

THE VASCULAR FLORA OF CLARK COUNTY, KANSAS

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A Thesis

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the Department of Biology

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by

Jacob H. Miller

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James S. Wilson  
Approved for the Major Department

  
David E. Durst  
Approved for the Graduate Council

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## INTRODUCTION

Clark County is located in Southwestern Kansas at the western edge of the scenic Red Hills. It is bordered on the east by Comanche and Kiowa Counties, on the north by Ford County, on the west by Meade County, on the south by Harper and Beaver Counties (Oklahoma), and lies about 110 miles east of Colorado (Fig. 1). The lower half of the county is an open red-soiled area, except in the far south where it is covered with extensive dune sands along the Cimarron River. The red soils terminate in the north in a wide, deeply eroded escarpment which separates the Red Hills from the flat, short-grass prairie of the High Plains of the upper one-third of the county and typical of most of Western Kansas. Because of the rugged relief of the escarpment and the aridity of the dune sands, this red-soiled region has long been of botanical interest. Clark County was selected for this study because it has been somewhat less extensively collected than other counties in the Red Hills and because the major physiographic variations of Southwestern Kansas are found within its political boundaries.

The purpose of this research was to establish a checklist of the vascular flora of Clark County, Kansas, and to gather seasonal and ecological information about each

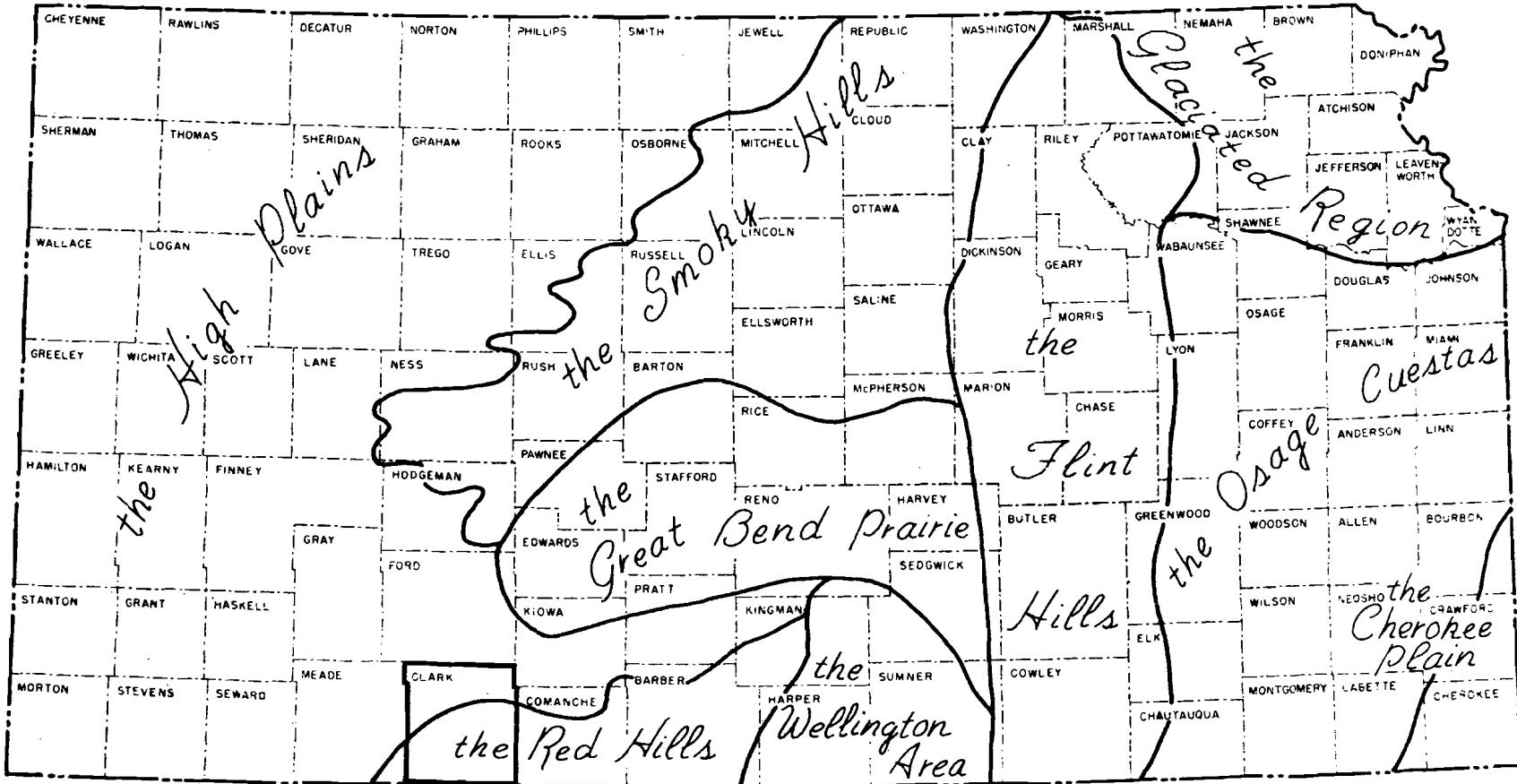


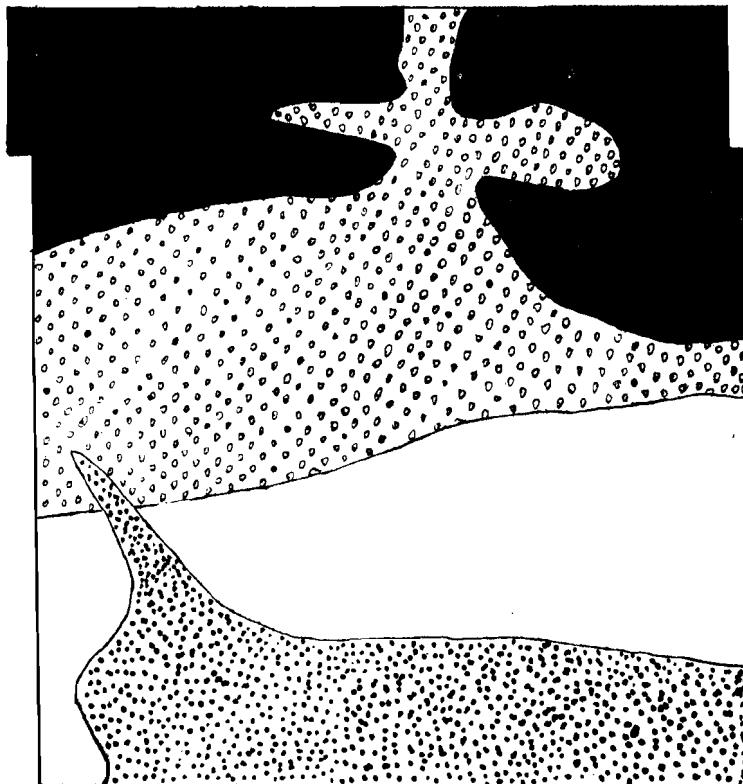
Figure 1. Physiographic map of Kansas

species throughout the growing season. Plant collections were made from October, 1972 thru September, 1974.

### Physiographic Description

Schoewe (1949) divided Clark County into two physiographic areas (Fig. 2). The High Plains of the upper one-third of the county, the Minneola area, is a relatively flat table land with alluvial, fluvial, and loess depositions over Tertiary and some Quaternary beds (Smith, 1940). The associated soils are suitable for moderate to intensive cultivation.

The second area, the Red Hills, may be divided into the escarpment and Ashland Basin sub-regions. The escarpment crosses the middle of the county from east to west as a deeply eroded belt ten to twenty miles wide and marks the border of the High Plains. This belt which covers roughly half of the county is often called the "Red Hills" because of the red color of the exposed soil and rocks. The underlying Permian redbeds are composed primarily of red shales, siltstones, and sandstones capped with gypsum, and sands and gravels of Pleistocene age (Schoewe, 1949; Frye, 1953). The soils of the scarp are thin and rocky and are grazed rather than cultivated. The thin soils and heavy erosion indicate the poor water absorption capability of the gypsum and caliche rich soils. It is in this eroded region that Clark County State Lake is located.



