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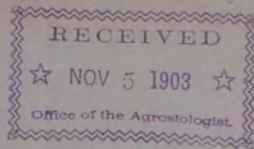
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About the Institute

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.

Ans. 11-7-03.



Lincoln, Neb.

Nov. 2, 1903

My dear Mr. Ball:-

Prof. Nelson writes me that you have just described a new *Salix* and named it *Salix Gooddingi*. I appreciate your favor very much. Prof. Nelson also writes me that you would like to get any notes I can furnish from memory regarding this willow. My memory is pretty shabby but I do recollect a little about the plant in question. I collected it along a ditch where it grew quite profusely, 8-10 ft. high. It grows in patches which are much the same as *S. exigua* and *S. fluviatilis* only with a tendency to branch more from a central apex. It was quite abundant where I collected it, appearing along the ditch for some distance but I believe its distribution quite local as I collected it at no other place. It doubtless is common along the Muddy. The region of the Muddy is a very barren desert scarcely anything growing except along the stream or ditches. The water and the soil are quite salty. There are low hills of salt which border along the Muddy and the Virgin. The willows, however, seek the stream banks and ditches, the little marshy places being too salty and alkaline. This is all I recollect. I am sorry I am not able to give you more accurate or more definite notes. Trusting, however, that these may at least be of interest to you. I am

Yours very truly,

Leslie A. Goodding

UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Box 4125, U. Station,
Tucson, Arizona.

December 5, 1938.

Dr. Carlton R. Ball,
Extension Service,
U. S. Dept. of Agriculture,
Washington, D. C.

Dear Dr. Ball:

I have your letter of November 25th and am hastening to make the suggestion to you that you have the Division of Foreign Plant Exploration cough up that set of willows I sent to you.

All the willows I have sent in for determination had duplicate sets for your herbarium and if you did not receive the same, the Division of Foreign Plant Exploration must have the extra set.

I have not had an opportunity to study the list of determinations carefully, but shall try to do so soon and will probably have some questions to ask at that time.

I want you to know that I deeply appreciate the help you are giving me with the willows.

Yours very truly,

Leslie N. Goodding

Leslie N. Goodding,
Associate Botanist.

LNG/ak

UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

P.O.Box 1348. Albuquerque, New Mexico

August 14, 1939

Dr. C. R. Ball,
Executive Secretary, T.V.A.,
Washington, D. C.

Dear Dr. Ball:

I am sending you under separate cover a package of willows. Some of these I believe I know but I prefer to have your judgment. I have duplicates of these and after receiving your determinations, I shall send specimens to the office of Plant Exploration and Introduction with your determinations. Please keep the specimens where they are of value to you and discard them where they are not.

Please do not send a list of your determinations to either the Nursery Division in Washington or to the Division of Plant Exploration and Introduction as I shall supply the latter with specimens later and such a list would lead to confusion and incidentally to a "bawling out" for me. I am sending direct to you to save me some very valuable time.

With deep appreciation for your help, I am

Yours very truly,

L. N. Goodding
L. N. Goodding
Associate Botanist.

P.S. Please address correspondence to my home address of
123 Vassar Avenue, Albuquerque, New Mexico.

from L.N. Goodding

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF INDIAN AFFAIRS
FIELD SERVICE

607 Goodrich Building
Phoenix, Arizona
October 17, 1941

Dr. Carleton R. Ball
Executive Secretary
Tennessee Valley Authority
Extension Service
U. S. Department of Agriculture
Washington, D. C.

Dear Dr. Ball:

I have been scouring my brain and all the maps and information I had access to in the libraries of Phoenix, trying to locate the type locality of Salix gooddingii. All the general maps are completely off. Some show the east and west fork of the Muddy; others do not show any west fork. In reality the Meadow Valley Wash was, and doubtless still is, exactly what the name expressed - an intermittent stream. In some places there is adequate water for small irrigation projects. Other places, there is no stream at all.

The Muddy as we used to know it is a short stream rising a comparatively short distance above Moapa. I think that the ditch bank referred to was near Moapa, my recollection being that the old road down the Meadow Valley Wash struck into the Muddy just below Moapa.

By this, the type locality would be in Clark County and the nearest point on the railroad is doubtless Moapa which did not exist, I believe, until the railroad went through a year or two after I made the collection. I regret that I cannot be more specific regarding the exact location.

All the collections made by Dr. Kennedy and myself were made by me, since Dr. Kennedy was in Reno at the time. Of course you need not mention this, since he is no longer in the land of the living. My recollection is that the collections were made in the Mormon range, but the willow collection was probably from the original locality.

Rioville is in the bottom of Lake Mead. Originally, it was

- 2 -

at the mouth of the Virgin River. Possibly you will find it recorded on some maps as the Bonnaville Ferry.

Please note that I am now with the Indian Service, 607 Goodrich Building, Phoenix, Arizona.

Yours very truly,



Leslie N. Goodding
Associate Botanist

LNG:cg

November 4, 1941

Mr. Leslie N. Goodding,
Associate Botanist,
Office of Indian Affairs,
607 Goodrich Building,
Phoenix, Arizona.

