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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.

(37487 *Salix humilis* Marshall) ^{Albino, 2-22-92}
(37490 *S. tristis* Ait.)

These two were in a roadside patch on
Peter Pan Mt. near where Dr. Robert
Campbell lives. I was with some students
& Jewel Moore. I mentioned the two. She
only got one and one named. I got 2 from
Ball. I will have run my report (letter)
down. They are in my permanent file note for
7-22-1955.

BALL

TPP

Ball

UNITED STATES DEPARTMENT OF AGRICULTURE

EXTENSION SERVICE

WASHINGTON, D. C.

October 17, 1944

Prof. Delzie Demaree
Agricultural College,
Monticello, Arkansas.

Dear Professor Demaree:

When I saw Dr. D.M. Moore's record of *S. cordata* and a hybrid of *interior* and *longipes* Wradil in Arkansas, I wrote and got the material for study. I inclose list of these and other specimens they sent.

This shows that we have typical *S. cordata* in the Ozarks of NW. Arkansas. It shows also that, in the case of the supposed hybrid, there just wasn't any such animal.

Am still working up the distribution of southern willows on a spot-map basis by counties. It has been sidetracked lately by need to rush the Willows of Virginia, the willows of Alaska, and the willows of ME. U.S. for *Illus. Flora*. All these help toward the monograph.

You should have received the Willows of Virginia direct from Massey before now. I shew a few other reprints to send when rush subsides.

With all good wishes I am,

Cordially yours

Carleton R. Ball
Carleton R. Ball
collaborator



WILLOWS OF ARKANSAS

Determined for Herbarium, University of Arkansas, October 16, 1944

Salix longipes Wardii (Bebb) Schneider

- Cross Co.: Wynne, B. Lemmree 3089 (as *S. nigra*) 3920 *cross Co*
 Benton Co.: Sugar Creek, Best Water, D. M. Moore 3001, Oct. 11, 1930
 Hot Springs Co.: near Melvina, E.J. Palmer 29501, Sept. 7, 1928, along railway,
 shrub 1-1.5 m. tall. (as *S. longifolia* x *S. longipes* var. *Wardii*, but
 not a trace of such admixture. Probably from mowed or broken stems.
 Washington Co.: Fayetteville, Preston Meek, July, 1928.
 Co. Clark's Spring, J.T.B. June 13, 1923.

Salix interior Howles

- Mississippi Co.: S. Driver, July 5, 1942. (Un. Ark. 420824)

Salix nigra Marshall

- Faulkner, Garland, and Poinsett Counties.

Salix nigra var. Lindheimeri Schneider

- Benton Co.: War Eagle, Lemmree 5752. 1929
 Nevada Co. (2 sheets)

Salix cordata Muhl.

- Benton Co.: Along Sugar Creek, Best Water, EM D.M. Moore 3002, Oct. 11, 1930.
 (lower leaves narrowly lanceolate or oblanceolate but the upper on
 seasonal shoots becoming broadly lanceolate and probably ovate and
 short-acuminate when fully developed)
 Prairie Creek, NW. of Rogers, D.M. Moore (Un 29039, 2 sheets), Spring, 1929
 As the last but upper leaves more distinctly ovate, broadly elliptical,
 or obovate, all short-acuminate and short-petioled.

- Washington Co. (next south of Benton, which is NW corner County): Fayetteville,
 Julia Bogert, , July 11, 1933. (Large seasonal shoot with very large,
 elliptical-lanceolate leaves, bases rounded to subcordate, apex short-
 acuminate; stipules large).
 Resemble

These specimens more closely the typical *S. cordata* of the Atlantic Coast
 States than the narrower-leaved western material or the so-called *S. missouriensis* of the Missouri Valley.

Salix humilis Marshall

- Garland Co.: Slender shrub 1 m. tall, rocky open banks near High Point, E.J. Palmer
 24529, April 25, 1934. (young growth)
 Logan Co.: Shrubs 1 m. tall, rocky spring branch on south slope of Magazine Mtn.,
 E. J. Palmer 23212, June 11, 1923. (short, broadly-oblanceolate
 hairy leaves).
 Pikes Co.: Rocky open ground near Finnacle, E.J. Palmer 23007, June 1, 1923.
 (Seasonal shoots with long elliptical-oblanceolate leaves)

COORDINATING COMMITTEE
OF THE
UNITED STATES DEPARTMENT OF AGRICULTURE, TENNESSEE VALLEY AUTHORITY,
AND VALLEY-STATES AGRICULTURAL COLLEGES

ADDRESS: EXTENSION SERVICE, U. S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.
March 25, 1942

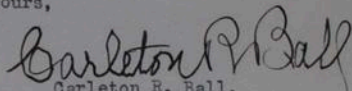
Professor Delzie Demaree,
District College of Agriculture,
Monticello, Arkansas.

Dear Professor Demaree:

Just recently I received from you a packet of willows but so far no letter has come. I am enclosing a list of the determinations but have not yet had time to check previous lists and my spot maps to see if ranges have been extended.

I assume that you intend for me to keep the specimens as was done in previous years, but if you wish to have them returned please let me know and I will be glad to send them back. I hope that you will still find time to collect in spite of increasing war problems and difficulties.

Cordially yours,


Carleton R. Ball,
Executive Secretary

COORDINATING COMMITTEE
OF THE
UNITED STATES DEPARTMENT OF AGRICULTURE, TENNESSEE VALLEY AUTHORITY,
AND VALLEY-STATES AGRICULTURAL COLLEGES

ADDRESS: EXTENSION SERVICE, U. S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

April 10, 1941

Prof. Delsie Demaree,
A. & M. College,
Monticello, Arkansas.

Dear Professor Demaree:

Your postal card of April 5 and accompanying package of willows reached me promptly and safely. I have made determination of the Oregon and Arkansas (including Tennessee and Texas) material and enclose list of determinations.

You have done very well indeed in determining this material. Your chief difficulty has been in separating *Salix interior* from *Salix nigra*, as you will note from the lists. The quickest and surest separation is by the linear-lanceolate leaves of *S. nigra* with distinct petioles and regularly and closely spaced serrulations. These characters contrast with the linear leaves of *S. interior* in which the leaves are practically sessile, although the base of the leaf tapers gradually into a very short, broad petiole, and the margins are marked by irregularly and distantly spaced spinulose denticulations. If you will look at specimens of the two species with these characters in mind, I think you will have no difficulty in separating them hereafter.

I have not had time to check this list against previous lists to see what they mean in the way of distribution, although probably some new counties have been covered.

Many thanks for permission to keep the material. In a quarter or a third of it the material is abundant enough to make two specimens. I will be glad to turn these duplicates over to the Botanic collections of this Department unless you prefer that they go somewhere else.

Your Oregon specimens represent an excellent series of leaf forms from the coast and interior valleys.

Cordially yours,

Carleton R. Ball
Carleton R. Ball,
Executive Secretary

checked
— M.G.

WILLOWS OF ARKANSAS

Collected by Delzie Demaree, 1941

- 21892 *S. nigra* Marshall. Monticello, Drew Co. Margin of pond, 8 x 20, elev. 250 ft. April 13.
- 21912 *S. nigra* Marshall. Warren, Drew Co. Small creek banks, 5 ft. high, elev. 160 ft. April 11.
- 21945 *S. nigra* Marshall. Graysonia, Clark Co. Creek bottoms, elev. 200 ft. April 28.
- 21961 *S. nigra* Marshall. Amity, Pike Co. Wet bottoms, 6 x 20, elev. 500 ft. April 28.
- 21966 *S. longipes* Wardii (Bebb) Schn. Crystal Springs, Garland County, Ozark National Forest. Charlton Camp Grounds, rocky creeks, elev. 700 ft. April 26.
- 22047 *S. nigra* Marshall. El Dorado, Union Co. Moist bottoms. 7 x 25, elev. 120 ft. May 3.
- 22079 *S. longipes* Wardii (Bebb) Schn. Bismarck, Hot Springs Co. Creek bottoms, 450 elev., May 4.
- 22259 *S. longipes* Wardii (Bebb) Schn. St. Joe, Searcy Co. Rocky banks of Buffalo River, elev. 750 ft. June 21.
- 22300 *S. tristis* Aiton. Hazen, Prairie Co. 3-4 ft. high. Big clumps along railroad in Grand Prairie, elev. 240 ft. June 29.
- * 22043 *S. longipes* Wardii (Bebb) Schn. Little Kansas, Co. Okla. Creek banks, August 9.
- add 22476 *S. humilis rigidiuscula* (And.) R. & F. Lonoke, Lonoke County. Grand Prairie. Prairie in moist places, 240 elev. Sept. 3.

