

VIII. OBSERVATIONS OF THE FLORA OF DELAWARE COUNTY, OKLAHOMA

MARION SHERWOOD LAHMAN
Tulsa, Oklahoma

Since the plant life of any region depends largely on land-surface, soil, and rainfall, it seems advisable to preface the following observations on the flora of Delaware county, Oklahoma, with a brief description of the physical aspects of that area.

It is covered for the most part with sharp ridges, last spurs of the Ozarks, interspersed with narrow valleys, and with a few bits of prairie. There is much surface rock, limestone bed-rock outcropping in various ways, and many of the hills are covered with a flinty lime rubble. The soil generally is rocky and poor. On the other hand, the rainfall is fairly abundant. Except for that brief extent of prairie, the region is covered with forest growth. Among the larger trees are black, white, red, and scrub oak; also hickory, black walnut, blue gum, sycamore, elm, a few pines; while of lower growth, cedar, redbud, dogwood, several kinds of plum, haw, and sumac are common. However, even a partial much less a complete list of all the plants found in this county is not the purpose of this present study. It is to the geographic range in general and to certain special species that I wish to call attention.

A large percent of the flora is distinctly eastern in range. Bloodroot, mandrake, dicentra, yellow erythronium and other similar plants are native from Canada to Florida and through the Mississippi Valley, but their most western limit hardly reaches the ninety-six degree meridian. Exception here may be taken to the introduced barn-yard weeds such as jimson, velvet-weed, henbit, and catnip, which follow the plow far and wide.

But certain of the plants apparently native in Delaware county, exceed the range given them in Gray, Britton & Brown, Small, or any other botanical work at my command.

One of these is *Gentiana puberula* Michx., or if you prefer, *Dasystephania puberula* (Michx.) Small. The printed range is given as Go.-O.-N. W. Ter.-Kan. Mr. Goodman of the Missouri Botanical Garden says that it had not been reported from Oklahoma until he received my specimen. I found my first plant, Nov. 4, 1903 in Delaware county, and Oct. 29, 1930 is the date of my last collection. But these Delaware gentian plants are not typical; all so far observed are one-flowered, while the type is several-flowered. It will be interesting to note whether future observations disclose that all these southward straying plants are one-flowered.

Viola pedata L. which, according to Brainerd, is so variable that nine separate specific names have been given to different collections, shows

some of its variations in Oklahoma. The pale lilac, concolored form, the recognized western type, is common enough from the Arkansas line to the Osage, perhaps still farther west. But occasionally there may be seen blossoms in darker shades from bright blue-violet to deep purple. Also, the rocky hills of Delaware county, produce flowers of the handsome bi-colored form; the two upper petals are of very dark purple, the three lower, lilac. Now, that is the eastern type supposed to belong in Virginia and Maryland; yet here it is in northeastern Oklahoma. There are eight or ten other varieties to be found in the county, one a possible hybrid that looks like a cross between *Viola missouriensis* and *Viola sagittata*, both of which are common in that area.

Delphinium tricornis Michx. is found on some of these rocky hillsides, although it is not so listed by Small. And *Delphinium albescens* Ryd. is also native here.

As may be seen from the following, all the unreported plants in Delaware county are not eastern. *Lavauzia flava* A. Nels., given in Wooten and Standley, the range from Wyoming to New Mexico, as I have observed, is plentiful in the western part of Tulsa county, but less so in Delaware county, though it may have a wider spread.

Ipomoea lindheimeri A. Gray. *Pharbitis lindheimeri* (A. Gray) Small, has given a range of west Texas and southern New Mexico. In 1902 I found quantities of it climbing corn-stalks in Craig county in the north-western part of Delaware county. Recently I found a single plant in the southern part of Delaware county. The flowers of these northern plants are smaller than the very large ones described in Small.

Ipomoea barbigeri, Sims, [*Pharbitis barbigeri* (Sims) G. Don] with a reported range from Georgia and Alabama to Florida, appears surprisingly on waste ground near the deserted village of Kansas, Delaware county, and along the Keystone road in Tulsa county. A specimen from here was sent to the Missouri Botanical Garden, labelled *I. purpurea*. This was manifestly an error. *I. purpurea* is common enough escaped from cultivation, but the *I. barbigeri* is distinctly different in the proportionately broader leaves, the shorter peduncles, and especially in the densely bristly sepals with elongated tips. The light blue flowers seem to be exactly like those common in this area the *Ipomoea hederacea*. Both *I. hederacea* and *I. barbigeri* produce dwarf plants that bloom out of season. I found one on May 26 about four inches high in flower, but in late October flowering dwarf plants are common.

