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The Leguminosae of Illinois

WILLIAM G. GAMBILL, JR.
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Ohio University

William G. Gambill, Jr.
Introduction

The purpose of this study is to present a concise account of our present knowledge of the genera and species of Leguminosae growing spontaneously in Illinois. The information contained in this paper has been accumulated from an intensive survey of the literature pertaining to Illinois plants, and from a study of several thousand sheets of herbarium specimens. Examinations of freshly collected material were also made. To achieve the end stated above and to make this work as useful as possible, the following data are included: Keys to the subfamilies, genera, and species; the valid name of each species, with its place of publication; a list of the synonyms under which each species has been known in the state; brief diagnostic descriptions of the species; statements of the type locality, habitat, and distribution within the state, as well as the known geographic range of each species; a list of references in taxonomic literature to the occurrence in Illinois; citation of specimens to certify distribution of each species by counties.

The arrangement of genera and the key to subfamilies are adapted from the treatment by P. H. W. Taubert in Engler & Prantl's Die natürlichen Pflanzenfamilien (III-3:70-388, 1894). In constructing the other keys, the writer made use of information obtained from the standard manuals, floras, and monographs cited in the list of references, as well as from the specimens themselves. The key to genera of subfamily Papilionoideae is patterned after that in G. N. Jones's Flora of Illinois (1945a: 158-60). For the most part, the keys are essentially artificial and are suitable principally for use in the identification of the genera and species present in Illinois.

For each species there is included a list of the authors who have attributed the plant to Illinois, with the dates of their publications and the relevant page numbers. The complete citation of such publications is to be found in the References. For nearly all of the species the type locality is quoted directly from the original place of publication. The method of indicating geographic range is the one used by Rydberg (1932), while the range of each species has been compiled from data in this work and in Britton & Brown (1913), Small (1933), Fassett (1939), Deam (1940), and Fernald (1950).

In the descriptions of species, an attempt is made to bring out the salient morphological features which serve to distinguish the plant. Complete taxonomic characterizations of the species have been considered to be beyond the scope of this study. Statements of habitat have been compiled mostly from information taken from herbarium labels of the specimens examined.
INTRODUCTION

The plan has been followed of citing a representative specimen for each of the counties from which specimens have been seen. When a species is known from one or two counties only, more than one specimen for each may be listed. All specimens cited have been examined by the writer, unless otherwise indicated. No species has been included as an established member of the leguminous flora unless authentic Illinois specimens have been seen by the writer, or are known.

All cited specimens are located in the Herbarium of the University of Illinois, unless otherwise indicated. Additional material from the following herbaria has also been examined, and when cited has been accompanied by the appropriate symbol: Arnold Arboretum (A), Chicago Natural History Museum (C), Gray Herbarium (G), Illinois Natural History Survey (NHS), the University of Wisconsin (WIS).

In Illinois the Leguminosae represent five per cent of the total number of species of native and naturalized vascular plants. This family is fourth in size in the state, being surpassed in numbers only by the Compositae, Gramineae, and Cyperaceae. Here, as elsewhere, the leguminous plants are a conspicuous and often striking element of the flora, including some of the best known trees, shrubs, and herbs. It is hardly necessary to point out the tremendous economic importance of those which are cultivated in the state.

The writer recognizes 110 species in thirty-seven genera as being well-established members of the spontaneous flora of Illinois. Of this number, 29 species, or slightly more than 26 per cent, are naturalized plants, most of them introduced from Eurasia. This group is comprised of some or all of the Illinois species of the following genera: Cassia, Trifolium, Melilotus, Medicago, Lotus, Robinia, Glycyrrhiza, Coronilla, Lespedeza, Vicia, Lathyrus, and Glycine.

Eleven species are woody, and 99 are herbaceous. The Illinois species of the genera Cercis, Gymnocladus, Gleditsia, Cladrastis, and Robinia range in habit from small to large trees. Amorpha fruticosa and A. canescens are erect shrubs; Wisteria macrostachya is a twining shrub. The remainder of the species, all herbaceous, vary in habit from prostrate to twining, erect, or suffrutescent.

In the taxonomic treatment and in the construction of the keys, the writer has endeavored to throw emphasis upon the species as the fundamental unit in plant taxonomy. The species is considered as a distinct but variable entity, within which several variations of lesser magnitude than the species itself may be observed. Therefore, in the taxonomic treatment varieties have been placed in a position of synonymy with the species concerned, in an attempt to demonstrate the basic unity of the biological entities called species. This disposition of the varieties and forms is not to be interpreted as a judgment of their validity as such,
but as a means of calling attention to the similarity among the components of a species population. No attempt is made to include all the named variations of any species. Only those are noted which have been actually recorded as occurring in Illinois, or are found very frequently in the literature. Discussion of varieties attributed to Illinois will be found in the treatment of the related species.

Because of the geographic position of the state of Illinois, one may encounter a few truly boreal species of vascular plants in the extreme northern tip, and in the southern end find plants characteristic of the Coastal Plain. This rather unique position, along with the presence of the Wabash, Ohio, and Mississippi rivers in the lower part of the state, helps account for the surprising richness of the flora. From a biogeographical standpoint, nearly all of Illinois lies in the Austral Zone.

In an attempt to summarize briefly the distribution of members of the Leguminosae in Illinois, the observations contained in the subsequent paragraphs are believed to be pertinent. There are no truly boreal leguminous plants occurring in the state, but certain species are restricted to the extreme northern or northeastern counties: *Lupinus perennis*, *Vicia americana*, *V. caroliniana*, *Lathyrus maritimus*, *L. ochroleucus*, and *L. venosus*. *L. maritimus* requires a habitat which is found only in the counties immediately bordering Lake Michigan.

The following are among those native species distributed throughout all or most of the state: *Cercis canadensis*, *Gymnocladus dioica*, *Gleditsia triacanthos*, *Cassia fasciculata*, *Baptisia leucanthes*, *Amorpha fruticosa*, *Petalostemon purpureum*, *P. candidum*, *Desmodium nudiflorum*, *D. glutinosum*, *D. illinoense*, *D. canadense*, *D. cuspidatum*, *D. longifolium*, *Lespedeza violacea*, *L. capitata*, *Apios americana*, *Strophostyles helcota*, *Strophostyles helosperma*, *Amphicarpa bracteata*, and *A. comosa*.

Certain introduced species have become weed-like, and have been collected from every county in the state (Evers, 1951:620): *Trifolium hybridum*, *T. pratense*, *T. repens*, *Melilotus alba*, and *M. officinalis*. Other introduced species which are distributed throughout the state are *Trifolium procumbens*, *Medicago lupulina*, and *Vicia villosa*.

Species conspicuously absent from the northern third of the state but abundant elsewhere are *Cassia marilandica*, *Desmodium canescens*, *D. paniculatum*, *Lespedeza virginica*. Others widely distributed except in the southern third of the state are *Baptisia leucophaca*, *Psoralea tenuiflora*, *Amorpha canescens*, *Lathyrus palustris*, *L. myrtifolius*, and *Astragalus canadensis*.

Native species which are found in the southern half of the state are *Cassia nictitans*, *Desmodium sessilifolium*, *Lespedeza procumbens*, *L. intermedia*, *L. striata*, and *Stylosanthes biflora*.

Native species which are definitely characteristic of the southern third
of the state are *Gleditsia aquatica*, *Psoralea psoralioides*, *Wisteria macrostachya*, *Desmodium pauciflorum*, *D. rotundifolium*, *D. nuttallii*, *D. laevigatum*, *Phaseolus polystachyus*, *Strophostyles umbellata*, *Clitoria mariana*, and *Galactia volubilis*. Of these *Galactia volubilis*, *Clitoria mariana*, and *Wisteria macrostachya* are found in the extreme southern tip of the state. *Gleditsia aquatica* comes farther north only in the Mississippi and Wabash River valleys.

Introduced species found in southern Illinois are *Lespedeza striata*, *L. cuneata*, *Trifolium dubium*, and *T. incarnatum*.

Introduced species which may best be described as occasional, because of rather restricted ranges within the state and relatively small numbers of individuals are the following: *Cassia occidentalis*, *Cassia tora*, *Trifolium incarnatum*, *T. agrarium*, *Glycyrrhiza lepidota*, *Robinia hispida*, *R. viscosa*, *Astragalus trichocalyx*, *A. tennesseensis*, *Coronilla varia*, and *Lathyrus latifolius*.

As a final group, certain species should be classed as rare: *Cladrastis lutea*, *Hosackia americana*, *Lathyrus maritimus*, *Schrankia uncinata*, *Apios priceana*, and *Lespedeza leptostachya*.

Species which have been excluded as part of the spontaneous flora of Illinois have been discussed in their proper sequence in the section on taxonomic treatment.
Characterization of the Family Leguminosae

LEGUMINOSAE Juss.—Pea Family

Trees, shrubs, or herbs; leaves alternate, stipulate, and commonly compound (simple in Cercis and Crotalaria); flowers mainly perfect, in some groups also polygamous, and commonly irregular; petals separate or partially united (particularly the keel petals in papilionaceous flowers), usually 5, rarely only 1 or lacking; stamens commonly 10, rarely 5 or many, monadelphous, diadelphous, or occasionally distinct; pistil single, free, superior, and usually unilocular; fruit a 2-valved legume, commonly dehiscent, rarely indehiscent; seeds usually without endosperm.

This is a large group of plants of cosmopolitan distribution, with about 500 genera and 12,000 species. Its members fall rather naturally into three or four subdivisions which have been considered variously by botanists as families, subfamilies, or tribes. The writer believes that these subdivisions are sufficiently well set apart to warrant their recognition as separate families, particularly when large numbers of plants are studied from extensive areas. Since these families show closer relationships to one another than to any other families in the plant kingdom, they form a large natural unit which is recognized as an order by some contemporary botanists, particularly Hutchinson (1926:208). In a floristic study of such a relatively small area as Illinois, however, it seems more satisfactory to consider the Leguminosae as a single, large, though somewhat heterogeneous family, and to recognize the natural subdivisions as subfamilies.

Key to Subfamilies

1. Petals valvate in the bud; corolla regular or nearly so; leaves bipinnate; flowers small, in dense heads or racemes; petals 4 or 5, inconspicuous; stamens strongly exserted.

1. Mimosoideae

1. Petals imbricated in the bud; corolla more or less irregular, sometimes imperfectly papilionaceous.

2. Uppermost petal enclosed by the lateral ones in the bud; corolla irregular, and imperfectly papilionaceous or not at all.

2. Caesalpinioideae

2. Uppermost or banner petal enclosing the lateral ones in the bud; corolla usually papilionaceous, with the 2 lowest or keel petals more or less united; petals mostly 5 (only 1 in Amorpha).

3. Papilionoideae
I. SUBFAMILY MIMOSOIDEAE

1. Petals distinct; legumes flat, smooth, the valves not separating from the continuous margin; flowers greenish-white .......................... 1. Desmanthus

1. Desmanthus illinoensis (Michx.) MacM. ex Robins. & Fern. in A. Gray Man. (ed. 7) 503 (1908); Pepoon (1927) 357; Ries (1939) 90; Jones (1945a) 161, (1945b) 274; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 172; Fernald (1950) 584.


Mimosa glandulosa Michx. Loc. cit.

Acacia brachyloba Willdl. Sp. Pl. 4:1071 (1806).

Desmanthus brachylobus (Willd.) Benth. in Journ. Bot. 4:358 (1842); Lapham (1857) 510; Hyatt (1875) 68; Patterson (1876) 12; Williams (1877) 490; Flagg & Burrill (1878) 235; Brendel (1887) 47; Huett (1897) 68; McDonald (1900) 103.


Type Locality: “Hab. in pratensibus regionis Illinoensis.”

Range: Tenn.—Fla.—Tex.—N.M.—S.D.

Puberulent or pubescent perennial herb; leaves bipinnately compound, the pinnae 15-32 pairs; stipules filiform; flowers perfect, or the lower ones stamine, in many-flowered peduncled heads; legumes strongly falcate, glabrous, in dense heads.—Illinois Mimosa.

Macbride (1919:14) describes D. illinoensis var. glandulosus which is said to differ from “the typical form of the species with which it merges . . . in the presence of a gland at the base of all the pinnae, rather than at the base of the lowest pair only.” All specimens from Illinois in the University of Illinois Herbarium possess the glands at the base of all or most of the pinnae.

In dry soil; along river banks and railroads, on dry prairies. Local.


2. SCHRANKIA Willd.

Schrankia uncinata Willd. Sp. Pl. 4:1043 (1806); Mead (1846) 60; Vasey (1860) 119, (1861a) 141; Flagg & Burrill (1878) 235; Robinson & Fernald (1908) 504; Jones (1945a) 161, (1950) 172.

Leptoglottis nuttallii DC. Mem. Leg. 451 (1825); Britton & Rose (1928) 139; Small (1933) 656.


**Type Locality:** "Habitat a Virginia ad Floridam."

**Range:** Va.—Fla.—Tex.—Colo.—S.D.

Recurved-prickly, spreading, or prostrate perennial herb; leaves bipinnate, somewhat sensitive; leaflets inequilateral at the base, strongly veined below; flowers rose-colored, perfect or polygamous, in dense axillary heads with long, prickly peduncles; legumes long, narrow, somewhat terete, beaked, densely prickly.—Sensitive Brier.

Specimens in the University of Illinois Herbarium are all characterized by prominent reticulate venation on the underside of the leaflets. This is a character commonly relied upon to separate S. uncinata from other species. This condition was clearly brought out by Willdenow (4:1043, 1806) in the original description of the species: "Folia bipinnata ... supra aveniis, subtus elevato venosis." It seems evident, therefore, that the name S. uncinata is properly applied to the Illinois plant.

Further investigation shows that it is very likely that de Candolle had a specimen of this species when he described Leptoglottis nuttallii. According to his own account, de Candolle (1825:450) based his description on a single specimen in flower collected by Nuttall on his trip into the Arkansas territory. Two reasons are given in this account for placing the plant in a new genus. In the first place, although this plant looked like a hitherto unknown species of Schrankia, it had certain affinities with Desmanthus such as its sterile and petaloid stamens. Secondly, it differed from both genera in its 4-parted flower with 8 stamens. There was, however, no fruit available to aid in deciding to which of the two genera it belongs. De Candolle states that placing it in a new genus was a temporary expedient, until he should be able to examine mature fruits. From his careful Latin description, it is quite clear that his plant was a Schrankia, and, in addition, that it must have been S. uncinata Willd. He mentions the prominent venation of the underside of the leaflets in the following phrase: "... foliolis multijugis oblongis, mucronatis, subtus nervis paucis.
anastomosantibus elevatis distincte et singulari modo reticulatis" (op. cit. 451).

In dry soil, prairies, and open woods. Rare in Illinois. F. E. McDonald, in his record book (ined.), notes that he considers the plant to be “probably a chance introduction from the western plains where it is common.” V. H. Chase, in a letter on the subject, dated 28 October 1946, states that he sees no reason for considering it a “chance introduction,” since he has found it in no other place but in original prairie sod, and under exactly the same conditions in which it grows in the Western states. Chase’s collections were made from the same locality as McDonald’s and in 1940 Chase found the plants still growing there, since the habitat had been undisturbed. These facts, in addition to the records from early Illinois botanists, lead the writer to conclude that the plant is rightly considered native in Illinois.

Specimens Examined: PEORIA CO.: Dry, sandy soil, Peoria, F. E. McDonald, August 1901, and June 1903. V. H. Chase reports collecting it near the outskirts of Peoria 18 June 1919 (No. 3132), and 7 June 1921 (No. 3572). The writer has not seen the Chase specimens.

Schrankia angustata T. & G. has been reported from Coles County by Stover (1930:23), but there are no preserved specimens from this study. No other record of its occurrence in Illinois has been found, and since no specimens have been seen, the plant is not considered to be a part of the flora of this state.
II. SUBFAMILY CAESALPINIOIDEAE

1. Leaves simple, entire, suborbicular to cordate; flowers imperfectly papilionaceous; small trees ........................................... 3. *Cercis*

1. Leaves compound; flowers not at all papilionaceous; herbs or trees.

2. Herbs; leaves singly pinnate; corolla yellow; flowers perfect .... .............................. 6. *Cassia*

2. Trees; leaves singly or doubly pinnate; corolla greenish or white; flowers polygamous or dioecious.

3. Leaflets ovate, acute, and entire, 2.5-7.5 cm. long; flowers 1.5 cm. long, pinkish-white, in terminal racemes; stamens shorter than the sepals; legumes thick and woody; trunk and branches spineless ................................................. 4. *Gymnocladus*

3. Leaflets oblong or oval, obtuse, and crenulate, 1-3 cm. long; flowers greenish, minute, in axillary spikes; stamens surpassing the petals; legumes coriaceous; trunk and branches usually armed with spines ................................. 5. *Gleditsia*

3. *CERCIS* L.

*Cercis canadensis* L. Sp. Pl. 374 (1753); Beck (1826) 162; Mead (1846) 60; Lapham (1857) 510; Brendel (1859b) 602, (1859b) 630; Greene (1869) 5; Wolf (1870) 109; Ridgway (1872) 660; Patterson (1874) 5, (1876) 12; Schneck (1876) 526; Williams (1877) 493; Flagg & Burrill (1878) 234; Ridgway (1883) 65; Brendel (1887) 46; Huett (1897) 67; Snare & Hicks (1898) 6; Gleason (1910a) 23, (1910b) 158; Smith (1910) 18; Hall & Ingall (1911) 209; Fuller & Strausbaugh (1920) 26; Palmer (1921) 148; Gates (1923) 169; Thome (1925) 103; Gates (1926) 231; Peagoon (1927) 359; McDougal & Liebtag (1928) 229; Miller & Tehon (1929) 221; Eaton (1931) 155; Stover (1930) 20; Sargent (1933) 604; McDougall (1936) 160; Bradley (1938) 97; Evers (1941) 99; Feldman (1942) 61; Hopkins (1942) 201-02; Jones (1942) 72; Fuller (1943) 95; Jones (1945a) 161, (1947) 54; Bailey (1949) 52; Jones (1950) 172.


*Cercis canadensis* f. *glabrifolia* Fern. in Rhodora 38:234 (1936).

**Type Locality:** “Habitat in Virginia.”

**Range:** Conn.—N.Y.—Mich.—Iowa—Nebr.—Tex.—Fla.; Mex.

Small tree; leaves simple, entire, more or less cordate; stipules caducous; flowers pink or rose, occasionally white, imperfectly papilionaceous, appearing before the leaves in sessile fascicles; legumes oblong, flat, glabrous, the upper suture with a prominent margin. 5-10 cm. long.—Eastern Redbud.

*Cercis canadensis* f. *glabrifolia* Fern. is a form of the species in which
the leaves are entirely glabrous. Of the 25 Illinois specimens in the University of Illinois Herbarium with mature leaves available for study, only 2 have glabrous leaves. The others show varying degrees of pubescence on the lower surface, from small tufts of hairs in the axils of the veins at the base of the blade, to pubescence visible to the unaided eye, but restricted to the principal veins or their immediate branches.

_Cercis canadensis_ f. _alba_ Rehd. is distinguished by its white flowers.

In rich soil on wooded slopes and in bottom lands along streams. Common throughout Illinois except the northern counties.


4. **GYMNOCLADUS** Lam.

_Gymnocalcus dioica_ (L.) K. Koch, Dendr. 1:5 (1869); Ridgway (1895) 410; Gleason (1910b) 158; Smith (1910) 18; Hall & Ingall (1911) 209; Pepoon (1917) 133; Vestal (1919) 241; Pepoon (1920) 202; Palmer (1921) 148; Thorne (1925) 103; Gates (1926) 231; Pepoon (1927) 357; McDougall & Liebtag (1928) 229; Miller & Tchon (1929) 224; Eaton (1931) 156; Sargent (1933) 606; Bradley (1938) 97; Evers (1941) 99; Feldman (1942) 61; Jones (1942) 72; Fuller (1943) 95; Jones (1945a)
Legumes

Gymnocladus canadensis Lam. Encyc. 1:733 (1783); Mead (1846) 60; Lapham (1857) 510; Brendel (1859b) 602, (1859c) 660; Michaux (1859) 1:182; Wolf (1870) 109; Babeck (1872) 26; Ridgway (1872) 659; Patterson (1874) 5, (1876) 12; Schneck (1876) 527; Williams (1877) 490; Flagg & Burrill (1878) 234; Ridgway (1883) 63; Brendel (1887) 46; Higley & Raddin (1891) 32; Huett (1897) 68; Snare & Hicks (1898) 6; Pepoon (1910) 156.

Type Locality: “Habitat in Canada.”

Range: N.Y.—S.D.—Okla.—Tenn.

Tree, unarmed, up to 50 m. height; leaves bipinnate, the lowest of the 5-11 pinnae often consisting of only 1 leaflet; leaflets ovate, acute to acuminate, entire 2.5-7.5 cm. long; flowers dioecious or polygamous, pinkish-white, in elongated racemes; calyx tubular, 5-lobed; petals 5, about as long as calyx lobes; legumes flat, woody, 1-2.5 dm. long, 5 cm. wide; seeds flattened, 1.5-2 cm. broad.—Kentucky Coffee Tree.

Rich woods, particularly in bottom lands along streams. Often in colonies which develop from root suckers, sometimes sent up at considerable distance from the parent tree. Extensively cultivated as an ornamental. Common throughout Illinois.


5. Gleditsia L.

1. Legumes broadly linear, 7-50 cm. long, many-seeded; ovary pubes-
cent; spines thick, usually branched, rarely absent.

1. *G. triacanthos* L.

1. Legumes oval, 2-5 cm. long, 1-seeded; ovary glabrous; spines slender, usually unbranched.


1. *Gleditsia* triacanthos* L. Sp. Pl. 1056 (1753); Lapham (1857) 510; Brendel (1859b) 602, (1859c) 660; Michaux (1859) 2:105; Wolf (1870) 109; Ridgway (1872) 659; Patterson (1874) 5, (1876) 12; Schneck (1876) 527; Williams (1877) 490; Flagg & Burrill (1878) 234; Ridgway (1883) 64; Brendel (1887) 46; Higley & Raddin (1891) 33; Sargent (1892) 76; Ridgway (1895) 410; Huett (1897) 65; Snare & Hicks (1898) 6; Gleason (1907) 184, (1910a) 21, (1910b) 158; Pepoon (1910) 156; Smith (1910) 18; Hall & Ingall (1911) 209; Gleason (1912) 41, 42, 43; Pepoon (1920) 202; Vestal (1920) 237; Fuller & Strausbaugh (1920) 255; Palmer (1921) 148; Gates (1925) 169; Thone (1925) 103; Gates (1926) 231; Pepoon (1927) 357; McDougal & Liebtag (1928) 229; Miller & Teton (1929) 228; Eaton (1931) 155; Sargent (1933) 608; Bradley (1938) 97; Evers (1941) 99; Feldman (1942) 61; Jones (1942) 72; Fuller (1943) 95; Jones (1945a) 161; Fuller (1946) 58; Jones (1947) 54; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 172.


*Gleditsia triacanthos* f. *inermis* (L.) Zabel ex Beissner et al., Handb. Laubholzk. 2: 12 (1907); Fassett in *Rhodora* 35:97 (1936a); Sargent (1933) 609; Bradley (1938) 97; Jones (1945a) 161, (1950) 172.

**TYPE LOCALITY:** "Habitat in Virginia."

**RANGE:** N.Y.—S.D.—Tex.—Fla.

Armed tree, height up to 50 m., trunk diameter to 2 m.; bark rough, thorns simple or branching; leaves 1-2-pinnate; leaflets oblong-lanceolate, mostly glabrous, crenulate, 10-30 mm. long; flowers polygamous, greenish, in axillary spikes; calyx campanulate, 3-5-lobed; petals 3-5, about as long as calyx lobes; stamens 3-10, distinct; legumes broadly linear, flat, 7-50 cm. long, 2-3.5 cm. wide, glabrous, coriaceous, often somewhat twisted or falcate.—Common Honey Locust.

Trees of this species completely lacking the spines are known as *G. triacanthos* f. *inermis*. Fassett (1936a:97) states that they "are of sporadic occurrence with the commoner type, and do not constitute a true variety." This form has sometimes been known as *G. inermis*, as well as *G. triacanthos* var. *inermis* Pursh.

Rich woods, especially in bottom lands along streams; also roadsides, pastures, and as cultivated trees along city streets. Common throughout Illinois.

2. Gleditsia aquatica Marsh. Arb. Am. 54 (1785); Sargent (1892) 80; Ridgway (1895) 410; Robinson & Fernald (1908) 504; Hall & Ingall (1911) 209; Palmer (1921) 148; French (1926) 209; Miller & Tehon (1929) 229; Eaton (1931) 155; Sargent (1933) 610; Jones (1945a) 161; Bailey (1949) 52; Jones (1950) 172; Fernald (1950) 885.

Gleditsia monosperma Walt. Fl. Car. 254 (1788); Michaux (1803) 2: 257; Nuttall (1821) 40; Lapham (1857) 510; Brendel (1859b) 602, (1859c) 660; Michaux (1859) 2: 108; Brendel (1860) 294, (1861) 404; Forbes (1870) 352; Vasey (1870a) 256; Ridgway (1872) 659; Patterson (1876) 12; Schneck (1876) 527; Flagg & Burrill (1878) 234; Ridgway (1883) 64; Brendel (1887) 84.

Asacara aquatica (Marsh.) Raf. Sylva Tell. 121 (1838); Britton & Rose (1930) 303.

Type Locality: Carolina.

Range: Fla.–La.–Mo.–S.C.

Armed tree, height up to 20 m. and trunk diameter to 8 dm., bark rough; foliage like that of G. triacanthos except that the leaflets are larger, thicker, darker green, more nearly lanceolate, more noticeably crenulate (Britton & Brown 2:339, 1913); legumes oval, 2.5 cm. long, 1.5-2 cm. broad, flat, glabrous, 1-seeded, not pulpy, and with an elongated stipe.

-Water Locust.

In river swamps, where the base of the tree may be submerged for
several months at a time. Chiefly in southern Illinois and in the counties along the Mississippi River; rare.


