

CERCIS, ITS TAXONOMIC RELATIONSHIP IN THE OKLAHOMA FLORA

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Although our State Tree, the redbud, appears to be well understood, a study of the genus *Cercis* indicates that we have, in our Oklahoma flora, two varieties and one form of this interesting leguminous plant.

Britton and Rose (1930) reported on the genus in their monograph and record several species occurring in North America, only one of which (*Cercis canadensis*) was listed for Oklahoma. Their study differed little from previous concepts of the genus, but it brought together synonyms and established one new species in Texas and northern Mexico.

Studies on the flora of the Arbuckle Mountains indicated to the present writer that *Cercis* was still inadequately treated and that its specific designations were not compatible with current systematic theories. Therefore he studied the genus from the viewpoint of a monographer, borrowing specimens from all of the leading herbaria in this country, and concluded (1942) that *Cercis* was represented in North America by only two species, *C. canadensis* and *C. occidentalis*. The numerous species which Britton and Rose and others had considered to be valid, he reduced to varieties of *C. canadensis*.

The present paper is presented to the Academy because the genus is our State Tree and it was felt that a short, condensed note on its relationships in our flora ought to be available for Oklahoma. This makes it unnecessary for one to peruse a lengthy and detailed scientific monograph in order to understand *Cercis* and to identify indigenous specimens.

Only one species occurs in Oklahoma. This is the Linnaean *C. canadensis*. Its varieties and form, together with a brief synopsis of their chief characters, are presented as follows:

CERCIS CANADENSIS L. var. *typica* Hopkins.

This is the type species, described by Linnaeus in 1753 from Virginia and represented in the John Clayton Herbarium (no. 47) deposited at the British Museum of Natural History in London. The leaves are characteristically heart shaped and are dull green on both surfaces but with some slight pubescence along the principal veins on the under surface. It is usually a small tree and tends to grow as such (from one main trunk) and not as a clump of shrubs having several principal stems. In Oklahoma it occurs in low woods, flood plains and river thickets and extends from the Kansas line south to the boundary of Texas. Its western limit appears to be in Woods County in the north and in Cotton County in the south but east of these points it occurs in great abundance.

Our redbud is indigenous to this continent, never occurring elsewhere except under cultivation, and should not be confused with the Judas Tree which is an Old World species (*C. Siliquastrum*) of the Mediterranean Basin. Legend tells us that Judas hanged himself on a plant of this species. He could not possibly have found a tree of *C. canadensis* on which to perform this cowardly act.

C. CANADENSIS forma *GLABRIFOLIA* Fernald.

Fernald (1936) described this form as differing from the typical one only in the absence of the characteristic hairs on the principal veins on the under surface of the leaves. These are quite glabrous and in no instance can any pubescence be seen. In no other ways does it appear to differ from the typical form and it grows in the same areas. In Oklahoma one finds it interspersed with the typical form, and not infrequently the two grow side by side. Experimental breeding studies will reveal whether this is merely an environmental response or whether the glabrous aspect of the leaves is an inherited and therefore a genetic character.

C. CANADENSIS var. *TEXENSIS* (S. Wats.) Hopkins.

This is the Texas plant which has been passing in the literature as *C. reniformis* or *C. texensis*. It is in no way related to *C. occidentalis*, which it superficially resembles and which is a species of California and adjacent states. Coulter (1891) and Small (1903, 1913) in their works on Texas botany list *C. occidentalis* as occurring there but the results of this study definitely show that such is not the case. The plant has kidney-shaped leaves which are a bright, rich, deep green in color and always glaucous with a glossy sheen, especially on the upper surface. There is no pubescence of any kind on these leaves and their texture is thick and coriaceous. It grows in clumps with many principal trunks, and is therefore best regarded as a tall shrub and not a tree as is the typical variety. In Oklahoma it is known only on the dry, xeric limestone outcrops of the Arbuckle Mountains but occurs abundantly in Texas and northern Mexico on similar environments. In fruit and flower it differs not at all from the typical form and is more logically treated as a variety of *C. canadensis* rather than a separate species of *Cercis*.

LITERATURE CITED

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