



Hunt Institute for Botanical Documentation
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

The Hunt Institute is committed to making its collections accessible for research. We are pleased to offer this digitized item.

Usage guidelines

We have provided this low-resolution, digitized version for research purposes. To inquire about publishing any images from this item, please contact the Institute.

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.

SOUTHERN BRANCH
UNIVERSITY OF IDAHO
POCATELLO

Dec. 27, 1937

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

I sent you another package of willows that I overlooked for the first ones. I know part of them are duplicates, and if these are of any use to you keep them.

Sincerely yours,
Ray J. Davis

3814 Jocelyn St., N.W., Washington, D.C.
January 8, 1937

Dear Professor Davis:

Your letter of December 27 arrived after I had returned the shipment of willows. There probably were a few more duplicates in the second package but not many.

I hope the return shipment arrived safely. I was very glad to see the material and greatly appreciate the specimens you so kindly gave me. I always am glad to determine material at any time, whether there are duplicates or not.

With best New Year wishes, I am
Cordially Yours,

Carleton R. Ball

November 18, 1941

Professor Ray J. Davis,
Department of Botany,
Southern Branch, University of Idaho,
Pocatello, Idaho.

Dear Professor Davis:

Your letter of November 6 is just today received and I note with much interest the cooperation you are having in determining the distribution of the plants of Idaho. I saw Mr. Christ here in Washington a few days ago and he told me essentially what you have written. With the cooperation you have developed you should be able to do a much better job than is done by those who stick to the material in one or two herbariums.

I suppose that the Epling material is in the Herbarium of the University at Moscow and, therefore, is wholly at your service. As I recall, he did some good collecting in the mountains in the northern part of the State especially.

I am delighted to know that you are coming east in January to look up Idaho material in eastern herbariums. I certainly will want to see you at that time and if I can be of any help to you it will give me pleasure. I do not now remember whether I promised to write up the willows of Idaho for you. I know I did for either you or Mr. Christ and when I get through with Nevada I hope to be able to begin on that job.

Cordially yours,

Carleton R. Ball,
Executive Secretary

SOUTHERN BRANCH
UNIVERSITY OF IDAHO
POCATELLO

November 24, 1941

Dr. Carleton R. Ball
Extension Service
U. S. D. A.
Washington, D. C.

Dear Doctor Ball:

Your letter of November 18 was received, and I was glad to hear from you. Especially was I glad to hear that you would be willing to write up the Willows of Idaho for me. It must have been Mr. Christ that you told that you would do it. Whoever it was that you told, I will be glad to have you do the job. Doctor Epling wrote me two or three years ago, and said that I could use his plants and notes, but I heard last spring that Mr. Ewan of Colorado was using them to write up the Northern end of the state. I am just writing him today to see if his publication will be out in time for me to use.

Cordially yours,

Ray J. Davis

Ray J. Davis
Prof. of Botany

RD:mr

SOUTHERN BRANCH
UNIVERSITY OF IDAHO
POCATELLO

Jan. 14, 1942

Dr. Carleton R. Ball ✓
Extension Service, U.S.D.A.
Washington, D.C.

Dear Dr. Ball:

Your letter of Dec. 26 was here when I returned from Laramie, Wyoming. Many thanks for your thoughtfulness in correcting the name of the willow.

I have put in about three weeks at the Rocky Mt. Herbarium at Laramie and have about that much more time to spend there. I am planning on reaching Washington the first part of February.

Very sincerely yours,
Ray J. Davis

May 24, 1943

Professor Ray J. Davis,
Dept. of Botany, So. Branch
University of Idaho,
Pocatello, Idaho.

Dear Professor Davis:

I have just received your suggestions of May 13 on the proposed Flora of Idaho, and find myself in close general agreement with most of them. I feel that an author is justified in asking fairly uniform treatment of special groups by the respective specialists.

Personally, I feel that both keys and sequence of species in the keys and in the text should show relationships rather than emphasize single differences. The latter is the easier way, but the whole intent of keys and text is to inform, and emphasizing differences and concealing relationships is not really informing.

For these reasons, I prefer to arrange the species in order of groups, with the species of each group (section) in sequence. The keys would be constructed on the same basis. I do not mean that the sections should be keyed and described first of all, as I did in Coulter and Nelson's New Mammal.

When the above method is followed, each successive use of keys or text teaches the user a little more about relationships and finally he acquires a working knowledge of a difficult group. I regard this as the "natural" as compared with the "artificial" method of keying species by first lumping all those showing a single character, as glaucous leaves or pubescent capsules. This puts unrelated entities together and artificially separates closely related species, as *S. caldata* and *S. lasiandra*.

I have given the reasons for the faith that is in me, but will be glad to follow your wishes in the matter. I especially commend your suggestions on common names. Standardized Plant Names is a crime.

As to the ~~vegetation~~ faunal zones, I will need some help from you to make my designations accurate.

O have had two months in hospital and two weeks of convalescence from which I am recently emerged. It put me behind on my work but as I am retiring in June I hope to get belated willow papers out before the end of the year.

Cordially yours,

Carleton R. Ball
Executive Secretary

September 25, 1943

Prof. Ray J. Davis, Dept. Botany,
So. Branch, Univ. of Idaho,
Pocatello, Idaho.
Dear Professor Davis:

I retired from Federal service on June 30 and, among other writing, I am starting on my monograph of American willows. Have just finished the ms. of the willows of Nevada for our Bu. Plant Industry. The treatment purposely is full and the keys extensive, so that amateurs may use them, based on both floral and vegetative characters.

I shall use the Nevada write-up as a basis for work on the Idaho willows. Is your treatment projected in the form of a manual, similar to Coulter-Nelson Man. Rocky Mtn. Botany and Peck's recent manual of the Oregon flora? Because of the difficulty many people have with the willows, I would like to treat each one a little more fully than most other plants require. If you will look at the Rocky-Mtn treatment, you will see that I first gave keys to the Sections and then to the species in each section. Would you care to have such a presentation?

If you care to have the willow specimens from other Idaho herbaria sent to me for checking, I'll be glad to determine and return them.

Cordially yours,

Carleton R. Ball
Collaborator

P.S. When writing the above, I overlooked our correspondence of last May, which was filled with "Idaho Willows" and not in the letter file. It answers several of my queries and I will be guided by it in general. I find that Ball sent me some of his willow manuscript some 14 years ago and that will be handy for the northern part of the State.

I am somewhat doubtful of your feeling that varieties should not be keyed. Of course, the differences can be shown with the citation and probably as briefly as in the key.

A hasty survey of my determinations shows a total of 34 species (two represented only by a variety), and 20 additional varieties. It seems likely that a search of herbaria and of western-State (mixed) lists of determinations may add one or two species and perhaps some varieties also. I had only 24 species and numerous varieties in the Nevada manuscript.

SOUTHERN BRANCH
UNIVERSITY OF IDAHO
POCATELLO

November 12, 1943

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

Dear Dr. Ball:

Your letter written last September came in my absence while I was out of the state with the Forest Service. I started back with the school again on November 1, so I will be here at least this winter.

I will write to the other institutions and see if I can borrow their collections of Idaho willows and send them to you.

I am not planning on making keys for varieties except where there are several varieties under one species as you will have in willows. It may be wise to make keys for them. Use your own judgement. I like your treatment in Nelson's New Manual of Rocky Mountain Botany, so write the willows the way you think best. My judgement in the matter will not be as good as yours.

Yours very truly,

Ray J. Davis

RAY J. DAVIS
Professor of Botany

RJD/mdj

Copy of letter to Ray J. Davis accidentally written on back of one from
Prof. H. A. Davis of West Va.

February 23, 1945

Prof Ray J. Davis,
Dept. Botany, Southern Br.,
University of Idaho, Pocatello.

Dear Professor Davis:

Since writing you on Feb. 21 *, I have looked up our correspondence and find that you wrote me about the treatment of Salix and sent me a sample of your treatments.

Today I have run off a list of the known and possible species and varieties of Salix for Idaho. I inclose copy. The title is in error, as "presumably" some will not be found in the State. The final three columns show, by X, if the plant is known from the State, if it is in my write-up of Nevada willows, and lastly if it is in my treatment in Flora of the Pacific Coast States. The list shows that a lot of the spare work has been done. Herbarium search may include some of the doubtful ones.

You wrote of getting the Idaho willows sent to me from other State institutions. It might be well to get started on this so that distribution may be known accurately. Will you, or shall I, ask the State College at Pullman, Wash., to send their Idaho specimens?

