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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.

1312 Ninth St. N. W.,
Calgary, Alberta,
January 31, 1940.

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

Dear Dr. Ball:

I am dictating this from bed where I have been for more than three weeks, which is the reason you have not received the Salix specimens as agreed upon.

Before I was taken ill, I started to sort out the Willows. I find that I have duplicates of a set collected in the Edmonton district, also a set collected here at Calgary. These are good specimens from "tagged" plants. I hope that you will find them worth adding to your splendid collection. Of the willows collected at Banff in 1899, I have no duplicates. There is a set of these in the U. S. Natural Herbarium, but it might be quite a job for you to look them up. Would you like me to send you my own herbarium specimens for examination?

By the time your reply indicating your wishes in this regard is received, I hope to be about again and able to do some work. I should therefore be able to send you the plants without much delay.

Mrs. McCalla and I often speak of our visit with you last October. It will continue to remain a happy memory. We join in wishing you health, happiness and all good things throughout the year.

Yours sincerely,

W. C. McCalla

WCM/DRM

W. C. McCalla.

Knoxville, Tennessee

March 6, 1940

Mr. W. C. McCalla,
1312 Ninth Street, N.W.,
Calgary, Alta., Canada.

Dear Mr. McCalla:

Your letter of January 31 and my secretary's acknowledgement of February 7 were before me on my return to Washington. However, I was under such pressure from manuscripts and other work that I could not clear my desk before being unexpectedly required to get out on the road again. I brought numerous letters along for reply as time permits.

I am sorry indeed to know that you were ill when you wrote and hope that you have long since recovered, as you expected to do. We have had an unusual epidemic of influenza in the States, but fortunately not very severe, and I have been able to escape entirely.

As to the willows, I greatly appreciate your offer of duplicates from Calgary and Edmonton, from tagged plants. They will be most valuable. If you care to send your own specimens of the Banff collections, I will be delighted to determine and annotate them and return them to you. I probably can do this very promptly on my return at the end of this week, because no collections were waiting when I left.

My great regret is that Mrs. Ball and I could not have had a chance to get really acquainted with you and Mrs. McCalla when you were in Washington. In fact, I still shudder to think how, with my defective hearing, I missed getting your name when you came in, and only realized only later who who really were. Should you be coming our way again, be sure to let me know in advance. We drove to the West Coast on vacation last summer but got no farther north than Yellowstone Park, Grand Coulee, and Seattle.

With personal regards, I am

Most cordially,

Carleton R. Ball

1312 Ninth St. N. W.

Calgary, Alberta,

March 15th 1940

Dr. Barkton R. Ball,

Extensions Service,

U. S. Dept. of Agriculture,

Washington, D. C.

Dear Dr. Ball,

I am mailing to you to day a package of some three dozen willow sheets. These are duplicates for your fine collection.

Your kind offer to name my *Baiff* willow is appreciated and will be accepted a little later should it then be convenient for you to examine them. Just now Mrs. Dr. Calla and I are preparing for a motor trip to California. The returned package might lie in the Customs for many weeks, and I would rather that did not happen. A mail will of course be forwarded. I shall take along a list of the duplicate willows to be compared with yours when received. Dr. Turner, who has given much attention to *Salix*, kindly helped me with identifications. In many cases I accepted his names without much checking. Several species are unknown to us.

With kindest regards,

Yours sincerely,

W. B. Dr. Calla

From W. C. McCalla

1312 Ninth St. N. W.

Calgary, Alberta.

Feb. 6th 1941

Dr. Carleton R. Ball,

Extension Service,

U. S. Dept. of Agriculture,

Washington, D. C.

Dear Dr. Ball:

This letter should have been written long ago.

Procrastination in writing is too often a sin of mine.

I ask forgiveness.

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Dr. McCalla and I started for California at the end of March, driving directly to the Mojave Desert. The floral display was very fine and we were at once busy collecting and photographing. The outdoor life in bright sunshine swept away all traces of winter illness.

After the Mojave and Colorado Deserts we spent five weeks in San Diego County with headquarters in a pretty little cottage a few miles east of El Cajon. Later we crossed and re-crossed the Coast Ranges as we worked up to the Bay Region. In San Francisco and Berkeley we had only one day. Getting into traffic and losing time by not knowing the direct way we were late in reaching the university. When we located the offices of Dr. Mason and Dr. Satchell it was just past five o'clock, and all had

departed. I did not find out whether the gentlemen were in the city or not.