* Oklahoma

WILLOWS OF OREGON

Collected by Delzie Demaree

- 13416 *S. lasiandra lancifolia* (And.) Bebb. Columbia River bottoms.
Portland. Aug 5, 1936. Multnomah County.
- 13417 *S. fluviatilis* Nuttall. Columbia River bottoms. Portland. Aug 1, 1936.
Multnomah County.
- 13422 *S.* " " Same as 13416
- 13423 *S. Coulteri* Andersson. Wet grassy creek banks. Seaside. Aug. 9, 1936.
Clatsop County.
- 13442 *S. Hookeriana* Barratt. Wet grassy bottoms. Seaside. Aug. 9, 1936.
Clatsop County.
- 21399 *S. Coulteri* Andersson. 12 ft. high. Low land. Warren. July 26, 1940.
Columbia County.
- 21401 *S. Coulteri* Andersson. 7 ft. high. Creek bottoms. Neskowin,
Tillamook County. July 26, 1940.

COORDINATING COMMITTEE

OF THE

UNITED STATES DEPARTMENT OF AGRICULTURE, TENNESSEE VALLEY AUTHORITY
AND THE VALLEY STATES AGRICULTURAL COLLEGES

WASHINGTON, D. C.

Address:

Extension Service, U. S. Dept. Ag

November 27, 1938

Professor Delzie Demaree,
Agr. & Mech. College,
Monticello, Arkansas.

Dear Professor Demaree:

Your packet of Arkansas willows safely received and I take pleasure in attaching the list of determinations hereto.

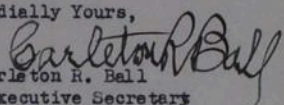
The specimen of *S. nigra altissima* is interesting, as this variety does not seem to be common that far up the river.

I am working on maps of the distribution of southern willows for the coming AAA's meetings. Your data will be of great help, if I can find time between now and then to map distributions west of the Mississippi River.

The occurrence of *S. tristis* so far south at almost sea level also is interesting. In the Appalachians it keeps with *humilis* at the middle to high elevations at that latitude.

Many thanks for the specimens, and best wishes for the Holidays.

Cordially Yours,


Carlton R. Bell
Executive Secretary

UNITED STATES DEPARTMENT OF AGRICULTURE

EXTENSION SERVICE

WASHINGTON, D. C.

February 27, 1938

Professor Delzie Demaree,
Agr. & Mech. College,
Monticello, Arkansas.

Dear Prof. Demaree:

In my haste in reporting on your recent shipment of willows, I find that I neglected to enter the number of two of them.

~~Salix tristis, from Ashley Co., Ark., is 15 071~~ ark
~~Salix interior from Cimarron Co., Okla., is 12 411.~~ OKla,

Also I seem to have placed two specimens in the wrong list. This was caused by the fact that I wrote my rough list of determinations in the order in which I found the plants in the bundle. This order was not numerical, nor botanical.

When I typed the list, I tried to arrange them first in botanical order and then in numerical order under each species and variety. In picking them out of my jumbled determination list the two errors occurred.

No. 15 325, under *S. nigra*, should be placed under *S. nigra* var. *Lindheimeri*. *rebasianca F. var Smith*

No. 15 225 under *S. interior*, should be placed under *S. interior* var. *pedicellate*. *Phillips Co. Helena*

Sorry if you have written your labels before this correction arrives. Luckily, it means only the adding of the varietal name.

With personal regards, I am

Cordially Yours,

Carleton R. Ball

Carleton R. Ball

Ball

WILLOWS OF ARKANSAS

Collected by Delsie Demaree, Monticello, 1938

Salix interior Rowlee

- ✓17054, Independence Co., White River banks, Batesville, 300 ft. elev. 4/16

Salix longipes Wardii (Bebb) Schneider

- ✓17946, Garland Co., Cedar Glades, rock crevice in Ouchita R. July 16 500ft.
✓17226, Hot Springs Co., creek bottoms, Magnet Cove, 500 ft. elev. May 1 (fls)
✓18230, Yell Co., Rocky creek bottoms, Ola, elev. 350 ft., Aug. 30

Salix nigra Marshall

- ✓16868, Calhoun Co., bottoms of Champagnole Bayou, Hampton, 90 ft. el. Apr. 3
✓16869, " " " as the last
✓17196, Clark Co., Marl and chalk bottoms, Okolona, elev. 300 ft. 4/30 (frt)
✓16660, Drew Co., Swampy bottom, Monticello, elev. 250 ft. Mar 6. (pre-fl.)
✓17890, Hot Springs Co., Swamp in Novaculite, Magnet Cove, el. 550 ft. 6/26 fol
✓17041, Independence Co., Banks of White R., Batesville, el. 300 ft. 4/16 (♂ fls)
✓16768, Lincoln Co., Creek bank, Star City, elev. 180 ft., 3/27 (fls)
✓16769, " " As the last.
✓16826, Ouchita Co., Creek bottoms, Stephens, elev. 230 ft., 4/2♂ (yg. frt)
✓16828, " " As the last (♂ fls.)
✓16830, " " As. 16826 (yg frt)
✓17300, Pulaski Co., Wet bottom, Ft. Roots. N. Little Rock, 400ft. 5/8 (frt)
(rather short broad leaves)

~~16868, 16869, 17196, 16660, 17890, 17041, 16768, 16769, 16826, 16828, 16830, 17300~~

Salix nigra altissima Schneider

- ✓16963, Hot Springs Co., Creek bottoms, Magnet Cove, el. 470ft. 4/10 fls ♂
(branchlets pubescent; leaves more pubescent)

Salix nigra Lindheimeri Schneider

- ✓16972, Jackson Co., White River bottoms, New Port, elev. 200 ft., 4/15 (fls.)

Salix humilis Marshall

- ✓17686, Logan Co., Top of Magazine Mountain, Magazine Mountain P.O.P.
elev. 2800 ft., 6/18 (seasonal shoots)
(Small narrowly oblanceolate, mostly short-acute leaves)

Salix tristis Aiton

- ✓17640, Asheley Co., Prairies, Hamburg, elev. 250 ft. 1-2 ft. high. 6/11 (fol)

