



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

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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.

*Retd to writer
"not there"*

U.S. DEPT. OF AGRICULTURE?

WASHINGTON, D.C.

Kirk Whited, Esq.

May 22. 1907.

Laidlaw, Wash.

Dear sir:-

In a recent conversation with Prof. C.V. Piper he mentioned you as one who might be able to help in clearing away some of the uncertainty surrounding certain western willows. As you appreciate, there is great need for herbarium material which shows immature and mature material--flowers, fruit, young leaves and mature foliage-- from the same tree or shrub. To visit the same plant two or three times in the season is difficult for the traveling collector but not so hard for the man who can collect a few species near his home. Often two collections from the plant will be sufficient.

I am nearing the end of a revision of the Cordateae and have need of such material of the forms or species that are passing as cordata in the Northwest. also of lutea Nutt., Mackenziana Barr., pseudomyrsinites And., monticola Bebb, etc. In the Pellitae the same is true of pellita And. and bella and subcoerulea Piper. All the longifoliae of the Northwest are not clearly distinguished by present herbarium material, partly because so much of it is too young or is sterile. The varying forms passing as S. Nuttallii Sarg. are notorious and need field study.

If you are able to secure good material of any of the species named or of others during the present season I shall be very glad to have the privilege of seeing it later on. Will be glad to determine any willows at any time. I take pleasure in sending copy of my last paper.

Very sincerely,

Carleton C. Ball

October 2, 1922.

Mr. Kirk Whited,
Redmond, Oregon.

Dear Mr. Whited:

On my return from a Western trip, I found awaiting me a package containing your willow specimens collected in November of last year and in various months of 1922. I have been very glad to give these a prompt examination and to send you herewith a list of my determinations.

I feel that not only I, but botanists in general, must consider ourselves under great obligation to you for the care you have taken in gathering these specimens. Such series of collections, representing the different expressions of the same species in a single locality, give very much better knowledge of a species than can possibly be obtained in any other way. As you are well aware, comparatively few of the herbaria specimens represent flowers, fruit and foliage from the same plant, so that a real understanding of the willows is exceedingly difficult to arrive at. During the coming winter, I shall wish to compare the suite of specimens you have submitted now with those collected last year, and I may wish to write you further concerning some of them after this study has been made.

My variety, parvifolia of candata, was published in the Botanical Gazette, a reprint of which I sent you last March.

Your material of argophylla is quite typical, the first lot having the small leaves characteristic of flowering branches, while the second represents new sterile growth. The latter has a slightly superficial resemblance to sessilifolia which has shorter and much broader leaves, with a very sharp point and usually with sharp spinulose teeth.

Your material of pseudomyrsinites is typical with the exception of No. 531, which has much broader leaves than normal. This specimen approaches my monochroma in shape, but the leaves are much thicker than in that species. I have similar sterile specimens from other parts of Oregon, and I am much puzzled to know whether they represent one species or the other, or perhaps a well marked variety somewhat intermediate. This can be determined only by collections of complete materials from the same plant. From the evidence to date, I think they represent a broad leaf form of pseudomyrsinites. *More material of No. 5 of would help to settle the question.*

Most of the material you had labelled "sitchensis" is lasiolepis, a species which is found at the bottom of the canyons of central and northern Oregon. The pubescence of the other side of the leaves of *under*

Mr. Kirk Whited - 2.

this species is a woolly tomentum, while on *stohensis*, it is a soft silvery pubescence. The texture of the leaves and their shape also are different, while the catkins are very different as you will note if you collect flowers from these plants next summer. The leaves bear a superficial resemblance to those of *scouleriana* as it occurs commonly in the Pacific Northwest, but the catkins, scales and capsules are very different.

I am exceedingly gratified at your collection of splendid material of *lemonii*. I am inclined to think that you have brought together from Redmond and vicinity as large an amount of material of this rare species as has been furnished from all other sources combined. I hope to make a very thorough study of this material during the coming winter and to make such revisions as are necessary in our description of this species. Part of this revision already has been made, based on your material of last year. Your material of this year agrees with that of last year in pruinose twigs in which it differs from much of the herbaria material which I have seen. Not all of your specimens, however, are pruinose. I am not at all certain of the physiologic conditions under which this waxy exudate appears. I know that I have collected specimens of some species in which the fresh twigs showed no trace of this deposit, but on examining them in press a day or two later, have found them to be densely covered with it. Again, we know that at some seasons of the year twigs will show large deposits of it, while other seasons they are almost free. Some notes on this connection, based on observations of living plants throughout the season, will be of great value, especially if these can be carried ~~are systematically~~ *simultaneously* in different sets of climatic conditions.

