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The Vascular Flora of Des Moines County, Iowa¹

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Des Moines County is a 409 square mile (1060 km²) political subdivision located along the Mississippi River in southeastern Iowa. The vascular flora of the county was studied in the field and from herbarium specimens during 1975-80. The flora consists of 809 species, representing 109 families and 393 genera. This study adds 390 species to the previously known county flora, a 93% increase. Three species are added to the state flora: *Chenopodium foggii* H. A. Wahl, *Holosteum umbellatum* L., and *Lamium purpureum* L. Nineteen species on the Iowa list of threatened and endangered vascular plants are reported from the county.

INDEX DESCRIPTORS: Des Moines County, Iowa; Iowa flora; endangered plant species.

A century and a half of occupation by Euro-Americans has effected extensive changes in the vegetation of Iowa. Over 70 species of vascular plants have been extirpated and another 175 species are in danger of extirpation (Roosa and Eilers 1978). The prairies have all but disappeared (Smith 1981) and the forests and wetlands have been decimated (Thomson 1980, Bishop 1981). The most prevalent plant species are invaders from Eurasia.

This trend of decline, extirpation, and supplantation by foreign species has made it critical to document the present status of the flora of Iowa. The purpose of this report is to present the results of a floristic survey of Des Moines County, Iowa, as a contribution towards the documentation of the state flora.

STUDY AREA

Des Moines County is a 409 square mile (1060 km²) political subdivision in extreme southeastern Iowa. It is bounded on the east by the Mississippi River and state of Illinois, on the south by the Skunk River and Lee County, on the west by Henry County, and on the north by Louisa County. The Des Moines River and state of Missouri are 30 miles (48 km) south-southwest of the county.

Settlement of the county began in 1833, after the native Sauk and Mesquakie tribes ceded a portion of eastern Iowa to the United States at the close of the Black Hawk War (Antrobus 1915). The major population center is Burlington-West Burlington, with a combined population of 35,500. The rural areas of the county are used for the production of row crops and livestock.

The county has two sharply delineated physiographic features: an extensive alluvial plain along the Mississippi and Skunk Rivers and a level to gently rolling upland plateau moderately dissected by streams. This plateau is divided through its center by the drainage of Flint Creek, and terminates abruptly on the east at the steep erosional escarpment, up to 150 feet (45 m) high, which marks the boundary of the Mississippi alluvial plain. The southern boundary is less abrupt, with gentle slopes bordering the Skunk River.

The soils of the upland plateau developed in 12-16 feet (3.5-5.0 m) of loess overlying Illinoian glacial till; the soils of the Mississippi alluvial plain developed in alluvium (Brown 1980). The bedrock underlying these soils consists of Upper Devonian and Mississippian limestones and siltstones (Campbell 1966). This bedrock is extensively exposed along the east margin of the upland plateau and in the deeper stream valleys.

The climate of the county is humid continental, typified by warm summers, cold winters, and a uniform distribution of precipitation (Goode's World Atlas 1970). At the Burlington weather recording station (C. F. Jespersion, pers. comm.) the mean January temperature

is 22.9°F (-5.1°C) and the July mean is 75.4°F (24.1°C). Extremes of -27°F (-33°C) and 111°F (44°C) have been recorded. The mean frost-free growing season is 183 days (April 20 to October 18) and the mean annual rainfall is 34.6 inches (88.0 cm).

The county lies within the transition zone of the oak-hickory forest association and the bluestem prairie association (Küchler 1964). This transition zone is an ecotone in which prairie was formerly maintained by fire in a climatic region which would otherwise have supported deciduous forest (Daubenmire 1980). Prior to settlement, forest and prairie formed a well defined mosaic controlled by topography (Antrobus 1915, Hall 1858). The level uplands and most of the Mississippi alluvial plain were prairie. Forests were largely restricted to the stream valleys and the steep bluffs lining the alluvial plain. In many areas, savannah formed a transition zone between the two vegetation types. Today, much of the forest and nearly all of the prairie has been converted to agricultural production.

PREVIOUS STUDIES

Botanical studies were first conducted over 135 years ago by local amateurs. The Iowa Historical and Geological Institute, an amateur scientific society founded at Burlington in 1843, possessed an herbarium containing "the greater portion of the plants found in the state" (Parker 1855). Presumably, the majority were from the Burlington vicinity. The institute and its herbarium were destroyed by fire in 1853.

Bessey (1871) cited 188 species from Burlington. These were credited to the Reverend Isaiah Reid of Nevada who had resided at Burlington prior to 1870. Little is known about Reid and no herbarium specimens bearing his name are known. It may be speculated that Reid had been a member of the Iowa Historical and Geological Institute and that the list of plants he provided Bessey was derived from that group's herbarium.

L. H. Pammel made cursory inspections of two areas near Burlington, Flint Hills and Starr's Cave, to determine their potential as state parks. In his brief reports, Pammel (1924, 1925) listed 20 forest trees from Starr's Cave and 75 forest and prairie species from Flint Hills.

Three regional floristic surveys have included Des Moines County among the counties studied. T. J. and M. F. L. Fitzpatrick (1898, 1899) reported 95 species from the county in their flora of southern Iowa. C. L. Gilly and M. E. McDonald (1948, 1949) reported 54 species from the county in a preliminary survey of southeastern Iowa, while R. A. Davidson (1957) reported 245 species in a more intensive follow-up survey.

A number of other Iowa botanists have collected vascular plants in Des Moines County. Among these are Paul Bartsch, L. J. Eilers, G. J. Goodman, R. W. Pohl, D. L. Savage, Bohumil Shimek, and R. F. Thorne.

¹This paper is a portion of a thesis submitted to the University of Northern Iowa in partial fulfillment of the requirements for the degree Master of Arts.

VEGETATION

The classification of the vegetation of Des Moines County was adapted from a natural community classification developed by the Illinois Natural History Survey (White 1978). Four major categories were distinguished: forest, prairie, wetland, and ruderal. Several subclasses were recognized within each of the first three categories.

Forest

Forest is defined as an area with greater than 80% tree cover (White 1978). Three subclasses are recognized: floodplain forest, oak-hickory forest, and maple-basswood forest. The latter two are known collectively as upland forest.

Floodplain forest occurs on the floodplains of streams and is subject to periodic inundation. *Acer saccharinum*, *Fraxinus pennsylvanica*, and *Populus deltoides* are most often dominant, but may be replaced locally by *Betula nigra*, *Platanus occidentalis*, or *Quercus palustris*. Other characteristic species include *Carex grayii*, *Carya laciniosa*, *Celtis occidentalis*, *Laportea canadensis*, *Leersia lenticularis*, *Lobelia cardinalis*, *Ranunculus septentrionalis*, *Salix amygdaloides*, *Toxicodendron radicans*, *Ulmus americana*, *Urtica dioica*, and *Vitis riparia*.

Oak-hickory forest occurs on south, west, and east slopes and adjacent rolling uplands of the stream valleys. Various species of *Quercus* (*Q. alba*, *Q. borealis*, *Q. macrocarpa*, *Q. mublenbergii*, *Q. velutina*) and *Carya* (*C. cordiformis*, *C. ovata*, *C. tomentosa*) are dominant. Other characteristic species include *Anemone thalictroides*, *Athyrium angustum*, *Botrychium virginianum*, *Carex pennsylvanica*, *Circaea lutetiana*, *Dentaria laciniata*, *Dicentra cucullaria*, *Eupatorium rugosum*, *Galium circaezans*, *Juglans nigra*, *Osmorhiza claytonii*, *Ostrya virginiana*, *Parthenocissus quinquefolia*, *Ribes missouriense*, *Sanguinaria canadensis*, *Smilacina racemosa*, *Trillium recurvatum*, and *Viola pubescens*.

Maple-basswood forest occurs on steep north-facing slopes in the stream valleys. The dominant trees are *Acer saccharum*, *Quercus borealis*, and *Tilia americana*. Other characteristic species include *Aesculus glabra*, *Aruncus dioicus*, *Asarum canadense*, *Asplenium rhizophyllum*, *Carex albursina*, *Carpinus caroliniana*, *Cornus alternifolia*, *Cystopteris bulbifera*, *Dicentra canadensis*, *Hepatica acutiloba*, *Mitella diphylla*, *Polymnia canadensis*, *Ribes cynosbati*, *Solidago flexicaulis*, *Trillium flexipes*, *T. nivale*, *Uvularia grandiflora*, and *Viburnum molle*.

Prairie

The native grassland of the Midwest is termed prairie (White 1978). Prairie formerly occupied the level uplands and much of the Mississippi alluvial plain. Four subclasses are recognized on the basis of soil characteristics: wet-mesic prairie, dry-mesic prairie, hill prairie, and sand prairie.

Wet-mesic prairie occurs on poorly drained wet to mesic silt loam and clay loam soils. *Andropogon gerardi*, *Panicum virgatum*, and *Spartina pectinata* are dominant. Other characteristic species include *Anemone canadensis*, *Carex lasiocarpa*, *C. vulpinoidea*, *Eleocharis compressa*, *Juncus balticus*, *J. torreyi*, *Penstemon digitalis*, *Pycnanthemum virginianum*, and *Scirpus pendulus*.

Dry-mesic prairie occurs on well drained mesic to dry silt loam and clay loam soils. *Andropogon gerardi* and *Sorghastrum nutans* are dominant. Other characteristic species include *Amorpha canescens*, *Baptisia lactea*, *Cirsium hillii*, *Coreopsis palmata*, *Helianthus occidentalis*, *Lespedeza capitata*, *Liatris aspera*, *Pedicularis canadensis*, *Petalostemon candidus*, *Sisyrinchium campentre*, *Solidago missouriense*, and *Viola pedatifida*.

Hill prairie occurs on dry excessively drained silt loam and clay loam soils of steep bluffs and ridge crests, as openings in oak-hickory forest. *Andropogon scoparius* is dominant. Other characteristic species include *Antennaria neglecta*, *Carex meadii*, *Echinacea pallida*, *Gerardia grandiflora*, *Hieracium scabrum*, *Lechea tenuifolia*, *Lespedeza virginica*, *Lithospermum canescens*, *Penstemon pallidus*, *Ranunculus fascicularis*, *Sol-*

idago nemoralis, and *Viola pedata*.

Sand prairie occurs on dry excessively drained sand and loamy sand soils on terraces of the Mississippi River. *Andropogon scoparius* and *Stipa spartea* are dominant. Other characteristic species include *Ambrosia psilostachya*, *Artemisia campestris*, *Asclepias amplexicaulis*, *Astragalus distortus*, *Chenopodium desiccatum*, *Croton glandulosus*, *Cyperus filiculmis*, *C. schweinitzii*, *Digitaria filiformis*, *Eragrostis spectabilis*, *Froehlichia gracilis*, *Leptoloma cognatum*, *Lithospermum carolinense*, *Oenothera rhombipetala*, *Panicum commonsianum*, *Plantago patagonica*, *Quercus x bushii*, *Scrophularia lanceolata*, and *Viola rafinesquii*.

Wetland

Wetland is defined as a vegetated area in which water level exceeds soil level during at least a portion of the year (Stewart and Kantrud 1971). All natural wetland in the county occurs on the floodplains of streams. Four subclasses are recognized on the basis of soil characteristics and water level: marsh, sedge meadow, wet sandflat, and pond.

Marsh is defined as a wetland dominated by tall perennial graminoid herbs such as *Sparganium eurycarpum*, *Typha latifolia*, and various species of *Scirpus* (*S. cyperinus*, *S. fluviatilis*, *S. validus*). The mineral or muck soils are covered by 0.5 - 3.0 feet (15-90 cm) of water throughout most of the year (White 1978, Lammers and van der Valk 1979). Other characteristic species include *Alisma subcordatum*, *Asclepias incarnata*, *Carex lacustris*, *Cephalanthus occidentalis*, *Eleocharis obtusa*, *Hibiscus militaris*, *Iris virginica*, *Leersia oryzoides*, *Mimulus ringens*, *Ranunculus sceleratus*, and *Sagittaria latifolia*.

Sedge meadow is defined as a wetland dominated by medium-height perennial graminoid herbs, predominantly species of *Carex* (*C. laeviconica*, *C. shortiana*, *C. stricta*, *C. tribuloides*, *C. vulpinoidea*), which form a dense turf with little exposed substrate. The silty or loamy soils are waterlogged much of the year but are flooded only in early spring (Swanson and Sohmer 1978, Lammers and van der Valk 1979). Other characteristic species include *Anemone canadensis*, *Eleocharis obtusa*, *Helenium autumnale*, *Juncus torreyi*, *Lobelia siphilitica*, *Lysimachia ciliata*, *Lythrum dacotanum*, *Physostegia virginiana*, *Solidago gigantea*, and *Verberna hastata*.

Wet sandflat is defined as a wetland dominated by short, often annual, psammophilous graminoid herbs, which form a less dense turf with some exposed substrate. The sand soil is waterlogged throughout much of the year but flooded only in early spring. This wetland type is similar to the dwarf shore flora of Clark (1917) and the spits and shores community of Swanson and Sohmer (1978). Characteristic species include *Ammania coccinea*, *Cyperus acuminatus*, *C. aristatus*, *C. odoratus*, *C. rivularis*, *Eleocharis acicularis*, *E. obtusa*, *Eragrostis hypnoides*, *E. pectinacea*, *Fimbristylis autumnalis*, *Gerardia purpurea*, *Gratiola neglecta*, *Hemicarpha nutcrantha*, *Hypericum majus*, *H. mutilum*, *Ipomoea lacunosa*, *Iva ciliata*, *Lindernia anagallidea*, *L. dubia*, *Lippia lanceolata*, *Ludwigia polycarpa*, *Myosurus minimus*, and *Rotala ramosior*.