6. CASSIA L.
1. Leaflets 5-20 mm. long, 2-5 mm. wide; stipules persistent; flowers with unequal petals, in small axillary clusters; legumes straight, usually less than 7 cm. long.
2. Flowers 2-4 cm. broad; petals 10-17 mm. long; stamens 10; legumes 4-7 cm. long, glabrous or sparsely pubescent.
3. C. fasciculata
2. Flowers 5-10 mm. broad; petals 3-8 mm. long; stamens 5; legumes 2.5-4 cm. long, appressed-pubescent.
4. C. nictitans
1. Leaflets 2-6 cm. long, 10-30 mm. wide; stipules deciduous; flowers with nearly equal petals, in axillary or terminal racemes; legumes more or less curved, 6-20 cm. long.
3. Leaflets usually 2-3 pairs, obovate, obtuse; petiolar gland between or above first pair of leaflets; legumes narrowly linear, 10-20 cm. long, 2-5 mm. wide.
4. C. tora
3. Leaflets usually 3 or more pairs, not obovate; petiolar gland near base of petiole; legumes 6-12 cm. long, 5-9 mm. wide.
4. Leaflets mostly 3-6 pairs, lanceolate, acuminate; petiolar gland globose; annual.
5. Ovary villous; leaflets elliptical; petiolar gland claveate or stipitate; legumes loosely villous, segments almost as broad as long; seeds flat, almost circular.
6. C. marilandica


Type Locality: “Habitat in Jamaica.”

Range: Va.—Ind.—Mo.—Tex.—Fla., south to Panama; West Indies; S. Am.; Old World tropics (Britton & Rose 1930:257). Probably of American origin (Bentham 1871:532).

Erect annual, nearly glabrous, 2 m. high or less; stipules lanceolate,
deciduous; petiolar gland sessile, globose; leaflets 4-6 pairs, ovate-lanceolate, acuminate, 3-7 cm. long; petals nearly equal, 1.5-2 cm. long; legumes flat, linear, glabrous, slightly curved, 6-12 cm. long, 5-8 mm. wide, thickened at the margins; septa well-marked externally by depressions.—Coffee Senna.

Weed in waste ground, Chicago and vicinity; rare in Illinois.


2. Cassia hebecarpa Fern. in Rhodora 39:413 (1937b): Jones (1945a) 161; Fuller, Fell & Fell (1949) 74; Jones (1950) 173.

Cassia marilandica sensu Michaux (1803) 1:261; Short (1845) 194; Mead (1846) 60; Lapham (1857) 510; Patterson (1874) 5; Hyatt (1875) 68; Patterson (1876) 12; Schneck (1876) 526; Williams (1877) 490; Flagg & Burrill (1878) 234; Brendel (1857) 46; Huett (1897) 68; Snare & Hicks (1898) 6; Pepoon (1927) 359; McDougall (1936) 158; Ries (1939) 90.—Non L. (1753).

Type Locality: Newton, Mass.

Range: Me.—N.C.—Tenn.—Ill.—Wis.

Perennial herb, 6-20 dm.; stem glabrous or with few scattered hairs; stipules deciduous; petiolar gland clavate; leaflets 10-20, elliptical, mucronate, 2-4 cm. long; flowers in axillary racemes; petals nearly equal. 10-12 mm. long; stamens 10, upper 3 imperfect; ovary villous; legumes flat, linear, loosely villous, segments almost as broad as long; seeds flat, nearly circular.—American Senna.

Specimens of this plant found in herbaria are commonly labelled C. marilandica L. because this species was originally thought to be the one that Linnaeus had in mind in assigning that binomial. A study of the treatment by Linnaeus (1753:358) reveals, however, that this binomial covered two distinct species, both from the eastern United States, which he did not distinguish specifically. Upon the basis of a specimen from the Linnean Herbarium, Fernald (1937b:410-14) has shown that the plant labelled C. marilandica by Linnaeus was the same as the one which Shafer (1904:177-81) named C. medsgeri. This discovery established the true type of C. marilandica L., leaving the binomial C. medsgeri Shafer as a synonym. To the plant mistakenly labelled as C. marilandica for so many decades, Fernald has assigned the name C. hebecarpa.

In moist soil, along roadsides, on prairies, in open woods, and especially in alluvial bottoms where it may form rather dense stands. Found throughout the state.

Specimens Examined: CHAMPAIGN CO.: Border of woods, Urbana, A. B.
3. Cassia marilandica L. Sp. Pl. 378 (1753); Fuller (1943) 95; Jones (1945a) 161; Bailey (1949) 52; Jones (1950) 173.

Cassia meddersi Shafer in Torreya 4:179 (1904); Gates (1926) 231; McDougall (1936) 158.

Ditremexa meddersi (Shafer) Britton & Rose in N. Am. Fl. 23:257 (1930).

Type Locality: "Habitat in Virginia, Marilandia."

Range: Pa.—Iowa—Kans.—Tex.—Ga.

Perennial herb, nearly glabrous throughout; stipules linear-lanceolate, deciduous; leaflets 6-11 pairs, elliptic-lanceolate 2.5-6.0 cm. long; petiolar gland ovoid or constricted at base; flowers in axillary and terminal racemes; petals 5, nearly equal; ovary strigose; legumes black, glabrous, broadly linear, thick, 5-10 cm. long and 8-9 mm. wide, slightly curved, segments much shorter than broad; seeds plump, obovoid.—Wild Senna.

In dry soil along roadsides, in open woods on hillsides, in bottom lands, and on waste ground. Found throughout the state.


4. Cassia tora L. Sp. Pl. 376 (1753); Hill (1902) 564; Darlington (1923) 150; Peepoon (1927) 357; Jones (1945a) 162, (1950) 173; Fernand (1950) 886.
Cassia obtusifolia L. Sp. Pl. 377 (1753); Vasey (1861a) 141; Patterson (1876) 12; Flagg & Burrill (1878) 234.


Type Locality: "Habitat in India."

Range: Pa.—Ind.—Mo.—Tex.—Fla.; West Indies; Mexico; Central and S. Am.; Old World tropics (Britton & Rose 1930:242). According to Bentham (1871:509), probably of American origin.

Annual herb, glabrous; stipules linear-spatulate, deciduous later; petiolar gland elongate, just between or above lowest pair of leaflets; leaflets 4-8, commonly 6, the terminal pair larger than the others, 3-7 cm. long; flowers few, axillary, petals nearly equal. 10-15 mm. long; stamens 10. upper 3 with imperfect anthers; legumes narrowly linear, 2 dm. long or less, 2-5 mm. wide, nearly straight to strongly curved.—Sickle Senna.

On waste ground, along railroad tracks, and in bottom lands along streams. Occasional.


5. Cassia fasciculata Michx. Fl. Bor. Am. 1:262 (1803); Fuller (1943) 95; Jones (1945a) 162, (1947) 54; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74.

Cassia chamaccrista sensu Short (1845) 194; Mead (1846) 60; Lapham (1857) 510; Babcock (1872) 26; Patterson (1874) 5; Hyatt (1875) 68; Patterson (1876) 12; Schneck (1876) 526; Williams (1877) 490; Flagg & Burrill (1878) 234; Brendel (1887) 46; Higley & Raddin (1891) 32; Huett (1897) 68; Snare & Hicks (1898) 6; McDonald (1900) 103; Gleason (1907) 184, (1910a) 20, (1910b) 158; Thorne (1925) 103; Pepoon (1927) 357; McDougall (1936) 159.—Non L. (1753).

Cassia chamaccrista var. robusta Pollard in Bull. Torr. Club 21:218 (1894); Robinson & Fernald (1908) 505; McDougall (1936) 159.

Chamaccrista fasciculata (Michx.) Greene in Pittonia 3:242 (1897); Pennell (1917) 350; Gates (1923) 169, (1926) 231; Ries (1939) 90.

Chamaccrista camporum Greene in Pittonia 5:108 (1903).—Type: Monticello, Piatt Co., Ill., 7 August 1899, E. L. Greene.

Chamaccrista fasciculata var. robusta (Pollard) Macbr. in Contr. Gray Herb. n.s. 59:24 (1919); Deam (1940) 588; Fernald (1950) 886.

Type Locality: "Hab. in Pennsylvania et Virginia."

Range: Me.—Fla.—Mexico—Colo.—Mim.

Annual herb, erect; stem glabrous, appressed-puberulent, or hirsute;
stipules persistent, subulate-lanceolate; leaves sensitive; petiolar gland sessile; leaflets elliptical-linear, 5-20 mm. long; flowers 2-4 cm. broad, with unequal petals; stamens 10, unequal; legumes flat, linear, glabrous, or sparsely pubescent.—Showy Partridge Pea.

C. fasciculata var. robusta (Pollard) Macbr. is described as being generally more robust, the stem hirsute with spreading hairs. A study of stem pubescence of Illinois specimens reveals the following facts: Of a total of 54 specimens studied, 12 are glabrate; 27 are appressed-puberulent; 9 are appressed-puberulent with a scattering of stiff hairs; and 6 are hirsute, the pubescence consisting of a dense mixture of the short, appressed hairs, and the longer, stiff hairs. In these specimens there seems to be no correlation between the degree of density of pubescence and a generally robust character of the plant.

Roadsides, along railroad tracks, in open woods and fields. Common throughout Illinois. This plant is also one of the group which early establish themselves on shifting sand dunes along the Illinois River, according to Gleason (1910a:20).


6. Cassia nictitans L. Sp. Pl. 380 (1753); Mead (1846) 60; Lapham (1857) 510; Patterson (1874) 5, (1876) 12; Schneck (1876) 526; Flagg
SUBFAMILY CAESALPINIOIDEAE

& Burrill (1878) 234; Brendel (1887) 84; Snare & Hicks (1898) 6; Gleason (1907) 184; Peepoon (1927) 359; McDougall (1936) 159; Jones (1945a) 162; Fuller (1946) 58; Bailey (1949) 52; Jones (1950) 173; Fernald (1950) 886.

*Chamaecrista nictitans* (L.) Moench. Meth. 272 (1794); Gates (1926) 231; Pennell (1917) 359.

**Type Locality:** “Habitat in Virginia.”

**Range:** Me.—Fla.—Tex.—Ariz.—Kans.—Ind.

Annual herb, erect or decumbent; stem appressed-pubescent; leaves sensitive, stipules persistent, subulate, attenuated; petiolar gland urceolate; leaflets linear-elliptic; flowers with unequal petals, axillary, 5-10 mm. broad, 2-3 in a group; stamens 5, equal; legumes flat, linear, pubescent, 2.5-4 cm. long, 4-5 mm. wide.—Sensitive Partridge Pea.

Open woods, roadsides, fields, in dry, sandy soil. Not common.

III. SUBFAMILY PAPILIONOIDEAE

1. All leaves simple................................. 9. Crotalaria

1. Leaves compound.

2. Trees or shrubs.

3. Trees.

4. Stamens 10, distinct; stipules lacking; leaflets mostly 4.5-11 cm. long; bark smooth; inflorescence 15-50 cm. long................................. 7. Cladrastis

4. Stamens 10, diadelphous; stipules woody spines, sometimes lacking; leaflets mostly 1.5-5 cm. long; bark rough; inflorescence 7-16 cm. long................................. 21. Robinia

3. Shrubs.

5. Twining; leaflets 7-9, 3-7 cm. long; raceme drooping, loosely-flowered; petals 5................................. 22. Wisteria

5. Erect; leaves usually glandular-punctate; leaflets 11-51, 7-40 mm. long; racemes erect, spicate, densely-flowered; wing and keel petals lacking................................. 17. Amorpha

2. Herbs.

6. Leaves even-pinnate or bifoliolate, ending in a tendril.

7. Style terete, pubescent only at summit; wings and keel adherent................................. 29. Vicia

7. Style flattened, pubescent along inner side; wings nearly free from keel ......................... 30. Lathyrus


8. Leaves 3-foliolate or when digitate not more than 5-foliolate, rarely 1-foliolate.

9. Leaves more or less glandular-punctate; leaflets 3-5, entire................................. 16. Psoralea

9. Leaves not glandular-punctate.

10. Leaflets dentate or denticulate.

11. Flowers in heads or short spikes.

12. Corolla adhering to stamens; legumes straight, included in calyx...... 11. Trifolium

12. Corolla free from stamens; legumes curved or coiled................................. 13. Medicago

11. Flowers in very long, slender racemes; legumes straight, surpassing calyx...... 12. Melilotus

10. Leaflets entire.

13. Fruit a loment (breaking into 1-seeded, indehiscent segments).

14. Loments 1-several-jointed, joints similar and uncinate-pubescent; leaflets usually stipellate................................. 26. Desmodium
14. Loments of a single 1-seeded joint, sometimes with a lower, sterile, stalk-like joint; not uncinate-pubescent; leaflets not stipellate.
15. Flowers purple or yellowish-white; stamens diadelphous; anthers similar; loments not longitudinally ribbed; stipules not sheathing the stem.......

15. Flowers yellow; stamens monadelphous; anthers in 2 series; loments longitudinally ribbed; stipules sheathing stem.......

27. Lespedeza

28. Stylosanthes

18. Fruit a legume.
16. Leaflets not stipellate.
17. Flowers solitary, pink; stipules minute, black glands, or absent.......

15. Hosackia

17. Flowers in racemes or umbels, yellow, cream, or white in color; stipules mostly large and conspicuous.
18. Flowers in elongated racemes; stamens distinct; legumes stipitate, inflated.......8. Baptisia

18. Flowers in capitate umbels; stamens diadelphous; legumes not stipitate, terete, compressed....

14. Lotus

16. Leaflets stipellate
19. Style glabrous or essentially so.
20. Plants annual, stems erect; flowers in nearly sessile, axillary clusters; mature legume 3-6 cm. long, densely villous.......

35. Glycine

20. Plants perennial, stems twining or prostrate; flowers in peduncled axillary racemes.
21. Both petaliferous and apetalous flowers present; calyx of petaliferous flowers without bracteoles; calyx teeth nearly equal; leaflets broadly ovate.
terminal one about as long as wide....36. *Amphicarpa*

21. Only petaliferous flowers present; calyx subtended by 2 bracteoles, bilabiate, the calyx teeth subulate.

22. Stems very slender, finely hirsute; leaflets oval to lanceolate, 2-5 cm. long; racemes interrupted, few-flowered; corolla pink or rose; legumes finely appressed-pubescent....37. *Galactia*

22. Stems coarse, villous, becoming woody; leaflets broadly ovate to rhombic-ovate, entire or palmately lobed, 1-2 dm. long; racemes densely flowered, columnar; corolla reddish-purple; legumes densely villous.

...............*Pueraria*

19. Style pubescent on upper surface.

23. Flowers yellow; stems twining; leaflets ovate; keel incurved slightly..............*Vigna*

23. Flowers purplish or whitish.

24. Flowers 4-6 cm. long, solitary or in pairs, axillary, pale blue; stem ascending or twining............34. *Clitoria*

24. Flowers less than 4 cm. long, in racemes or umbels.

25. Inflorescence a loose raceme; keel spirally coiled; legumes slightly curved; seeds glabrous.

...............32. *Phaseolus*

25. Inflorescence umbellate; keel strongly incurved; legumes nearly straight;
seeds pubescent or rarely glabrous.

33. *Strophostyles*

8. Leaflets 5 or more.

26. Leaflets glandular-punctate; corolla imperfectly or indistinctly papilionaceous; legumes 1-2-seeded, indehiscent, enclosed in the calyx.

27. Stamens 5; leaflets 5-9.

19. *Petalostemum*

27. Stamens 10 or 9; leaflets more than 9.

28. Leaflets lanceolate to ovate-lanceolate or nearly elliptical, mucronate, 2-4 cm. long; legume covered with stout, recurved prickles.

..................... 24. *Glycyrrhiza*

28. Leaflets oblanceolate or linear, obtuse. 3-11 mm. long; legume without recurved prickles.

..................... 18. *Dalea*

26. Leaflets not glandular-punctate; corolla papilionaceous; legumes several-seeded.

29. Leaflets 5-11.

30. Stems twining or climbing; leaflets 5-7 (occasionally 3), ovate or ovate-lanceolate; flowers maroon or greenish-white, in axillary racemes.

..................... 31. *Apios*

30. Stems erect; leaflets 7-11, oblanceolate; flowers blue, pink, or white, in terminal racemes.

..................... 10. *Lupinus*


31. Plants densely-pubescent; flowers in terminal racemes; legumes 3-6 cm. long.

20. *Tephrosia*

31. Plants strigose to glabrous; flowers in axillary racemes or head-like umbels.

32. Flowers in racemes; legumes not 4-angled or jointed.

..................... 23. *Astragalus*

32. Flowers in umbels, on long axillary peduncles; legumes linear, 4-angled, jointed.

..................... 25. *Coronilla*

7. **CLADRASTIS** Raf.

**Cladrastis lutea** (Michx. f.) K. Koch, *Dendrol*. 1:6 (1869); Mattoon & Miller (1928) 76; Miller & Tehon (1929) 286; Jones (1945a) 162, (1950) 173; Fernald (1950) 888.

**Virgilia lutea** Michx. f. *Arb*. Am. 3:266. pl. 3 (1813).

**Cladrastis tinctoria** Raf. *Neogenyton* 1 (1825).
**THE LEGUMINOSAE OF ILLINOIS**

Type Locality: “In western Tennessee, and in the part of that state which is situated between the Cumberland Mountains and the Mississippi, and which is included between the 35th and 37th degrees of latitude.”

Range: Ala.—Mo.—Ky.—N.C.

Tree, smooth-barked and unarmed, with yellow wood and glabrous foliage; leaves odd-pinnate, stipules absent; leaflets ovate to obovate, long-pointed or blunt-acuminate, mostly 4.5-10 cm. long; flowers papilionaceous, white, fragrant, in showy, many-flowered terminal panicles 15-50 cm. long; legumes linear, flat, 4-10 cm. long, 8-10 mm. wide, compressed, 3-6-seeded.—American Yellowwood.

Rich woods and bluffs, southern Illinois, rare.


8. **BAPTISIA** Vent.

1. Leaflets 2.5-10 cm. long; flowers white or cream; mature pods 2.5-6 cm. long.

2. Plants glabrous throughout, glaucous; stipules and floral bracts 1 cm. long or less, deciduous; pedicels 3-10 mm. long; stipe of pod at least twice as long as the calyx; pods ellipsoid, 2.5-4 cm. long. ........................................1. *B. leucantha*

2. Plants more or less villous-pubescent throughout; stipules and floral bracts 2-4 cm. long, persistent; pedicels slender, 1-5 cm. long; stipe of pod shorter than the calyx; pods ovoid, 4-5 cm. long..... ........................................2. *B. leucophaca*

1. Leaflets less than 2 cm. long; flowers bright yellow; mature pods 6-12 mm. long. ............................................ *B. tinctoria*

1. *Baptisia leucantha* T. & G. Fl. N. Am. 1:385 (1840); Short (1845) 190; Mcad (1846) 60; Lapham (1857) 510; Bebb (1860) 183; Babcock (1872) 26; Patterson (1874) 5; Hyatt (1875) 67; Patterson (1876) 12; Schneck (1876) 526; Williams (1877) 490; Flagg & Burrill (1878) 234; Brendel (1887) 46; Higley & Raddin (1891) 28; Huett (1897) 63; Snare & Hicks (1898) 5; Pepoon (1910) 149; Gates (1912) 360, (1923) 169; Thone (1925) 103; Gates (1926) 231; Pepoon (1927) 359; McDougall (1936) 161; Larisey (1940) 176; Fuller (1943) 95; Jones (1945a) 162; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 173.

Type Locality: “In rich alluvial soil, Upper Canada (near Lake Erie), Michigan! Ohio! to Louisiana! and Arkansas!”

Range: Ontario—Minn.—Tex.—Fla.

Erect perennial herb, 1-2 m. tall, glabrous throughout, glaucous, turn-
ing black upon drying; stipules lanceolate, deciduous; leaves digitately 3-foliolate; petioles 5-10 mm. long; leaflets oblanceolate to obovate; mostly obtuse; flowers white, in bractless terminal and axillary racemes; pedicels 1 cm. long or less; legumes ellipsoid, black, glaucescent; stipe 2-3 times as long as the calyx.—Atlantic Wild Indigo.

Roadsides, open woods, dry prairies, and waste places. Common throughout Illinois.


2. **Baptisia leucophylla** Nutt. Gen. 1:252 (1818); Mead (1846) 69; Lapham (1857) 510; Warne (1870) 314; Babcock (1872) 26; Patterson (1874) 5. (1876) 12; Williams (1877) 490; Flagg & Burrill (1878) 254; Brendel (1887) 46; Higley & Raddin (1891) 28; Huett (1897) 63; McDonald (1900) 102; Larisey (1940) 158; Jones (1945a) 162; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 173.

*Baptisia bracteata* sensu Gleason (1907) 184. (1910b) 158; Britton & Brown (1913) 2:345; Pepoon (1927) 359; McDougall (1936) 161; Ries (1939) 90.—Non Muhl. ex Ell. (1817).


**Type Locality:** "Habitat in Georgia and Louisiana."

**Range:** Mich.—Minn.—Tex.—La.

Perennial herb, less than 1 m. tall, villous-pubescent throughout; leaves digitately 3-foliolate, very short-petiolate or sessile; stipules persistent; leaflets oblanceolate to spatulate, obtuse or acute; flowers white or cream, showy, in axillary racemes, with persistent, foliaceous bracts; pedicels 1-5 cm. long, secund; legume ellipsoid or ovoid, 4-5 cm. long, strongly
reticulate, pubescent, with stipe shorter than the calyx; beak slender, eventually deciduous.—Plains Wild Indigo.

Of 31 specimens examined from Illinois, three show characters associated with B. leucophaea var. glabrescens by Larisey (1940:161), namely, glabrate stem, and general reduction in pubescence throughout the remainder of the plant. These three specimens seem to represent the opposite extreme from the villous pubescence usually associated with the species. The other specimens show degrees of pubescence varying between these two extremes.

Roadsides, fields, and open woods. Common.


*Baptisia tinctoria* (L.) R. Br. was reported from Illinois by Brendel in (1859a:584). Babcock (1872:28) lists it from “Gibson's” in the vicinity of Chicago, noting that it was rare. Patterson (1876:12) reports it from the “northern counties.” Flagg & Burrill (1878:234) mention it in their list compiled from the lists of earlier Illinois botanists. Brendel (1887:84) again cites it for northern Illinois, but not the Peoria region. Higley & Raddin (1891:28) state that it was infrequent in “sandy soil, both north and south, near the lake shore” (Michigan). Snare & Hicks (1898:5) include it in their list of plants for Stark County. Pepoon (1927:359) quotes Higley & Raddin’s statement and adds: “No one seems to find it in late years. Probably extinct in our area.” Fernald (1945:215, 1950:887) lists var. *crebra* Fernald as occurring in Illinois, but cites no specimens.

Two specimens from Illinois, with incomplete data, are in the University of Illinois Herbarium. One labelled only “North Illinois” is from the Frederick Brendel collection. The other, labelled only “Chicago,” is no. 1091 from the W. S. Moffatt collection. From this evidence and from the fact that no specimens have been collected in Illinois for more than 50 years, it is believed that this species no longer occurs in Illinois. *B. tinc-
toria is included in the key in the event that specimens might be collected in Illinois.

Baptisia australis (L.) R.Br. has been reported from Illinois by Vasey (1860:119, 1861a:141), and by Flagg & Burrill (1878:234). This showy, blue-flowered Baptisia has not been reported since, so far as the writer has been able to determine. The only Illinois specimens seen were of cultivated plants. Accordingly, this species is not considered at the present time to occur spontaneously in the state.

9. CROTALARIA L.

1. Annual or perennial herb, 1-6 dm. tall; leaves linear-lanceolate to elliptical, 3-7 cm. long; flowers about 1 cm. long, 2-4 on terminal or axillary peduncles, 1-4 cm. long; legume 2.5-4 cm. long, ...... 1. C. sagittalis

Crotalaria sagittalis L. Sp. Pl. 714 (1753); Engelmann (1844) 96; Mead (1846) 60; Lapham (1857) 508; Brendel (1859) 583, (1860) 294; Patterson (1876) 10; Schneck (1876) 524; Flagg & Burrill (1878) 252; Brendel (1887) 46; McDonald (1900) 103; Darlington (1923) 180; Pe- poon (1927) 359; Jones (1945a) 162; Fuller (1947) 51; Bailey (1949) 52; Jones (1950) 173.

Crotalaria sagittalis var. typica Senn in Rhodora 41:336 (1939).

Type Locality: “Habitat in Brasilia, Virginia.”

Range: Mass.—S.D.—Tex.—Fla.; Mexico.

Annual or perennial herb, erect or ascending, 1-6 dm. tall, villous-pubescent throughout; stipules persistent, united, decurrent on the stem; sagittate above; leaves simple, elliptical, ovate, or linear-lanceolate, entire, nearly sessile; corolla pale yellow, 8-12 mm. long, nearly equalling the calyx; stamens monadelphous; legume glabrous, membranaceous, ellipsoid, 2.5-4 cm. long; seeds loose at maturity, rattling freely.—Rattle-box.

Commonly found in dry, sandy soil, along roadsides and railroad beds, on lakeshore, in open woods, and often behaving as a weed. Distributed locally throughout Illinois. C. C. Dean (1940:593) concludes that this species is introduced in Indiana, but evidence seems to indicate that it is probably native in Illinois.


Senn (1839:338) cites specimens collected from Cass, Champaign, Madison, and Pope counties, deposited in the Gray Herbarium, and the U. S. National Herbarium.

Crotalaria spectabilis Roth (C. retzii A. Hithce.), a showy plant cultivated in the southern states where it is reported as an escape, has been collected once in southern Illinois. The following data are from the herbarium label of a specimen in the University of Illinois Herbarium: ALEXANDER CO.: Along edge of soybean field, 4 mi. s.w. of Olive Branch, few miles from Mississippi River, H. M. Franklin 34, 20 August 1949. This specimen in flower is a portion of the only plant found by the collector. C. spectabilis is included in the key in the event that additional collections may be made in Illinois. It is native in India.