Cordially yours,

Carleton R. Ball,
Collaborator.

* The letter of "Feb. 21" apparently is the one I wrote to Prof.
H. A. Davis. CRB.

WILLOW SPECIES AND VARIETIES PRESUMABLY IN IDAHO FLORA

Listed by Carleton R. Ball, Feb. 23, 1945

No.	Name	Included in		
		Ida.	Nov.	P.C.S.
1.	<i>Salix caudata</i> (Nuttall) Heller var. <i>bryantiana</i> Ball & Bracelin var. <i>parvifolia</i> Ball	X X X	X X	X X
2.	<i>S. lasiandra</i> Benth var. <i>Abramsi</i> Ball var. <i>lanceifolia</i> (Andersson) Bebb var. <i>macrophylla</i> Andersson	X X X X	X X X X	X X X X
3.	<i>S. amygdaloides</i> Andersson	X	X	X
4.	<i>S. argophylla</i> Nuttall	X		X
5.	<i>S. exigua</i> Nuttall var. <i>lutescens</i> (Rydb.) Schneider var. <i>nevadensis</i> (Watson) Schneider var. <i>stenophylla</i> (Rydb.) Schneider var. <i>virens</i> (Rowlee) Schneider	X X - - -	X - X X -	X - X X ?
6.	<i>S. melanopsis</i> Nuttall var. <i>Bolanderiana</i> (Rowlee) Schneider var. <i>tenerrima</i> (Henderson) Ball	X X X	X X -	X X -
7.	<i>S. Farrae</i> Ball	-	-	X
8.	<i>S. ligulifolia</i> Ball (or as var.)	X	-	X
9.	<i>S. lutea</i> Nuttall var. <i>fumelica</i> Ball var. <i>platyphylla</i> Ball var. <i>Watsoni</i> (Bebb) Jepson	X X - -	X - X X	X X - -
10.	<i>S. Mackenziana</i> (Hooker) Barratt	X	-	X
11.	<i>S. monochroma</i> Ball	X	X	X
12.	<i>S. pseudocordata</i> (Andersson) Rydb. var. <i>equalis</i> Andersson	X	X	X
13.	<i>S. lasiolepis</i> Benth (Davis,) var. <i>Sandbergii</i> (Rydb.) Ball var. (southern narrow-leaf)	X X X	X X X	X - -
14.	<i>S. Wolfii</i> Bebb (Davis,) var. <i>idahoensis</i> Ball	X X	- X	- X
15.	<i>S. Barclayi</i> Andersson var. <i>angustifolia</i> Andersson var. <i>hebecarpa</i> Andersson var. <i>rotundifolia</i> Andersson	X	-	X

16.	<i>S. cernuata</i> Bebb			
	var. <i>denudata</i> Bebb	X	-	X
	var. <i>puberula</i> Bebb	X	X	X
	var. <i>sericea</i> Bebb			X
17.	<i>S. Eastwoodiae</i> Ckll.	(Davis,	)	
		X	X	X
18.	<i>S. pseudomonticola</i> Ball	-	-	X
	var. <i>padophylla</i> (Rydborg) Ball	-	-	-
19.	<i>S.</i>	-	-	-
19.	<i>S. Barrattiana</i> Hooker	-	-	-
	var. <i>angustifolia</i> Andersson (S. Albertana)	-	-	-
20.	<i>S. Tweedyi</i> (Bebb) Ball	X	-	-
21a.	<i>S. pedicellaris</i> var. <i>hypoglausa</i> Fernald	X	-	X
22.	<i>S. nivalis</i> Hooker	(Davis,	)	
	var. <i>saximontana</i> (Rydborg) Schneider	X	-	X
23		X	X	X
25.	<i>S. vestita</i> Pursh	-	-	X
	var. <i>erecta</i> Andersson	-	-	-
24.	<i>S. cascadiensis</i> Ckll. (S. tenera)	-	-	X
25.	<i>S. Dodgeana</i> Rydborg	-	-	-
	QUALIFOLIAE			
26.	<i>S. anglica</i> Chamisso			
	var. <i>araioclada</i> Schneider	X	-	-
	var. <i>kophophylla</i> (?)			
27.	<i>S. arctica</i> Pallas	-	-	-
28.	<i>S. petrophila</i> Rydborg	X	X	X
	var. <i>caespitosa</i> (Kennedy) Schneider	-	X	X
	GLAUCAE.			
29.	<i>S. "glaucops"</i> Andersson	X	-	-
30.	<i>S. brachycarpa</i> Nuttall	X	-	-
	var. <i>Sansoni</i> Ball	X	-	-
31.	<i>S. orestera</i> Schneider	X	X	X
	ARGENTAE			
32.	<i>S. bella</i> Piper	X	-	X
33.	<i>S. Drummondiana</i> Barratt	(Idaho cited)	X	-
			X	X
34.	<i>S. Lemmonii</i> Bebb	?	X	X
35.	<i>S. new</i> (?) species related to <i>S. Lemmonii</i>	X	-	-
36.	<i>S. subocerulea</i> Piper	X	X	X

PLANTIFOLIAE

37. <i>S. planifolia</i> Pursh	X	-	-
var. <i>monica</i> (Bebb) S. Schneider	X	X	X
var. <i>Nelsoni</i> Ball (Davis)	X	-	-

38. <i>S. pennata</i> Ball	-	-	X
----------------------------	---	---	---

CANDIDAE

39. <i>S. Candida</i> Fluegge	X	-	--
-------------------------------	---	---	----

SITCHENSES

40. <i>S. Coulteri</i> Andersson	X	-	X
41. <i>S. Jepseni</i> Schneider	-	X	X
42. <i>S. sitchensis</i> Sanson	X	-	X

DISCOLORES

43. <i>S. discolor</i> Muhl. var. <i>prinoidea</i> (Pursh) Andersson	-	-	-
44. <i>S. Scouleriana</i> Barratt	X	X	X
var. <i>coctanea</i> Ball	X	X	-
var. <i>Thompsoni</i> Ball	X	-	-

ROSTRATAE

45. <i>S. Bebbiana</i> Sargent	X	X	X
var. <i>perrostrata</i> (Rydberg) Schneider	X	-	?
46. <i>S. Geyeriana</i> Andersson	X	X	X
var. <i>argentea</i> Bebb	X	X	X
var. <i>melaina</i> Henry	X	-	X

OTHER POSSIBILITIES

- S. prolixa* Andersson
S. myrtillofolia Andersson

SOUTHERN BRANCH
UNIVERSITY OF IDAHO
POCATELLO

February 14, 1946

Carlton R. Ball
3814 Jocelyn Street N.W.
Washington D.C.

Dear Mr. Ball,

I am trying to get together as much of the manuscript of my Flora of Idaho as I can. If you have the one on the willows complete, I would like to have it mimeographed so I can use it in our classes.

I have a little extra help right now and could get it out at this time. Later on I might not have all the help or again I might. But at least I could do it now if you have it finished. If not don't worry about it. I will be glad to get it any time I can get it.

Sincerely yours

Ray J. Davis

Dr. Ray J. Davis
Prof. of Botany

RJD:hrr

(over)

Dr. Ray J. Davis,
Dept. of Botany, Southern Branch,
Univ. of Idaho, Pocatello, Idaho.

February 24, 1946

Dear Dr. Davis:

^{am}
Your letter of Feb. 14 is here and I tremendously sorry to disappoint you in the matter of the manuscript on the Idaho willows. I have just gotten back to practically full-time work on the willows after a most hectic period on other things.

These included finishing up some war activities in the Dept., closing out a hard year as president of a national employee organization, looking after my daughter's house, yard, and family while her husband was in the Pacific, minor illness in both families; quantities of material for identification which had piled up during this period. Slowly this condition is being resolved.

With the Nevada manuscript of recent date and the treatment in Abrams Illus. Fl. Pacific States, I should be able to do the Idaho mss. without too long delay, but cannot set a date now. I just plain sorry, especially as you have money and help available to handle it.

Cordially yours,

Carleton R. Ball
Collaborator

Digitized by Hunt Institute for Botanical Documentation

March 19, 1946

Dr.

UNIVERSITY OF IDAHO
Pocatello, Idaho

SOUTHERN BRANCH
UNIVERSITY OF IDAHO
POCATELLO

March 4, 1946

Dr. Carlton R. Ball
3914 Jocelyn St. N. W.
Washington, D. C.