Pond is properly defined as a small shallow body of still water. The term is here used to denote the assemblage of submersed and floating-leaved hydrophytes which inhabit a pond. Such an assemblage is properly called a submersed and floating-leaved plant community (Swanson and Sohmer 1978). Characteristic species include *Ceratophyllum demersum*, *Elodea nuttallii*, *Lemna minor*, *Nelumbo lutea*, *Potamogeton nodosus*, *P. pectinatus*, and *Ranunculus longirostris*.

Ruderal

This category includes all vegetated land on which the native vegetation has been severely disturbed or destroyed. These ruderal areas are dominated by herbaceous species favored by disturbance. Many of these are invaders from Eurasia. This broad category includes cropland, pasture, lawns, severely eroded land, early successional land, fencerows, transportation rights-of-way, urban land, and waste land. Examples of ruderal species include *Abutilon theophrasti*, *Agropy-*

ron repens, *Amaranthus albus*, *Ambrosia trifida*, *Arctium minus*, *Asclepias syriaca*, *Brassica nigra*, *Bromus inermis*, *Chenopodium album*, *Cirsium arvense*, *Daucus carota*, *Digitaria ischaemum*, *Eragrostis ciliaris*, *Melilotus albus*, *Pastinaca sativa*, *Plantago rugelii*, *Poa pratensis*, *Portulaca oleracea*, *Setaria faberi*, *Taraxacum officinale*, *Verbascum thapsus*, and *Xanthium strumarium*.

ANNOTATED CATALOGUE

The annotated catalogue of the vascular plants of Des Moines County, Iowa, is based upon herbarium and field study. Five herbaria in Iowa were searched for specimens from the county: Iowa State University, Ames (ISC); University of Iowa, Iowa City (IA); University of Northern Iowa, Cedar Falls (ISTC); Iowa Wesleyan College, Mount Pleasant (IWC); and Maharishi International University (formerly Parsons College), Fairfield (MIU). Only 720 specimens, representing 419 species, were located.

Field study covered the 1975 through 1980 growing seasons and resulted in the addition of 390 species to the county flora, a 93% increase. Over 2200 specimens were collected, primarily at 35 collecting stations (Table 1). These stations are described in detail in Lammers (1981).

A total of 809 species, representing 109 families and 393 genera, are listed. Three of these are state records: *Chenopodium foggii* H. A.

Table 1. Collecting stations in Des Moines County, Iowa.

Station	Location
Aspen Grove	NW 32 70-2
Benton Pond	SE 36 71-2
Big Hollow	NW 20 71-3
Cedar Creek	NW 30 70-4
Concordia Meadow	SW 29 69-2
Crapo Park	NE 17 69-2
Danville Prairie	(RR) 70-4
Dolbee Creek	SE 23 72-2
Dumbbell Lake	15 70-2
Flint Bottoms	NE 29 70-2
Flint Creek	SW 19 70-2
Flint Hills	W 17 70-2
Flint Marsh	SW 33 71-3
Haight Creek	NW 12 71-2
Hunt Woods	SE 14 69-13
Iowa Slough Lake	E 4 72-1
Jackson Pond	SE 19 71-1
Lake Frances	NW 19 71-3
Lake Geode	NW 1 69-5
Leuins Point	NW 30 70-3
Long Creek	SE 19 69-3
Lower Augusta	S 24 69-3
Luckenbill Woods	NE 22 72-2
Patterson Lake	W 31 69-2
Peltandra Bog	SE 3 72-1
Ray Lake	E 29 72-1
Rock Spring	N 27 69-3
Roscum Pond	SW 31 69-2
Round Prairie	SE 17 72-2
Sr. Paul Prairie	E 22 71-2
Spring Grove	35/36 69-3
Starr's Cave	NW 19 70-2
Stoney Hollow	W 35 71-2
Sullivan Slough	E 32 69-2
YMCA Camp	SW 5 70-2

Wahl, *Holosteum umbellatum* L., and *Lamium purpureum* L. Nineteen species (Table 2) are listed by the state of Iowa as threatened or endangered (Roosa and Eilers 1978).

The arrangement of families in the catalogue is phylogenetic. Species are arranged alphabetically within families. The nomenclature of divisions and classes follows the system of Cronquist *et al.* (1966). The sequence and nomenclature of families follows Crabbe *et al.* (1975) for pteridophytes and Cronquist (1981) for seed plants. Nomenclature of species generally agrees with Gleason and Cronquist (1963), except for the pteridophytes (Peck 1976), Cyperaceae (Gilly 1946), and Poaceae (Pohl 1966). An asterisk (*) preceding a binomial indicates a non-indigenous species.

Relative frequency of occurrence in the county is described in terms of the number of populations of the species that I observed, according to the following scale: rare (1-3), infrequent (4-10), frequent (11-24), and common (> 24). Habitat is described by giving the vegetation type (e.g., upland forest, marsh) with which the species is most often associated. For species with broad environmental tolerances, the physical conditions which favor the growth of the species are described (e.g., dry sandy soil, moist shaded habitats).

Specimen data is cited only for rare species. Specimen citations for all species are contained in Lammers (1981) and in the Biobank system (Eilers 1979). I have employed an abbreviated citation format for my own specimens. The locality is given followed by my italicized

Table 2. Species on the Iowa list of threatened and endangered vascular plants (Roosa and Eilers 1978) which have been collected in Des Moines County.

Status	Species
Endangered:	<i>Fimbristylis autumnalis</i> <i>Justicia americana</i>
Threatened:	<i>Blephila ciliata</i> <i>Equisetum fluviatile</i> <i>Fraxinus quadrangulata</i> <i>Krigia virginica</i> <i>Mimulus alatus</i> <i>Mimulus glabratus</i> var. <i>fremontii</i> <i>Thalictrum revolutum</i> <i>Vitis cinerea</i>
Presumed Extirpated:	<i>Chelone obliqua</i> <i>Linum medium</i> var. <i>texanum</i> <i>Peltandra virginica</i> <i>Psoralea onobrychis</i>
Undetermined:	<i>Bidens aristosa</i> <i>Desmodium sessilifolium</i> <i>Isanthus brachiatus</i> <i>Iva ciliata</i> <i>Rotala ramosior</i>

Table 3. Key for interpreting the author's collection numbers.

Collection numbers	Year	Herbarium
1 - 17	1974	ISC
18 - 592	1975	ISC
593 - 879	1976	ISC
880 - 1150	1977	ISC
1151 - 1358	1977	ISC, ISTC
1359 - 2482	1978	ISTC
2483 - 3192	1979	ISTC
3193 - 4026	1980	ISTC

collection number(s). The year collected and herbarium of deposition can be determined with Table 3. When possible, localities are either identified as one of the collecting stations in Table 1 or by the quarter-section-township-range method. In the latter instance, a location such as the northeast quarter of section 15, Township 72 north, Range 4 west (NE¼ S15 T72N R4W) is abbreviated as NE 15 72-4. All townships are north of the baseline and all ranges are west of the prime meridian. When the Iowa distribution of a species is given, it is based solely upon specimens I examined in the five Iowa herbaria.

EQUISETOPHYTA

EQUISETACEAE

- Equisetum arvense* L. Common; moist to dry open habitats.
Equisetum x ferrissii Clute (*E. hyemale* x *E. laevigatum*) Rare; dry open habitats. Ray Lake, 1976, J. H. Peck, ISC. Spring Grove, 1572.
Equisetum fluviatile L. Rare; marsh. Peltandra Bog, 2086; 1978, J. H. Peck 78-301, ISTC. Listed as threatened in Iowa (Roosa and Eilers 1978).
Equisetum hyemale L. Common; moist open to shaded habitats.
Equisetum laevigatum A. Br. Infrequent; dry open habitats.
Equisetum x litorale Kuhl. ex Rupr. (*E. arvense* x *E. fluviatile*) Rare; marsh. Peltandra Bog, 1542, 2087; 1978, J. H. Peck 78-300, ISTC. The occurrence of this hybrid in the upper Mississippi Valley has been discussed by Peck (1980).

POLYPODIOPHYTA

OPHIOGLOSSACEAE

- Botrychium dissectum* Spreng. Rare; upland forest. Starr's Cave, 2454, 2455. Long Creek, 2570. Flint Hills, 2936. The first specimen is f. *obliquum* (Muhl. ex Willd.) Fern. and the remainder are f. *dissectum*.
Botrychium virginianum (L.) Sw. Common; upland forest.

ADIANTACEAE

- Adiantum pedatum* L. Common; upland forest.
Pellaea glabella Mett. ex Kuhn Infrequent; limestone exposures.

DENNSTAEDTIACEAE

- Pteridium aquilinum* (L.) Kuhn Rare; dry open habitats. St. Paul Prairie, 1669.

THELYPTERIDACEAE

- Phegopteris hexagonoptera* (Michx.) Watt Rare; upland forest. Flint Hills, 1750; 1935, Gilly 2822, ISC, MIU.

ASPLENIACEAE

- Asplenium platyneuron* (L.) Oakes ex D. C. Eaton Infrequent; upland forest.
Asplenium rhizophyllum L. Rare; mossy boulders in maple-basswood forest. Flint Creek, 37, 50, 1363. Stoney Hollow, 1375. Starr's Cave, 2535.
Athyrium angustum (Willd.) Presl. Frequent; upland forest.
Cystopteris bulbifera (L.) Bernh. Frequent; limestone exposures.
Cystopteris fragilis (L.) Bernh. var. *mackayi* Lawson Infrequent; limestone exposures.
Cystopteris protrusa (Weath.) Blasdell Common; upland forest.
Cystopteris x tenneseensis Shaver (*C. bulbifera* x *C. protrusa*) Rare; limestone exposures. SE 14 72-2, 1953, Davidson 772, IA.
Dryopteris spinulosa (O. F. Muell.) Watt Rare; upland forest. Starr's Cave, 2585.
Ocnoclea sensibilis L. Infrequent; wet open to shaded habitats.
Polystichum acrostichoides (Michx.) Schott Infrequent; upland forest.

PINOPHYTA

CUPRESSACEAE

- Juniperus virginiana* L. Common; dry open habitats.

MAGNOLIOPHYTA: MAGNOLIOPSIDA

ANNONACEAE

- Asimina triloba* (L.) Dunal Rare; upland forest. No location, 1896, Fitzpatrick & Fitzpatrick, ISC. Along Flint Creek, Burlington, 1920, Pammel, ISC. Crapo Park, 522, 616. This species has been collected in only a few eastern (Clinton, Jackson, Lee, Louisa, Van Buren) and southwestern (Fremont, Taylor) counties.

ARISTOLOCHIACEAE

- Asarum canadense* L. Frequent; upland forest.

NELUMBONACEAE

- Nelumbo lutea* (Willd.) Pers. Infrequent; pond.

CERATOPHYLLACEAE

- Ceratophyllum demersum* L. Frequent; pond.

RANUNCULACEAE

- Actaea alba* (L.) Mill. Frequent; upland forest.
Anemone canadensis L. Frequent; moist open habitats.
Anemone quinquefolia L. Rare; upland forest. Big Hollow, 2519.
Anemone virginiana L. Frequent; dry open habitats.
Anemonella thalictroides (L.) Spach Common; upland forest.
Aquilegia canadensis L. Common; upland forest, limestone exposures.
Clematis pitcheri Torr. & Gray Infrequent; dry open habitats.
Delphinium tricornis Michx. Rare; upland forest. Flint Hills, 223. Along Iowa Hwy 99, SW 35 71-2, 1563; 1953, Davidson 810, IA.
Hepatica acutiloba DC Frequent; upland forest.
Isopyrum biternatum (Raf.) Torr. & Gray Frequent; upland forest.
Myosurus minimus L. Rare; wet sandflat. Spring Grove, 1565. This species has been collected in only a few eastern (Benton, Buchanan, Clinton, Jefferson, Jones, Lee, Linn, Louisa, Muscatine) and southwestern (Fremont, Page) counties.
Ranunculus abortivus L. Common; moist open to shaded habitats.
Ranunculus fascicularis Muhl. ex Bigel. Infrequent; prairie.
Ranunculus longirostris Godr. Rare; pond. Ditch along Mississippi River, 6 mi. n. of Burlington, 1955, B. Baumgartner, IA. Ditch along Mississippi River, SW 10 71-1, 1775.
Ranunculus recurvatus Poir. Rare; floodplain forest. Flint Creek, 2603.
Ranunculus sceleratus L. Infrequent; marsh.
Ranunculus septentrionalis Poir. Frequent; floodplain forest.
Thalictrum dasycarpum Fisch. & Ave-Lall. Frequent; moist open habitats.
Thalictrum revolutum DC Rare; upland forest. Stoney Hollow, 2716. Listed as threatened in Iowa (Roosa and Eilers 1978). Only three other specimens, all from Lee County, were examined.

BERBERIDACEAE

- **Berberis vulgaris* L. Rare; upland forest. Burlington, 1920, Pammel, ISC.
Caulophyllum thalictroides (L.) Michx. Rare; upland forest.
Podophyllum peltatum L. Common; upland forest.

MENISPERMACEAE

- Menispermum canadense* L. Frequent; floodplain forest.

PAPAVERACEAE

- Sanguinaria canadensis* L. Common; upland forest.

FUMARIACEAE

- Corydalis micrantha* (Engelm.) Gray Infrequent; dry open habitats.
Dicentra canadensis (Goldie) Walp. Rare; maple-basswood forest.
 Stoney Hollow, 1470.
Dicentra cucullaria (L.) Bernh. Common; upland forest.

PLATANACEAE

- Platanus occidentalis* L. Frequent; floodplain forest.

ULMACEAE

- Celtis occidentalis* Frequent; floodplain forest.
Ulmus americana L. Infrequent; floodplain forest.
Ulmus rubra Muhl. Common; upland and floodplain forests.