Dear Mr. Goodding:

Your good letter of October 17 I found awaiting me on my return to Washington. I greatly appreciate the full information you have given regarding the type locality for *S. Gooddingii*. My Rand-McNally map of Nevada confirms your conclusion that the road from Meadow Valley Wash to the Luddy River comes in just below Moapa. Accordingly, I am recording this collection as from Clark County instead of Lincoln. I am glad also to know the exact location of the once-town Riville, now submerged in Lake Meade. My map shows "Donellis Ferry" at the point where Riville was. Because it was certain to have been on the Colorado River, I could credit it safely to Clark County.

I am interested to know that the collections labeled as made by Kennedy and you were collected by you alone while Prof. Kennedy was in Reno, because the labels attached to these specimens carried both names, I suppose there is nothing that can be done about it, but it certainly seems a rather peculiar circumstance.

I am glad to note your new address and will use it henceforth.

Cordially yours,

Carleton R. Ball,
Executive Secretary

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON

RUBBER PLANT INVESTIGATIONS

U. S. Yuma Field Station
Bard, California
October 26, 1943

Dr. Carleton R. Ball
Secretary T.V.A.
Washington, D. C.

Dear Dr. Ball:

My attention was called to your article in a
recent issue of Castanea, entitled "Illustrating plant
organs for taxonomic purpose." Would it be possible
to obtain a reprint?

Thanking you, I am

Yours very truly,

Leslie N. Goodding

Leslie N. Goodding
Botanist

LNG:cr

P.S. I was sorry to learn of your brother's death.



(See over)

Mr. Leslie N. Goodding,
U.S. Yuma Field Station, Bard, California

November 17, 1943

Dear Mr. Goodding:

I have held your letter of Oct. 26 because I could not find your address card in my files of those to whom I send willow reprints. I just cannot find it anywhere altho I am sure that I have been sending papers to you thro the years.

Separately I am sending now the paper on illustrating plant organs, together with one on *Salix floridana* and another on Far western novelties in *Salix*.

Did you receive those entitled, New varieties of Western Willows, New Varieties and Combinations in *Salix*, and Dr. Setchell and Alaska Willows? If so, you are up to date.

If you stay at Bard you will see *Salix Gooddingii* at its best in the Colorado Valley. Few good complete sets have been distributed. If you could get both sexes in flower, then fruit, and finally mature leaves, and sprout leaves, in quantity sufficient for distribution to the major herbariums of this country, it would help a lot. The capsule around Yuma are good and hairy.
Am working on my monograph.

Cordially yours,

Carleton R. Ball, Collaborator

Senk 11/17/

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF PLANT INDUSTRY

RUBBER PLANT INVESTIGATIONS

BUREAU OF PLANT INDUSTRY STATION
BELTSVILLE, MARYLAND

U. S. Yuma Field Station
Bard, California
November 29, 1943

Dr. Carleton R. Ball
Extension Service
United States Department of Agriculture
Washington, D. C.

Dear Dr. Ball:

I shall keep in mind willow collections next spring.
How many complete specimens will you need to supply "the
major herbaria"?

If you knew what a mess I am in here you would not
wonder at my ignorance about what I have. I have the attic piled
with cartons of books and bulletins, and there they stay until
I get some place where I feel I can stay put. I am not certain
what I have of your separates, but I can not recall having
received any for months. I have been here since April 15, and
I am certain nothing has come from you since that date, in fact,
I think I have not received any of those you mentioned. Please
send me New Varieties of Western Willows, New Varieties and
Combinations in Salix, and Dr. Setchell and Alaska Willows,
and I shall try to recompense you in willow collections.

Yours very truly,

Leslie N. Goodding

Leslie N. Goodding
Botanist

LNG:cr



Mr. Leslie N. Goodding,
U. S. Yuma Field Station,
Bard, California.

December 6, 1943

Dear Mr. Goodding:

Your letter of Nov. 29 is here and I can sympathize, for I have a lot of ex carten storage in my attic since retirement.

The paper you mention (reprints) would have been sent in late 1942. I will send such of the three as I have when I get home, as I am writing from the office.

The number of herbariums to be supplied is wholly a matter of how far the collector wants to go, providing material is abundant. The major herbariums which ought to have such special collections in Salix are Calif. Univ., Field Museum, Gray., Mo. Bot. Garden, N.Y. Bot. Garden, Rocky Mtn. Herbarium, and U.S. Natl. Herbarium and Natl. Herbarium of Canada, a total of 8.

Secondary would be Calif. Acad. Sci., Duke Univ., Arizona Univ. Nevada Univ., Natl. Arboretum Herb., Utah Agrl. College (specializing in Gt. Basin) and probably New Mexico and Texas Ag. College. Desirable in some local Calif. herbariums. Perhaps 4 or 5 foreign herbariums. One could go much farther. Should include Nat. Herb. Mexico.

Cordially yours,

Carleton R. Ball
Collaborator

P.S. You already have
"recompensed" me
10 times over

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✓ send subs

July 5, 1944

Mr. Leslie N. Goodding,
U.S. Yuma Field Station,
Yuma, California.

Dear Mr. Goodding:

Several days ago I received a package containing 20 or 30 specimens comprising a set of typical *Salix Gooddingii* Ball. This is very valuable material and I am glad that you have collected it.