[Solid Black Box] High Plains

[Dotted Pattern Box] Red Hills escarpment

[White Box] Ashland Basin

[Dotted Pattern Box] Dune Sands

Figure 2. Physiographic map of Clark Co., Kansas (After Soil Conservation Survey and Geologic Map of Kansas)

The southern edge of the escarpment drops off about 500 feet into the broad Cimarron River valley, or Ashland Basin, where the Permian redbeds are exposed in flat open fields. Large sections of the basin are covered with alluvium of sixty feet or more, and along the Cimarron River and the creeks of the southwest corner of the county there are extensive areas of dune sands (Smith, 1940). Grazing is common there except on the less sandy areas which are intensively cultivated.

Two unusual topographic features in Clark County are Big Basin and Little Basin. These wide, shallow bowls in the western part of the county are sinks resulting from the solutional effects of ground water on the concentrations of salts in the Permian substrata. Since these basins are not drained, ponds may develop during wet seasons and remain for extended periods. St. Jacob's Well in the Little Basin is a permanent waterhole.

#### Climate

The rigorous climate of Southwestern Kansas has played a major role in shaping the plant communities of Clark County. The climate of the area has been described as one of extremes and quick to change (Kuchler, 1967). Temperature changes of 20-30 F in a span of a few hours are not uncommon. For example, during the summer months, daytime temperatures in excess of 100 F are frequently followed by the 60-70 F nights. Likewise, in winter, relatively warm daytime temperatures of 40-50 F often precede sub-zero nighttime

temperatures and blizzard conditions. Figure 3 shows the average normal monthly temperatures for Clark County based on forty-five years of records taken at Ashland, Kansas. The average growing season is 184 days, ranging between April 21 (average last killing frost in spring) to October 22 (average first killing frost in fall).

Perhaps the most critical of all climatic conditions for the grassland vegetation is the unreliability of precipitation (Kuchler, 1967). Although precipitation averages 20-25 inches annually, the availability of moisture may be drastically reduced by the dessicating effects of frequent high winds and temperatures producing high evaporation rates (Fig. 4). During months of maximum rainfall (May and June), the evaporation rate often exceeds the precipitation rate (Smith, 1940). Clearly, only xerophytic species can flourish under such harsh conditions.

#### Vegetative Analysis

Habitat variation in Clark County corresponds rather closely to the physiographic areas described above, i.e., High Plains, Red Hills escarpment and Ashland Basin, and Dune Sands areas. In addition, disturbances which result from farming, heavy grazing, and assorted human activities produce characteristic plant communities scattered throughout the county.

The High Plains area in the northern part of the county shows typical short grass prairie influences, often referred to as the buffalo-grama grass association. Three

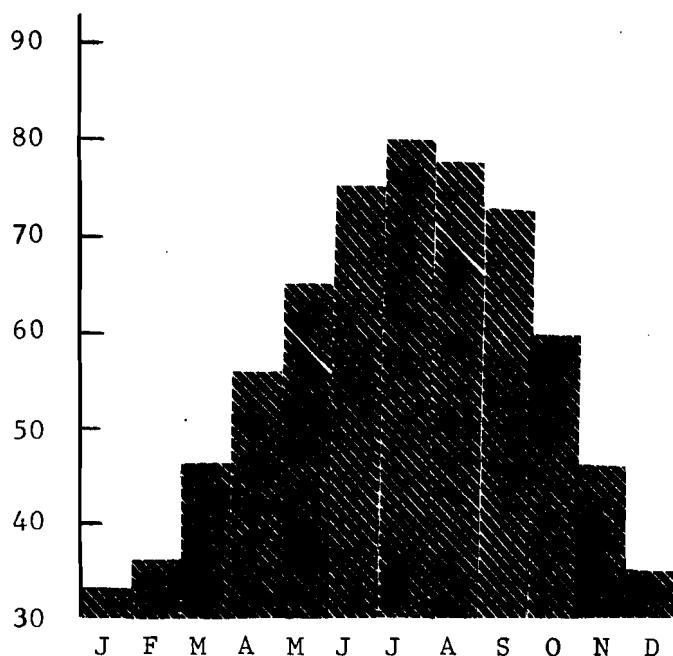


Figure 3. Average normal monthly temperatures in degrees F at Ashland, Kansas. (From Climate of Kansas, Kans. State Board Agric.)

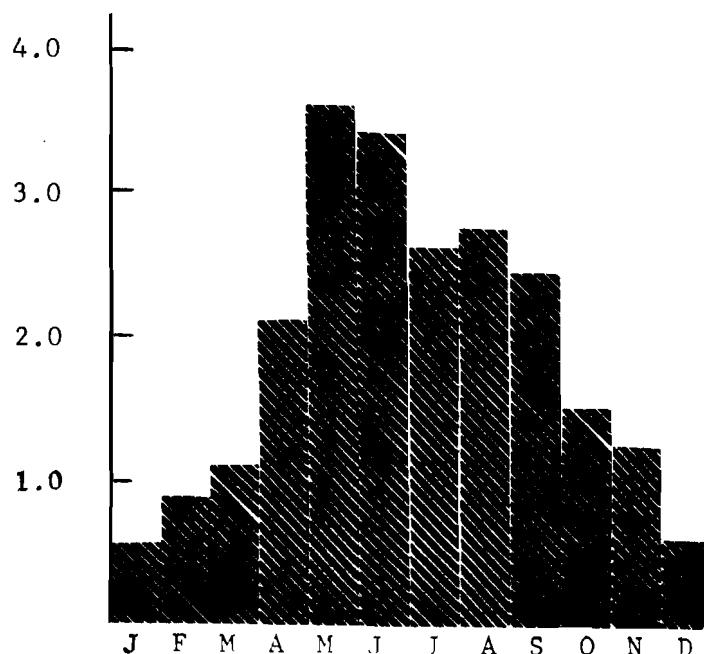


Figure 4. Average normal monthly rainfall in inches at Ashland, Kans. (From Climate of Kansas, Kans. State Board of Agric.)

species, Bouteloua gracilis, B. hirsuta, and Buchloe dactyloides, provide nearly all of the ground cover of this region. Andropogon saccharoides and Agropyron smithii are frequently encountered, especially along roadways. Typical forbs are Psilostrophe villosa, Gaillardia pulchella, Ratibida columnifera, Schrankia nuttallii, Psoralea tenuiflora, Sophora nuttalliana, Sphaeralcea coccinea, and Hedysarum nigricans. In areas where grazing has been particularly heavy, invaders such as Lesquerella gordonii, Cirsium undulatum, Yucca glauca, and Argemone polyanthemos become abundant. Woody species, including Artemisia filifolia, Gutierrezia sarothrae, Amorpha canescens, Ribes odoratum, Prunus angustifolia, and Populus deltoides, are scattered throughout, especially in breaks and arroyos. Since much of this land is arable, widespread areas are planted with wheat and sorghum crops and, consequently, Salsola iberica, Kochia scoparia, and Sorghum halapense, characteristic weedy species, appear in large quantities. Table I is a more complete list of common High Plains species.

The deeply eroded Red Hills escarpment is in reality an interdigitation of the High Plains and the Red Hills area. As a result, most High Plains species are also found in the Red Hills belt. However, a number of unique species occur in the escarpment, doubtlessly a result of the extreme aridity of the rugged canyons and arroyos (Table II). It is here on the steep rocky slopes that one finds such xerophytic southwestern species as Townsendia exscapa, Lesquerella

Table I. Typical High Plains species of common occurrence in Clark County.

