

THUJA L.

T. OCCIDENTALIS L. ARBOR VITAE, WHITE CEDAR. Widely cultivated, and in a few rare instances producing seedlings.

JUNIPERUS [Tourn.] L. JUNIPER.

J. communis L. COMMON JUNIPER. Dry soil; occasional from Worcester County westward.

Var. **depressa** Pursh. Poor rocky soil, pastures; frequent from Essex to northern Plymouth and Bristol Counties and westward, known only from Gosnold in Dukes County, and not reported from Barnstable or Nantucket Counties.

J. virginiana L. RED CEDAR, SAVIN. Dry soil; common.

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NOTES ON THE FLORA OF COLUMBIA, MISSOURI¹

FRANCIS DROUET

DURING the period following the appearance of Rickett's *Flora* (Univ. Mo. Stud. 6 (1). 1931), more than a thousand specimens of vascular plants of the vicinity of Columbia have been added to the Herbarium of the University of Missouri; and many of the older specimens have been critically examined by H. W. Rickett, B. F. Bush, and myself. The annotated list of species given below summarizes the results of this work to the present date. New species have been added; a few changes have been made in the nomenclature of the *Flora*; some "lost" species have been restored; and new localities have been reported for rare species. The common species of *Crataegus*, *Rubus*, *Vernonia*, *Aster*, *Helianthus*, and other large genera may

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require, for critical determination, several years of intensive field and laboratory work. The knowledge of our local flora is far from complete.

In May 1932, G. W. Bohn and I discovered *Iris foliosa* Mack. & Bush growing in a springy depression in the valley of Hinkson Creek opposite Devil's Elbow. The only previous report of this iris is by Daniels (Univ. Mo. Stud., Sci. Ser., 1 (2). 1907) from a swamp south of Hinkson Creek. Later in the season, *Thalictrum dasycarpum* Fisch. & Lall., *Lobelia cardinalis* L., *Polygonum sagittatum* L., and *Rudbeckia subtomentosa* Pursh, species reported by Daniels from the "swamp south" and since considered "lost," were found in abundance in the same locality. Daniels stated (Ibid., p. 27) that at the time he was collecting the swamp was being drained. Of this swamp we find left today only an acre or so of marsh meadow and a ditch for drainage, all of which becomes a jungle of tall weeds in the late summer. A striking feature of the place is a large colony of *Onoclea sensibilis* L., a fern of rare occurrence in our vegetation. In late summer, the marsh proper and the upper portion of the drain are covered with *Bidens involucrata* Nutt. and beneath this dense growth one finds other species growing vigorously: *Lobelia siphilitica* L., *Penthorum sedoides* L., *Helenium altissimum* Link, *Agalinis tenuifolia* var. *macrophylla* (Benth.) Blake, etc.

Dr. H. W. Rickett investigated the sandstone bluffs of Hinkson Creek eight miles north of Columbia, also in May 1932. It is an unusual feature in our region to find outcrops of sandstone; in Boone County almost every exposed mass of rocks is of limestone. Here are shady banks inhabited by large colonies of *Aplectrum hyemale* (Muhl.) Torr., *Cypripedium parviflorum* Salisb., and *Orchis spectabilis* L., elsewhere in the region quite rare. Ferns are also abundant, notably *Asplenium angustifolium* Michx., *Athyrium angustum* (Willd.) Presl, *Onoclea sensibilis* L., *Phegopteris hexagonoptera* (Michx.) Fée, and *Botrychium virginianum* (L.) Sw. This region is an interesting addition to the varied habitats characteristic of the vicinity of Columbia.¹

In the list below, the nomenclature and arrangement of species are the same as those of Rickett's *Flora*. Names of plants not bearing a specific citation of literature will be found in Rydberg's *Flora of the Prairies and Plains* (1932). An asterisk (*) before a name denotes

¹ See Rickett, H. W. Notes on the vegetation of Columbia, Mo. Amer. Midl. Nat. 12 (10): 411-419. 1931.

that the species is new to the flora. Collectors' names appear in italics, as do the numbers of their collections.

B. F. Bush has examined most of the specimens quoted below; and through his kindness many of them have been sent to E. J. Palmer, L. H. Bailey, and others. A. S. Hitchcock examined various sheets of grasses. Specimens have been collected and studied by H. W. Rickett, W. E. Maneval, Lisle Jeffrey, E. E. Naylor, G. Weston Bohn, C. M. Tucker, Albert Saeger, C. G. Schmitt, C. A. Benson, and Sarah Mock. Miss Mock has kindly allowed us to transfer a number of specimens by Max Van Horn, 1925, from Trenton Junior College to our permanent collection. J. A. Steyermark has given many helpful suggestions.

