SOME SPECIES OF VIBURNUM

BENJAMIN FRANKLIN BUSH

After reading the admirable paper of Blake's on some species of *Viburnum*¹, it would seem that all the collector had to do was to collect his specimens and refer them to one or the other of the species he recognizes therein. But a careful and painstaking study of the species found in the middle United States has convinced me that Blake did not fully account for all the forms that occur in this part of the country, at least two of which had been referred to one of the principal species treated by him, and which are readily distinguished.

Perhaps the most important part of Blake's paper is the showing that *V. affine hypomalacon* is the plant that has been passing for *V. pubescens* with all authors, and that the species Britton described as *V. venosum* is really the *V. pubescens* of Pursh. However, there were collections from Pennsylvania, Ohio, Indiana and Kentucky, that Blake seems to have entirely overlooked, and these collections show two quite distinct forms, so much distinct from the *V. venosum* Britton, of the eastern States, that I placed both of them with *V. scabrellum* Chapman, of the Southern States and let them rest there until the past few months.

¹ Blake, Some Species of *Viburnum*, Rhodora 20: 11, 1918. Britton in the Manual of 1905, says of *V. molle* Michx., "Kentucky, Missouri and Iowa." This species undoubtedly occurs in Kentucky, but I doubt very much if it has ever been found in Iowa. Robinson and Fernald in the Manual in 1907, say of *V. molle*, "Kentucky (and probably Ohio) Missouri and Iowa." I have seen no specimens from so far east as Ohio, and the Iowa citation is certainly wrong.
Britton and Brown in the Illustrated Flora in 1913 merely follow Britton's Manual in citing Kentucky, Missouri and Iowa for this species.

In a list of the native shrubs of Iowa, Pammel cites the Robinson and Fernald Manual as authority for including *V. molle* in his list, and adds that it occurs in Southern Iowa. He says of this species "leaves narrower than those of the preceding species (*V. pubescens*, i.e. *V. affine hypomalacum*), with slender petioles." This agrees quite well with *V. affine*, but does not describe *V. molle* at all, which has very wide round leaves.

Blake in this same paper, says in a footnote of *V. molle*, "the name *Viburnum pubescens petiolum* (sic) Fitzpatrick (T. J. & M. M. F. L.) Proc. Iowa Acad. 7: 198, 1900, refers very clearly to *V. molle* Michx. (*V. Demetronis* Deane and Robinson)." I have Fitzpatrick's description of *V. pubescens petiolum* before me as I write this, and also his type material, which is precisely *V. affine* Bush, and the description also indicates this species. Blake might have been misled by the citation in the Robinson and Fernald Manual to assume that *V. molle* Michx., really did occur in Iowa. I am informed by Fitzpatrick that his Ms. name for this variety was *petiolatum*, and that one of his pupils changed this to *petiolum*, thinking that the word *petiolatum* was not proper. I have seen specimens in the Deam Herbarium, and some in the Herbarium of the Iowa State College, at Ames, Iowa, collected by Fitzpatrick in 1898 and 1899, that are named *V. pubescens petiolatum*. Blake's reference of *V. molle* to Iowa is clearly shown to be erroneous.4

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3 Blake, l. c. 13.

4 Two names that have been in common use for the cranberry-tree, *Viburnum americanum* Miller, 1768, *V. Opulus americanum* (Miller) Aiton, 1789, have been shown by Blake to refer to two very different plants, the *V. americanum* Miller, Gard Dict. 1768, which was based in *Hydrangea arborescens* L. and the *V. Opulus americanum* Aiton, the plant which Britton and Brown in the Illustrated Flora in 1913, described as *V. Opulus*. It is quite apparent that Aiton intended
In the following account of some species of *Viburnum*, I recognize eleven species and four varieties, which is some five or six more than are described in the Manuals and Floras, and nine more than are described by Blake in his paper. In order that this paper may be as complete as possible, I have cited all the specimens examined of the species discussed, from Indiana, Illinois, Missouri and Iowa, that the fullest benefit may be derived from my studies, and that other students of their species may know precisely what my understanding of each species and variety was.

For the convenience of those who wish to name specimens of *Viburnum* of the species here considered, I offer the following:

**KEY TO THE SPECIES**

A. Outer flowers of the cymes large, radiant; drupes red. B. A. None of the flowers radiant. C. B. Leaves doubly serrate, pinnately veined.