As we expected to be back in California for the winter we decided to go on, for the mountains were calling us and winter seemed the better time for city visits. That was a mistake. The war regulations of the Foreign Exchange Board have kept us in Canada, and may do so for the duration.

Once in the Sierra Nevada mts. we had such a happy and successful time that we almost lost count of the passing weeks, and so did not get back to the Pacific coast. We told ourselves that we would call on Dr. + Mrs. ^{Parker in the winter.} We feel badly about not having met any of these friends of yours, but hope we may yet be able to do so.

Dr. Dr. Calla and I have had attacks of some sort of "flu", but are both better and looking towards spring and another season of field work - this time in Canada. I shall be on the lookout for willows, and shall probably have a package to send you next fall.

With kindest regards, in which my wife joins,
I am,

Yours sincerely,

W. C. Dr. Calla

1312 Ninth St. N.W.

Calgary, Alberta,

May 12th 1941.

Dear Dr. Ball:

I was glad to have your letter of Feb. 11th; and was interested in your suggestion that the area around Athabasca Lake would be a good collecting ground for 1941. After considering the matter and getting information available I have had to give up the idea.

One of our married daughters lived at Goldfields on Lake Athabasca for a year. Her husband was employed by an eastern mining company. He had a good motor boat, and from time to time hired an aeroplane to carry men and supplies to outposts. When war came he felt it his duty to enlist. He has been in England for almost a year. Had they remained in the North I would have had a splendid opportunity to get about and collect over a considerable area. They both loved life up there, and hope to resume when the war is over. If they do, and I have health, I may have a season's collecting there yet.

At present, for one thing, and that is decisive, the cost of living and travelling in the North is beyond my means.

We have had here a very early (and so far very dry) spring. I have been collecting some willows, and fine most species are in bloom 15-21 days earlier than in 1936 when I last collected around Calgary. This year I am extending my search into surrounding areas, and may have a considerable series to send you at end of the season.

I was glad to know that Mrs. Ball and yourself were in good health when you wrote, and trust that has remained true for the intervening time.

With kindest regards, in which my wife

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Yours sincerely,

W. B. In-Calla.

1312 Ninth St. N.W.

Calgary, Alberta,
Oct. 28th 1941

Dear Dr. Ball,

Many thanks for your speedy determination of my numerous Willow specimens. Your letter came late yesterday afternoon. I had an evening engagement, but rapidly checked names and specimens before going out. I shall have a happy time studying them carefully.

Questions came to mind as I looked them over, but study will answer some of them, and your comment to follow will clear up others, so I'll say nothing about individual species now. It was pleasant to find quite a number of my tentative identifications verified, but I made some bad mistakes. I have no description of some of the species and varieties collected; it is splendid to have them and to have them correctly named. Dr. Turner will share my keen interest in this considerable addition to our list of Alberta willows. If my summer's work has extended the range of some species that will be added reward.

Again thanking you, I am
6463 States Farmer, socks broke, blew at us

Sincerely yours,

W. C. McCalla

February 18, 1942

Dr. W. C. McCalla,
1312 Ninth Street, N.W.,
Calgary, Alberta, Canada.

Dear Dr. McCalla:

Your letter of October 28, 1941, has lain long without answer. I just have not had time to check on distributions to see where extensions of range may have occurred and I may not find that time "for the duration." However, there are a few items that I wish to mention.

One of the labels bore the number 6647 but the sheet bore the number 6447. As the label data were exactly the same as for 6446, the label number was changed to 6447.

Under No. 6466 there is a statement that it grew close to No. 6467 and 6468. There was no number 6468, however, in this series.

Of No. 6463 you said that it flowered almost a month earlier than 6516 and 6517 which grew within 13 feet of it. I have examined No. 6463 again and find that the flower scales are broader than normal and black at the tip. The leaves also are somewhat firmer and it is possible that this plant is a hybrid, although what the other parent might be I am unable to say.

I owe you a real apology on my determination of Nos. 6491, 6507, 6619, and 6639. In the list I sent you they were determined as *S. myrtillifolia* var. *brachypoda* Fernald. On a critical reexamination I am convinced that they are *S. Farrae* var. *microserrulata* Ball. The type of my variety came from Sundance Canyon where you got 6491 and 6507. They say that it is a wise child that knows its own father. I would say that it is a foolish Salicologist that does not know his own children. I enclose correction labels for your specimens of these numbers.

- 2 -

There is other material from much farther north in Alberta, British Columbia, Yukon, and Alaska, which I have been naming *S. myrtillifolia* var. *brachypoda*. These come from areas entirely outside the known range of *S. Farrae* or its variety. They will need some more study.