MORACEAE

- **Maclura pomifera* (Raf.) Schneid. Rare; upland forest. Hunt Woods, 2481.
Morus alba L. Infrequent; moist to dry open habitats.
Morus rubra L. Frequent; moist open to shaded habitats.

CANNABACEAE

- **Cannabis sativa* L. Frequent; ruderal.
 **Humulus japonicus* Sieb. & Zucc. Infrequent; ruderal.
Humulus lupulus L. Infrequent; upland forest.

URTICACEAE

- Boehmeria cylindrica* (L.) Sw. Frequent; floodplain forest, marsh.
Laportea canadensis (L.) Wedd. Common. floodplain forest.
Parietaria pensylvanica Muhl. ex Willd. Frequent; upland forest, limestone exposures.
Pilea pumila (L.) Gray Frequent; floodplain forest.
Urtica dioica L. Common; floodplain forest.

JUGLANDACEAE

- Carya cordiformis* (Wang.) K. Koch Frequent; upland forest.
Carya illinoensis (Wang.) K. Koch Rare; floodplain forest. Along the Mississippi River north of Burlington, C. C. Lounsbury 98, ISC. Dumbbell Lake, 1022. This species has been collected in a few eastern counties: Clinton, Dubuque, Jackson, Louisa, and Muscatine.
Carya laciniosa (Michx. f.) Loud. Rare; floodplain forest. Burlington, C. C. Lounsbury, ISC. Along the Mississippi River north of Burlington, C. C. Lounsbury, ISC. Iowa Slough Lake, 1910; 1954, Davidson 3652, IA.
Carya x nussbaumeri Sarg. (*C. illinoensis* x *C. laciniosa*) Rare; floodplain forest. Along the Mississippi River north of Burlington, 1936, C. C. Lounsbury 26, ISC. Along the Mississippi River, Burlington, 1936, C. C. Lounsbury 51, ISC. Only one other Iowa specimen, collected in Lee County in 1936, was examined.
Carya ovata (Mill.) K. Koch Common; upland forest.
Carya tomentosa (Poir.) Nutt. Frequent; upland forest.
Juglans cinerea L. Infrequent; floodplain forest.
Juglans nigra L. Frequent; upland and floodplain forests.

FAGACEAE

- Quercus alba* L. Common; upland forest.
Quercus bicolor Willd. Infrequent; floodplain forest.
Quercus borealis Michx. f. Common; upland forest.
Quercus x bushii Sarg. (*Q. marilandica* x *Q. velutina*) Rare; upland forest, sand prairie. Spring Grove, 267, 802, 803, 1026, 2012, 2393; 1953, M. K. Cooperrider, IA; 1953, Davidson 393, IA; 1954, Davidson 2195, IA. Flint Hills, 1030. Starr's Cave, 1617, 2727. Cooperrider (1957) has discussed this hybrid's occurrence in Iowa.
Quercus x deami Trelease (*Q. alba* x *Q. muhlenbergii*) Rare; upland forest. Skunk River, 1929, n.c., ISTC.

Quercus x exacta Trelease (*Q. imbricaria* x *Q. palustris*) Rare; floodplain forest. Patterson Lake, 2792. A single tree believed to be this hybrid was found on the north shore of the lake. Both parent species occur in the vicinity.

Quercus imbricaria Michx. Frequent; upland and floodplain forests.

Quercus x leana Nutt. (*Q. imbricaria* x *Q. velutina*) Rare; upland forest. Round Prairie, 1350, 1938. A single tree believed to be this hybrid was found along the road below the cemetery entrance. Both parent species occur in the surrounding forest.

Quercus macrocarpa Michx. Common; upland forest.

Quercus muhlenbergii Engelm. Frequent; upland forest, limestone exposures.

Quercus palustris Muenchh. Frequent; floodplain forest.

Quercus velutina Lam. Frequent; upland forest.

BETULACEAE

- Betula nigra* L. Frequent; floodplain forest.
Carpinus caroliniana Walt. Infrequent; upland forest.
Corylus americana Walt. Infrequent; prairie.
Ostrya virginiana (Mill.) K. Koch Common; upland forest.

PHYTOLACCACEAE

- Phytolacca americana* L. Infrequent; dry open habitats.

NYCTAGINACEAE

- Mirabilis nyctaginea* (Michx.) MacMill. Frequent; ruderal.

AIZOACEAE

- Mollugo verticillata* L. Infrequent; dry sandy soil.

CHENOPODIACEAE

- Chenopodium album* L. Common; ruderal.
Chenopodium desiccatum A. Nels. var. *leptophylloides* (Murr.) H. A. Wahl (*C. leptophyllum* Nutt.) Rare; sand prairie. Spring Grove, 1975; 1953, Davidson 406, IA; 1954, Davidson 2816, IA.
Chenopodium foggii H. A. Wahl Rare; floodplain forest. Ray Lake, 1953, Davidson 1698, IA. This is the first report of this recently described (Wahl 1954) species from Iowa. The specimen was identified by Wahl.
Chenopodium hybridum L. var. *gigantospermum* (Aellen) Rouleau Infrequent; upland forest.
Chenopodium standleyanum Aellen Infrequent; floodplain forest.
Cycloloma atriplicifolium (Spreng.) Coult. Infrequent; dry sandy soil.

AMARANTHACEAE

- Amaranthus albus* L. Common; ruderal.
Amaranthus graecizans L. Common; ruderal.
 **Amaranthus retroflexus* L. Common; ruderal.
Amaranthus tuberculatus (Moq.) Sauer Frequent; wet to moist open to shaded habitats.
Froelichia floridana (Nutt.) Moq. var. *campestris* (Small) Fern. Infrequent; dry sandy soil.
Froelichia gracilis (Hook.) Moq. Infrequent; dry sandy soil.

PORTULACACEAE

- Claytonia virginica* L. Common; upland forest.
 **Portulaca oleracea* L. Common; ruderal.

CARYOPHYLLACEAE

- **Agrostemma githago* L. Rare; ruderal. Wheat field, NW 27 69-3, 269.
Arenaria lateriflora L. Infrequent; upland forest.
Cerastium nutans Raf. Infrequent; moist sandy soil.
 **Cerastium vulgatum* L. Frequent; ruderal.
 **Dianthus armeria* L. Rare; ruderal. Hunt Woods, 358. Along RR, 6 69-3, 2841.

- **Holosteum umbellatum* L. Rare; dry sandy soil. Spring Grove, 1365, 1391. This is the first report of this Eurasian immigrant in Iowa. Shinnars (1965) has discussed this species' spread in the United States.
 **Lychnis alba* Mill. Frequent; ruderal.
 **Saponaria officinalis* L. Frequent; ruderal.
Silene antirrhina L. Infrequent; dry sandy soil.
Silene nivea (Nutt.) Oth. Rare; moist open habitats. Starr's Cave, 2905.
Silene stellata (L.) Ait. f. Infrequent; upland forest.
 **Stellaria media* (L.) Cyrillo Common; ruderal.

POLYGONACEAE

- Polygonum achoreum* Blake (*P. erectum* of auth., not L.) Infrequent; ruderal.
 **Polygonum arenastrum* Jord. ex Boreau (*P. aviculare* of auth., not L.) Common; ruderal.
Polygonum coccineum Muhl. ex Willd. Infrequent; marsh.
 **Polygonum convolvulus* L. Frequent; ruderal.
Polygonum hydropiper L. Infrequent; marsh.
Polygonum lapathifolium L. Common; wet to moist open habitats.
Polygonum pensylvanicum L. Common; wet to moist open habitats.
 **Polygonum persicaria* L. Common; ruderal.
Polygonum punctatum Ell. Frequent; wet open to shaded habitats.
Polygonum sagittatum L. Rare; marsh. Peltandra Bog, 1215. Spring Grove, 2244.
Polygonum scandens L. Frequent; dry open habitats.
Polygonum virginianum L. Common; floodplain forest.
Rumex acetosella L. Frequent; dry open habitats.
Rumex altissimus Wood Common; wet to moist open habitats.
 **Rumex crispus* L. Common; ruderal.
Rumex maritimus L. var. *fueginus* (Phil.) Dusen. Rare; marsh. Sullivan Slough, 2954.
 **Rumex venosus* Pursh Rare; ruderal. Along RR, SE 25 70-3, 280. The only previous collections of this Great Plains species in Iowa were made in Dubuque County in 1936.
Rumex verticillatus L. Infrequent; marsh.

HYPERICACEAE

- Hypericum majus* (Gray) Britt. Rare; wet sandflat. Spring Grove, 1198.
Hypericum mutilum L. Rare; wet sandflat. Spring Grove, 1170; 1953, Davidson 1567, IA.
 **Hypericum perforatum* L. Infrequent; dry open habitats.
Hypericum punctatum Lam. Frequent; moist to dry open habitats.
Hypericum spathulatum (Spach) Steud. (*H. prolificum* of auth., not L.) Rare; upland forest. Burlington, 1925, Pammel, ISC. Flint Hills, 2096, 2937.
Hypericum sphaerocarpon Michx. Frequent; moist to dry open habitats.

TILIACEAE

- Tilia americana* L. Common; upland forest.

MALVACEAE

- **Abutilon theophrasti* Medic. Common; ruderal.
 **Althaea rosea* (L.) Cav. Infrequent; ruderal.
Hibiscus militaris Cav. Infrequent; marsh.
 **Hibiscus trionum* L. Infrequent; ruderal.
 **Malva neglecta* Wallr. Infrequent; ruderal.
 **Sida spinosa* L. Rare; ruderal. Burlington, 1944, W. B. Eyre, ISC.

CISTACEAE

- Helianthemum bicknellii* Fern. Rare; prairie. Starr's Cave, 1802. Leuins Point, 2247.
Lechea tenuifolia Michx. Infrequent; prairie.

VIOLACEAE

- Viola missouriensis* Greene Frequent; floodplain forest.
Viola pedata L. Rare; prairie. Starr's Cave, 611, 612, 1304. Flint Hills, 1489, 1490; 1953, Davidson 802, IA. Cedar Creek, 1521, 1522; 1953, Davidson 825, IA. Each of these populations is composed of bicolorous (var. *pedata*) and concolorous (var. *lineariloba* DC) flower types. The occurrence of these two phenotypes in Iowa has been discussed previously (Lammers 1980).
Viola pedatifida G. Don Rare; prairie. Danville, 1929, H. Koch, IWC. Round Prairie, 1651.
Viola pedatifida G. Don x *V. sororia* Willd. Rare; prairie. Round Prairie, 1650. The hybrid occurs with both parent species.
Viola pratensis Greene (*V. papilionacea* Pursh) Infrequent; moist open habitats.
Viola pubescens Ait. var. *eriocarpa* (Schw.) Russell (*V. eriocarpa* Schw.) Common; upland forest.
Viola rafinesquii Greene Rare; dry sandy soil. Spring Grove, 613, 903, 1390. Starr's Cave, 2528. The occurrence of this species in Iowa has been discussed previously (Lammers 1980).
Viola sagittata Ait. var. *subsagittata* (Greene) Pollard Rare; prairie. Flint Hills, 1400. Starr's Cave, 1477.
Viola sororia Willd. Common; upland forest.
Viola viarium Pollard Rare; prairie. Danville Prairie, 1509. This violet has been collected in a few western (Fremont, Harrison, Mills, Monona, Woodbury), central (Boone, Poweshiek, Story), and southeastern (Appanoose, Henry, Jefferson, Mahaska, Wapello) counties.

CUCURBITACEAE

- Echinocystis lobata* (Michx.) T. & G. Rare; floodplain forest. Burlington, 1901, Shimek, IA.
Sicyos angulatus L. Frequent; floodplain forest.

SALICACEAE

- Populus deltoides* Bartr. ex Marsh. Common; floodplain forest.
Populus grandidentata Michx. Infrequent; upland forest.
Populus tremuloides Michx. Rare; upland forest. Flint Hills, 2933.
Salix amygdaloides Anderss. Frequent; floodplain forest.
Salix humilis Marsh. Infrequent; prairie.
Salix interior Rowlee Common; wet open habitats.
Salix nigra L. Frequent; floodplain forest.
Salix rigida Muhl. Common; floodplain forest.

CAPPARACEAE

- Polanisia dodecandra* (L.) DC Infrequent; dry sandy soil.

BRASSICACEAE

- Arabis canadensis* L. Infrequent; upland forest, limestone exposures.
Arabis hirsuta (L.) Scop. var. *pyncocarpa* (Hopkins) Rollins Infrequent; upland forest, limestone exposures.
Arabis laevigata (Muhl.) Poir. Infrequent; upland forest, limestone exposures.
Arabis shortii (Fern.) G1. Infrequent; floodplain forest.
 **Armoracia rusticana* (Lam.) Gaertn. Infrequent; ruderal.
 **Barbarea vulgaris* R. Br. Common; ruderal.
 **Bertorora incana* (L.) DC Rare; ruderal. Ray Lake, 431.
 **Brassica kaber* (DC) L. C. Wheeler Common; ruderal.
 **Brassica nigra* (L.) W. D. J. Koch Common; ruderal.
 **Capsella bursa-pastoris* (L.) Medic. Common; ruderal.
Cardamine douglassii (Torr.) Britt. Rare; floodplain forest. Rock Spring, 79, 1409. This species has been collected primarily in the southeastern counties: Decatur, Henry, Iowa, Jefferson, Johnson, Linn, Louisa, Monroe, Muscatine, Poweshiek, Scott, Tama, Van Buren, and Washington.