1. *Viburnum Alnifolium.*

B. Leaves 3-lobed, palmately veined.

2. *Viburnum Trilobum.*

C. Leaves palmately veined, 3-lobed. D. C. Leaves pinnately veined, coarsely serrate or dentate, the primary veins more or less prominent on the under surfaces of the leaves. E. D. Cymes very small, 12-25 mm. broad, the rays short; drupes red.

3. *Viburnum Pauciflorum.*

D. Cymes larger, 4-7 cm. broad, the rays slender; drupes black.

take up Miller's species *americanum* and reduce it to a variety under the European *V. Opulus* L., even if he did not mention Miller as the author of the name *americanum*, and this being the case the next available name for this species would be *V. trilobum* Marshall, 1785, and I do not understand why Blake did not use this name in his paper. I am constrained to speak of this now for the reason that I have here before me a book entitled Standardized Plant Names, bearing date of 1923, prepared by a sub-committee, in which the name *Viburnum americanum* is given for this same species, when in fact that name rests on the *Hydrangea arborescens* L.
4. **VIBURNUM ACERIFOLIUM.**
   E. Petioles very short, much less than 5 cm. long; stipules very pronounced; leaves densely pubescent, or almost velvety, beneath; cymes mostly 3-5 cm. broad; drupes oblong-oval, black, about 10 mm. long, edible; eastern.
   
   6A. **VIBURNUM AFFINE HYPMALACUM.**
   E. Petioles longer, up to 5 cm. long. F.
   F. Leaves glabrous, or merely with tufts of hairs in the axils of the primary veins beneath; stipules lacking; eastern and northern.

7. **VIBURNUM DENTATUM.**
   F. Leaves pubescent beneath, sometimes densely so. G.
   G. Drupes oblong, about 10-15 mm. long; stipules present. H.
   G. Drupes globose-ovoid, about 8 mm. long, inedible; cymes mostly 5-10 cm. broad. J.
   H. Leaves ovate, ovate-oblong, or ovate-lanceolate; cymes mostly 3-5 cm. broad; drupes about 10 mm. long; western and northern.

6. **VIBURNUM AFFINE.**
   H. Leaves round-ovate or nearly orbicular, cordate at the base, very soft; cymes 5-10 cm. broad; drupes about 15 mm. long; southern. I.
   I. Leaves softly pubescent all over the under surfaces.

8. **VIBURNUM MOLLE.**
   I. Leaves glabrous or nearly so between the primary veins beneath; primary veins pubescent.

9A. **VIBURNUM MOLLE FORMA LEIOPHYLLUM.**
   J. Twigs, petioles, peduncles and rays of the cymes more or less fascicled-pubescent or fascicled-tomentose, scarcely or not at all scabrous. K.
   J. Twigs, petioles, peduncles and rays of the cymes more or less scurfy and scabrous; stipules lacking; veins on the lower surfaces of the leaves not very prominent; southern. M.
   K. Lower surfaces of leaves very veiny, the primary veins prominent, the cross-veins conspicuous, roughish-pubescent or fascicled-pubescent beneath; stipules lacking; eastern and northern.
5. Viburnum pubescens.
K. Leaves not very veiny, the primary veins on the under surface of the leaves inconspicuous or scarcely noticeable. L.
L. Lower surfaces of the leaves densely soft-pubescent or nearly velvety; stipules present.

L. Lower surface of the leaves merely pubescent along the primary veins; stipules present, or sometimes rare or lacking. M.
M. Young branchlets pubescent, rarely a few petioles with stipules.

9A. Viburnum Deamii Canbyi.
M. Young branchlets glabrous; most of the petioles bearing stipules.

9B. Viburnum Deamii Indianense.
N. Whole plant very scurfy-scaly; leaves larger and thicker, densely fascicular-pubescent beneath; cymes larger, 7-14 cm. wide, densely fascicular-pubescent; drupes larger.

10. Viburnum scabrellum.
N. Plant nearly glabrous, or but little scurfy-scaly; leaves smaller and thinner, glabrous above and soon glabrous beneath; cymes much smaller, 4-6 cm. wide, soon becoming glabrate; drupes much smaller.

N. B. to N. Car., Ont. Tenn., and Mich., according to Britton and Brown in Ill. Flora, 1913.
N. B. to Ont., Mich. to Pa., and in the mountains of N. Car., according to Robinson and Fernald in Manual, 1908.
N. B. to Mich. and N. Car., according to Small in Flora, 1913, specimens of this northern species have been examined by me, amongst the several hundred specimens of Viburnum examined.