10. LUPINUS L.

Lupinus perennis L. Sp. Pl. 721 (1753); Bebb (1859) 586; Vasey (1861a) 141; Warne (1870) 314; Babcock (1872) 25; Patterson (1876) 10; Williams (1877) 490; Flagg & Burrill (1878) 232; Brendel (1887) 84; Higley & Raddin (1891) 28; Gleason (1910b) 158; Gates (1912) 360; Pepoon (1927) 359; McDougall (1936) 162; Jones (1945a) 162; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 173.

Lupinus perennis var. occidentalis S.Wats. in Proc. Am. Acad. 8:526 (1873); Fernald (1945) 215, (1950) 890.

Type Locality: “Habitat in Virgina.”

Range: Me.—Minn.—La.—Fla.

Erect perennial herb, 2-6 dm. high; stems and petioles appressed-pubescent, with scattered larger hairs, to villous; leaves digitately 7-11 foliolate; leaflets oblanceolate; nearly sessile, entire, 1.5-5 cm. long; flowers showy, blue, and less often, pink or white, in long terminal racemes; legumes linear, 3-4 cm. long, densely pubescent, 4-6 seeded, valves coiling at maturity.—Wild Lupine.

Specimens examined from Illinois have the villous type of pubescence of stems and petioles assigned by Watson (1873:526) to L. perennis var. occidentalis. Fassett (1939:32) presents maps to support the view that L. perennis, in the western part of its range, tends to show abundantly a decidedly villous condition which is not common among the much less pubescent plants in the eastern part of its range. However, the same author points out that a line cannot be drawn separating the two phases.
SUBFAMILY PAPILIONOIDEAE

In sandy soil, in open oak woods, along roadsides, and in old fields. Locally distributed in northern Illinois.

Specimens Examined: KANKAKEE CO.: Very abundant in oak woods on dry sand hills, 5 mi. n.e. of St. Anne, R. A. Schneider 1563, 29 May 1940; sandy soil, 5 mi. n.w. of Bonfield, G. N. Jones 15539, 10 May 1941. LEE CO.: Wooded sand hill, near Amboy, V. H. Chase 5039, 27 May 1934. OGLE CO.: Sandy hillside near Castle Rock, G. D. Fuller, 27 June 1942.

11. TRIFOLIUM L.

1. Flowers on short pedicels, reflexed in age.
   2. Corolla red, purple, pink, or white.
   3. Heads at least 2.5 cm. broad.
      4. Plants not stoloniferous; leaves pubescent (glabrous in var. glabrum); calyx tube less than half as long as subulate lobes; annual or biennial.................1. T. reflexum
      4. Plants stoloniferous; leaves glabrous; calyx tube about half as long as subulate lobes; perennial.....2. T. stoloniferum
   3. Heads 2 cm. broad or less.
      5. Stems creeping, rooting at the nodes; flowers white, tinged with pink......................3. T. repens
      5. Stems erect or ascending, not rooting at nodes; flowers pink or purplish....................4. T. hybridum

2. Corolla yellow.
   6. Leaflets sessile or nearly so; stipules linear-lanceolate; heads 1-2 cm. in diameter; standard conspicuously striate when dry. .................................................................8. T. agrarium
   6. Terminal leaflet stalked; stipules ovate; heads 4-12 mm. in diameter.

1. Flowers sessile or nearly so, not reflexed in age.
   8. Heads cylindrical to conical; calyx plumose-pubescent; plants annual.
      9. Corolla crimson, equalling or surpassing the calyx; leaflets obovate or obcordate...............6. T. incarnatum
      9. Corolla whitish, shorter than the calyx; leaflets linear or oblong-lanceolate......................5. T. arvense
   8. Heads subglobose or short-cylindrical, 2-3 cm. broad, and sessile, or nearly so; corolla magenta (rarely white); calyx sparsely pilose; plants perennial.................................7. T. pratense

1. Trifolium reflexum L. Sp. Pl. 766 (1753); Forbes (1870) 318; Vasey
(1870a) 256; Babcock (1872) 25; Patterson (1876) 10; Schneck (1876) 524; Flagg & Burrill (1878) 232; Brendel (1887) 46; Higley & Raddin (1891) 28; Huett (1897) 63; Kennedy (1909) 40; Pepoon (1927) 360; Jones (1945a) 162; Bailey (1949) 52; Jones (1950) 173; Fernald (1950) 893.


**Type Locality:** “Habitat in Virginia.”

**Range:** N.Y.—S.D.—Tex.—Fla.

Annual or biennial, ascending or decumbent, pubescent, branching near the base, not stoloniferous; stipules ovate, toothed, foliaceous; leaflets elliptical or ovate to suborbicular, 1.5-3 cm. long, obtuse, emarginate, or truncate at the apex; heads long-peduncled, globose, 2.5-3 cm. broad; flowers pedicelled, reflexed in fruit; calyx teeth much longer than the tube; standard red or purple, wings and keel nearly white; legume 3-6-seeded.—Buffalo Clover.

In *T. reflexum* var. *glabrum* the foliage is described as glabrous, the leaflets large, with nearly entire or slightly undulate margins, and the flowers as yellowish to white. The type material was collected by Dr. S. B. Mead at Augusta, Hancock Co., Illinois, in 1842. The twelve Illinois specimens of *T. reflexum* seen by the writer are all glabrous, and therefore, are considered as representing var. *glabrum*. Deam (1940:596) reports the variety from Indiana, and characterizes it as “the western form of the species.” All Iowa specimens of *T. reflexum* examined by Fox (1945:213) are also of the glabrous type. *Trifolium stoloniferum*, because it is essentially glabrous, is reported to be frequently mistaken for this plant. *Trifolium reflexum* var. *glabrum* never produces stolons. This character helps to distinguish it from *T. stoloniferum*.

Open woods, fields, and meadows. Of local distribution, and not common in Illinois.


Kennedy (1909:40) cites specimens from Hancock, Madison, and Marion counties in Illinois. These have not been seen by the writer.

2. *Trifolium stoloniferum* Muhl. Cat. 67 (1813); Mead (1846) 60; Lapham (1857) 508; Patterson (1876) 10; Williams (1877) 490; Flagg & Burrill (1878) 232; Brendel (1887) 84; Higley & Raddin (1891) 28; Darlington (1923) 180; Pepoon (1927) 360; Jones (1945a) 162, (1950) 174.
Type Locality: “Ohio, Kent. Pens.”


Perennial herb, glabrous, stoloniferous; stem branching profusely at the base; stipules ovate-lanceolate, acute; leaflets obovate, obcordate, or suborbicular, denticulate; heads globose, the flowers pedicelled, reflexed in fruit; calyx teeth subulate, 2 or 3 times as long as the tube; sinuses of the calyx pubescent; corolla white, purple-tinged.—Running Buffalo Clover.

Trifolium stoloniferum is similar to T. reflexum, from which it may be separated by its perennial habit, the production of stolons, and its essentially glabrous condition throughout.

Kennedy (1909:37) reports that “In specimens in the herbaria that I have examined, this species has quite frequently been mistaken for reflexum, hybridum, carolinianum and repens. When the stolons are not well developed it resembles very closely T. reflexum glabrum. It seems to be more limited in its distribution than T. reflexum and its variety glabrum.”

Examination of records of the occurrence of T. stoloniferum in Illinois (as listed above) reveals that these records were based chiefly upon specimens collected by Mead in Hancock County (1848), by French in Washington County (date unknown), and by Higley & Raddin in south Chicago (1886). The scarcity of any specimens collected during the last sixty years, leads to the conclusion that this plant may no longer occur in Illinois, or must be considered exceedingly rare.

Deam (1940:1066) does not find sufficient evidence to include T. stoloniferum in the flora of Indiana, and Fox (1945:214) finds no reliable records of its occurrence in Iowa. Palmer and Steyermark (1935:576) report it from central and southern Missouri.

Specimens Examined: HANCOCK CO.: S. B. Mead, June 1848.

3. Trifolium repens L. Sp. Pl. 767 (1753); Mead (1846) 60; Lapham (1857) 509; Babcock (1872) 25; Patterson (1874) 4, (1876) 10; Schneck (1876) 524; Williams (1877) 490; Flagg & Burrill (1878) 282; Brendel (1887) 46; Higley & Raddin (1891) 28; Huett (1897) 63; Snare & Hicks (1898) 5; Gleason (1910b) 158; Gates (1912) 360; Sherff (1913) 602; Gates (1923) 169; Thone (1925) 103; Gates (1926) 231; Pepoon (1927) 360; Stover (1930) 23; Jones (1942) 72; Fuller (1943) 95; Jones (1945a) 162; Fuller (1946) 58; Jones (1947) 55; Bailey (1949) 52; Fuller, Fell & Pepoon (1949) 74; Jones (1950) 174; Evers (1951) 620.

Type Locality: “Habitat in Europae pascuis.”

Range: Nova Scotia—Fla.—Calif.—Alaska; West Indies. Native of Eurasia.

Perennial herb with creeping stems and stoloniferous habit; leaves
long-petioled; stipules ovate-lanceolate, membranous; leaflets obcordate, obovate, or emarginate, denticulate, glabrous; flowers pedicelled, white or pinkish, in long-peduncled, globose heads; corolla much shorter than the corolla, the calyx tube longer than the teeth; flowers reflexed in fruit; legumes enclosed within the persistent corolla.—White Clover.

Roadsides, fields, meadows, pastures, lawns, and waste places. Very common throughout all Illinois. Evers (1951:620) reports collecting it from every county in the state.


4. **Trifolium hybridum** L. Sp. Pl. 766 (1753); Higley & Raddin (1891) 28; Hill (1892) 246; Huett (1897) 63; Gates (1912) 361; Darlington (1923) 180; Gates (1923) 169; Thone (1925) 103; Gates (1926) 281; Pepoon (1927) 369; Fuller (1943) 95; Jones (1945a) 162; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 174; Evers (1951) 620.

**Type Locality:** "Habitat in Europae cultis."

**Range:** Newfoundland—West Indies; Fla.—Calif.—Wash.—Alaska. Cultivated and escaped; native of Europe.

Erect or ascending perennial herb, nearly glabrous; leaves long-petioled; stipules ovate-lanceolate, acuminate, and membranous; leaflets obovate, oval, or almost elliptic, sharply serrulate; flowers pink or rose, in long-peduncled, globose heads; pedicels reflexed in age; corolla 3-4 times as long as the calyx; legumes enclosed within the persistent corolla.

—Alsike Clover.

Fields, roadsides, pastures, lawns, and waste places. Common throughout Illinois. Evers (1951:620) reports collecting it from every county in the state.

**Specimens Examined:** ADAMS CO.: In pasture land, near Burton Cave, R. A. Evers 1134, 4 June 1943. CHAMPAIGN CO.: Roadside, near Urbana, G. N. Jones 11797, 9 June 1940. COOK CO.: Riverside, Dr. W. C. Ohlendorf, 9 July 1895. DU PAGE CO.: Lawn, Wheaton, W. S. Moffatt 175, 11 June 1894. FAYETTE CO.: Roadside n.w. of Farina, Louise O'Dell 228, 29 June 1940. LEE CO.: Prairie roadside, 5 mi. s.w. of Dixon, E. Keithley, 3 June 1945. PIKE CO.: Fields, East Hannibal, John Davis 113, 3 June 1913. RICHLAND CO.: Meadow, 3½ mi. n. of Olney, Vera L. Scherer 164, 9 June 1947. SANGA—

5. **Trifolium arvense** L. Sp. Pl. 769 (1753); Brendel (1859a) 584; Vasey (1861a) 141; Patterson (1876) 10; Flagg & Burrill (1878) 232; Higley & Raddin (1891) 28; Darlington (1923) 180; Pepoon (1927) 360; Jones (1945a) 163; Fuller, Fell & Fell (1949) 74; Jones (1950) 174.

**Type Locality:** "Habitat in Europa, America septentrionali."

**Range:** N.H.—Quebec—Minn.—Iowa—S.C.; Ore.—Wash. Naturalized from Europe.

Erect annual herb, villous-pubescent throughout; leaves short-petioled; stipules lanceolate, subulate-tipped; leaflets linear or oblanceolate; heads peduncled, dense, longer than wide, 1-3 cm. long; flowers sessile, corolla whitish, much shorter than the subulate plumose-pubescent calyx-lobes.

—Rabbit-foot Clover.

Roadsides, dry fields, lawns, banks, and waste places. Found locally throughout Illinois.


**Type Locality:** "Habitat in Italia."

**Range:** Me.—Minn.—Iowa—D.C. Escaped from cultivation; native of Europe.

Erect annual herb, appressed-pubescent or villous; leaves long-petioled; stipules membranous and foliaceous at the tip; leaflets almost sessile, obovate or obcordate, denticulate, pubescent; heads dense, sub-cylindrical, terminal, often 5 cm. long; flowers sessile, corolla scarlet, longer than subulate calyx-lobes; calyx densely pubescent with brown hairs.—Crimson Clover.

Fields, roadsides, and waste places. Rare in Illinois. May escape cultivation and persist a short time. Not permanently established, but occasionally found. Pepoon (1927:360) writes that this species was "for a number of years abundant in Ravenswood (Cook Co.) west of the C. & N. W. Ry., but at present seemingly extinct. Along roads southeast. Precariously persistent escape. The winters average too cold for this plant."
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SPECIMEN EXAMINED: ALEXANDER CO.: One plant on roadside (no planted areas of it seen at this location), s. of Unity, H. E. Ahles 3810, 8 May 1951.

7. Trifolium pratense L. Sp. Pl. 768 (1753); Mead (1846) 60; Lapham (1857) 508; Brendel (1870) 378; Babcock (1872) 25; Patterson (1874) 4, (1876) 10; Schneck (1876) 524; Williams (1877) 490; Flagg & Burrill (1878) 232; Higley & Raddin (1891) 28; Huett (1897) 63; Snare & Hicks (1898) 5; Gleason (1910b) 158; Gates (1912) 360; Sherff (1913) 602; Darlington (1923) 180; Gates (1923) 169; Thone (1925) 103; Gates (1926) 231; Pepoon (1927) 360; Jones (1942) 72; Fuller (1943) 95; Jones (1945a) 163; Fuller (1946) 58; Jones (1947) 55; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 174; Evers (1951) 620.

TYPE LOCALITY: “Habitat in Europae graminosis.”

RANGE: Newfoundland–Fla.–Calif.–Alaska; West Indies. Cultivated and naturalized; native of Europe.

Perennial herb, erect, ascending, or decumbent, somewhat pubescent; stipules ovate, strongly reticulate, subulate-tipped; leaflets usually 3, sessile, oval, obovate, or elliptical, denticulate, often with a dark marking near the center on the upper surface; heads globose or ovoid, subsessile; flowers sessile, red, purple, or. less often white; calyx pilose with brown hairs, with subulate lobes shorter than the corolla.—Red Clover.

Cultivated as a fodder crop, and common as an escape in waste fields, roadsides, pastures, and lawns. Throughout Illinois. Evers (1951:620) reports collecting it from every county in the state.


8. Trifolium agrarium L. Sp. Pl. 772 (1753); Darlington (1923) 180; Pepoon (1927) 360; Fuller (1943) 95; Jones (1945a) 163, (1950) 174.

TYPE LOCALITY: “Habitat in Europae pratis.”

RANGE: Newfoundland–Minn.–Kans.–N.C. Naturalized from Europe.

Ascending or erect annual herb, glabrous or somewhat pubescent; stipules linear-lanceolate, persistent, joined to the petiole for about half
its length; leaves palmately 3-foliolate; leaflets all sessile, glabrous; flowers in dense axillary heads, 1-2 cm. in diameter, reflexed in age; corolla yellow, brown, and conspicuously striate when dry; legume included within persistent corolla.—Yellow Hop Clover.

Roadsides, and in fields and waste places. Local.

Specimens Examined: PEORIA CO.: Along roadsides, Peoria, F. E. McDonald, July 1903; grass plots, Peoria, F. E. McDonald, June 1903.

9. **Trifolium procumbens** L. Sp. Pl. 772 (1753); Mead (1846) 60; Lapham (1857) 508; Williams (1877) 490; Flagg & Burrill (1878) 232; Huett (1897) 63; Darlingston (1923) 180; Pepoon (1927) 360; Fuller (1943) 95; Jones (1945a) 163; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 174.

**Type Locality:** "Habitat in Europae campestribus."

**Range:** Nova Scotia—N.D.—Miss.—S.C.; Wash.—Calif. Naturalized from Europe.

Prostrate or procumbent annual herb, pubescent; stipules ovate, fused to the lower portion of the petiole; leaflets 3, wedge-shaped or obovate, 6-12 mm. long, the lateral ones sessile, and the terminal leaflet noticeably stalked; heads 20-40-flowered, 4-12 mm. in diameter, the flowers eventually reflexed; corolla yellow, striated, brown when dry, persistent, longer than the enclosed legume.—Low Hop Clover.

In lawns, roadsides, open woods, fields, pastures, and waste places. Distributed locally throughout Illinois.


**Type Locality:** Near Oxford, England.

**Range:** Nova Scotia—Wis.—Kans.—Tex.—Fla.; Ore.—Wash. Naturalized from Europe.

Erect or ascending annual herb; stipules ovate or lanceolate, adnate to lower portion of petiole; leaflets 3, cuneate or obovate, and emarginate or truncate at apex; heads 3-15-flowered. Flowers becoming reflexed; corolla yellow, becoming brown with age; standard scarcely striate, and longer than legume, over which it is folded.—Little Hop Clover.

Roadsides, in fields, and waste places; southern Illinois.

**Specimens Examined:** ALEXANDER CO.: Roadside s. of Unity, H. E. Ahles 3840, 8 May 1951. JOHNSON CO.: Weed in Lawn, H. E. Ahles 2338, 14 May 1950. MASSAC CO.: Fallow field, 3 mi. e. of Joppa, H. E. Ahles 3802, 8 May 1951. UNION CO.: Roadsides, State Forest, C. D. Fuller 566, 16 May 1941.

*Trifolium resupinatum* L., known as the Persian Clover, a native of the Mediterranean region and Persia, has been reported from Illinois by Fernald (1945:215; 1950:892) on the basis of two specimens (nos. 5598 and 5946) collected by Benke at Mount Prospect, in Cook County. This annual species has flowers with very short pedicels, the corolla rose-purple, and the calyx pilose, becoming inflated and chartaceous at maturity, enclosing the legume at its base.

If the plant occurs at all in Illinois at the present time, it is extremely rare and is certainly not a part of the established spontaneous flora. The writer has seen no Illinois specimens. Deam (1940:595) mentions a single area where this species was once collected in Indiana but does not consider it established in that state. Fassett (1939:38) lists two stations in Wisconsin. In Missouri *T. resupinatum* has been reported by Palmer & Steyermark (1935:576) from only one county. Jones (1945b:283) states that the plant is not established in Illinois.

12. **MELILLOTUS** Mill.

1. Corolla white, standard slightly longer than the wings; legumes distinctly reticulated, glabrous; seeds round..................1. *M. alba*

1. Corolla yellow, standard approximately the same length as wings; legumes strongly cross-ribbed and glabrous, or faintly reticulated and pubescent.

2. Ovary and legume glabrous; legume strongly cross-ribbed; seeds not punctate, nor notched at the apex........2. *M. officinalis*

2. Ovary and legume beset with short hairs; legume faintly reticulated; seeds punctate, notched at the apex........3. *M. altissima*
1. Melilotus alba Desv. in Lam. Encycl. 4:63 (1797); Brendel (1859a) 584; Vasey (1861a) 141; Brendel (1870) 379; Babcock (1872) 25; Patterson (1874) 4, (1876) 10; Schneck (1876) 525; Williams (1877) 490; Flagg & Burrill (1878) 232; Higley & Raddin (1891) 28; Huet (1897) 64; Snare & Hicks (1898) 6; Hill (1902) 567; Gates (1912) 361, (1923) 169; Darlington (1923) 180; Thone (1925) 103; Gates (1926) 231; Pepoon (1927) 361; Stover (1930) 23; McDougall (1936) 163; Fuller (1943) 95; Jones (1945a) 163; Fuller (1946) 58; Bailey (1949) 52; Fuller. Fell & Fell (1949) 74; Jones (1950) 175; Evers (1951) 620.

Type Locality: “Cette espèce croît naturellement dans la Sibérie. On la trouve aussi en Europe.”


Erect annual or biennial herb, 1-3 m. high, much branched, glabrous, puberulent when young; leaves pinnately trifoliate; stipules subulate; leaflets linear-elliptic or oblanceolate, dentate; flowers short-pedicelled, in long, lax racemes; corolla white, 3-4.5 mm. long, deciduous, the standard slightly longer than the other petals; legumes ovoid, glabrous, reticulated, tipped with lower part of the persistent style; seeds round.—White Sweet Clover.

Roadsides, railroads, fields, and waste places. Common throughout Illinois. Evers (1951:620) reports collecting it from every county in the state.


2. Melilotus officinalis (L.) Lam. Fl. Fr. 2:594 (1778); Mead (1846) 60; Patterson (1874) 4, (1876) 10; Higley & Raddin (1891) 28; Huet (1897) 64; Dean (1912) 367; Darlington (1923) 180; Gates (1923) 169. (1926) 231; Pepoon (1927) 361; McDougall (1936) 163; Ries (1939) 90; Jones (1942) 72; Fuller (1943) 95; Jones (1945a) 163; Fuller (1946) 58; Jones (1947) 55; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 174; Evers (1951) 620.

Type Locality: "Habitat in Europae campestrisbus."


Closely resembling M. alba, but differing in the following respects: Leaflets varying from broadly obovate to elliptical, and rounded or obtuse at the apex; flowers yellow, 5-7 mm. long, the standard about equalling the wings and keel in length; legumes markedly wrinkled in appearance, with transverse ribs, and occasionally slightly pubescent; seeds neither punctate nor notched at the apex.—Yellow Sweet Clover.

Roadsides, railroads, fields, and waste places. Common throughout the state. Evers (1951:620) reports collecting it from every county in the state.


Type Locality: France.

Range: Fernald (1950:895) reports it as local from Cape Breton Island to New York and Pennsylvania; Fassett (1959:39) lists it for southern Wisconsin at Racine; Umbach (see below) collected it in Lake County, Illinois; introduced from Eurasia.

Similar to M. officinalis, but distinguished from it by the following characters: leaflets nearly linear or linear-lanceolate to narrowly oblanceolate, and inconspicuously toothed, or sometimes nearly entire; ovary and legume distinctly pubescent; veins on the legume indistinct; seeds punctate, emarginate.

Along roads, rare in Illinois.

Specimens Examined: LAKE CO.: Roadside, Lake Villa, Umbach 2263, 11 July 1908 (WIS.); roadside, Beach. Umbach 4281, 31 July 1909 (WIS.); roadside, Waukegan, Umbach 5870, 29 July 1912 (WIS.).
13. MEDICAGO L.

1. Flowers bluish-purple, 7-9 mm. long; legumes spirally coiled, 2-3 times; leaflets linear-lanceolate to obovate, more than twice as long as broad..........................1. M. sativa

1. Flowers yellow, 2-5 mm. long; legumes reniform or spirally coiled, 4-7 times; leaflets obovate, oval, or obcordate, less than twice as long as broad.

2. Stipules ovate-lanceolate, the margins nearly entire to dentate near the base; leaflets obovate, obcordate or suborbicular; legume 1-seeded, reniform, strongly curved, slightly pubescent, reticulate. .........................................................2. M. lupulina

2. Stipules broadly semi-sagittate, margins generally laciniate; leaflets obovate to obcordate, usually with purplish blotch near center, above; legume several-seeded, coiled in a dense spiral, with 2 rows of curved prickles..........................M. arabica

1. Medicago sativa L. Sp. Pl. 778 (1753); Vasey (1860) 119. (1861a) 141; Flagg & Burrill (1878) 232; Hill (1892) 246; Huett (1897) 64; Darlington (1923) 180; Gates (1926) 231; Pepoon (1927) 361; Fuller (1943) 95; Jones (1945a) 163; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 175.


Type Locality: "Habitat in Hispaniae, Galliae apricis."

Range: Me.—Va.—Calif.—British Columbia; Europe. Cultivated and escaped.

Decumbent or ascending perennial herb, often much branched, sparingly pubescent, glabrous when mature; leaves digitately trifoliolate; leaflets cuneate, oblanceolate, obovate, or elliptical, dentate. 1-3 cm. long; stipules lanceolate, acuminate, mostly entire; flowers blue or violet, pedicelled, in compact racemes; corolla 7-10 mm. long; legumes coiled spirally, pubescent, 2-several-seeded.—Alfalfa.

M. sativa f. alba Benke differs from the plant of the above description only in its pure white corolla. This form is apparently rare. Type: McHenry, McHenry County, Illinois. 11 September 1934. H. C. Benke 5665. (Type in Chicago Natural History Museum.)

Roadsides, railroads, fields, and waste places, throughout the state. Extensively cultivated as a forage crop.


2. **Medicago lupulina** L. Sp. Pl. 779 (1753); Vasey (1860) 119, (1861a) 141; Higley & Raddin (1891) 29; Huet (1897) 64; Darlington (1923) 180; Gates (1926) 231; Pepoon (1927) 361; McDougall (1936) 163; Fuller (1943) 95; Jones (1945a) 163; Fuller (1946) 5S; Fuller, Fell & Fell (1949) 74; Jones (1950) 175.

**Type Locality:** "Habitat in Europae pratis."

**Range:** Nova Scotia—Fla.—Tex.—Calif.—Wash.: Mexico. Naturalized from Eurasia.

Annual herb, sparingly pubescent, much-branched at the base, the branches decumbent; leaves digitately trifoliolate; leaflets obovate, obcordate, or elliptical, crenulate or denticulate. 4-15 mm. long; stipules ovate-lanceolate, dentate, flowers yellow, in dense cylindrical head-like racemes less than 1 cm. long; corolla yellow, about 3 mm. long; mature legumes black, strongly curved. slightly pubescent, prominently reticulate, and 1-seeded.—Black Medic.

Along roads, railroads, or in fields, pastures, and in waste ground. Common throughout the state.