I have received no letter from you about it but assume that you intended to have the specimens distributed to the leading herbariums of this country. As I have not been able to collect much lately, I will not be making any distributions in the near future.

Do you wish to have them go out through either the U.S. National Herbarium of the National Arboretum Herbarium in the U.S. Plant Industry, if ~~the~~ one or the other will be making a distribution presently. I will be glad to handle it in any way that suits you.

I am working actively on my monograph of the willows, principally in getting ready manuscripts for the Willows of Alaska, for Britton and Brown's Manual, and for Willows of Idaho.

With best wishes, I am

Cordially yours,

Carleton T. Ball, Collaborator

Ajo, Ariz., Apr. 22, 1946

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

Dear Dr. Ball:

I like your treatment of the Virginia willows. Such publications should take the bitter taste out of things scientific for the general public.

You speak of willows generally as being easy to grow from cuttings. Have you ever tried to grow S. taxifolia. We did not succeed at Tucson and Stoutemeyer had difficulty at Beltsville. I understand that it is being grown in the National Arboretum at present.

Haven't you seen ducks roosting in willows where they could easily eat the catkins. I have, not in the tops of the trees to be sure but nevertheless in the trees and not on the ground. I saw ducks in the willows at the edge of a lake near our old homestead in Northern Colorado lots of times. Don't ask me to name the willows or the ducks. That observation was made many years ago when any old duck was a duck any willow just a willow.

I think that willows grow prolifically from seeds at times when conditions are just right. If I live long enough I am going to try to convince you on this point. I am not absolutely certain in other words.

Have you ever seen S. bonplandiana in cultivation? I never have and I think that it is a shame that it is not used for an ornamental. It, not the variety is the most handsome willow I have ever seen. My second choice is S. taxifolia.

I am not satisfied with your treatment of the willow I collected in the Baboquivari mountains, in Fresnal Canyon if I remember correctly. We grew it on the S.C.S Nursery at Tucson and it proved to be a hummer, much larger than the willow we have always called S. exigua and even more aggressive. The S.C.S. has never done much with it. They hate it because it insists on coming up in the fields 20 or 30 feet from the place where it was planted. When they get a good thing it scares them.

You called it S. exigua var. and didn't name the variety. I wish you could see it on the nursery at Tucson.

Did you enjoy meeting my daughter, Mrs. Charlotte Reeder? She wrote me that she and her husband had met you. I have another daughter in Washington, D.C., Lt. Gladys Goodding of the Waves.

Many thanks for the separates.

Yours very truly,

Julia W. Goodding

(See over)

Mr. Leslie N. Goodding.
Ajo, Arizona.

3814 Jocelyn St., N.W.
Washington 15, D.C.
May 23, 1946.

Dear Mr. Goodding:

I have greatly enjoyed your letter of April 22 and now have had time to read your "Hidden Botanical Garden" in April, Jour. N.Y. Bot. Gard. That was mighty well done and ought to stimulate eastern migration to Arizona. It was entirely fitting that this botanical gem should be sentinelled by trees of *S. taxifolia*. I hope that you keep on exploring, - and writing.

When I wrote that all willows are easy to start from cuttings I may have been too inclusive. In general, the members of the genus, from humid areas and desert alike, readily produce roots in profusion from any part of the stem or twig when given moisture and heat. Some may not, at least not at all seasons of the year. I have never tried *S. taxifolia*. By the way, it is found in several canyon of the Davis Mts. of SW Texas.

Salix Bonplandiana is a beautiful tree or shrub but probably has escaped cultivation by its shy and remote behavior and habitats. Like *S. taxifolia*, it seems to be quite "choosy" about where it lives. Why don't you get some nurserymen interested? The long-leaf willow nearest to *S. taxifolia* in appearance is *S. binciana* of California which grows on the floodplains for every one to see.

When I was a boy we had ducks by the millions but no willows big enough for more than two ducks at a time. I want to make a note of your seeking them in NO. Colo. so please tell me just where it was, the name of the lake (if named), and about how big these willows were. Then I can make a guess at the species (one or more). Did you ever see it since, and where. No one else has mentioned it in print, so far as I have seen.

I'll follow up your "*S. exigua*" from the Baboquivari Mts. The longifoliae are all very plastic and *S. exigua* is most variable of all. I am trying to find out the real varieties in it.

My statement on willows from seeds is based on collecting and observation over the entire United States and Canada (much of). I still have only a few seedlings but have seen hundreds of acres of sprouts from roots and broken twigs. Of course, there must be some spread from seeds.

I saw Charlotte for only a few minutes each on two days. Could not make a 1X lunch engagement with them after I met them in Nat. Herb. They now have my entire grass library (at \$25.00) and seem much pleased. I sold it at that figure because I was once a young grassologist, because John has enthusiasm, honesty, and sense, and because Charlotte was a ~~friend~~ daughter of a friend. I charged that much because I have found that folks appreciate what they pay for much more than what is given outright. (He wrote that it was worth much more than that, which I already knew).

Now I'll try to look up Lt. Gladys Goodding of the Waves. I did not know that there was one.

Cordially yours,

Carleton R. Ball

Box 303, Jerome, Ariz.,
Feb. 26, 1948

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

Dear Dr. Ball:

If you send those willows' back to me you will be shot at sunrise. I do not want them. If they clutter up your cases too much you know what to do with them.