Dear Dr. Ball:

Your letter regarding the Willow manuscript was received and I was glad to hear from you. However, I want to assure you that you need not rush the manuscript as my previous letter may have indicated. It will be appreciated whenever you can finish it. I will be able to do a little extra work this spring and I am anxious to do as much as I can. I was also anxious to have my students use the Willow manuscript this spring, but we will do the same thing ~~as~~ we have been doing in the past - just doing without it - until we do get it.

Sincerely yours,

Ray J. Davis

Ray J. Davis
Botany Department

Digitized by Hunt Institute for Botanical Documentation

Professor Ray J. Davis,
Dept. Botany, So. Branch,,
Univ. of Idaho, Pocatello.
Dear Professor Davis:

March 19, 1946

Your kind letter of March 4 makes me feel, in a way, even worse than I did before. The only comfort that I can get is that I am devoting nearly full time to *Salix* now.

During my illness and the subsequent war work, however, much routine as well as promised manuscript got behind, and I am dividing time between them. In truth, I could not work continuously on manuscripts which will cover two years or more.

My only satisfaction lies in the facts that I can see things getting done, altho I find that every time I get one problem solved, another has been brought to light.

Cordially yours

Carlton R. Ball
Collaborator

Today at noon I have written 5 letters and one card, and put up a packet of reprints, and written only 1 page of mss. Another day it will 4-6 pages of mss., and so it goes.

SOUTHERN BRANCH
UNIVERSITY OF IDAHO
POCATELLO

September 26, 1946

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

Dear Dr. Ball:

I was happy to get your letter and the enclosed list
of names of willows.

Dr. Beattie and wife spent several days with me
around Pocatello last June. I certainly enjoyed their
visit and got a great deal of good out of it. We have
received a card from them once after they got on the
Coast.

I hope to finish the "Flora of Idaho" this winter
as I just have odds and ends left to complete.

Sincerely yours,

Ray J. Davis

Ray J. Davis
Professor of Botany

RJD/ys

(over)

3614 Jocelyn St., N. W.,
Washington 15, D. C.
April 5, 1947

Professor Ray J. Davis:
Dept. of Botany,
So. Branch, Univ. of Idaho,
Pocatello, Idaho.

Dear Professor Davis:

Before me is your letter of Sept. 26, 1946, now half a year behind. I am sorry that you have had to wait so long for the Mss. of the willows of Idaho. I have no excuse but only a few reasons. Washington has had one of the worst winters in history. As a result, I have had two accidents, the first putting my left arm in a cast for a month and the other bruising both knees severely. Then there has been an epidemic of a new type of flu, of which I had a small dose and my family and my daughter's family here a much larger one. So the winter has gone.

On April 1, I got back to the willows in earnest and already have written some 25 letters, named two lots of critical material, one from the Greenland-Baffin area and one from 11000 ft plus in Colorado. As a result, *S. brachycarpa* var. *Sansoni* is added to the flora of Greenland (and another lot finds it in Iceland), and two east arctic Canadian varieties are added to the alpine flora of the Rocky Mtns. Also I have asked the Natl. Museum of Canada for the material which should clear up *Schneider* (*S. fullertonensis*). So much for house-cleaning.

Today I am getting out the manuscripts on which I was working and expect to go ahead at full speed from here on. During these two months I did write the paper which has recently appeared in *Rhodora*, and another calling Fernald on his rejection of our *S. petiolaris* as a "british" plant. This without one shadow of evidence and against the conclusions of all American and British botanists for 125 years. How's that for science? But it gave him a new combination. My reason for these two last papers was to get the back-fire started before the new Gray's Manual came out. It is hopeless to expect the errors to be corrected in it.

Separately I am sending you recent reprints, so far as received. Hope the one on "More plant study: Fewer plant names" may interest you.

Cordially yours,

Carleton R. Ball

SOUTHERN BRANCH
UNIVERSITY OF IDAHO
POCATELLO

December 12, 1946

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

Dear Dr. Ball:

Under separate cover I am sending you a collection of a willow that I found down in the Southwest corner of the state. I would like your opinion on it.

I heard some time ago that you had been ill. I surely hope that you are feeling better by this time.

How are the Idaho willows coming? I have most of the manuscript ready now for my flora but have a few odds and ends to pick up.

Don't over do yourself for my sake, however, if you are still under the weather.

Please accept my best regards for the holiday season.

Very sincerely yours,

Ray J. Davis

Ray J. Davis,
Professor of Botany

RJD/ms

(See over)

3814 ~~2000~~ Jocelyn St., N.W.
Washington 15, D.C.

January 15, 1947

Prof. Ray J. Davis,
Dept. of Botany,
So. Branch, Univ. of Idaho,
Pocatello, Idaho.

Dear Professor Davis :

Your letter of Dec. 12 and the willow specimen came in the mid-December rush, complicated by a double dose from the Canadian Arctic.

Your plant is *S. Scouleriana* var. *coetanea* Ball, and almost certainly a hybrid with *S. subcoerulea* Piper, as shown by very silvery pubescence and darker twigs. The var. is recognized by coetaneous flowering and by pedunculate aments.

I have started active work on the Idaho willows and will drive thro' no with little interruption, I hope. Sorry for these long delays. Have been laid up again for a week, but will be out tomorrow.

With all good wishes for the New Year, I am

Cordially yours,

Carleton R. Ball

Sent more plant study 1/15/47

SOUTHERN BRANCH
UNIVERSITY OF IDAHO
POCATELLO

April 11, 1947.

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

Dear Dr. Ball;

Your letter of April 5th was received and I surely appreciate hearing from you; however, I was sorry to learn of your sicknesses and accidents. It seems as though you have had your share of difficulties this past winter, but let's hope you have reached the end of them.

I was happy to hear that you had got back to the willows again. I am just waiting now for the manuscripts of other people to come in so I can complete the Flora of Idaho. I have about finished the part that I expect I will have to write.

Don't overdo on the willows, however. I have two or three people that are helping me who have indicated that they will not be able to get their manuscripts in for a little while yet.

Sincerely yours,

Ray J. Davis

RAY J. DAVIS,
Professor of Botany,
Idaho State College,
Pocatello, Idaho.

RJD:coh

(over)

331A Jocelyn St., N.W.,
Washington 15, D.C.
May 1, 1947

Prof. Ray J. Davis,
Dept. of Botany,
So. Branch, Univ. of Idaho,
Pocatello, Idaho.

Dear Prof. Davis:

Your letter of April 11 came promptly. Am making some progress on manuscripts.

Have just taken out time to determine a bunch of Idaho willows for J. H. Christ.

Copy of the list is inclosed. More aberrant specimens than usual, caused, perhaps
by high elevations. Wish he had given altitudes. It is very desirable in mountainous country for determining range.

Cordially yours,

Carlton R. Ball

Digitized by Hunt Institute for Botanical Documentation

IDAHO STATE COLLEGE
POCATELLO, IDAHO

September 20, 1948

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

Dear Mr. Ball:

I am back on the job again and I am trying to round up my "Flora of Idaho". I have all the manuscripts completed now with the exception of two or three groups of plants. I would like to get the material to the printers as soon as possible.

What is the situation with regard to the Willows? I can use the manuscript anytime that you can get it to me.

How is everything in Washington?

Sincerely yours,

Ray J. Davis

Dr. Ray J. Davis
Professor of Botany
Idaho State College
Pocatello, Idaho

(over)

Prof. Roy J. Davis,
Dept. of Botany,
Idaho State College,
Pocatello, Idaho.

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

October 7, 1948

Dear Prof. Davis:

Your letter of Sept. 20 must have stopped over to visit enroute, for it got here only two or three days ago.

Last spring I gave a talk on the Private Lives of the Willows at our Bot. Soc. here. At the meeting, Dr. Campbell, editor of Scientific Monthly, made an appeal for popular manuscripts. When I got thro he immediately asked me for a paper on the uses of willow. I had 120 pages which I hope to get into a small book some day. Last week I boiled it down and yesterday sent him 5000 words (what he asked for). In Sept. I gave a paper telling taxonomic botany what ailed it (at the centennial meetings here). That also I have put into mss. and sent to Bot. Gaz. which probably will refuse it.

When your letter came I was just finishing the "uses" paper. Now I have a clear field and will go to work on your paper at once. I have just read our correspondence to get the methods in mind. As I had noted earlier, many of the descriptions and most of the keys are contained in the mss. I prepared on Willows of Nevada, to be mimeographed by the government as an unemployment measure but which was completed just after the funds ran out. These I will copy, with such changes as later knowledge makes desirable. I shall set the "stint" of getting it done in one month. Probably won't quite make it.