**Medicago arabica** (L.) Huds., known commonly as the Spotted Medic, has been reported from Illinois as a "waif" by Evers (1951:617) on the basis of a single specimen: JACKSON CO.: In peach orchard, w. of Carbondale, G. H. Boeke, 15 May 1940 (NHS). Since this is the only Illinois specimen seen by the writer, the species is not considered as an established member of the flora of the state. Its distinguishing characters have been included in the key to species of *Medicago*. 
14. LOTUS (Tourn.) L.


Type Locality: "Habitat in Europa."

Range: Newfoundland—Va.—Ohio—Mo.—Iowa—Minn. Widely cultivated and becoming naturalized; native of Eurasia.

Stems numerous, decumbent or ascending, from a long, perennial root, glabrate or upper portion appressed-pubescent; leaflets 5, obovate, oblanceolate, or narrowly oblong, the lower pair appearing as stipules, often broader than the others; flowers 3-12, bright yellow, often tinged with red, in long-peduncled capitate umbels; calyx lobes very slender, long-tapering, about the length of the tube; legumes linear, nearly terete, to 2.5 cm. in length.—Bird's-foot Trefoil.

Roadsides and fields. Commonly cultivated as a forage crop, and appearing as an escape which maintains itself. Local.


15. HOSACKIA Dougl.

Hosackia americana (Nutt.) Piper in Contr. U. S. Nat. Herb. 11:366 (1906); Robinson & Fernald (1908) 511; Britton & Brown (1913) 2:359; Pepoon (1917) 133; Darlington (1923) 180; Pepoon (1927) 361; Jones (1945a) 163; Fuller (1946) 58; Jones (1950) 175.

Trigonella americana Nutt. Gen. 2:120 (1818).

Type Locality: "On the banks of the Missouri."

Range: Manitoba—Ark.—Ill.—Tex.—Calif.—Idaho; Mexico.

Erect annual herb, villous-pubescent or glabrate; leaves 1-3-foliolate, often 1-foliolate above, sessile; stipules minute, black glands, or absent; leaflets linear-lanceolate or elliptic acute, the middle one slightly longer stalked; peduncles axillary, bracted, single-flowered; flowers pink or rose, tinged with yellow; calyx lobes subulate, nearly equalling the corolla; legumes linear, flattened, or somewhat terete, 2-3.5 cm. long, glabrous.—Prairie Bird's-foot Trefoil.

Along railroads, prairies, in dry soil, probably adventive from western United States. Rare in Illinois.

Specimens Examined: COOK CO.: Along Chicago & Alton Railroad, near Brighton, W. S. Moffatt, 1 September 1893. GREENE CO.: Along railroad grades, Wrightsville, F. E. McDonald, July 1904. McDonald notes that at this location the plant seemed to him to be "introduced but well established."

16. PSORALEA L.

1. Leaves pinnately 1-3-foliolate; lower surface of leaflets, calyx and legumes not conspicuously glandular-dotted; legumes rugose.
2. Leaflets ovate-lanceolate, 4.5-10 cm. long, 2.5-6 cm. wide; legumes roughly ovoid, about 1 cm. long, wrinkled, and rough-pointed.

2. Leaflets linear-lanceolate, 4-7 cm. long, 1-2 cm. wide; legumes suborbicular, 4 mm. long, wrinkled.

1. Leaves digitately 3-5-foliate; both surfaces of leaflets, calyx, and legumes conspicuously glandular-dotted; legumes smooth.

2. Psoralea onobrychis Nutt. Gen. 2:104 (1818); Mead (1846) 60; Lapham (1857) 509; Hyatt (1875) 67; Patterson (1876) 10; Schneek (1876) 525; Flagg & Burrill (1878) 232; Brendel (1887) 46; Vail (1894) 116; Huett (1897) 64; Snare & Hicks (1898) 6; Robinson & Fernald (1908) 511; Stover (1930) 23; McDougall (1936) 164; Deam (1940) 598; Fuller (1943) 95; Jones (1945a) 164, (1950) 175; Fernald (1950) 597. 

Orbexilum onobrychis (Nutt.) Rydb. in N. Am. Fl. 24:5 (1919).

**Type Locality:** Near St. Louis, Mo.

**Range:** Ohio—Iowa—Mo.—Tenn.

Stoloniferous, perennial herb; stem up to 1 m. or more in height, glabrous or slightly pubescent; leaves pinnately 3-foliate; leaflets ovate-lanceolate, 4.5-10 cm. long, 1.5-6 cm. wide; foliage glands few and inconspicuous; racemes loose-flowered, long-peduncled; corolla 6-7 mm. long, blue-purple; legumes obliquely ovoid, with a curved beak, wrinkled, and rough-pointed.—Sainfoin Psoralea.

Along streams, fence rows, and at the edges of thicketes. Occasional, chiefly in northern Illinois.


Vail (1894:116) cites, among others, a specimen from Tazewell County: Pekin, no. 8 (1837), collector unknown. Not seen by the writer.

2. Psoralea psoralioides (Walt.) Cory in Rhodora 33:406 (1936); Jones (1945a) 164, (1950) 175.

**Hedysarum pedunculatum** Mill. Gard. Dict. Ed. 8, no. 17 (1768).

**Trifolium psoralioides** Walt. Fl. Gar. 184 (1788).

Psoralea melilotoides Michx. Fl. Bor. Am. 2:58 (1803); Lapham (1857) 509; Patterson (1876) 10; Schneek (1877) 83; Flagg & Burrill (1878) 232; Brendel (1887) 84.
Psoralea pedunculata (Mill.) Vail in Bull. Torr. Club 21: 114 (1891); Vail (1894) 115; Britton & Brown (1913) 2: 364; Ries (1939) 90.
Orbexilum pedunculatum (Mill.) Rydb. in N. Am. Fl. 24: 7 (1919).
Psoralea psoralioides var. eglandulosa (Ell.) Freeman in Rhodora 39: 426 (1937); Fernald (1950) 897.

Type Locality: South Carolina.
Range: Va.—Kans.—Tex.—Fla.

Perennial herb with a spindle-shaped root; stem pubescent. 3-8 dm. high; leaves pinnately 3-foliate, sparingly glandular or glandless; leaflets linear-lanceolate, entire, mucronulate; racemes loose-flowered, 4-10 cm. long, long-peduncled; floral bracts ovate, acuminate, glandular, and deciduous; calyx strigose, lobes lanceolate; corolla pale purple. 5-7 mm. long; legumes suborbicular, flat, with a short, incurved beak, transversely wrinkled.—Sampson's Snakeroot.

Plants of this species growing in the Mississippi basin are said to be distinguished from those of the Atlantic coastal area by having narrower leaflets, smaller floral bracts, larger calyces, and no glands. They have been designated Psoralea psoralioides var. eglandulosa. All specimens seen from Illinois show these characters.

Prairies, thickets, roadsides, and fence rows. Not common in Illinois.


WABASH CO.: Fence row on rock, J. Schueck, May 1900.


3. Psoralea tenuiflora Pursh. Fl. Am. Sept. 475 (1814); Higley & Raddin (1891) 29; Vail (1894) 97; Huet (1897) 64; Robinson & Fernald (1908) 512; Britton & Brown (1913) 2: 361; McDougall (1936) 164; Dean (1940) 597; Fuller (1943) 95; Jones (1945a) 164; Fernald (1945) 215; Jones (1945b) 278; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 175.

Psoralea floribunda Nutt. in T. & G. Fl. N. A. 1: 300 (1838); Engelmann (1843) 96; Short (1845) 194; Mead (1846) 60; Lapham (1857) 509; Brendel (1859a) 583; Babcock (1872) 25; Hyatt (1875) 67; Patterson (1876) 10; Williams (1877) 490; Flagg & Burrell (1878) 252; Brendel (1887) 46; Vail (1894) 98; Britton & Brown (1913) 2: 361.

**Psoralidium floribundum** (Nutt.) Rydb. in N. Am. Fl. 24:15 (1919); Rydberg (1932) 464.

**Type Locality:** "On the banks of the Missouri."

**Range:** Minn.—Ind.—Ark.—Tex.—Ariz.—Mont.

Erect, much branched perennial herb with glandular-punctate foliage and fine, whitish, appressed pubescence; leaves digitately 3-5-foliate; leaflets oblong-lanceolate or elliptical, 1-5 cm. long, entire, mucronate; flowers in peduncled racemes, 1-2 flowers at a node, often appearing whorled; calyx strigose or canescent, densely glandular; corolla blue or rarely white, 5-6 mm. long; legume glabrous, ovoid, 5-8 mm. long, densely glandular.—Few-flowered Psoralea.

In dry soil on prairies, rocky bluffs, and hillsides. Not common in Illinois.


Vail (1894:99) cites the following additional specimens from Illinois: Pekin (Tazewell Co.), Buckley; Augusta (Hancock Co.), S. B. Mead (1844). Not seen by the author.

17. **AMORPHA L.**

1. Foliage canescent; leaves sessile or nearly so; leaflets 9-18 mm. long.

2. Foliage sparsely pubescent or glabrous; leaves petioled; leaflets 2-5 cm. long.

3. Branches, petioles, leaf rachises, and peduncles pubescent, especially when young; racemes usually clustered; legume conspicuously glandular.

4. Branches, petioles, leaf rachises, and peduncles glabrous or nearly so; racemes usually solitary; legume nearly glandless...A. nitens

1. **Amorpha canescens** Pursh, Fl. Am. Sept. 467 (1814); Engelmann (1843) 96; Short (1845) 190; Mead (1846) 60; Lapham (1857) 509; Warne (1870) 347; Babcock (1873) 25; Patterson (1874) 5; Hyatt (1875) 68; Patterson (1876) 10; Williams (1877) 490; Flagg & Burrill
Amorpha canescens var. glabrata A. Gray, Pl. Wright 1:49 (1852); Schneider (1907) 300.

Amorpha canescens var. typica Schneider in Bot. Gaz. 43:360 (1907).

Amorpha canescens f. glabrata (Gray) Fassett in Rhodora 38:191 (1936).

Type Locality: Banks of the Missouri.

Range: Manitoba—Mich.—La.—N.M.—Mont.

Small bushy shrub, 3-10 dm. high, densely white-canescent throughout; leaves odd pinnate; leaflets 21-51, 7-20 mm. long, oval or oblong-lanceolate, entire, mucronate, nearly sessile; racemes spicate, densely-flowered, clustered, the terminal raceme longest; calyx-lobes lanceolate or linear; standard blue, 5 mm. long, folded around the stamens and style; wings and keel lacking; legume ovoid, about 4 mm. long, canescent, 1-seeded.—Lead Plant Amorpha.

Amorpha canescens var. glabrata A. Gray, also known as A. canescens f. glabrata (Gray) Fassett, is said to have stems and leaves sparsely pubescent with silky hairs, or glabrate, the leaves being a brighter green than in the typical form of the species. Illinois has been included in the range of this variety by Palmer (1931:167), but no specimens are cited. Since it is possible to find a wide range of variation in the amount and character of pubescence in the species, the writer has not segregated specimens of the f. glabrata in the citations below.

Roadsides, dry prairies, rocky slopes, or sandy beaches. Distributed locally throughout Illinois.


2. Amorpha fruticosa L. Sp. Pl. 713 (1753); Short (1845) 195; Mead (1846) 60; Lapham (1857) 509; Brendel (1859b) 602; Wolf (1870) 109; Babcock (1873) 248; Patterson (1874) 5, (1876) 10; Schneck (1876) 525; Williams (1877) 490; Flagg & Burrill (1878) 232; Ridgway (1883) 63; Brendel (1887) 46; Higley & Raddin (1891) 29; Huett (1897) 64; Snare & Hicks (1898) 6; Fuller & Strawsbaugh (1920) 252; Palmer (1921) 148; Thone (1925) 103; Pepoon (1927) 361; McDougall (1936) 165; Bradley (1938) 20; Feldman (1942) 61; Tehon (1942) 145; Fuller (1943) 95; Jones (1945a) 164, (1945b) 279; Fuller (1946) 55; Fuller, Fell & Fell (1949) 74; Jones (1950) 175.

Amorpha fruticosa var. augustifolia Pursh, Fl. Am. Sept. 2:466 (1814); Fassett (1939) 48.

Amorpha fruticosa var. emarginata Pursh, Fl. Am. Sept. 2:466 (1814); Palmer (1931) 196; Deam (1940) 599; Fernald (1945) 215.

Amorpha fruticosa var. vulgaris Pursh, Fl. Am. Sept. 2:466 (1814); Fassett (1936b) 191, (1939) 49.

Amorpha croceolanata P. W. Wats., Dendr. 2, pl. 139 (1825); Palmer (1931) 182.

Amorpha fragrans Sweet, Brit. Fl. Gard. pl. 241 (1825); Rydberg (1919) 33, (1932) 462.


Amorpha fruticosa var. typica Schnicl. in Bot. Gaz. 43:304 (1907).


Type Locality: “Habitat in Carolina.”

Range: Conn.—Minn.—La.—Fla.

Shrub 1.5-6 m. high, glabrous or sparingly pubescent; leaflets 11-35, 1.5-4 cm. long, and 7-20 mm. wide, elliptical or oval, glabrous or somewhat pubescent on the lower side, glandular-dotted; racemes spicate and densely-flowered, clustered or solitary; calyx-lobes deltoid or rounded,
much shorter than the calyx-tube; standard 6 mm. long, blue; legume
7-9 mm. long, slightly curved, glabrous, conspicuously glandular-dotted.—False Indigo.

Because of the tendency of plants of this species to vary considerably
in the number, size, and shape of the leaflets, as well as the amount and
character of the pubescence, several named variations have been recog-
nized in the past, and some attempt has been made to set up a definite
geographical range for some of them. A. fruticosa var. vulgaris Pursh,
distinguished by spreading pubescence on the lower surface of the leaflets
has been considered by Fassett (1936b:190) to represent “typical
A. fruticosa.” A. fruticosa var. angustifolia Pursh, with appressed pubes-
cence on the lower surface of the leaflets has been called the “western
phase of A. fruticosa” (Fassett, 1939:48). Both of these have been said
to occur in Illinois.

A. fruticosa var. tennesseensis (Shuttlew. ex. Kuntze) Palmer, differing
from the species in the “more numerous, narrow-oblong leaflets, and in
the slightly curved or nearly straight pod” is reported by Palmer (1931:
192) from Adams and Stark counties in Illinois, and by Fernald (1950:
899). This plant, under the name A. tennesseensis Shuttlew. has been at-
tributed to Jersey County by Schneider (1907:303).

A. fruticosa var. emarginata Pursh with “usually larger, oval or ovate
leaves, blunt or emarginate at the apex” is cited by Palmer (1931:196)
from Macon, Champaign, and Alexander counties, Illinois.

A. fruticosa var. crocolanata (P. W. Wats.) Schneider, characterized
by tawny, villous pubescence, especially when young, has been attributed
to southern Illinois by Fernald (1945:215; 1950:899), and by Palmer
(1931:182) under the name A. crocolanata P. W. Wats.

A study of the specimens of A. fruticosa in the University of Illinois
Herbarium shows that a series of intergradations between the typical
form of the species and the varieties listed above can be rather easily
established. The writer therefore considers it advisable to recognize such
variations as occurring within the limits of the species as originally de-
scribed, and in the citations of specimens has referred these variations to
A. fruticosa.

In bottom lands, along streams, and other low, wet places. Distributed
locally throughout Illinois.

SPECIMENS EXAMINED: ADAMS CO.: Pasture, near Burton Cave, R. A.
Evers 1136, 4 June 1943. ALEXANDER CO.: Low bottoms of Cache River,
near Cairo. E. J. Palmer 15082, 8 May 1919 (A). CARROLL CO.: Mississipi
River bottom. Savanna, 12 July 1902. collector not known. CHAMPAIGN
CO.: Sangamon River, near Mahomet. G. N. Jones 11758, 9 June 1940. COOK
CHRISTIAN CO.: Taylorville, W. E. Andrews, 14 November 1896. FAYETTE
CO.: Roadside ditch s. of Brownstown, Louise O’Dell 199, 4 June 1943. GAL-

Amorpha nitens Boynton in Biltmore Bot. Studies 1:139 (1902); Palmer (1931) 177; Fernald (1945) 215, (1950) 899.

This species is very similar to A. fruticosa, but differs from it chiefly in the following respects: The leaflets of A. nitens at maturity are glabrous and shining above, and sparsely pubescent below; the rachis of the leaves and the inflorescence is glabrous; the racemes are usually solitary, or occasionally with one or two short basal branches; the calyx is glabrous except for the ciliated margins of the lobes, and not glandular; and the legumes are glandless.

E. J. Palmer (1931:177) attributes this species to Illinois on the basis of two specimens from Golconda, Pope County. The writer thus far has been able to examine one of these, from which the following data are taken: POPE CO.: Low banks of the Ohio River, Golconda, E. J. Palmer 15371, 5 June 1919 (A). This specimen was in flower, but not yet in fruit. Since no other Illinois specimens have been seen, the writer does not believe there is sufficient evidence at the present time for considering this species as a member of the spontaneous flora of the state. A. nitens is included in the key to species of Amorpha in the event that additional collections are made in Illinois.


This species ranges as far north as southern Illinois, according to Palmer (1931:181), although no Illinois specimens are cited. The writer has seen no material from Illinois and, on the basis of present evidence, does not believe it should be included as part of the spontaneous flora of the state.
18. DALEA Juss.

Dalea alopecuroides Willd. Sp. Pl. 3:1836 (1803); Short (1845) 189; Lapham (1857) 509; Babcock (1873) 248; Patterson (1876) 10; Williams (1877) 491; Flagg & Burrill (1878) 232; Brendel (1857) 84; Robinson & Fernald (1908) 513; Pepoon (1927) 361; Deam (1940) 630; Jones (1945a) 164; Fuller (1946) 58; Jones (1950) 175; Fernald (1950) 899. Psoralea dalea L. Sp. Pl. 764 (1753).


Parosela alopecuroides (Willd.) Rydb. in N. Am. Fl. 24:78 (1920); Rydberg (1932) 466; Small (1933) 694.

Type Locality: "Habitat in America."

Range: Minn.—Ill.—Ala.—Tex.—N.M.—S.D.

Erect annual herb, 2-10 dm. high, glabrous, with leaves and stem glandular-punctate; leaves odd-pinnate; leaflets 15-41, elliptic, cuneate, or ob lanceolate, 3-11 mm. long; flowers in very dense, oblong terminal spikes, 1.5-8 cm. long; calyx lobes linear-lanceolate, acuminate, very silky-pubescent; corolla 2.5-3 mm. long, whitish or pink; legume included within the calyx, membranous, one-seeded.—Foxtail Dalea.

Dry prairies, and along railroads, and as a weed in waste places. Occasional in Illinois.


19. PETALOSTEMUM Michx.

1. Flowers purple or rose, rarely white.

2. Leaflets 3-5, linear, involute; calyx silky-pubescent; flowers purple, rarely white; legume pubescent .......... 1. P. purpureum

2. Leaflets 13-31, linear-elliptical or ob lanceolate, not involute; calyx glabrous; flowers rose-purple; legume glabrous ....... 2. P. foliosum

1. Flowers white; leaflets 5-9, linear-elliptical or ob lanceolate; calyx glabrous; legume sparingly pubescent .......... 3. P. candidum

1. Petalostemum purpureum (Vent.) Rydb. in Mem. N. Y. Bot. Gard. 1:238 (1900); Gleason (1907) 184, (1910b) 158; Gates (1912) 361, (1923) 169, (1926) 231; Pepoon (1927) 362; McDougall (1936) 166; Fuller (1943) 95; Jones (1945a) 164, (1945b) 274; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 176.


Petalostemum violaceum Michx. Fl. Bor. Am. 2:50 (1803); Engelmann
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(1843) 96; Short (1845) 190; Mead (1846) 60; Lapham (1857) 509; Warne (1870) 347; Babcock (1872) 25; Patterson (1874) 4; Hyatt (1875) 68; Patterson (1876) 10; Schneck (1876) 525; Williams (1877) 491; Flagg & Burrill (1878) 232; Brendel (1887) 46; Higley & Raddin (1891) 29; Huett (1897) 65; Snare & Hicks (1898) 6.

Kuhnistera purpurea (Vent.) MacM. Met. Minn. Valley 32 (1892); Heller (1896) 124.


Type Locality: Described from cultivated specimens introduced from Illinois.

Range: Manitoba—Ind.—Ark.—N.M.—Saskatchewan.

Perennial herb often with woody base; stem 2-9 dm. high, glabrous or slightly pubescent; foliage glandular-punctate; leaves odd-pinnate, closely clustered; leaflets 3-5, linear to lanceolate, 8-20 mm. long, involucre; flowers crowded, in very dense terminal cylindrical spikes; bracts densely pubescent except for the dark, almost glabrous tip; calyx silky-pubescent; corolla violet or purple, rarely white, indistinctly papilionaceous; legume membranes, included within the calyx.—Purple Prairie Clover.

Gates (1911:125-28) has given the name P. purpureum f. arenarium to a variation "in which xerophytic adaptations are induced by growth in sand." The type material (Gates 2922) was collected from plants "growing in sandy soil in the Andropogon scoparius consocies of the bunchgrass prairie at Waukegan, Lake County, Illinois, August 7, 1908." This form is said to differ from the species in having a larger and more bulky tap root, numerous (20-38) ascending or nearly prostrate stems, with appressed, linear leaflets, and relatively smaller flowering spikes.

Dry prairies, along roadsides, railroads; sandy beaches along Lake Michigan. Locally distributed throughout Illinois.

Prairie, near Wady Petra, V. H. Chase, 9 July 1896. UNION CO.; Rock soil, Pine Hills, G. D. Fuller 756, 3 July 1941. WINNEBAGO CO.; Sandy field, occasional, near Shirland, G. D. Fuller, 4 August 1945.

2. Petalostemum foliosum A. Gray in Proc. Am. Acad. 7:336 (1868); Patterson (1876) 10; Flagg & Burrill (1878) 232; Boltwood (1879) 219; Hill (1879) 239; Brendel (1887) 84; Huett (1897) 65; Robinson & Fern- nald (1908) 513; Britton & Brown (1913) 2:371; Rydberg (1920) 126; Pepoon (1927) 362; Small (1933) 696; McDougall (1936) 167; Jones (1945a) 164, (1950) 176; Fernald (1950) 900.

Type Locality: Banks of the Fox River, Kane County, Illinois.

Range: Ill.—Tenn.

Erect perennial herb with a somewhat woody base, 3-10 dm. high, glabrous throughout; leaflets 12-31, linear elliptical or oblanceolate, bright green above, pale and glandular-punctate below; spikes dense, cylindrical, 1.5-5 cm. long, about 1 cm. thick in fruit; bracts lanceolate, with subulate tips much longer than the calyx and somewhat persistent; calyx glabrous; corolla pink; legume about 3 mm. long, glabrous.—Leafy Prairie Clover.

River banks and gravelly soil, rare.

Specimens Examined: KANE CO.: Geneva, J. Higgins 1588, 30 August 1891. KANKAKEE CO.: Gravelly banks of island in Kankakee River, near Altorf, E. J. Hill, 27 August 1872; same location, E. J. Hill, 28 July 1873. Boltwood (1879:219) reported collecting this species from abundant growths in Ottawa, La Salle County, but the writer has not examined his specimens.

Type: KANE CO.: Banks of Fox River (Illinois), Burgess Truesdell, 1867.

3. Petalostemum candidum (Willd.) Michx. Fl. Bor. Am. 2:49 (1803); Mead (1846) 60; Lapham (1857) 509; Warne (1870) 347; Babcock (1872) 25; Patterson (1874) 4; Hyatt (1875) 68; Patterson (1876) 10; Schneck (1876) 83; Williams (1877) 491; Flagg & Burrill (1878) 232; Brendel (1887) 46; Higley & Raddin (1891) 29; Huett (1897) 65; Snare & Hicks (1898) 6; Gleason (1907) 184, (1910b) 158; Gates (1912) 361, (1923) 169; Thone (1925) 103; Gates (1926) 231; Pepoon (1927) 362; McDougall (1936) 167; Fuller (1943) 95; Jones (1945a) 164; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 176.


Kuhnistera candida (Willd.) Kuntze, Rev. Gen. Pl. 192 (1891); Rydberg (1895) 153; Heller (1896) 120.

Type Locality: “Habitat in America boreali.”

Range: Manitoba—Ind.—La.—Tex.—Saskatchewan.

Erect perennial herb, base woody; stem 3-10 dm. high, glabrous; leaves pinnately 5-9-foliolate; leaflets linear-oblong or oblanceolate, 1-5.5 cm. long, glandular-punctate below; spikes dense, cylindrical, 1.5-10 cm. long; bracts with a subulate tip, longer than the calyx; calyx glabrous, the
lobes ciliolate; corolla white; legume 3 mm. long, included within the calyx, sparingly pubescent.—White Prairie Clover.

Dry prairies; along railroads, roadsides, and sandy ridges bordering Lake Michigan; usually found with *P. purpureum*, but rarer. Local, throughout the state.


20. **TEPHROSIA** Pers.

**Tephrosia virginiana** (L.) Pers. Syn. Pl. 2:329 (1807); Mead (1846) 60; Lapham (1857) 599; Brendel (1860) 294; Babcock (1872) 25; Patterson (1874) 5, (1876) 10; Williams (1877) 491; Brendel (1887) 46; Higley & Raddin (1891) 29; Huett (1897) 65; McDonald (1900) 102; Gleason (1910b) 158; Pepoon (1910) 152; Thone (1925) 103; Pepoon (1927) 362; Henderson (1929) 147; McDougall (1936) 168; Fassett (1939) 59; Deam (1940) 601; Fuller (1943) 95; Jones (1945a) 164; Fernald (1945) 215; Jones (1945b) 278; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Wood (1949) 272; Jones (1950) 176.

**Cracca virginiana** L. Sp. Pl. 752 (1753); Gleason (1907) 184; Gates (1926) 231; Ries (1939) 90.

**Tephrosia holosericea** Nutt. in Journ. Acad. Phila. 7:105 (1834).

**T. virginiana** var. *holosericea* (Nutt.) T. & G. Fl. N. Am. 1:296 (1838); Deam (1940) 601; Fuller (1943) 95; Fernald (1945) 215.