LIST OF SPECIES²

**ATHYRIUM ANGUSTUM* (Willd.) Presl. *Asplenium Filix-femina* Am. Auth. Sandstone bluffs of Hinkson Creek, *Bohn*, May 9, 1933; *Drouet* 396, May 18, 1933.

NOTHOLAENA DEALBATA (Pursh) Kunze. Cliffs in Howard Co., just west of Rocheport, *Drouet & Jeffrey*, Apr. 24, 1933.

PHEGopteris HEXAGONOPTERA (Michx.) Fée. *Thelypteris hexagonoptera* (Michx.) Weatherby. Sandstone bluffs of Hinkson Creek, *Rickett* 353, May 14, 1932; *Drouet* 404, May 18, 1933. Reported by Tracy (Rep. Mo. State Hort. Soc. 1885 (appendix)) from Boone Co.

**BOTRYCHIUM OBLIQUUM* Muhl. Twelve miles north, *Jeffrey*, May 11, 1933.

SAGITTARIA HETEROPHYLLA Pursh. Pond in the County Road Prairie, *Jeffrey & Drouet*, June 24, 1933.

ALOPECURUS GENICULATUS var. *RAMOSUS* (Poir.) Blake. *A. ramosus* Poir. All specimens hitherto referred to *A. geniculatus* L. See *RHODORA* 19: 165-166. 1916.

ANDROPOGON VIRGINICUS L. By far the most common Andropogon in Boone Co. *Saeger*, 1919; *Drouet* 205, Sept. 17, 1932; *Drouet* 288, Nov. 14, 1932.

BROMUS JAPONICUS Thunb. Including *B. arvensis* of the Flora.

BROMUS SECALINUS L. *B. racemosus* of the Flora.

**CHLORIS VERTICILLATA* Nutt. University Campus, *Drouet* 619, July 3, 1933. Reported previously (*Maneval*), but not collected.

² W. E. Maneval reports the following from the vicinity of Columbia: *Conringia orientalis* (L.) Dumort. (McBaine, 1918), *Psoralea digitata* Nutt. (Centralia, 1920), *Polygala verticillata* var. *ambigua* (Nutt.) Wood (Centralia, 1920), *Gentiana puberula* Michx. (Centralia, 1917), *Ambrosia psilostachya* DC. (McBaine and Centralia, 1917. See the Flora, p. 72), *Liatris elegans* (Walt.) Willd. (Centralia, 1924. See Daniels' Flora, p. 253), *Liatris spicata* (L.) Willd. (Centralia, 1917), and *Prenanthes aspera* Michx. (Centralia, 1917). These collections are not represented in our herbarium.