Forbs

Allium drummondii  
Anemone caroliniana  
Argemone polyanthemos  
Argemone squarrosa  
Astragalus lotiflorus  
Callirhoe involucrata  
Calylophus serrulatus  
Chamaesaracha coniooides  
Chrysopsis stenophylla  
Chrysopsis villosa  
Cirsium undulatum  
Croton texensis  
Delphinium virescens  
Engelmannia pinnatifida  
Gaillardia pulchella  
Gaura coccinea  
Happlopappus spinulosus  
Hedyotis nigricans  
Liatris punctata  
Linum rigidum  
Lithospermum incisum  
Monarda citriodora  
Oenothera laciiniata  
Petalostemon occidentale  
Petalostemon multiflorum  
Petalostemon purpureum  
Psilostrophe villosa  
Psoralea tenuiflora  
Ratibida columnifera  
Salvia pitcheri  
Schrankia nuttallii  
Sophora nuttalliana  
Sphaeralcea coccinea  
Stenosiphon linifolius  
Thelesperma megapotamicum

Grasses

Agropyron smithii  
Andropogon saccharoides  
Andropogon scoparius  
Bouteloua curtipendula  
Bouteloua gracilis  
Bouteloua hirsuta  
Buchloe dactyloides

Woody species

Amorpha canescens  
Gutierrezia sarothrae  
Populus deltoides  
Rhus aromatica var. serotina  
Ribes odoratum  
Yucca glauca

ovalifolia, Hymenoxys scaposa, Melampodium leucanthum, and Zinnia grandiflora.

Table II. Species normally restricted to the Red Hills of Clark County.

Forbs

<u>Artemesia carruthii</u>	<u>Mentzelia oligosperma</u>
<u>Asclepias engelmanniana</u>	<u>Oenothera macrocarpa</u>
<u>Aster fendleri</u>	<u>Oxytropis lambertii</u>
<u>Aster oblongifolius</u>	<u>Penstemon albidus</u>
<u>Astragalus gracilis</u>	<u>Polygala alba</u>
<u>Astragalus missouriensis</u>	<u>Psoralea cuspidata</u>
<u>Calylophus hartwegii</u>	<u>Strophostyles helvola</u>
<u>Castilleja citrina</u>	<u>Townsendia exscapa</u>
<u>Dalea aurea</u>	<u>Zinnia grandiflora</u>
<u>Dalea enneandra</u>	
<u>Dalea leporina</u>	
<u>Erigeron divergens</u>	
<u>Hymenoxys scaposa</u>	
<u>Ipomopsis longiflora</u>	
<u>Krameria lanceolata</u>	
<u>Kuhnia eupatorioides</u>	
<u>Lesquerella ovalifolia</u>	
<u>Leucelene ericoides</u>	
<u>Lygodesmia juncea</u>	
<u>Melampodium leucanthum</u>	

Woody species

<u>Amorpha nana</u>
<u>Ceanothus herbaceus</u>
<u>Celtis reticulata</u>
<u>Cornus drummondii</u>
<u>Juglans microcarpa</u>

Moving southward over the scarp into the Ashland Basin, a transition from Red Hills vegetation to vegetation of very sandy soils occurs. In the northernmost part of the basin on undisturbed sites, plant species virtually parallel those of the scarp. However, since much of this land is cultivated, the disturbance species of the High Plains farm lands are also found in abundance here.

Much of the lower Ashland Basin is covered by sandy depositions and roughly the lower one-third of the county along the Cimarron River and the creeks of the southwest

corner are covered by dune sands. The instability and extreme aridity of these sandy soils gives rise to plant associations quite different from those found in the rest of Clark County. Large areas are covered with Artemisia filifolia and Yucca glauca interspersed with bare sand and bunch grasses, especially Sporobolus cryptandrus and S. airoides. Intermittent dense thickets of Prunus angustifolia are also common. Such grasses as Distichlis stricta, Munroa squarrosa, Andropogon hallii, Calamovilfa gigantea, and Panicum obtusum are virtually restricted to this area. Frequently encountered forbs are Mentzelia decapetala, M. nuda, Monarda punctata var. occidentalis, and Astragalus mollissimus. The densest stands of woody species in the county, notably Populus deltoides, Tamarix ramosissima, and Salix nigra, are found along the rivers and streams of the Dune Sands area. See Table III for a more complete list of species unique to the Dune Sands.

In areas of disturbance such as roadways, towns, and cultivated fields, one finds mixing of disturbance species of eastern and southwestern influence (Table IV). Salsola iberica, Bromus unioloides, Proboscidea louisianica, and Cucurbita foetidissima, common disturbance species in Clark County, diminish in distribution in Eastern Kansas. Species common to Eastern Kansas such as Lamium amplexicaule, Taraxacum officinale, and Tragopogon dubius are also common in Clark County, while Stellaria media, Holosteum umbellatum,

Table III. Species normally restricted to sandy soils of Clark County.

Forbs

Amaranthus arenicola  
Aphanostephus skirrhobasis  
Artemisia filifolia  
Asclepias arenaria  
Astragalus mollissimus  
Berlandiera texana  
Commelina erecta  
Cryptantha jamesii  
Cycloloma atriplicifolium  
Erigeron bellidiasterum  
Glycyrrhiza lepidota  
Heliotropium convolvulaceum  
Indigofera miniata  
Ipomoea leptophylla  
Mentzelia decapetala  
Mentzelia nuda  
Mirabilis linearis  
Monarda punctata  
Oenothera albicaulis  
Oenothera grandis  
Palafoxia sphacelata  
Petalostemon villosum

Phyla cuneifolia  
Psoralea lanceolata  
Rumex venosus  
Tradescantia occidentalis  
Triodanis holzingeri

Grasses

Andropogon hallii  
Calamovilfa gigantea  
Distichlis stricta  
Eragrostis trichodes  
Festuca octoflora  
Munroa squarrosa  
Panicum obtusum  
Sporobolus airoides  
Sporobolus cryptandrus

Woody species

Baccharis salicina  
Tamarix ramosissima

Table IV. Typical disturbance species of Clark County.

Amaranthus graecizans  
Amaranthus retroflexus  
Ambrosia psilostachya  
Ambrosia trifida  
Bromus inermis  
Bromus japonicus  
Bromus tectorum  
Bromus unioloides  
Cenchrus longispinus  
Chorispora tenella  
Convolvulus arvensis  
Convolvulus equitans  
Conyza canadensis  
Cucurbita foetidissima  
Datura stramonium  
Descurainia pinnata  
Dysosmia papposa  
Euphorbia glyptosperma  
Euphorbia marginata  
Euphorbia prostrata  
Euphorbia strictospora

Haplopappus ciliatus  
Lamium amplexicaule  
Melilotus albus  
Melilotus officinalis  
Physalis lobata  
Polygonum arenastrum  
Polygonum bicorne  
Polygonum ramosissimum  
Proboscidea louisianica  
Salsola iberica  
Solanum eleagnifolium  
Solanum rostratum  
Stellaria media  
Taraxacum officinale  
Tragopogon dubius  
Tribulus terrestris  
Ulmus pumila  
Verbena bipinnatifida  
Verbena bracteata  
Xanthium strumarium

and Lithospermum arvense must be considered unusual since they only occur here in small concentrations.

## MAJOR COLLECTING AREAS

Several selected collecting sites were visited regularly during the study period. They represented the common habitat types found within the county. In addition to these areas, collections were made less regularly in scattered locations throughout the study area. The selected habitats are shown in Figure 5, and a description of each follows below.

- A. Minneola area - disturbed urban area and surrounding cultivated High Plains habitat
- B. Clark County State Lake area - an aquatic environment in the steep canyons and gypsum soils of the Red Hills escarpment bordered by the High Plains plateau
- C. North Fish and Granger Creeks area - High Plains prairie and scattered cultivated land
- D. Johnson Creek area - sandy creek bed with some permanent waterholes and a High Plains-Red Hills transitional habitat along the outlying edges
- E. Big and Little Basins area - High Plains-Red Hills transition
- F. Red Hills escarpment area (South edge) - steep, rocky bluffs and canyons cutting through redbeds capped with gypsum
- G. Bluff Creek area - High Plains prairie
- H. Redhole Creek area - prairie on red soils of the Ashland Basin
- I. Ashland area - disturbed urban area
- J. Big Sandy Creek area - pasture lands in loose dune sands

- K. Acres area - mixed pasture and cultivated lands in sandy soils
- L. Englewood area - disturbed urban area and outlying dune sands
- M. West Cimarron River area - wide, sandy riverbed lined by dune sands
- N. East Cimarron River area - wide, sandy riverbed lined by dune sands