You wrote that distribution was to be indicated by Life Zones. I don't know enough to do that for a mountain State, where the zone lie one above the other. How shall that be done?

I have just run through all my determination lists filed under Idaho, and also have extracted Idaho references from lists covering several western States. From these I have taken the Idaho collections of *S. caudata* and *vars. Bryantiana* and *parvifolia*, *S. lasiandra* and *vars. Abramsi* and *lanceifolia*, and *S. amygdaloides*. (I found no *S. lasiandra var. macrophylla*). Tomorrow, I will check these list against my herbarium and the U.S. Natl. Herbarium, and add any more records. Then I will type them and send to you and you will see how to express the distribution by zones.

Perhaps you can do this for all the Idaho willows, at least for those wide-distributed in the State, by consulting the large numbers in the herbarium there. If necessary, I will send complete records for all species and varieties, and certainly will for rare things. I think that I have sent you copies of the determination list ~~if~~ made for many other collectors in recent years.

Are the descriptions you have used in the mimeographed "Contributions" about the length you are using in the forth-coming Flora?

Do you want me to send you two copies of the manuscript, so that you will have one while the original is at the printer's? I will keep one here in any case.

Cordially yours

Carleton R. Ball

Prof. Ray J. Davis,
Dept. of Botany,
Idaho State College,
Pocatello, Idaho.

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

October 10, 1948

Dear Professor Davis:

In my recent letter I mentioned that I would draw off list of distribution records for a few willows as a basis for assigning Life Zones by you. I have done that for *S. caudata* and vars. *Byantiana* and *parvifolia*; *S. lasiantha* and varieties *Abramsii* and *lanceifolia*, and *S. amygdaloides*. Two copies of the list are inclosed. One for you to keep and one to be returned with indication of life zones.

After writing the rough draft of this list, it occurred to me that these three all have about the same distribution and probably all are Upper Sonoran, although *S. caudata* var. *parvifolia* and *S. lasiantha* var. *Abramsii* may extend to higher elevations and thus enter other zones. Probably I should have picked three species or low, middle, and higher elevations, respectively. Probably one of these, with *S. Robbinsii* or *S. Seculeriana* for middle, and *S. nivalis* or *S. brachycarpa* for high would have been best.

In any case I shall not go further on distribution and zones until I hear from you about that matter.

I have drawn of the records of occurrence of some 16 species and as many varieties from my determination lists, and will add additional records from my herbarium and the U.S. Natl. These are the rarer species and varieties, and I am doing it to get a picture of distribution in Idaho in relation to total distribution.

In checking the inclosed lists, I find that in ^{on} or two cases, the same collection number occurs under both a species and one of its varieties. This may be a result of later change of identification after the original was made, or it may be caused by specimens from different plants under one number, and the two plant representing different species, or species and variety. This has happened many times in my identifying experience. It is of little importance in this list because counties will not be cited in the manuscript.

There are about 45 species in Idaho, and 30 or more varieties, more or less good.

It seems probable that the material in the herbarium of Idaho State College should enable you to assign the Life-Zone range to most of the species and vars. without too much trouble. Elevations are given on only a small part of the collections in most cases and, in mountainous country, I suppose naming a creek or river, or mountain or town, does not indicate the exact elevation very closely.

I was interrupted on Saturday by the arrival of a small packet of Georgia willows, containing five collections of the rare and perhaps vanishing *S. floridana* Chapman, and two collections of *S. rigida* Muhl. (*S. cordata* Muhl.), never before collected in Georgia. Such is life.

P. S. The lists show my doubts about Bonner and Boundary Counties, as to Upper Priest River, etc., and Priest Lake. Do they get into Boundary Co. A few counties are missing in the lists.

Carleton R. Ball

IDAHO STATE COLLEGE
POCATELLO, IDAHO

October 11, 1948

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

Dear Dr. Ball:

Your letter of October 7 was received and I was surely glad to hear from you. Don't worry about getting the willows completed in a month. I would be perfectly happy if I got the manuscript by Christmas as that would give me time to incorporate it with the rest before publication time.

When I started this project I had some high ideals that I was going to live up to - one of which was to give the life zones of each of the plants. I have long since given up as I find most other people are like myself, unable to do it. Now I simply state whether it is alpen, mountainous, foothills, or plains, and in some cases I don't even mention unless it is important. The description in the work I have mimeographed so far will be the way it will be published. Some writers that are helping me have lengthened them out, "Barneby on Astragalus", and some have shortened them, but whatever fits the purpose and style best will be satisfactory with me.

// You will not need to send two copies of the manuscript as I will need to go over it and adjust the spacing, punctuation, etc. to match the form of the rest of the work. This will necessitate re-typing it here and I can have two or three copies made at that time. If it is not all right with you to make these changes, let me know and I will leave it just as you send it; however, I would like spacing, indentation, etc. to be uniform throughout the book if it is agreeable with you. I will not change wording and meaning in the manuscript.

Ltr. to Carleton R. Ball, Oct. 11, 1948.

I have the project pretty well finished now with the exception of a few manuscripts that I am still waiting for. These have all been promised with the exception of one who "reniged". I am starting on this group of plants now and will spend all my spare time on them so it will be ready when I get the other material together.

Sincerely yours,

Ray J. Davis

Ray J. Davis
Prof. of Botany

RJD:dk

Dr. Ray J. Davis,
Dept. of Botany,
Idaho State College,
Pocatello, Idaho.

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

October 15, 1948

Dear Professor Davis:

Your letter of October 11 is just here and I have noted the points discussed. I note that you will not use Life-Zone distributions, except as well understood. Presumably the general range of elevation should be given. There again the lack of elevation data on most of the labels hinders me but probably you could give these data (elevations) fairly easily if I gave you a list of the localities where species and varieties have been collected. Of course you already have it for the more common species, or can get it from the herbarium material there.

My idea about treatment of the genus is about as follows: The idea is widespread that willows are difficult to recognize. There will be some 45 species and about 25 varieties in the Idaho write-up. That is very different from 1 or 2 or 5 species and no varieties. The willows are recent and very plastic or variable so that more qualifying is necessary than with many genera. Being woody plants, a herbarium specimen is only a fragment, and often only a small one, the sexes being on different plants.

For these reasons, it seems fair to make two keys, and longer keys, and to make longer descriptions than average. I inclose descriptions of the first six species and their eight varieties. This is rough rough draft and can be cut down. With them are the first page of the two keys, covering these same species and vars. Any comments on treatment will be gladly welcomed. (It's rough draft).

Cordially yours,

from R. J. Davis

IDAHO STATE COLLEGE
POCATELLO, IDAHO

October 19, 1948

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

Dear Dr. Ball:

Your letter and the sample treatment of the willows was received. My reactions to it are as follows: The descriptions are just about as I would like them, with the exception of having numbers preceding the species, ^{Harvard} the genera alphabetically under the family, the species alphabetically under the genus, and the variety alphabetically under the species.

I know this is not quite according to the ^{accepted} arrangement, but I was pleased to know that Harvard University is rearranging their herbarium in this way. In this way one does not have to use numbers and it is easy for beginning students to find the desired plants because he is used to an alphabetic arrangement.

Also, my spacing in the keys is a little different than yours, but I assume that it will be all right to adjust this matter in harmony with the rest. I surely like the idea of using two keys, for as you say, the willows are hard to classify by professional men, let alone amateurs.

The matter of abbreviations of locality is a little different in a few cases from what I have been using, but this is a minor detail. My general reaction to the whole thing is that it is good.

I will be glad to help on the elevation where there is any question, if you can give me the locality. I know the state fairly well and can get close to the correct elevation by means of maps.

Ltr. Carleton R. Ball, Oct. 19, 1948

If you care to let me change the spacing in the keys and the abbreviations, also the arrangement alphabetically of the various entities, I will be glad to do it when I have a final copy made. If you would rather have it left your way that also will be all right with me.

Sincerely yours,

Ray J. Davis

Ray J. Davis
Prof. of Botany

Prof. Ray J. Davis,
Dept. of Botany,
Idaho State College,
Pocatello, Idaho.

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

October 20, 1948

Dear Professor Davis:

I inclose the second installment of rough draft manuscript of the willows. This carries the second page of both sets of keys and 8 pages of text containing numbers 7 to 19, inclusive.