I am surprised that you do not have any decent Standard Oil maps back in your country. I am sending you a scrap of one indicating the localities of the willows I sent you.

Perhaps you can learn whether the National Arboretum has Salix laevigata var. araguipa in its planting. This is a handsome willow and should be represented in that collection. S. bonplandiana should also be grown there. In my way of thinking the latter willow is the most beautiful one in Arizona.

It seems to me that it is high time something worth while should be done with the willows- medicine, wax, charcoal, vitamins, ornamentals, possibly wood for boxes. My voice would be one crying in the wilderness. You are the man who knows most about the willows. Why don't you put them on the map***** commercially???????

Actually I am not proud of specimens I send you that are mere leaf specimens. I had reasons for wishing to be certain of the identification of those I sent you.

Yours very truly,

Leslie N. Goodding

Leslie N. Goodding

(See over)

Mr. Leslie N. Goodding
Box 303, Jerome, Arizona.

3814 Jocelyn St., N.W.,
Washington 15, D.C.
March 5, 1948.

Dear Brother Goodding:

Your darned old letter of "ehy. 26 came along at high speed but I have had some troubles of my own and letterare behind just now.

I don't mind being shot at sunrise, but it makes me mad all the way through not to be told on what morning so that I can arrange to be somewhere else.

Why should anybody up here have a detailed map of Arizona? If he hasn't been to Arizona, he certainly isn't planning to go, and probably hasn't even heard that there is such a place. If he has been there, he doesn't ever come back here unless, like me, he had to. Besides, we have little oil and few cars, so why maps? Anyway, I guessed right as to where you got those willows.

Now I don't quite ge you on commercializing the poor little willows. That has been done on a gigantic scale. There are a thousand and one uses for willows, by man and the rest of the animal and plant kingdoms. I have written up about all except the last one, and I don't know what that is.

While I was at the Univ. of California in the 1930s, I gave my talk on the "Private Lives of the Willows" at the California Botanical Society. Just to get it down for use, I wrote about 14 pages of outline. Recently, I was asked to give the same talk here before the Washington Bot. Society, which I did. The editor of The Scientific Monthly was there to tell the Society the need for popularizing science. He heard my paper and one on plant hunting in foreign countries, and promptly rose up and said that they represented just what he came to talk about, asked for my paper for immediate publication. ~~XXXXXXXX~~

I told him that what I could give there in 25 minutes was just a fraction of the story and that I had not brought it up to date, after the 15-year-ago write-up. So I sat down with about 100 publications and about 1000 cards from my utilization file and started to write a complete rough draft, which will run to 60 or 70 pages. Its well along now. Then I'll boil it down into an article for him. I hope to publish the whole story as an illustrated book some day.

Would you like to have me ask the Dept. to send you as many of their publications covering uses of willows as are still available. There have been more than 100, I would think. Probably enough are still available to give you one or more on ~~known~~ each of the major divisions. Shelterbelts, cover, and shade; Posts, poles, rods, and lumber; Food and feed for humans, animals, birds, and insects; Soil and Sand holding; Cordage, clothing, and tinder; Chemical and medicinal uses; Indicator plants; and Weeds; not to mention Superstition and sentiment; and Art, literature, and ornament. The uses of wood are innumerable, from roman shields and chariot tops, to our whistle ball bats; cricket bats, wooden shoes, baby carriages, lap boards, wheel brakes, canoe spreaders, paddles, and furniture. Primitive peoples have used or still use them for everything under the sun.

But enough, I'll stop before I get a "cease and desist" order from the Interstate Commerce Commission. I had the joy of reading a long letter from Charlotte to Mrs. Chase not long ago. If I would ever write the Readers a letter, I might get one too.

With all good wishes, I am

Cordially yours,

~~XXXXXXXXXXXX~~
Carleton R. Ball

Goodding
Feb 26, 1948



Box 303, Jerome, Arizona
Mar. 10, 1948

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

Dear Dr. Ball:

Now it is quite evident to me that I opened my mouth and stuck my foot therein. But then there are a couple of fellows, thee and me, who darn well know that I don't know anything about willows. I would like to know more about the uses of willows. As far as the taxonomy is concerned all I wish to know is what to reasonably call a plant. This applies to other plants also. I like Kearney and Peeble's book but I must confess that I can see little sense in reduction of species to varieties when I have the things to recognize. I wish my taxonomy to be useful and not necessarily sacred.

I hope you are able to popularize willows and other plants. When you do you have an audience in which may be one or more real students who will hear the call, students who might be divorced from the subject if some of the so-called scientific tripe were shoved under ~~shoved under~~ their noses. Don't get me wrong, I think careful taxonomic work is necessary but I think it is important to expose the masses to botany.

Pardon my abysmal ignorance and get to me what literature is available on uses of willows.

By the way I have some friends in the Park Service who got confused by those curious cone like galls on willows thinking they had something new under the sun. I suppose you have had folks come to you similarly confused.

It seems to me that Dr. Reeder married a pretty fair botanist. I'll stack her up against Swallen for careful work any time. The latter has given me a bit of a pain in my neck recently.

Yours very truly,

Leslie A. Gooding

Mr. Leslie N. Goodding,
Box 3035 Jerome, Arizona.