You may have use for another copy of the list of determinations and I am glad to enclose one with these corrections made.

Cordially yours,

Carleton R. Ball,
Executive Secretary

from W.C. McCalla

1312 Ninth St. N.W.

Calgary, Alberta.

Sept. 16th 1942

Dear Dr. Ball:

The collecting season is over. It was generally cool with much cloudy weather and precipitation away beyond average. One result was luxuriant growth with delayed bloom but, eventually, a grand floral display. I was able to spend considerable time in the mountains. Our plan (my wife accompanied me on all trips and gave much assistance) was to be away for ten days or two weeks, then back to Calgary for a similar time. In this way I could care for the garden and attend to various matters that continue to turn up.

Last year all my collecting was done in Alberta. This season we extended our trips to include certain localities on the western slope of the Rockies. Again I gave special attention to willows, making over 100 collections. In many cases I have complete or nearly complete materials, but other numbers are incomplete. Several of my tagged bushes were swept away by floods. I was unable to visit some locations more than once.

With the extra work you are doing will you be able to look over my collections? If you can, please advise me on the following points: - (1) Shall I send all at one time, or divide into groups and send at intervals? (2) Shall I arrange them numerically or according to relationship as I see them?

your list of determinations has been in numerical order.
 It might save your time to have the specimens sent that way.
 (3) Would you like to have for your own herbarium duplicated
 of all willows that I have collected this year? I shall be glad
 to send all if you so desire. Many are of common enough
 species and may be of no value to you.

Thank you for the reprint of your paper, "New Western
 Novelties in Salix". It should have been acknowledged
 before. I found it among my mail when I returned from
 a trip, but left home again before catching up on my
 correspondence. It illustrates the very careful study
 that you are giving to willows.

Recently I had a very pleasant and interesting visit
 with Dr. Turner at his home in Ft. Saskatchewan. I
 called also on Dr. Moss at the University of Alberta.
 I hope to have a visit from A. St. Brinkman when his
 harvest work is over. Dr. W. P. Fraser of Saskatoon
 has been in poor health, unable to do any collecting since
 June - tough luck. All of these friends speak of your
 willing and helpful assistance.

With kindest regards,

Yours sincerely,

(U. C. McCalla.)

1312 Ninth St. N.W.

Calgary, Alberta,

Oct. 27th 1942

Dear Dr. Ball,

I am mailing to you today a package containing 79 sheets of Willows collected during the 1942 season. These are duplicates to be retained.

They are roughly classified, with species or larger groups placed in newspaper folders. My *Salix* literature is so limited that an attempt at exact determinations would be largely a waste of time.

Last season I collected only in Alberta. This package includes a considerable number of collections made in British Columbia on the western slope of the Rockies. I hope you may find all of some interest.

With kindest regards,

Ackn by card

Yours sincerely,

A. B. McCall

December 22, 1942

Dr. W. C. McGalla, a,
1312 Ninth Street,
Calgary, Alta., Canada.

Dear Dr. McGalla:

Your letters of Oct. 27 and Nov. 17, and package of willows, were safely received, and the former acknowledged promptly by card. Pressures here have prevented more prompt determination, for which I am sorry.

It was a real joy to study this material, for we seldom see successive collections from the same plants. Of course, the fuller the material, the more numerous the problems. Nature specializes in diversity. Man hopes vainly for uniformity. I wish that I really knew something about the willows. Everything I learn only shows up the many things I don't know.

I inclose the list of determinations. You will see that you made a good haul. You also had done a very good job of determining yourself. As I typed the list myself, you will understand the many errors. A few comments on species and varieties seem desirable.

Leaf forms vary much. Varieties based on difference of leafshape sometimes are hard to differentiate. *S. vestita* var. *erecta* has narrower, more oblong blades but is no more erect. Your specimen not very distinct.

S. anglicum var. *araioclada* has small elliptical leaves and var. *koprophylla* has obovate or oval-obovate leaves, but the shift is gradual and some are hard to place, and some sheets may be mixtures.

Your two specimens determined as *S. arctica* var. *subcordata* are not alike but both seem to go there. The var. may get a changed status after monographic study.

The most perplexing material is what I have listed as *S. Drummondiana* var. (1), with their narrow leaves. I have a lot of this material. It does not seem to be *S. subcoerulea* as the pubescence is like that of *Drummondiana* and the twigs never are pruinose. Your two specimens of *S. Drummondiana* are somewhat intermediate between the typical oval-leafed form and this narrow-leafed form. More study in monographing necessary to decisions.

