Schaack

(See over)

Dear Dr. Van Schaeck:

16 Nov.

Many thanks for your letter of 14 November, and your report on the visit to Dr. Soule. We will call the incident closed.

Of the some 1200 willows I received for determination last year, considerably more than half are from the arctic and most of them from Alaska, due to the activities of the Naval Research Station and its field men. Of those, I am sure that Dr. Louis Jerdal represented the Univ. of Mich. and that Lloyd Spetzmann was from Univ. Minnesota. Of the several others I am not certain, without looking up. I have duplicates of most of the collections and my knowledge of the arctic distribution and expression of many species has been greatly increased. This year's collection soon will be coming in, the probably not in such great quantities.

With many thanks, I am

Cordially yours,

Carlsten R. Ball