- Cardamine parviflora* L. var. *arenicola* (Britt.) Schulz Rare; moist open habitats. Along Dolbee Creek, 5 mi. e. of Mediapolis, 1937, Goodman 2993, ISC.
- Cardamine pensylvanica* Muhl. ex Willd. Infrequent; wet to moist open habitats.
- Dentaria laciniata* Muhl. ex Willd. Common; upland forest.
- Descurainia pinnata* (Walt.) Britt. ssp. *brachycarpa* (Richards.) Detling Infrequent; dry open habitats.
- Draba reptans* (Lam.) Fern. Rare; dry sandy soil. Crest of bluff, SE 14 72-2, 904, 1371; 1953, Davidson 798, IA. Spring Grove, 1366.
- **Hesperis matronalis* L. Infrequent; ruderal.
- **Lepidium campestre* (L.) R. Br. Infrequent; ruderal.
- **Lepidium densiflorum* Schrad. Infrequent; ruderal.
- Lepidium virginicum* L. Frequent; ruderal.
- **Nasturtium officinale* R. Br. Rare; cold flowing springs. Crapo Park, 177; 1905, Shimek, ISC. Along RR along the Mississippi River, W 21 69-2, 2967.
- Rorippa islandica* (Oeder) Borbas Frequent; wet to moist open habitats.
- Rorippa sessiliflora* (Nutt.) Hitchc. Infrequent; marsh.
- **Rorippa sylvestris* (L.) Bess. Infrequent; moist open habitats.
- **Sisymbrium altissimum* L. Infrequent; ruderal.
- **Sisymbrium officinale* (L.) Scop. Infrequent; ruderal.
- **Thlaspi arvense* L. Frequent; ruderal.

PRIMULACEAE

- Androsace occidentalis* Pursh Rare; dry sandy soil. Crest of bluff, SE 14 72-2, 905, 1370; 1953, Davidson 796, IA. Iowa Slough Lake, 2604.
- Dodecatheon meadia* L. Rare; upland forest. Five miles east of Mediapolis, NW 26 72-2, 1937, Goodman 2998, ISC. Big Hollow, 2537, 3318. This species ordinarily inhabits prairie in Iowa. At Big Hollow, however, a large and vigorous population was discovered on a mossy forested clay escarpment above a small stream. No other prairie species were observed and the surrounding herbaceous vegetation was typical of oak-hickory forest.
- Lysimachia ciliata* L. Frequent; wet to moist open habitats.
- Lysimachia hybrida* Michx. Rare; marsh. Dumbbell Lake, 1180.
- Lysimachia lanceolata* Walt. Rare; prairie. Leuins Point, 1776, 2778.
- **Lysimachia nummularia* L. Infrequent; wet to moist open to shaded habitats.
- **Lysimachia punctata* L. Rare; ruderal. Along Koestner Road, Burlington, 231. This garden perennial has also been collected as an escape from cultivation in Jones, Linn, Lucas, Scott, and Webster Counties.
- Lysimachia terrestris* (L.) BSP Rare; marsh. Ray Lake, 1769. Peltandra Bog, 1934.

GROSSULARIACEAE

- Ribes cynosbati* L. Rare; maple-basswood forest. Flint Creek, 1426. Starr's Cave, 2534.
- Ribes missouriense* Nutt. Common; upland forest.
- **Ribes odoratum* Wendl. Rare; dry sandy soil. Spring Grove, 150.

CRASSULACEAE

- Penthorum sedoides* L. Frequent; marsh.

SAXIFRAGACEAE

- Heuchera richardsonii* R. Br. Rare; upland forest. YMCA Camp, 291. Lake Frances, 2669.
- Mitella diphylla* L. Rare; maple-basswood forest. Flint Creek, 1425. Stoney Hollow, 1471. Starr's Cave, 2525.

ROSACEAE

- Agrimonia gryposepala* Wallr. Infrequent; upland forest.
- Agrimonia pubescens* Wallr. Frequent; upland forest.
- Amelanchier arborea* (Michx. f.) Fern. Frequent; upland forest.
- Aruncus dioicus* (Walt.) Fern. Infrequent; upland forest. This species has been collected only in Clinton, Jackson, Lee, and Muscatine Counties.
- Crataegus calpodendron* (Ehrh.) Medic. Rare; upland forest. Big Hollow, 1500, 2800.
- Crataegus mollis* (Torr. & Gray) Scheele Frequent; moist to dry open habitats.
- Crataegus pruinosa* (Wendl.) K. Koch Rare; prairie. Flint Hills, 1312.
- Fragaria virginiana* Duchesne Frequent; moist to dry open to shaded habitats.
- Geum canadense* Jacq. Frequent; floodplain and upland forests.
- Geum laciniatum* Murr. Infrequent; floodplain forest, marsh.
- Physocarpus opulifolius* (L.) Maxim. Rare; upland forest. Cedar Creek, 1953, Davidson 830, IA. Starr's Cave, 1618.
- Potentilla arguta* Pursh Rare; prairie. Skunk River valley, 1895, Bartsch, IA.
- Potentilla norvegica* L. Frequent; wet to moist open habitats.
- **Potentilla recta* L. Frequent; ruderal.
- Potentilla simplex* Michx. Frequent; dry open habitats.
- Prunus americana* Marsh. Frequent; moist to dry open habitats.
- Prunus serotina* Ehrh. Frequent; upland forest.
- Prunus virginiana* L. Frequent; upland forest.
- **Pyrus communis* L. Infrequent; moist to dry open habitats.
- Pyrus ioensis* (Wood) Carruth Infrequent; moist to dry open habitats.
- **Pyrus malus* L. Infrequent; moist to dry open habitats.
- Rosa blanda* Ait. Infrequent; prairie.
- Rosa carolina* L. Frequent; dry open habitats.
- **Rosa eglanteria* L. Rare; dry open habitats. Flint Hills, 1925, Pammel, ISC.
- **Rosa multiflora* Thunb. Frequent; dry open habitats.
- Rosa setigera* Michx. var. *tomentosa* Torr. & Gray Rare; prairie. Burlington, 1900, Shimek, IA. Starr's Cave, 441. Aspen Grove, 1992. The distribution of this rose in Iowa has been discussed previously (Lammers 1980).
- Rubus allegheniensis* Porter Common; moist to dry open habitats.
- Rubus flagellaris* L. Infrequent; dry open habitats.
- Rubus occidentalis* L. Common; moist to dry open habitats.

MIMOSACEAE

- Desmanthus illinoensis* (Michx.) MacMill. Rare; prairie. Aspen Grove, 2027.

CAESALPINIACEAE

- Cassia fasciculata* Michx. Common; dry open habitats.
- Cercis canadensis* L. Frequent; upland forest.
- Gleditsia tricanthos* L. Frequent; upland and floodplain forests.
- Gymnocladus dioicus* (L.) K. Koch Infrequent; upland and floodplain forests.

FABACEAE

- Amorpha canescens* Pursh Infrequent; prairie.
- Amorpha fruticosa* L. Infrequent; floodplain forest.
- Amphicarpa bracteata* (L.) Fern. Infrequent; moist open to shaded habitats.
- Apios americana* Medic. Infrequent; moist open habitats.
- Astragalus canadensis* L. Rare; prairie. Starr's Cave, 2081. Stoney Hollow, 2137. Leuins Point, 2240.
- Astragalus distortus* Torr. & Gray Rare; sand prairie. Spring Grove, 790; 1938, Savage, IWC; 1941, Savage, IWC; 1962, Thorne 30049, IA; 1962, T. C. Huang 3012, IA; 1962, Eilers 1158,

- ISTC. This legume has been collected in a few southern counties (Davis, Decatur, Jefferson, Lee, Louisa, Muscatine, Page, Wapello) and along the upper Cedar River in Black Hawk County.
- Baptisia lactea* (Raf.) Thieret (*B. leucantha* Torr. & Gray) Infrequent; prairie.
- **Coronilla varia* L. Frequent; ruderal.
- Crotalaria sagittalis* L. Rare; prairie. Flint Hills, 1324, 2098; 1935, Gilly 2816, ISC, MIU.
- Desmodium canescens* (L.) DC Infrequent; moist shaded habitats.
- Desmodium cuspidatum* (Muhl. ex Willd.) Loud. Rare; upland forest. Starr's Cave, 2249, 2299. The former is var. *longifolium* (Torr. & Gray) Schub. and the latter is var. *cuspidatum*.
- Desmodium glutinosum* (Muhl. ex Willd.) Wood Common; upland forest.
- Desmodium illinoense* Gray Rare; prairie. Flint Hills, 2104. Cemetery, SE 23 72-2, 2277.
- Desmodium paniculatum* (L.) DC Infrequent; moist open habitats.
- Desmodium sessilifolium* (Torr.) Torr. & Gray Rare; prairie. Flint Hills, 2317. Starr's Cave, 2384. The status of this species in Iowa is listed as undetermined but of concern by Roosa and Eilers (1978). Only two other specimens, both collected in Lee County, were examined.
- Lespedeza capitata* Michx. Frequent; prairie.
- **Lespedeza stipulacea* Maxim. Infrequent; ruderal.
- Lespedeza violacea* (L.) Pers. Rare; prairie. Flint Hills, 1935, Gilly 2821, MIU.
- Lespedeza virginica* (L.) Britt. Infrequent; prairie.
- **Lotus corniculatus* L. Common; ruderal.
- **Medicago lupulina* L. Common; ruderal.
- **Medicago sativa* L. Frequent; ruderal.
- **Melilotus albus* Desr. Common; ruderal.
- **Melilotus officinalis* (L.) Lam. Common; ruderal.
- Petalostemon candidus* (Willd.) Michx. Rare; prairie. Flint Hills, 1925, Pammel, ISC. Round Prairie, 2157.
- Petalostemon purpureus* (Vent.) Rydb. Rare; prairie. Burlington, 1895, Bartsch, IA. Starr's Cave, 2082.
- Psoralea onobrychis* Nutt. Rare; moist open habitats. Burlington, 1925, Pammel, ISC. Crapo Park, 1936, Gilly 3473, MIU. Along RR, W 21 69-2, 2969; 1936, Savage, IWC. Presumed extirpated in Iowa by Roosa and Eilers (1978). Only three other specimens, collected in Lee County, were seen.
- **Robinia pseudoacacia* L. Frequent; moist open habitats.
- Strophostyles helveola* (L.) Ell. Infrequent; dry open habitats.
- Strophostyles leiosterma* (Torr. & Gray) Piper Rare; sand prairie. Spring Grove, 1953, Davidson 1634, IA.
- **Trifolium arvense* L. Rare; ruderal. Flint Hills, 1935, Gilly 2809, ISC, MIU.
- **Trifolium campestre* Schreb. (*T. procumbens* of auth., not L.) Infrequent; ruderal.
- **Trifolium hybridum* L. Frequent; ruderal.
- **Trifolium pratense* L. Common; ruderal.
- **Trifolium repens* L. Common; ruderal.
- **Vicia villosa* Roth Infrequent; ruderal.
- LYTHRACEAE**
- Ammania coccinea* Rottb. Infrequent; marsh.
- Lythrum dacotanum* Nieuwl. (*L. alatum* of auth., not Pursh) Frequent; wet to moist open habitats.
- **Lythrum salicaria* L. Rare; wet open habitats. Cottonwood & Vineyard Sts., Burlington, 332. It has also been collected as an escape from cultivation in Buena Vista, Clayton, Franklin, Pocahontas, Polk, and Scott Counties.
- Rotala ramosior* (L.) Koehne Rare; wet sandflat. Spring Grove, 1168, 1199; 1953, Davidson 1660, IA. The status of this species in Iowa is undetermined but of concern (Roosa and Eilers 1978).

ONAGRACEAE

- Circaea lutetiana* L. ssp. *canadensis* (L.) Aschers. & Magnus Common; upland and floodplain forests.
- Epilobium coloratum* Biehler Infrequent; marsh.
- Gaura longiflora* Spach Rare; moist open habitats. Along road, SW 1 72-2, Davidson 3245, IA. Along road, NW 9 72-1, 1268. Raven and Gregory (1972) consider this taxon distinct from *G. biennis* L. Both collections cited above represent the glandular pubescent northern phase of the species.
- **Gaura parviflora* Dougl. Rare; ruderal. Danville Prairie, 1248.
- Ludwigia alternifolia* L. Rare; marsh. Ray Lake, 1953, Davidson 1718, IA. Lake Frances, 1259.
- Ludwigia palustris* (L.) Ell. Rare; pond. Ray Lake, 1953, Davidson 1719, IA. Iowa Slough Lake, 2215.
- Ludwigia polycarpa* Short & Peter Rare; wet open habitats. Spring Grove, 1188, 1286, 2057. Concordia Meadow, 2360.
- Oenothera biennis* L. ssp. *centralis* Munz Common; moist to dry open habitats. Specimens from Round Prairie (2156) resemble *Oe. parviflora* L. in their narrow leaves and recurved stem tips. The speal tips, however, are characteristic of *Oe. biennis*.
- Oenothera laciniata* Hill Rare; sand prairie. Spring Grove, 403, 1023, 2008; 1954, Davidson 2242, IA.
- Oenothera rhombipetala* Nutt. Infrequent; dry sandy soil.
- Oenothera strigosa* (Rydb.) Mack. & Bush ssp. *canovirens* (Steele) Munz (*Oe. biennis* L. var. *canescens* Torr. & Gray) Rare; prairie. Danville Prairie, 1251.

CORNACEAE

- Cornus alternifolia* L. f. Rare; maple-basswood forest. Stoney Hollow, 1558. Flint Creek, 1824. Starr's Cave, 2621.
- Cornus drummondii* G. F. W. Mey. Common; moist open habitats.
- Cornus racemosa* Lam. Common; moist open habitats.

SANTALACEAE

- Comandra umbellata* (L.) Nutt. Infrequent; prairie.

CELASTRACEAE

- Celastrus scandens* L. Infrequent; dry open habitats.
- Euonymus atropurpureus* Jacq. Infrequent; upland forest.