WILLOWS OF ARKANSAS

Collected by Delzie Damaree

- 18742 ✓ *S. tristis* Aiton. Crowleys Ridge, moist flats. Helena, Phillips County. 200 ft. elev. 8/6/39
- 18745 ✓ *S. tristis* Aiton. Roadsides through oak-hickory flat woods. 2 ft. Hamburg, Ashley County. 3/12/39
- 18788 ✓ *S. nigra* Marshall. ~~xxxxxxx~~ (Not *S. nigra*). Small creeks. 500 ft. elev. Little Rock, Pulaski Co. 4/1/39
- 18881 ✓ *S. nigra* Marshall. Creek banks near Rammel Dam. 500 ft. elev. Magnet Cove, Hot Springs Co. 4/8/39
- 18914 ✓ *S. nigra* Marshall. Small bottoms. 100 ft. elev. Strong, Union Co. 4/16/39
- 18989 ✓ *S. nigra* Marshall. Salt Fork of Saline River. 280 ft. elev. Bottoms, Benton, Saline Co. 9/29/39
- 19063 ✓ *S. nigra* Marshall (not interior pedicellata) 2" x 10' D.B.H. Creek Bottoms. 200 ft. elev. Warren, Bradley Co. 4/8/39
- 19252 ✓ *S. nigra* Marshall. Swamp back of levee. 140 ft. elev. Helena, Phillips Co. 5/29/39
- 19256 ✓ *S. nigra* Lindheimeri Schn. Swamp back of levee. 140 ft. elev. Helena, Phillips Co. 5/28/39
- 19624 ✓ *S. nigra* Marshall. 250 ft. elev. 6" x 15' D.B.H. Creek banks. Levesque, Gross Co. 7/24/39
- 19686 ✓ *S. nigra* Marshall. 12 ft. high. Alluvial soil of President's Island. Memphis, Tenn. Shelby Co. 8/1/39
- 19690 *S. interior* Rowlee. 4" x 15' D.B.H. Alluvial soil on President's Island, Memphis, Shelby Co., Tennessee. 8/4/39
- 19742 *S. interior* Rowlee. 140 elev. Mississippi River low valleys. Helena, Phillips Co. 8/6/39
- 19836 ✓ *S. longipes* Wardii (Bebb) Schn. 650 ft. elev. Rocky creek bottoms, Ozark National Forest, Dover, Ponc Co., 8/11/39
- 19909 ✓ *S. nigra* Lindheimeri Schn. 350 ft. elev. Piney Creek banks, Knoxville, Johnson County. 8/13/39
- 19982 ✓ *S. interior* Rowlee. 350 ft. elev. Piney Creek banks, Knoxville, Johnson Co. 8/15/39
- 20122 *S. longipes* Wardii (Bebb) Schn. 1700 ft. elev. 12 ft. high. Hayes Branch, Rocky moist creek banks, Dardanelle, Yell Co. 8/16/39
- 20123A ✓ *S. nigra* var. Lindheimeri. 1700 ft. elev. Rocky creek Banks, Hayes Branch, Dardanelle, Yell Co. 8/16/39
- 20147 ✓ *S. nigra* var. Lindheimeri. ~~xxxxx~~ 450 ft. elev. Fourche River above Nimrod Dam, Wildwood, Perry Co. 8/20/39
- 20164A *S. longipes* Wardii (Bebb) Schn. 450 ft. elev. 10 ft. high. Fourche River bottoms above Nimrod Dam, Wildwood, Perry Co. 8/28/39
- 20255 *S. longipes* Wardii (Bebb) Schn. 750 ft. elev. Murray Creek bottoms, Mt. Levi, Johnson Co. 8/22/39
- 20343 ✓ *S. nigra* Marshall. 270 ft. elev. 3" x 12' D.B.H. Swamp margins, Corning, Clay Co. 8/25/39
- 20375 ✓ *S. nigra* Marshall. 190 ft. elev. 6" x 20' D.B.H. White River bottoms, Newport, Jackson Co. 8/26/39
- 20377 *S. interior* Rowlee var. pedicellata (Anders) Ball. 200 ft. elev. White River bottoms, Newport, Jackson Co. 8/26/39

- 20441 ✓ *S. nigra* Lindheimeri Schn. 520 ft. elev. Creek banks above proposed dam across Guachita River, Cedar Glades, Garland Co. 8/28/39
- 20472 *S. longipes* Wardii (Bebb) Schn. 510 ft. elev. Rocky creek banks above proposed dam across Guachita River, Cedar Glades, Garland Co. 8/28/39
- 20575 *S. longipes* Wardii (Bebb) Schn. 1700 ft. elev. Rocky creek banks, Mt. Nebo, Dardanelle, Yell Co. 8/30/39
- 20587 ✓ *S. nigra* Lindheimeri Schn. (not *S. nigra*) 1700 ft. elev. Near spring on Mt. Nebo, Dardanelle, Yell Co. 8/30/39.
- 20612 ✓ *S. longipes* Wardii (Bebb) Schn. 650 ft. elev. White River bottoms, Flippin, Marion Co. 9/2/39
- 20708 ✓ *S. nigra* Marshall. 290 ft. elev. Creek bottoms. Texarkana, Miller County. 3/26/40
- 20768 ✓ *S. tristis* Aiton (not *S. humilis*). 650 ft. elev. 3 ft. high. Moist prairies. Walden, Scott Co. 3/24/30
- 20777 *S. nigra* Marshall. Wet bottoms. Texarkana, Bowie County, Texas. 3/24/40
- 20783A *S. nigra* Marshall. 290 ft. elev. Moist bottoms. Texarkana, Miller County. 3/28/40
- 20789A *S. nigra* Marshall. (not *S. interior*) 350 ft. elev. Creek bottoms. Waldo, Columbia Co. 3/24/40
- 20824 *S. nigra* Marshall. 180 ft. elev. Creek bottoms, Simsboro, Lincoln Co. 4/20/40
- 20842 *S. nigra* Marshall. 90 ft. elev. Wet low land, Louisiana and Arkansas State Line. Strong, Union Co. 4/20/40
- 20868 *S. nigra* Marshall. 420 ft. elev. Creek bottoms, Alma, Crawford Co. 4/26/40
- 20876 *S. nigra* Marshall. 500 ft. elev. Small creek bottoms. Fort Smith, Sebastian Co. 4/27/40
- 20906 *S. nigra* Marshall. 350 ft. elev. Bottoms. Danville, Yell Co. 4/27/40
- 20915 *S. nigra* Marshall. 420 ft. elev. Wet bottoms. Plummerville, Conway County. 4/27/40
- 20918 *S. nigra* Marshall. Alluvial soil on President's Island, Memphis, Shelby County. 8/4/39
- 20934 *S. nigra* Marshall. 2" x 10' D.B.H. Mississippi River sand dunes. Lake Village, Chicot County. 4/28/40
- 20935 ✓ *S. interior* Rowlee (not *S. nigra*) 120 ft. elev. 8 ft. high. Mississippi River sand dunes. Lake Village, Chicot Co. 8/28/40
- 20953 *S. nigra* Marshall. 120 ft. elev. 6" x 30' D.B.H. Margins of Lake Chicot. Budora, Chicot Co. 4/28/40
- 21096 *S. nigra* Marshall. 160 ft. elev. 2" x 12' D.B.H. Creek bottoms, DeWitt, Arkansas Co. 5/12/40
- 21361 *S. interior* Rowlee var. *pedicellata* (not var. *pedicellata*) 2" x 8' D.B.H. Alluvial Soil on President's Island, Memphis, Shelby Co. Tenn. 7/14/40
- 21361 *S. interior* Rowlee (not var. *pedicellata*) 2" x 8' D.B.H. Alluvial soil on President's Island, Memphis, Shelby Co. Tennessee. 9/14/40
- 21495 *S. exigua lutescens* (?) (Rydb.) Schn. 260 ft. elev. Banks of Red River, Fulton, Hempstead Co. 8/7/40 (This is a most interesting specimen. It may be an unusually hairy (physiologically) *S. interior*, or the above, which has been found in Oklahoma, by flotation from the Western Mountains. CRB)

- 21535 *S. interior* Howlee var. *pedicellata* (Anders.) Ball. 180 ft. elev.
Crow creek bottoms. Madison, St. Francis Co. 9/3/40
21741 *S. nigra* Marshall. 280 ft. elev. Saline River bottoms. Benton,
Saline co. 10/5/40

Texas - see No. 20777 ✓

Tennessee - see Nos. 19686, 19690, 20918, 21361 (2 sheets) ✓

COORDINATING COMMITTEE
OF THE
UNITED STATES DEPARTMENT OF AGRICULTURE, TENNESSEE VALLEY AUTHORITY
AND THE VALLEY STATES AGRICULTURAL COLLEGES
WASHINGTON, D. C.

Extension Service
February 24, 1938

Prof. Delsie Demaree,
Agricultural and Mechanical College,
Monticello, Arkansas.