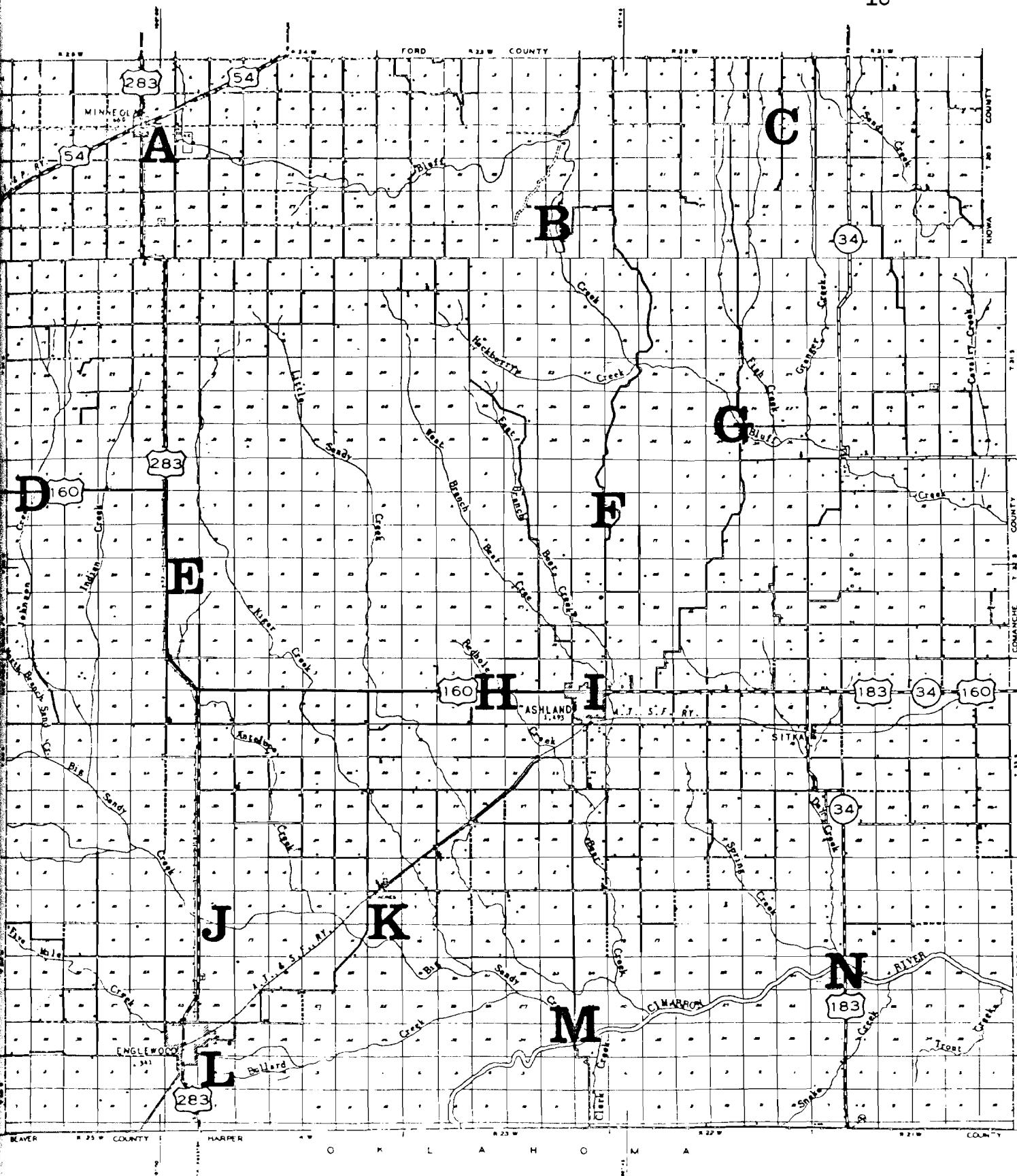


Figure 5. Map of Clark County, Kansas, showing major collection sites

## EXPLANATION OF THE CHECKLIST

The checklist of vascular flora of Clark County, Kansas, was based primarily on the personal collections of the writer. This collection is housed in the Emporia Kansas State College Herbarium. Additional species in the herbaria at Emporia Kansas State College and the University of Kansas from Clark County were examined and included in this list. Information listed for each species is as follows; scientific name, common names, synonymy in parentheses when appropriate, growth type, habitats, frequency of occurrence, flower color, and flowering times. Nomenclature and sequence is based on The Checklist of Vascular Plants of the Great Plains (McGregor, et al., 1975).

Several manuals were used for plant identification. These include Gray's Manual of Botany (Fernald, 1950), Manual of the Grasses of North America (Hitchcock, 1950), A Manual of the Flowering Plants of Kansas (Barkley, 1968), Manual of the Vascular Plants of Texas (Correll and Johnston, 1970), Woody Plants of the North Central Plains (Stevens, 1973), and Keys to the Flora of Oklahoma (Waterfall, 1969). In addition, several monographs and revisions were used in identifying species from difficult groups (see bibliography).

## VASCULAR PLANTS OF CLARK COUNTY

### Division ARTHROPHYTA

#### EQUISETACEAE (Horsetail Family)

Equisetum laevigatum A. Br. Smooth Scouring Rush.  
Perennial; stream banks; infrequent; spores March-August.

### Division PTEROPHYTA

#### MARSILEACEAE (Pepperwort Family)

Marsilea vestita Hook. & Grev. Water Clover. Perennial;  
shallow water; infrequent; spores mature August-September.

### Division CONIFERO PHYTA

#### PINACEAE (Pine Family)

Juniperus virginiana L. Red Cedar. Tree; dioecious; shelter belts and urban areas; common; flowers April, cones September.

### Division ANTHOPHYTA

#### Monocotyledoneae

#### ALISMATACEAE (Water Plantain Family)

Echinodorus rostratus (Nutt.) Engelm. Burhead. Annual or short lived perennial; pond edges and streams; infrequent; flowers white May-October.

Sagittaria montevidensis Cham. & Schlect. Arrowhead.  
Perennial; edges of ponds, sloughs, and marshy areas; infrequent; flowers white June-October.

#### NAJADACEAE (Water-nymph Family)

Najas guadalupensis (Spreng.) Morong. Common Water-nymph.  
Annual; monoecious; attached or floating in ponds, streams, or wet ditches; infrequent; flowers April-June.

POTAMOGETONACEAE (Pondweed Family)

Potamogeton crispus L. Pondweed. Annual; ponds and streams; infrequent; flowers May-September.

ZANNICHELLIACEAE (Horned Pondweed Family)

Zannichellia palustris L. Common Poolmat. Monoecious; ponds and streams; infrequent; flowers late May-October.

JUNCACEAE (Rush Family)

Juncus diffusissimus Buckl. Rush. Perennial; marshy areas and sloughs; infrequent; flowers May-July.

Juncus dudlevi Wieg. Rush. Perennial; wet calcareous soils and stream beds; common; flowers May-September.

Juncus torreyi Cov. Rush. Perennial; sloughs, streams and pond edges; common; flowers July-October.

CYPERACEAE (Sedge Family)

Carex gravida Bailey. Perennial; wet marshy areas; infrequent; flowers May-June.

Carex muhlenbergii Schk. var. australis Olney. Perennial; sloughs and stream beds; infrequent; flowers May-July.

Carex vulpinoidea Michx. Perennial; sloughs and stream beds; common; flowers June-August.

Cyperus acuminatus Torr. & Hook. Annual; margins of ponds and streams; infrequent; flowers late June-October.

Cyperus aristatus Rottb. Annual; wet sandy streams; infrequent; flowers late May-October.

Cyperus esculentus L. Perennial; sloughs and stream beds; infrequent; flowers June-October.

Cyperus ferrugineus Boeckl. Annual; sloughs, Streams, and edges of ponds; common; flowers May-October.

Cyperus rivularis Kunth. Annual; wet sandy stream beds; infrequent; flowers July-October.

Cyperus schweinitzii Torr. Perennial; deep sandy soils and moist soils along streams; infrequent; flowers late June-September.

Cyperus strigosus L. Perennial; sloughs and wet stream beds; common; flowers June-October.

Eleocharis erythropoda Steud. Spike Rush. (E. calva Torr.), Perennial; edges of ponds, marshy areas, and sloughs; infrequent; flowers June-September.

Eleocharis macrostachya Britt. Spike Rush. Perennial; edges of ponds, marshy areas, and sloughs; infrequent; flowers May-August.