2. Viburnum trilobum Marsh. Arb. Am. 162. 1785. V. americanum of most authors, not V. americanum Mil-
ler, 1768, which is said on authority of Blake to be nothing but *Hydrangea arborescens* L.

*V. Opulus americanum* (Mill.) Ait. Hort. Kew. 1: 373. 1789, obviously based on *V. americanum* Mill., which is only *Hydrangea arborescens* L.

*V. Opulus americanum* of many authors, not *V. Opulus* L., 1753, which is an European species.

Nfd. to Que. and B. Col. south to N. J., Pa., Mich., Wis., and Ia., according to Robinson and Fernald in Manual, 1908.

Nfd. to B. Col., N. J., Mich., Ia., S. Dak., and Ore., according to Britton and Brown in Ill. Flora, 1913.

**SPECIMENS EXAMINED:**

**INDIANA**


**ILLINOIS**


**IOWA**


*V. Opulus eradiatum* Oakes, Hovey’s Mag. 7: 183. 1841.

Nfd. to Alaska, Pa., Col. and Wash., according to Britton and Brown in Ill. Flora. 1913.


No specimens of this high northern species have been seen by me amongst the large number of specimens examined.


N. B. to Ont., Minn., and Ga., according to Small in Flora, 1913. N. B. to Minn., Ky., and Ga., according to Robinson and Fernald in Manual, 1908.

A species of the northeastern States, extending as far southwest as Indiana and Illinois.

INDIANA


**ILLINOIS**


V. venosum Britton, Man ed. 1, 871, 1901.
V. molle of authors in part, not V. molle Michx. 1803.

Eastern Mass. to N. J., Pa. and Va., according to Britton and Brown in Ill. Flora, 1913, the Virginia citation evidently referring to V. Deamii Canbyi, which is here included in V. venosum.

Eastern Mass. to Pa., and Del., and reappearing in a peculiar form in South Carolina, according to Rehder,\textsuperscript{5} l. c. but the South Carolina specimens must belong to some other species, as V. pubescens does not get so far south as that State.

No specimens of this northern species have been seen by me amongst the many specimens examined.

V. pubescens affine (Bush) Rehder, Mitt. Deutsch. Dendrol. 263. 1913.
V. pubescens authors, in small part, not V. pubescens Pursh, 1814.

V. pubescens petiolum Fitzpatrick, Proc. Iowa Acad. Sci. \textit{7}: 198. 1900, type from Rock Creek, Jefferson County, Iowa, Fitzpatrick, Fitzpatrick,\textsuperscript{6} l. c., co-type from Jackson County, Iowa, Fitzpatrick, Fitzpatrick,\textsuperscript{7} l. c., which he says was referred to V. dentatum, along with many other Iowa specimens. Fitzpatrick originally wrote this petiolatum, but some one of his pupils changed this to petiolum, as being the more proper.

Ontario, Ill., Minn., Ia., Va., and Mo., according to Blake,\textsuperscript{8} l. c., but the Virginia reference must be an error, as I have not seen any specimens from anywhere east of Indiana.

\textsuperscript{5} Rehder, l. c. 60.
\textsuperscript{6} Fitzpatrick, l. c. 199.
\textsuperscript{7} Fitzpatrick, l. c. 199.
\textsuperscript{8} Blake, l. c. 13.
SPECIMENS EXAMINED:

ILLINOIS


INDIANA


IOWA

Herb.; Johnson County, Fitzpatrick, May 27, 1900, labeled V. dentatum, P. Herb.; Johnson County, Fitzpatrick, July 31, 1898, labeled V. petiolatum, P. Herb.; Lake Mills, Pammel, August 22, 1918, P. Herb.; Lamont, Bode, August 13, 1919, P. Herb.; Linn Creek, Pammel, July 28, 1918, P. Herb.; Mason City, Pammel, September 4, 1902, P. Herb.; Moingona, Pammel and Combs, May 22, 1897, P. Herb.; no locality given, Pammel and Miller, no month given, 1911, P. Herb.; North McGregor, Pammel, July 7, 1891, P. Herb.

MISSOURI


6A. Viburnum affinis hypomalacum Blake, Rhodora 20: 14, 1918.