Dear Professor Demaree:

In a letter a year or so ago, you asked information regarding publications on botany which might be of help to you. Some recent State publications, I think, will interest you if you have not already obtained them. They are as follows:

Trees of Kansas, published by State Board of Agriculture,
Topeka, Kansas.
Grasses of Kansas, published by State Board of Agriculture,
Topeka, Kansas.
Catalog of the Flora of Texas, Bulletin 550, Texas Agricultural Experiment Station, College Station, Texas.
Valuable Plants Native to Texas, Bulletin 551, Texas Agricultural Experiment Station.

The botanical work on the Kansas publications was done by Dr. Frank C. Gates, Botanist at the Kansas State College, but publication was by the State Board of Agriculture, at Topeka.

Last year there was published "Flora of Oklahoma," by two high school botanists at Oklahoma City. If you are not familiar with this publication, I can give you a citation of authors and titles. If their treatment of other plants was no more accurate than their treatment of the willows, a lot of Oklahoma readers are going to be misled.

It is my recollection that there was published recently also a "Flora of Arkansas," by the botanists at the State University at Fayetteville. I assume, however, that you are quite familiar with this.

Cordially yours,

Carleton R. Ball

Carleton R. Ball,
Executive Secretary.

Look

UNITED STATES DEPARTMENT OF AGRICULTURE

EXTENSION SERVICE

WASHINGTON, D. C.

February 23, 1938

Professor Melzie Damaree,
Department of Botany,
Agrl. and Mech. College,
Monticello, Arkansas.

Dear Professor Damaree:

Your card of Feb. 5, and the box of willows are in hand. I have been delayed by the necessity of reading proof on the first volume of work on cooperation of official agencies in agriculture, written in California.

I am inclosing two lists, one for Arkansas and one for Oklahoma, containing the determinations made on these.

No 15 708, under *S. longipes Wardii*, is glabrate and has distinctly acute stipules. I will have to study up on the other variety Schneider recognized, namely, venulosa, and see if this can be referred to it.

As this proof will be coming for some days, or weeks, there being two volumes of it, and as I must be away at times, it may be weeks before I can report on this.

Many thanks for the material, and regrets for the delays, and with best wishes, I am

Cordially Yours,

Carleton R. Ball
Carleton R. Ball
Executive Secretary

P.S. Hope to take an official auto trip across Arkansas and Oklahoma and back thro Texas and LA, in late March. Will be going with TVA official and driving like mad, so no chance to collect unless we have an accident. Trip not certain yet.

S. trich's is a good find.

Willows of ARKANSAS AND OKLAHOMA
Collected by Delzie Demaree, 1937

Ball

Salix longipes Wardii (Bebb) Schneider

- 14 831 ✓ Hot Springs Co., Magnet Cove, rocky creek bottoms, 550 ft. May 2
14 835 ✓ As last " "
14 848 ✓ As last " "
14 848 A ✓ As last, except Cove Creek bottoms " "
15 708 ✓ Polk Co., Nunley, rocky creek, Bard Springs, 1000 ft. 15 ft h. 8/12
15 747 ✓ Logan Co., Strickland, rocky cr., Jack Creek Camp, 15 ft h. 8/25
15 959 ✓ Pike Co., Marreesboro, Prairie creek, 367 ft. elev. 10 ft "
15 017 ✓ As 15 747 except 15 ft. 8/25
16 074 ✓ Garland Co., Hot Springs, Dripping Springs, 700 ft. 18 ft. 8/29
16 200 ✓ Hot Springs Co., Magnet Cove, Cove Cr. bottoms, 550 ft. 9/4
16 478 ✓ As the last

Salix nigra Marshall

- 14 352 ✓ Drew Co., Tillar, swamp margin, 151 ft. el. 6 in. diam, 20 ft. 4/2
14 377 ✓ Lincoln Co., Cornersville, 200 ft. elev. cr. bota. 6 in, 20 ft. 4/10
14 390 ✓ Bradley Co., Banks, creek bottoms, 250 ft. elev. 5 in, 15 ft. 4/11
14 440 ✓ Calhoun Co., Hampton, " 200 ft. " 15 ft. "
14 441 ✓ As the last, except no height
14 455 ✓ Jefferson Co., Pine Bluff, Ark R. bota., 220 ft. el. 2 ft dbh. 4/15
14 456 ✓ As the last 4/16
14 466 ✓ Hot Sprgs. Co., Malvern, wet bottoms, 300 ft. el. 10 ft. "
14 567 ✓ " " Magnet Cove, Cook Mt., 600 ft. el. 15 ft. 4/18
14 606 ✓ Lincoln Co., Relfs' Bluff, 250 ft. el. 4/22
14 626 ✓ As the last 14 in. dbh.
14 642 ✓ As 14 352 4/24
14 593 ✓ Drew Co., Monticello, A & M Coll. woods, 271 ft. el. 4/21
14 788 ✓ As 14 466 except no height 5/2
14 832 ✓ Hot Sprgs. Co., Magnet Cove, rocky cr. bota., 550 ft. el. "
15 211 ✓ St. Francis Co., Meth, around Shell Lake, 210 ft. el. 6/8
15 325 ✓ Sebastian Co., Ft. Smith, Ark R. banks, 450 ft. el. 12 ft. 6/29
15 587 ✓ Union Co., Strong, creek banks, 200 ft. el. 15 ft. 10/31

Salix nigra Lindheimeri Schneider

- 14 956 ✓ Jefferson Co., Hooker, 215 ft. el. 10/12
14 727 ✓ Ashley Co., Montrose, low wet land, 125 ft. el. 4/25
14 885 ✓ Crittenden Co., West Memphis, swamps. 215 ft. el. 5/8
14 937 ✓ Monroe Co., Roe, wet bottoms, 210 ft. el. 10 ft. 5/9
15 948 ✓ Garland Co., Hot Springs, Mt. Spgs. Cr., 700 ft. el. 10 ft. 8/24
16 075 ✓ " " " " Dripping Spgs., 535 ft. el. 8/29
16 477 ✓ Hot Sprgs. Co., Magnet Cove, Cove Cr. bota., 450 ft. el. 10/10

Salix interior Rowlee

- 14 266 ✓ Hot Springs Co., Bismarck, cr. bottoms, 500 ft. el. 3/25
14 451 ✓ Jefferson Co., Pine Bluff., Ark R. bota. 220 ft. el. 15 ft. 4/15
15 225 ✓ Phillips Co., Helena, Miss. R. banks, 12 " 6/13
15 226 ✓ As the last
16 620 ✓ Pulaski Co., Rose City, Ark. R. sandbars, 250 ft. el. 10/6
15 542 ✓ Prairie Co., De Valls Bluff, banks White R., 210 ft. el. 8/5

Salix tristis Alton

- /5072 Ashley Co., Mist, prairies. 180 ft. el. 2 ft. 5/23

WILLOWS OF OKLAHOMA

Collected by Delzie Demaree, 1937

Salix longipes Wradii (Bebb) Schneider

- | | | |
|---------|--|-------------|
| ✓13 031 | Comanche Co., Medicine Park, rocky creek, Wichita N.F. | 6/19 |
| ✓13 137 | Comanche Co., Cache, rocky Cr., Rattlesnake Id., " " " | 6/27 |
| ✓15 724 | Le Flore Co., Stapp, rocky creek bottoms, | 12 ft. 8/13 |

Salix nigra Marshall

- | | | |
|---------|--|-----|
| ✓12 384 | Woodward Co., Woodward, banks of Wolf Creek, | 5/2 |
|---------|--|-----|

Salix nigra Lindheimeri Schneider

- | | | |
|---------|--|------|
| ✓13 090 | McClellan Co., Blanchard, bottoms of canyons in prairies | 6/23 |
| ✓13 280 | Oklahoma Co., Oklahoma City, bottoms of No. Canadian R. | 7/16 |

Salix interior Rowlee

- | | | |
|-----------------------|----------------|------------|
| Cimarron Co., Kenton, | river bottoms. | 15 ft. 5/2 |
|-----------------------|----------------|------------|

UNITED STATES DEPARTMENT OF AGRICULTURE

~~AGRICULTURAL RESEARCH ADMINISTRATION~~

Extension Service

WASHINGTON, D.C.