Your series of specimens of *geyeriana* will repay much further study. My notes show that many of them are not pruinose as I noted last year; also, while a few of them show traces of it and one shows an abundant deposit, at the same time, none of them have the intense dark twigs of the non-pruinose variety, *nevillei* *melaina*.

Your two sets of *scouleriana* are both interesting. The first, ~~or~~ foliage specimen is quite similar to a form found commonly in the Rocky Mountains, but is quite different from the form found most commonly in the Pacific States. Your form has more obovate leaves, more shining above and entirely glabrous beneath; whereas, the common Western form has more elliptical leaves, less shining above and usually quite woolly beneath. Your second specimen has the numerous very small catkins characteristic of many Western specimens, but because so few collectors get fruit and leaves from the same plant, I do not yet know what type goes with these somewhat crowded catkins. Perhaps it is a rather peculiar leaf type represented by your other specimen, but only additional collections from the same plants can prove this. I hope you can get them

Mr. Kirk Whited - 3.

next season for these Northwestern forms are exceedingly puzzling and must remain so until complete collections can be had.

I have been glad to keep portions of this material for my own collection and have returned the remainder to Dr. Piper today.

Very sincerely yours,

C. R. Ball
Cerealist in Charge

CRB:33

Redmond, Oregon; Oct. 23, 1922

Mr. C. R. Ball.

Dept of Agr. Washington, D.C.

Dear Mr. Ball: I thank you for the kind and encouraging letter of 2nd inst. with identification of willows. I am pleased that I have been able to add a mite to the knowledge of Botany.

I sold my "Inackenbuck place" and am now staying in a small cabin that is so filled with boxes, books, herbaria, Digitized by ~~that I have to sleep in a tent~~ and have not been able to compare my specimens with your letter but have looked over my notes. I have quite a number of duplicates and odd sheets, and may be able to send you some of them later.

There are a few Solices in the collection I made on the mountain side last summer that will be in the next package that I send to Mr. Piper.

There are a lot of things which I would like to say

over

(See over)

Why not keep tabs on several plants
of *Salix lemmonii* or *geyeriana*
and study the appearance or dis-
appearance of the bloom. It would
make a good paper for bot journal
and throw real light on an unknown
problem.

Effect of cold

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" of frost

Where does *lemmonii* grow

Can you send cuttings

Botany as studied in the common and so called high schools is a farce and time wasted, and is worthless as part of an education.

As to my method of collecting aments and leaves of willows from the same plant; I followed that course because in no other way could I get head or tail to them, and hereafter whenever possible I shall follow ^{that} plan with more care and method.

The ditch system here was put in about seventeen years ago, and many of the small *litsea* a good deal taller, and until one is familiar with them, it is difficult to say whether a specimen is a shrub or tree. In several cases I found two species mixed together in the same bunch.

In the case of most dioecious plants, the fact that staminate and pistillate plants are near each other, there is some presumption that the seeds were from the same plant or locality, but in the case of staminate and pistillate willows there is no such presumption; the parent seeds are as likely to have originated far apart as close together.

Yours sincerely

Yours sincerely

Kirk W. Lited

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November 8, 1922.

Mr. Kirk Whited,
Redmond, Oregon.

Dear Mr. Whited:

Your interesting letter of October 23 is received and I note your difficulty in getting at material. You have my sympathy in this situation. I agree with you as to the value of botany as studied in the graded and high schools. I do believe, however, that if the classes were taken outdoors for an hour, or for a longer period, on Saturdays or after school hours, a real love for biology could be instilled in the average child, and enough instruction given so that they would go on learning through all the rest of their lives, no matter what their future profession might prove to be. This would be a great thing itself. I have been much interested in reading the memoirs of Professor John Macoun of Canada, in which he describes his early self-training in botany and contrasts his knowledge and ability with that of young men of equal age who had only a classroom knowledge of botany.

I am interested also in your view of the distances to which willow seeds are carried. There seems to be little information in literature on these subjects, but, no doubt, if we knew all the facts we would be much surprised.

If you have put tags on the plants from which you collected the specimens sent me, I would like to suggest what I believe to be a very interesting study for you to make. If you have not tagged these plants, it is possible, of course, to tag others now, and thus make sure that records are taken on the same individual plant each time. My thought is that we know practically nothing about the appearance and disappearance of the glaucous bloom on the twigs of such species as lemonii, reveri, and so forth. I am quite certain that it is not present on the twigs throughout the entire year, but to what factors its appearance is due and whether it disappears suddenly through weather influences, no one seems to know. In the list of identifications which I sent you, I think I inserted notes showing what plants had the glaucous bloom upon them when they came into my hands and in about what degree of abundance. I have seen plants collected without any such bloom and then develop it abundantly while in press.

