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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.

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TWO NEW VARIETIES OF SALIX SCOULERIANA BARRATT.

By Carleton R. Ball, University of California.

The well marked but variable species complex known as Salix Scouleriana is distributed from New Mexico and southern California to the Yukon Valley of Canada and Alaska. In altitude it ranges from sea level along the Pacific Coast from California to Alaska to elevations of 8000 or 9000 feet in the southern part of the Rocky Mountains and in the San Bernardino Mountains of California.

It has been described under several specific names, including S. Scouleriana Barratt (1839), S. flavescens Nuttall (1841), S. stagnalis Nuttall (1841), S. brachystachys Benthams (1857) and S. capreoides Andersson (1858). Probably some of the plants so named represent distinguishable varieties but none of them is so recognized as yet. This is due in part to the difficulties of current herbarium material. It is a species of extremely precocious flowering and the promptly deciduous leaves fall before the leaves develop. Some plants flower in December on the Pacific Coast. Except in the rare cases where collections are made from the same plant at intervals of some weeks, therefore, it is almost impossible to know what observed leaf forms are associated with certain ament and flower characters. The species certainly would be better understood if it could be split into varieties. Happily it now is possible to segregate and describe two varieties hitherto unrecognized.

The writer desires to express here the many courtesies received from the staff of the Department of Botany, University of California.

SALIX SCOULERIANA variety *COETANEA* n. var.

This is a shrub with the general characters of *S. Scouleriana* but differing from that species and the next variety in having the aments coetaneous, the pistillate rather lax, and both sexes borne on short, leafy-bracted peduncles. For the material on which the description is based botanists are indebted chiefly to two very discriminating collectors, namely: Joseph P. Tracy of Eureka, California, and J. William Thompson of Seattle, Washington. The writer is glad to acknowledge his personal obligation to both.

Description:

Sectio Capreae. Ab specie typica per amenta coetanea, pistillifera quam iis speciei aliquando laxiora, et iis sexuum utriusque in pedunculis curtis folioso-bracteatis suppositis abluens.

Shrub usually 2-4 or rarely 5 m. (6-12 or 16 feet) high. Branchlets rather slender, fragile (or readily deciduous in drying), divaricate, the 2-year brown to dark brown and glabrate to glabrous, the 1-year and seasonal shoots yellowish to brown and usually finely and often sparsely puberulent. Bud scales small, colored and clothed as the branchlets. Stipules wanting or rarely 2-5 mm. long on vigorous shoots, broadly lanceolate, dentate, puberulent. Blades oblanceolate and acutish to obovate and obtuse or rounded at apex, cuneate at base, 3 to 5 cm. long by 1.5-2.5 cm. wide, or the larger up to 6 by 3 cm., entire and slightly revolute on the margins or the distal on seasonal shoots irregularly crenulate-denticulate, dark green above, glaucescent to glaucous beneath, puberulent on both surfaces (probably becoming glabrate) ^{in age}.

Aments castaneous, borne on short, leafy-bracted peduncles, the staminate peduncle about 5 mm. long, with small bracts, the pistillate peduncle 5-15 mm. long and bearing 3-5 small leaf-like bracts, 0.5-2 cm. long. Staminate aments 1-2 cm. long. Pistillate aments 1.5-4 cm. long or sometimes 5 cm. long; pedicels of the capsules 0.5-1 or 1.5 mm. long; styles short, stigmas elongated, 1 mm. long, usually entire. Flower scales in both sexes elliptical-obovate, acutish to rounded, black, long-villous.

As will be noted from the specimens cited, variety castanea flowers from May to June, and fruit may be found during June and early July, in marked contrast to the early spring flowering of the species. Even at sea level, flowering did not occur until mid-March. There must be admitted the possibility that this condition results from physiological disturbance of the plant. The increasing number of collections, over a wide area, however, make this unlikely. The type specimen (pistillate) is Thompson No. 9297 in herbarium C.R. Ball (2 sheets).

Distribution.

So far as available material indicates, this variety is confined to the central part of the range of the species. It occurs sparingly from Northwestern California to Nevada and Utah, and north to south-central Washington, western Montana, and the mountains in the southern parts of Alberta and British Columbia. It is found, therefore, in the Wasatch, Rocky, Sierra-Cascade, and Coast Range mountain systems. Except for the one collection near the ocean, where precipitation and fog maintain low temperatures, the collections are all from elevations of 4000 to 6000 feet. It seems probable that the variety will be found to have an even wider range.

Specimens examined are cited below. The containing herbariums are: CRE, Carleton R. Ball; NMC, Nation Museum of Canada; PC, Pomona College; and UMont, University of Montana, and UC, University of California.

CALIFORNIA. Humboldt Co. Ferndale, alt. 100 ft., shoots from cut and burned stump, Joseph P. Tracy 10921, March 12, 1933 (UC). Trinity Summit, shrub 10 ft. tall, on dryish slopes back from the meadows, open ground at Corral Prairie, alt. 5000 ft., Joseph P. Tracy 10507, July 13, 1932 (CRB, UC); shrub with erect branches, 15 ft. tall, at edge of meadow, same locality and date, Tracy 10518 (UC). Trinity Summit, common shrub in moist places, 6-10 ft. tall, rocky, exposed places, head of Devil's Hole, alt. 6000 ft., Tracy 10694, July 17 1932 (CRB, UC). Trinity Summit, rocky exposed places, head of Brett Hole, alt. 6000 ft., Tracy 10714 July 18, 1932 (UC). Modoc Co. In lodgepole pine woods, north slope of Bidwell Mtn., Warner Mts., Elmer L. Applegate 7619, July 9, 1932 (CRB).

NEVADA. Head of Fall Creek, Ormsby Co., elev. 2460 m., C.F. Baker 1153, June 24, 1902 ~~1902~~ (PC; distrib. unnamed; ♀ and ♂, the latter aments 1 cm. long, the peduncles 0.5 cm. and ^{pist. aments 1.5-2.5 cm. long.} bracted). Lake Tahoe, Nevada, M.E. Jones, August 12, 1927 (PC, distrib. unnamed; fruit past ripe).

MONTANA. Missoula, on trail to Mt. Stuart, alt. 6000 ft., J. B. Kirkwood 1076, July 2, 1921 (UMont, UC). CAS,

WASHINGTON. Kittitas Co., Upper alpine slopes of Redtop, alt. 4500 ft., J. Wm. Thompson 9297, July 4, 1933 (CRB, UC) luxuriant growth, leaves green beneath from artificial drying; same locality, alt. 4000 ft., Thompson 9303, July 4, 1933 (CRB, UC; "more robust than 9297, and occupying a definitely lower zone"). Chelan Co., Blewett Pass, Wenatchee Mts., abundant in thin timber on open hillsides, elev. about 4200 ft., C. R. Quick, 1057, (♂, ♀), June 16, 1933 (CRB, UC).

UTAH. La Sal Mts., M. E. Jones, June 13, 1913 (PC, unnamed). City Creek Canon (Ogden ?), M.E. Jones, June 11, 1880 (PC, unnamed).

BRITISH COLUMBIA. International Boundary Commission. Near International Boundary between Midway and Osoyoos, first summit west of Skagit River, J.M. Macoun 73683, July 20, 1905 (NMC). ^(lvs. lanc. glabrate, aments sldr. scarcely bracted) ^{mixed with S. Scoulerian} ^(from pass) Mons, Pacific Great Eastern Ry., J.M. Macoun 97789, 97790, June 20, 1916 (NMC).

ALBERTA. Banff and vicinity, N.B. Sanson, 19, 145, 161, June, 1911 (CRB).