V. pubescens, of large part, of most authors, not V. pubescens, Pursh, 1814.


Vermont to Ontario, Manitoba, Saskatchewan, south to Indiana, Illinois, Missouri and Iowa.

This northern form has been commonly named V. pubescens by authors, but it is clearly distinct from that species.

Vermont and Ontario to Georgia, Michigan and Manitoba, according to Blake l. c. 14, 1918, but I have seen no specimens from any of the southern States.
SPECIMENS EXAMINED:

INDIANA


ILLINOIS

Maywood, Chase 21, June 2, 1897, U. of Ill. Herb.; Ringwood, Vasey, date not given, U. of Ill. Herb.

MISSOURI


IOWA


New Brunswick and Ontario south to Georgia and western New York, Michigan and Minnesota, according to Britton and Brown in Ill. Flora, 1913, but I have seen no specimens from the southern States.

New Brunswick to northern Georgia, west to western New York and southern Ontario, Robinson and Fernald in Manual, 1908.

New Brunswick to Ontario, Minnesota and Florida, Small in Flora, 1913, but the Florida citation is certainly erroneous, as this species does not reach Florida or any of the southern States.
A species of the northeastern States, extending to Indiana, western Illinois and Iowa.

INDIANA

Henryville, Deam 38606, June 1, 1923, D. Herb.; Henryville, Deam 38606, October 13, 1923, D. Herb.

ILLINOIS

Olney, Ridgway, 1926, September 24, 1922, R. Herb.; Olney, Ridgway 2388, May 20, 1925, R. Herb.

IOWA

Decatur County, Anderson, date not given, P. Herb.


Kentucky, southern Indiana and southern Missouri.

Kentucky, Missouri and Iowa according to Britton in Manual, 1905, but the Iowa reference must be based on some other species, as no specimens are known of this species from Iowa.

Kentucky (and probably Ohio) Missouri and Iowa, Robinson and Fernald in Manual, 1908, but the Iowa citation must apply to V. affine, as no specimens are known of V. molle from Iowa, and all evidence points to V. affine as the basis of these references to Iowa.

Kentucky, Missouri and Iowa, Britton and Brown in Ill. Flora, 1913, being merely a repetition of the range given by the Britton Manual.

Iowa, according to Pammel in Trans. Iowa State Hort. Soc. 49: 44. 1915, but Pammel’s specimens were certainly V. affine, for his description “leaves narrower than the preceding species (V. pubescens, i. e. V. affine hypomalacum) with slender petioles,” applies clearly to V. affine and not to V. molle, which has broad, round, soft leaves.

Iowa, according to Blake, l. c. 13, referring Fitzpatrick’s V. pubescens petiolum to this species, but Fitzpatrick’s variety
is clearly *V. affine* Bush, as shown by both his description and specimens.

Cole Camp Creek and Galena, Missouri, Rehder, l. c. 57, 1904. Boone and Carroll Counties, Indiana, Rehder, l. c. 57. 1904.

**SPECIMENS EXAMINED:**

**INDIANA**


**MISSOURI**


9 Of this collection, Deam says "this is the outlaw specimen, note shape of fruit," alluding to its dissimilarity to the fruit of *V. Deamii* and *V. Deamii indianense*, which were at that time included in *V. molle* by him, as differing from *V. pubescens*. The piece of bark mounted on this sheet is not from the same plant as the leafing specimen, as it is nearly black, and not exfoliating, while *molle* has yellowish-brown loose exfoliating bark.

10 This species was found on the rocky banks of Billiu Creek, just north of the Taney County line, in Christian County, about five miles North of Swan, Taney County, on Billiu Creek, where *V. molle leiophyllum* is fairly common. It is therefore probable that *V. molle* also occurs in Taney County, and as the Taney County and Christian County localities are only about 25 miles east of Galena, Stone County, it may be said that they are the same general region as the Benton County locality.
8A. Viburnum molle forma leiophyllum Rehder, Journ. Arn. Arboretum 5: 57. 1924.
South central Missouri, apparently very local.

SPECIMENS EXAMINED:

MISSOURI


V. pubescens Deamii Rehder, Journ, Arnold Arboretum 5: 58. 1924. A species apparently confined to the Ohio River Basin.

SPECIMENS EXAMINED:

INDIANA


11 The specific form, V. molle c, was found along the rocky banks of Billiu Creek, just north of the Taney County line, in Christian County, about five miles north of the locality at Swan, Missouri, and along the same creek where V. molle leiophyllum was found.