Ipomoea hederacea (L.) Jacq. [*Pharbitis hederacea* (L.) Choisy] has been called *Ipomoea nil* (L.) Pursh. This name is confusing because there is another *I. nil* in eastern Oklahoma, evidently escaped from cultivation, with magnificent bright-blue flowers often three inches across, decidedly not *I. hederacea*, the blossoms of the latter being only 1-1½ inches broad. It is interesting to note that the entire bristly-sepalled *Pharbitis* group is to be found here. The chief differences in *I. hederacea*, *I. lindheimeri*, and *I. barbigeri* are in the shapes of the leaves. The latter has entire leaves, *I. hederacea* has deeply three-lobed leaves, and *I. lindheimeri* has deeply five-lobed leaves.

Pentstemon arkansanus Pennel is not mentioned in any of my books. A single specimen in the herbarium of the Oklahoma A. and M. College gives the type locality as eastern Arkansas. It is plentiful in open woods in Delaware county, and I have seen it as far west as the Osage.

Other plants in this county not listed for Oklahoma are:

Habenaria leucophaea (Nutt.) A. Gray grows sparingly on prairies;

Limodorum tuberosum L. grows near edge of open woods, but is rare here;
Laciniaria spicata (L.) Kuntze is one of half a dozen *Laciniarias*;
Tradescantia brevicaulis Raf. grows on rocky hillsides.
Trillium viride Beck.

A LIST OF PLANTS NOT PREVIOUSLY REPORTED FOR OKLAHOMA

Collected and reported by
 Marion Sherwood Lahman

Acaciella hirta Britton and Rose.
Aphanostephus ramosissimus DC.
Baptisia villosa (Walt.) Nutt.
Baptisia hybrid—*B. australis*, *B. bracteata*.
Brauneria strovianus (Nutt.) Boynton and Beadle.
Castilleja lindheimeri A. Gray.
Castilleja indivisa Engelm.
Convolvulus arvensis (L.)
Crassina grandiflora (Nutt.) Kuntze.
Delphinium albescens Ryd.
Gentiana puberula Michx.
Habenaria leucophaea (Nutt.) A. Gray.
Ipomoea barbigeria Sims.
Ipomoea lindheimeri A. Gray.
Ipomoea n. sp. (L.) Pursh.
Ipomoea trifida (H. K. B.) G. Don.
Kniffia charlesii Lahman.
Laciniaria spicata (L.) Kuntze.
Lavauxia flava A. Nels.
Limodorum tuberosum L.
Mamillaria maeromeris Engelm.
Megapterium argyrophyllum Gates.
Megapterium fremontii (S. Wats.) Brit.
Melampodium cinereum DC.
Melosmon laciniatum (Torr.) Small.
Monarda scabra Beck.
Nemophila phacelioides Nutt.
Oxytrichis pinetorum (Heller) K. Schum.
Pentstemon arkansanus Pennel.
Pentstemon caudatus Heller.
Phacelia patuliflora (Engelm. and Gray) A. Gray.
Physostegia intermedia (Nutt.) A. Gray.
Physostegia digitalis Small.
Spharalcea angustifolia Spach.
Tetraneuris angustifolia Ryd.
Tradescantia scopulorum Rose.
Trillium viride Beck.
Viola hybrid (apparently *V. missouriensis* × *V. sagittata*.)

A NEW KNEIFFIA

Named by Marion Sherwood Lahman

Kneiffia charlesii Sp. Nov. (Charles' Sundrops.)

The stem is slender, simple, erect, brownish-red, hairy, not angled, eight to ten inches high. No basal leaves are present; stem leaves narrowly oblanceolate, entire, numerous, villous with silky, silvery hairs, sessile or with very short petioles. The flowers are yellow, several in a terminal cluster; the petals are about an inch long, obcordate, and notched at the top; calyx is very hairy, the tube is three-fourths inches long; the segments are lanceolate, shorter than the tube. The capsules are short club-shaped, four-angled, and densely hairy; the pedicel is longer than the body. The *Kneiffia charlesii* blooms in June and July.

This type has its locality between Pauls Valley and Davis, Oklahoma. The range is dry soil, known only from the type locality.

This *Kneiffia* approaches *K. linearis* (Michx.) Spach., although the latter has not yet been reported for Oklahoma, so far as I know. It differs in the following points: the entire plant is strongly hairy; there are no basal leaves and the numerous stem-leaves are entire; the calyx segments are shorter than the tube, and the fruiting pedicels are longer than the densely hairy capsules.