I was not sure, while listing, just which were Alta. and which from B.C. where not labelled. Will study maps later. I suppose that all Banff Nat. Pk. is in Alta.

, thanks for the splendid material, and

With best holiday wishes, regrets for the delay, I am

Cordially yours,

Carleton R. Ball

dupl in file only

1312 Ninth St. N.W.

Calgary, Alberta, Canada

Nov. 25th 1943.

Dear Dr. Ball:

Thank you for your letter of Nov. 1st, and for the packet of willows which arrived in good condition.

I am glad that you are now free to carry on the great work of monographing the Salix of the Western Hemisphere. I hope I may live to see it completed and published.

I am indeed interested in the notes on the wide distribution of *S. McCalliana* and *S. arbusculoides*.

During the past season I was able to do some collecting in the Rockies. Willow collections were not as numerous as in 1941-2, but I have a number that will, I hope, be of interest to you, and on which I would like to have your report. I shall sort them out and mail a package as soon as possible.

I am saddened by the death of Dr. W. P. Fraser of the University of Saskatchewan - a good man gone.

With kindest regards and good wishes, in which my wife joins,

Yours sincerely,

Brentmann's shop

A. C. McCalla (over)

December 14, 1943

Dr. Wm. C. McCalla,
1312 9th St., Calgary, Alta., Can.

Dear Dr. Mc Calla:

Your letter of Nov. 25 came promptly. I hope not only that you may see the completion of the *Salix* monograph, but that I also may live to see it. Just now I am doing *Salix* for the 3rd ed. of Britton and Brown *Illus. Flora*. That will mean working up some 40 to 50 species and many varieties.

I greatly regret to learn of Dr. Fraser's death. Yours is the only word so far. He did some very helpful collecting and also financed some by Breitung in extreme eastern Sask., on the Manitoba line. Northern Man. seems to be as little known as any part of north, at present. I hope some one can get in there and bridge gaps.

You know that I will be delighted to see your willows whenever you are ready to send them. "Prinkman wrote me that he had had a very pleasant and profitable visit with you while enroute home from B.C.

With best holiday greetings to you and yours, I am

Most cordially,

Carleton R. Ball
Collaborator

from W.C. McCalla
1312 Ninth St. N.W.
Calgary, Alberta.
Aug. 13th 1945.

Dear Dr. Ball:

As you may have already heard,
A. H. Brinkman died on July 21st. During a
short final illness he suffered little; the immediate
cause of death was a heart attack.

Early in June he was my guest here for a few
days. We had two or three short tramps together; he
showed no distress, and had no idea, I believe, that
anything was wrong with his heart. His interest in
plants was keen as ever. He wanted in particular to
see Salix candata. He collected male and female twigs,
and I was to send him mature leaves later.

He was an interesting man in many ways.
His passing is a loss and grief to me as to many others.

Considerable time has passed since I last wrote
to you. I believe I then stated that I hoped to send
you some willow duplicates before long. I was, however,
taken ill, was in bed for several weeks and then, on
doctor's orders, away from home during most of spring
and summer. In recent months my wife has had
a long sickness. I was part time nurse, housemaid,
and even cook! Finally an operation was decided upon.
It was, I am happy to say, successful, and she has just
come home from hospital with every prospect of complete

restoration to health. All of this explains, if it does not excuse, the delay in sending the willow duplicates.

Last season I did some collecting in the Kootenay district of B. C. There I saw *Salix sitchensis* for the first time. This year I have found relapations in studying plants around Calgary - an hour or two at a time adding up to quite a number of collections. Among them are a few willows, but nothing new except perhaps a hybrid of *S. candida* x .

We may be able to get away soon for a change and rest, but in fall or early winter I shall really try to get the willow duplicates sorted out and into your hands.

I hope that your own health is good, and that your work is going well.

With kindest regards,

Yours sincerely,
W. C. McCalla.

Dr. Wm. C. McCalla,
1312 Ninth St., N.W.,
Calgary, Alta., Canada.

August 23, 1945

Dear Dr. McCalla:

Your letter of August 13th is received and I greatly appreciate your telling me of the recent death of Mr. A. H. Brinkman. I had had no word of it from any source and might not have heard of it for a long while except for your thoughtfulness.

Mr. Brinkman, whom I never had the pleasure of meeting, was a remarkable man in many ways. I sensed that in the early days of my correspondence with him. He never complained, altho I guessed that he had had some hard times with drought and rust and frosts. When I realized that, I sent him money to cover expenses of shipment of specimens and also paid his dues in the Am. Soc. of Plant Taxonomists.