January 20, 1937

Prof. Delzie Demaree,
Ark. Agrl. and Mech. College,
Monticello, Arkansas.

My dear Professor Demaree:

Your letter of January 17 and the package of willows were received yesterday. I have given them immediate attention because I am leaving the city tonight and will be here but one day or so during the next month.

I inclose a list of the determinations with some comments on the plants. I hope that these may be of some help to you.

I was at the Nat. Herbarium for a few minutes on the afternoon of Sat., Jan. 2, but could not find you there. Sorry not to have seen you again.

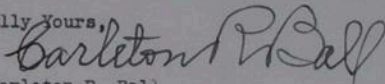
I note that you have arrangements whereby you can get away at noon on Fridays and not report again until Monday morning. That ought to help collecting. If I possibly can get in there I will do so. In any case I will let you know if I am coming.

I note also your desire for any bulletins "good for plants" and will look up what is available from the Dept. as well as keep my eye on the State Station publications. By the way, did you get a copy of the Soil Conservation Service mimeographed publication entitled: "Handbook of the Native Woody Plants of the United States", issued in July, 1936, as their Tech. Pub. No. 11?

I greatly enjoyed meeting your family and am sorry that I could not have seen more of them and that my family might not meet them. Give them all my best regards.

With best New Year greetings, I am,

Cordially Yours,



Carleton R. Ball

P.S. When shipping dried plants in a box larger than the packet of specimens, it is well to tie the packet tightly and put in enough crushed paper to keep it from jolting in the box. These specimens came untied and a good many leaves were knocked off in transit, as the carton was longer than the sheets.

WILLOWS OF ARKANSAS AND LOUISIANA By Delzie Demaree, 1936

- ✓✓13480 ✓ Salix nigra Marsh. 40 ft. hlg. Creeks, Texarkana, Miller Co., Ark.
Aug. 20, 1936
- ✓✓13486 S. nigra altissima Sarg. 8 ft. high, banks of Miss. R., Port, Allen, La
Aug. 21.
- ✓✓13501 S. nigra Marshall. Low land, New Orleans, La. August 23
- ✓✓13572 ✓ S. nigra Lindheimeri Schn. Low ground, Rye, Cleveland Co., Ark. Aug. 30
- ✓✓13582 VS. " " " Creeks, Fountain Hill, Ashley Co., Ark. " 31
- ✓✓13595 ✓ S. nigra Marshall. Sprout. 10 mi. NW of Monticello, Drew Co., Ark. " 31
- ✓✓13759 ✓ S. " " Large " Bayou Bartholomew, Yorktown, Lincoln Co., Ark.
Sept. 20
- ✓✓13770 ✓ S. nigra Lindheimeri Schn. Low ground, McGehee, Desha Co., Ark. " 26
- ✓✓13820 S. " " " Bayou Bartholomew, Ouchita Par., La. Oct. 4
- ✓✓13839 S. " " " As the last.
- ✓✓13823 S. interior Rowlee. 6 ft. high, in low ground by Miss. Levee, Kel-
bourne, West Carroll Par., La. Oct. 1
(new leaves densely pubescent, following defoliation)
- ✓✓13956 ✓ S. nigra Marshall. Banks, Bayou Bartholomew, Hooker, Jefferson Co.,
Ark. Oct. 11
- ✓✓14066 ✓ S. interior Rowlee. 8 ft. high, Miss. R. banks, Greenville Ferry,
Lake Village, Chicot Co., Ark. Oct. 31
- ✓✓14067 S. " " " As last but 9 ft. high.
- ✓✓14106 S. nigra Marshall. 10 ft. high. Banks of Miss. R., Vicksburg, Oct. 31
- ✓✓14171 ✓ S. longipes Wardii (Bebb) Schn. Creek banks, Jessieville, Ouchita
Nat'l Forest, Garland Co., Ark., Nov. 7
- ✓✓14193 ✓ S. nigra Lindheimeri Schn. Margin of swamp, Bluff City, Nevada Co., Ark.
Nov. 8.
- ✓✓14234 ✓ S. interior Rowlee. Wet low land, Dumas, Desha Co., Ark. Nov. 15
- ✓✓14235 ✓ S. nigra Marshall. As the last.

S. nigra Lindmeimeri is distinguished from the species by narrower leaf-blades, with more acute bases, and longer, glabrous petioles. All these characters are relative and I would not guarantee the accuracy of all the above determination. But then, it is not important.

S. nigra altissima is distinguished especially by the rather densely pubescent young twigs, densely pubescent petioles, and some pubescence on the veins and midrib. These characters are less in evidence late in the fall.

When willows are defoliated by sawfly larvae, the new leaves which come out in midsummer or later usually are smaller and densely pubescent even when normal leaves are glabrous or glabrate.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION
WASHINGTON, D. C.

Program Planning Division
August 1, 1936

Prof. Delzie Demaree,
Department of Botany,
University of Oklahoma,
Norman, Oklahoma.

mostly OKla

My dear Demaree:

Herewith is the list of determinations of the willows sent.

- ✓ 12492 *S. longipes* Wardii (Bebb) Schn. Davis, Murray Co.
✓ 12740 *S. " " " "* Talihine, Le Flore Co.
✓ 12991 *S. interior* Rowlee (with cone galls) West Memphis, Arkansas. *C. Sittenden*
✓ 13032 *S. nigra* x *Longipes* Wardii (?). Medicine Park, Comanche Co.
The outer younger leaves show signs of whitening beneath. There is a species (?), *S. Harbisonii* Schn., of the So. Atlantic Coast *ahls* which is somewhat intermediate between *nigra* and *longipes* but has never been reported farther west. Was this specimen dried with artificial heat?
✓ 13033 *S. longipes* Wardii (Bebb) Schn. Medicine Park, Comanche Co. *ahls*
✓ 13086 *S. interior* pedicellata (And.) Ball. Norman, Cleveland Co.
✓ 13090 *S. nigra* Lindheimeri (?) Schn. Blanchard, McClain Co.
✓ 13137 *S. longipes* Wardii (Bebb) Schn. Cache, Comanche Co. *OKla.*
✓ 13140 *S. " " " "* " " " "
✓ 13173 *S. nigra* Lindheimeri (?) Schn. " "B " "

I am sorry that my return to Washington was so long delayed and that therefore this report was equally delayed.

The reason for the question mark after var. *Lindheimeri* is that Schneider recognized it as an intermediate between *nigra* and *Humboldtiana* but had no one clear cut character by which it could be known. He recorded no material from north of Central Texas. I think that most of the So. ~~Specimens~~ and West specimens belong to it but have had no time for a real review of the herbarium material.

No 13032 is very interesting. Never before have I seen any *nigra* with any degree of whitening of the leaves beneath, except in the plant Schneider calls *S. Harbisonii* from the Carolinas and Florida. Only the distal leaves showed it beneath. If the plant had been dried with artificial heat, it would reduce or destroy a mild glaucousness. Keep your eye out for more. How do other specimens of that number appear?

Cordially Yours,

Carleton R. Ball
Carleton R. Ball

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION
WASHINGTON, D. C.

Program Planning Division

June 7, 1936

Mr. Delzie Demaree,
Deapt. Botany, Univ. of Okla.,
Norman, Oklahoma.

My dear Mr. Demaree:

Your card of April 13 and the package of willows were safely received but I have been away so much and so busy when here that I could not get them finished.

I inclose a list of the determinations. You will note that the last one of yours had no label and I am not certain of the final numeral in the number. It looks like another 12442, but may be 12443.

This was a hard lot. The varieties which I have indicated certainly in some cases and tentatively in many others, are distinguishable chiefly by characters of the mature foliage. The early-collected specimens are not far enough along for certainty. I wish mature foliage could be had from the same plants. That would enable us to recognize the varieties in the juvenile stages, which is almost impossible now.

The northern and eastern range of *S. nigra* var. *Lindheimeri* is not known. It is distinguished by somewhat narrower leaves, more narrowed at the base, and with somewhat longer and less pubescent petioles. These all are relative characters.