Eleocharis montividensis Kunth. Spike Rush. Perennial; edges of ponds, marshy areas, and sloughs; common; flowers May-August.

Eleocharis obtusa (Willd.) Schult. Spike Rush. Perennial; marshy areas, edges of ponds, and sloughs; infrequent; flowers May-October.

Scirpus acutus Muhl. Hard-stem Bulrush. Perennial; edges of ponds, sloughs, and marshy areas; infrequent; flowers late May-September.

Scirpus americanus Pers. Chairmaker's Rush. Perennial; streams, sloughs, and sandy margins of ponds; common; flowers late May-September.

Scirpus validus Vahl. Great Bulrush. Perennial; marshy areas, edges of ponds, and sloughs; infrequent; flowers May-September.

#### GRAMINEAE (Grass Family)

Aegilops cylindrica Host. Goat Grass. Annual; dry open areas and waste places; infrequent; flowers May-August.

Agropyron smithii Rydb. Western Wheat Grass. Perennial; prairie areas, roadsides, and disturbed areas; abundant; flowers May-August.

Andropogon gerardi Vitman. Big Bluestem. Perennial; dry upland prairie; infrequent; flowers June-September.

Andropogon hallii Hack. Sand Bluestem. Perennial; deep sandy soil areas; common; flowers July-September.

Andropogon intermedius R. Br. Perennial; disturbed areas near roads; adventive; flowers July-September.

Andropogon saccharoides Sw. Silver Bluestem. Perennial; prairies and roadsides; abundant; flowers July-October.

Andropogon scoparius Michx. Little Bluestem. Perennial; prairies and roadsides; common; flowers August-October.

Aristida adscensionis L. Six-weeks Three-awn. Annual; dry open soils; infrequent; flowers July-October.

Aristida longiseta Steud. Red Three-awn. Perennial; rocky and sandy slopes; infrequent; flowers June-July.

Aristida oligantha Michx. Prairie Three-awn. Annual; sandy and calcareous soils, open ground; common; flowers August-October.

Aristida purpurea Steud. Purple Three-awn. Perennial; rocky open ground; infrequent; flowers July-September.

Bouteloua curtipendula (Michx.) Torr. Side-oats Grama. Perennial; prairies and roadsides; common; flowers July-September.

Bouteloua gracilis (H.B.K.) Griffiths. Blue Grama. Perennial; prairies; abundant; flowers July-September.

Bouteloua hirsuta Lag. Hairy Grama. Perennial; prairie and rocky hills; abundant; flowers July-September.

Bromus inermis Leyss. ssp. inermis. Smooth Brome. Perennial; roadsides; common; flowers May-August.

Bromus japonicus Thunb. Japanese Brome. Annual; roadsides and disturbed areas; common; flowers May-July.

Bromus tectorum L. Downy Chess. Annual; roadsides and disturbed areas; common; flowers April-June.

Bromus unioloides H.B.K. Rescue Grass. Annual; roadsides and disturbed areas; abundant; flowers May-July.

Buchloe dactyloides (Nutt.) Engelm. Buffalo Grass. Perennial; dry prairies and roadsides; abundant; flowers May-August.

Calamovilfa gigantea (Nutt.) Scribn. & Merr. Big Sandreed. Perennial; loose sandy soils and dunes; common; flowers July-September.

Cenchrus longispinus (Hack.) Fern. Sandbur. Annual; sandy soils and disturbed areas; common; flowers late May-October.

Chloris verticillata Nutt. Windmill Grass. Perennial; roadsides; infrequent; flowers May-October.

Chloris virgata Swartz. Feather Fingergrass. Annual; disturbed areas, roadsides, and prairies; abundant; flowers July-October.

Cynodon dactylon (L.) Pers. Bermuda Grass. Perennial; disturbed urban areas; infrequent; flowers June-October.

Digitaria sanguinalis (L.) Scop. Common Crab Grass. Annual; disturbed areas; infrequent; flowers July-November.

Distichlis spicata (L.) Greene. var. stricta (Torr.) Beetle. Saltgrass. Perennial; alkaline and deep sandy soils; common; flowers June-July.

Echinochloa crusgalli (L.) Beauv. Barnyard Grass. Annual; disturbed moist areas; infrequent; flowers June-November.

Echinochloa muricata (Beauv.) Fern. var. microstachya Wiegand. Barnhard Grass. Annual; disturbed wet areas; common; flowers June-November.

Eleusine indica (L.) Gaertn. Goose Grass. Annual; disturbed areas; infrequent; flowers July-October.

Elymus canadensis L. Canada Wild Rye. Perennial; disturbed areas and roadsides; infrequent; flowers June-October.

Elymus virginicus L. Wild Rye. Perennial; prairies and roadsides; infrequent; flowers May-September.

Eragrostis cilianensis (All.) E. Hesher. Stink Grass. Annual; roadsides and disturbed areas; common; flowers June-October.

Eragrostis curtipedicellata Buckl. Gummy lovegrass. Perennial; sandy soils and prairies; infrequent; flowers July-October.

Eragrostis oxylepis (Torr.) Torr. Red Lovegrass. Perennial; sandy soils and prairies; infrequent; flowers July-October.

Eragrostis pectinacea (Michx.) Nees. Annual; dry open areas; infrequent; flowers July-October.

Eragrostis trichodes (Nutt.) Wood. Sand Love Grass. Perennial; deep sandy soils; infrequent to common; flowers July-October.

Eriochloa contracta Hitchc. Prairie Cup Grass. Annual; prairies and waste areas; infrequent; flowers July-October.

Festuca octoflora Walt. Six-weeks Fescue. Annual; deep sandy soils; infrequent; flowers April-July.

Festuca ovina L. var. rydbergii St.-Yoes. Sheep Fescue.  
Perennial; dry open or rocky soils; infrequent;  
flowers May-June.

Hordeum jubatum L. Foxtail Barley. Perennial; prairies and  
roadsides; infrequent; flowers May-October.

Hordeum pusillum Nutt. Little Barley. Annual; prairies and  
roadsides; common; flowers April-June.

Leersia oryzoides (L.) Sw. Rice Cutgrass. Perennial; mar-  
gins of sloughs and ponds; infrequent; flowers June-  
October.

Leptochloa fascicularis (Lam.) Gray. Sprangletop. Annual;  
sloughs and pond edges; infrequent; flowers July-  
October.

Leptoloma cognatum (Schult.) Chase. Fall Witch Grass.  
Perennial; prairies and roadsides; infrequent; flowers  
June-October.

Lolium perenne L. Perennial Rye Grass. Perennial; road-  
sides and disturbed areas; infrequent; flowers May-  
August.

Muhlenbergia asperifolia (Nees & Meyen) Parodi. Scratch-  
grass. Perennial; moist alkaline soils and stream  
banks; infrequent; flowers June-September.

Muhlenbergia frondosa (Poir) Fern. Satin Grass. Perennial;  
low moist areas and stream margins; infrequent; flowers  
August-November.

Muhlenbergia racemosa (Michx.) B.S.P. Perennial; dry  
prairies or moist open ground; infrequent; flowers  
August-September.

Muhlenbergia torreyi (Kunth) Hitchc. Ringgrass. Perennial;  
open plains; infrequent; flowers July-August.

Munroa squarrosa (Nutt.) Torr. False Buffalo Grass. Annual;  
sandy plains; infrequent; flowers June-August.

Panicum capillare L. Witch Grass. Annual; prairies,  
pastures, and roadsides; common; flowers July-October.

Panicum dichotomiflorum Michx. Fall Panicum. Annual;  
prairies and roadsides; common; flowers July-October.

Panicum obtusum H.B.K. Vine Mesquite Grass. Perennial;  
deep sandy soils; infrequent; flowers June-September.

Panicum oligosanthes Schultes. var. scribnerianum (Nash.) Fern. Perennial; open prairies and roadsides; infrequent; flowers May-July (vernal), June-November (autumnal).

Panicum virgatum L. Switch Grass. Perennial; prairies and roadsides; common; flowers July-September.

Paspalum setaceum Michx. var. stramineum (Nash) D. Banks. Perennial; prairies and roadsides; infrequent; flowers May-October.

