

Journal of the Arkansas Academy of Science

Volume 1

Article 12

1941

White-flowered Forms of Some Arkansas Wild Flowers

Dwight M. Moore

University of Arkansas, Fayetteville

Follow this and additional works at: <http://scholarworks.uark.edu/jaas>

 Part of the [Botany Commons](#)

Recommended Citation

Moore, Dwight M. (1941) "White-flowered Forms of Some Arkansas Wild Flowers," *Journal of the Arkansas Academy of Science*: Vol. 1 , Article 12.

Available at: <http://scholarworks.uark.edu/jaas/vol1/iss1/12>

This article is available for use under the Creative Commons license: Attribution-NoDerivatives 4.0 International (CC BY-ND 4.0). Users are able to read, download, copy, print, distribute, search, link to the full texts of these articles, or use them for any other lawful purpose, without asking prior permission from the publisher or the author.

This Article is brought to you for free and open access by ScholarWorks@UARK. It has been accepted for inclusion in Journal of the Arkansas Academy of Science by an authorized editor of ScholarWorks@UARK. For more information, please contact scholar@uark.edu, ccmiddle@uark.edu.

WHITE-FLOWERED FORMS OF SOME ARKANSAS WILD FLOWERS¹
Dwight M. Moore, University of Arkansas, Fayetteville

Color in the flowers of plants growing out of cultivation in Arkansas is one of their outstanding features. In a great majority of species the flower color is reasonably constant while in others there is a great deal of variability. In many of these, white forms are relatively common while in others the white forms are sufficiently rare to attract particular attention. Some of these white forms have already been described under appropriate names. Others have apparently not previously been reported. In the present paper attention is called to some of the common white forms and some new ones previously unnoted are here described.

In at least thirteen different plant families white forms of our common wild flowers have been noted.

In the Commelinaceae certain of our species of *Tradescantia* show white forms. *T. Ernestiana* Anderson and Woodson, displays the greatest amount of color variation ranging from deep purple through the most common color, blue-lavender, to pale lavender, deep rose, pink and pure white. These are all probably genetic segregates and this group would furnish the basis for an interesting genetic study. In some localities where this species is found, individual plants from each of these color groups may be present. *Tradescantia canaliculata* Raf. shows much less variation in color but pale forms are often found and occasionally plants with white petals and blue or white filaments may be found with the typical form.

In the Iridaceae two genera present white forms. Certain species of *Sisyrinchium*, which are usually blue, may occur in the white form. In *Iris* at least two species, normally blue or blue-lavender, may be found in pure white. *Iris cristata* Ait., while somewhat variable in the degree of coloration, is not often found without any blue color. However, in a few localities relatively large clones of this species have been found in which the blue color is entirely absent, only remaining color being a touch of yellow which is usually found on the outer segments of the perianth. In another species of *Iris* most commonly found in low, wet meadows, *Iris virginica* var. *Shrevei* (Small) Anderson, the perianth segments are normally veined with various shades of blue but not uncommonly with the species may be found plants totally lacking the blue color.

In the Ranunculaceae the genus *Delphinium* in Arkansas is represented by species predominantly blue or purplish. Two species, at least, vary considerably in the degree of blueness often reaching a point where they would be described as a "dirty white". These are *Delphinium tricorne* Michx. and *D. newtonianum* D. M. Moore.

The Oxalidaceae contains yellow species as well as the widespread *Oxalis violacea*. The latter has been found in several localities with entirely white flowers. In such cases where pigmentation of the flower is lacking, the foliage also usually lacks the purplish pigmentation. This might indicate that a single gene is responsible for the anthocyanin pigmentation in both flowers and foliage. Proof of this, however, must await further study.

Of the Passifloraceae the common Passion Flower, *Passiflora incarnata* L., varies from a deep lavender-blue to forms in which the pigmentation is entirely lacking.

¹ Research Paper No. 718. Journal Series, University of Arkansas.

The violets in the Violaceae are frequently very constant in their color but some of our species are widely variable. Most noteworthy of these is *Viola pedata* L., the Bird-foot Violet. This may be found in all degrees and combinations from rich, deep purple through very pale lavender to white. Some other violets, though not so variable, also occur in white forms.