In the same ways the southern and eastern range of *S. amygdaloides* is not known in that area. Keep your eye open, therefore, and you will be adding to the known range, which will be useful for a state flora.

I will be glad to have the additional locality data for the Ben Osborn collections.

Are you now with the University or still with the National Park Service?

Cordially yours,

Carleton R. Ball
Carleton R. Ball

WILLOWS OF OKLAHOMA AND NEARBY TEXAS

Collected by Delzie Demaree, et al, 1936

- 11864 *S. amygdaloides* Andersson Norman, Cleveland Co. *Chela*
 11874 *S. interior* Rowlee " " " 12 ft.
 11888 *S. " " " " " " " " " "*
 11925 *S. fragilis* L. (Cult., U.O. campus, " Ball " " "
 11931 *S. interior* Rowl. prob. var. *pedicellata* (And.) Okla. Cy. "
 11967 *S. " " " " " " " " " "* Asher, Pottaw Co.
 11990 *S. nigra* Marshall Atoka, Atoka Co.
 11999 *S. nigra* Marsh. (poss. var. *Lindheimeri* Schn.) Arthur Cy., Texas
 12001 *S. nigra* Marshall Hugo, McCurtain Co.
 12100a *S. " " " " " " " " " "* Poteau R., Heavener, Laflore Co.
 12101a *S. " " " " " " " " " "*
 12130 *S. " " " " " " " " " "* Eldorado, Jackson Co.
 12131 *S. " " " " " " " " " "*
 12161 *S. " " " " " " " " " "* Cromwell, Hardeman, Co. Texas
 12171 *S. " " " " " " " " " "* Red R. Davidson, Tillman Co.
 12185 *S. " " " " " " " " " "* " " Ahlaunion, Wilbarger Co., Texas
 12186 *S. " " " " " " " " " "* " " " " " "
 12205 *S. " " " " " " " " " "* Eldorado, Harmon Co.
 12236 *S. " " " " " " " " " "* Platt Nat. Pk., Sulphur, Murray Co.
 12246 *S. " " " " " " " " " "*
 12247 *S. " " " " 12 in dbh. " " " " " "*
 12309 *S. " " " " " " " " " "* Lexington, Cleveland Co.
 12310 *S. " " var. Lindheimeri* Schn. " " " "
 12311 *S. interior pedicellata* (And.) Ball Paoli, Gravin Co.
 12312 *S. nigra* Marsh. prob var. *Lindheimeri* Schn. Pauls Valley, Garvin Co.
 12313 *S. " " " " " " " " " "*
 12331 *S. " " " " " " " " " "* Hinton, Caddo Co.
 12340 *S. " " " " " " " " " "* So. Canad. R. Bridgeport, " "
 12341 *S. " " " " " " " " " "*
 12345 *S. interior* Rowlee Cimarron R., Dover, Kingfisher Co.
 12356 *S. nigra* Marshall Cherokee, Alfalfa Co.
 12357 *S. " " " " " " " " " "*
 12379 *S. " " " , appr. var. Lindheimeri* Schn. Waynoka, Woods Co.
 12385 *S. amygdaloides* (?) Andersson Woodward, Woodward Co.
 12397 *S. interior pedicellata* (And.) Ball Guymon, Texas Co.
 12398 *S. amygdaloides* Andersson " " " "
 12399 *S. " " " " " " " " " "*
 12409 *S. " " " " " " " " " "* Kenton, Cimarron Co.
 12410 *S. interior pedicellata* (And.) Ball " " " "
 12412 *S. amygdaloides* Andersson " " " "
 12413 *S. " " " " " " " " " "*
 12442 *S. nigra* Marshall (very broad leaves) Erick, Beckham Co.
 12447 *S. interior pedicellata* (And.) Ball
 (The final numeral not distinct, but looks like "2"
 no label enclosed with it)

PLANTS OF OKLAHOMA, Collected by Ben Osborn.

- 317 R *S. longipes* Shuttleworth, prob var. *Wardii* (Bebb) Schn.
 483 R *S. nigra* Marshall
 518 R *S. nigra* Marsh., appr. var. *Lindheimeri* Schn.

TENNESSEE VALLEY AUTHORITY

KNOXVILLE, TENNESSEE

Agricultural Division

July 26, 1935

Mr. Delzie Demaree,
University of Oklahoma
Department of Botany,
Norman, Oklahoma.

My dear Demaree:

Your letter of July 15 has been forwarded to me here and I am sorry that I was not in Washington when your willows arrived, so that I could give you a prompt reply. However, I am returning about the middle of this week and will give them immediate attention.

Am interested to know that you are making a checklist of the flora of Arkansas and already have made some 200 additions to the lists previously published.

I will be interested in any mature foliage you may get from the same plants which I determined as *Salix longipes* var. in your early spring collections. Also mature foliage of that species and variety from anywhere in that region.

The same holds true for the material which I determined as *Salix amygdaloides*. The western and northern distribution of the one, and the southern distribution of the other are not at all well known and they are most certainly identified, especially as to variety, in the mature foliage.

Cordially Yours,

Carleton R. Ball
Carleton R. Ball

U.S. Dept. Agric., Washington, D.C.

UNIVERSITY OF CALIFORNIA
BUREAU OF PUBLIC ADMINISTRATION
BERKELEY

January 31, 1935

Mr. Delsie Demaree
Camp Gordon S-68
Friendship, Ohio

Dear Mr. Demaree:

Your letter of January 21 and accompanying package are received, and I am much interested in the half-dozen willows from Arkansas and Ohio. I thank you also for permission to keep the specimens, duplicates of which have been given to the Herbarium of the University of California.

Following is a list of my determinations:

Arkansas

- ✓10978. *S. longipes* Wardii (Bebb) Schn. *Gary Co Shonburg*
✓10997. *S. longipes* Wardii (Bb) Schn. *Barland Co Hot Springs*
11086. *S. nigra* Marsh. *to Pittman Co, W. of Memphis*
11100. *S. interior pedicellata* (And.) Ball " *my det.*

Ohio

- ✓10707. *S. nigra* Marsh.
10710. *S. interior* Rowlee

I may have written in our earlier correspondence that *S. longipes* Wardii, the type locality for which is on the Potomac River near Washington, has been found twice along the Ohio River. The first collection was nearly 100 years ago on the Kentucky side. Some 6 or 8 years ago, it was found by Professor Charles C. Dean, then State Forester of Indiana, on the Indiana side of the Ohio River at a point, as I remember, somewhat west of the middle and the southern boundary. There is always a possibility that you may find it in southern Ohio.

This species and variety occurs always among rocks, so far as I am aware. The somewhat closely related black willow, *S. nigra*, always occurs in alluvial soil.

I hope that you can accomplish your desire to get transferred to Arkansas. There is much interesting collecting to be done in that State. I am leaving California very shortly for the East, where I shall be associated with the work of the Tennessee Valley authorities. So far as I know, my headquarters will be in Washington, and I will notify correspondents of my new address as soon as it is certainly fixed.

Very cordially yours,

Carlton R. Ball
Carlton R. Ball

UNIVERSITY OF CALIFORNIA
BUREAU OF PUBLIC ADMINISTRATION
BERKELEY

September 3, 1934.

Mr. Delzie Demaree,
Camp Gordon 5-67, CCC.
Friendship, Ohio.

My dear Mr. Demaree :

I was much interested in the packet of willows you sent, and only regret that circumstances have prevented an earlier determination.

Ohio Nos. ✓10604, ✓10612, and ✓10616 are *S. nigra* Marsh. *Ohio*
No. ✓10589 is *S. petiolaris* J.E. Smith or a hybrid with *S. sericea* *Ohio*
No. ✓10565 is *S. humilis* Marshall. *Ohio*
Nos. ✓10549, ✓10558 are *S. tristis* Aiton.
No. ✓10546 is *S. Babylonica* L., the weeping willow, I feel sure.
Nos. ✓10541, ✓10542, ✓10543, ✓10544, ✓10545, ✓10547 A & B, ✓10550 A & B,
✓10551 A & B, ✓10664 A & B, ~~and~~ ✓10566 A & B, and ✓10730 are
all *S. sericea* Marshall. A represents the staminate,
and B represents the pistillate specimens of each number.