Phalaris arundinacea L. Reed Canary Grass. Perennial; margins of ponds and streams; infrequent; flowers May-August.

Phalaris caroliniana Walt. Canary Grass. Annual; margins of ponds and streams; infrequent; flowers May-June.

Phleum pratense L. Timothy Grass. Perennial; prairies, pastures, and roadsides; infrequent; flowers May-August.

Poa arida Vasey. Plains Bluegrass. Perennial; alkaline soils of plains; infrequent; flowers May-June.

Poa compressa L. Canada Bluegrass. Perennial; pastures and disturbed urban areas; infrequent; flowers May-August.

Polypogon monspeliensis (L.) Desf. Rabbitfoot Grass. Annual; deep sandy soils and roadsides; abundant; flowers May-October.

Schedonnardus paniculatus (Nutt.) Trel. Tumble Grass. Perennial; disturbed areas; infrequent; flowers May-October.

Setaria geniculata (Lam.) Beauv. Prairie Foxtail. Perennial; disturbed areas and roadsides; infrequent; flowers July to October.

Setaria glauca (L.) Beauv. Yellow Foxtail. (S. lutescens (Wiegel) Hubb.). Annual; roadsides and disturbed areas; common; flowers June-October.

Setaria viridis (L.) Beauv. Green Foxtail. Annual; roadsides and disturbed areas; common; flowers June-October.

Sitanion hystrix (Nutt.) J.G. Smith. Squirretail. Perennial; open prairies and slopes; infrequent; flowers June-August.

Sorghastrum avenaceum (Michx.) Nash. Indian Grass. (S. nutans (L.) Nash). Perennial; prairies and roadsides; common; flowers August-September.

Sorghum halepense (L.) Pers. Johnson Grass. Perennial; pastures, roadsides, and disturbed areas; abundant; flowers July-September.

Spartina pectinata Link. Slough Grass. Perennial; sloughs and marshy areas; infrequent; flowers June-September

Sphenopholis obtusata (Michx.) Scribn. var. obtusata. Prairie Wedgegrass. Perennial; open prairies; infrequent; flowers May-July.

Sporobolus airoides (Torr.) Torr. Fine-top Salt-grass. Perennial; deep sandy soils; abundant; flowers May-October.

Sporobolus asper (Michx.) Kunth. var. asper. Dropseed. Perennial; sandy prairies and roadsides; infrequent; flowers August-October.

Sporobolus asper (Michx.) Kunth. var. hookeri (Trin.) Vasey. Dropseed. Perennial; prairies and roadsides; infrequent; flowers August-October.

Sporobolus cryptandrus (Torr.) A. Gray. Sand Dropseed. Perennial; deep sandy soils; abundant; flowers June-October.

Sporobolus texanus Vasey. Perennial; moist and somewhat saline soils; infrequent; flowers June-October.

Sporobolus vaginiflorus (Torr.) Wood. Poverty Grass. Annual; dry open sterile soils; infrequent; flowers August-November.

Tridens flavus (L.) Hitchc. Purpletop. Perennial; prairies and roadsides; infrequent; flowers July-August.

Tridens pilosus (Buckl.) Hitchc. Hairy Tridens. Perennial; thin rocky soils and disturbed prairie; infrequent; flowers May-October.

Tripsacum dactyloides L. Gamagrass. Perennial; prairies and roadsides; infrequent; flowers May-September.

Triticum aestivum L. Wheat. Annual; roadsides and disturbed areas; common escapee from cultivation; flowers May-July.

### TYPHACEAE (Cat-tail Family)

*Typha angustifolia* L. Narrow-leaved Cat-tail. Perennial; edges of ponds and sloughs, and wet ditches; common; flowers late May-July.

### LEMNACEAE (Duckweed Family)

*Lemna minor* L. Water Lentil. Annual; free floating in sloughs and ponds; infrequent.

*Spirodela polyrhiza* (L.) Schleid. Duck-meat. Annual; free floating in sloughs and ponds; infrequent.

### COMMELINACEAE (Spiderwort Family)

*Commelina erecta* L. var. *angustifolia* (Michx.) Fern. Day-flower. Perennial; deep sandy soils and dunes; flowers blue, late May-October.

*Tradescantia occidentalis* (Britt.) Smyth. Spiderwort. Perennial; sandy plains and roadsides; common; flowers blue, March-July.

### PONTEDERIACEAE (Pickerel-weed Family)

*Heteranthera dubia* (Jacq.) MacM. Mud Plantain. Annual; sloughs and marshy areas; infrequent; flowers yellow, May-June.

*Heteranthera limosa* (Sw.) Willd. Mud Plantain. Annual; sloughs and marshy areas; infrequent; flowers white to purplish-blue, May-October.

### LILIACEAE (Lily Family)

*Allium canadense* L. var. *fraseri* Ownbey. Canada Garlic. Perennial; sandy or rocky soils of plains; infrequent; flowers white to pink, April-May.

*Allium drummondii* Regel. Wild Onion. Perennial; prairies, pastures, and roadsides; abundant; flowers white to pink, April-May.

*Asparagus officinalis* L. Garden Asparagus. Perennial; roadsides and disturbed areas, especially urban; infrequent; Flowers greenish-yellow, May-July.

*Yucca glauca* Nutt. Soap-weed. Perennial; dry plains, disturbed pastures, and deep sandy soil; abundant; flowers white, May-June.

Dicotyledoneae

SALICACEAE (Willow Family)

Populus deltoides Marsh. var. occidentalis Rydb. Plains Cottonwood. Tree; intermittent stream beds, and margins of streams and river (especially in sandy soil); abundant; flowers March-May.

Salix amygdaloidea Anderss. Peach-leaved Willow. Tree; margins of streams and river; infrequent; flowers April-June.

Salix exigua Nutt. ssp. interior (Rowlee) Cronq. var. interior. Sandbar Willow. Tree; sand bars and stream banks; common; flowers May-June.

Salix nigra Marsh. Black Willow. Tree; edges of streams, ponds, and river; abundant; flowers April-May.

Salix rigida Muhl. var. watsonii (Bebb) Cronq. Yellow Willow. Tree; wet soils and stream banks; infrequent; flowers May-June.

JUGLANDACEAE (Walnut Family)

Juglans microcarpa Berl. Texas Walnut. Tree; dry, rocky ravines; infrequent; flowers May.

Juglans nigra L. Black Walnut. Tree; stream banks and rich soils; infrequent; flowers May.

ULMACEAE (Elm Family)

Celtis occidentalis L. Hackberry. Tree; rocky ledges and hillsides, and along stream banks; infrequent; flowers April-May.

Celtis reticulata Torr. Netleaf Hackberry. Tree; dry rocky hillsides and ravine banks; infrequent; flowers late April.

Ulmus americana L. American Elm. Tree; disturbed urban areas; infrequent; flowers March.

Ulmus pumila L. Siberian Elm. Tree; disturbed urban areas; abundant; flowers March.

MORACEAE (Mulberry Family)

Maclura pomifera (Raf.) Schneid. Osage Orange, Hedge, Bois D'arc. Tree; shelter belts and disturbed pastures; infrequent; flowers mid-May.

Morus alba L. White Mulberry. Tree; escapee from farmsteads and urban areas; infrequent; flowers early May.

SANTALACEAE (Sandalwood Family)

Comandra umbellata (L.) Nutt. ssp. pallida (A. DC.) Piehl. Bastard Toad-flax. Perennial; dry hills, rocky slopes, and deep sandy soils; infrequent; flowers white, April-June.

POLYGONACEAE (Buckwheat Family)

Eriogonum annuum Nutt. Wild Buckwheat. Annual or biennial; sandy and rocky soils in open plains; common; flowers white to rose turning dark red-brown, April-November.

Polygonum arenastrum Jord. ex. Bor. Knotweed. (P. aviculare L.). Annual; disturbed areas and roadsides; common; flowers white, May-November.

Polygonum bincorne Raf. Pink Smartweed. (P. longistylum Small). Annual; wet areas and pond margins in disturbed areas; common; flowers pink, July-October.

Polygonum lapathifolium L. Smartweed. Annual; sloughs and marshy areas; common; flowers white to pink, June-October.