9A. Viburnum Deamii Canbyi (Rehder) n. comb.

V. venosum Canbyi Rehder, Rhodora 6: 60. 1904.

V. pubescens Canbyi (Rehder) Blake, Rhodora 18: 15. 1918.

Eastern Pennsylvania, Delaware and Virginia.

Pennsylvania and Delaware to the mountains of Virginia, according to Robinson and Fernald in Manual, 1908, evidently referring to the collections of Canby and Small as cited below. I have not been able to see any authentic specimens of this variety, but it is said to differ from V. Deamii Bush, and the variety indianense, in having pubescent young branchlets. To this form Rehder refers a specimen collected at Mt. Hope, Pennsylvania, June 24, 1901, by Heller. This specimen may or may not belong to var. Canbyi, but I have seen one of Heller's specimens collected at Mt. Hope, Pennsylvania, dated June 24, 1901, in Deam's collection, and I take this to be a good example of V. Deamii indianense. If I am right in this, and this collection of Heller's is really var. Canbyi, then the name indianense becomes a synonym of Canbyi.

SPECIMENS CITED:

DELWARE

Christiana, Canby, August 25, 1902, according to Rehder, l. c. 60; New Castle, Canby, July 2, 1902, according to Rehder, l. c. 60; Wilmington, Canby, July 2, 1902, according to Rehder, l. c. 60; Wilmington, Canby, August 22, 1902, according to Rehder, l. c. 60.
SOME SPECIES OF VIBURNUM

PENNSYLVANIA

Mt. Hope, Heller, June 24, 1901, according to Rehder, l. c. 61; Westchester, Canby, October 8, 1902, according to Rehder, l. c. 61.

VIRGINIA

Southwest Virginia, Small, July 16, 1892, according to Rehder, l. c. 61, probably being the form cited by Britton and Brown in Ill. Flora, and by Robinson and Fernald in Manual, under V. pubescens.

9B. VIBURNUM DEAMII INDIANENSE (Rehder) n. comb.

V. pubescens indianense Rehder, Journ. Arnold Arboretum 5: 59. 1924.

Said by Rehder to differ from V. Deamii Canbyi, in having stipules on most of the petioles, by which character it agrees with V. Deamii. It may be distinguished from V. dentatum by the presence of stipules, larger inflorescence, and larger short ellipsoid fruit, that species not having stipules on the petioles, and has smaller subglobose fruit and dense smaller inflorescence.

SPECIMENS EXAMINED:

PENNSYLVANIA

Mount Hope, Heller, June 24, 1901, D. Herb., apparently the same collection cited by Rehder as belonging to V. Deamii Canbyi, but certainly is V. Deamii indianense.

INDIANA


ILLINOIS


V. molle A. Gray, Man. ed. 5, 206. 1867, and authors, not V. molle Michx. 1803.


V. semitomentosum (Michx.) Rehder, Rhodora 6: 59. 1904.

This species ranges from North Carolina to Florida, west to Texas, mostly along the coast.

Pennsylvania, according to Blake, l. c. 1918, but evidently referring to one of the other of Canby's or Heller's collections. This species does not get so far north as Pennsylvania or Indiana, and it is probable that Blake saw specimens of V. Deamii Canbyi, or V. Deamii indianaense and took them to be V. scandencnum.

Pennsylvania to Florida and Texas, according to Small in Flora, 1913, but evidently referring to the same collections that Blake mentioned.

Rehder states that this species occurs in Kentucky, but no specimens have been seen from so far north as that State.


Mississippi and probably in adjoining States along the coast. In foliage this species strongly resembles V. affine Bush, but is clearly allied to V. scandencnum Chapman, by its
fruit, and indeed it may be an extreme form of that species, although the smaller fruit, smaller inflorescence, smaller and thinner leaves and particularly the glabrous twigs, leaves and cymes, seem sufficient to recognize it as a species.

**SPECIMENS EXAMINED:**

**MISSISSIPPI**

Little Obolo-Chitto River, Pearl County, *type, Ashe, A. Herb.*; along the Pascagoula River, George County, *Ashe, A. Herb.*; along the Tallahoma River, Jones County, *Ashe, A. Herb.*; along the Chickasawhay River, near Leakesville, Greene County, *Ashe, A. Herb.*