3814 Jocelyn St., N.W.,
Washington 15, D.C.
March 26, 1948

My Dear Goodding:

Your of March 10 came along all right. I see that it was, not you, that opened the mouth and put a foot, or at least a typewriter, therein. When I spoke of "commercializing the willows, I meant actually using them in various home and commercial industries. I certainly did not mean learning more about their uses, past present, and future. There is real need for that, and I have not supplied it at all. That paper I wrote in 1933 has never been published.

I have finished the first rough draft of the more complete paper. It runs to almost 100 pages of typing (double space). That covers only what I had in the bulletins and file cards I mentioned. Now I am trying to find out what I did not have in those two collections. It will be plenty. Already I have 15 or 20 more items. If you can get your hands on a copy of *Life* for March 29, you will see on the cover, in the description on p. 25, and the discussion and pictures on pp. 53-54 that women's handbags are being made from all sorts of containers for fish, fruit, wine, etc. Many of these shown in the pictures are wicker, either withes or flat pleated strips, and almost certainly are willow.

Arizona Indians living along the Colorado used the twisted best fibers from the inner bark of *Salix Gooddingii* to make twine and from that twine many things, including mats and sandals. The women used the bark, after burying in blue mud for days, washing and drying, and cut into strips of proper length, as a bark skirt by fastening the strips to their belts and letting them hang to the knee. Lots of other things were done with that darned old willow. The

The records show that the Spaniards, when running California, made saddle trees from *S. laevigata* and *S. lasiandra*, for their own use and for export to Texas and Mexico. These were fancy saddles for the big guns. I have no doubt that in southern California and eastward they used *S. Gooddingii* for the same purpose. It is a full brother to our eastern Black Willow, which is the most widely used lumber willow in America, for making all sorts of utensils as well as boxes and crates of all kinds.

I note that I neglected your earlier request for info. on whether the Tall Arbor etum had certain willows. I will make inquiry, and tell them to get in touch with you about Southwestern species. Glad you spoke of it, because if they are ready to proceed I can get many others to send in plant cuttings.

Cordially yours,

Carleton R. Ball

P.S. I already had asked the Dept. Office of Information to send to you such as were available from a list of about 40 different publications. By the check they returned they had but few of them in stock. I had also asked the Forest Service to send some of their old Bureau publications. As many of the Dept. publications were written by Forest Service men, I am asking Forest Service if they can dig up stray copies for you, so you eventually may get some.

Dept. send	5	pubs. out of 41
F.S. "	7	" out of 17
F.S. " 1 from Dept. list	11	" " " 36
	23	58

Dr. Melvin C. Merrill,
Chief, Division Publications,
Office of Information,
U.S. Dept. of Agriculture.

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

March 15, 1948

Dear Dr. Merrill:

Attached are two copies of a list of some Department publications, old and new, which deal with the value and use of various plants, including willows.

I will be glad to have as many of these are still available sent to a long-time friend of mine, namely:

Mr. Leslie N. Goodding, Box 303, Jerome, Arizona.

He is a very able naturalist, familiar with the whole great west from the Rockies to the Pacific. He has been with the Soil Conservation Service most recently but previously was with the Forest Service or Biological Survey, or both, I think. He has helped me out many times with willow specimens from little-visited areas and it was for him that I named *Salix Gooddingii* of the Southwest.

Now he wants to study up more fully on the uses of plants for man and various parts of the animal kingdom and I am trying to get him a lot of information on those subjects. He has a son-in-law and daughter, the Dr. John Reeders of Yale, both real botanists, to whom his library probably will go eventually, so that these will not be wasted.

The extra copy of the list I will be glad to have checked with what is sent and then returned to me so that I will know what he has. I have asked Dana Parkinson to get him such of the old publications of the Division of Forestry and Forest Service as are available.

Appreciating whatever you are able to do for Goodding, I am

Cordially yours,

Carleton R. Ball
Carleton R. Ball
Collaborator

Dear Dr. Ball: I am turning this request over to the Distributors folks to handle. They will be glad to send, or order sent, what publications are available, and return the checked list with this letter. H.C.H. 3/16/48

L.N. Gooding
to Merrill from Ball

Some Publications of the Division of Forestry and Forest Service
Relating to Uses of Willows

15-III-48

Bulletins:

- ✓ 2. Plant of Rocky Mtn. Area, &c.
- ✓ 19. Osier culture
- 46. Basket willows
- 85. Chaparral
- 86. Windbreaks.

Circulars.

- ✓ 27. Reclamation of flooded lands.
- ✓ 45. Forest planting in Nebraska.
- 87. White Willow.
- ✓ 117. Post, treatment of
- 145. Forest planting in No. Great Plains.
- ✓ 148. Basket willow.
- 154. Timber in Iowa.
- ✓ 155. Basket willow consumption.
- 177. Boxes, wooden.

Miscellaneous Unnumbered Publications

- Hand book for Range managers.
- ✓ Shelterbelt planting in the Great Plains (4to)
- ✓ Range Research Report 1. Oregon-Washington plants.