I feel quite sure of the determination of the winter twigs taken in Feby. and March. There is much variation in color and bud length but the general habit, epidermis, lenticels, and bud shape are the same.

If there are ~~xx~~ rocky places along the shore of the Ohio River in that section you may look for the southern *S. longipes* Wardii (Bebb) Schenck. right at water level or perhaps higher up the banks. *S. nigra* grows in alluvium; *S. longipes* in rocks but near water and usually subject to overflow at flood time. *S. cordata* may occur sparingly, as it does on the lower Potomac River. It will be in swampy or damp ground.

I am making a set of these willows available to the Univ. Herbarium here, and greatly appreciate those for my own herbarium, which has passed the 10,000 mark.

Most cordially Yours,

Carlton R. Ball
Carlton R. Ball

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION
WASHINGTON, D.C.

Program Planning Division,
December 4, 1935.

Mr. Delzie Demaree,
U.S. Natl. Park Service,
John Bryan State Park,
Yellow Springs, Ohio.

*Both S. interior + var. pedicellate
from pedicelled capsules. But var. "
has narrow lvs.
I am sending reprints*

My dear Demaree:

Your letter of Nov. 25, and accompany package of willows received.
I inclose lists of determinations. A few notes are needed.

In some cases there are two sheets of the same number. For instance,
✓ 11167 from Buena Vista, where the first sheet is male and the second mixed
sexes; 11176 from Adams Co., where each sheet is a different sex; and 11193
from Lawrence Co., where one sheet is mixed sexes and one is female. In
several other cases, as you will note, both sexes are in the same sheet.
I am just wondering if, in the three cases of two sheets each, an error was
made in the number of one sheet.

I see that I have made one awful error in crediting your specimens
from Urbana, Champaign Co., to Illinois instead of Ohio. I had had some
late-season numbers from Ark. and Ky., and being familiar with Urbana in
Champaign Co., Ill., I wrote that down automatically. Later I noted that
your label said "Ohio", and looked it up. Ohio must have furnished Ill.
settlers.

Those immature specimens of alba and fragilis worry me, and I cannot
guarantee the identifications. There are varieties and hybrids of both ~~subspecies~~
and only the most marked can be recognized in the juvenile stages. Material,
even leaves alone, taken later in the season, would settle it.

Nos. 11163 and 11188, which I have determined as *S. Babylonica*, also
disturb me, but I cannot place them elsewhere. The latter is very similar
to your No. 10546 of last year, from Blue Creek, which likewise was from a
cut stump/. I wish you could get leaves from one of these some time and
let me be sure of my determination.

No. 11506, *S. pentandra*, is the North Asian laurel-leaf willow, in-
troduced from Europe as an ornamental. Did this seem to be an escape,
or had it been planted?

The authors of the names of most of your species, Aiton, Marshall, and
Muhlenberg, show that you are in the area of the original botanists of Am.,
S. interior was formerly *S. longifolia* Muhl.

You have been very generous of your material and there is more than
I shall need for my herbarium. Shall I return the remainder to you?
Give it to the National Herbarium? The Ohio State Univ. Herbarium? Or
use it for general exchanges? Will be glad to meet your wishes.

Some of the sheets have more than enough from one full specimen. If I
had a dozen or so blank labels I would split them and all would have similar
labeling.

With best wishes, I am

Most cordially, Carleton S. Ball

Carleton S. Ball

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION
WASHINGTON, D.C.

Program Planning Division

January 25, 1936

Mr Delzie Demaree,
John Bryan State Park,
Yellow Springs, Ohio.

My dear Mr. Demaree:

Your good letter of Jan. 21, with inclosed of herbariums to which you are sending duplicate plants is in hand, together with the corrected label for *S. pentandra* and the blank labels for my use.

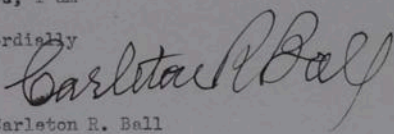
I note your explanations of the reasons for both sexes in some sheets and for only one in others. Giving each sex a separate number has some advantages. It shows that the collector knew he was getting both sexes. It keeps material from different plants under ~~exam~~ separate numbers (Of course, all the specimens of one sex may not always come from one plant). It helps greatly when the two sexes turn out to represent different species, as sometimes happens.

I will greatly appreciate leaves to go with the flowers (or rather from the same plants as the flowers) of some of the doubtful numbers.

I am trying to get southern collectors interested in helping showing the ranges of the southern species during the coming years.

With best wished, I am

Most cordially


Carleton R. Ball

COORDINATING COMMITTEE

OF THE

UNITED STATES DEPARTMENT OF AGRICULTURE, TENNESSEE VALLEY AUTHORITY,
AND VALLEY-STATES AGRICULTURAL COLLEGES

ADDRESS: EXTENSION SERVICE, U. S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

November 13, 1942

Professor Delzie Demaree
Dept. Botany, A. & M. College,
Monticello, Arkansas.

Dear Professor Demaree:

Your card of November 9, and packet of willows, safely received. Having a bit of free time (very unusual nowadays), I gave the willows an immediate determination and am inclosing a list herein.

I will have no time just now to check them against previous lists or ~~any~~ specimens to see what additions to distribution are involved, but probably not many.

I gather that you went to the Pacific Northwest by rail rather than by auto. Your series of *S. Hookeriana* covers most of the leaf shapes in that species and indicates a keen collecting eye.

The line between *S. nigra* and its variety *Lindheimeri* is tenuous, especially when some specimens are juvenile, some of middle age, and some senile. One or two of yours could have been put in either category.

I have been recording data on large leaves and stipules in many species, as an aid to describing them in my monograph. That is why I made record of the leaves subtending branchlets on your No. 23266. The longest leaves I have recorded are 13 inches, on *S. lasiandra*.

I will be retiring next June and among the jobs laid out, and partly done) is the monograph of American willows. Luckily for me, and the monograph, many men like yourself have been giving especial attention to them, in different parts of the three Americas, and hence an enormous amount of good material is available. Most especially helpful has been the exploration of the Arctic in the past few years. Still lacking is survey of the central Mexican mountains.

Many thanks for the specimens. Please remember that I determine gladly, whether I keep the material or not. If you want any of these returned, please say so. You may easily have been too generous with the Oregon specimens.

