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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.

Professor H. E. Alder,
Dept. of Biology, Whitworth College,
Spokane, Washington.

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

13 May, 1952.

Dear Professor Alder:

Your letter of May 1 came promptly and the packet of willows came on May 12. I am very much interested in your collections and comments on the various willows you have met. I am most delighted to know that you are growing most of your plant collections in your garden. You ought to be able to make nature-lovers instead of biology haters out of your students.

Below are listed your 15 specimens, with your major notes on them and my determinations (or guesses) and comments. I may have mentioned before that a herbarium specimen is only a fragment, in the case of woody plants, and often a discolored fragment at that. I would like to emphasize also that early collections are juvenile (mere babies in comparison with the mature condition). I have advised many hundreds of student and adult botanists to enter one of the popular contests in which you are given photographs of ten babies (both sexes) and other photographs of the same ten when they had reached adult years. The game is to match the two sets accurately. It seldom can be done, and sometimes they don't even match the sexes.

1. *Salix sitchensis* Sanson.

Seattle area. Very common for 60 to 75 miles north, east, and southeast of Seattle.

SPOKANE AREA (unless otherwise stated.)

2. *Bebbia* Sargent.

Shrub, common by roadsides. Flowers in early April. (stam & pist fls.; styles none; scales narrow; pedicels beginning to lengthen).

3. *S. exigua* Nuttall.

Not common about Spokane and found only on sand bars, staminate plants bearing more common throughout. (long twig yellowish, crowded with new flowering twigs; ovaries and capsules glabrous).

4. *S. Drummondiana* Barratt, var. *bella* (Piper) Ball

Shrub, not common in Spokane area, seeming to require ground remaining wet throughout the year. (developing leaves mostly oblanceolate yet, but normally lanceolate on an summer twig, all densely velvety).

5. *S. amygdaloides* Andersson.

Very rare near Spokane but common in the Palouse country, with many springs and a deeper soil. Often a tree 30-40 ft. tall and trunk diameter up to 18 inches or more, rarely to 4 feet. (heavily fruiting spec. with rather narrow leaves. It is typical of the species at this stage. The leaves become glaucous while very young and the characteristic tiny vein islets are always visible)

6. *S. amygdaloides* Andersson.

(long yellow twig; yng leaves in 1.5-3 cm., narrowly obovate to narr. ovate, with typical veins; young short petioles and youngest twigs thinly hairy; stam. anths just expanding. Typical for the flowering stage)

7. *S. ? ? ? ?* probably *S. caudata* (Nutt.) Heller, perhaps X

(not related to *S. amygdaloides*, much less typical. Evidently a hybrid. The strongly glandular petioles and fairly regular serratures indicate ~~likely~~ *S. lasiantha*, *S. caudata*, or *S. fragilis*. The long and extremely narrow leaves, with attenuate bases (and long-acuminate apices) and some sparse and irregular serratures indicate or suggest *S. exigua*. The yellow scales could have come from any of the four, and the pubescent twigs from any except *S. fragilis*. If the leaves do not become glaucous it rules out *S. lasiantha* and *S. fragilis*, probably.

I have never seen a hybrid like this before and would very much like to have later collections of new and old twigs with full-grown leaves stamens 3-5 ?

8. *S. lutea* Nuttall ?? (S? *Mackenziana* Barratt ??)

S. Mackenziana is very common in every direction from Spokane, it and *S. Seculeriana* seeming the most cosmopolitan. I find many staminate flowers in which the filaments are united as much as half way. They never seem to reach what could be considered tree size. (all young leaflets glaucous beneath (which rules out *S. monochroma*); all twigs, 3 stam., 1 pist., dull yellowish-green and all parts glabrous whereas *S. Mackenziana* has dark twigs and often more or less pubescence).

9. *S. exigua* ?? ("*S. argophylla*" ??)

Always a shrub, very common, with many more staminate plants than pistillate. (tiny leaflets just emerging, aments not yet open. May be *S. argophylla* but I would greatly like to see mature material from the same or similar plant).

10. *S.* ?? (Sections *R. fragilis* or *lucida*). *S. fragilis* or *X*.