**Type Locality:** "Habitat in Virginia, Canada."

**Range:** Me.—Manitoba—Tex.— Fla.

Erect perennial herb, 3-6 dm. high, villous; leaves pinnately 7-29-foliolate; leaflets linear-elliptical, 2-3.5 cm. long, glabrous or with soft white pubescence above, villous beneath; flowers large, in short terminal ra-
cymes; calyx villous, the lobes lanceolate and acuminate; corolla whitish, tinged with purple, 15-17 mm. long; legumes linear, 3-6 cm. long, 4-6 mm. wide, straight or slightly curved, densely pubescent.—Goat’s-rue.

In dry sandy soil in dunes, and on open hillsides. Fairly abundant throughout the state.

A variation characterized by leaflets somewhat narrower than in the species as originally described, and with the upper surface of the leaflets pubescent has been described as *T. virginiana* var. *holosericea* (Nutt.) T. & G. According to Fassett (1939:59) this plant has a generally more northerly and westerly distribution in the United States, whereas the typical *T. virginiana*, with upper surfaces of the leaflets glabrous “is the common plant of the southeastern states.”

In a recent monograph of *Tephrosia*, Wood (1949:271-74) points out the following facts about the forms just mentioned: Mass collections show that both “glabrous” and “hairy” plants often occur in the same colony, the proportion varying by chance. A map is presented to show that there is no real geographic segregation of either type, and therefore, nothing to warrant taxonomic recognition of either entity on a geographical basis. Wood concludes that there is no evidence to justify retention of var. *holosericea*.


21. ROBINIA L.

1. Tree, 3-30 m. high; twigs and petioles not hispid; racemes 6-many-flowered.
2. Flowers white or yellowish and fragrant; twigs and petioles glabrate or puberulent; stipules thorny; large tree...1. R. pseudoacacia

2. Flowers pink, not fragrant; twigs and petioles glandular-viscid; stipules not spiny; small tree.................3. R. viscosa

1. Shrub, 0.5-3 m. high; twigs and petioles densely hispid; racemes 3-5-flowered..........................2. R. hispida

1. Robinia pseudoacacia L. Sp. Pl. 722 (1753); Mead (1846) 60; Lapham (1857) 509; Brendel (1858b) 602, (1859c) 660; Michaux (1859) 2:92; Ridgway (1872) 659; Patterson (1876) 10; Schneck (1876) 525; Williams (1877) 491; Flagg & Burrill (1878) 233; Ridgway (1883) 65; Higley & Raddin (1891) 29; Ridgway (1895) 411; Huett (1897) 65; Snare & Hicks (1898) 6; Gleason (1910b) 158; Smith (1910) 18; Hall & Ingall (1911) 209; Palmer (1921) 148; Gates (1923) 169; Thorne (1925) 103; Gates (1926) 231; Pepoon (1927) 362; Miller & Tehon (1929) 232; Eaton (1931) 156; Sargent (1933) 623; Bradley (1935) 97; Everson (1941) 99; Feldman (1942) 61; Jones (1942) 72, (1945a) 164; Fuller (1946) 58; Jones (1947) 55; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 176.

Robinia pseudoacacia var. unifoliola Talou, Hortic. Franc. 157 (1859).
Robinia pseudoacacia monophylla Carr. in Rev. Hort. 630, fig. 121, 122 (1860); Clute (1907) 63.


Type Locality: "Habitat in Virginia."

Range: Pa.—Ark.—La.—Ga. Extensively cultivated, and escaped throughout the United States and southern Canada.

Large tree with rough, furrowed bark, reaching 30 m. in height; leaves pinnately 9-19-foliolate; stipules woody; leaflets ovate or elliptical, entire, obtuse or emarginate, 3-5 cm. long, 1-2 cm. wide, glabrate; flowers showy, fragrant, in drooping axillary or terminal racemes; corolla white, 15-22 mm. long; legumes broadly linear, 6-10 cm. long. 10-12 mm. wide, glabrous, 4-16-seeded.—Black Locust.

Cultivated as shade tree along city streets and roadsides, and along fences, and as a hedge tree; escaped from cultivation and naturalized, possibly native, particularly in river bottoms. Common throughout Illinois.

It is not easy to determine whether Robinia pseudoacacia should be listed as native in Illinois. In the journal of his travels into the Illinois territory, Michaux (1859:124) mentions this tree among those he observed along the Mississippi River, in the region between Kaskaskia and the Ohio River. Since the black locust had been introduced into France in the early 17th century, and widely cultivated in that country, Michaux
must certainly have been familiar with it before he came to North America. His identification was, therefore, in all probability, accurate.

Mead (1846:60) lists R. pseudoacacia as a cultivated ornamental tree in the vicinity of Augusta, Hancock County. In any case, one would hardly expect the tree to be native that far north in Illinois. The next record is that of Lapham (1857:509) who includes the tree in a list stated specifically to be a catalogue of the "plants growing naturally within the state of Illinois." Brendel (1859b:602) pointed out that even before the time of the Civil War the tree was so well established in Illinois that it was very difficult to ascertain its original distribution here, if any, but he states that "the centre of its original home is probably Kentucky, and we can presume that it is a native of South Illinois too." Schneck (1876:525) makes this notation regarding R. pseudoacacia in the lower Wabash River valley: "Escaped to improved grounds and borders of woods... Naturalized from eastern United States." Patterson (1876:10) gives Vasey and Forbes as authorities for his statement about this tree: "Undoubtedly indigenous on the banks of the Ohio River."

Ridgway (1883:65) says of R. pseudoacacia: "Not observed by Dr. Schneck or myself in Wabash or adjoining counties in Illinois." Sargent (1922:622) says the species is native in southern Illinois. Palmer and Steyermark (1935:578) state that it is native in parts of the Ozark region of Missouri. The distribution map by Munns et al. (1938:147) includes southern Illinois in the natural range of R. pseudoacacia. Deam (1940:602) considers that in Indiana the tree "was, no doubt, a native in the southeastern part of the state near the Ohio River."

Although it is now impossible to prove, conclusively, whether this species is native in Illinois, the above statements suggest a strong probability that it may be indigenous in southern Illinois along the Ohio and Mississippi rivers.


A specimen of Robinia pseudoacacia f. unifoliola (Talou) Rehder was reported (as R. pseudoacacia monophylla) to have been received by Clute (1907: 63) from Mr. H. C. Skews of Lockport (Will Co.) Illinois. We are given no further information about this particular specimen, and, since the writer has not seen any Illinois specimens, it seems justifiable to conclude that this form may be met with only rarely.

2. Robinia hispida L. Mant. 101 (1767); Flagg & Burrill (1878) 232; Rydberg (1924) 225; Gates (1936) 231; Rydberg (1932) 470; Small (1933) 702; Jones (1945a) 164, (1950) 176.

Type Locality: “Hab. in Carolina. Carthagena.”

Range: Va.—Tenn.—Ala.—Ga. Escaped from cultivation west to Minn. —Kans.

Shrub, 0.5-3.0 m. high, branches, petioles, and leaf rachises densely hispid; leaves pinnately 7-15-foliolate; leaflets broadly ovate or elliptical to suborbicular. 1.5-5 cm. long, 1-3.5 cm. wide, glabrous or slightly pubescent on the veins below; racemes mostly 3-5-flowered, the peduncles, pedicels, and calyx bristly; flowers pink or purple, not fragrant; legumes densely hispid, 5-8 cm. long, 1 cm. wide.—Bristly Locust.

Cultivated, often established, and occasionally spontaneous. Not common in Illinois.


Type Locality: “Alleghany Mountains, central Carolina, towards the sources of Savanna River.”

Range: Pa.—Ala.—Ga.—N.C. Escaped from cultivation elsewhere.

Shrub or small tree, 3-10 m. high; branches. twigs. petioles glandular-viscid; leaves pinnately 11-27-foliolate; leaflets ovate or elliptical, dark green and glabrate above, puberulent and paler below; racemes 6-15-flowered, peduncles and pedicels puberulent and glandular-viscid, calyx puberulent. reddish-purple; corolla pink; legume 5-8 cm. long, 1 cm. wide, glandular-hispid.—Clammy Locust.

Not native in Illinois, but escaped from cultivation and established locally. Rare.

Specimens Examined: JO DAVIESS CO.: Escaped from cultivation, near Warren, Peepoon & Moffatt 165, July 1896. Huett (1897:65) reports it from La Salle County, but no specimens have been seen from that county.

22. WISTERIA Nutt.

Glycine frutescens sensu Michx. 2:63 (1803); non L., quoad, pl. Ill.

Wisteria frutescens sensu Lapham (1857) 509; Brendel (1859b) 602; Patterson (1876) 10; Schneck (1876) 509; Brendel (1887) 84; not (L.) Poir. (1823).


Type Locality: Louisiana.

Range: Ill.—Mo.—La.—Tenn.

Swampy woods in southern Illinois; rare. Also widely cultivated.

Specimens Examined: PULASKI CO.: Fricke (in F. Brendel herbarium), date not given; Cypress swamp, 5 mi. n. of Grand Chain, G. S. Winterringer 1943, 29 May 1949. Reported also from Alexander, Pope, and St. Clair counties, but specimens from these counties have not been seen.

Wisteria sinensis Sweet has been reported from Illinois by Jones (1945a:165) and Fernald (1950) 903. The writer has seen no Illinois specimens of this species, and at the present time has no evidence for considering it an established part of the flora of the state. This species is also cultivated in the state as an ornamental.

23. ASTRAGALUS L.

1. Corolla purplish-blue, 8-10 mm. long; legume lunate in outline, one-loculed..................................1. A. distortus

1. Corolla white, cream-colored, or greenish-yellow. 1-2.5 cm. long; legumes not lunate, two-loculed.

2. Legumes pubescent at maturity; stems villous; calyx villous-pilose. ..................................................2. A. tennesseensis

2. Legumes glabrous at maturity; stems glabrate or sparingly strigose above.

3. Legumes ellipsoid; leaflets 1.5-4 cm. long; racemes 5-10 cm. long; calyx finely strigose.......................3. A. canadensis

3. Legumes nearly globose; leaflets 5-15 mm. long; racemes 2-3 cm. long; calyx notably white-villous.........4. A. trichocalyx

1. Astragalus distortus T. & G. Fl. N. A. 1:333 (1838); Lapham (1857) 509; Patterson (1876) 10; Flagg & Burrill (1878) 233; Brendel (1887) 84;
McDonald (1900) 102; Robinson & Fernald (1908) 517; Britton & Brown (1913) 2:382; M. E. Jones (1923) 256; Jones (1945a) 165, (1950) 176; Fernald (1950) 908.

_Holcophacos distortus_ (T. & G.) Rydb. ex Small, Fl. SE. U. S. 618, 1332 (1903); Rydberg (1929) 311.

**Type Locality:** Arkansas. _Nuttall._

**Range:** W.Va.—Iowa—s.e. Kans.—Tex.

Perennial herb with taproot; stem much branched, the branches prostrate or ascending, 1-4 dm. long, glabrous or sparingly strigose; leaves odd-pinnate, 13-25-foliolate; leaflets elliptical or obovate, emarginate or rounded at the apex, 4-10 mm. long, glabrous above, sparingly strigose below; flowers purplish-blue, or occasionally almost white, in short racemes 2-4 cm. long; corolla 8-10 mm. long; legume crescent-shaped, 1.5-2.5 cm. long, sessile in the calyx, coriaceous, glabrous, 1-loculed.—_Bent Milk Vetch._

In dry soil. Not common in Illinois.

**Specimens Examined:** CASS CO.: Sandy barrens, common, Beardstown, F. E. McDonald, 24 May 1905. COOK CO.: Morgan Park, Chicago, W. D. Barnes, 21 May 1899. ST. CLAIR CO.: F. Brendel.

2. _Astragalus tennesseensis_ A. Gray ex Chapm. Fl. S. U. S. 98 (1860); Robinson & Fernald (1908) 515; Deam (1940) 1067; Fernald (1945) 216; Jones (1950) 176; Fernald (1950) 912.

_Astragalus plattensis_ var. _tennesseensis_ A. Gray in Proc. Am. Acad. 6:193 (1864); Patterson (1876) 10; Brendel (1887) 54.

_Astragalus plattensis_ sensu Williams (1877) 491; Flagg & Burrill (1878) 233; Huett (1897) 65; Jones (1945a) 165; Fernald (1950) 912; non Nutt. (1838).

_Astragalus plattensis_ var. _missouriensis_ Coulter in Bot. Gaz. 5:71 (1880), nom. nud.

_Geoprumnon tennesseense_ (A. Gray) Rydb. ex Small, Fl. SE. U.S. 615, 1332, (1903); Britton & Brown (1913) 2:378; Rydberg (1926) 164, (1929) 462.

**Type Locality:** Nashville, Tenn.

**Range:** Ill.—Tenn.—Ala.

Perennial herb, villous, with ascending stems from a tufted rootstock; leaflets 15-25, linear-elliptic, 8-20 mm. long, glabrate above, pilose beneath; racemes dense, 2-3 cm. long, peduncles 5-10 cm. long; calyx villous, the lobes about one-third as long as the tube; corolla yellowish-white, 15-17 mm. long; legumes oblong-ovoid, pubescent, 2.5-3.0 cm. long, gradually pointed, strongly wrinkled.—_Tennessee Milk Vetch._

Dry slopes and banks; prairies; not common in Illinois.

**Specimens Examined:** GRUNDY CO.: Morris, G. Vasey, date not given.

Fernald (1945:216) cites, in addition, specimens from Ogle and LaSalle counties in the Gray Herbarium.

3. *Astragalus canadensis* L. Sp. Pl. 757 (1753); Mead (1846) 60; Laplham (1857) 509; Warne (1870) 347; Babcock (1872) 25; Patterson (1874) 5, (1876) 10; Schneck (1876) 525; Williams (1877) 491; Flagg & Burrill (1878) 233; Brendel (1887) 46; Higley & Raddin (1891) 29; Huett (1897) 65; Gates (1912) 361; Pepoon (1927) 362; McDougall (1936) 169; Fuller (1943) 95; Jones (1945a) 165; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 176.

*Astragalus carolinianus* L. Sp. Pl. 757 (1753); Ries (1939) 90.

*Astragalus canadensis* var. *longilobus* Fassett in Rhodora 38:94 (1936), (1939) 74.

TYPE LOCALITY: “Habitat in Virginia and Canada.”

RANGE: Quebec—Fla.—Utah—British Columbia.

Erect perennial herb, 1-1.5 m. high, sparingly strigose or glabrate; leaflets 15-31, elliptic or elliptic-lanceolate, obtuse at the apex, 1.5-4.0 cm. long, glabrous above and strigose below in maturity; flowers greenish-yellow, in long-peduncled, dense racemes 5-10 cm. long; calyx-tube finely strigose, the lobes less than half as long as the tube; corolla 12-15 mm. long; legumes oblong, sessile, coriaceous, glabrous, 2-loculed, 10-15 mm. long.—Canada Milk Vetch.

Specimens of this species having the calyx-lobes more than half as long as the calyx tube, and sometimes longer than the tube, have been designated *Astragalus canadensis* var. *longilobus*. Of 40 Illinois specimens in the University of Illinois Herbarium, 7 have calyx-teeth of sufficient length to place them in this variety. The remaining specimens show a range of variation between the length described in the species and that of the variety.

Along streams and in rich woods. Distributed throughout Illinois.


Astragalus mexicanus sensu Lapham (1857) 509; Bebb (1860) 183; Patterson (1876) 10; Flagg & Burrill (1878) 233; Brendel (1887) 84; Robinson & Fernald (1908) 515; M. E. Jones (1923) 237; McDougall (1936) 169; non A.DC. (1826).

Geoprumnon mexicanum (A.DC.) Rydb. in Small, Fl. SE. U. S. 616 (1903); Britton & Brown (1913) 2:377.


Astragalus mexicanus var. trichocalyx (Nutt.) Fern. in Rhodora 39: 317 (1937); Fernald (1950) 912.

Type Locality: Plains of Arkansas.

Range: Ill.—Kans.—Tex.—Ark.

Perennial herb from a tufted, woody rootstock, branching at the base into several stems 3-5 dm. long, glabrous below, sparingly strigose above; leaflets 17-33, elliptical to obovate, 5-15 mm. long, glabrous above, appressed-pubescent below; racemes crowded, 2-3 cm. long, on peduncles 5-8 cm. long; calyx densely pubescent with short white hairs; corolla cream-colored, often purplish at the tip, 2 cm. long; legumes nearly globose, 2-2.5 cm. long and 2 cm. thick, glabrous, obtuse at the apex, 2-loculed, edible at maturity.—Large Ground Plum.

Prairie soil, rare in Illinois.


Reported also by Patterson (1876:10) from Madison County (Miss Holmes) and St. Clair County (Brendel), but specimens have not been seen from these counties.

Astragalus pachycarpus T. & G. Fl. N. A. 1:332 (1838) has been attributed to Illinois by Mead (1846:60). The following statement accompanies his citation: "... perhaps a new species between A. obcordatus and distortus." No other records of the occurrence of this plant in Illinois have been found. Since the plant has presumably not been collected in Illinois since Mead’s time, this Astragalus is not considered a part of the flora of the state.

24. GLYCYRRHIZA L.

Glycyrrhiza lepidota (Nutt.) Pursh, Fl. Am. Sert. 480 (1814); Fassett (1939) 79; Steyermark & Swink (1949) 148; Jones (1950) 177.

Liquivitia lepidota Nutt. in Fraser’s Cat. (1813). Hyponym.

Type Locality: "On the banks of the Missouri."
Range: Minn.—Mo.—Tex.—Calif.—Wash.—Alberta. Adventive eastward.
Erect, branching perennial herb, 5-10 dm. high, the root thickened and sweet; leaves odd-pinnate, glandular-dotted; leaflets 11-19, elliptical to lanceolate, entire, obtuse, mucronate, 2-3.5 cm. long, scaly when young; flowers in dense, rather long-peduncled, but short spikes; corolla creamy-white, about 12 mm. long; legumes 12-17 mm. long, covered with hooked prickles.—Wild Licorice.

Along railroad tracks, in waste ground; adventive from the Great Plains and westward; rare.

Reported by Steyermark and Swink (1949:148) from Cahokia, St. Clair County on the basis of a specimen collected by H. Eggert; date not given. Collected also by Swink "along Illinois Central railroad tracks just north of St. Charles Road, Elmhurst, Du Page Co., July 6, 1948."

25. CORONILLA L.

Coronilla varia L. Sp. Pl. 743 (1753); Flagg & Burrill (1878) 220; Jones (1945a) 165, (1950) 177.

Type Locality: "Habitat in Lusatia, Bohemia, Dania, Gallia."
Range: Mass.—S.D.—Mo.—Md.

Perennial herb, stems straggling or ascending, glabrous, 3-4 dm. high; leaves sessile, odd-pinnate, 11-25-foliolate; leaflets elliptical or obovate, obtuse, mucronate, 8-17 mm. long, glabrous; flowers pinkish-white, in axillary umbels, with peduncles exceeding the leaves in length; legumes linear, straight, 4-angled, 3-7 jointed, each joint 6-8 mm. in length.—Crown Vetch.

Roadsides and in waste places, where it has escaped from cultivation; naturalized from Europe.

Specimens Examined: MARION CO.: Salem, C. M. Tilson, June 1917. The writer has collected specimens from plants which seem well established along fences on the University of Illinois Farms, Urbana, Champaign Co. (July, 1950).

26. DESMODIUM Desv.

1. Stipe of the loment 2-3 times longer than the calyx; loment nearly straight above, deeply constricted below into almost separate joints.

2. Panicle on long, usually leafless stalk arising at the base of the plant. .......................... 1. D. nudiflorum

2. Panicle axillary or terminal, but not as above.

3. Leaves in a cluster at the base of the peduncle; flowers many; corolla purple. .......................... 2. D. glutinosum

3. Leaves scattered along the stem; flowers few; corolla white... .......................... 3. D. pauciflorum
1. Stipe of the loment not much longer than the calyx, or, the loment sessile in the calyx; loment constricted on both margins, but more deeply below than above.
4. Stipules ovate, acuminate, persistent and conspicuous.
5. Stems trailing; leaflets nearly orbicular.
6. Inflorescence profusely branched, axillary and terminal; joints of the loment noticeably longer than broad, almost rhombic in outline.

5. D. canescens
6. Inflorescence seldom branched, terminal; joints of the loment little longer than broad, oval to orbicular in outline.

6. D. illinoense
7. Loment 1-3- or 4-jointed; bracts inconspicuous; flowers not more than 6 mm. long.
8. Leaflets linear to narrowly linear-lanceolate, sessile or nearly so.

8. D. sessilifolium
9. Leaflets not as above.
10. Stems pubescent; leaves sessile or nearly so; petioles and leaflets ciliate; leaflets elliptic or narrowly ovate to rhombic.

9. D. ciliare
10. Whole plant glabrous or nearly so; leaves distinctly petiolate; leaflets ovate to suborbicular.

10. D. marilandicum
7. Loments commonly with 4 or more joints.
11. Stipules 4.5-20 mm. long, linear-lanceolate or ovate, persisting at least until time of flowering; primary bracts large, conspicuous; flowers large, 6-14 mm. long; stipe of the loment not much longer than the calyx, or sessile.
12. Petioles commonly 2.5 cm. or less in length; stipules 4.5-9.5 mm. long, linear-lanceolate, attenuate; joints of the loment oval or suborbicular.

11. D. canadense
12. D. cuspidatum
13. Leaflets glabrous beneath; floral bracts and stipules not ciliate.

13. D. marilandicum
above and below; floral bracts and stipules ciliate.

11. Stipules setaceous, inconspicuous, early deciduous; primary bracts small, inconspicuous; flowers small, less than 8 mm. long; stipe of the loment exceeding the calyx.

14. Pedicels short, 3-12 mm. long; leaflets with at least some pubescence below, but not glaucous.

15. Leaflets thick, rhombic or ovate to elliptic-ovate; width of the terminal leaflet at least half the length.

16. Stipules not long persistent; terminal leaflets acute to obtuse at the apex, not prominently reticulate below; joints of the loment curved above, nearly rounded below and deeply indented.

16. Stipules usually persistent through flowering; terminal leaflets obtuse, often slightly emarginate at apex, quite prominently reticulate below; joints of the loment triangular to rhombic in outline.

15. Leaflets thin, linear-lanceolate to narrowly ovate-lanceolate, rarely more than 2 cm. wide, the terminal leaflet two to many times longer than wide.

14. Pedicels long, 10-19 mm.; leaflets short-pilose and glaucous below.

1. Desmodium nudiflorum (L.) DC. Prodr. 2:330 (1825); Mead (1846) 60; Lapham (1857) 509; French (1870) 384; Babcock (1872) 25; Patterson (1876) 10; Schneck (1876) 525; Flagg & Burrill (1878) 233; Brendel (1887) 46; Higley & Raddi (1891) 30; Huett (1897) 66; Thorne (1925) 103; Pepoon (1927) 362; McDougall (1936) 170; Fuller (1943) 95; Jones (1943a) 165; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 177.

Hedysarum nudiflorum L. Sp. Pl. 749 (1753).

Meibomia nudiflora (L.) Kuntze, Rev. Gen. Pl. 197 (1891); Gleason (1907) 184; Gates (1923) 169.

Type Locality: “Habitat in Virginia.”

Range: Me.—Minn.—Kans.—La.—Fla.

Erect or ascending, with leaves clustered at summit of a sterile stem; peduncle arising from base of plant, 6-10 dm. high, leafless, or occasionally with 1 or 2 leaves; leaflets 3, oval or ovate, blunt-acuminate, pale beneath, 2-8 cm. long, the terminal one somewhat rhomboidal, the others inequilateral; corolla rose-purple, 8-11 mm. long; loment 2-3 jointed,
long-stipitate, straight or slightly concave on the back, obliquely rounded below, unicinate-pubescent.—Naked Flowered Tick Clover.

In woods. Common in Illinois.


2. Desmodium glutinosum (Muhl.) Wood, Class book 120 (1845); Jones (1945a) 165; Fuller (1946) 58; Jones (1947) 54; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 177.


Hedysarum acuminatum Michx. Fl. Bor. Am. 2:72 (1803).

Desmodium acuminatum (Michx.) DC. Prodr. 2:329 (1825); Mead (1846) 60; Lapham (1857) 509; Babcock (1872) 25; Patterson (1874) 5, (1876) 10; Schneck (1876) 525; Williams (1877) 490; Flagg & Burrill (1878) 233; Brendel (1887) 46; Higley & Raddin (1891) 30; Huett (1897) 66; Snare & Hicks (1898) 6; Jones (1942) 72; Fuller (1943) 95.

Desmodium grandiflorum sensu Robinson & Fernald 519 (1905); Gleason (1910b) 159; Pepoon (1910) 148; Thome (1925) 103; Pepoon (1927) 362; McDougall & Liebtag (1928) 229; McDougall (1936) 170.—Non (Walt.) DC. (1825).

Meibomia grandiflora sensu Britton & Brown 2:386 (1913); Gates (1923) 169, (1926) 231.—Non (Walt.) Kuntze (1891).


Type Locality: "Habitat in America boreali."

Range: Me.—Saskatchewan—Tex.—Fla.

Erect perennial herb, glabrous or sparingly pubescent; leaves clustered near the top of the stem, from which rises the long, naked peduncle; petals 7-15 cm. long; leaflets 3, broadly ovate, acuminate, 5-13 cm. long; inflorescence a many-flowered panicle; corolla rose-purple, 6-7 mm. long; loment long-stipitate, 2-3-jointed, the joints about 1 cm. long, slightly con-
cave above, obliquely rounded below, uncinate-pubescent.—Large Flowered Tick Clover.