EUPHORBACEAE

- Acalypha rhomboidea* Raf. Infrequent; moist open to shaded habitats.
- Acalypha virginica* L. Infrequent; dry open habitats.
- Croton glandulosus* L. Infrequent; dry sandy soil.
- Euphorbia corollata* L. Frequent; moist to dry open habitats.
- **Euphorbia cyparissias* L. Rare; dry sandy soil. Spring Grove, 732.
- Euphorbia dentata* Michx. Infrequent; dry open habitats.
- Euphorbia maculata* L. Common; ruderal.
- Euphorbia supina* Raf. Common; ruderal.

RHAMNACEAE

- Ceanothus americana* L. Infrequent; prairie.
- **Rhamnus cathartica* L. Rare; upland forest. Crapo Park, 1962, Eilers 1151, ISTC.
- Rhamnus lanceolata* Pursh Rare; upland forest. Burlington, 1922, H. Turner, ISC. SE 20 69-2, 1934, Gilly 1774, MIU.

VITACEAE

- Parthenocissus quinquefolia* (L.) Planch. Common; upland forest.
- Parthenocissus vitacea* (Knerr) Hitchc. Rare; moist open habitats. Aspen Grove, 2812. Starr's Cave 2925.
- Vitis cinerea* Engelm. ex Millard Infrequent; floodplain forest. Listed as threatened in Iowa (Roosa and Eilers 1978). Its distribution in Iowa was reported previously (Lammers 1980).
- Vitis riparia* Michx. Common; floodplain forest.

LINACEAE

- Linum medium* (Planch.) Britt. var. *texanum* (Planch.) Fern. Rare; prairie. Burlington, 1925, Pammel, ISC. Presumed extirpated in Iowa by Roosa and Eilers (1978). It was also collected in Jefferson County in 1933 and in Lee County in 1928.
Linum sulcatum Riddell Rare; prairie. Starr's Cave, 2073.

POLYGALACEAE

- Polygala sanguinea* L. Rare; prairie. Flint Hills, 1338, 1971; 1925, Pammel, ISC; 1935, Gilly 2824, ISC, MIU.
Polygala senega L. Rare; upland forest. Lake Geode, 1863.
Polygala verticillata L. Rare; prairie. Leuins Point, 1906. Starr's Cave, 2000. Stoney Hollow, 2140.

STAPHYLEACEAE

- Staphylea trifolia* L. Frequent; upland forest.

HIPPOCASTANACEAE

- Aesculus glabra* Willd. Frequent; upland forest.

ACERACEAE

- Acer negundo* L. Common; moist open to shaded habitats.
Acer nigrum Michx. f. Infrequent; floodplain forest.
Acer saccharinum L. Common; floodplain forest.
Acer saccharum Marsh. Common; upland forest.

ANACARDIACEAE

- Rhus aromatica* Ait. var. *aromatica* Infrequent; moist to dry open habitats.
Rhus glabra L. Common; dry open habitats.
Toxicodendron radicans (L.) Kuntze ssp. *negundo* (Greene) Gillis Common; moist shaded habitats.

RUTACEAE

- Ptelea trifoliata* L. Infrequent; upland forest.
Xanthoxylum americanum Mill. Infrequent; upland forest.

ZYGOPHYLLACEAE

- **Tribulus terrestris* L. Rare; dry sandy soil. Spring Grove, 1151.

OXALIDACEAE

- Oxalis dillenii* Jacq. Common; moist to dry open habitats.
Oxalis stricta L. Common; moist to dry open habitats.
Oxalis violacea L. Infrequent; prairie.

GERANIACEAE

- Geranium carolinianum* L. Infrequent; dry sandy soil.
Geranium maculatum L. Frequent; upland forest.

BALSAMINACEAE

- Impatiens biflora* Walt. Common; wet to moist open to shaded habitats.
Impatiens pallida Nutt. Common; moist open to shaded habitats.

ARALIACEAE

- Aralia nudicaulis* L. Rare; upland forest. Haight Creek, 1460.
Aralia racemosa L. Infrequent; upland forest, limestone exposures.

APIACEAE

- Chaerophyllum procumbens* (L.) Crantz Frequent; upland and floodplain forests.
Cicuta maculata L. Rare; marsh. Along road, SE 17 71-2, 2830.
 **Conium maculatum* L. Infrequent; ruderal.
Cryptotaenia canadensis (L.) DC Frequent; upland and floodplain forests.
 **Daucus carota* L. Common; ruderal.
Osmorhiza claytonii (Michx.) C. B. Clarke Common; upland forest.
Osmorhiza longistylis (Torr.) Torr. & Gray Infrequent; upland forest.

- **Pastinaca sativa* L. Common; ruderal.

- Sanicula canadensis* L. Infrequent; upland forest.
Sanicula gregaria Bickn. Common; upland forest.
Sium suave Walt. Rare; marsh. Dumbbell Lake, 2220.
Taenidia integerrima (L.) Drude Infrequent; upland forest.
Thaspium barbinode (Michx.) Nutt. Frequent; upland forest.
Zizia aurea (L.) W. D. J. Koch Rare; prairie. Flint Hills, 1954, Davidson 2801, IA.

GENTIANACEAE

- Gentiana quinquefolia* L. var. *occidentalis* (Gray) Hitchc. Rare; moist mossy thinly wooded slope. Stoney Hollow, 1344.

APOCYNACEAE

- Apocynum androsaemifolium* L. Infrequent; dry open habitats.
Apocynum cannabinum L. Frequent; moist to dry open habitats.
Apocynum x medium Greene (*A. androsaemifolium* x *A. cannabinum*) Rare; prairie. St. Paul Prairie, 1961.
Apocynum sibiricum Jacq. Frequent; moist open habitats.

ASCLEPIADACEAE

- Asclepias amplexicaulis* Sm. Rare; prairie. Spring Grove, 263, 1694; 1937, Savage, IWC; 1954, Davidson 2214, IA. Leuins Point, 1778.
Asclepias exaltata L. Rare; upland forest. Stoney Hollow, 1009. This species has been collected primarily in the northeastern counties: Allamakee, Cedar, Chickashaw, Clayton, Delaware, Dubuque, Fayette, Iowa, Johnson, Jones, Mitchell, Muscatine, and Winneshiek.
Asclepias hirtella (Pennell) Woodson Rare; prairie. Leuins Point, 1909.
Asclepias incarnata L. Frequent; marsh.
Asclepias purpurescens L. Infrequent; dry open habitats.
Asclepias quadrifolia Jacq. Infrequent; upland forest. This species has been collected primarily in the southeastern counties: Appanoose, Cedar, Davis, Henry, Jefferson, Johnson, Lee, Van Buren, and Wapello.
Asclepias sullivantii Engelm. ex Gray Rare; prairie. Danville Prairie, 1250, 1888; 1942, W. Loomis, ISC.
Asclepias syriaca L. Common; ruderal.
Asclepias tuberosa L. Rare; prairie. Middletown, 1886, J. E. Catlin, MIU. Starr's Cave, 445.
Asclepias verticillata L. Frequent; dry open habitats.
Cynanchum laeve (Michx.) Pers. (*Ampelamus albidus* [Nutt.] Britt.) Rare; moist open alluvium. Flint Bottoms, 448, 1094.

SOLANACEAE

- **Datura stramonium* L. Infrequent; ruderal.
 **Lycium halimifolium* Mill. Rare; dry open habitats. Burlington, 1900, Shimek, IA. Crapo Park, 459; 1962, Eilers 1152, ISTC.
Physalis heterophylla Nees Frequent; dry open habitats.
Physalis longifolia Nutt. var. *subglabrata* (Mack. & Bush) Cronq. Rare; dry open habitats. Starr's Cave, 3021.
Physalis virginiana Mill. Infrequent; dry open habitats.
Solanum carolinense L. Common; ruderal.
Solanum nigrum L. Common; ruderal.
 **Solanum rostratum* Dunal Frequent; ruderal.

CONVOLVULACEAE

- **Convolvulus arvensis* L. Common; ruderal.
Convolvulus sepium L. Common; ruderal.
Convolvulus spithameus L. Rare; prairie. Leuins Point, 1731. This species has been collected in only Allamakee, Clayton, Delaware, Dubuque, Henry, Iowa, Jones, Scott, Van Buren, and Winneshiek Counties.
 **Ipomoea hederacea* Jacq. Infrequent; ruderal.
Ipomoea lacunosa L. Rare; wet to moist open alluvium. Spring

Grove, 1284, 2060. Concordia Meadow, 2232. Iowa Slough Lake, 3150; 1954, Davidson 3233, IA. Only one other Iowa specimen, collected in Muscatine County in 1891, was examined.

- Ipomoea pandurata* (L.) G. F. W. Mey. Rare; floodplain forest. Iowa Slough Lake, 1954, Davidson 3624, IA. This species has been collected in only a few southeastern counties: Henry, Jefferson, Johnson, Lee, Louisa, Muscatine, Van Buren, and Washington.
- **Ipomoea purpurea* (L.) Roth Infrequent; ruderal.

CUSCUTACEAE

Cuscuta gronovii Willd. Rare; marsh. Ray Lake, 1953, Davidson 1703, IA. *Peltandra Bog*, 1214, 3148.

POLEMONIACEAE

- **Collomia linearis* Nutt. Rare; ruderal. RR south of Burlington, 1936, Savage, IWC.
- Phlox divaricata* L. Common; upland forest. The white flowered f. *albiflora* Moore was collected at Hunt Woods (2560).
- **Phlox paniculata* L. Infrequent; ruderal.
- Phlox pilosa* L. Rare; prairie. Flint Hills, 226.
- Polemonium reptans* L. Common; upland forest.

HYDROPHYLLACEAE

- Ellisia nyctalea* L. Infrequent; moist open to shaded habitats.
- Hydrophyllum appendiculatum* Michx. Infrequent; upland and floodplain forests.
- Hydrophyllum virginianum* L. Common; upland and floodplain forests.

BORAGINACEAE

- **Cynoglossum officinale* L. Rare; ruderal. Along Iowa Hwy 99, SE 11 72-2, 1953, Davidson 952, IA.
- Hackelia virginiana* (L.) I. M. Johnston Frequent; upland forest.
- **Lappula redowskii* (Hornem.) Greene Rare; ruderal. RR south of Burlington, 1936, Savage, IWC.
- **Lithospermum arvense* L. Rare; ruderal. RR south of Burlington, 1937, Goodman 2986, ISC. This species was collected in Lee County in 1950 and 1979, Mahaska County in 1938, and Muscatine County in 1892.
- Lithospermum canescens* (Michx.) Lehm. Rare; prairie. Starr's Cave, 609.
- Lithospermum carolinense* (J. F. Gmel.) MacMill. Rare; sand prairie. Spring Grove, 1535; 1938, Savage, IWC.
- Mertensia virginica* (L.) Pers. Frequent; upland forest.
- Myosotis verna* Nutt. Infrequent; dry open habitats.

VERBENACEAE

- Lippia lanceolata* Michx. Frequent; wet open habitats.
- Verbena bracteata* Lag. & Rodr. Common; dry open habitats.
- Verbena hastata* L. Frequent; marsh.
- Verbena x rydbergii* Moldenke (*V. hastata* x *V. stricta*) Rare; dry sandy soil. Iowa Slough Lake, 1926.
- Verbena stricta* Vent. Frequent; dry open habitats.
- Verbena urticifolia* L. Frequent; moist open habitats.

PHRYMACEAE

Phryma leptostachya L. Common; upland forest.

LAMIACEAE

- Agastache nepetoides* (L.) Kuntze Infrequent; moist shaded habitats.
- Blephila ciliata* (L.) Benth. Rare; moist shaded habitats. Rock Spring, 1027. Starr's Cave, 1835. Listed as threatened in Iowa (Roosa and Eilers 1978).
- Blephila hirsuta* (Pursh) Benth. Infrequent; moist shaded habitats.
- **Glechoma hederacea* L. Common; moist open to shaded habitats.
- Hedeoma hispida* Pursh Infrequent; dry open habitats.

Hedeoma pulegioides (L.) Pers. Infrequent; moist shaded habitats.

Isanthus brachiatus (L.) BSP Rare; limestone exposures. Starr's Cave, 1303. SE 14 72-2, 2444. The status of this species in Iowa is undetermined but of concern (Roosa and Eilers 1978).

- **Lamium amplexicaule* L. Infrequent; ruderal.
- **Lamium purpureum* L. Infrequent; moist shaded habitats. First reported from Iowa in a previous paper (Lammers 1980).
- **Leonurus cardiaca* L. Frequent; ruderal.
- Lycopus americanus* Muhl. ex Bart. Frequent; marsh.
- **Marrubium vulgare* L. Rare; ruderal. Starr's Cave, 1923, Pammel, ISC. Burlington, 1925, Pammel, ISC.
- Mentha arvensis* L. Infrequent; marsh.
- **Monarda didyma* L. Rare; ruderal. Middletown, 1886, J. E. Catlin, MIU. This species has been collected as an escape from cultivation in a few other counties: Allamakee in 1922, Henry in 1924, and Lee in 1924.
- Monarda fistulosa* L. Common; moist to dry open habitats.
- Monarda punctata* L. Infrequent; dry sandy soil.
- **Nepeta cataria* L. Frequent; ruderal.
- Physostegia virginiana* (L.) Benth. Infrequent; wet to moist open habitats.
- Prunella vulgaris* L. Frequent; moist to dry open habitats.
- Pycnanthemum pilosum* Nutt. Frequent; prairie.
- Pycnanthemum pilosum* Nutt. x *P. tenuifolium* Schrad. Rare; prairie. Flint Hills, 1974. St. Paul Prairie, 2187. These suspected hybrids exhibit pubescence characteristic of *P. pilosum* and calyx lobes characteristic of *P. tenuifolium*, with intermediate leaf outline. The parent species occur with the suspected hybrids at both stations.
- Pycnanthemum tenuifolium* Schrad. Frequent; prairie.
- Pycnanthemum virginianum* (L.) Durand & Jackson. Infrequent; moist open habitats.
- Scutellaria galericulata* L. Rare; marsh. Spring Grove, 1175.
- Scutellaria lateriflora* L. Frequent; floodplain forest.
- Scutellaria ovata* Hill var. *versicolor* (Nutt.) Fern. Infrequent; upland forest.
- Scutellaria parvula* Michx. Rare; prairie. Along Brush Creek, northeast of Augusta, 1928, Shimek, ISC.
- Stachys palustris* L. var. *homotricha* Fern. Rare; prairie. Danville Prairie, 2926.
- Stachys tenuifolia* Willd. Frequent; marsh. Both var. *tenuifolia* and var. *hispida* (Pursh) Fern. have been collected.
- Teucrium canadense* L. Frequent; moist to dry open habitats.