Polygonum pensylvanicum L. Pinkweed. Annual; disturbed and wet areas; infrequent; flowers white to pink, June-October.

Polygonum persicaria L. Lady's Thumb. Annual; sloughs and marshy areas along streams; infrequent; flowers white to pink, May-October.

Polygonum ramosissimum Michx. Bushy Knotweed. Annual; sloughs, roadsides, and disturbed areas; common; flowers white, July-October.

Polygonum scandens L. False Buckwheat. Perennial; disturbed and wet areas; infrequent; flowers green, July-November.

Rumex altissimus Wood. Smooth Dock. Perennial; margins of streams and ponds, and roadsides; common; flowers green, April-May.

Rumex crispus L. Curly Dock. Perennial; wet areas and roadsides; common; flowers green, April-May.

Rumex stenophyllus Ledeb. Perennial; margins of streams and ponds; infrequent; flowers green, May-June.

Rumex venosus Pursh. Wild Hydrangea. Perennial; deep sandy soils of dunes and roadsides; common; flowers reddish-green, May-July.

#### CHENOPODIACEAE (Goosefoot Family)

Chenopodium berlandieri Moq. Pitseed Goosefoot. Annual; dry rocky soils; common; flowers green, July-September.

Chenopodium desiccatum A. Nels. Thickleaf Goosefoot. Annual; dry rocky or sandy soils; abundant; flowers green, July-September.

Corispermum hyssopifolium L. Tickseed. Annual; sandy areas and dry soils; infrequent; flowers green, August-October.

Cycloloma atriplicifolium (Spreng.) Coult. Winged Pigweed. Annual; deep sandy soils; infrequent; flowers green, June-October.

Kochia scoparia (L.) Schrad. Summer Cypress, Fire Bush. Annual; cultivated fields, roadsides, and disturbed areas; abundant; flowers green, July-October.

Monolepis nuttalliana (Schult.) Greene. Povertyweed. Annual; sandy and alkaline soils; infrequent; flowers green, June-October.

Salsola iberica Sennen & Pan. Russian Thistle. (S. kali L. var. tenuifolia Tausch). Annual; sandy soils, cultivated fields, and roadsides; abundant; flowers green, July-October.

#### AMARANTHACEAE (Amaranth Family)

Amaranthus albus L. Tumbleweed. Annual; waste places and cultivated fields; infrequent; flowers green, July-October.

Amaranthus arenicola I. M. Johnst. Sandhills Amaranth. Annual; deep sandy soils and roadsides; common; flowers green, July-November.

Amaranthus graecizans L. Spreading Pigweed. Annual; waste areas and roadsides; common; flowers green, June-October.

Amaranthus palmeri Wats. Pigweed. Annual; sandy and rocky soils, roadsides, waste places, and disturbed areas; infrequent; flowers green, June-October.

Amaranthus retroflexus L. Redroot Pigweed. Annual; waste areas and roadsides; common; flowers green, July-October.

### NYCTAGINACEAE (Four-o'clock Family)

Mirabilis albida (Walt.) Heimerl. White Four-o'clock. Perennial; dry hillsides and sandy soils; infrequent; flowers pink to whitish, May-November.

Mirabilis linearis (Pursh) Heimerl. Narrow-leaved Four-o'clock. Perennial; dry sandy soils and dunes; common; flowers pink to purple-red, July-October.

Mirabilis nyctaginea (Michx.) MacM. Wild Four-o'clock. Perennial; disturbed areas and roadside ditches; infrequent; flowers pink to purple, June-October.

### AIZOACEAE (Carpet-weed Family)

Mollugo verticillata L. Indian Chickweed. Annual; sandy soils and dunes; infrequent; flowers white, May-October.

Sesuvium verrucosum Raf. Sea Purslane. Perennial; alkaline soils along streams and lakes; infrequent; flowers pink within, May-August.

### PORTULACACEAE (Purslane Family)

Portulaca oleracea L. Purslane. Annual; grassy slopes, dry soils, and dunes; infrequent; flowers yellow, June-November.

Talinum calycinum Engelm. Flame Flower. Perennial; dry rocky slopes and sandy soils; infrequent; flowers red, June-August.

### CARYOPHYLLACEAE (Pink Family)

Arenaria serpyllifolia L. Thyme-leaved Sandwort. Annual; fields and roadsides in sandy or rocky soils; infrequent; flowers green, April-August.

Arenaria stricta Michx. ssp. texana (Robins.) Maguire. Rock Sandwort. Perennial; rocky hills; infrequent; flowers white, April-June.

Holosteum umbellatum L. Jagged Chickweed. Annual; disturbed urban areas; infrequent; flowers white, March-May.

Paronychia jamesii T. & G. Whitlow-wort. Perennial; dry rocky slopes, dunes, and sandhills; common; flowers May-November.

Silene antirrhina L. Sleepy catchfly. Annual or biennial; roadsides and disturbed areas; infrequent; flowers white, May-September.

Stellaria media (L.) Cyr. Chickweed. Annual; disturbed urban areas; infrequent; flowers green, February-December.

#### RANUNCULACEAE (Crowfoot Family)

Anemone caroliniana Walt. Prairie Anemone. Perennial; open prairies; common; flowers white or blue, March-May.

Anemone decapetala Ard. Perennial; alkaline or sandy soils of plains; infrequent; flowers white within, blue without, March-April.

Delphinium ajacis L. Rocket Larkspur. Annual; escaped in urban areas; infrequent; flowers blue to violet to white, April-September.

Delphinium virescens Nutt. Prairie Larkspur. Perennial; open prairies; common; flowers white, May-July.

#### PAPAVERACEAE (Poppy Family)

Argemone polyanthemos (Fedde.) G. Ownbey. Prickly Poppy. Annual or biennial; sandy and rocky prairies and hills, and disturbed pastures; abundant; flowers white, April-June.

Argemone squarrosa Greene. Prickly Poppy. Perennial; dry slopes and prairies; infrequent; flowers white, April-August.

#### FUMARIACEAE (Fumitory Family)

Corydalis curvisiliqua Engelm. ssp. grandibracteata (Fedde.) G. Ownbey. Corydalis, Scrambled Eggs. Annual; open sandy soils; infrequent; flowers yellow, April-May.

#### CRUCIFERAE (Mustard Family)

Camelina microcarpa Andrz. Little Pod, False Flax. Annual or biennial; fields, roadsides, and waste places; infrequent; flowers white, April-June.

Capsella bursa-pastoris (L.) Medic. Shepherd's Purse. Annual; disturbed urban areas; infrequent; flowers white, March-May.

Chorispora tenella DC. Annual; disturbed urban areas and cultivated fields; locally common; flowers lavender, May-June.

Descurainia pinnata (Walt.) Britt. Tansy Mustard. Annual; roadsides; cultivated fields, and disturbed urban areas; abundant; flowers yellow, March-May.

Descurainia sophia (L.) Webb. Tansy Mustard. Annual or Biennial; roadsides, cultivated fields, and disturbed urban areas; infrequent; flowers yellow, May-August.

Erysimum repandum L. Wall-flower. Annual; roadsides, cultivated fields, and disturbed urban areas; common; flowers yellow, April-June.

Lepidium densiflorum Schrad. Peppergrass. Annual or biennial; sandy and disturbed soils; common; flowers white, April-November.

Lepidium oblongum Small. Peppergrass. Annual or biennial; disturbed soils and roadsides; common; flowers white, March-May.

Lesquerella gordoni (Gray) Wats. Bladder-pod. Annual; sandy fields and pastures, especially when disturbed; abundant; flowers yellow, March-June.

Lesquerella ovalifolia Rydb. ssp. ovalifolia. Bladder-pod. Perennial; rocky slopes and calcareous soils; locally common; flowers yellow, April-May.

Rorippa sinuata (Nutt.) Hitchc. Yellow-cress. Perennial; roadsides and disturbed areas; infrequent; flowers yellow, April-July.

Sisymbrium altissimum L. Tumble Mustard. Annual; fields, roadsides, and waste places; infrequent; flowers pale-yellow, May-August.

#### CAPPARIDACEAE (Caper Family)

Cleome serrulata Pursh. Rocky Mountain Bee Plant. Annual; dry open plains and deep sandy soils; common; flowers pink, June-September.

