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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.

ACCURATE STATEMENTS OF PLANT DISTRIBUTION

Carleton R. Ball

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Ecologic, floristic, and taxonomic botany are surging forward in the southern States. This is as it should be. Complete and accurate State and local floras are of the highest importance. Without them both regional manuals and monographs ^{in treatments} remain incomplete or misleading.

Personal pleasure and enduring reputation can be as well built on careful local studies as on more ambitious foreign explorations or monographic revisions. Moreover, these local studies must be made by local residents if they are to be made at all. No geographic or taxonomic specialist can cover all localities or even all of our States. Furthermore, no one can be so handicapped by lack of time, or means, or transportation that he cannot make good local studies and so earn his place in the sun.

Some of our younger workers may not realize the value of accurate local work. They may feel deprived because they cannot undertake larger things. Let them be reassured. ^{if} ~~Let them~~ do well the needed work at hand, ^{honest} ~~and every~~ maker of manuals ~~and every~~ maker of monographs will arise and call them blessed. One recent occurrence will illustrate the ~~point~~ need for accuracy of statement regarding geographic range of species. While it refers to one particular State, similar examples can be drawn from almost any other State.

For many years, with the generous aid of national, State, Provincial, and local collectors, I have been determining and recording the distribution of North American willows (1). Several years ago I enlisted the aid of State and local botanists to determine the western limits of the range of Salix nigra in Iowa and Minnesota, because numerous publications had credited this species to the Dakotas and I never had found it there. The surveys made showed conclusively that it did not extend westward into the Missouri River drainage. No plants were found on streams flowing to the Big Sioux or Missouri Rivers.

Recently I determined a collection of willows from Richardson County, Nebraska, for Mr. Howard C. Reynolds of the State University. He is preparing a list of the plants of that County for use in a Masters-degree thesis. This County lies in the southeastern corner of the State and adjacent to Kansas and Missouri. In the collection was a specimen of the black willow, *S. nigra* Marshall. I congratulated him on what might prove to be a new record for his State. In reply he expressed surprise, stating that the species had been recorded previously for Nebraska. This led to a study of recorded distribution of willows in that State. Five papers concern

Webber (8:110), in 1890, stated that S. nigra was "very common, especially in the eastern part of the State." He cites four localities: "Beru, Lincoln, Fairbury, Weeping Water." Earlier (p. 41), he had said: "The present catalogue is based on specimens in actual existence... . I have under almost every species referred to the herbarium where specimens may be found," Actually he gives only one reference for the 6 species of Salix, and that is for the widely-distributed S. amygdaloides.

Bessey (2:7; 3:7), in 1891 (?) and 1892, says of S. nigra: "Our largest willow, growing along the banks of streams... . Common from the southeastern to the northwestern portions of the State." In his preface to the first paper (2:1) he says: "... care has been taken to make it (this report) as accurate as possible. It represents fairly well what is known of her woody plants... in the main, I believe this report to fairly represent the facts." His second paper differs from the first only in adding a few localities for some willow species.

Petersen (6:69), in 1912, says: "In low, wet places, mostly along streams, in the eastern part of the State. Fairbury, Nemaha, Peru, Wahoo." In his preface, Petersen says: "The known range of each species in the State is given, followed by a list of the localities from which it has been reported. These localities are mostly based on specimens in the herbarium of the University of Nebraska."

Pool (7:39, map 6), in 1919, says: "This is a common tree or shrub all over eastern United States and westward to the base of the Rocky Mountains,.... It is found in practically all parts of the state of Nebraska...." Of his maps he says (p. 8): "These...maps...showing portions of the state in which certain trees may probably be found....[✓] have been prepared from all of the available material in the possession of the

Botanical Survey of Nebraska." Map 6 (nigra), however, like Map 5 (amygdaloides) has the entire State area dotted. In the second edition, issued in 1929, there is no change in text or map.

Winter (9:177), in 1936, states that S. nigra is "Found in wet places, particularly along streams in the eastern part of the State." In his introduction, Winter says: "This paper attempts to give a careful analysis of the available evidence as to the presence, abundance, and range of the species...represented in the state"(p. 1). "Notes as to distribution, as, indeed, the material for the entire work, are based on rather extensive field collections as well as careful study of the more important herbaria within the state" (p. 2).

From these citations of five authors, we see that two (Bessey, Pool) credit S. nigra to the entire State and westward; one (Webber) implies but does not assert a State-wide distribution, whereas two (Petersen, Winter) limit it to the "eastern part" of Nebraska. Two of the five (Webber, 1890, and Petersen, 1912) cite four localities each, presumably based on specimens, but only two of the four are the same in both lists.

It is interesting, but unprofitable, to speculate on the bases for these repeated and specific assertions of State-wide or even eastern-Nebraska distribution for S. nigra. Gray's Manual of 1887 makes no statement. The edition of 1908 says: "N.B. to Ont., Dak., and southward." As noted early in this paper, the Dakotas, western Minnesota, and western Iowa do not contain this species. Coulter, in 1895, (Man. Bot. Rocky Mtn. Region), says: "...not been found within our limits.

In the reported distribution to western Minnesota and the Dakotas, S. nigra was confused with S. amygdaloides. In the Nebraska publications this could not have been the case because all of them list both species and Bessey, in 1892, recorded their distinguishing characters.

Reported distribution in adjacent northwestern Missouri remains to be mentioned. Bush (4:361), in 1895, credited S. nigra to the 7 Missouri River Counties from Kansas City to the Iowa boundary. The two most northern of these, Holt and Atchison, are opposite Richardson and Nemaha counties in Nebraska. There is legitimate doubt of these determinations, for he credits S. amygdaloides to Cape Girardeau County, in extreme southeastern Missouri and far out of its range, and S. lucida to Jackson County, near Kansas City. He admits doubt in the latter case because "The species is so difficult to distinguish from some forms of Salix nigra."

It must be reemphasized that this discussion is no particular reflection on Nebraska botanists. It could be duplicated for many other States, and especially for those lying, as Nebraska does, on the borderline of two different ecologic areas.

The newly expanded floristic and taxonomic activity in the Southern States will result in many new local, State, and regional lists of plants. Here is a splendid opportunity for that painstaking fidelity to facts which alone can insure accurate statements of the distribution of species. Such accuracy is enormously more important than completeness. Additions may be made quickly and at frequent intervals. A misleading statement, once imbedded in the literature, may require a century for correction.

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