According to Schubert (1942b:279) the name _D. glutinosum_ (Muhl. ex Willd.) Wood has priority over the binomial _D. acuminatum_ (Michx.) DC. This is because the basonym, _Hedysarum glutinosum_ Muhl. ex Willd., was published in 1802, one year before the name _Hedysarum acuminatum_ Michx. appeared in 1803. This fact was brought out by the discovery that Vol. III, part 2, of Willdenow's edition of Linnaeus' _Species Plantarum_ was published in 1802, rather than in 1803, the date which has commonly been assigned to it in the past. (See Schubert 1942a:150.)

In moist woods and on hillsides. Common in Illinois.


3. _Desmodium pauciflorum_ (Nutt.) DC. Prodr. 2:330 (1825); Lapham (1857) 509; Forbes (1870) 352; French (1870) 354; Patterson (1876) 10; Schneck (1876) 525; Flagg & Burrill (1878) 233; Brendel (1887) 46; Higley & Raddin (1891) 30; McDougall (1936) 170; Jones (1945a) 165; Bailey (1949) 52; Jones (1950) 177.


**Type Locality:** "In sylvis Ohio, Kentucky et Tennessee."

**Range:** N.Y.—Ontario—Mich.—Kans.—Tex.—Fla.
Stems decumbent or ascending, 1.5-5.5 dm. high, sparingly pubescent; leaves alternate, petiolod, scattered along the stem; leaflets with appressed hairs, rhombic-ovate or obovate, bluntly acuminate or acute, the terminal one rhomboid, and all paler beneath; racemes axillary or terminal, usually unbranched, few-flowered; corolla white, 5-6 mm. long; loment long-stipitate, 1-3- or rarely 4-jointed, the joints slightly concave or straight on the back, obliquely rounded below, uncinate-pubescent.—Few-flowered Tick Clover.

In woods and ravines, chiefly southern Illinois.


4. **Desmodium rotundifolium** DC. Prodr. 2:330 (1825); Patterson (1876) 11; Schneck (1877) 83; Flagg & Burrill (1878) 233; Brendel (1887) 84; Higley & Raddin (1891) 30; Huett (1897) 66; Buhl (1934) 8; Jones (1945a) 166; Fuller (1946) 58; Jones (1950) 177.

**Type Locality:** "... in siccis et rupestribus à Pensylvania ad Carolinam."

**Range:** Mass.—Mich.—Mo.—La.—Fla.

Branches trailing, 5-10 dm. long, pilose; stipules ovate-triangular, persistent, ciliate, bent downward at maturity, 5-12 mm. long; leaflets nearly orbicular, sparingly pubescent on both sides, or glabrate above, ciliate, 1.5-5 cm. long; corolla purple, 8-10 mm. long; loments 3-5-jointed, short-stipitate, sinus on both edges nearly equal, the joints elliptical or rhomboid, uncinate-pubescent.—Prostrate Tick Clover.

Dry woods, chiefly in southern Illinois.


5. **Desmodium canescens** (L.) DC. Prodr. 2:328 (1825); Lapham (1857) 509; Patterson (1874) 5, (1876) 11; Flagg & Burrill (1878) 233; Brendel (1887) 46; Huett (1897) 66; Snare & Hicks (1898) 6; Pepoon (1927) 363; McDougall (1936) 171; Jones (1942) 72; Fuller (1943) 95; Jones (1945a) 166; Fuller (1946) 58; Jones (1947) 54; Fuller, Fell & Fell (1949) 74; Jones (1950) 177.

**Hedysarum canescens** L. Sp. Pl. 748 (1753).

Desmodium canescens var. hirsutum (Hook.) Robins. in Rhodora 10:33 (1908).

**Type Locality:** “Habitat in Virginia, Jamaica.”

**Range:** Mass.—Ont.—Minn.—Kans.—Tex.—Fla.

Perennial herb; stem much branched, densely pubescent with short, hooked hairs, and longer, spreading hairs; stipules ovate-lanceolate, acuminate, persistent; leaflets ovate, acute or subacuminate, scabrous on both sides, pubescent and paler beneath, terminal one larger and rhombic; inflorescences axillary and terminal, branched; corolla purple, 1 cm. long; loments 4-6-jointed, the joints longer than wide, unequally rhomboid, uncinate-pubescent.—Hoary Tick Clover.

Plants with the upper part of the stem and the inflorescence villous, and the leaflets more oblong-ovate than those of the species have been called *Desmodium canescens* (L.) DC. var. *hirsutum* (Hook.) Robins. Illinois is commonly included in the range of this variety. Examination of 57 sheets in the University of Illinois Herbarium indicates a considerable amount of variation in plants of *D. canescens* in Illinois with regard to pubescence and leaflet shape. It is the opinion of the writer that the range of variations is adequately covered by the description of these characters in the species. Therefore, plants with the characters described for var. *hirsutum* are not cited separately below.

Along streams; damp ground along roadsides and fences. Throughout the state.


6. *Desmodium illinoense* A. Gray in Proc. Am. Acad. 8:298 (1870); Patterson (1874) 5, (1876) 11; Flagg & Burrill (1878) 233; Brendel (1887) 46; Hill (1892) 249; Huett (1898) 164; Snare & Hicks (1898) 6; McDonald (1900) 102; Robinson & Fernald (1908) 521; Gleason (1910b) 159; Gates (1912) 361; Pepoon (1927) 363; Rydberg (1932) 490; Mc-
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Dougall (1936) 171; Fuller (1943) 95; Jones (1945a) 166; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 177.

*Meibomia illinoensis* (A. Gray) Kuntze, Rev. Gen. Pl. 193 (1891); Vail (1892) 114; Gates (1923) 169; Rydberg (1932) 490.

**Type Locality:** "Illinois, in dry ground."

**Range:** Ohio—Mich.—S.D.—Okla.—Tex.—Mo.

Stem erect, 5-20 dm. high, uncinate-pubescent; stipules ovate, acuminate, ciliate, persistent, 10-15 mm. long; all leaves petiolate, the petioles 2-6 cm. in length; leaflets lanceolate to ovate-lanceolate, acute or obtuse, strongly reticulate and minutely pubescent on the veins below, sticky to the touch; inflorescences terminal, generally not branched; flowers on conspicuous pedicels, 1-2 cm. long; corolla 6-9 mm. long, outer surface of standard very pale-pinkish-green, inner surface brilliant pink, as are the exposed surfaces of the wing petals; loments 3-6-jointed, the joints oval or orbicular, uncinate-pubescent, short-stipitate, 4-7 mm. long.—Illinois Tick Clover.

Dry woods and in prairie soil, and along railroads and roadsides. Common throughout Illinois.


7. **Desmodium sessilifolum** (Torr.) T. & G., Fl. N. Am. 1:363 (1838); Engelmann (1843) 96; Mead (1846) 60; Lapham (1857) 509; Babcock (1872) 25; Patterson (1874) 5, (1876) 11; Schneck (1876) 525; Flagg & Burrill (1878) 233; Brendel (1887) 46; Higley & Raddin (1891) 30; Huett (1897) 66; Robinson & Fernald (1908) 522; Thone (1925) 103; Pepoon (1927) 363; Jones (1945a) 165, (1950) 178; Schubert (1950a) 919.


*Meibomia sessilifolia* (Torr.) Kuntze, Rev. Gen. Pl. 198 (1891); Gleason (1908) 184.
Type Locality: Wilmington, N.C.

Range: Mass.—Mich.—Ill.—Kans.—Tex.—S.C.

Stem erect, 3-12 dm. high, uncinate-pubescent; leaves sessile, or with petiole 2-3 mm. in length; stipules linear, usually caducous; leaflets, linear to lanceolate or elliptical-lanceolate, obtuse, thick, glabrate or rough above, reticulate and pilose beneath; corolla purple or creamy-white, 4-5 mm. long; loment short-stipitate, 1-4-jointed, the joints obliquely ovate, reticulate, densely uncinate-pubescent, only slightly longer than wide.—Sessile-leaved Tick Clover.

In sandy soil, open woods, and along roadsides; local.


8. Desmodium rigidum (Ell.) DC. Prodr. 2:330 (1825); Lapham (1857) 509; Patterson (1876) 11; Schneck (1876) 525; Williams (1877) 490; Flagg & Burrill (1878) 233; Brendel (1887) 84; Higley & Raddin (1891) 30; Pepoon (1927) 364; Jones (1945a) 167; Fuller (1946) 58; Jones (1950) 178.


Meloboma rigidum (Ell.) Kuntze, Rev. Gen. Pl. 198 (1891).

Type Locality: South Carolina.


Stem erect, rigid, finely uncinate-pubescent, 6-9 dm. high; lower leaves petioled, upper leaves nearly sessile; stipules small, lanceolate, early deciduous; leaflets ovate-lanceolate to elliptical, obtuse, somewhat scabrous and sparingly pubescent above, pilose, pale and reticulate beneath; corolla rose, 5-6 mm. long; loment sessile in the calyx. 1-3- or 4-jointed, the joints obliquely ovate, the upper margin gently convex. the lower strongly curved, uncinate-pubescent.—Rigid Tick Clover.

Dry sandy soil; of local distribution in Illinois.

Specimens Examined: ADAMS CO.: R. Brinker 3733, 1 September 1944. LIVINGSTON CO.: Dry thickets, common, n. part of county, G. D. Fuller 9633, 23 September 1944. MADISON CO.: Dry, sandy soil, East Alton, F. E. McDonald, September 1902.
9. *Desmodium ciliare* (Muhl.) DC. Prodr. 2:329 (1825); Brendel (1859a) 584; Vasey (1861a) 141; Patterson (1876) 11; Schneck (1876) 525; Flagg & Burrill (1878) 233; Brendel (1887) 84; Jones (1945a) 167; Bailey (1949) 52; Jones (1950) 178.


*Desmodium obtusum* (Muhl.) DC. Prodr. 2:329 (1825).


Type Locality: “Habitat in America boreali.”

Range: Ontario—Mich.—Nebr.—Tex.—Fla.

Stem erect or ascending, pubescent; leaves crowded; petioles short, ciliate; leaflets broadly ovate or oval, thick, sparingly pubescent on both sides, ciliate, 1-2.5 cm. long; corolla purple, 2-4 mm. long; loments 1-3-jointed, the joints nearly oval, the stipe not longer than the calyx lobes.—Small-leaved Tick Clover.

Dry hills and sandy fields; infrequent in Illinois and local in distribution.


10. *Desmodium marilandicum* (L.) DC. Prodr. 2:328 (1825); Brendel (1859a) 584; Vasey (1861a) 141; Patterson (1876) 11; Schneck (1876) 525; Flagg & Burrill (1878) 233; Brendel (1887) 84; Pepoon (1927) 363; Jones (1945a) 167; Fuller (1946) 58; Bailey (1949) 52; Jones (1950) 178; Fernald (1950) 920.

*Hedysarum marilandicum* L. Sp. Pl. 748 (1753).


Type Locality: “Habitat in Carolina, Virginia.”

Range: Mass.—Mich.—Ill.—Mo.—Okla.—Tex.—S.C.

Stem erect or ascending, 6-9 dm. high, glabrous or nearly so; leaves petioled, crowded on the stem; stipules subulate, mainly deciduous; leaflets ovate, suborbicular, or elliptical, 1-2.5 cm. long, glabrous, or nearly so; corolla purple, 2-4 mm. long; loment 1-3-jointed, sessile in the calyx or nearly so, the joints obliquely oval.—Maryland Tick Clover.

Dry hills and woods. of local distribution.


11. *Desmodium canadense* (L.) DC. Prodr. 2:328 (1825); Mead (1846) 60; Lapham (1857) 509; Babcock (1872) 25; Patterson (1874) 5, (1876) 11; Schneck (1877) 93; Williams (1877) 490; Flagg & Burrill
(1878) 233; Brendel (1887) 46; Higley & Raddin (1891) 30; Huett (1898) 164; Thone (1925) 103; Pepoon (1927) 363; McDougall (1936) 171; Fuller (1943) 95; Jones (1945a) 166; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 178; Schubert (1950a) 921.

_Hedysarum canadense_ L. Sp. Pl. 748 (1753).

_Mcibomia canadensis_ (L.) Kunze, Rev. Gen. Pl. 195 (1891); Gleason (1907) 184; Gates (1923) 169.

**Type Locality:** "Habitat in Virginia, Canada."

**Range:** New Brunswick—N.C.—Okla.—S.D.—Manitoba.

Stem erect, 5-20 dm. high, pubescent; stipules linear-lanceolate, persistent or deciduous later; lower leaves petioled, upper leaves nearly sessile; leaflets lanceolate or ovate-lanceolate, obtuse, glabrate and scabrous above, appressed-pubescent and paler beneath; racemes densely panicked, bracts ovate-lanceolate, deciduous at length; flowers showy, purple, 8-14 mm. long; loment nearly sessile in the calyx, about 2.5 cm. long, 3-5-jointed, the joints nearly oval.—Canada Tick Clover.

Prairie soil, roadsides, thickets, and river banks. Locally distributed throughout the state.


12. _Desmodium cuspidatum_ (Muhl.) Loud. Hort. Brit. 309 (1830); Mead (1846) 60; Lapham (1857) 509; Patterson (1876) 11; Schneck (1876) 525; Williams (1877) 490; Flagg & Burrill (1878) 233; Brendel (1887) 46; Huett (1897) 66; Jones (1950) 177.


Desmodium bracteosum (Michx.) DC. Prodr. 2:329 (1825); Pepoon (1927) 363; Jones (1945a) 166.

Meibomia bracteosa (Michx.) Kuntze, Rev. Gen. Pl. 195 (1891); Gates (1926) 231.

Type Locality: "Habitat in America boreali."

Range: Me.—Minn.—Tex.—Fla.

Stem erect. 1 m. high or more, glabrous or sparingly pubescent; stipules lanceolate, ciliate, often deciduous in age; leaflets ovate to ovate-lanceolate, acuminate or approaching acute; glabrous, except for occasional hairs on the veins below; bracts conspicuous, ciliate, striate, not ciliate, caducous; corolla purple, 6-9 mm. long; loment 3-7-jointed, joints about twice as long as wide, rhomboid, uncinate-pubescent.—Large-bracted Tick Clover.

In rich woods and thickets; along roads, railroads, and fences.


Desmodium canadense var. longifolium T. & G. Fl. N. Am. 1:365 (1840).


Desmodium bracteosum var. longifolium (T. & G.) B. L. Robins. in Rhodora 10:34 (1908); Thone (1925) 103; Pepoon (1927) 363.

Desmodium cuspidatum var. longifolium (T. & G.) Schubert in Rhodora 52:138 (1950); Fernald (1950) 921.

Type Locality: "Arkansas, Nuttall!"

Range: Ill.—Kans.—La.—Ala.

Stem erect, 1 m. or more in height, striate, pilose and uncinate-pubescent; stipules lanceolate, ciliate, generally persistent; leaflets ovate or ovate-lanceolate, acuminate, moderately or sparsely pubescent to glabrate above, pale and pilose below; bracts cuspitate, striate, ciliate, and caducous; corolla purple, occasionally white, 6-9 mm. long, the flowers on slender, glandular-pubescent pedicels; loment 4-6-jointed, upper margin
slightly rounded or angled, lower strongly triangular, 8-10 mm. long, densely mucinace-pubescent.—Long-leaved Tick Clover.

Rich, moist soil in open woods and ravines.


Desmodium viridiflorum sensu Lapham (1857) 509; Patterson (1876) 11; Flagg & Burrill (1878) 233; Breedel (1887) 54; Deam (1910) 367; Pepoon (1927) 365; Fuller (1943) 95; Jones (1945a) 166; Fuller (1946) 58; Jones (1950) 178.—Non (L.) DC. (1825).

Meibomia viridiflora sensu Ries (1939) 90.—Non (L.) Kuntze (1891).

Type Locality: Craig County, Virginia (lectotype).

Range: N.Y.—Mo.—Ark.—Fla.

Stem erect or ascending, 7-15 dm. high, mucinace-pubescent and sparsely pilose; stipules lanceolate, striate, acuminate, ciliate, early deciduous; terminal leaflets ovate to rhombic near tip of plant, elliptic-ovate below, length about twice the width, apex bluntly acute or obtuse, the base rounded to cuneate; lateral leaflets elliptic-ovate; upper surface of leaflets moderately soft-pubescent, the lower surface rather densely pilose; racemes compound, chiefly terminal; loment 4-1-jointed, the stipe 2-4 mm. long, plainly exceeding the calyx; joints of the loment with the upper margin curved rather than angled, the lower margin conspicuously rounded or cuneate.—Nuttall's Tick Clover.

In an attempt to dispel the confusion and misunderstanding which have existed with regard to Desmodium viridiflorum, Schubert (1950: 138-44) has recognized two distinct entities which formerly were covered by that binomial. Plants with widely deltoid or rhombic terminal leaflets and distinctly rhomboidal loment articles having the upper margin definitely angled have been designated D. viridiflorum (L.) DC. The range of this plant includes the Coastal Plain states from Delaware to Florida and west to Texas, and inland only to Arkansas and Tennessee.
Desmodium nuttallii (Schindl.) Schub. is said to differ from D. viridiflorum in its elliptic-ovate terminal leaflets, in its loment articles with the rounded upper margin, in the generally smaller size of all its parts, and in its more inland range, which is indicated above. Examination of the Illinois specimens at hand shows that the plant which has previously been called D. viridiflorum in this state is the one recognized by Schubert under the name D. nuttallii.

In open woods, in fence rows, and roadsides; local, southern Illinois; not common.


15. Desmodium glabellum (Michx.) DC. Prodr. 2:329 (1825); Schubert (1950a) 922.


Desmodium dillenii sensu Lapham (1857) 509; Patterson (1876) 11; Schneck (1876) 525; Williams (1877) 490; Flagg & Burrill (1878) 233; Brendel (1887) 46; Higley & Raddin (1891) 30; Pepoon (1927) 363; Fuller (1943) 95; Jones (1945a) 166; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 178, P.P.—Non Darl. (1837).

Meibomia dillenii sensu Ries (1939) 90.—Non (Darl.) Kuntze (1891).

Type Locality: “Hab. in Carolina inferiore.”

Range: Mass.—Mich.—Ill.—Tex.—Ala.—S.C.

Stem erect, glabrate to uncinulate-puberulent and sparsely pilose; stipules subulate, deciduous; leaflets reticulate, ciliate, glabrate to sparingly appressed-pilose above, paler below and moderately pilose; terminal leaflets rhombic to ovate or elliptical, obtuse, often retuse; lateral leaflets elliptic and obtuse; corolla purple; loments 1-5-jointed, stipitate, the stipe 3-7 mm. long; joints of the loment roughly triangular to rhombic.

Schubert (1950:154) has reduced the binomial Desmodium dillenii Darl. to the status of a nomen confusum upon the discovery that this binomial was based by Darlington on a series of specimens containing two separate elements, which were also combined in his description. The element represented by plants with obtuse leaflets and short petioles (to 3.3 cm.) is D. glabellum (Michx.) DC., according to Schubert. To the element with acute leaflets and long petioles (up to 7 cm.) she has given the name D. perplexum Schub. This latter plant is further separated from D. glabellum by thinner leaflets which are usually more abundantly pilose, and much less conspicuously reticulate, Schubert states.

Study of 21 sheets of Illinois specimens labelled D. dillenii in the Uni-
versity of Illinois Herbarium shows that all but three of the specimens represent *D. glabellum*. These three specimens have long-petioled, thinner, and somewhat less reticulate leaflets than the others, and may possibly represent Schubert's *D. perplexum*. The writer feels that further study and comparison with authenticated specimens should be carried on before *D. perplexum* is included definitely as a part of the spontaneous flora of the state.

Dry soil, chiefly in open woods; of local occurrence throughout most of the state.


16. **Desmodium paniculatum** (L.) DC. Prodr. 2:329 (1825); Mead (1846) 60; Lapham (1857) 509; Brendel (1859a) 583; Patterson (1876) 11; Schneck (1876) 525; Flagg & Burrill (1878) 233; Brendel (1887) 46; Higley & Raddin (1891) 30; Huett (1898) 164; Pepon (1927) 363; Fuller (1943) 95; Jones (1945a) 166; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 178.

*Hedysarum paniculatum* L. Sp. Pl. 749 (1753).


*Meibonia paniculata* (L.) Kuntze, Rev. Gen. Pl. 198 (1891); Gleason (1907) 184; Ries (1939) 90.

**Type Locality**: “Habitat in Virginia.”

**Range**: Me.–Minn.–Nebr.–Tex.–Fla.

Stem erect, 5-10 dm. high, glabrous or somewhat pubescent; leaves petioled; stipules subulate, usually deciduous; leaflets linear-lanceolate to ovate-lanceolate, obtuse or acute, paler beneath, glabrate or sparingly pubescent above and below to moderately pilose below; racemes very paniculate; flowers purple, 5-8 mm. long; loment stipitate, 1-5-jointed, the joints triangular or nearly rhombic in outline, minutely uncinate-pubescent.—Panicled Tick Clover.


17. Desmodium laevigatum (Nutt.) DC. Prodr. 2:329 (1825); Patterson (1876) 11; Brendel (1887) 84; Jones (1945a) 166, (1950) 178.

_Type Locality:_ “Habitat in the forests of New Jersey; rare.”

_Range:_ N.Y.—Fla.—Tex.—Mo.

Stem erect, glabrous, or nearly so, often glaucous; stipules subulate, caducous; leaflets ovate (terminal) to ovate-elliptical (lateral), obtuse, glabrate or puberulent above, glaucous beneath, often appressed-pilose, the terminal leaflet larger than the lateral ones; pedicels slender, 1 cm. or over in length; corolla rose to purple; loments 2-5 or 6-jointed, the joints nearly rhombic in outline, uncinate-pubescent.—Smooth Tick Clover.

In open woods and along roads, rare in Illinois.


27. LESPEDEZA Michx.

1. Stipules subulate; calyx-lobes narrow; plants perennial.

2. Corolla purplish; calyx-lobes narrow; plants perennial.

3. Inflorescences on slender peduncles mostly exceeding the leaves.

4. Stems prostrate or slightly ascending; inflorescence capitate or spicate.

5. Stems glabrous or minutely appressed-pubescent.

6. Inflorescence sessile or nearly so.

7. Leaflets downy-pubescent beneath

8.Leaflets glabrate or appressed-pubescent beneath

9. Leaflets linear or linear-elliptic

2. Corolla yellowish-white; legume included in the calyx, or scarcely exserted.
8. Inflorescences many-flowered, borne near tips of stems or branches.

9. Inflorescences cylindrical, uninterrupted spikes, or dense heads of crowded flowers; 1-2 cm. thick.

10. Peduncles generally nearly equalling or much longer than the subtending leaves; legumes as long as the calyx lobes, or only slightly shorter; leaflets oval or suborbicular

7. L. *hirta*

9. Inflorescences slender, interrupted spikes with peduncles nearly equalling or exceeding the leaves, loosely flowered, less than 1 cm. thick; leaflets linear

8. *L. leptostachya*

8. Flowers borne singly or in clusters up to 4 in leaf axils all the way along the stem

10. *L. cuneata*

1. Stipules ovate-lanceolate, scarious, persistent; calyx-lobes ovate; plants annual.

11. Stem pubescence downwardly appressed; leaves subsessile, the petioles about 1 mm. long; flowers and fruits axillary, solitary or in 2's and 3's

11. *L. striata*

11. Stem pubescence upwardly appressed; leaves distinctly petiolate, the petioles 4-10 mm. long; flowers and fruits in spike-like racemes, axillary or at tips of stems, with ciliated leafy bracts

12. *L. stipulacea*

1. *Lespedeza repens* (L.) Bart. Prodr. Fl. Phila. 2:77 (1818); Lapham (1857) 509; Forbes (1870) 352; Patterson (1876) 11; Flagg & Burrill (1878) 233; Brendel (1887) 84; Pepoon (1927) 364; Jones (1945a) 167; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 178.

*Hedysarum repens* L. Sp. Pl. 749 (1753).

Type Locality: "Habitat in Virginia."

Range: Conn.—Minn.—Tex.—Fla.

Stem trailing or prostrate, glabrous or finely appressed-pubescent; stipules subulate; leaflets oval or obovate, 6-15 mm. long, sparsingly pubescent or glabrate above, appressed-pubescent below; obtuse or retuse; mucronulate; inflorescence loose, few-flowered; corolla pinkish-purple; legumes oval or suborbicular, 3-4 mm. long, minutely pubescent.—Creeping Bush Clover.

Roadsides, open woods, and fence rows; in dry, sandy soil. Local.
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Specimens Examined: FRANKLIN CO.: Rich, sandy soil, Big Muddy River, Plumfield. J. McCree, 22 July 1941. JOHNSON CO.: In open area in woods, Vienna quad., R3E, T13S, on country road, 2 mi. e. from Route 1, ¼ mi. n. of Massac Co. line, on hillside s. of footprint rock, J. Schopf 731, 18 July 1931 (NHS).

2. Lespedeza procumbens Michx. Fl. Bor. Am. 2:70 (1803); Mead (1846) 60; Lapham (1857) 509; Patterson (1876) 11; Flagg & Burrill (1878) 233; Higley & Raddin (1891) 30; Huett (1897) 66; Robinson & Fernald (1908) 523; Deam (1910) 367; Thorne (1925) 103; Pepoon (1927) 364; Fuller (1943) 95; Jones (1945a) 167; Bailey (1949) 52; Jones (1950) 179.

Type Locality: "Habitat in Virginia et Carolina."

Range: N.H.—Wis.—Tex.—Fla.

Stem trailing or procumbent, tomentose, with spreading hairs; stipules subulate; leaflets 10-25 mm. long, mainly oval or elliptical, obtuse or retuse; mucronulate, pubescent on both sides or sometimes glabrate above; corolla pinkish-purple; legume flat, oval or round, 3-4 mm. long.—Trailing Bush Clover.

Roadsides, hillsides; in dry soil. Local, chiefly in the southern half of the state.


3. Lespedeza violacea (L.) Pers. Syn. 2:318 (1807); Mead (1846) 60; Lapham (1857) 510; Babcock (1872) 25; Patterson (1874) 5, (1876) 11; Schneck (1876) 526; Flagg & Burrill (1878) 233; Brendel (1887) 46; Higley & Raddin (1891) 30; Huett (1897) 66; Snare & Hicks (1898) 6; French (1926) 210; Pepoon (1927) 364; Ries (1939) 90; Fuller (1943) 95; Jones (1945a) 167; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 179.