With best wishes, I am

Cordially yours,

Carleton R. Ball
Carleton R. Ball
Executive Secretary

WILLOWS OF ARKANSAS

Collected by Delzie Demaree in 1941 and 1942

-
- 21916 *S. longipes* var. *Wardii* (Bebb) Schn. Smallcreeks in small prairies, Warren, Bradley Co., elev. 160 ft. April 11, 1942
- 22729 *S. nigra* Marsh. 12 in. dbh., 40 ft. tall, Creek bank, Hot Springs, Garland Co., elev. 700 ft., Mar. 27, 1942. (fls.)
- 22965 *S. " "* 4 in. dbh., 15 ft. tall. Wet areas in Grand Prairie, Lonoke, Lonoke Co., elev. 240 ft. May 16, 42 (fol)
- 22991 *S. longipes* var. *Wardii* (Bebb) Schn. Creek banks, Benton, Saline Co. elev. 300 ft., May 16, 42. (Old fls. yg. lvs.)
- 22996 *S. nigra* Marshall. Creek bottoms, as the last. (fruit)
- 23069 *S. longipes* var. *Wardii* (Bebb) Schn. Small trees by streams, Morrilton, Conway Co., elev. 1100 ft. Apr. 24, 42. (yg lvs, hairy)
- 23164 *S. " "* var. *Wardii* (Bebb) Schn. Rocky creek banks, Slatington, Montgomery Co., elev. 875 ft. June 13, 42. (fruit and hairy twigs and leaves)
- 23266 *Salix interior* Rowlee. Between levee and Mississippi River, Lake Village, Chicot Co., June 28, 42. (Subtending leaves with petioles 17-18 cm. long; pets. 12-15 mm.)
- 23356 *S. nigra* var. *Lindheimeri* Schn. High bottoms, Thornton, Calhoun Co., elev. 215 ft. July 4, 1942. (long glabrous petioles)
- 23394 *S. nigra* var. *Lindheimeri* Schn. Creek banks, Calico Rock, Izard Co., July 10, 42. (long glabrous petioles)
- 23523 *S. nigra* var. *Lindheimeri* Schn. As last, elev. 600 ft. July 13 (Leaves very small, rigid, strongly glandular)
- 23687 *S. nigra* Marshall. Banks of Black River, Pocahontas, Randolph Co., elev. 270 ft. Aug. 12, 42. (petioles midlong, glabrate)
- 23700 *S. nigra* var. *Lindheimeri* Schn. 3 in. dbh., 10 ft. tall. Creek bank, Pocahontas, Randolph Co. elev. 300 ft., Aug. 12. (lvs. narrow, petioles long, glabrous. Bark on $\frac{1}{2}$ -in. twig with long longitudinal ridges)
- 23940 *S. nigra* var. *Lindheimeri* Schn. 6 in. dbh., 20 ft. tall. Saline River bottoms, Benton, Saline Co., elev. 280 ft. Sept. 6, 42. (Very small, narrow leaves, with short glabrous petioles)
- 24012 *S. nigra* var. *Lindheimeri* Schn. 6 in. dbh., 15 ft. tall. Moist valley land, Pine Bluff, Jefferson Co., elev. 200 ft. Sept. 30 (narrowish leaves with long glabrous petioles).

WILLOWS OF WESTERN OREGON

Collected by Delzie Demaree, July, 1942

- 21444 *Salix lasiandra* Benth. Fat Elk Creek, Coquille, Coos Co 7/28 ✓
 21409 *S. Hookeriana* Barratt, 3 ft. tall, Low areas, Brighton, Tillamook Co., 7/26 ✓
 21427 *S.* " " Sandy regions, Hector Pass, Lane Co., 7/28
 21440 *S.* " " Low areas, Fat Elk Creek, Coquille, Coos Co. 7/28
 21442 *S.* " " " " " " " " " "
 21443 " " " As 21440
 21393 *S. Scouleriana* Barratt. Low ground, Portland, Multnomah Co. 7/23 ✓

WILLOWS OF POTTAWATOMIE COUNTY, IOWA ✓

Collected by Delzie Demaree, July 20, 1942

- 3
 21673 *S. amygdaloides* Andersson. 4 in. dbh., 18 ft. tall. Missouri R. bottoms, Council Bluffs.
 23672 *S. interior* Rowlee, var. *pedicellata* Anders. & Ball. 2 in. dbh., 6 ft. high. as the last.

WILLOWS OF OHIO

Collected by Delzie Demaree, 1935.

SCIOTO COUNTY

Friendship, Camp Gordon, C.C.C.

-11163	S. <i>Babylonica</i> L.	Turkey Creek banks,	6-8 ft.	3/7
-11171	S. <i>tristis</i> Aiton	Wolf Den Run, creek banks,	6 ft.	3/24
-11173	S. " "	Wet hillsides	2-3 ft.	3/25
-11204	S. " "	Wet low hillsides	3-4 ft.	4/3
		(lower part of stems yellowish)		
-11205	S. " "	Moist open low hills	2-4 ft.	"
-11206	S. <i>sericea</i> Marsh.	Turkey Creek banks	6 ft.	"
-11208	S. " "	" " "	6-8 ft.	4/13

Friendship, Roosevelt Game Reserve

-11237	S. <i>cordata</i> Muhl.		10 ft.	4/15
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Buena Vista, Upper Twin Creek.

-11167	S. <i>sericea</i> Marsh.	Waters edge	8 ft.	3/24
-11167	S. " "	" "	"	"
-11168	S. " "	" "	7 ft.	"
-11169	S. " "	" "	"	"
-11170	S/ " "	" "	"	"

Pink, Upper Rocky Fork

-11266	S. <i>tristis</i> Aiton	Moist hillsides	2-3 ft.	4/28
-11267	S. <i>tristis</i> Aiton	Rocky hillsides	2 "	"

Raredon-

-11179	S. <i>sericea</i> Marsh.	Swampy bottoms	7 ft.	3/30
-11180	S. <i>cordata</i> Muhl.	" "	"	"
-11181	S. <i>sericea</i> Marsh.	" "	8 ft.	"
-11192	S. " "	Creek bottoms	6-8 ft.	"

West Portsmouth, Carey's Run

-11284	S. <i>interior</i> Rowlee	Creek gravel beds	5/1	
-11285	S. <i>sericea</i> (or x <i>cordata</i> ?)	Gravel bars	"	

ADAMS COUNTY

Blue Creek P.O., Churn Creek

-11174	S. <i>fragilis</i> L.	Creek banks	3/28	
-11176	S. <i>sericea</i> Marsh.	" "	12 ft.	"
-11176	S. " "	" "	7 ft.	"
-11177	S. " "	" "	"	"

GREENE COUNTY

Yellow Springs, John Bryan State Park

-11224	S. <i>cordata</i> Muhl.	Little Miami River	8 ft.	4/14
-11232	S. <i>sericea</i> Marsh.	Near springs by bluff.	6-8 ft.	"
-11465	S. <i>interior</i> Rowlee	Little Miami River	6-10 ft.	7/18
-11506	S. <i>pentandra</i> L. (cult.)	Low ground	8 ft.	8/12

HIGHLAND COUNTY

Belfast:

- 11209 *S. alba* L. ♀ Creek bottoms 15 ft. 4/14

Hillsboro:

- 11210 *S. cordata* Muhl. ♀ Creek banks 9 ft. "
 -11211 *S. " " " " " " " "*

Leesburg:

- 11233 *S. cordata* Muhl. ♀ Creek banks 7-9 ft. "
 -11234 *S. " " " " " " " " " " " " " "*
 -11235 *S. " " " " " " " " " " " " " "*

Marshall:

- 11236 *S. alba* var. ♀ Creek bottoms. Stems yellow. 15 ft. "

Sinking Springs, Swlew Butler Springs

- 11186 *S. sericea* Marsh ♂ ♀ Wet bottoms, 9 ft. 3/30
 -11188 *S. Babylonica* L. Stump at waters edge "
 -11189 *S. humilis* Marsh. ♂ ♀ Creeks 7 ft. "
 -11190 *S. humilis* Marsh. ♀ In bottoms "

LAWRENCE COUNTY

Ironton:

- 11193 *S. sericea* Marsh. ♂ ♀ Creeks 9 ft. 4/2
 -11193 *S. " " " " " " " " " " " " " "*

Lawrence

- 11195 *S. cordata* Muhl. ♀ Creek banks 5-8 ft. "
 -11195A *S. sericea* Marsh. ♂ Creeks " "

Pedro:

- 11194 *S. sericea* Marsh. ♂ ♀ Creeks 5 ft. "
 -11200 *S. " " " " " " " " " " " " " "*

WILLOWS OF ARKANSAS

Crittenden Co., West Memphis

- 11396 *S. interior* Rowl. (Not var. *pedicellata*) Miss. R. 15 ft. 6/12

WILLOWS OF ~~ILLINOIS~~ OhioChampaign Co., Urbana.

- 11684 *S. sericea* Marsh. (Sprout). Cedar swamp 9/15
 -11709 *S. " " " " " " " " " " " " " "*
 -11710 *S. humilis* Marsh. " " 3-4 ft. "

WILLOWS OF KENTUCKY

- 11320 *S. nigra* Marsh. ♂ Ashland, Boyd Co., Creeks in low hills. 15 ft. 5/13
 -11257 *S. fragilis* L. ♀ Greenup Co., South Portsmouth, second bottoms of Ohio R., 4/21