Dept. Bulletins:

316. Willows : - Sent by Forest Service
 605. Lumber used. - Sent by Forest Service
 606. Resistance to creosote - Sent by Forest Service
 676. Strength of Wood
 720. Duck foods.
 1078. Beavers.
 1089. Reindeer in Alaska.
 1113. Shelterbelts in North Plains.
 1119. Lumber cut. Sent by Forest Service
 1301. No. Great Plains expts., 10 years.
 1306. Sheridan, Wyo., " 7 "
 1423. Reindeer grazing.
 1485. Wood for paper - Sent by Forest Service
 1497. Forest planting, Lake States. Sent by Forest Service

DEPT. Circulars:

75. Posts, preservative treatment. 7744 ✓
 380. Mountain soil erosion. - Sent by Forest Service
 554. Honey plants of U.S. -
 660. Sand Holding in Pacific Northwest.

Farmers Bulletins.

341. Basket willows
 622. Basket willows. Sent by Forest Service
 788. Windbreaks. -
 1312. Tree planting in Great Plains. Sent by Forest Service
 1405. Windbreaks
 1452. Roadside planting.
 1598. Mountain beaver.
 1603. Shelterbelts.
 1848. Soil defense in the Pacific Southwest.
 1898. Hedges in the No. Great Plains.

Miscellaneous Publications.

46. Strength of woods.
 101. Western browse plants. Sent by Forest Service
 230. Home dyeing. 104
 303. Native woody plants. SCS (Referred)
 521. Reservoir silting.

Technical Bulletins.

21. Beavers FTW.L. (Referred)
 129. Drainage channels.
 158. Strength of woods. Sent by Forest Service
 171. Box and crate construction.
 221. Duck foods in No. Dakota.
 496. Shelterbelts " " "
 652. Drainage channels.
 862. Duck foods.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE



25, D. C.

WASHINGTON

I
PUBLICATIONS
Distribution

March 25, 1948

Mr. Leslie N. Goodding
Box 303
Jerome, Arizona

Dear Mr. Goodding:

At the request of Dr. Carleton R. Ball, we are sending you
copies of the following -

FS Circ 45 "Forest Planting in Eastern Nebraska"
" " 117 "The Preservative Treatment of Fence Posts"
" " 148 "Practical Results in Basket Willow Culture"
" " 155 "Production and Consumption of Basket Willow
in the United States for 1906 and 1907.
FS Bul. 19 "Oxley Culture"
"Important Plants on National Forest Ranges
of Eastern Oregon & Eastern Washington"
"Possibilities of Shelter belt Planting in
the Plains Region"

Sincerely,

DANA PARKINSON, Chief
Division of Information & Education

By: Fred Schoder

FSchoder:shu

cc. Dr. Ball

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE



25, D. C.

WASHINGTON

I
PUBLICATIONS
Distribution

April 2, 1948

Mr. Leslie N. Goodding
Box 303
Jerome, Arizona

Dear Mr. Goodding:

At the request of Dr. Carleton R. Ball we are sending
you the following publications -

C 380 "Erosion Control on Mountain Roads"
DB 316 "Willows: Their Growth, Use, and Importance"
DB 606 "Relative Resistance of Various Hardwoods to
Injection with Creosote"
DB 1119 "Lumber Cut Of The United States 1870-1920"
DB 1497 "Forest Planting In The Lake States"
TB 158 "Comparative Strength Properties of Woods
Grown In The United States"
MP 101 "Important Western Browse Plants"
DB 1485 "The Suitability of American Woods For
Paper Pulp"
DB 605 "Lumber Used In The Manufacture Of Wooden
Products"
FB 1312 "Tree Planting in the Great Plains Region"
FB 622 "Basket Willow Culture"

Sincerely,

DANA PARKINSON, Chief
Division of Information & Education

By Fred Schoder

cc- Mr. Ball

THIS SIDE OF CARD IS FOR ADDRESS



Dr. Carleton R. Ball,

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

Fort Huachuca, Ariz.
Oct. 16, 1949

Dear Mr. Ball:

Many thanks for the
reparations. They are interesting.

At present I am with
the Arizona Game & Fish
Commission collecting data
on vegetation in the Huachuclas.
I have collected a few willows,
just leaf specimens. I
think they are common and
doubtless uninteresting. I
have a few from the Rio San
Jeronimo but they are stored in
Jerome. If you have
something definite in mind
I can do that one know.
Address me here.

Regards,
Gerdie M. Goodding

Mr. Leslie H. Goodding,
Ft. Huachuca, Arizona.

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

27 March, 1950

Dear Mr. Goodding:

I have looked up some of the papers on Charles Wright, and give you data on two of them below. There also are some on his work in Cuba, if you want them.

Gray, Asa. Charles Wright. in Amer. Journ. Science III, 31:12-17. 1886.
(this was reprinted in *Gray's Scientific Papers* 2:468-474. 1889).

Geiser, Samuel W. Naturalists of the Frontier. ~~XX~~ VI. Charles Wright.
Southern Review 15:343-378. 1929.

I am not certain whether you wanted citations to literature about Wright or whether you wanted any knowledge I might have gained from a study of some of Wright's willow collections.

If you want to consult these books, can you get them from the Library of the Univ. of Arizona, or consult them there (provided that they have them)? If not, do you want me to have them sent from the Dept. Agric. Library? Or is Charlotte going to send material from Yale Univ.?