If you could put tags on two or three plants of each of these species and note from time to time whether or not they show this bloom and under what conditions it comes and goes, I believe you could make a paper of real botanic value without taking a very large amount of your time. You would have a chance to study the effect of cold, snow, frost,

Mr. Kirk Whited - 2.

rain, wind, and possibly of dust storms on this bloom deposit, as well as the effect of the resumption of growth in the spring, the appearance of leaves, and of the dropping of the leaves in the fall. So far as I have been able to discover, nobody knows anything about this problem, and it has real taxonomic and physiologic interest.

There is another problem which can be studied easily by a man who lives with his plants the year round, and that is whether the leaves and catkins have about the same size and shape in successive years. In other words, does the plant which bears narrow leaves this year, bear narrow leaves every year and likewise with the broad-leaved plant, or the one with short or with long catkins?

I am endeavoring to arrange a place where various species of willows may be grown and studied here. If I am successful, will it be possible for you to get me cuttings from the different species from which you have made collections there? I will write you again about this if you can get material.

Very sincerely yours,

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CRB:SS

C. R. Ball,
Cerealist in Charge.

Mr. L. B. Ball.
Bureau of Plant Industry
Washington, D. C.

Redmond, O. Apr. 11, 1923

My Dear Mr. Ball:

I returned from Calif. about a week ago, somewhat sooner than I had planned. I collected about 75 native plants besides some that were introduced. I was disappointed in not getting any willows, partly because it was about 15 miles from my stopping place near Pomona to where any grew, and also because I learned that they ^{were} mostly out of blossom.

Yesterday I went to Redmond about 4 miles distant, walking as usual, and on the way I found three fine specimens of *S. Lemmonii*, and collected and tagged them, hoping to visit them this season.

On reaching the Post Office I found your letter of Mar. 29 with copy of your proposed article for publication which has greatly interested me although I have not yet studied carefully. I hope you will go on with the publication.

I do not expect to publish anything on the subject of Botany except something of a local nature to encourage the study in my home region.

Apr. 11, 1933 p2

Last winter I prepared a list of shrubs and trees in this region for a student of landscape gardening at the Oregon Agricultural College which interested the Professor of Botany, and the "Bend Bulletin" with the result that it was published in "The Bulletin."

As it may interest yourself and Mr. C. V. Piper I inclose a copy of it. I believe Mr. Piper is away from Washington at present. When he returns will you kindly hand it to him.

I neglected to save but one copy of the first number Feb. 12 and would like to have that issue of the Bulletin returned to me.

I would say that the altitude of Redmond is about 3000 feet and Bend about 3600, and precipitation 8 or 10 inches.

I shall probably have charge of the headgate of the Columbia Southern ^{ditch} headgate again this summer, and will try to mark ~~some~~ some willows and take notes as you suggest.

Yours truly

Russ Whited

Mr C. R. Bell.
Department of Agr.
Washington D.C.

Redmond, Or. July 20 1923

My Dear Mr. Bell: I have closed my work at the head of the Col. So. Tumalo ditch, and returned home a week ago. Have prepared a bundle of plants which I will mail to Mr. Piper tomorrow, a portion of which are some willows intended for yourself.

I have just been re-reading your letter of last Nov. 8, and thank you for the suggestions contained. My trip to Calif. and work at the Col. So. ditch, has prevented my doing much this season.

Any time that I can secure cuttings for your proposed planting of willows I shall be glad to come you whether here or elsewhere - on earth.

Probably I have done enough collecting from tagged specimens for you, from this locality for this time - even a good thing can be overworked; but if I should go to a different locality to put in a season, I will try to follow a similar plan.



Yours sincerely

Frank Whited

August 22, 1923.

Mr. Kirk Whited,
Redmond, Oregon.

Dear Mr. Whited:

On my return from a long western trip on which, however, I did not get beyond southern Idaho, I find your good letter of July 20, receipt of which was acknowledged by Mr. Warburton on July 26. I wish to express again my very great appreciation of the interest you have taken in this work and the splendid specimens and notes you have put at my disposal. I am sorry that I was not able to finish for publication the article about which I wrote you on March 29 and about which you replied on April 11. I expect to be gone again during the first half of September, but soon thereafter I think I can complete this article for publication. In it I shall give you full and appreciative credit for your services to Science in this connection. I shall expect to send you a carbon copy of it before I finally submit it for publication so that any suggestions you may have to make can be included.

Many thanks for your offer to furnish cuttings whenever we can get a proper place to grow them here. I brought back a couple with me which I hope to get into the ground within the next day or two, and if possible, will try to arrange for some growing spot that can remain unmolested for a few years.

Very sincerely yours,

CRB:SS

C. R. Ball
Cerealist in Charge.

February 15, 1924.

Mr. Kirk Whited,
Redmond, Oregon.