Hedysarum violaceum L. Sp. Pl. 7:49 (1753).


Type Locality: "Habitat in Virginia."

Range: N.H.—Minn.—Kans.—La.—Fla.; Mexico.

Stem erect, ascending, or spreading, about 4-10 dm. long, sparsely pubescent; leaflets oval or elliptical, thin, glabrous above, appressed-pubescent, and pale beneath; inflorescence loosely panicked and few-
flowered; corolla purple, 6-10 mm. long; legume ovate, 4-6 mm. long, glabrate or sparingly pubescent.—Violet Bush Clover.

Dry soil in open woods. Throughout the state.


Lespedeza stuvei var. angustifolia Britt. in Trans. N. Y. Acad. Sci. 12:63 (1893); Blake (1924b) 29.

Type Locality: “Habitat in the sandy fields of New Jersey.”

Range: Mass.—Mich.—Kans.—Okla.—Va.

Stem erect or ascending, simple or only slightly branched, 3-12 dm. high, leafy, velvety-pubescent; leaves crowded, short petioled; leaflets elliptical or suborbicular, obtuse or retuse, 1-2.5 cm. long, densely pubescent beneath; both petaliferous and apetalous flowers in dense, nearly sessile, axillary clusters; corolla violet-purple, 4-6 mm. long; legumes ovate to orbicular, densely pubescent, 4-6 mm. long.—Stuve's Bush Clover.

L. stuvei var. angustifolia Britt. has been reported by Blake from Coulterville, Randolph County (W. H. Emig 242, 25 August 1914). Plants of this variety are said to differ from the species only in the shape of their leaflets, which are linear or linear-oblong. Blake states, however, that the specimens from Coulterville are so nearly intermediate in form between the typical variety and Lespedeza virginica that it is difficult to determine their true position. Recently, Hopkins (1935:265) has reduced this variety to f. angustifolia (Britton) Hopkins. The form angustifolia has also been recognized under these names: L. stuvei neglecta Britton (Mem. Torr. Bot. Club 5:206, 1894); and L. neglecta (Britton) Mackenzie & Bush (Trans. Acad. Sci. St. Louis 12:17, 1902).
Woods, of local distribution, and not common in Illinois.


5. Lespedeza intermedia (Wats.) Britton, Trans. N. Y. Acad. Sci. 12: 63 (1893); Fuller (1943) 95; Jones (1945a) 167; Fuller, Fell & Fell (1949) 74; Jones (1950) 179.

   *Lespedeza stuevi* var. *intermedia* S. Wats. in A. Gray, Man. (ed. 6), 141 (1890); Higley & Raddin (1891) 29.

   *Lespedeza frutescens* sensu Gleason (1912) 42; Britton & Brown (1913) 2:406; Pepoon (1927) 364.—Non (L.) Britt. (1894).

   **Type Locality:** “Mass. to Fla., and west to Mich., Ill., e. Kan., and Ark.”

   **Range:** Me.—Minn.—Kans.—Tex.—Fla.

   Stem erect, finely appressed-pubescent or glabrous, 3-10 dm. high; petioles the same length as the leaves or shorter; leaflets oval or elliptical, 1-4 cm. long, dark green and glabrous above, paler and finely appressed-pubescent beneath; flower clusters axillary and nearly sessile, usually crowded near the top of the stem; corolla violet-purple, 4-6 mm. long; legume ovate or oval, 4-7 mm. long, pubescent.—Wand Bush Clover.

   Dry soil, along roadsides and in open woods; chiefly in southern Illinois.


6. Lespedeza virginica (L.) Britton in Trans. N. Y. Acad. Sci. 12: 64 (1893); Gleason (1907) 184; Thone (1925) 103; Pepoon (1927) 364; Fuller (1943) 95; Jones (1945a) 167; Bailey (1949) 52; Jones (1950) 179.


   *Lespedeza reticulata* (Muhl.) Pers. Syn. Pl. 2:318 (1807); Mead (1846) 60; Brendel (1857) 46; Higley & Raddin (1891) 30.

   **Type Locality:** “Habitat in Virginia.”

   **Range:** N.H.—Wisc.—Kans.—Tex.—Fla.

   Stem erect, 3-11 dm. high, with few branches, glabrare or appressed-pubescent, densely leafy; leaflets linear or linear-elliptical, 1-3.5 cm. long, finely appressed-pubescent on both sides, or glabrate above, and occasionally stipigose beneath; flower clusters sessile or nearly so, axillary,
crowded on the upper part of the stem; legumes ovate or ovate-orbicular, 4 mm. long, pubescent or glabrate.—Slender Bush Clover.

A form in which the stem pubescence is wide-spreadng or ascending, the lower surfaces of the leaflets merely appressed-pubescent, and the petioles slightly longer has been named *L. virginica* f. *deamii* Hopkins (*Rhodora* 37:265, 1935). This plant was collected from a black-jack oak association near Bath, Macon County, 17 August 1903, by H. A. Gleason.

In Illinois it occurs only locally.

Dry, open woods, locally throughout Illinois.


7. *Lespedeza hirta* (L.) Hornem. Hort. Havn. 699 (1807); Patterson (1876) 11; Schneck (1876) 526; Flagg & Burrill (1878) 233; Brendel (1887) 84; Britton (1893) 66; Pepoon (1927) 364; Fuller (1943) 95; Jones (1945a) 167; Fuller (1946) 58; Fuller. Fell & Fell (1949) 74; Jones (1950) 179.

*Hedysarum hirtum* L. Sp. Pl. 748 (1753).

*Lespedeza polystachya* Michx. Fl. Bor. Am. 2:71 (1803); Higley & Raddin (1891) 31; Snare & Hicks (1898) 6.

Lespedeza hirta var. typica Schindler in Engler, Jahrb. 49:623 (1913); Fernald (1941) 584.

Type Locality: “Habitat in Virginia.”

Range: Me.—Minn.—La.—Fla.

Stem erect or ascending, villous; leaflets oval or suborbicular, pubescent, 1-4 cm. long; heads cylindrical, dense, on elongated peduncles often much longer than the leaves; flowers all complete; corolla yellowish-white, about 6 mm. long, the standard spotted with purple; legume oval or obovate, 7-8 mm. long, pubescent, about equalling the calyx-lobes.—Hairy Bush Clover.

Plants of this species conforming to the above description have been designated L. hirta var. tijpica Schindler (see Fernald in Rhodora 43:582, 1941).

Dry, sandy soil on wooded slopes and ridges; of local distribution in Illinois.


8. Lespedeza leptostachya Engelm. ex A. Gray in Proc. Am. Acad. 12: 57 (1876); Britton (1893) 68; Robinson & Fernald (1908) 525; Britton & Brown (1913) 2:408; Rydberg (1932) 492; Deam (1940) 1068; Jones (1945a) 168, (1950) 179; Fernald (1950) 927.

Type Locality: “Minnesota, Illinois, Iowa.”

Range: Minn.—Ill.—Iowa.

Stem erect, simple or branched, 3-10 dm. high, silky-pubescent; leaflets linear, 2.5-3 cm. long, also silky-pubescent, exceeding the short petioles in length; spikes very slender, loosely-flowered, with peduncles as long as, or longer than the leaves; corolla yellowish-white; legumes olate and pubescent, nearly equalling the calyx lobes.—Prairie Bush Clover.

Prairies, rare in Illinois.

Specimens Examined: MC HENRY CO.: Union, A. B. Seymour, 1 September 1881.

A. Gray (1876:57) cites a specimen from Illinois collected by M. S. Bebb. Presumably this specimen came from Winnebago County, where Bebb actively collected. Britton (1893:68) cites a specimen from Fountaindale, Winnebago County, also collected by Bebb. Neither specimen has been seen by the writer.

9. Lespedeza capitata Michx. Fl. Bor. Am. 2:71 (1803); Engelmann (1844) 96; Mead (1846) 60; Lapham (1857) 510; Babcock (1872) 25; Patterson (1874) 5, (1876) 11; Schneck (1876) 526; Flagg & Burrill (1878) 253; Brendel (1887) 46; Higley & Raddin (1891) 31; Huett
Lespedeza capitata var. vulgaris T. & G., Fl. N. Am. 1:368 (1840); Fernald (1941) 577.

Lespedeza capitata var. angustifolia sensu Babcock (1872) 25; Patterson (1876) 11; Flagg & Burrill (1878) 233; non Pursh (1814).

Lespedeza capitata var. longifolia sensu Britton (1893) 67; Robinson & Fernald (1908) 524; non (DC.) T. & G. (1840).

Lespedeza velutina Bickn. in Torreya 1:102 (Sept., 1901).—Non Dunn (Feb., 1901).

Lespedeza capitata var. velutina (Bickn.) Fern. in Rhodora 10:51 (1908); Benke (1935) 423.

Lespedeza capitata var. stenophylla Bissell & Fernald in Rhodora 14: 92 (1912); Fernald (1941) 579.—Type: Peoria. F. E. McDonald, in 1904.


Lespedeza capitata var. typica Fern. in Rhodora 43:576 (1941).

Lespedeza capitata var. stenophylla f. argentea Fern. in Rhodora 43: 579 (1941).—Type: H. A. Gleason, Havana, Mason County, in August 1903.

Type Locality: “Hab. in Virginia et Carolina.”

Range: Me.—S.D.—Kans.—La.—Fla.

Stem stiff and erect, mainly unbranched and wand-like, generally velvety-pubescent but sometimes appressed pubescent or glabrate, 5-15 dm. high; leaves nearly sessile; leaflets variable, from linear to elliptic or oblong, generally silky-pubescent below, glabrous to silky-pubescent above; heads subglobose, on peduncles much shorter that the leaves, or nearly sessile in the upper axils; corolla yellowish-white, the standard with a purple spot; legume ovate-oblong, 5-6 mm. long, pubescent, much exceeded by the calyx lobes.—Round-headed Bush Clover.

Examination of 58 sheets of specimens shows that in Illinois a wide range of variation in type and amount of pubescence of stem, in length, width, and pubescence of leaflets, as well as in length of peduncle and shape of inflorescence occurs in this species. As is indicated above, numerous attempts have been made to give certain rather constant combinations of these characters varietal or even specific status. These recognizable types represent the extreme expression of certain characters. They are not sharply set apart from other members of the species popu-
lation, however, since a definite series of intergradations can be rather easily established with a large number of specimens at hand. Furthermore, such types do not seem to be characterized by distinctness of range. It is known, also, that interspecific hybridization may occur in this genus, a fact which further complicates any attempts to classify the numerous types observable. Accordingly, the writer prefers to indicate the broad limits of the species as usually understood, without attempting to place in definite taxonomic categories at this time the variations occurring within these limits.

Fassett (1939:102) states that in Wisconsin, *L. capitata* "consists of no less than eight races or varieties," distinguished upon the basis of the characters of shape and pubescence of leaflets. He states further that "in the field two or more of these forms may be found in almost any colony of *L. capitata*," indicating that these variations do not exhibit geographical segregation. For these reasons he made no attempt to give nomenclatural recognition of the variations in Wisconsin as separate species or varieties.

Dry barrens and prairies, open woods, along roads, and in fields; throughout the state.


_Anthyllis cuneata_ Dumont de Courset, Bot. Cult. (ed. 2) 6:100 (1811).


**Type Locality:** “Les Indes orientales.”

**Range:** Pa.–Mo.–La.–Fla.; introduced from China and Japan.

Perennial, much-branched, often reaching a height of 1.5 m., tending to be shrubby; leaflets 1-2 cm. long, oblanceolate, cuneate, truncate or emarginate, mucronulate, grayish-green and sericeous below, bright green, glabrous above; flowers shorter than the leaves, in clusters of 1-4 in the leaf axils; corolla creamy-yellow, with purple spots; legume 1.5-2.0 mm. long, oval, ciliate.—Chinese Bush Clover.

Fields and roadsides, southern Illinois; extensively planted as forage crop and soil binder; and spreading as an escape plant.

**Specimens Examined:** FAYETTE CO.: Wooded pasture, 2 mi. s. of Ramsey, H. M. Franklin, 19 August 1949. JACKSON CO.: Near Elkville, A. F. Grandt, 4 September 1950.

11. Lespedeza striata (Thunb.) H. & A. Bot. Beechey 262 (1841); Schneck (1891) 375; Britton (1893) 68; Darlington (1923) 180; Benke (1929) 146; Rydberg (1932) 492; Jones (1945a) 168; Isely (1948) 23; Bailey (1949) 52; Jones (1950) 179; Fernald (1950) 927.


**Type Locality:** Japan.

**Range:** Va.–Ill.–Kans.–La.–Fla. Naturalized from Asia.

Annual, prostrate or spreading, erect in dense stands, up to 20 cm. in height; stem pubescence downwardly appressed, in lines, or covering entire surface; leaves very short-petioled or subsessile; stipules ovate-lanceolate, scarious, persistent, 1-1.8 mm. wide; leaflets obovate, oblong, or narrowly elliptical; flowers solitary or in 2's and 3's, axillary and sessile or nearly so; calyx-teeth 5, subequal; legumes acuminate at tip with distinct point or beak, weakly reticulate, brownish-black, not glandular; mature seeds mottled black, noticeably lobed near hilum.—Common Lespedeza.

Old fields, or on roadsides in the southern half of the state.


Type Locality: Amur.

Range: Pa.—Iowa—Kans.—Okla.—Ga.

Annual. Very similar in habit to L. striata, often taller; stems glabrate or sparsely strigose, the hairs upwardly appressed; leaves with distinct petioles, 4-10 mm. long; stipules 3-4 mm. wide on main stems; flowers occurring in spike-like racemes with ciliated leafy bracts; calyx-teeth 5, appearing as 4 as result of nearly complete union of posterior 2; legume rounded at tip with short, straight, or recurved point, conspicuously reticulate and glandular; seeds solidly blackish, hardly lobed.—Korean Bush Clover.

Fields and roadsides; cultivated as forage, and used as soil binder in erosion control; most abundant in southern half of the state; recently introduced from Asia and rapidly becoming naturalized.


28. STYLOSANTHES Sw.

Stylosanthes biflora (L.) B. S. P. Prel. Cat. N. Y. 13 (1888); Robinson & Fernald (1908) 525; Jones (1945a) 168, (1945b) 282; Bailey (1949) 52; Jones (1950) 179; Fernald (1950) 928.


Stylosanthes elatior Sw. in Svensk. Acad. Handl. 296 (1789); Brendel (1806) 294; Patterson (1876) 11; Schneck (1876) 526; Flagg & Burrill (1878) 233; Brendel (1887) 84.

Stylosanthes riparia sensu Fernald (1945) 216, (1950) 928; non Kearney (1897).


Type Locality: "Habitat in Virginia, Canada.”

Range: N.Y.—Kans.—Tex.—Fla.

Stem wiry, often branching from the base, the branches spreading, ascending, or erect. glabrate or more or less villous; stipules sheathing the
stem, tips filiform; leaflets 3, lanceolate, oblanceolate, or almost linear, nearly acute at both ends, 1-3.5 cm. long; flowers few, usually terminal, of two types, petaliferous and sterile, or apetalous and fertile, both nearly sessile; floral bracts yellow-bristled and entire; corolla yellow, 8 mm. long; legume cloveate, pubescent, 2-jointed, the lower empty or abortive.

—Pencil Flower.

Plants with stems copiously hispid throughout have been designated *S. biflora* var. *hispidissima* (Michx.) Pollard & Ball. Study of a total of 16 sheets of Illinois specimens shows that specimens on 4 of the sheets have hispid stems, with others showing varying degrees of pubescence, or glabrate.

In dry woods, not common; chiefly in southern Illinois.


29. **Vicia** L.

1. Flowers single or paired, on short peduncles, or nearly sessile, axillary; plants annual.

2. Flowers 10-18 mm. long; leaflets 2-6 pairs, upper ones linear to linear-oblong or oblanceolate.................1. *V. angustifolia*

2. Flowers 2-2.5 cm. long; leaflets 4-8 pairs, upper ones elliptical or oblanceolate to cuneate, truncate or emarginate.......2. *V. sativa*

1. Flowers in axillary racemes, on elongated peduncles; plants perennial or annual (*V. villosa*).


4. Stems generally villous; flowers 14-18 mm. long; calyx gibbous on upper side at base.................3. *V. villosa*

4. Stems striate, inconspicuously appressed-pubescent or glabrate; flowers 9-14 mm. long; calyx not gibbous on upper side but merely rounded.................6. *V. cracca*

3. Racemes loosely 3-20-flowered.

5. Flowers 3-9, bluish-purple, 1.5-2 cm. long; stipules semi-sagittate, sharply-toothed.................4. *V. americana*

5. Flowers 3-20, white, tinged with blue, about 1 cm. long; stipules linear or linear-lanceolate..............5. *V. caroliniana*

Vicia sativa var. angustifolia (L.) Ser. in DC. Prodr. 2:361 (1825).

Type Locality: European.


Annual, very similar to V. sativa in habit, but glabrous or puberulent; leaflets 2-6 pairs, 1.5-3 cm. long, the upper ones linear and mucronate, the lower oblong or obovate and truncate; flowers 1 or 2 in the upper axils, 10-18 mm. long; corolla purple; legume linear-oblong, glabrous, 4.5-5.5 cm. long, 5-7 mm. wide, glabrous, black at maturity.—Narrow-leaved Vetch.

Roadsides, fields, and waste places; of local occurrence, more common in southern Illinois.


2. Vicia sativa L. Sp. Pl. 736 (1753); Mead (1846) 60; Williams (1877) 490; Flagg & Burrill (1878) 234; Snare & Hicks (1898) 6; Pepoon (1927) 364; Jones (1945a) 168; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 180.

Type Locality: “Habitat inter Europae segetes hate.”

Range: Ga.—Ala.—Minn.—Me.; Pacific Coast. Escaped from cultivation, native of Eurasia.

Annual; spreading, ascending or climbing, pubescent, and in age, glabrate; stipules sharply-toothed; leaflets 4-8 pairs, ob lanceolate, obovate, or narrowly elliptical, truncate to emarginate and mucronate at apex, 1.5-3 cm. long; flowers usually in pairs, axillary, sessile, or short-peduncled, 2-3 cm. long, showy, purple or rose-color; legume linear-oblong, brownish, pubescent when young, 4-8 cm. long, 7-8 mm. wide.—Spring Vetch.

Along railroads, in abandoned fields, and waste places; escaped from cultivation; not common.


3. Vicia villosa Roth, Tent. Fl. Germ. 2:182 (1789); Pepoon (1927) 365; McDougall (1936) 172; Fuller (1943) 95; Jones (1945a) 168; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 180.

Type Locality: European.

Annual or biennial; stem 3-10 dm. high, villous; leaflets 10-24, narrowly elliptical to linear, villous; flowers 14-18 mm. long, blue-violet and white, occasionally all white; calyx strongly gibbous at the base, the lobes almost thread-like; legume broadly oblong, flat, oblique at each end, 2.5-3.5 cm. long, 7-10 mm. wide, glabrous.—Hairy Vetch.

Roadsides, in fields as weeds, and in waste places; sometimes escaped from cultivation; not uncommon in Illinois.


4. *Vicia americana* Muhl. ex Willd. Sp. Pl. 3:1096 (1803); Brendel (1859a) 584; Vasey (1861a) 141; Babcock (1872) 25; Patterson (1876) 11; Williams (1877) 490; Flagg & Burrill (1878) 234; Brendel (1887) 46; Higley & Raddin (1891) 31; Huett (1897) 66; Gates (1912) 361; Thone (1925) 103; Pepoon (1927) 365; McDougall (1936) 172; Jones (1945a) 168; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 180; Fernald (1950) 932.

**Type Locality:** "Habitat in Pennsylvania."

**Range:** New Brunswick—Va.—Ariz.—British Columbia.

Perennial; stem glabrous or nearly so, trailing or climbing, 3-10 dm. high; leaves nearly sessile; stipules semi-sagittate, sharply-toothed; leaflets 8-14, elliptical or ovate-oblong, obtuse, mucronulate; racemes shorter than the leaves, 3-9-flowered; corolla bluish-purple, 1.5-2 cm. long; legume short-stalked, glabrous, 2.5-3 cm. long.—American Vetch.

River banks, moist thickets, woods, railroad embankments. Chieflly in northern Illinois.

5. *Vicia caroliniana* Walt. Fl. Car. 182 (1788); Vasey (1860) 119, (1861a) 141; Babcock (1872) 25; Patterson (1876) 11; Williams (1877) 490; Flagg & Burrill (1878) 234; Brendel (1887) 84; Higley & Raddin (1891) 31; Pepoon (1927) 365; Jones (1945a) 168; Fuller, Fell & Fell (1949) 74; Jones (1950) 180.

**Type Locality:** South Carolina.

**Range:** Ontario—Minn.—Kans.—Ga.

Perennial; glabrous or nearly so; stems trailing or climbing, 4-10 dm. long; leaves short-petioled; stipules linear; leaflets 8-18, oblong to linear-oblong, obtuse, 1-2 cm. long; racemes 3-20-flowered, loose; calyx teeth very short; corolla white, about 1 cm. long, the keel often bluish-tipped; legume flat, oblong, 2.5-3 cm. long, glabrous.—Carolina Vetch.

Woods, roadsides, and river banks; chiefly in northern Illinois.


6. *Vicia cracca* L. Sp. Pl. 735 (1753); Higley & Raddin (1891) 31; Pepoon (1927) 365; Jones (1945a) 168; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 180; Fernald (1950) 932.

**Type Locality:** “Habitat in Europae, pratis agris.”


Perennial; stem slender and weak, trailing or climbing, striate, appressed-pubescent or glabrate; stipules half-sagittate, entire; leaflets 8-24, linear-oblong, mucronate; racemes axillary, dense, 15-40-flowered, one-sided; flowers bluish-purple, rarely white, 9-15 mm. long; calyx not gibbous at the base but merely rounded, lower lobes long-triangular, shorter than the tube, upper lobes broad and short; legume oblong, flat, oblique at each end, glabrous, 2-2.5 cm. long.—Bird Vetch.

Fields, waste places, borders of thickets; of local distribution in Illinois; not common.


Specimens from Cook County are reported by Higley & Raddin (1891:31) and Pepoon (1927:365). Fuller (1946:58) reports this species from Jo Daviess County. No specimens from these counties have been seen by the writer.

*Vicia hirsuta* (L.) Koch. has been reported from Illinois by Jones
The writer has seen no Illinois specimens, and at the present time finds no reason for including it with the spontaneous flora of the state.

30. LATHYRUS L.

1. Leaflets 2

1. Leaflets 4-14.

2. Stipules nearly equalling the adjacent leaflets in size.

2. Stipules decidedly smaller than the adjacent leaflets.

3. Flowers purplish, pink, or occasionally white.

4. Leaflets 4-8 (rarely 10); peduncles 2-9-flowered.

5. Leaflets linear to elliptical; stem winged.

6. A. L. ochroleucus

3. Flowers yellowish-white.


Type Locality: "Habitat in Europae sepibus."

Range: Conn.—D.C.—Calif.—Ore. Probably occurring locally throughout most of the northern states, escaped from cultivation, native of Europe.

Perennial, glabrous throughout; stems broadly-winged, 1-2 m. long; stipules leafy, often 2.5 cm. long, the upper lobe lanceolate; petioles winged, equalling or exceeding the stipules; leaflets 2, lanceolate to ovate-lanceolate, 4-7 cm. long, veiny; peduncles exceeding the leaves, many-flowered; flowers showy, purple, white or pink, 2.0-2.5 cm. long; legumes broadly linear, 6-10 cm. long, reticulate.—Perennial Pea.

Roadsides and waste places, locally throughout Illinois. Escaped from cultivation.

Specimens Examined: CHAMPAIGN CO.: Roadside, near Urbana, G. N. Jones 12510, 20 July 1940; roadside along the Salt Fork River, near Urbana, G. N. Jones 14229, 13 July 1941.


Lathyrus japonicus Willd. var. glaber (Ser.) Fernald in Rhodora 34: 181 (1932); Deam (1940) 618.
Type Locality: “Habitat in Europae borealis littoribus maris arenalis.”
Range: Arctic Coast—N.J.—and Ore.; lake shores: N.Y.—Minn.—Manitoba; Europe.

Perennial, somewhat fleshy, more or less glabrous, slightly glaucous; stems thickened, angled; stipules broadly ovate, hastate and foliaceous, nearly as large as the nearest leaflets; leaflets 3-6 pairs, thick, oval, obovate or broadly elliptical; peduncles shorter than the leaves, 6-10-flowered; corolla purple, 18-25 mm. long; legumes broadly linear, glabrous or somewhat pubescent, 4-8 cm. long, reticulate.—Beach Pea.

Doubt has been expressed (Fernald, 1932:177-87) concerning the binomial *Lathyrus maritimus* (L.) Bigel. Gleason (1947:209-12) has clearly and forcefully summarized the arguments in favor of retaining this name, and the writer feels there is no question about the propriety of continuing to apply it to the species under consideration.

Sandy beaches of Lake Michigan. Rare.


3. *Lathyrus palustris* L. Sp. Pl. 733 (1753); Mead (1846) 60; Bebb (1859) 586; Brendel (1859a) 584; Vasey (1861a) 141; Warne (1870) 314, 347; Babcock (1872) 26; Patterson (1874) 5, (1876) 11; Schneck (1876) 526; Williams (1877) 490; Flagg & Burrell (1878) 234; Brendel (1887) 46; Higley & Raddin (1891) 32; Huett (1897) 67; Snare & Hicks (1898) 6; Fernald (1911) 50; Sheriff (1912) 432, (1913) 602; Pepoon (1927) 565; Jones (1945a) 169; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 180; Fernald (1950) 934.

Type Locality: “Habitat in Europae borealis pascuis paludosis.”
Range: Labrador—N.Y.—S.D.—Ore.—Alaska; Eurasia.