If you want any sent from Dept. Agric., are you still on the rolls of the Soil Conservation Service, so that I can ask them to handle it officially?

I think that Gray wrote a paper on *Plantae Wrightianae*, but I see I do not have it on my list. Will look further.

Will be glad to help you in any way possible if you'll just straighten me out on what you want. You have done a lot for me and I'd like a chance to repay a bit.

Cordially yours,

Carleton R. Ball

P.S. I have another willow, collected atv Andrade, Santa Rita Mts. I cant find any Andrade in Ariz. and so don't know if its from Oima or Santa Cruz Co. Can you tell me any thing about it?

Mr. Leslie N. Goodding and
Dr. & Mrs. John H. Reeder,
Ft. Huachuca, Arizona.

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

15 June, 1950

Dear Friends:

This letter is a reply to Charlotte's letter to me, on June 2, about the proposed Mexican trip and the willows they might find. Her letter has been neglected because Mrs. Ball had been in hospital for a double operation, from which she recovered very rapidly and is convalescing at home after only 11 days there. Now, yesterday having been my 77th birthday anniversary, I am catching up on letters.

Please don't think that I want to burden you-all with special collecting but I am listing some of the problems which are gradually being solved as more folks collect in more places. The main problem in Mexico is the actual range of the species and varieties known to be there.

Three different Black Willows occur in northern Mexico. *S. Gooddingii* var. *variabilis* (formerly *vallicola*) occurs as far east as Chihuahua. *S. Humboldtiana* HBK., with very narrow dark-green leaves, and *S. nigra* var. *Lindheimeri* Schn. both occur in NE. Mexico. The former goes south to So. Amer., but no one knows just how far south or west var. *Lindheimeri* extends. One or two specimens seem to me carry it far toward the Gulf of California but determinations are not certain. All three have leaves green beneath, as you know.

Two Sandbar or Long-leaf Willows may be found. *S. taxifolia* and varieties occurs quite widely but the different forms (vars.) are in doubt as to range. *S. exigua*, vars. *nevadensis* (with very narrow green glabrate leaves) and var. *stenophylla* with larger silvery leaves (much larger than those of *S. taxifolia*) may cross the border at various points.

Of the species having leaves white beneath, there is *S. Bonplandiana* and its narrow-leaved variety *Toumeyi*, which the Gooddings have collected. Farther south, from Guerrero southward, is *S. jaliscoensis* Jones, very similar but with twigs and leaves hairy and often densely so. It may be found farther north. These are related to *S. laevigata* and *S. amygdaloides*.

Salix lasiolepis Benth., in its narrow-leaved southern form (var. *Braceliniae*) ranges from Baja California to Chihuahua, such as *S. Gooddingii* *variabilis*, but we don't know how far south it goes. Two rather rare relatives of it are *S. Hartwegii* and *S. Mexicana*, which occur sparingly farther south but no one knows their complete range. Both have wider leaves than var. *Braceliniae* and *S. Mexicana* has rather evident close serrulations.

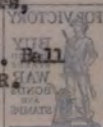
In the higher mountains around the Federal District, and probably elsewhere, is a group not related to our other willows. Anything like them should be grabbed wherever found. Some day we may know something about them. They vary much in leaf size and shape, but none has the linear, linear-lanceolate, or lanceolate leaves of those mentioned above.

With personal regards and all good wishes for a real vacation with plenty of hard work and some joyous climbing, I am
(as well as delightful family reunion)

Cordially yours,

P.S. The matter of reprints will be taken care of after you return to N.H. in the summer.

Carleton R. Ball



Ft. Huachuca, Ariz
Nov. 10, 1950

Dear Dr. Ball:

Don't blame me for the fungi on the willow specimen I sent you. There seemed to be no clean leaves on the trees. This willow confuses me. It seems to resemble *S. scoulerian* but the site isn't right and it dwarfs any specimens of that species I have seen. It really is a striking thing. The holes are clean and straight and numerous from a single base.

The willow collections in Mexico were not numerous. Those collected are at Gale with John and Charlotte. They will doubtless send you samples when they get to it.

Better send me a separate of your recent paper in the Washington Academy of Sciences Bulletin. Hatcher send me a copy for perusal but I had to return it to him. You certainly examined enough material to warrant you in making your conclusions. You are to be congratulated.

If you have any peculiar interest in the willow I sent you I shall try to get fruiting material in the spring.

Believe it or not we have elected a Republican governor here in Arizona. This looks good for a change. The rest of the state state was Democratic.

We are having our first taste of winter. It is not bad as yet, however. We have not had frost here in Ft. Huachuca

Yours very truly,
Leslie A. Goodding

H. H. Huggins, Jr.
Nov. 25, 1958

Dr. Carlston P. Ball,
Washington, D.C.

Dear Mr. Ball:

Well now I think you had better do some "recognizing" for that Salix scouleriana I sent you "ain't" just normal. I have seen said species in lots of places but never any just like this Huachuca stuff. By the way it never occurred to me to select material with large leaves. In fact I intentionally avoided the shoots with huge leaves because they were abnormal. When spring comes around I'll collect some fruiting specimens and throw in a few leaves of good size, if I can get them in the press. You did not identify the fungi on the leaves. Aren't you a mycologist?