I had record of only one specimen of *S. monticola* Bebb from Idaho, a collection by Kirkwood determined in 1933 for the State University of Montana. I now am doubtful about that identification and have written asking to have it and a few others sent to me for further study. That may eliminate No. 17.

I am somewhat doubtful also about No. 16, *S. Pastwoodiae*, and must restudy the material. One or two specimens, fragmentary and often juvenile, do not make for certainty. Will go over them with a fine-tooth comb and may throw it out. All of the other 17, and their varieties, are definitely in.

Thanks for the permission to complete mss. as late as end of this year. That may be the final date for me, but I have to get this first draft done by end of this month, because I have other commitments, thereafter.

I am giving some thought to the words to be used in final draft. I have been using "high" because of height, but you use "tall" and I am inclined to agree with you, because we ordinarily say a "tall" tree or "tall" shrub, rather than "high" one.

I note that the metric system is to be used throughout. I have done that except for elevations above sea-level. These are almost always given in feet on the labels, when given at all, but I will shift to metric in final draft.

Do you try to distinguish the different kinds of hairiness? I have used pubescent, pubescent, villous, and tomentose in my various writings, and am doing so in this mss., with such adjectives as gray, white, dense, thin, crinkly, etc., etc. Do you think it will be better to say "hairy", with such modifiers as those given, and also short, long, fine, etc.?

As I noted before, these descriptions will be considerably shortened in final draft. How much, I cannot now say. I am concerned about the method of giving distribution. Do you prefer south to north or north to south. Probably I have used both. Certainly the few southern species which come that far north should be given from south to north. Also it would seem that far northern species (if any) coming that far south, should be given from north to south. But most of them are North-Temperate species and could be given either way, unless we agree with some that they all came from the north during glacial times.

You would better keep this rough-draft manuscript, so that if I am eaten by a grizzly, or anything else happens, you will have the base for the willow treatment.

I did not finish my questions on distribution. How do want the Idaho distribution given? I have done it in various ways in this rough draft, as you will see. Perhaps, after all rough-draft is in your hands, you might send me a list of the citations of Idaho distribution as you would like them.

I have rough-pencilled list of the Idaho specimens for each species and var., as I sent you in typed form for the first three species. I shall not type any more, unless there is special reason. For several, I lack the county, especially where collected by Forest Service personnel. I could get the F.S. here to check those for counties, if you think it worth while. Probably most Nat. Forests cross county lines.

IDAHO STATE COLLEGE
POCATELLO, IDAHO

October 29, 1948

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

Dear Dr. Ball:

Your letter of October 20, with the manuscript, arrived and I was very pleased to get it. With regard to *S. Eastwoodiae*, I have a sheet collected in central Idaho with almost full sized leaves on it and female catkins, that you named this way. If you care to have this I will send it to you.

The way you are designating hairiness is fine with me.

With regard to the distribution, I have started on all my writing with northeasterly location, then going westward, then back to the southeast to the southwest. This is not an important matter however, and feel free to do it any way you want. With regard to Idaho, I have described it as southern, eastern, central, and northern, occasionally making a combination of these. My herbarium is so limited that I cannot give with accuracy the distribution by counties, however, you might be able to do this since you have much more information than I do.

I surely appreciate your help on this and hope that the "grizzly's" don't get you for years to come.

Sincerely yours,

Ray J. Davis

Ray J. Davis
Prof. of Botany

RJD:dk

Professor Ray J. Davis,
Dept. of Botany, Idaho State College,
Pocatello, Idaho.

5514 Jockelyn St., N.W.,
Washington 15, D.C.

November 2, 1948

Dear Professor Davis:

I inclose 3rd installment of rough-draft *Salix* mss., covering Nos. 18-25 inclusive. These are fuller than I will use finally but they include lesser-known species for which I need full descriptions as basis for keys later. I compile descriptions from publications and have checked, or will check, them against herbarium material.

In preparing these last two installments, I have managed to exclude ^{few} species for which I had Idaho records or specimens. These are:

a. *S. monticola* Bebb. Kirkwoods No. 1879, from Mont. Univ., proves to be *S. pseudo-monticola* Ball, var. *pedophylla* (Rydb.) Ball.

b. *S. Eastwoodiae* Chell. Most of the specimens so named were *S. commutata* Bebb, and its var. *puberula* Bebb. None was *S. Eastwoodiae*.

c. *S. petrophila* Rydb. Full study awhile back showed this to be a part of *S. anglorum* var. *antiplatea* Schm. A paper covering that is in press.

d. *S. oresters* Schneider. Your No. 1706, from Mt. Hyneman, Ouster Co., turns out to be *S. Wolfii* var. *idahoensis* Ball. My earlier determination was an error.

e. *S. "new species, near S. Lemmonii"*. Thro the years, I had accumulated several collections from northern California, and Nevada, and a few recently from Idaho. When I began work on them recently, I found that many were infertile and therefore aberrant in floral characters. Several of them belong to *S. Barclayi* Anders., but I have not finished determining what they really are. One of them is your 1333 from Mt. Harrison, Cassia Co. Three collections by Christ from Owyhee Co. are true *S. Lemmonii*.

Three species which occur on both sides of Idaho or close to its borders ~~but~~ have not yet been reported from the State, so far as I know. These are *S. cascadenis* Chell. (*S. tenera* Hook.), *S. Dodgeana* Rydb. (From Yellowstone Park), and *S. vestita* R. and its var. *erecta* Anders.

You will note that I have entered No. 22 as *S. desertorum* Rich. This is the *S. "glaucope"* Andersson. It may not stay under that name but there will be but one species of the complex in Idaho.

This reminds me to ask if I have ever had the willows from the University Herbarium at Moscow? There was talk way back yonder about getting them from all Idaho herbariums but I don't recall having those. I did get the *Salices* from Washington State College at Pullman, where all Piper's Idaho Collections are deposited. I listed all of the Idaho specimens.

I have written rough-draft descriptions of four more species (*S. bella* Piper, *S. Drummondiana* Barrett, *S. Coulteri* Andersson, and *S. sitchensis* Manson). But here again I am suspicious that *bella* and *Drummondiana* may be somewhat different expressions of the same thing. Will study them tomorrow.

Think that I have a recent letter from you but cannot lay hand on it now. Will attend to it next time.

Cordially yours,

Carleton R. Ball

Prof. Ray J. Davis,
Dept. Botany, Idaho State College,
Pocatello, Idaho.

3314 Jocelyn St., N.W.,
Washington 15, D.C.

November 25, 1948

Dear Professor Davis:

I have something to be really thankful for today, because I have finished the rough draft of the willows of Idaho for you.. It has been harder worker than I anticipated because I had to study a lot of material very critically. This has resulted in reducing the included species to 32, from a possible 46 with which I started. Of course, it is possible that one or two may bounce in again before all available material has been studied.

You will note that I have reduced both *S. bella* Piper and *S. ~~smithi~~ subcoerulea* Piper to the rank of varieties under *S. Drummondiana* Arratt. That required an inch by inch study of 300 to 400 sheets. When I started I supposed that they were three distinct species and it was only when I found that in about half the cases I could not tell which one I had that I began to doubt. The extremes are different but sometimes the extremes occur on the same plant, which is disconcerting. If I sent you the write-up of these three as separate species, just destroy it.

You will note that some of these later descriptions are even fuller than the earlier ones. They will be properly reduced later. As long as I am working toward a monograph, I thought I might as well work out some of the seldom mentioned characters while doing the herbarium work. So I started in recording data on twigs, buds, stipules, petioles, stemens and filaments, axent peduncles, etc., etc. Will go through and fill in omissions later, and add data on glands (not for your mss.).

Have asked the herbarium of the Forest Service, to supply the name of the County for all the Idaho specimens in the Forest Service Herbarium. They are working on it and I will enter their specimens in my lists later. I have duplicates of part of them and apparently they do not have all of the specimens originally sent in for identification. Formerly only one was sent, in some cases, and that was returned to the sender. In some cases apparently they were sent from the field direct to me.

This study has resulted in renaming numerous specimens named years ago. I have tried to keep of a record of such changes. When I have time, I will assemble these by species of original identification, and let you know about any of yours, or other Idaho material.

I inclose copy of Nos. 25 to 32, and their varieties. As noted above, if you have received write-up of *S. bella*, *Drummondiana*, and *subcoerulea* as separate species, just remove it.

I will now try my hand at the double keys (vegetal and floral characters) while the text is cooling off for revision. Will also complete search of specimens in U.S. Nat. Herb. and For. Serv. Herb. In the latter, a single species may be under 2 or more different names, as they have no rearranged with changes in status. I will help them on that presently.