PLANTAGINACEAE

- Plantago aristata* Michx. Infrequent; dry open habitats.
- **Plantago lanceolata* L. Common; ruderal.
- **Plantago major* L. Rare; ruderal. Along Summer St. at the Burlington Municipal Airport, 447.
- Plantago patagonica* Jacq. Rare; sand prairie. Spring Grove, 265, 1571.
- Plantago rugelii* Decaisne. Common; ruderal.
- Plantago virginica* L. Frequent; dry open habitats.

OLEACEAE

- Fraxinus americana* L. Frequent; upland forest.
- Fraxinus pennsylvanica* Marsh. Common; upland and floodplain forests.
- Fraxinus quadrangulata* Michx. Infrequent; upland forest, limestone exposures. Listed as threatened in Iowa (Roosa and Eilers 1978). All other specimens examined were collected in Lee County.

SCROPHULARIACEAE

- **Chaenorrhinum minus* (L.) Lange Infrequent; ruderal.
- Cheolone obliqua* L. Rare; floodplain forest. Skunk River valley,

- 1895, Bartsch, IA. Presumed extirpated in Iowa (Roosa and Eilers 1978). Collection data from all known Iowa specimens were cited previously (Lammers and van der Valk 1977).
- Gerardia grandiflora* Benth. var. *pulchra* (Pennell) Fern. Infrequent; prairie.
- Gerardia purpurea* L. var. *purpurea* Rare; wet sandflat. Spring Grove, 1200; 1953, Davidson 1666, IA.
- Gerardia tenuifolia* Vahl Infrequent; moist to dry open habitats.
- Gratiola neglecta* Torr. Infrequent; marsh.
- Linaria canadensis* (L.) Dumort Rare; dry sandy soil. Iowa Slough Lake, 1545. This species has been collected in only a few eastern counties: Allamakee, Clinton, Jackson, Johnson, Jones, Linn, Louisa, and Muscatine.
- **Linaria vulgaris* Hill Infrequent; ruderal.
- Lindernia anagallidea* (Michx.) Pennell Rare; wet sandflat. Spring Grove, 2061.
- Lindernia dubia* (L.) Pennell Infrequent; wet sandflat.
- Mimulus alatus* Ait. Infrequent; floodplain forest. Listed as threatened in Iowa (Roosa and Eilers 1978). Its distribution in Iowa was discussed previously (Lammers 1980).
- Mimulus glabratus* HBK var. *fremontii* (Benth.) Grant Rare; cold flowing springs. Burlington, 1895, Bartsch, IA. Along RR 5 mi. s. of Burlington, 1936, Savage, IWC. Also listed as threatened (Roosa and Eilers 1978). It has been collected in Dickinson, Dubuque, Emmet, Linn, Pottawattamie, Winnebago, and Winneshek Counties.
- Mimulus x minthoides* Greene (*M. alatus* x *M. ringens*) Rare; floodplain forest. Flint Bottoms, 486. This is the only known Iowa locality (Lammers and van der Valk 1979).
- Mimulus ringens* L. Frequent; marsh.
- Pedicularis canadensis* L. Rare; prairie. Round Prairie, 1648.
- Penstemon digitalis* Nutt. Infrequent; moist open habitats.
- Penstemon pallidus* Small Infrequent; dry open habitats.
- Scrophularia lanceolata* Pursh Rare; sand prairie. Spring Grove, 261, 1570; 1953, Davidson 429, IA; 1954, Davidson 2213, IA.
- Scrophularia marilandica* L. Infrequent; upland and floodplain forest.
- Seymeria macrophylla* Nutt. Rare; upland forest. Lake Geode, 1116.
- **Verbascum blattaria* L. Infrequent; ruderal. Both yellow flowered (f. *blattaria*) and white flowered (f. *erubescens* Bruggen) forms have been collected.
- **Verbascum thapsus* L. Common; ruderal.
- **Veronica arvensis* L. Infrequent; ruderal.
- Veronica peregrina* L. Infrequent; wet to dry sandy soil. Both glandular (var. *xalapensis* (HBK) St. John) and non-glandular (var. *peregrina*) forms have been collected.
- **Veronica serpyllifolia* L. Rare; ruderal. Crapo Park, 1962, Thorne 30053, IA; 1962, Eilers 1156, ISTC. Hunt Woods, 2563.
- Veronicastrum virginicum* (L.) Farw. Frequent; moist to dry open habitats.

OROBANCHACEAE

- Orobanche uniflora* L. Rare; upland forest. Starr's Cave, 700, 2595.

ACANTHACEAE

- Justicia americana* (L.) Vahl Rare; marsh. Lake Geode, 1110, 1870, 2760. Listed as endangered in Iowa (Roosa and Eilers 1978). Its distribution in the state was reported previously (Lammers and van der Valk 1977).
- Ruellia humilis* Nutt. Infrequent; prairie.
- Ruellia strepens* L. Infrequent; floodplain forest.

BIGNONIACEAE

- Campsis radicans* (L.) Seem. Infrequent; moist open habitats.
- **Catalpa speciosa* Warder Rare; floodplain forest. Isaac Walton

Lake, SE 25 70-3, 281.

CAMPANULACEAE

- Campanula americana* L. Common; moist open to shaded habitats.
- **Campanula rapunculoides* L. Rare; ruderal. Eighth & Washington Sts., Burlington, 388.
- Lobelia cardinalis* L. Infrequent; floodplain forest.
- Lobelia inflata* L. Frequent; moist to dry open habitats.
- Lobelia spicata* Lam. Infrequent; prairie.
- Lobelia syphilitica* L. Frequent; wet open to shaded places. The white flowered f. *albiflora* Britt. was collected at Concordia Meadow (2354).
- Triodanis perfoliata* (L.) Nieuwl. Infrequent; dry open habitats.

RUBIACEAE

- Cephalanthus occidentalis* L. Infrequent; marsh.
- Diodia teres* Walt. Rare; dry sandy soil. Spring Grove, 2401. Iowa Slough Lake, 3160. This species was collected in Clinton and Jackson Counties in 1957 and in Lee County in 1952.
- Galium aparine* L. Frequent; moist open to shaded habitats.
- Galium circaezans* Michx. Frequent; upland forest.
- Galium concinnum* Torr. & Gray Frequent; upland forest.
- Galium obtusum* Bigel. Rare; marsh. Iowa Slough Lake, 1954, Davidson 3635, IA.
- Galium trifidum* L. var. *tinctorium* (L.) Torr. & Gray Infrequent; marsh.
- Galium triflorum* Michx. Frequent; upland forest.
- Houstonia minima* Beck Rare; dry open habitats. Aspen Grove, 2513.

CAPRIFOLIACEAE

- **Lonicera bella* Zabel Infrequent; dry open to shaded habitats.
- Lonicera dioica* L. var. *dioica* Rare; limestone exposures. Crapo Park, 1962, Eilers 1146, ISTC.
- **Lonicera morrowi* Gray Infrequent; dry open to shaded habitats.
- Lonicera prolifera* (Kirchner) Rehd. Infrequent; upland forest.
- **Lonicera tatarica* L. Rare; moist sandy soil. Spring Grove, 1953, Davidson 411, IA.
- Sambucus canadensis* L. Frequent; moist open habitats.
- Symphoricarpos orbiculatus* Moench Common; dry open habitats.
- Triosteum aurantiacum* Bickn. Rare; upland forest. SE 14 72-2, 1957, Thorne 18423, IA.
- Triosteum perfoliatum* L. Infrequent; upland forest.
- Viburnum lentago* L. Infrequent; upland forest.
- Viburnum molle* Michx. Rare; maple-basswood forest. Flint Creek, 1584. Starr's Cave, 2719. This species has been collected in only Henry, Jefferson, and Van Buren Counties.
- **Viburnum opulus* L. var. *opulus* Infrequent; dry open habitats.

DIPSACACEAE

- **Dipsacus laciniatus* L. Infrequent; ruderal. This species has been collected in Davis, Henry, Jefferson, Keokuk, Marshall, Washington, Wayne, and Wright Counties.

ASTERACEAE

- Achillea millefolium* L. Frequent; dry open habitats.
- Ambrosia artemisiifolia* L. Common; ruderal.
- Ambrosia psilostachya* DC var. *coronopifolia* (Torr. & Gray) Farw. Rare; sand prairie. Spring Grove, 2395.
- Ambrosia trifida* L. Common; ruderal.
- Antennaria neglecta* Greene Frequent; dry open habitats.
- Antennaria plantaginifolia* (L.) Hook. Frequent; dry open habitats.
- **Anthemis cotula* L. Frequent; ruderal.
- **Arctium minus* (Hill.) Bernh. Common; ruderal.
- **Artemisia annua* L. Rare; ruderal. Starr's Cave, 2470.
- Artemisia campestris* L. ssp. *caudata* (Michx.) Hall & Clements

- Rare; sand prairie. Spring Grove, 2480.
- Aster azureus* Lindl. Rare; prairie. Flint Hills, 3165.
- Aster drummondii* Lindl. Frequent; upland forest.
- Aster ericoides* L. Frequent; dry open habitats.
- Aster laevis* L. Infrequent; prairie.
- Aster lateriflorus* (L.) Britt. Rare; prairie. Aspen Grove, 2426.
- Aster novae-angliae* L. Infrequent; prairie.
- Aster oblongifolius* Nutt. Rare; prairie. Skunk River valley, 1895, Bartsch, IA.
- Aster ontarionis* Wieg. Rare; floodplain forest. Iowa Slough Lake, 3157.
- Aster pilosus* Willd. Frequent; dry open habitats.
- Aster sagittifolius* Wedemeyer ex Willd. Rare; upland forest. Rock Spring, 1282.
- Aster shortii* Lindl. Frequent; upland forest.
- Bidens aristosa* Michx. Rare; wet sandflats. Spring Grove, 1285. The status of this species in Iowa is undetermined but of concern (Roosa and Eilers 1978). It was collected in Jefferson and Keokuk Counties in 1953-54.
- Bidens cernua* L. Frequent; wet open habitats.
- Bidens comosa* (Gray) Wieg. Infrequent; wet open habitats.
- Bidens connata* Muhl. ex Willd. Infrequent; wet open habitats.
- Bidens frondosa* L. Infrequent; wet open habitats.
- Bidens polylepis* Blake Frequent; wet to moist open habitats.
- Bidens vulgata* Greene Infrequent; wet open habitats.
- Boltonia asteroides* (L.) L'Her. Infrequent; marsh.
- Cacalia atriplicifolia* L. Infrequent; prairie.
- **Carduus nutans* L. Infrequent; ruderal.
- **Chrysanthemum leucanthemum* L. Infrequent; ruderal.
- **Cichorium intybus* L. Frequent; ruderal.
- Cirsium altissimum* (L.) Spreng. Frequent; ruderal.
- **Cirsium arvense* (L.) Scop. Infrequent; ruderal.
- Cirsium discolor* (Muhl. ex Willd.) Spreng. Common; ruderal. The white flowered f. *albiflorum* (Britt.) House was collected at Lake Frances (1256).
- Cirsium hillii* (Canby) Fern. Rare; prairie. Leuins Point, 1732, 2780.
- **Cirsium vulgare* (Savi) Tenore Infrequent; ruderal.
- Conyza canadensis* (L.) Cronq. Common; ruderal.
- Conyza ramosissima* Cronq. Rare; dry open habitats. Crapo Park, 1936, Gilly 3841, MIU.
- **Coreopsis lanceolata* L. Infrequent; ruderal.
- Coreopsis palmata* Nutt. Rare; prairie. St. Paul Prairie, 1960.
- Coreopsis tripteris* L. Rare; prairie. St. Paul Prairie, 2268. Flint Hills, 2314, 2987.
- Dyssodia papposa* (Vent.) Rydb. Infrequent; dry open habitats.
- Echnicea pallida* Nutt. Rare; prairie. Starr's Cave, 440, 1801.
- Eclipta alba* (L.) Hassk. Infrequent; marsh.
- Erechtites hieracifolia* (L.) Raf. Infrequent; wet open habitats.
- Erigeron annuus* (L.) Pers. Frequent; dry open habitats.
- Erigeron philadelphicus* L. Infrequent; moist open to shaded habitats.
- Erigeron strigosus* Muhl. ex Willd. Infrequent; dry open habitats.
- Eupatorium altissimum* L. Infrequent; prairie.
- Eupatorium perfoliatum* L. Rare; marsh. Spring Grove, 2245. Concordia Meadow, 2352.
- Eupatorium purpureum* L. Infrequent; upland forest.
- Eupatorium rugosum* Houtt. Common; upland forest.
- Eupatorium serotinum* Michx. Infrequent; moist open habitats.
- Gnaphalium obtusifolium* L. Infrequent; prairie.
- Helianthus autumnale* L. Infrequent; wet to moist open habitats.
- Helianthus annuus* L. Infrequent; ruderal.
- Helianthus grosseserratus* Martens Infrequent; moist open habitats.
- Helianthus hirsutus* Raf. Rare; dry open habitats. Burlington, 1930, Pammel, ISC.
- Helianthus occidentalis* Riddell Rare; prairie. Round Prairie, 1348.
- Helianthus petiolaris* Nutt. Rare; sand prairie. Spring Grove, 2391; 1954, Davidson 2197, IA.
- Helianthus strumosus* L. Common; dry open to shaded habitats.
- Helianthus tuberosus* L. Frequent; moist open habitats.
- Helipopsis helianthoides* (L.) Sweet Rare; prairie. Burlington, 1895, Bartsch, IA.
- Hieracium longipilum* Torr. Rare; prairie. Leuins Point, 2985.
- Hieracium scabrum* Michx. Rare; prairie. Starr's Cave, 2296. St. Paul Prairie, 2420. Flint Hills, 2989; 1925, Pammel, ISC; 1935, Gilly 2813, MIU.
- Iva ciliata* Willd. Rare; wet sandflat. Spring Grove, 2403; 1954, Davidson 3275, IA. The status of this species in Iowa is undetermined but of concern (Roosa and Eilers 1978). It was collected in Jefferson County in the 1930's and in Pottawattamie County in 1898.
- Krigia biflora* (Walt.) Blake Infrequent; moist open to shaded habitats.
- Krigia virginica* (L.) Willd. Rare; dry sandy soil. Iowa Slough Lake, 1549. Listed as threatened in Iowa (Roosa and Eilers 1978). It was collected in Jackson County in 1956 and in Louisa and Muscatine Counties in 1976.
- Kuhnia eupatorioides* L. Rare; prairie. Starr's Cave, 2293.
- Lactuca biennis* (Moench) Fern. Rare; floodplain forest. Skunk River valley, 1895, Bartsch, ISC.
- Lactuca canadensis* L. Frequent; dry open habitats.
- Lactuca floridana* (L.) Gaertn. Frequent; moist open habitats.
- **Lactuca serriola* L. Common; ruderal.
- Liatis aspera* Michx. Rare; prairie. Flint Hills, 1313, 1323, 3161. St. Paul Prairie, 2267.
- **Matricaria matricarioides* (Less.) Port. Frequent; ruderal.
- Parthenium integrifolium* L. Rare; prairie. Burlington, 1925, Pammel, ISC. St. Paul Prairie, 1964. Flint Hills, 2939; 1925, Pammel, ISC.
- Polymnia canadensis* L. Rare; maple-basswood forest. Flint Creek, 1829. Stoney Hollow, 1952. Starr's Cave, 2922.
- Prenanthes alba* L. Infrequent; upland forest.
- Prenanthes aspera* Michx. Rare; prairie. Danville Cemetery, 1936, Savage, IWC.
- Ratibida pinnata* (Vent.) Rydb. Frequent; dry open habitats.
- Rudbeckia hirta* L. Common; dry open habitats.
- Rudbeckia triloba* L. Infrequent; moist open to shaded habitats.
- Senecio pauperculus* Michx. (*S. plattensis* Nutt.) Frequent; dry open habitats.
- Silphium integrifolium* Michx. Infrequent; prairie.
- Silphium laciniatum* L. Rare; prairie. West Burlington, 1918, Pammel, ISC. Along RR, 19 72-3, 2170.
- Silphium perfoliatum* L. Frequent; moist open habitats.
- Solidago canadensis* L. Common; moist to dry open habitats. Both var. *bargerii* Fern. and var. *scabra* (Muhl.) Torr. & Gray have been collected.
- Solidago flexicaulis* L. Infrequent; upland forest.
- Solidago gigantea* Ait. Infrequent; wet to moist open habitats.
- Solidago graminifolia* (L.) Salisb. Rare; prairie. West Burlington, 1918, Pammel, ISC. Flint Hills, 1339. Spring Grove, 2399.
- Solidago missouriensis* Nutt. Rare; prairie. St. Paul Prairie, 2183. Flint Hills, 2990.
- Solidago nemoralis* Ait. Infrequent; prairie.
- Solidago speciosa* Nutt. Rare, prairie. St. Paul Prairie, 1353.
- Solidago ulmifolia* Muhl. Common; upland forest.
- **Taraxacum officinale* Weber Common; ruderal.
- **Tragopogon dubius* Scop. Common; ruderal.
- Verbesina alternifolia* (L.) Britt. Rare; floodplain forest. Skunk