There was nothing abnormal about the site in which the willow grew. It was just below a stand of aspens and the aspens were not abnormal in size. The only unusual thing about the site was water. The trees were right along the stream. For some that may account for the size, but there were no clumps on the slope away from the stream as is usual with S. scouleriana.

It is too bad about Killip and for that matter others who can't let booze alone. I think Swallen hits the bottle pretty strong also.

My wife and I plan to go to Los Angeles for Christmas. I hate that burg but my wife's relatives are there.

Sometime when time is heavy on your hands give me the dope on the use of willows medicinally. If you have published a paper on that subject just send me that.

Yours very truly,
Leslie A. Goodding

(See over)

Professor Leslie N. Gooding,
Ft. Huachuca, Arizona.

3814 Jocelyn St., N.W.,
Washington 15, D.C.
14 December, 1950

Dear Brother Gooding:

Your letter of 25 Nov. has been here for some time, while I was digging out from under the biggest landslide of willows, mostly arctic, which I have ever had. Am not done yet but can see daylight at last, and so am trying to clear up letters before Christmas.

S. Seguleriana is a shrub on mountains in in burns but becomes a real tree when growing beside a river where it fertile soil and abundant permanent water. I have seen several in the narrow valleys of northern California and northward and some of them were 70 ft. high and probably 2 feet in diameter at the base. And yet, not 200 feet away would be the normal small shrubs. In one case the big tree grew at the base of an almost vertical wall by a river and, at the top of the wall grew the shrubs with the branches of the two intermingled.

No, I "aint no mycologist". When I see a good fungus, especially rusts, willow leaf I send some to the Division of Mycology of the Dept. and get an identification, sharing the specimen with them. I do have this kind of a fungus collection, including 3 species of rusts and several other diseases, including one very rare one. I'll take another look at that specimen and if it looks like more than common molds I'll send it in and let you know what comes out.

I am glad that you are to have a vacation in the Los Angeles area, altho moping in the holiday period (or any other time) is not always a pleasure. Hope that you have a fine visit. I infer the John Florence are not coming west for the holidays. I'll be sending them a letter shortly.

With high appreciation for all of your help and generosity to me, and with our very best wishes for your fullest Christmas and New Year joys, and for many more years to come, I am

Cordially yours,

Carleton R. Ball

P.S. I see that I have neglected your query concerning the medicinal uses of willows. You will find a bit on that in the summary of their uses I published (*Willows: Helpers of Man*). I am now in request of a much longer mss. which will make 60 pages in print. I have about 125 pages in mss. now but will have to revise it to make it deal chiefly with willows in their relations to man and omit the uses by animals, birds, insects, fishes, etc. It will carry the medicinal story and you will get it when and if.

Prof. Leslie N. Goodding,
Route 5, Box. 673,
Phoenix, Arizona.

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

19 December, 1951.

Dear Friend Goodding:

Have thought of you many times in these months but have not written since last summer.. I think that I am buried deeper in work than ever and don't seem to get as much done in 24 hours as I once did. Now, in place of a Christmas card, I'm going to write a friendly letter, not all about willows.

This has been a year of several anniversaries which have taken time, thought, and energy, and have given me much pleasure. In June, was the 50th anniversary of the Botanical Society of Washington. At the dinner, I had to reminisce a bit because I was the only founder present, although one or two others are living.

In June also I went back to my 55th anniversary of graduation from Iowa State College. They gave me a gold medal (50-year) in 1946, with a gold ribbon, this year I got the 55-year medal with cardinal ribbon. On my 60th, if any, I will get another with both colors in the ribbon. There were many dinners, lunches, and doings for the old grads. There were only 8 of Class '96 there, although more are living. One has died since. We were a "depression" class, which cut into our numbers.

In October, was celebrated the Golden Anniversary of the founding of the Bureau of Plant Industry, of the U.S. Dept. of Agric. (July 1, 1901). It ran for 3 days and at the dinner on the 2nd day, those who had been in the various divisions previous to Bureau formation were the guests of honor. There were some 17 living, but only 6 were present. We were eulogized but not permitted to speak, only bow. One of those not present was Thomas H. Kearney, whose Plant of Arizona you know.

That's more than enough about me. You wrote me last summer that Mrs. Goodding had been visiting sons and daughters and families in Conn., Mass., and Wisc. I certainly hope that there are some living nearer to you than that because on special days we like to have them with us and I trust that that is true at this Christmastide and New Year.

Do you remember that you once asked me what willows were in the National Arboretum here? I seem to have overlooked it at the time but last summer I wrote about it. Nothing definite came of it, however, because the Director was in process of retirement. Now I have heard from them, not answering the question but saying that they are picking up loose ends. I had suggested that I could give them the names of several collectors in the Western States and Canada who would send cuttings if they were ready to use them and they asked me to send them a list of such collectors. I shall do so presently but would like to know if you have a more permanent address yet.

I hope that you and yours are in fine health and fettle, and not buried under so much snow and ice as we are at present, with no relief in sight. It interfered with Christmas doings.

With very sincere appreciation of all that you have done for me, and with the very best of wishes for the holiday season, and all of the years that follow, to you and Mrs. Goodding, and all of your loved ones, I am

With love and our card from John and Charlotte. Best Jesusly yours,

Carleton R. Ball