I do not know just how far he got in his preparation of the ecological flora of the Province but he sent me some parts of his discussion for reading and suggestion and I greatly appreciated what he was attempting to do. I hope it was far enough along so that it may be carried forward to completion by others.

He never spoke to me of other members of his family. If there are these to whom I can write a word of appreciation, I will be glad to have names and addresses. I do not know how old he was but supposed that he was well along in years.

His collecting, as you know, was most painstaking and accurate and has helped greatly in understanding the distribution of willows in that area. I shall give him full credit for his help.

I am sorry indeed to learn that you have been ill and under some restrictions for a long period and that Mrs. McCalla has had a long illness also. It must have been a hard year for you both. I am delighted that she is home from hospital with full promise of complete recovery. I hope that you both may be able to have a good long rest before winter comes along again. I had my long illness and two operations 2½ years ago and have been fit as a fiddle ever since.

During this war period I have been so burdened with extra duties and work that I almost have ceased work on the willows. Now, however, I am getting back to them and hope to get on with the monograph. You see, therefore, that your willows have not been missed, even tho I will be most happy to see them whenever they come.

I hope that Brinkman's personal herbarium will go to some one of some institution in Alberta where it will continue to serve the Province and the world.

With all good wishes to you and Mrs. McCalla, I am

Cordially Yours,

Carleton R. Ball

from W. C. McCalla
1312 Ninth St. N. W.
Calgary, Alberta.
Nov. 16, 1945

Dear Dr. Ball:

A package of 23 willow specimens lies before me on the table and will be mailed to you tomorrow. I have named the majority of them. This does not mean that I regard myself as an expert - far from it - but I am curious to see with how many you agree.

I was unable to leave Calgary during the collecting season, and found no new willow here.

Dr. Binkman's widow lives on the farm at Craigmyle, Alberta. A married son lives near her, and she has two married daughters in British Columbia. His herbarium and botanical library are not yet disposed of. He directed that all be sold as a unit, at a price of not less than \$1,000. The University of Alberta cannot buy it, but Dr. Moss and I are doing what we can to help Mrs. Binkman in the matter. His specimens are unmounted, lying between folded newspapers.

Dr. Dross and I have prepared an obituary to be published in the Canadian Field Naturalist. Dr. Dross is sending a shorter notice to the Bryologist.

Winter has closed in early here. We have had two weeks of zero weather. Temperature usually rises a few degrees by day and sinks below zero at night. It is good to have interesting herbarium work to do.

I am indeed glad to know that your health is good, and that you are at work on the monograph.

Mrs. McCalla has regained her health, and joins with me in kind regards to yourself.

Yours sincerely,

W. C. McCalla.

March 23, 1946

Dr. W. C. McCalla,
1312 Ninth St., N. W.,
Calgary, Alberta, Canada.

Dear Dr. McCalla:

Your letter of last Nov. 16th and accompanying packet of willows were promptly and safely received. I did all but the hard ones promptly, as I always try to do, but the got caught in a jam of work (not willows) which was not resolved until early in Feby. Since that time I have been trying desperately to clean up the accumulated material and at the same time to keep up my manuscript writing.

I am very sorry indeed to seem so rude to a good friend and to seem so unappreciative of the wonderful help you have given toward making a monograph of the willows really mean something.

I thank you also for the additional information regarding Mr. Brinkman and his family and the herbarium. It seems very desirable that it remain in Canada. I do not know how widely he distributed his duplicates nor where they went but I suspect that he did not collect many sets. It seems probable that one of our large herbariums in this country would be interested, and perhaps also the Univ. of Washington and the the new Plant Institute of the State College of Wash.

I inclose a list of the determinations of your specimens, of which there seem to be 23, as you stated.

Probably the most amazing is No. 7527, *S. glauca* L. So far as I know it has not been found that far down in B.C. before, but I have not had time to check up. This seems to be the real thing and not any of the forms of the "*glaucoptes*" mess. If it was to occur so far south, the Kicking Horse Gorge would be a most likely place to find it.

The series of *S. arctica* var. *subcordata* (Ands.) Schn. is interesting. No. 7986 has the apical leaves definitely serrulate, being an exceptionally vigorous growth. Its stipules also are especially large and serrulate.

I am delighted to know that Mrs. McCalla has regained her health and I hope that it still holds true. My best regards to her. Mrs. Ball is not so well these last months but is still around, and active. Two grandchildren here are just down with measles, if indeed one is not scarlet fever, the former epidemic and the latter far too common just now. I remain well and at last am giving much time to the willows, on which I have five papers, besides the monograph, in preparation.