- River valley, 1895, Bartsch, IA.
Vernonia baldwinii Torr. Infrequent; moist open habitats.
Vernonia fasciculata Michx. Infrequent, moist open habitats.
Vernonia missurica Raf. Rare; moist open habitats. Skunk River valley, 1895, Bartsch, IA, ISC. This species has been collected in only Henry, Lee, and Van Buren Counties.
Xanthium strumarium L. Common; moist to dry open habitats.

MAGNOLIOPHYTA: LILIOPSIDA

ALISMATACEAE

- Alisma subcordatum* Raf. Infrequent; marsh.
Sagittaria engelmanniana J. G. Smith ssp. *brevirostra* (Mack. & Bush) Bogin Infrequent; marsh.
Sagittaria latifolia Willd. Common; marsh.
Sagittaria montevidensis Cham. & Schlecht. ssp. *calycina* (Engelm.) Bogin Rare; marsh. Ray Lake, 1953, Davidson 1687, IA. Spring Grove, 1187. Seven Ponds, NW 7 71-2, 1263.
Sagittaria rigida Pursh Rare; marsh. Barlow Lake Channel, NE 19 72-1, 1273. Ray Lake, 1764; 1953, Davidson 1688, IA.

HYDROCHARITACEAE

- Elodea nuttallii* (Planch.) St. John Rare; pond. Barlow Lake Channel, NE 19 72-1, 1192. Ditch along Mississippi River, SW 10 71-1, 1773.

POTAMOGETONACEAE

- **Potamogeton crispus* L. Infrequent; pond.
Potamogeton foliosus Raf. Rare; pond. Jackson Pond, 2769
Potamogeton nodosus Poir. Infrequent; pond.
Potamogeton pectinatus L. Frequent; pond.

ARACEAE

- Acorus calamus* L. Rare; marsh. Jackson Pond, 2610. NE 22 71-3, 2810.
Arisaema dracontium (L.) Schott Infrequent; upland and floodplain forests.
Arisaema triphyllum (L.) Schott Common; upland forest.
Peltandra virginica (L.) Schott Rare; marsh. Peltandra Bog, 1220, 1537; 1979, Eilers 7339, ISTC. Presumed extirpated in Iowa by Roosa and Eilers (1978). Its occurrence in the state was discussed in a previous paper (Lammers and van der Valk 1979).

LEMNACEAE

- Lemna minor* L. Common; pond.

COMMELINACEAE

- **Commelina communis* L. Infrequent; moist shaded habitats.
Tradescantia bracteata Small Rare; prairie. Flint Hills, 222, 236.
Tradescantia ohiensis Raf. Common; dry open habitats. A specimen (753) with long-pilose lower sheaths represents f. *pilosa* Waterfall.

JUNCACEAE

- Juncus acuminatus* Michx. Rare; marsh. Spring Grove, 1987. This species has been collected in only a few eastern (Cedar, Delaware, Jefferson, Johnson, Lee, Linn, Louisa, Muscatine, Washington) and southwestern (Harrison, Pottawattamie) counties.
Juncus balticus Willd. Rare; wet-mesic prairie. Aspen Grove, 1742.
Juncus dudleyi Wieg. Infrequent; moist open habitats.
Juncus interior Wieg. Rare; wet sandflat. Spring Grove, 346.
Juncus tenuis Willd. Frequent; dry open habitats.
Juncus torreyi Coville Infrequent; moist open habitats.

CYPERACEAE

- Carex albursina* Sheldon Infrequent; upland forest.
Carex amphibola Steud. Rare; prairie. Aspen Grove, 1819.
Carex annectans (Bickn.) Bickn. Rare; marsh. Spring Grove, 2786.

- Carex blanda* Dewey Common; moist shaded habitats.
Carex brevior (Dewey) Mack. ex Lunell Infrequent; prairie.
Carex cephalophora Muhl. ex Willd. Frequent; upland forest.
Carex conjuncta Boott Rare; moist open habitats. SW 13 72-2, 1953, Davidson 793, IA.
Carex cristatella Britt. Frequent; marsh.
Carex davisii Schw. & Torr. Frequent; moist open habitats.
Carex granularis Muhl. ex Willd. Infrequent; moist open habitats.
Carex gravida L. H. Bailey Rare; sand prairie. Spring Grove, 1697.
Carex grayii Carey Infrequent; floodplain forest.
Carex haydenii Dewey Rare; marsh. Jackson Pond, 2609.
Carex hirsutella Mack. Infrequent; upland forest. The distribution of this species in Iowa has been discussed previously (Lammers 1980).
Carex hirtifolia Mack. Rare; upland forest. Starr's Cave, 2722.
Carex hystericina Muhl. ex Willd. Infrequent; marsh.
Carex jamesii Schw. Rare; upland forest. Hunt Woods, 1676.
Carex lacustris Willd. Rare; marsh. Spring Grove, 994.
Carex laeviconica Dewey Frequent; marsh.
Carex lasiocarpa Ehrh. var. *latifolia* (Böckl.) Gilly Infrequent; moist open habitats.
Carex leavenworthii Dewey Rare; upland forest. SE 14 72-2, 1953, Davidson 771, IA.
Carex lupulina Muhl. ex Willd. Frequent; floodplain forest.
Carex lurida Wahlenb. Rare; marsh. Along Flint Creek, SW 19 70-2, 1833. Spring Grove, 1979. This species has been collected in only Jefferson, Lee, Louisa, and Mahaska Counties.
Carex meadii Dewey Rare; prairie. St. Paul Prairie, 1663. Starr's Cave, 1847, 2596.
Carex muskingumensis Schw. Rare; floodplain forest. Patterson Lake, 2795.
Carex normalis Mack. Infrequent; moist open habitats.
Carex oligocarpa Schkuhr ex Willd. Infrequent; upland forest.
Carex pensylvanica Lam. Common; upland forest.
Carex projecta Mack. Infrequent; upland forest.
Carex rosea Schkuhr ex Willd. Common; upland forest.
Carex scoparia Schkuhr ex Willd. Frequent; wet open habitats.
Carex shortiana Dewey Frequent; moist open habitats.
Carex squarrosa L. Rare; floodplain forest. Patterson Lake, 1210. The distribution of this species in Iowa was reported previously (Lammers and van der Valk 1979).
Carex stipata Muhl. ex Willd. Infrequent; marsh.
Carex stricta Lam. Common; wet to moist open habitats.
Carex suberecta (Olney) Britt. Infrequent; moist open habitats.
Carex tribuloides Wahlenb. Infrequent; marsh.
Carex typhina Michx. Infrequent; floodplain forest.
Carex vulpinoidea Michx. Frequent; wet to moist open habitats.
Cyperus acuminatus Torr. & Hook. Rare; wet sandflat. Spring Grove, 1174, 2062, 2789.
Cyperus arsitatus Rottb. Rare; wet sandflat. Spring Grove, 1953, Davidson 1671, IA.
Cyperus erythrorhizos Muhl. Frequent; wet open habitats.
Cyperus esculentus L. Common; wet to moist open habitats.
Cyperus filiculmis Vahl Rare; prairie. Spring Grove, 1161; 1941, Savage, IWC. Starr's Cave, 1808.
Cyperus odoratus L. var. *squarrosus* (Britt.) Gilly Rare; wet sandflat. Spring Grove, 1288; 1953, Davidson 1668, IA.
Cyperus rivularis Kunth Rare; wet sandflat. Spring Grove, 1203; 1953, Davidson 1688, IA.
Cyperus schweinitzii Torr. Infrequent; dry sandy soil.
Cyperus strigosus L. Common; wet to moist open habitats.
Eleocharis acicularis (L.) Roem. & Schult. Infrequent; wet sandflat.
Eleocharis compressa Sulliv. Rare; wet-mesic prairie. Aspen Grove, 1739. Danville Prairie, 1896.
Eleocharis erythropoda Steud. (*E. calva* Torr.) Frequent; marsh.

Eleocharis macrostachya Britt. Rare; marsh. Spring Grove, 993, 1988; 1954, Davidson 2181, IA.
Eleocharis obtusa (Willd.) Schult. Common; marsh.
Fimbristylis autumnalis (L.) Roem. & Schult. Rare; wet sandflat. Spring Grove, 1166, 1202, 2406; 1953, Davidson 1652, IA. Listed as endangered in Iowa (Roosa and Eilers 1978). All known Iowa specimens were cited previously (Lammers & van der Valk 1979).
Hemicarpha micrantha (Vahl) Britt. Rare; wet sandflat. Spring Grove, 1165. This species has been collected in only a few eastern (Black Hawk, Cedar, Delaware, Johnson, Louisa, Muscatine) and central (Boone, Greene, Story, Webster) counties.
Scirpus americanus Pers. Rare; marsh. RR yards, Burlington, 461.
Scirpus atrovirens Willd. Common; wet open habitats.
Scirpus cyperinus (L.) Kunth Infrequent; marsh.
Scirpus fluviatilis (Torr.) Gray Infrequent; marsh.
Scirpus pendulus Muhl. (*S. lineatus* Michx.) Common; wet to moist open habitats.
Scirpus validus Vahl Frequent; marsh.