Dear Mr. Whited:

After long and unexpected delay I finally have been able to finish the little paper discussing the pruinose branchlets of the series of specimens of Salix lemmonii collected by you during 1922 and 1923. It has seemed best to me to send this forward as a paper under our joint authorship, which I trust will be satisfactory to you. I am submitting it today to the editors of the American Journal of Botany with a view to publication.

With kind personal regards and best wishes, I am

Very sincerely yours,

C. R. Ball,
Cerealist in Charge.

CRB/ecs

Mr. E. R. Ball, Dept. of Agr.
Washington, D.C.

Redmond, Oreg. Feb. 22, 1924

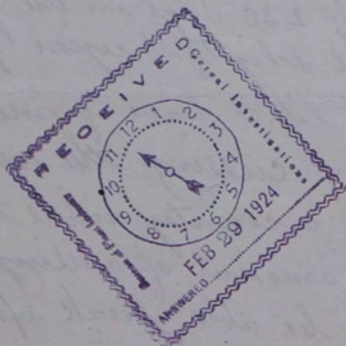
My Dear Mr. Ball:

Yesterday I received your letter of 15th inst. with copy of article for publication. I feel honored in having my name joined with yourself in the article.

I will suggest that the altitude at Redmond, Or. is about 3000 feet, and at the headgate of the Columbia Southern Ditch on Tumalo Creek about 4600.

Perhaps it would not be out of place to add to the article near the end of page 1 a clause something like this: "On some plants and on most fruits this bloom takes the form of a powder, but on *Salix* it is usually firmer and is not affected by the heaviest rains, and cannot be removed by the tongue and lips, until it has begun to break up and disappear."

Next week I am planning on a trip down into the Columbia gorge near The Dalles, Oregon, and will try to send you a collection of willows. I am satisfied that the only proper way to study that family - *Salix* and *Populus* - is by taking specimens of the same plant at different times in the season - one of them ought to be the bare twigs in winter. For later in the spring I have been having a pipe-dream of Alaska. I have especially in mind the extreme



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southeastern part, along Portland Canal, and the thirty mile strip on the mainland along the coast. That will be a delightful place in which to collect and cure botanical specimens - it rains only 230 days in the year.

I have a desire to visit that delightful region partly on moral grounds: during my life I have formed the useless, detestable and wicked habit of cursing the weather: now if I can live for a time in a country where the weather is so execrably bad that no amount of cursing can do justice to the subject, I may be able break up the habit.

Well enough of this nonsense.

Yours truly

Kirk Whited

March 4, 1924.

Mr. Kirk Whited,
Redmond, Oregon.

Dear Mr. Whited:

Your letter of February 22 was duly received, and I am glad to note the changes you suggest in the manuscript. These I will be glad to make, as I think it will not be sent to the printer for some little time yet.

I am glad to note that you are planning an early spring trip into the Columbia gorge near the Dalles. On the narrow flood plain of the Columbia at that point several species of willows are very common. The two most abundant, so far as I have seen, are amygdaloides and fluviatilis. Up in the canons which empty into the Columbia such species as lutea and lasiolepis are found, and the former may occur along the Columbia though I did not see it there.

Your dream of lower Alaska is very enticing, and I hope you are able to make it come true, both for the botanical phases and for those curative effects on your disposition which you seem to feel you need. I shall be interested in both results if you find it possible to go.

With kind personal regards, I am

Very sincerely yours,

C. R. Ball,
Cerealist in Charge.

CRB/ecs

March 26, 1924.

Mr. Kirk Whited,
Redmond, Oregon.

Dear Mr. Whited:

With further reference to my letter of March 4, I am enclosing herewith copy of page 7b of our joint paper which contains a brief discussion of the material you collected in 1923 accidentally omitted from the original paper, and your statement about the bloom when it first develops. I am sending this to the editor for insertion.

Very sincerely yours,

CRB:SS
Enclosure

G. R. Ball,
Cerealist in Charge.

Mr. C R Ball
Department of Agriculture
Division of Botany
Washington D.C.

Redmond, Oregon. Nov. 29, 1924

Dear Mr. Ball: Last spring I

Went on a trip to Alaska reaching Ketchikan May 4 and
leaving the Archipelago for Seattle Aug. 17.

I spent most of the time at the town of Ketchikan at the mouth of
Salmon river near the head of Portland Canal.

I did not do much with the willows, circumstances were
against me, and willows were not very plentiful in that region.

Yesterday I mailed three bundles to Mr. Piper, and if he is
absent I wish you would look after them.

In the larger or box bundle is a small package of Salix that

may interest yourself.
Keeping yourself and Mr. Piper well advised the packages all
right, I am

Yours truly

Kirk Whited