We have had 2 weeks of spring but will have relapses. Hope that it is coming in the Calgary area.

With all good wishes, I am

Cordially yours,

Carleton R. Ball

Dear friends:

At the end of the year (and the half-century) our thoughts go out to the many distant friends with whom our contacts are mostly by mail through the years.

I think that it now is more than a year since I have written. This fall and winter I am buried under the biggest avalanche of willows for determination which has ever come down on me. Hundreds from the Arctic, all the way from Alaska to Greenland. More hundreds from our western mountains. Am getting fairly well cleaned up on them now, and hope to get back to the mss. on Alaska-Yukon Salix for Dr. J. P. Anderson.

The biggest problem there is the 25 or 30 species which have been named in the Section Glaucæ. After *S. glauca* itself, *S. desertorum*, of 1823, is the fundamental problem, basic to all the others. I have the cotypes of it now and hope to settle the problems rapidly very soon.

In a letter from J. W. Eastman, of Vancouver, awhile back, he mentioned that you had had a fall and that some nasty arthritis had developed as a result. I had enough of it years ago to know how it hurts. My fingers still are stiff, and my hand shakes when I try to write with a pen, but it does not attack me in a half or whole leg in the middle of the night and bring me up standing as it once did

So I sincerely hope that it does not pain you or prevent your getting about actively and pleasantly. You so long have enjoyed the out-of-doors that I know how you would miss it. I now am 77½ years but don't know it yet. Eat and do about what I wish with no ill effects.

We have had almost 3 years of illogical and unpredictable weather. Hot in winter, cold in summer, and the end is not yet. Ordinarily, winter begins about now but it began in Nov. and we have had 3 snows and plenty of ice. They are having it in Korea also.

Mr. Hall had a double operation in May but came thro in fine shape and, other not strong, does most everything as usual. I had my double in 1943 and the surgeons said I was good for fifty more years.

For me, still in good shape. In 1944 we celebrated 50 years of marriage and 50 years of life. I am the one of the seven-children who are respectively 50, 45, 40, 35, 30, 25, and 20 years old. The youngest is now 20 years old and is a fine fellow.

My wife is now 77½ years old and is a fine fellow. She is still in good shape and does most everything as usual. I had my double in 1943 and the surgeons said I was good for fifty more years.

The Bureau of Botany is now in the hands of the U.S. National Academy of Sciences.

The picture opposite is our new church, which faces across a circle and down a wide busy avenue. We keep flood lights on the front at night and it can be seen for miles, being at the top of a hill.

We have just had the joy of looking at the photos of plants you have sent us. The beautiful glade of bear-grass from Glacier is like one of the cotton-grass sent to us by the ladies of the Jean Bot. Club, accompanied by a cossage and bouquet of same for Mrs. Ball in hospital. It still de-

lights our living room. I wish for you and yours all of the joys of the Christmas and New Year season, in this year and in all of the many yet to come.

With sincere thanks for your generous help with willows during the many years of the past. I am

Cordially yours,

Carleton R. Ball

1312 Ninth St., N. W.
Calgary, Alberta.
Mar. 4th 1951.

Dear Dr. Ball:

It was a great pleasure to receive your letter of Dec. 16th, and to know that Mrs. Ball and yourself are in good health. It is grand to be 77½ years old and not know it yet. Pray that conditions long continue.

Yes, I did fall 18 months ago and complete recovery from its effects has been rather slow. I still walk with a slight limp, but sharp pain is gone. At night an electric pad helped to give comfort and quiet sleep.

Your good letter should have been answered sooner, but illness, starting with a severe cold, kept me housebound for six weeks and brought almost all work to a stop. I am now getting back to normal health. My doctor tells me to go easy - natural advice, I suppose, to one in his 79th year. However, he assures me that lungs, blood pressure and heart are all O.K. I am hoping for another good collecting season in 1951.

Last year at about this time Margaret and I went by train to San Diego, Calif. where a married daughter lives. We had a good visit, with many interesting drives and picnics with Helen and her family. I did considerable collecting.

I should like to send you a number of willows if you have time to look them over. - 5 or 6 from Southern Ontario, 3 or 4 from California, and a few from Western Canada. These to be retained. If this is an imposition when you have so much on hand, please say so frankly. If sent, should they go to your home address.

I am getting the sections of Dr. Anderson's Flora of Alaska and the Yukon as they are published and your paper on the Willows will be eagerly looked for.