- ELYMUS ROBUSTUS Scribn. & J. G. Sm. Embankments of M. K. & T. Railroad, *Daniels*, July 1903. Since observed at other stations.
- PANICUM XALAPENSE HBK. By Providence Road south of Hinkson Creek, *Drouet* 453, June 1, 1933.
- *SPOROBOLUS ASPER (Michx.) Kunth. University Farm, *Maneval*, Sept. 29, 1931.
- *ALLIUM MUTABILE Michx. Collected at several stations, 1933 (*Drouet*, *Jeffrey*).
- *ALLIUM VINEALE L. University Farm, *Schroeder*, *Jeffrey* & *Drouet*, June 1933.
- LILIUM MICHIGANENSE Farwell. *L. superbum* of the *Flora*. Honey-suckle Spring, *Howell*, June 20, 1933; County Road Prairie, *Drouet*, June 24, 1933. See Bull. Torr. Bot. Club 42: 353. 1915.
- TRILLIUM RECURVATUM Beck. Bell's Lake, *Fulkerson*, May 1, 1926; *Anonymous*, 1926; Rocheport, *Schmitt*, Apr. 21, 1933, and *Drouet* 359, Apr. 24, 1933.
- IRIS FOLIOSA Mack. & Bush. Rediscovered in "swamp south," *Bohn* & *Drouet*, June 2, 1932, *Drouet* 497, June 7, 1933.
- IRIS VIRGINICA L. Marsh north of Rocheport in Howard Co., *Naylor*, May 22, 1932, *Drouet* 431, May 30, 1933; bottoms of Missouri River just west of Rocheport, *Drouet* 424, May 30, 1933.
- APLECTRUM HYEMALE (Muhl.) Torr. Sandstone bluffs of Hinkson Creek, *Rickett* 360, May 16, 1932, *Drouet* 402, May 18, 1933; woods at Dulle Mill in Callaway Co., *Drouet* 307, April 9, 1933.
- *CORALLORRHIZA WISTERIANA Conrad. Hill near Bear Spring, *Rickett* 237, May 16, 1932; University Farm, *Bohn*, May 1933. Reported but not collected near Rock Bridge (*Rickett*) and at McBaine (*Maneval*).
- HABENARIA LACERA (Michx.) R. Br. County Road Prairie, *Jeffrey* & *Drouet*, June 3, 1933. See the *Flora*, p. 25.
- POLYGONUM BUXIFORME Small. *Daniels'* *P. littorale*. *Favor*, 1901; *Daniels*, July 1903; *Rickett*, July 30, 1927.
- POLYGONUM SAGITTATUM L. Rediscovered in "swamp south," *Drouet* 110, Aug. 4, 1932, *Drouet* 188, Sept. 2, 1932.
- CHENOPODIUM MURALE L. "Yards, etc." *Daniels*, 1897. Labeled *C. urbicum* L.
- AMARANTHUS BLITOIDES S. Wats. All specimens hitherto referred to *A. graecizans* L.
- AMARANTHUS GRAECIZANS L. Ridge four miles north, *Drouet* 589, June 27, 1933; horticultural grounds, University of Missouri, *Drouet* 602, July 1, 1933.
- *DIANTHUS ARMERIA L. *Maneval*, 1931.
- *LYCHNIS ALBA Mill. University orchard, *Schmitt*, June 5, 1933.
- CLAYTONIA ROBUSTA (Somes) Rydb. "Boone Co.," *Favor*, 1901.
- MYOSURUS MINIMUS L. At several new stations (*Drouet*).
- THALICTRUM DASYCARPUM Fisch. & Lall. Recently found at several stations (*Drouet*).

ARABIS HIRSUTA (L.) Scop. Honeysuckle Spring, Drouet 552, June 24, 1933. Reported by Tracy (*loc. cit.*) from Boone Co.

*DRABA BRACHYCARPA Nutt. Banks of Hinkson Creek south, Tucker, Apr. 1932, Tucker & Drouet, Apr. 12, 1933.

*THLASPI ARVENSE L. Flats of Hinkson Creek east, Jeffrey, May 28, 1933. Reported but not collected from the railroad at Rocheport in 1917 (*Maneval*).

HEUCHERA RICHARDSONII var. GRAYANA Rosend., Butt. & Lak. Specimens heretofore referred to *H. hispida* Pursh. See RHODORA 35: 118–119. 1933.

RUBUS ABACTUS Bailey. Old Quarry, Rickett, 1927. See Gentes Herb. 2 (7): 452.

*RUBUS OSTRYIFOLIUS Rydb. Limerick, Drouet, May 27, 1932. See Gentes Herb. 2 (6): 392.

DESMODIUM ILLINOENSE Gray. County Road Prairie, Drouet 557, June 24, 1933, Drouet 601, July 1, 1933. Reported from Centralia (*Maneval*, 1924), but not collected. Listed by Daniels.

DESMODIUM ROTUNDIFOLIUM (Torr.) T. & G. Dulle Mill, Rickett 249, May 14, 1932.

LATHYRUS PALUSTRIS L. "Boone Co.," Tracy, July 2, 1885. Reported by Tracy (*loc. cit.*).

VICIA VILLOSA Roth. *V. Cracca* of the Flora. Daniels, June 1905; Drouet, May 19, 1932; Drouet 570, June 27, 1933.

*LINUM MEDIUM (Planch.) Britton. County Road Prairie, Jeffrey & Drouet, June 24, 1933.

*ERODIUM CICUTARIUM L. Campus, Rickett, Mar. 29, 1933.

*TRIBULUS TERRESTRIS L. Railroad at McBaine, Naylor, June 30, 1932.

RHUS CANADENSIS var. TRILOBATA (Nutt.) Gray. Bluffs of Hinkson Creek south, Rickett, Apr. 24, 1927, Drouet 409, May 21, 1933.

RHAMNUS CATHARTICA Nutt. Specimen labeled *Ligustrum vulgare* L., Daniels, 1904. See the Flora, p. 51.

VIOLA MISSOURIENSIS Greene. Bottoms at Rocheport, Schmitt, Apr. 21, 1933, Drouet 355, Apr. 24, 1933; Brushwood Lake, Drouet 623, July 4, 1933.