Perennial, stem glabrous or slightly pubescent, trailing or climbing, 3-12 dm. long, commonly winged, or sometimes wingless, or angled; stipules half-sagittate to lanceolate, ovate-lanceolate and linear; leaflets 2-5 pairs, linear to elliptical, 2.5-7 cm. long; peduncles 2-9-flowered; flowers purple, 1.0-2.5 cm. long; legume linear, sessile, 4-5 cm. long.—Marsh Pea.

This species is widely recognized as being exceedingly variable (see Fernald, 1911:47-52). One variation characterized by its smaller size (1-6 dm. high), slightly winged or wingless glabrous stems, linear to lanceolate leaflets, and flowers about 1.5 cm. in length has been named *L. palustris* var. *linearifolius* Ser. ex DC., Prodr. 2:371 (1825). This plant
is not distinguished from others of the species by a difference in habitat and range within Illinois; therefore, it is referred to the species in the citations of specimens.

Banks of rivers and lakes, thickets, ditches, wet meadows. Local.


4. Lathyrus myrtifolius Muhl. ex Willd. Sp. Pl. 3:1091 (1803); Mead (1846) 60; Jones (1945a) 169; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 180.

Lathyrus palustris var. myrtifolius (Muhl.) A. Gray, Man. Ed. 2:104 (1856); Babcock (1872) 26; Patterson (1876) 11; Flagg & Burrill (1878) 234; Higley & Raddin (1891) 32; Pepoon (1937) 365; Gates (1912) 361.

Type Locality: “Habitat in Pennsylania.”

Range: New Brunswick—Manitoba—Tenn.—N.C.

Very similar to L. palustris from which it is separated by its wingless but angled, glabrous stems; leaflets which are elliptical to broadly lanceolate; and its smaller flowers, 1-1.5 cm. in length.—Myrtle-leaved Marsh Pea.

Thickets, ditches, wet meadows, and other moist places; more abundant in the northern half of the state; local.


5. Lathyrus venosus Muhl. in Willd. Sp. Pl. 3:1092 (1803); Lapham (1857) 510; Babcock (1872) 25; Patterson (1876) 11; Williams (1877) 490; Flagg & Burrill (1878) 234; Brendel (1887) 84; Higley & Raddin (1891) 31; Gates (1912) 361; Pepoon (1927) 365; Jones (1945a) 169; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 180.

Lathyrus venosus var. insulans Butters & St. John in Rhodora 19:158 (1917).
Type Locality: “Habitat in Pennsylvania.”

Range: Ontario—Ga.—La.—Kans.—Mont.—Saskatchewan.

Perennial, glabrous, or often hirtellous throughout; stem 4-angled but not winged, 1-2 m. long; stipules ovate-lanceolate to linear-lanceolate, half-sagittate; leaflets 4-7 pairs, oval with prominent veins, peduncles 6-24-flowered; corolla purple, 12-15 mm. long; legume broadly linear, 4-5 cm. long, flat, reticulate, glabrous.—Veiny Pea.

Plants of this species characterized by being hirtellous throughout, reaching a length of 2 m., having inflorescences with 6-18 flowers, and linear-lanceolate stipules, those of the lower nodes 1.2-2 cm. long and 2.5-5 mm. wide, have been recognized as L. vcnosus Muhl. var. intonsus Butters & St. John. The fifteen specimens of Lathyrus vcnosus from Illinois in the University of Illinois Herbarium all show these characters.

In a cyto-taxonomic study of the genus Lathyrus, Senn (1938a:75) points out that L. vcnosus is normally a tetraploid plant, with a haploid chromosome number of fourteen. All the other 41 species of Lathyrus studied cytologically up to that time have a haploid number of seven.

Along streams, on ditch banks, in thickets; restricted to northeastern Illinois.


6. Lathyrus ochroleucus Hook. Fl. Bor. Am. 1:159 (1833); Vasey (1860) 119, (1861a) 141; Babcock (1872) 25; Patterson (1876) 11; Flagg & Burrill (1878) 254; Brendel (1887) 84; Higley & Raddin (1891) 31; Huett (1897) 67; Pepoon (1927) 366; Fuller (1943) 95; Jones (1945a) 169; Fuller (1946) 55; Fuller, Fell & Fell (1949) 74; Jones (1950) 181; Fernald (1950) 935.

Type Locality: “Hudson’s Bay...From the Red River, in latitude 49°, through the whole wooly country to Bear Lake, in latitude 66°.”

Range: Manitoba—Quebec—N.J.—Wyo.—British Columbia—Mackenzie.

Perennial, glabrous and somewhat glaucous; stem 3-10 dm. long, terete or slightly angled; stipules broad, leafy, ovate or semi-cordate, nearly half the size of the leaflets; leaflets 3-4 pairs, oval or ovate, thin, pale beneath, 2-5 cm. long; peduncles shorter than the leaves. 5-10-flowered; corolla yellowish-white, about 1.5 cm. long; legume oblong-linear, 3-4 cm. long, glabrous.—Cream Pea.

Banks of streams, woods, and thickets, in northern Illinois.

Specimens Examined: COOK CO.: River bank, Maywood, Agnes Chase, 26 May 1899. DU PAGE CO.: Thicket, Warrenville, W. S. Moffatt 172, 4 July
Lathyrus pratensis L. is reported from Illinois by Jones (1945a) 169 and Fernald (1950) 935. The writer has seen no Illinois specimens of this yellow-flowered Meadow Pea, and at the present time finds no reason for including it as a part of the spontaneous flora of the state.

31. APIOS Medic.

1. Corolla brownish-purple, the standard rounded at the apex, and without a spongy protuberance; rootstock with several tuberous swellings.

2. A. americana Medic. in Vorles. Churpf. Phys.-oekon. Gesellsch. 2:355 (1787); Fuller (1943) 95; Jones (1945a) 169, (1945b) 275; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 181.

Glycine apios L. Sp. Pl. 753 (1753); Michaux (1803) 2:63; Gates (1926) 231.

Apios tuberosa Moench., Meth. 165 (1794); Mead (1846) 60; Lapham (1857) 510; Warne (1870) 347; Babcock (1872) 25; Patterson (1874) 5, (1876) 11; Schneck (1876) 526; Williams (1877) 491; Flagg & Burrill (1878) 233; Brendel (1887) 46; Higley & Raddin (1891) 32; Huett (1897) 67; Snare & Hicks (1898) 6; Gates (1912) 361; Pepoon (1927) 366; McDougall (1936) 173; Ries (1939) 90.

Apios americana var. turrigera Fernald in Rhodora 41:546 (1939), (1950) 936.

Type Locality: North America.

Range: New Brunswick—Fla.—Tex.—Colo.—Minn.

Twining perennial herb with tuberous, moniliform rootstock; pubescent or glabrate; stipules subulate, deciduous; leaves usually 5-7-foliolate, the leaflets ovate to ovate-lanceolate, 3-10 cm. long; racemes axillary, dense, often branching, the rachis with small lumpy outgrowths; flowers large, brownish-purple, somewhat fragrant, the standard about 1 em. long, rounded or retuse at the apex; calyx hemispherical, 4-5 mm. long; legume linear, 6-12 cm. long, straight or somewhat curved, coriaceous; stem with milky juice; tubers edible.—Groundnut.

Plants in which the racemes are "loosely lanceolate- or ovoid-attenuate, with prolonged tips; mature denuded rachis 1-2 dm. long" (Fernald, 1950:936) have been designated A. americana var. turrigera. Among the
25 Illinois specimens of *A. americana* in the University of Illinois Herbarium, eight show the characters associated with var. *turrigera*. Among these are two cited by Fernald in the publication of the variety.

Woods, thickets, and river banks, in moist soil.


2. **Apios priceana** B. L. Robins. in Bot. Gaz. 25:451 (1898); Jones (1950) 181; Winterringer (1951) 504.

**Type Locality:** Bowling Green, Warren County, Kentucky. Collected by Miss Sadie F. Price, type specimens in Gray Herbarium.

**Range:** Tenn.—Ky.—s. III.

Similar to *A. americana* but differing in the following respects: With a single, irregularly spheroidal, tuberous rootstock; the hemispherical calyx 8-10 mm. long; corolla larger than in *A. americana*, greenish-white, tinged with rose or magenta; standard with a fleshy or spongy protuberance.—Price’s Groundnut.

Damp, rich soil, woods, southern Illinois. Rare.

**Specimens Examined:** UNION CO.: Damp, rich soil, along Wolf Lake, G. D. Fuller 664, 8 September 1941.


**Dolichos sinensis** L. Cent. Pl. 2:28 (1756).

**Type Locality:** “Habitat in India.”

**Range:** Fla.—Tex.—Mo.—N.C. Native of Asia.

Annual, twining or trailing, glabrous or slightly pubescent; leaflets 3, broadly ovate, 8-15 cm. long, the terminal one long-stalked, and sometimes contracted above a broad base which is obtusely hastate, the lateral
ones obliquely ovate, inequilateral, and short-stalked; peduncles much exceeding the leaves, bearing few flowers, loosely subcapitate; corolla yellow or purplish, 1.5-2.5 cm. long; legume fleshy, nearly straight, 12-20 cm. or longer.—Common Cow Pea.

Cultivated as a field crop in southern Illinois. Since all Illinois specimens seen by the writer were of cultivated plants, *V. sinensis* is not considered an established member of the spontaneous flora of the state.

32. PHASEOLUS L.

*Phaseolus polystachyus* (L.) B.S.P. Prel. Cat. N. Y. 15 (1888); Robinson & Fernald (1908) 528; McDougall (1936) 173; Ries (1939) 90; Deam (1940) 622; Fernald (1942) 419; Jones (1945a) 169, (1945b) 274; Bailey (1949) 52; Jones (1950) 181; Fernald (1950) 936.

*Dolichos polystachios* L. Sp. PI. 726 (1753).

*Phaseolus perennis* Walt. Fl. Car. 182 (1788); Lapham (1857) 510; Patterson (1876) 11; Schneck (1876) 526; Williams (1877) 491; Flagg & Burrill (1878) 233; Brendel (1887) 54; Higley & Raddin (1891) 32; Huett (1897) 67; Pepoon (1927) 366.


**TYPE LOCALITY:** "Habitat in Virginia."

**RANGE:** Conn.—Quebec—Minn.—Nebr.—La.—Fla.

Perennial herbaceous vine, stem twining or trailing, minutely pubescent, 1-4 m. long; leaflets 3, broadly ovate to suborbicular, finely pubescent, 4-10 cm. long; racemes axillary, longer than the leaves, simple or branched, loosely-flowered; corolla purple or whitish, 7-10 mm. long; legume flat, slightly curved, 4-8 cm. long, 6-9 mm. wide, somewhat glaucous.—Kidney Bean.

Woods and thickets, not common in Illinois.


33. STROPHOSTYLES Ell.

1. Leaflets broadly ovate to ovate-lanceolate, obtusely 3-lobed, or panduriform, or entire; flowers 8-12 mm. long; calyx tube glabrous; legumes 3.5-9 cm. long, glabrous or sparsely pubescent.

2. Leaflets ovate or ovate-lanceolate, entire, or occasionally with shallow lobes; peduncles slender, when in flower 3-6 times as long as the leaves, often 20-25 cm. long; flowers pink, fading yellow,
12-14 mm. long; mature legume narrowly linear, 3.5-6.5 cm. long, only about 4 mm. wide; root perennial. .......................... 1. *S. umbellata*

2. Leaflets obtusely 3-lobed, or panduriform, or broadly ovate and entire; peduncles, when in flower, little longer than the leaves, in fruit, about twice as long; flowers pink to purplish, about 1 cm. long, fading green; mature legume broadly linear, 4.5-9 cm. long but commonly about 6 cm., 5-8 mm. wide; root annual. .......................... 2. *S. helvola*

1. Leaflets lanceolate to linear-oblong, not lobed; flowers 5-6 mm. long; calyx tube hirsute; legume 2-3 cm. long, densely pubescent; annual. .......................... 3. *S. leiostylus*

1. *Strophostyles umbellata* (Muhl.) Britt. in Britt. & Brown, Illust. Fl. 2:339 (1897); Gleason (1907) 184; Pepoon (1927) 366; McDougall (1936) 174; Fernald (1945) 216; Fuller (1946) 58; Jones (1950) 181; Fernald (1950) 937.


*Phaseolus helvolus* sensu Torrey Fl. N. Y. 161 (1824); T. & G. Fl. N. Am. 280 (1840); Mead (1846) 60; Lapham (1857) 510; Babcock (1872) 26; Patterson (1876) 11; Schneck (1876) 526; Flagg & Burrill (1878) 233; Brendel (1887) 46; non L. (1753).

*Phaseolus umbellatus* (Muhl.) Britt. in Trans. N. Y. Acad. 9:10 (1889).

**Type Locality:** "Habitat in Pennsylvania."

**Range:** N.Y.—Fla.—La.—Tex.; Ark.; Mo.; Ill.; Ind.

Stems slender, trailing, retrorsely-pubescent, up to 12 dm. long from perennial root; leaflets ovate or ovate-lanceolate, entire or only occasionally with shallow lobes, strigose-pubescent beneath; peduncles slender, when in flower 3-6 times as long as the leaves, often 20-25 cm. long; flowers pinkish, fading yellow, about 12-14 mm. long in 3-5-flowered umbels; legumes narrowly linear, 3.5-6.5 cm. long, only about 4 mm. wide, sparsely pubescent; seeds rather truncate at the ends, more or less squarish in outline, 3.5-6 mm. long, mealy-pubescent.—Pink Wild Bean.

In dry, sandy, or rocky soil; infrequent, southern Illinois.


2. Strophostyles helvola (L.) Britt., Britt. & Brown, Illust. Fl. 2:338 (1897); Gleason (1907) 184, (1910b) 159; Gates (1923) 169; Thone (1925) 103; Gates (1926) 231; Pepoon (1927) 366; Robertson (1928) 135; McDougall (1936) 174; Fuller (1943) 95; Jones (1945a) 169, (1945b) 282; Fuller (1946) 55; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 181.

*Phaseolus helvolus* L. Sp. Pl. 724 (1753); Mead (1846) 60; Lapham (1857) 510; Babcock (1872) 26.

*Phaseolus diversifolius* Pers. Syn. Pl. 2:296 (1807); Lapham (1857) 510; Warne (1870) 347; Babcock (1872) 26; Patterson (1874) 5. (1876) 11; Schneck (1876) 526; Brendel (1887) 46; Huettt (1897) 67.

*Strophostyles angulosa* Ell. Bot. S. C. & Ga. 2:229 (1823); Higley & Raddin (1891) 32; Snare & Hicks (1898) 6.


*Strophostyles peduncularis* sensu Higley & Raddin (1891) 32.—Non Ell. (1822).


**Type Locality:** “Habitat in Carolina.”

**Range:** Quebec—Minn.—Tex.—Fla.

Annual, low-twinning or trailing, 1-2 m. long, glabrous or villous-pubescent; leaflets 3, obtusely 3-lobed, or panduriform, or broadly ovate and entire, tapering to a blunt point; peduncles axillary, when in flower little longer than the leaves, in fruit about twice as long; corolla pinkish or purple, greenish when faded; about 1 cm. long; legume broadly linear, 4.5-9 cm. long, but commonly about 6 cm., 5-8 mm. wide; seeds nearly cylindrical, 5-8 mm. long, pubescent or black and shining.—Trailing Wild Bean.

*S. helvola* var. *missouriensis* is described as a high-climbing variety, 3-10 m. long; principal leaflets rhombic-ovate, not lobed; leaflets, flowers, legumes, and seeds slightly larger than in the species. A study of over 60 sheets of *S. helvola* from Illinois in the University of Illinois Herbarium shows that only two specimens have the characters set forth by Fernald.
(1950:937) for the var. missouriensis. Furthermore, a series of intergradations involving these characters can be easily seen. The differences with respect to size of leaflets, flowers, legumes, and seeds in these specimens would seem to be readily accountable for within the limits of expected variation of the species.

Bottom lands, roadsides, railroads, and in thickets; locally throughout the state.


*Phaseolus pauciflorus* Benth. Comm. Leg. Gen. 76 (1837); Lapham (1857) 510; Forbes (1870) 352; Patterson (1876) 11; Schneck (1876) 526; Brendel (1887) 84; Huett (1897) 67.—Non Don (1832).

*Phaseolus leiospermus* T. & G. Fl. N. Am. 1:280 (1838); Mead (1846) 60.

Strophostyles pauciflora (Benth.) S. Wats. ex A. Gray, Man., Ed. 6:145 (1890); Higley & Raddin (1891) 32; McDonald (1900) 103; Pepoon (1927) 366; Robertson (1928) 136.

Type Locality: "Red River, Louisiana, Dr. Hale! Arkansas, Dr. Leavenworth!"

Range: Miss.—Tex.—Colo.—Nebr.—Minn.—Wis.—Ind.

Annual, stem 3-10 dm. long, retrorsely pubescent, low-climbing or trailing; leaflets lanceolate to linear-oblong, not lobed; flowers 2-6 in capitulate umbels, 5-6 mm. long; calyx-tube 1.5 mm. long, the lower lobe longer than the tube; corolla purple; legume linear, flattened, 2-3 cm. long, densely pubescent; seeds purple, at maturity glabrous and shiny.—Small Wild Bean.

Roadsides, railroad tracks, river banks, waste ground. Locally throughout most of the state.


34. CLTORIA L.

Clitoria mariana L. Sp. Pl. 753 (1753); Lapham (1857) 510; Forbes (1870) 318; Vasey (1870a) 256; Patterson (1876) 12; Flagg & Burrill (1878) 234; Brendel (1887) 84; Robinson & Fernald (1908) 529; French (1926) 210; Fernald (1937c) 479; Jones (1945a) 170; Bailey (1949) 52; Jones (1950) 181; Fernald (1950) 938.

Type Locality: "Habitat in America septentrionali."

Range: N.Y.—N.J.—Ind.—Mo.—Tex.— Fla.; Ariz.

Perennial, erect, ascending, or occasionally twining, 3-12 dm. high; stipules ovate-lanceolate, striate, persistent; leaflets 3, ovate-lanceolate, entire, pale beneath, glabrous; peduncles axillary, shorter than the pedi- oles. 1-3-flowered; flowers pale blue, 5-6 cm. long, showy, the standard very large; legumes linear, flattened. 2.5-6 cm. long.—Butterfly Pea.

Dry ridges and banks in southern Illinois.

Specimens Examined: JOHNSON CO.: Dry woods, 2.5 mi. s.e. of Ozark. G. S. Winterringer 1155, 5 July 1948. POPE CO.: Herod. G. P. Clinton, 30 July 1898. UNION CO.: Cobden, F. S. Earle, 30 June 1879; Pine Hill, near
Wolf Lake, G. N. Jones 12090, 5 July 1940; sandstone ridge, near Wolf Lake, G. D. Fuller 834, 26 August 1941.

35. GLYCINE L.


Phaseolus max L. Sp. Pl. 725 (1753).

Dolichos soja L. op. cit. 727.


Type Locality: "Habitat in India."

Range: Native of Asia; extensively cultivated in Illinois, and in some other parts of the United States, as well as in the Orient.

Annual herb, densely villous, 6-20 dm. high; leaflets 3, broadly ovate to ovate-lanceolate, 6-15 cm. long or more, entire, obtuse or bluntly acute; flowers white, in nearly sessile axillary racemes; legumes short-stalked, pendent, 3-6 cm. long, 7-9 mm. wide, densely pubescent. 2-4-seeded.—Soybean.

Extensively cultivated in Illinois; occasionally spontaneous in areas where cultivated, but not maintaining itself through more than one or two seasons.


36. AMPHICARPA Ell.

1. Stems with scattered yellowish hairs, or glabrate; leaves thin, the terminal leaflet reaching 6 cm. in length; inflorescence not branched. 1-8-flowered; lower floral bracts shorter than the pedicels; corolla white or pinkish-purple; legumes pubescent along the margin, but glabrous on the broad surfaces........................1 A. bracteata

1. Stems conspicuously villous, the hairs golden-brown; leaflets noticeably larger and thicker than in A. bracteata, the terminal one reaching 10 cm. in length; inflorescence often branched, 7-17-flowered; lower floral bracts longer than the pedicels; corolla purple, the color darker than in A. bracteata; legumes sparingly pubescent along the broad surfaces........................................2 A. comosa

1. Amphicarpa bracteata (L.) Fern. in Rhodora 35:276 (1933); Fuller (1943) 95; Jones (1945a) 170; Fuller (1946) 58; Fuller, Fell & Fell (1949) 74; Jones (1950) 182.

Glycine monoica L. Sp. Pl. (ed. 2) 1023 (1763); Michaux (1803) 2:64.
Amphicarpa monoica (L.) Ell. Journ. Acad. Phil. 1:373 (1818); Mead (1846) 60; Lapham (1857) 510; Babcock (1872) 26; Patterson (1874) 5, (1876) 12; Schneck (1876) 526; Flagg & Burrill (1878) 234; Brendel (1887) 46; Higley & Raddin (1891) 32; Snare & Hicks (1898) 6; Gates (1912) 361; Pepoon (1927) 366.
Falcata comosa sensu Gleason (1907) 184; Gates (1923) 169, (1926) 231.—Non (L.) Kuntze (1891).

Type Locality: “Habitat in Virginiae madidis, umbrosis.”
Range: Quebec—Manitoba—Nebr.—La.—Fla.

Low, twining, perennial; stems slender with whitish or yellowish reflexed hairs, or glabrate; leaflets 3, thin, broadly ovate, pale beneath, the terminal leaflet 2-6 cm. long; petaliferous flowers 1-8, in unbranched axillary racemes, the corolla white to pinkish-purple; cleistogamous flowers solitary in the lower axils, or at the tips of creeping stems; legume of petaliferous flowers linear-oblong, several-seeded, glabrous on the surfaces, pubescent on the sutures, with seeds 3.5 mm. long; legume from cleistogamous flowers obovoid, somewhat fleshy, generally 1-seeded.—Hog Peanut.

In moist woods and along streams, common throughout Illinois.


2. Amphicarpa comosa (L.) G. Don in Loud. Hort. Brit. 314 (1830); Jones (1945a) 170; Fuller (1946) 58; Bailey (1949) 52; Fuller, Fell & Fell (1949) 74; Jones (1950) 182.


Amphicarpa pitcheri T. & G. Fl. N. A. 1:292 (1838); Mead (1846) 60; Snare & Hicks (1898) 6; Deam (1910) 368; Gleason (1910b) 159; Thorne (1925) 103; Pepoon (1927) 366.

Amphicarpa bracteata var. pitcheri (T. & G.) Fassett in Rhodora 38: 95 (1936).
Amphicarpa bracteata var. comosa (L.) Fernald in Rhodora 39:318 (1937).

Type Locality: “Habitat in Virginiae madidis, umbrosis.”

Range: Mass.—Minn.—S.D.—Tex.—Tenn.

Similar to A. bracteata but more robust throughout; stem conspicuously brownish-villous; leaflets larger and thicker, the terminal one 5-10 cm. in length; inflorescence often branched, 7-17-flowered; corolla purple, darker than in A. bracteata; legumes strigose on the surfaces, densely pubescent along the sutures; seeds 3.5-5.5 mm. long.—Hog Peanut.

In moist woods and along streams, common throughout Illinois.


37. GALACTIA P.Br.


Hedysarum volubile L. Sp. Pl. 750 (1753).

Galactia mollis sensu Forbes (1870) 352; Patterson (1876) 12; Flagg & Burrill (1878) 233; BRENDL (1887) 84.—Non Michx. (1803).


Galactia mississippiensis (Vail) Rydb. Fl. Pr. & Pl. 493 (1932); Jones (1945a) 170; Bailey (1949) 52.

Type Locality: “Habitat in America septentrionali.”

Range: Fla.—Tex.—Okla.—Mo.—N.Y.

Perennial vine, prostrate or climbing; stems finely hirsute to downy-pubescent; leaflets 3, oval to lanceolate, 2-5 cm. long, glabrous or puberulent above, finely appressed-pubescent beneath; racemes axillary, loose-flowered; flowers lilac-colored, 8-10 mm. long; legume linear, 2-5 cm. long, 4-5 mm. wide, finely appressed-pubescent.—Milk Pea.

G. volubilis var. mississippiensis Vail is a form which has been set apart chiefly by having leaflets “pilose on both surfaces.” Of eight speci-
mens of *G. volubilis* from Illinois in the University of Illinois Herbarium, the leaflets of three specimens are nearly uniformly glabrous above. The remaining five specimens show varying degrees of minute appressed pubescence on the upper surfaces of the leaflets, but in no case was this pubescence as marked above as below.

In dry soil, southern Illinois.

**Specimens Examined:** POPE CO.: In rocky woods 3 mi. n.e. of Herod, G. S. Winterringer 1478, 16 August 1948. UNION CO.: A. B. Seymour, August 1880; “Southern Illinois,” F. Brendel.

*Pueraria lobata* (Willd.) Ohwi [*P. thunbergiana* (Sieb. & Zucc.) Benth.], commonly known as kudzu or kudzu-vine, has been introduced into southern Illinois from eastern Asia as a forage crop, an ornamental climber, and as an aid in erosion control along roadsides. The plant is normally high-climbing, with stems which may become ligneous under favorable growing conditions. The leaves are large, pinnately trifoliolate, the leaflets entire or coarsely palmately lobed, up to 2 dm. in length. Young growth is copiously pilose; mature leaves show less conspicuous soft, white, appressed pubescence. Flowers are 12-18 mm. long, in axillary racemes hidden by the leaves, reddish-purple, and fragrant. Legumes are long, narrow, somewhat flattened, and many-seeded.

*P. lobata* grows rapidly and tends to form a dense covering over everything in its pathway when its growth is not controlled. There is evidence that the plant has persisted in southern Illinois for some time as an escape, and may eventually establish itself as a permanent member of the flora of the state.

The writer has seen the following Illinois specimens: JACKSON CO.: Roadside, occasional, Carbondale, G. D. Fuller, 24 October 1941. UNION CO.: Roadside, occasional, State Forest, G. D. Fuller 24 October 1941; covering large area on roadside, Jonesboro, H. E. Ahles 4716, 29 July 1951. The latter specimen was taken in flower.
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