The picture of your new church shows a building in pleasant contrast to many "modern" churches now being built.

Margaret joins with me in kindest regards to Mrs. Ball and yourself.

Sincerely,

C. C. McCalla.

Cerleton R. Ball

Cordially yours,

Mrs. Ball would be remembered to you both. She is taking a grandson to see a bit of New York City and then visit her (step) mother in New Jersey, a little lady very active in her 80s.

Have had a perfect avalanche of Arctic willows this winter, from Alaska to Greenland. Many result from the Naval Research Laboratory wide-spread work in the Alaska area.

Send on the willows you mentioned at any time convenient to you. Shall lots get quick determination. I appreciate keeping duplicates but you know I'll do them just as gladly if they are to be returned, so indicate any or all that should be returned.

I am glad that you were able to have so enjoyable a visit with your daughter and family in San Diego. Those things help to keep us young.

I suspect that you have had one more blizzard since you wrote. We read of trains and autos stalled in the deep drifts, and the deaths from exposure. We got the last switch of its fall here three days ago, with 3 inch of snow but no heavy wind. Now it is sunny. I will remember the great blizzard of Feb. 12-14, 1882, where more than 200 school children were frozen when caught on the roads to their homes.

I greatly enjoyed your new letter of 4 March, and to know that you are happy and coming out of the lesser illnesses you have had. This delayed reply is the joint result of weather, work, flu, and dental work. The flu is on the way out and I hope to speak to normal soon.

Dear Mr. McCalla:

Mr. Wm. C. McCalla,
1312 Ninth St., N.W.,
Calgary, Alberta, Canada.

24 March, 1951.

3814 Jocelyn St., N.W.,
Washington 16, D.C.

Mr. W. C. McCalla,
1312 Ninth Street, N.W.,
Calgary, Alta., Canada.

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

10 April, 1951.

Dear Mr. McCalla:

Your letter and packet of willows have arrived but at the moment I cannot find the letter. If it had questions, will answer later.

I inclose determination lists for Eastern Canada, Western Canada, and Western U.S.. You had done an excellent job of naming these. As you will see, your only troubles were with species that don't get into your area.

If you keep in mind that Section *Nigrae* (*S. nigra*, *S. Gooddingii*, and *S. humboldtiana*) all have the leaves green beneath, and with very tiny vein islets, that will help you in future. This time you called one specimen of *S. laevigata* var. *arabica* as *S. Gooddingii*, and a specimen of *S. fragilis* as *S. nigra*.

In about 1946, I did some collecting in Essex Co., Ont. along Lake Erie. I was much interested in 9967g, *S. interior*, and the beetles. This happens to *S. interior* throughout its range, but never before have I seen the new, extremely hairy leaf so large. Usually they are much smaller and more crowded (very much so). Of course, this was collected in early June, and well north. Most of those I have seen were midsummer new growth when conditions were hot and dry.

You will note that I do not follow Fernald in reducing *S. tristis* to varietal status. All his life, Fernald kept making new species of *Salix*, often based on a single fragment, and some of them hybrids. Then at the last minute he turns around and depose long recognized species. The passion for making new combinations, with your name prominently included therein, is a dangerous one and has put an awful load on systematic botany. The author's name last just as long on a synonym as on a real species, which is forever.

You will note my regarding your 1 Calgary specimen (7394) as a hybrid and may wish to collect it a little earlier in the season.

I don't quite understand your reference to Dr. Turner in connection with 9126. Perhaps you did not mean that he had told you that I had renamed 9126 and 9128 from *S. myrtillifolia* to *S. pseudocordata*. I did rename the Turner specimens timely, but Ft. Saskatchewan is a long way from Calgary and conditions are quite different. These two numbers seem to be *S. myrtillifolia*.

In Southern California, the narrow leafed form of *S. lasiolepis* is quite abundant (var. *Braceliinae* Ball) but in the S.W. corner it is much less common. Only one of your two specimens has the leaf emerging.

Both the Columbia River specimens represent var. *lanceifolia*, distinguished only by hairiness of twigs, petioles and young leaves.

If I recall your letter correctly, and I read it when it came, you said these all were duplicates to be kept ~~xxxx~~ by me, and I thank you heartily for this generosity. If I find that I am wrong, when the letter comes up, I'll act accordingly.

With all good wishes, I am

Cordially yours,

Carleton R. Ball

Mr. Wm. C. McCalla,
1312 Ninth St., N.W.,
Calgary, Alta., Canada.