Cordially yours,

Carleton R. Bell

Professor Ray J. Davis,
Dept. of Botany,
Idaho State College,
Pocatello, Idaho.

3814 Jocelyn St., N.W.,
Washington 15, ~~1948~~ D.C.

21, January, 1949.

Dear Professor Davis:

I inclose a list of determinations just made for Prof. J. H. Christ, of the Soil Conservation Service, now stationed at Portland. These all are from Idaho in 1948. I have not checked as to new counties for any of them yet.

I have just reread your letters of October 19 and 29, 1948, which apparently have not been answered. The manuscript is yours and for the use of your constituents, and therefore you should arrange it as you wish it, as to order of arrangement, spacing, numbers, etc.

I have a feeling, based on long experience, that an alphabetical arrangement of species in a genus as large as *Salix*, is not the most helpful, even for amateurs. In California, I made keys with the species arranged by Sections, for a group of school teachers who are nature lovers and amateur botanists. They went out for a two-weeks foray and were able to name every willow they found, some even to varieties. Where they are arranged by Sections (related species) the worker soon comes to know ~~xx~~ these relationships, and can work without the keys. However, as I said, this is your publication, and you will arrange the material as you wish it. It will not worry me. You recall the newsboy, asked if the heavy papers ~~fif~~ not make him tired, replied "New, I don't have to read 'em"

I don't now recall just how I have given distribution of species, but probably not uniformly. I would be interested to know just how you distinguish between "eastern" and "southern" Idaho. The southern part goes just as far east as any. I have pictured it as "eastern", "southwestern", central, and northern. Perhaps "southeastern" would be better than "western", at that.

During latter December I was off on other duties and in first half of January, Mts. Ball and I have had a two-weeks siege of colds, very prevalent here. Everything has gotten behind but I expect to get back to manuscript very soon now.

With all good wishes for the new year, I am

Cordially yours

Carleton R. Ball

P.S. I have all the Idaho specimens with Counties added to the labels, so far as I can do so, in my own herbarium and the U.S. national Herbarium. The Forest Service is working out the counties for all their Idaho willows.

If you will give me the list of counties you place in southern Idaho and in eastern Idaho, I can make my distribution reference agree with that, which you use.

IDAHO STATE COLLEGE
POCATELLO, IDAHO

February 4, 1949

Dr. Carlton R. Ball
3814 Jocelyn Street North West
Washington, 15, D. C.

Dear Dr. Ball,

Your letter and the enclosed list of identifications of Idaho willows collected by Christ were received. With regards to the arrangement of the species in your manuscript, you are in a ~~matter~~^{better} position than I to judge so you do as you choose in this matter.

If you would rather list the species in Idaho by counties that is all right, too, but in some cases it will entail long repetitions. I have been using Power county pretty much as a dividing point in my writing. Anything east of this and running the full length north and south of the state I have been considering Eastern Idaho. I have considered Southern Idaho roughly as anything south of Bonnevile county and running across the state on the Snake River Plains. I have also made the combination Southeastern where a few plants just come into the Bear River range section of the country, including the four or five southeastern counties. Southwestern Idaho includes Ohwyee county and those immediately adjoining it. Western Idaho includes the drainage of the Payette River and west and the Little Salmon River. Central Idaho includes the counties of Valley, Idaho, Custer, and Lemhi.

These, I grant, are only rough divisions so you arrange them anyway that you feel is best.

Sincerely yours,

Ray J. Davis

Ray J. Davis
Prof. of Botany

RJD:hj

IDAHO STATE COLLEGE
POCATELLO, IDAHO

October 13, 1949

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

Dear Dr. Ball:

Last evening I started work on the manuscript for the willows to get them in shape for publication. I found everything in good order except the keys. I have two pages of them. One page is based on the floral characters and the other is based on vegetative characters. Each page covers the first six species: *S. lasiandra*, *S. caudata*, *S. amygdaloides*, *S. argophylla*, *S. exigua*, and *S. melanopsis*.

Whether I lost the remainder of the manuscript or whether you never sent it, I am unable to answer. I notice that I have a carbon copy so I am wondering if you still have the original. If so, I would surely like to borrow it long enough to get a copy made.

The descriptions of the species all seem to be in good shape and with a little proofreading will be ready for the printer.

If you can help me on my key dilemma, it will pull me out of quite a hole.

Sincerely yours,

Ray J. Davis

Ray J. Davis
Professor of Botany

RD/cd

Not answered by me so
Davis sent carbon copy on 29/12/49

IDAHO STATE COLLEGE
POCATELLO, IDAHO

December 15, 1949

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

Dear Dr. Ball:

On October 13 I wrote you saying that I was trying to get the willows in shape for publication, and found that I only had keys for the first six species: *S. lasiandra*, *S. caudata*, *S. amygdaloides*, *S. argophylla*, *S. exigua*, and *S. melanopsis*.

I don't mean to press you on doing these, but I would like to know if you can do it in the very near future, as I am being pressed by Washington State College to have the book ready for use a year from now. The book they have been using is almost out of print, and they do not wish to have another printed if mine will be ready. Consequently, I am up against a matter of time now. If you cannot do this, let me know, and I will do the best I can on keys; but I fear they will be a sorry lot.

Accept my kindest personal regards for the holiday season. May the new year bring you health and continued activity. You should see several "snows" before a grizzly bear gets hold of you.

Sincerely yours,

Ray J. Davis

Ray J. Davis
Professor of Botany

RD/cd

(over)

IDAHO STATE COLLEGE
DEPT. OF BOTANY
3814 Jocelyn St., N.W.,
Washington 15, D.C.
22 December, 1949.
Prof. Ray J. Davis,
Dept. of Botany,
Idaho State College,
Pocatello, Idaho.
Dear Professor Davis:

Your letter of 15 December is here. If there was an earlier one I cannot now lay hands on it. Sorry.

I have spent most of today going over the manuscript on Idaho willows, the start of keys, and our previous correspondence.

I find that I sent you the manuscript of the 32 species and their varieties in three separate installments. It was rough draft and stated to be more extensive in wordage per species than you probably would be able to use. Also there were a few gaps in range to be filled in, and possibly some corrections or small additions at the text.

I do not seem to have had any of it returned with suggestions as to the treatment of descriptions, the method of citing the range or distribution for the whole, or for Idaho. Have you edited it to such form as is suitable, or do you plan to return it to me for further editing in the light of such suggestions as you may make?

Also, do you have a copy of the page covering No. 22, *S. desertorum* Richardson? That page is missing from my rough draft. If you have it, will you send me a copy of it?

In the meantime, I shall go to work on the two sets of keys and try to rush them through.

XX You will note that I have given the Counties in Idaho for each of the rarer species, and the most southern and most northern Idaho Counties for some less rare but not generally distributed over the State.

I probably can give a few more counties for some of these in each of these two categories, if you wish to follow that plan, and are not returning the edited rough draft mes. to me. That is all up to you.

I'm sorry for all of this delay and trouble I have caused you. But I send my best wishes for the holiday season and for the coming years.

Cordially yours,

Carleton R. Ball

IDAHO STATE COLLEGE
POCATELLO, IDAHO

Dec. 29, 1949

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

Dear Dr. Ball:

I am enclosing the carbon copy of my letter to you on Oct. 13. I think it is self-explanatory.

The descriptions are a little longer than those of other plants in the book, but I won't bother about that. There are a few places where information is lacking. It would help if you could fill this in. The keys are the things I can not write.

I have not been able so far to get a publisher to even nibble on the book until I have the manuscript in final form. Because of this I am a little anxious to get the last two parts in, one of which is the *Salix*.

Accept my best wishes for a successful New Year and plenty more of them.

Sincerely yours,
Ray J. Davis

(over)

Prof. Ray J. Davis,
Dept. of Botany, Idaho State College,
Pocatello, Idaho.

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

4 January, 1950

Dear Professor Davis:

Your letter of 29 December is here and I thank you for the copy of your letter of Oct. 13 and the return of the carbon of my page on 22 *S. desertorum*.

I have given the keys to the 32 species and their varieties immediate attention and have just completed what I call a "working" key to them. By this I mean an extensive key, containing both the key and abbreviated descriptions of the Sections and species. From this, a more abbreviated key will be constructed.