In the Primulaceae the Shooting Star, *Dodecatheon Meadia* L., which in certain regions is nearly always of a lavender coloration, occurs most commonly in Arkansas in white with occasional plants in the lavender color.

Of the Gentianaceae the genus *Sabatia* usually occurs in a rose-pink color. The white form of one of these, as already recognized previously, (*Sabatia angularis* f. *albiflora* (Raf.) House), may occur with the typical form. White forms of *Sabatia campestris* Nutt. have also been found with the typical form in Benton County. In keeping with the usual practice this is here designated by the name, *Sabatia campestris* f. *albiflora* f.n.²

The Polemoniaceae is represented in Arkansas by several species. The genus *Phlox* is normally represented by flowers ranging in color from a lavender-blue through deep rose. In the Ozark region *Phlox pilosa* is represented by *P. pilosa* var. *ozarkana* Wherry, in which the white variant has been recognized by Wherry (1935). *Phlox divaricata* L. is usually quite constant in its coloration. Recently in the Ozark region the author has found this species in pure white. It is here designated as *P. divaricata* f. *albiflora* forma nov.³

In the Labiatae *Lamium amplexicaule* L. is quite constant in the purple color of its flowers. In the spring of 1933 and again in 1934 the author found a quantity of this species with entirely white flowers growing in a parkway in Russellville. This is sufficiently unusual to recognize as a distinct form and will be designated *Lamium amplexicaule* f. *albiflorum* forma nov.⁴ This form differs from the species in having white flowers and in general lacking purplish pigmentation in the leaves and stems.

Attention might be merely directed here to the Moth Mullein, *Verbascum Blattaria* L., of the Scrophulariaceae in which the white form, *Verbascum Blattaria* f. *albiflorum* (G. Don) House, occurs commonly with the typical yellow form as elsewhere in the United States.

The genus *Houstonia* in the Rubiaceae has several typically blue species in which white forms occur. In the same family the common weed known in Arkansas as Poor Joe (*Diodia teres* Walt.) has been found with white flowers in Pulaski County. Since the status of this one is not certain and there is a possibility that this may be an edaphic variation, it will not be considered at present as a distinct form but a variation.

Among the Lobelias in the Lobeliaceae two of the Arkansas species usually occur in very brilliant collors - *L. cardinalis* L. in its rich cardinal color and *L. siphilitica* L. in a bright blue. Along a stream in the northern part of Washington County a white

² *Sabatia campestris* f. *albiflora* D. M. Moore forma nova.
A typo differt corollis albis.

³ *P. divaricata* f. *albiflora* D. M. Moore forma nova.
A typo differt corollis albis.

⁴ *Lamium amplexicaule* f. *albiflorum* D. M. Moore forma nova.
A typo differt corollis albis.

plant of the latter was found growing among the typical plants of both of these species. It presented a very patriotic group - this red, white and blue combination. Specimens of this were not taken and have not been seen since. However, it is hoped that this may be rediscovered and correctly described and recorded.

In addition to the white forms thus enumerated there may be others which occasionally vary into the white. Among these it will be noted that, with the exception of *Verbascum Blattaria*, the pigmentation in all of these is due to anthocyanins. This would indicate that these pigments, which normally do not occur in plastids, are more variable than others. This would present the subject matter for a very interesting study of these pigments and their hereditary characters.

The present paper has attempted to call attention to some noteworthy white forms of colored Arkansas wild flowers. The white forms mentioned represent thirteen plant families. Others could be included. Of those included three new forms are described. Perhaps these few records may stimulate further observation and investigation and bring to light additional examples of such variations.

Bibliography

1. House, Homer. 1923. N. Y. Mus. Bull. 243-44; 45.
2. McVaugh, Rogers. 1936. Studies in the taxonomy and distribution of the eastern North American Species of *Lobelia*. *Rhodora*. 38:279.
3. Moore, Dwight M. 1939. *Delphinium newtonianum*, a new species from the Arkansas Ozarks. *Rhodora* 41:193-197.
4. Robinson, B. L. and Fernald, M. L. 1908. *Gray's New Manual of Botany*.
5. Wherry, Edgar T. 1935. An Ozark variety of *Phlox pilosa*. *The Amer. Mid. Nat.* 16: No. 3 413-416.