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

23 April, 1951.

Dear Mr. McCalla:

I have just found your letter of 2 April, transmitting the willows on which I reported to you on 10 April. Many thanks for the specimens, which will be a most welcome addition to my collection.

I am greatly interested in your quotation from Dr. Fraser in the Canad. Field-Nat. for October, 1942. If I were saw that, it had slipped my mind. I have no reprint of his paper but will look it up at the Dept. Library soon.

Most of my specimens have come from the Great plains Area and were collected in midsummer or early fall, when conditions usually were hot and dry and not conducive to luxuriant growth. Therefore I am doubly glad to have this specimen and the reference to Fraser's notes.

Thanking you for the many courtesies, and with all good wishes, in which Bertha Ball joins me, I am

Cordially yours,

P.S. am all over the flu and feeling fit.

Carleton R. Ball

4 sheets

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Mr. Wm. G. McGalla,
1312 Ninth St., N.W.,
Calgary, Alta., Canada.

3914 Jocelyn St., N.W.,
Washington 15, D.C.

12 May, 1951.

Dear Mr. McGalla:

Your letter of April 27 came promptly, and the packet with the two specimens, Nos. 10337, 10338, from Fort Saskatchewan, came safely later. I checked them here very promptly but felt that it was necessary to check them against extensive material at my herbarium. This I did yesterday.

After comparison with juvenile and/or mature material from the whole Canadian area, I feel certain that these, although immature, should be placed with *S. pseudocordata* (Andersson) Rydberg. They closely match specimens, such as your Nos. 2471 and 2471 A, from the Edmonton area, which have more mature leaflets as well as the juvenile expression.

Having said that much, I must go on to say that I am more doubtful than before about the complete distinction between this species and *S. myrtillifolia* Andersson. Maybe they are not specifically distinct.

S. myrtillifolia, theoretically, is lower, less erect, more slender in branches and twigs, variably pubescent thereon, and with leaflets generally oblanceolate when fully expanded, distinctly and rather closely crenulate to the extreme tip, and pale green beneath, so much so that you almost suspect glaucescence at times.

S. pseudocordata, theoretically, is taller, more erect or practically erect, with stouter branches and twigs, also variably pubescent at different times in the season and with leaflets generally lanceolate or sometimes broadly lanceolate, with base broad and more or less rounded when fully grown, the margins more or less serrulate and the color rather dark green beneath.

But, as usual, plants do not always grow according to specifications. And in all herbariums, the majority of the specimens do not have mature foliage, or even well grown leaflets. And some leaflets that were *pseudocordata* in shape, the not fully grown were quite pale beneath, and it was difficult to tell where serrulations ended and crenulation began. And, of course, while leaflets are expanding the apical portion expands first and the leaflets are oblanceolate then, even if destined to be truly lanceolate later. So this comparison left me with more doubts than before about the relationship of these two supposed species.

Finally, I will report that, with our present understandings of the two species, your two specimens represent *S. pseudocordata*.

With thanks for the permission to keep them, I am

Cordially yours

Carleton R. Ball

Dr. and Mrs. Wm. C. McCalla,
1312 9th. Street, N.W.,
Calgary, Alta., Canada.

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

20 March, 1957.

Dear Friends:

It was very kind of you to send me the copy of The NEW Trail, which contains the splendid accounts of the recent University Convocation and the granting of the honorary doctorate degree to Mr. McCalla. I congratulate you both most heartily on this well-earned recognition of a long and useful life in much-needed fields of endeavor. My own Ph. D. was granted as an honor at the 50th. anniversary of the founding of Iowa State College.

I was especially happy to read of Dr. McCalla's long and fruitful experience in the field of education. That type of education is more and more needed as our world grows more and more interested in entertainment instead of science or education. I was greatly interested in the emphasis placed on this phase of life in the address of Dr. Cairns to the graduating class. Entertainers, such as singers, tap-dancers, leg-waving ballerinas, and even strip-teasers, get hearty acclaim and frequent write-ups in the press and magazines, but an educator or scientist is seldom mentioned.

Leading scientists recently have been urging that scientists endeavor to make their contributions to human welfare better known to the general public. I have urged the members of several scientific organizations to submit popularly-written reports of helpful scientific discoveries to local newspapers, and more extended articles to magazines. My paper: "Willows: Helpers of Man", was written partly for that purpose.

Mrs. Ball joins me in congratulations and best wishes for the years to come.

Most Sincerely Yours,

P.S. I see that you are now 84 years.
I will be on June 12, next.

Carlsten R. Ball.