I am inclosing a copy of this key, for 3 reasons. First, it will insure that you have the basis for keys, in case those grizzlies get here before I finish the abbreviation. Second, You may wish to retain it as a working key for your own use and may even wish to try it out with students. I really believe that many more botanists can determine their willows, if they have full and complete keys. I tried that out on a nature-study group in California (mostly school-teachers, etc.) and they collected in the Sierras for 2 weeks and named every species and most of the varieties correctly.

Third, it will help you to answer two questions for me. First, do you want the varieties included in the keys, as they are here? Second, How many pages written on this basis will you allow me for they keys. There are 8 pages on this extensive basis. I would think that they will reduce by one-half, or to 4 pages.

Now, as to the text. That was still somewhat rough draft and written on scratch paper. I can fill in the gaps and reduce it somewhat.

I have gone over the material which might represent that No. 22, *S. desertorum*, and do not believe that it is that species, altho not quite done with the study. It probably will be a variety of that species when I get it all worked out, but I have included it tentatively in these keys as "*S. glaucops*", under which name it has gone for a long while.

I will return your page of *S. desertorum* soon. or send you the write-up of the *S. glaucops*, if I call it that.

It was my memory, that all that mss. was sent as rough draft, for your inspection and decision as to whether ~~you~~ you would let me have longer-than-usual descriptions, as part of my plan to make the willows knowable to many more folks than now.

Evidently I promised more papers than I was able to handle. And every time I do the willows for a State or regional flora, I have to publish a lot of changes in status, which takes time.

I am going straight ahead to finish this Idaho paper, so you will be hearing from me. But I would like your opinion on keys to the varieties, and total space for keys.

With all good wishes for the new year and many of them,

Cordially yours,

Carleton R. Ball

Prof. Ray J. Davis,
Dept. Botany, Idaho State College,
Pocatello, Idaho.

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

7 January, 1950.

Dear Professor: Davis :

While we are meditating on the keys to Idaho willows, I have rechecked, corrected, completed, and rewritten the text covering the first 17 species and their variations. I have tried to shorten the longer descriptions somewhat but have left that of No. 17, *S. Tweedyi*, rather long because it is so rare and little known.

You are at liberty to do what you please to these write-ups, of course. The references to bud scales and stipules can go out if necessary in order to shorten the text.

I am going ahead at high speed to complete the manuscript. I have recently checked all of the material in the U.S. National and the Forest Service herbariums, as well as recent arrivals in my own. This should bring us up to date on range and local distribution.

You can change the citation of distribution in Idaho to suit yourself, of course. I have tried to give you the basic facts, on which to work.

With all good wishes for this busy New Year, I am

Cordially yours,

Carlston R. Ball

IDAHO STATE COLLEGE
POCATELLO, IDAHO

January 9, 1950

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

Dear Dr. Ball:

Your letters of January 4 and 7 are at hand, and I was pleased to hear from you. Since you are writing the willows of Idaho, I would rather you write them the way you want to.

The descriptions in the rough draft that you sent were longer than descriptions of other plants in the book, but I notice that the last manuscript you sent me was done fairly close to what the last of the book will be like.

I agree with you on the keys that they should be more extended so we are in fairly close agreement on the whole thing.

The only change I would like to make is in abbreviations of locations and men's names. Also in a place or two, your punctuation differs a little from mine, and the spacing of the keys in yours is somewhat different. May I change these to fit the form of the last of the book? I will not change your wording of either the keys or the descriptions.

This about finishes the book with the exception of the Lupines which are being written by Charles Piper Smith. I am beginning to wonder if a grizzly has not gotten him or at least in mortal combat with him for he does not answer my correspondence.

Again may I express my appreciation for your help on the willows as now they can be identified by students as well as professional botanists.

Sincerely yours,

Ray J. Davis (over)
Ray J. Davis
Professor of Botany

RD/cd

Prof. Ray J. Davis,
Dept. of Botany, Ida. State College,
Pocatello, Idaho.

3614 Jocelyn St., N.W.
Washington 15, D.C.

13 January, 1950

Dear Professor Davis:

Your letter of Jan. 9 is just here and noted. By now you probably have received my letter with the second half of the descriptions of species and vars. I am glad to know that these are reasonably satisfactory as to length and general treatment.

Let me be very emphatic that you are at complete liberty to make any changes you consider desirable in such items as punctuation (mine may not be uniform); abbreviations of men's names; abbreviations of directions (as N., no., or north for north, and so on with all the others, including central; and the language used in indicating range and distribution of species and varieties.

These are matters which should be fairly uniform throughout your volume, and you should make them so, if I have not (and probably I have not).

I am now working on the keys but have not got far yet. Many things accumulated while I wrote the descriptions thro and I have had to give some time to them. Then, Dr. Anderson, for whom I am doing the willows of Alaska-Yukon, has been here and we have spent some time on his problems. He left today. Finally, a sister died a few days ago and I have been somewhat disturbed.

You did not give me any suggestion as to what percentage of reduction you would feel to be necessary in the length of the keys but I soon will know how far the present revision will cut them down.

I greatly appreciate your patience in these matters and sincerely hope that it has not jeopardized the publication of the Flora.

native

I had 35/species in the manuscript for Britt. & Brown new illus. Flora, and 32 in this Idaho manuscript. There were only 5 or 6 duplicates, so I have about 60 species done recently as to description and range. That is nearly half of the total in the 3 Americas. The Alaska-Yukon manuscript will bring the total to between 90 and 100, which will be a long way toward my final monograph. Some of the other have been done in the Floras of Virginia, and of Texas, the latter not published yet, but the mss. only 2 years old.

With all good wishes for your success with the "grizzlies" infesting lupines,

I am most cordially yours,

P.S. Find I have additions to range of two
rare willows:

Carleton R. Ball

22. S. glaucops. add: Idaho ? or Lemhi ? Co.

Along Salmon River near Redfish Lake, L.F.

Henderson 3603 in 1895. This extends range northward. Also delete "Clark or Fremont" Cos for this species and insert "Bonnevill Co" for the Targhee Forest specimen.

32b. S. Geyeriana var. moileina. Add: ----- ? Co. Payette Lake (Marcus E. Jones, without number, on July 24, 1899). Shoshone ? Co. N. Fork Coeur D'Alene R., Coeur D'Alene (alt. 950 m., Leiberg 1832 in 1895). These give 2 more, and make 3 widely separated. al-
for this rare variety. I have given the data. You will add it as you wish.

I have guessed at the counties. If you can give me the real ones, I'll add to my records.

Prof. Ray J. Davis,
Dept. of Botany,
Idaho State College,
Pocatello, Idaho.

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

10 January, 1950

Dear Professor Davis:

On Jan. 4, I sent you (by air-mail, I think), a copy of the very full "working" keys to Idaho willows, and asked a few questions concerning them.

On Jan. 7, I sent you by air-mail, the shortened, corrected, and completed description of Idaho willows Nos. 1-17, inclusive, for such use as you may wish to make of them.

Herewith, I inclose and send by air-mail the similar descriptions of the remaining willows, Nos. 18-32. I also return the carbon copy of No. 22 (*S. desertorum*) which you so kindly returned to me.

In these revisions of all 32 species and their varieties, I have shortened most or all of the descriptions, altho they still are long. This is true especially of 22, *S. glaucope*; 26, *S. D. dummondiana* and vars.; and 29, *S. discolor* *princoides*. These have not been fully recognized in our N.W. States.

I also have filled a few gaps, as you had mentioned, made a few corrections, and added somewhat to the accuracy and completeness of the cited distribution, especially in Idaho. The Forest Service has determined the Counties for several specimens which were listed merely by the Natl Forests, and I have included these. I have tried to give the Idaho distribution in a way that should be helpful to students, but you are quite at liberty to change the manuscript in such ways as you desire.

I will await, with interest, your comments on the keys and descriptions. In the meantime, I will revise the keys and shorten them.

Many thanks for your Christmas greetings and good wishes. I wish for you a long row of happy new years, as far as you can see, and hope that you are not near-sighted.

Cordially yours,

Carleton R. Ball

P.S. Please do not destroy this manuscript, if you rewrite ^{it} in the correct form for your book, or merely add a few things from it to one that you already have written. I can use it if you do not make it a part of your book manuscript.

IDAHO STATE COLLEGE
POCATELLO, IDAHO

January 16, 1950

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

Dear Dr. Ball:

Your letter of January 13 is at hand, and I hasten to answer it for fear you have had the wrong impression.

In my last letter I thought I had told you to leave the keys as you had written them. I don't care if they are little longer than usual for the willows are so hard to key out anyway.

