NOTES ON OKLAHOMA FLORA

G. THOMAS ROBBINS
East Central State College, Ada

This paper presents a list of species not previously reported for the state in any of the manuals or checklists and includes range extension notes for several additional plants.

Specimens of all the collections discussed in this paper, unless otherwise noted, have been deposited in the Bebb Herbarium of the University of Oklahoma.

In the preparation of this paper I am grateful to Dr. George J. Goodman and Mr. U. T. Waterfall of the University of Oklahoma, and Professor Robert Stratton of Oklahoma A. & M. College for permission to study library and herbarium materials at their respective institutions. I am also grateful to Dr. Reed C. Rollins of the Gray Herbarium and Dr. A. C. Smith of the United States National Herbarium for their help in checking the Oklahoma records, at their herbaria, for most of the species discussed below.

The following species are believed to be new to Oklahoma:

Sherardia arvensis L. An adventive from Europe which has become naturalized in this country in the northeastern and central states, and near the coast in the Pacific states. It is now known for Oklahoma from two recent collections: (1) Le Flore County: roadside park, 0.7 mile west of Page, April 26, 1947, Robbins 2369; and (2) Delaware County: from roadside, Dripping Springs, May 1, 1948, Goodman 4719. Dr. Dwight M. Moore writes that the species is common in two counties in northwestern Arkansas. Steyermark (1940) reports it from one county in southwestern Missouri. Gates (1940) reports it as "cultivated and escaping but not established" from two counties in Kansas. Cory and Parks (1938) do not list the species for Texas and it may be that the Le Flore County collection cited above represents the southernmost range of the plant in this section of the United States.

Gentiana saponaria L. A collection from Le Flore County: sandy soil on bank of Big Creek, 2.5 miles east of Page, October 3, 1948, Robbins 3200, is the second report of the occurrence of the genus within the state. *G. puberula* Michx. was previously reported from Delaware County by Mrs. M. S. Lahman (1931: 32) of Tulsa. I have not located a collection for the Lahman record in the Oklahoma herbaria and I am informed that it is not in the collections of the Missouri Botanical Garden, the Gray Herbarium, or the U. S. National Herbarium. However, if Mrs. Lahman's collection was correctly identified the species is one which is readily distinguished from *G. saponaria* by its campanulate-funnelform corolla with spreading lobes. In *G. saponaria* the corolla lobes are erect, forming a more or less closed corolla. Dr. Moore has kindly loaned the collections of *Gentiana* in the University of Arkansas herbarium and among them is a collection from Polk County, Arkansas (E. J. Palmer 29021) which is immediately to the east of Le Flore County. The Polk County collection, which is annotated as *G. andrewsii* Gris., is a very close match for my collection. Dr. Robert T. Clausen of Cornell University has kindly examined and confirmed the identity of my collection.

Triosteum angustifolium L. This species has been collected in Pontotoc County: rich, moist soil in shady oak-hickory woods about 0.5 mile southeast of Ada, May 19, 1947, Robbins 2501; and April 28, 1948, Robbins 2953. A specimen of the plant was sent to Dr. Julian A. Steyermark of the Chicago Natural History Museum who confirmed its identification. Dr. Steyermark writes that the pale yellow corollas and the long hairs on the calyx-lobe margins, upper leaf surfaces and stems are the distinctive characters of

the species. The leaves, however, as shown by my collections, may be broad as well as narrow, but are often narrower at the base. In view of the fact that the corollas are shed very early in this species it is quite possible that the plant, in flowerless condition, has been confused with one of its close relatives *T. aurantiacum* Bicknell largely on the basis of its leaf characters. Dr. Steyermark says that in Missouri *T. angustifolium* extends as far south as the southwestern counties adjoining Oklahoma, so it is reasonable to suppose that it may be found in several contiguous areas in Oklahoma from which it has not heretofore been reported.

Astragalus lindheimeri Gray. This record is based on a collection from Harmon County: abundant in clay flats and gullies 7 miles east of Gould, May 22, 1946, Ripley and Barneby 7489. Mr. Rupert C. Barneby, Wappingers Falls, New York, has kindly communicated this record and has given permission for its publication in this paper. The collection cited is preserved in Mr. Barneby's private herbarium and I have a fragment of the same collection in my herbarium. The species was previously known only from central and eastern Texas.

Phacelia strictiflora[1] (Engelm. & Gray) Gray. A new variety of this species is to be named by Dr. Lincoln Constance of the University of California, based on a collection from Johnston County: sandy, granitic soil in grazed pasture 10 miles north of Tishomingo near the Wapanucka road junction, May 29, 1948, Robbins 3063. Dr. Constance has kindly informed me that the new variety combines the morphological characters of *P. hirsuta* Nutt. and *P. strictiflora* and has been confused with both of these species. Its range is confined principally to the counties in the eastern third of the State and possibly extends southwards into northern Texas.

The following plants are noteworthy as extensions of range:

Vaccinium arboreum Marsh. A collection (Hopkins & Cross 2225) in the Bebb Herbarium from "dry oak-hickory woodland, 6 miles south of Antlers," Pushmataha County, appears to represent the previously known westernmost limit of this species. It was recently collected in Pontotoc County: rocky wooded ravine about 2 miles southeast of Ada, November 16, 1948, Robbins 3208. This extends the range of the species three counties westward for a distance of approximately 70 miles.

Epipactis gigantea Dougl. This plant has been collected in three localities in the Arbuckle Mountains, Murray County (Cowpen Creek, Cowpen Canyon, and Colbert Creek). It can now be reported for one locality in Pontotoc County: sandy soil along Canyon Creek, southern edge of limestone hills, 4-5 miles southeast of Fittstown, June 6, 1947, Robbins 2558. This represents a range extension of one county to the northeast.

Alnus maritima Nutt. This interesting tree has been recorded for Oklahoma only from Johnston and Bryan counties. It can now be reported for at least three localities in southern Pontotoc County, immediately north of Johnston County. The tree appears to be restricted and localized along Sheep Creek, 1.5 miles southwest of Harden City, October 4, 1947, Robbins 2795. It has also been observed along Byrds Mill Creek where it is scattered and rare, and along Canyon Creek where it is quite common.

Juniperus Ashei Buchholz. This plant is represented by numerous collections from the Arbuckle Mountains, Murray County, and by a few collections from Mayes County. One small colony of trees has recently been found in Pontotoc County: on a limestone ridge in hills 4-5 miles southeast of Fittstown, May 15, 1948, Robbins 3018. This collection extends the range

[1]New variety published in Contributions from the Gray Herbarium of Harvard University, No. CLXVIII, p. 20 issued February 21, 1949. Ref.: Constance L., a revision of *Phacelia* subgenus *Cosmanthus* (Hydrophyllaceae).

of the species one county to the north and east of its Arbuckle localities where it appears to be confined to similar geologic formations. One collection (Smith 2066) in the Bebb Herbarium, labelled "12 miles south of Sulphur, Pontotoc County" is probably an error.

LITERATURE CITED

Cory, V. L. and Parks, H. S. 1938. Catalogue of the flora of Texas. Bull. Texas Agric. Exp. Sta. *550*:1-130.

Gates, F. C. 1940. Annotated list of the plants of Kansas: Ferns and Flowering Plants. Contrib. No. 391, Dept. of Botany, Kansas State College: 1-266.

Lehman, M. S. 1931. Observations of the flora of Delaware County, Oklahoma. Proc. Oklahoma Acad. Sci. *11*:32-35.

Steyermark, J. A. 1940. Spring flora of Missouri. St. Louis: Missouri Botanical Garden.