VIOLA SAGITTATA Ait. County Road Prairie, Drouet 471, June 3, 1933.

CORNUS RACEMOSA Lam. *C. paniculata* L'Hér. Rare along Gans Creek, Rickett 382, Nov. 5, 1932.

VACCINIUM VACILLANS var. CRINITUM Fernald. The *V. vacillans* of the Flora. RHODORA 13: 236. 1911. Recently discovered on bluffs of Grindstone Creek (Jeffrey & Drouet).

ACERATES VIRIDIFLORA var. LANCEOLATA (Ives) Gray. Railroad at Centralia, *Maneval*, July 19, 1931.

CUSCUTA POLYGONORUM Engelm. *C. obtusiflora* of the Flora. See Mem. Torr. Bot. Club 18 (2): 130. 1930.

*MONARDA PUNCTATA L. Van Horn, 1925.

- NEPETA HEDERACEA (L.) Trevisan. Abundant at Honeysuckle Spring, *Drouet*, Apr. 8, 1932.
- *GRATIOLA VIRGINIANA L. *G. sphaerocarpa* Ell. Pond at Persinger, *Jeffrey & Drouet*, June 27, 1933; pond in County Road Prairie, *Drouet* 596, July 1, 1933. See RHODORA 20: 65. 1918.
- PENTSTEMON TUBIFLORUS Nutt. *Daniels*, June 1903.
- *LONICERA JAPONICA Thunb. Persisting on a high shaded bank at Honeysuckle Spring, *Rickett* 12, May 3, 1931, *Baker*, June 11, 1931. Also observed spreading along roadsides and in abandoned yards.
- TRIOSTEUM PERFOLIATUM var. AURANTIACUM (Bicknell) Wieg. *T. aurantiacum* Bickn. "Open woods," *Daniels*, Aug. 1902. See RHODORA 25: 199. 1923.
- *VIBURNUM BUSHII Ashe. Limerick, *Drouet* 382, May 5, 1933; near Lover's Leap, *Drouet* 488, June 7, 1933; Bear Spring, *Jeffrey*, June 12, 1933; Persinger, *Drouet* 588, June 27, 1933. See Journ. Elisha Mitchell Sci. Soc. 40: 48. 1924.
- *DIPSACUS SYLVESTRIS Huds. Hillside by Grindstone Creek, *Rickett* 246, May 7, 1932.
- ECHINOCYSTIS LOBATA (Michx.) T. & G. A specimen consisting of a portion of a dried fruit, *Daniels*, 1897, has recently been discovered.
- SPECULARIA LEPTOCARPA (Nutt.) Gray. Hermit Hill, *Drouet*, June 8, 1932, *Drouet* 406, May 21, 1933; hills along Bonne Femme Creek, *Jeffrey & Drouet*, June 24, 1933.
- LOBELIA CARDINALIS L. Rediscovered in "swamp south," *Drouet* 185, Sept. 2, 1932, *Mock & Drouet*, Aug. 4, 1932. Reported from low ground along Cedar Creek (*Jeffrey*).
- HELENIUM ALTISSIMUM Link. The *H. autumnale* of the *Flora*. See N. Am. Fl. 34 (2): 126.
- KUHNIA SUAVEOLENS Fresen. *K. eupatorioides* var. *corymbulosa* T. & G. All specimens previously called *K. eupatorioides*.
- RUDBECKIA FULGIDA L. "Edge of cliff n. w. of dam," *Daniels*, 1903.
- RUDBECKIA SUBTOMENTOSA Pursh. Rediscovered in "swamp south" and vicinity, *Drouet* 109 & 114, Aug. 4, 1932, *Drouet* 184, Sept. 2, 1932.
- SOLIDAGO SPECIOSA Nutt. Abundant in "thickets on bluffs" above Hinkson Creek, as described by *Daniels* (ibid., p. 225). See *Rickett's* comment in the *Flora*, p. 80.
- DEPARTMENT OF BOTANY,
UNIVERSITY OF MISSOURI.

RECENT DISCOVERIES IN THE NEWFOUNDLAND FLORA

M. L. FERNALD

(Continued from page 346)

ARNICA TOMENTOSA J. M. Macoun, *Pittonia*, iv. 168 (1900). *A. pulchella* Fern. RHODORA, xvii. 18 (1915), xxvi. 104, t. 143, fig. 2 (1924). ST. JOHN BAY: peaty and turf margins of dry limestone



Drouet, Francis. 1933. "NOTES ON THE FLORA OF COLUMBIA, MISSOURI."
Rhodora 35, 359–364.

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