I will make the changes in distribution that you suggest in your letter.

Sincerely yours,

Ray J. Davis

Ray J. Davis
Professor of Botany

RD/cd

(over)

IDAHO STATE COLLEGE
POCATELLO, IDAHO

Prof. Ray J. Davis,
Dept of Botany, Idaho State College,
Pocatello, Idaho.

3214 Jocelyn St., N.W.,
Washington 15, D.C.

6 March, 1950.

Dear Professor Davis:

I have been so swamped that your letter of 16 Jan'y. has been unacknowledged.
It was good of you to accept the keys as written.

I find a carbon copy of a list of determinations of willows of 1949 collected
by J.H. Christ in Idaho. I had marked it for you but not mailed it, so here it is.

It just has dawned on me that I may not have prepared the new combinations for
S. bella and *S. subcoerulea*, both reduced to varieties of *S. dummondiana*. I have
two or three other changes to be published and will try to run them into manuscript
immediately.

Cordially yours

Carleton R. Ball

IDAHO STATE COLLEGE
POCATELLO, IDAHO

May 10, 1950

Dr. Carleton R. Ball
3814 Jocelyn St., NW
Washington, D. C.

Dear Dr. Ball:

I cannot find any record of the following combinations
having been published:

Salix Drummondiana
Var. bella (Piper) ?
Var. subcerulea (Piper) ?

I am in the process just now of getting all the new
combinations together that I intend to use in my
Flora of Idaho, and have them published ahead of
time.

Will you take care of publishing these new combinations
or shall I do it?

Very truly yours,

Ray J. Davis

Ray J. Davis
Professor of Botany

RJD:bb

(over)

IDAHO STATE COLLEGE
BOISE, IDAHO

Prof. Ray J. Davis,
Dept. of Botany,
Idaho State College, Pocatello, Ida.

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

28 May, 1950.

Dear Professor Davis :

Your letter of May. 10 came while Mrs. Ball was in hospital for a double operation and I was spending much time there with her. She has made a fine recovery and is at home, where I am nurse, cook, and housemaid.

I intend to publish the combinations of vars. bella and subcoerulea under S. Drummondiana. Have just completed a paper with new combinations in south western willows and this will come next. I wish to tell something about S. Drummondiana, which few U.S. botanists know, and also more about var. bella, and cite specimens of both. Will try to get this in press soon. I take it that your volume will not be out before fall.

Cordially yours,

Carleton R. Ball

Professor Ray J. Davis,
Dept. of Botany,
Idaho State College, Pocatello, Idaho.

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

14 December, 1950

Dear Professor Davis:

Since you wrote me on May 10, and I replied on 28 May, I have written a paper including the new combinations of vars. bella (Piper) Ball and subcoerulea (Piper) Ball. This was sent to the American Midland Naturalist in summer and in the fall I heard from them that the paper had been accepted. Since then I have had no word.

If you can tell me how your Flora of Idaho is coming along, I will write to Editor Mizelle and find out when they can get my paper into print. I am sorry about this delay because they usually are very prompt about publishing.

I have been buried under the biggest avalanche of willows for determination that I ever have had. Hundreds from the Arctic and others from our Natl. Parks. One lot from Gunnison Co., Colo., at elevations of 12,000 to 13,00 ft. and more depauperate growth than I had ever seen before. Am digging out now and hope to get back to my Alaska-Yukon mss. full time soon.

With my best wishes to you and yours, for all the joys of the Christmas and New Year season, in this and all of the many years to come, I am

Cordially yours,

Carleton R. Ball

IDAHO STATE COLLEGE
POCATELLO, IDAHO

May 14, 1951

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

Dear Dr. Ball:

Your letter of May 3 came while I was on a spring collecting trip with one of my classes. I appreciate hearing from you.

The new information which you sent is appreciated, but I will be unable to include it in my FLORA OF IDAHO as publication is already well underway. It would be very expensive to make any changes in it now. However, I am glad to get this information as I want to keep all such records.

Very truly yours,

Ray J. Davis

Ray J. Davis
Professor of Botany

RJD:b

Prof. Ray J. Davis,
Dept. of Botany,
Idaho State College,
Pocatello, Idaho.

3314 Jecelyn St., N.W.,
Washington 15, D.C.

10 September, 1951.

Dear Professor Davis:

I was greatly pleased to see your paper entitled: "Nomenclatorial Recombinations in Idaho Plants", in Madrone recently.

I want to congratulate on publishing these taxonomic changes in a journal instead of in your forthcoming Flora of Idaho. It seems fairer to the botanical fraternity. Yet many botanists have reserved them for their manual treatments, some with the avowed intention of causing more sales.

Also, while I have no taxonomic knowledge of the plants listed therein, I congratulate you on the fact that the changes indicate a trend toward more simplicity thro reduction of species rather than toward more complexity thro making more new species.

P.S. Will send you reprint, just received,
of the changes in willow names which
I made for my treatment of the Idaho
willows.

Cordially yours,

Carleton R. Ball

75
176 mrv

Professor Ray J. Davis,
Dept. of Botany,
Idaho State College,
Pocatello, Idaho.

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

7 April, 1952.

Dear Professor Davis:

I have received your circular letter announcing the publication of your Flora of Idaho, and congratulate you most heartily on the fruition of so difficult and worth-while a task. State floras, well done, are a most highly important part of our taxonomic problem and that holds especially for the large and sparsely settled, but frequently visited western mountainous States, like Idaho.

91
I do not buy many books nowadays, but I am inclosing check for \$7.70 in payment for a copy of this, as I wish to have it and also to help cover the expense of what has been long needed. By the way, if by chance there is a proof lying around which will be discarded, I would be glad to have the willow section of it to place in my file of personal publications. I intended ~~you~~ to write you and ask for that when you wrote me that publication was assured.

I would suggest that you send these notices to the Forest Service Headquarters of the various U.S. National Forests in Idaho and adjacent States. You probably can get a list of these from your Division of Forestry, and certainly from the U.S. Forest Service in the Dept. of Agriculture. I spoke to the Forest Service Herbarium about it and I think they are ordering. You might send one also to Wilfred W. White, Care U.S. Forest Service, Missoula, Montana. He has retired but that should reach him, and he long has been interested in the tree flora of that area.

Recently I received a large carton of willows for determination, from the Univ. of Illinois, and was amazed to find that it included unnamed collections distributed by various Northwestern and Alaskan Collectors 10, 20, and 30 years ago, but I believe there were no Idaho specimens among them.

Appreciating the many specimens you contributed to me, and with all good wishes for the sale of your volume, I am

Cordially yours,

Carleton R. Ball

(over)

Dear Sir:

My book, Flora of Idaho, is off the press and available from me at \$7.50 per copy, plus postage. It has 832 pages of keys for the identification of the plants of Idaho and a description of each one. The properties of those that are poisonous or harmful, as well as those that are useful, are also discussed. An opening chapter by Dr. Rexford F. Daubenmire discusses the probable history of plants in the state in relation to the geological history, then gives the ecological associations of our flora. Various difficult plant groups have been written by specialists in their own fields.

The book starts with the ferns, and the families are arranged according to the Dalla Torre and Harms system, but the genera are arranged alphabetically under the family, and the species alphabetically under the genus. This arrangement makes the descriptions of the plants easy to find.

I spent the major part of twelve summers studying and collecting plants in the state in preparation for the book, also the major part of one year studying Idaho plants in the larger herbaria of the United States. Thousands of plants were sent to me by various individuals and organizations, and seventy-two different botanists helped me in naming them. I spent my spare time for ten years in writing the book.

If you would like copies of my Flora of Idaho, fill in the form below and return it to me.

Sincerely yours,

Ray J. Davis

Ray J. Davis

Dept. of Botany
Idaho State College
Pocatello, Idaho

Please send me _____ copies of Flora of Idaho @ \$7.50. \$ _____

I am enclosing (check, money order)

Send C.O.D.

Mail to: _____

Add 20¢ postage per book.

IDAHO STATE COLLEGE

POCATELLO, IDAHO

April 26, 1952

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

Dear Dr. Ball:

Your letter of April 7 was received and I appreciate the suggestions that you had in it. However, I have already sent out notices to the forest men in Idaho, but will send notices of my book to the surrounding states as well. Eventually, I imagine, I will receive in return the actual cash that I had to put out for the publication of the book, but it certainly hit me hard just at the present time.

Very truly yours,

Ray J. Davis

Ray J. Davis
Professor of Botany

RJD:b