POACEAE

**Agropyron repens* (L.) Beauv. Common; ruderal.
Agropyron smithii Rydb. Infrequent; dry open habitats.
Agrostis alba L. Common; wet to moist open habitats.
Agrostis hyemalis (Walt.) BSP Frequent; dry open habitats.
Agrostis perennans (Walt.) Tuck. Infrequent; upland and floodplain forests.
Agrostis palustris Huds. Infrequent; wet open habitats.
Alopecurus carolinianus Walt. Rare; marsh. Spring Grove, 1564. Jackson Pond, 2625.
Andropogon gerardi Vitman Common; prairie.
Andropogon scoparius Michx. Frequent; prairie.
Aristida oligantha Michx. Frequent; dry open habitats.
Aristida tuberculosa Nutt. Rare; dry sandy soil. Dumbbell Lake, 1345. Iowa Slough Lake, 3159.
Bouteloua curtipendula (Michx.) Torr. Rare; prairie. Burlington, 1925, Pammel, ISC.
Bromus inermis Leys. Common; ruderal.
Bromus japonicus Thunb. Infrequent; ruderal.
Bromus latiglumis (Scribn. ex Shear) Hitchc. Rare; upland forest. Crapo Park, 1930, Pammel, ISC.
Bromus pubescens Muhl. ex Willd. Frequent; upland forest.
Bromus tectorum L. Common; ruderal.
Calamagrostis canadensis (Michx.) Beauv. Infrequent; marsh.
Cenchrus longispinus (Hack.) Fern. Infrequent; dry sandy soil.
Chloris verticillata Nutt. Rare; ruderal. 1332 Griswold St., Burlington, 460. Dankwardt Park, Burlington, 515. This species has been collected in Decatur, Guthrie, Lee, Polk, Story, Wapello, and Warren Counties.
Cinna arundinacea L. Frequent; upland and floodplain forests.
Dactylis glomerata L. Common; ruderal.
Danthonia spicata (L.) Beauv. Rare; prairie. Flint Hills, 1752.
Digitaria filiformis (L.) Koel. Rare; sand prairie. Spring Grove, 2400. This grass has been collected in a few southeastern counties: Henry in 1935, Jefferson in 1935, Lee in 1923, and Muscatine in the 1890's.
Digitaria ischaemum (Schreb. ex Schweig.) Muhl. Common; ruderal.
Digitaria sanguinalis (L.) Scop. Common; ruderal.
Echinochloa crusgalli (L.) Beauv. Common; wet to moist open habitats.
Echinochloa muricata (Beauv.) Fern. Frequent; wet to moist open habitats.
Echinochloa walteri (Pursh) Heller Rare; marsh. Dumbbell Lake, 1099. Ray Lake, 2350; 1953, Davidson 1691, IA. All known

Iowa specimens were cited previously (Lammers & van der Valk 1979).

**Eleusine indica* (L.) Gaertn. Frequent; ruderal.
Elymus canadensis L. Infrequent, prairie.
Elymus villosus Muhl. ex Willd. Frequent; moist shaded habitats.
Elymus virginicus L. Frequent; moist shaded habitats.
**Eragrostis cilianensis* (All.) Link Common; ruderal.
Eragrostis frankii C. A. Mey. ex Steud. Rare; moist shaded habitats. Along a small creek, SE 8 71-2, 1949, Pohl 6808, ISC.
Eragrostis hypnoides (Lam.) BSP Infrequent; wet open habitats.
Eragrostis pectinacea (Michx.) Nees Infrequent; moist to dry sandy soil.
**Eragrostis poaeoides* Beauv. Rare; ruderal. Aspen Grove, 2430.
Eragrostis spectabilis (Pursh) Steud. Rare; sand prairie. Spring Grove, 1953, Davidson 1638, IA.
Festuca obtusa Biehler Frequent; upland forest.
Festuca octoflora Walt. var. *renella* (Willd.) Fern. Rare; dry sandy soil. Spring Grove, 1962, Eilers 1162, ISTC. Iowa Slough Lake, 1547.
Glyceria striata (Lam.) Hitchc. Infrequent; wet open habitats.
Hordeum jubatum L. Common; ruderal.
Hordeum pusillum Nutt. Infrequent; dry open habitats.
Hystrix patula Moench Frequent; upland forest.
Koehleria macrantha (Ledeb.) Spreng. (*K. cristata* [L.] Pers.) Rare; prairie. Stoney Hollow, 1800.
Leersia lenticularis Michx. Rare; floodplain forest. Roscum Pond, 2996. Iowa Slough Lake, 3154.
Leersia oryzoides (L.) Sw. Frequent; marsh.
Leersia virginica Willd. Frequent; upland and floodplain forests.
Leptoloma cognatum (Schult.) Chase Infrequent; dry sandy soil.
**Lolium perenne* L. Infrequent; ruderal. Both awnless (var. *perenne*) and awned (var. *italicum* Parn.) forms have been collected.
Muhlenbergia frondosa (Poir.) Fern. Infrequent; moist shaded habitats.
Muhlenbergia racemosa (Michx.) BSP Rare; sand prairie. Spring Grove, 1954, Davidson 2269, IA.
Muhlenbergia schreberi J. F. Gmel. Common; moist to dry shaded habitats.
Muhlenbergia sobolifera (Muhl.) Trin. Rare; upland forest. Burlington, 1930, Pammel, ISC. Starr's Cave, 2453.
Panicum capillare (L.) Common; moist to dry open habitats.
Panicum clandestinum L. Rare; upland forest. Aspen Grove, 2782. Starr's Cave, 3173.
Panicum commonsianum Ashe var. *euchlamydeum* (Shinners) R. W. Pohl. Rare; sand prairie. Spring Grove, 787, 1696.
Panicum depauperatum Muhl. Rare; prairie. Starr's Cave, 1635, 2654. Spring Grove, 1695.
Panicum dichotomiflorum Michx. Common; dry open habitats.
Panicum implicatum Scribn. Common; moist to dry open habitats.
Panicum latifolium L. Rare; upland forest. St. Paul Prairie, 2263.
Panicum lindheimeri Nash Rare; prairie. Stoney Hollow, 1947. Spring Grove, 2783.
Panicum oligosanthos Schult. Rare; dry open habitats. Spring Grove, 1954, Davidson 2216, ISC. Along Iowa Hwy 99, 3 70-2, 755.
Panicum praecocius Hitchc. & Chase Infrequent; prairie.
Panicum scribnerianum Nash Common; dry open habitats.
Panicum virgatum L. Infrequent; prairie.
Paspalum ciliatifolium Michx. Infrequent; dry sandy soil.
Phalaris arundinacea L. Infrequent; wet open habitats.
**Phleum pratense* L. Common; ruderal.
**Poa annua* L. Infrequent; moist shaded habitats.
**Poa compressa* L. Common; moist to dry open habitats.
**Poa pratensis* L. Common; moist to dry open habitats.

Poa sylvestris Gray Rare; upland forest. Cedar Creek, 1953, Davidson 840, IA

**Setaria faberi* Herrm. Common; ruderal.

**Setaria lutescens* (Wieg.) F. T. Hubb Common; ruderal.

**Setaria viridis* (L.) Beauv. Common; ruderal.

Sorghastrum nutans (L.) Nash Frequent; prairie.

Spartina pectinata Link Frequent; wet to moist open habitats.

Sphenopholis obtusata (Michx.) Scribn. Frequent; moist open to shaded habitats. Both var. *obtusata* and var. *major* (Torr.) Erdman were collected.

Sporobolus asper (Michx.) Kunth Infrequent; dry open habitats.

Stipa spartea Trin. Rare; sand prairie. Spring Grove, 797; 1954, Davidson 2215, IA.

Tridens flavus (L.) Hitchc. Infrequent; dry open habitats.

Triplasis purpurea (Walt.) Chapm. Infrequent; dry sandy soil.

SPARGANIACEAE

Sparganium eurycarpum Engelm. Infrequent; marsh.

TYPHACEAE

Typha angustifolia L. Infrequent; wet open habitats.

Typha latifolia L. Common; marsh.

LILIACEAE

Allium canadense L. Infrequent; dry open habitats.

Allium tricoccum Ait. var. *burdickii* Hanes Rare; upland forest. Long Creek, 2495.

Allium vineale L. Rare; dry sandy soil. Spring Grove, 524; 1953, Davidson 409, IA; 1954, Davidson 2168, IA, ISC. The only other Iowa specimen examined was collected in Decatur County in 1942.

**Asparagus officinalis* L. Common; ruderal.

Erythronium albidum Nutt. Frequent; upland forest.

**Hemerocallis fulva* L. Common; ruderal.

Hypoxis hirsuta (L.) Coville Infrequent; prairie.

**Lilium lancifolium* Thunb. (*L. tigrinum* Ker.) Rare; moist open habitats. Aspen Grove, 2175.

Lilium michiganense Farw. Rare; moist shaded habitats. Along road, 29 69-3, 409.

Polygonatum biflorum (Walt.) Ell. Common; upland forest.

**Scilla sibirica* Andr. Rare; upland forest. Lower Augusta, 48, 1367.

Smilacina racemosa (L.) Desf. Common; upland forest.

Smilacina stellata (L.) Desf. Infrequent; upland forest.

Trillium flexipes Raf. Rare; maple-basswood forest. Dolbee Creek, 122. Stoney Hollow, 1468.

Trillium nivale Riddell Rare; maple-basswood forest. Flint Creek, 39, 49, 1364. Along Yellow Springs Creek, NW 35 71-2, 1372. Starr's Cave, 2485.

Trillium recurvatum Beck Frequent; upland forest. A specimen from Long Creek (2575) with greenish-yellow petals and stamens represents f. *shayi* Palmer & Steyerf.

Uvularia grandiflora Sm. Frequent; upland forest.

Veratrum woodii Robbins Rare; upland forest. Cedar Creek, 2200. Long Creek, 2500. Big Hollow, 2514. Starr's Cave 2650. The distribution of this species in Iowa was discussed previously (Lammers 1980).

IRIDACEAE

**Iris pseudacorus* L. Rare; marsh. Along Iowa Hwy 99, SE 14 72-2, 1655.

Iris virginica L. var. *shrevei* (Small) E. Anders. Infrequent; marsh.

Sisyrinchium angustifolium Mill. Infrequent; upland forest. The distribution of this species in Iowa was discussed previously (Lammers 1980).

Sisyrinchium campestre Bickn. Infrequent; prairie.

SMILACACEAE

Smilax ecirrhata (Engelm. ex Kunth) S. Wats. Infrequent; upland forest.

Smilax herbacea L. Frequent; moist open to shaded habitats.

Smilax hispida Muhl. Frequent; moist open to shaded habitats.

DIOSCOREACEAE

Dioscorea villosa L. Infrequent; upland forest.

ORCHIDACEAE

Corallorhiza odontorhiza (Willd.) Nutt. Rare; upland forest. Starr's Cave, 2431.

Liparis lilifolia (L.) L. C. Richard ex Lindl. Rare; upland forest. Flint Hills, 2932; 1946, Savage, IWC.

Orchis spectabilis L. Rare; upland forest. Flint Hills, 1946, Savage, IWC. Luckenbill Woods, 3000.

Spiranthes cernua (L.) L. C. Richard Rare; prairie. Flint Hills, 1335.

Spiranthes gracilis (Bigel.) Beck Rare; prairie. Jaggar Cemetery, Danville, 1926, H. E. Jacques, IWC. This species has been collected in only Cedar, Decatur, Henry, Jefferson, Muscatine, Scott, and Winneshiek Counties.

EXCLUDED SPECIES

The following 78 species have been reported from Des Moines County in the Iowa floristic literature (citations given in Lammers 1981). They are excluded from the annotated catalogue because I could not verify their past or present occurrence.

Acalypha gracilens Gray

Agastache scrophulariaefolia (Willd.) Kuntze

Ambrosia bidentata Michx.

Anemone multifida Poir.

Arctium lappa L.

Aristida dichotoma Michx.

Artemisia biennis Willd.

Aruncus sylvestris Kostel.

Aster tradescanti L.

Aster vimineus Lam.

Baptisia leucophaea Nutt.

Bidens discoidea (Torr. & Gray) Britt.

Bromus secalinus L.

Castilleja coccinea (L.) Spreng.

Cerastium viscosum L.

Cirsium horridulum Michx.

Clematis virginiana L.

Cornus ammomum Mill.

Cornus stolonifera Michx.

Crataegus coccinea L.

Crataegus crusgalli L.

Crataegus punctata Jacq.

Cypripedium calceolus L.

Cypripedium reginae Walt.

Dentaria diphylla Michx.

Desmodium canadense (L.) DC

Desmodium nudiflorum (L.) DC

Desmodium rigidum (Ell.) DC

Elymus interruptus Buckl.

Equisetum variegatum Schleich. ex Weber & Mohr

Erigeron pulchellus Michx.

Eryngium yuccifolium Michx.

Fagopyrum esculentum Moench

Gaura biennis L.

Gerardia flava L.

Helianthemum canadense L.

Helianthus divaricatus L.

Hepatica americana (DC) Ker.
Hypericum kalmianum L.
Juniperus communis L.
Lespedeza angustifolia (Pursh) Ell.
Liatris cylindracea Michx.
Liatris scariosa (L.) Willd.
Lilium philadelphicum L.
Linum usitatissimum L.
Lithospermum incisum Lehm.
Lobelia paludosa Nutt.
Malva rotundifolia L.
Melanthium virginicum L.
Mentha spicata L.
Panax quinquefolius L.
Phlox bifida Beck
Phlox maculata L.
Pinus sylvestris L.
Potentilla canadensis L.
Ranunculus pensylvanicus L. f.
Ribes americanum Mill.
Ribes hirtellum Michx.
Rudbeckia laciniata L.
Saponaria vaccaria L.
Saxifraga pensylvanica L.
Senecio aureus L.
Silphium terebinthinaceum L.
Smilax rotundifolia L.
Solidago rigida L.
Sonchus asper (L.) Hill
Sonchus oleraceus L.
Thalictrum dioicum L.
Tradescantia virginiana L.
Trillium grandiflorum (Michx.) Salisb.
Trillium sessile L.
Uvularia sessilifolia L.
Verbena x illicita Moldenke
Vicia sativa L.
Viola cucullata Ait.
Viola palmata L.
Vitis aestivalis Michx.
Vitis vulpina L.

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