Mr. Werner of City Parks staff said they had called it White W. I have found no pistillate trees in two years of looking. Nurserymen here are not acquainted with this willow. It is here and there over the city, suggesting former purchases, but not found in the better landscaped homes. Now spontaneous on the streams and quite common. The new twigs are extremely brittle at the point of attachment. It is a tree with good pyramidal crown and 30 or more ft. high. Common in the wild only where there is abundant water.

(probably *S. fragilis* by brittle twigs, which gave the Latin name, or *X. S. alba* by somewhat pubescent young twigs. If it, or some of the wild plants are truly wild species, they are *S. lasiantha* var. *lancifolia* (Andersson) Bebb. Mature leaves (and fruit) much needed. Nurserymen and hort. catalogs often very inaccurate on Latin names, and sometimes on common names too).

11. *S. Seculeriana* Barratt (probably) Will check further.

Our most cosmopolitan and variable species. (tiny young leaflets and young fruit).

12. *S. fragilis* *X* ?? (not *S. amygdaloides*)

Spangle Wash. (all characters indicate *S. fragilis*, but petioles (young) only sparingly glandular, leaflets partly subentire, and styles longer suggest hybrid. Mature foliage much needed).

13.a. (pist.) *S. caudata* (Nuttall) Heller (if leaves stay green beneath).

(1-year & new twigs, petioles, & young leaflets more or less hairy)

13 b. (stam.) *S. caudata*, var. *Bryantiana* Ball & Bracelin. (ditto)

(all vegetative organs glabrous).

S. caudata is common in this area. It frequently forms fair-sized trees, much larger than literature suggests. Many individuals have trunks 8-12 inches in diam. (if the leaves stay green beneath, these are *S. caudata* and var. When the leaves are glaucous, it is var. *lancifolia* and *S. lasiantha*, for same characters).

14. *S. pseudolappaceum* ?? von Seemen.

On the highway between Tomasket and Republic, elev. about 3000 ft., June (late), 1951. Small shrub, 30-40 inches high, no stam. plants seen. (*S. Wolfii* and var. do not occur in Wash. These leaves are more densely white hairy, as are the ovaries, and leaves do not show the dark interior veins of *Wolfii*). Would like to see more mature collection. I am now working on *S. section Glaucæ* but this name is likely to stay as species or variety.

15. *S. Barclayi*, var. *hebecarpa* Andersson, or *X*

Same area as No. 14. Caespitose shrub about 5 ft. high, seemingly fairly abundant along a stream. (the stout dark, more or less hairy stems, and venation and crementation of the leaflets say *S. Barclayi* Anders. and the hairy capsules say var. But the aments are badly frozen and the whole plant badly darkened by freezing or drying or both. The floral organs seem to indicate hybrid with 14 or *S. Seculeriana*. Would much like to see better material.

Would like to keep these specimens if I may, especially in hopes of mature mature specimens for further comparison. Will you send labels? Or give place of collection of those lacking it and I'll write labels.

Cordially yours

Carleton R. Ball

Professor H. E. Alder,
Dept. of Biology, Whitworth College,
Spokane, Washington.

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

16 May, 1952.

Dear Professor Alder:

Yesterday, I again studied your No. 11, whic I tentatively determined as *S. Scouleriana* ^{Barratt}. It seems to me that the two parts do not belong to the same species, and now would label them as follows:

11 a. (fruit). *S. Scouleriana* Barratt.

11 b. young leaves) *S. ~~Whitworthiana~~ sitchensis* Sanson. These appear to to be typical juvenile leaves of that species.

Of course, if you know that both twigs came from the same plant, that would settle it all as *S. Scouleriana*.

I beleive that I forgot to say how glad I am that you are trying to determine your own collections of *Salix*. They have been too much publicized as a very difficult group. They are quite variable, but, if mature specimens are in hand any one can learn to know the 20-30 species of his State. It is the prevalence of juvenile collections that makes for confusion. Tagging plants and collecting from the same plant twice or more in one season will take care of that. In summer and autumn it is especially important to collect the twigs hawing different sizes and shapes of leave.

Cordially yours,

See Ball, More Plant Study: Fewer Plant Names.
Journ. Arnold Arboretum 27:371-385. 1946.
(reprints exhausted)

Carleton R. Ball