Cristatella jamesii T. & G. Annual; sandy and rocky soils; infrequent; flowers white to yellowish, June-August.

Polanisia dodecandra (L.) DC. ssp. trachysperma (T. & G.). Iltis. Clammy-weed. Annual; sandy or rocky soils of plains and hills; infrequent; flowers pink, May-October.

### SAXIFRAGACEAE (Saxifrage Family)

Ribes odoratum Wendl. Golden Currant, Buffalo Currant. Shrub; roadsides and rocky ravines; abundant; flowers yellow, April-June.

### ROSACEAE (Rose Family)

Prunus angustifolia Marsh. Sand Plum, Chickasaw Plum. Shrub; deep sandy soils and dunes; abundant; flowers white, March-April.

Prunus virginiana L. Choke Cherry. Tree; rocky slopes and bluffs; infrequent; flowers white, April-May.

Rosa arkansana Porter. Wild Rose. Shrub; prairies and roadsides; infrequent; flowers pink, May-June.

### LEGUMINOSAE (Legume Family)

Amorpha canescens Pursh. Lead Plant. Shrub; prairies and pastures; abundant; flowers purple, May-August.

Amorpha fruticosa L. False Indigo. Shrub; wet margins of lake and streams; common; flowers purple, May-June.

Amorpha nana Nutt. Fragrant False Indigo. Shrub; dry prairies, and sandy or rocky hillsides and bluffs; locally common; flowers purple, May-July.

Astragalus gracilis Nutt. Perennial; rocky bluffs and hill-sides in gypsiferous soils; common; flowers purplish, April-June.

Astragalus lotiflorus Hook. Perennial; sandy and rocky soils of open plains; abundant; flowers light lavender to purplish; April-June.

Astragalus missouriensis Nutt. Perennial; rocky or sandy plains and bluffs; abundant; flowers purple, April-June.

Astragalus mollissimus Torr. Wooly Loco, Crazy Weed. Perennial; deep sandy soils and dunes; abundant; flowers purple or white, April-June.

Baptisia australis (L.) Br. var. minor (Lehm.) Fern. Wild Blue Indigo. Perennial; prairies and pastures; infrequent; flowers blue, May-June.

Caesalpinia jamesii (T. & G.) Fisher. (Hoffmannseggia jamesii T. & G.). Perennial shrublet; dry sandy soils; infrequent; flowers yellow, May-September.

Cassia fasciculata Michx. Partridge Pea. Annual; prairies and roadsides; infrequent; flowers yellow, June-October.

Dalea aurea Nutt. Golden Dalea. Perennial; sandy or rocky bluffs and hillsides; common; flowers yellow, May-July.

Dalea enneandra Nutt. Perennial; dry rocky or sandy hillsides and bluffs; common; flowers white to light lavender, May-October.

Dalea lanata Spreng. Wooly Dalea. Perennial; deep loose sands and dunes; infrequent; flowers red to purple or rarely white, June-October.

Dalea leporina (Ait.) Bullock. Foxtail Dalea. Annual; dry rocky or sandy hillsides and bluffs; infrequent; flowers white to lilac, September-October.

Dalea nana Torr. Dwarf Dalea. Perennial; deep sandy or rocky soils; infrequent; flowers yellow, May-September.

Desmanthus illinoensis (Michx.) MacM. Illinois Bundle Flower. Perennial; open prairies; infrequent; flowers white, June-August.

Desmanthus leptolobus T. & G. Perennial; open prairies and bluffs; infrequent; flowers white, June-August.

Gleditsia triacanthos L. Honey Locust. Tree; wooded margins of streams and river, and areas near human habitation; common; flowers green, May-June.

Glycyrrhiza lepidota Pursh. Licorice. Perennial; deep sandy soils and stream and river beds; common; flowers whitish, May-August.

Indigofera miniata Ort. var. leptosepala (Nutt.) B.L. Turner. Scarlet Pea. Perennial; deep sandy soils and dunes; common; flowers red, May-August.

Krameria lanceolata Torr. Krameria. Perennial; rocky hills and bluffs; infrequent; flowers red, June-September.

Lespedeza capitata Michx. Bush Clover. Perennial; roadsides and prairies; infrequent; flowers creamy yellow, July-September.

Medicago lupulina L. Black Medic. Annual; roadsides and disturbed areas; infrequent; flowers yellow, April-October.

Medicago sativa L. Alfalfa. Perennial; roadsides and cultivated areas; common; flowers purple, April-October.

Melilotus albus Desr. White Sweet Clover. Annual or biennial; roadsides and waste areas; abundant; flowers white, May-October.

Melilotus officinalis (L.) Lam. Yellow Sweet Clover. Annual or biennial; roadsides and waste areas; abundant; flowers yellow, May-October.

Mimosa borealis Gray. Pink Mimosa. Shrub; dry sandy or gravelly hilltops and hillsides, open prairies and pastures; infrequent; flowers purple, May-July.

Oxytropis lambertii Pursh. Crazy Weed, Purple Loco. Perennial; sandy and rocky hillsides and bluffs; common; flowers purple, May-June.

Petalostemon arenicola Wemple. Prairie Clover. Perennial; deep sandy soils and dunes; infrequent; flowers red, June-September.

Petalostemon multiflorum Nutt. Perennial; dry prairies and rocky slopes; infrequent; flowers white, June-September.

Petalostemon occidentale (Gray ex. Heller) Fern. (Petalostemum candidum (Willd.) Michx. var. oligophyllum (Torr.) Herm.). Perennial; open plains; infrequent; flowers white, May-September.

Petalostemon purpureum (Vent.) Rydb. Purple Prairie Clover. Perennial; sandy and rocky hillsides and bluffs; common; flowers purple, May-September.

Petalostemon tenuifolium Gray. Perennial; dry prairies and rocky slopes; infrequent; flowers purple, May-September.

Petalostemon villosum Nutt. Silky Prairie Clover. Perennial; deep sandy soils and dunes; infrequent; flowers purple, June-August.

Psoralea cuspidata Pursh. Scurf-pea. Perennial; sandy and rocky hillsides and bluffs; common; flowers purple, June-July.

Psoralea digitata Nutt. Perennial; deep sandy or rocky soils; infrequent; flowers purple, May-July.

Psoralea hypogaea Nutt. Perennial; dry plains; infrequent; flowers lavender to purple, May-June.

Psoralea lanceolata Pursh. Perennial; sandy and rocky soils of plains and hillsides; common; flowers lavender to purple, May-June.

Psoralea linearifolia T. & G. Perennial; rocky hillsides and bluffs; infrequent; flowers blue, May-June.

Psoralea tenuiflora Pursh. var. tenuiflora. Scurfy-pea. Perennial; sandy and rocky soils of plains, hillsides, and bluffs; common; flowers purple, May-September.

Robinia pseudoacacia L. Black Locust. Tree; disturbed urban areas, farmsteads, and shelter belts; infrequent; flowers white, May-June.

Schrankia nuttallii (DC) Standl. Sensitive Briar. (S. uncinata Willd.). Perennial; open prairies and sandy soil; common; flowers pink, May-September.

Sophora nuttalliana Turner. White Loco. Perennial; dry open prairies and pastures; abundant; flowers white, May-June.

Strophostyles helvola (L.) Ell. Wild Bean. Annual; deep sandy grasslands; infrequent; flowers pink, June-October.

Strophostyles leiosperma (T. & G.) Piper. Slick-seed Bean. Annual; prairies in sandy soils; infrequent; flowers pinkish, May-September.

Trifolium repens L. White Clover. Perennial; disturbed urban areas; infrequent; flowers white, May-October.

Vicia americana Muhl. var. minor Hook. American Vetch. Perennial; slopes and valleys of plains; adventive; flowers bluish-purple, May-June.

#### OXALIDACEAE (Wood Sorrel Family)

Oxalis dillenii Jacq. Wood Sorrel. Annual; roadsides and disturbed urban areas; infrequent; flowers yellow, May-November.

Oxalis stricta L. Yellow Wood Sorrel. Perennial; roadsides and disturbed urban areas; infrequent; flowers yellow, May-October.

#### LINACEAE (Flax Family)

Linum rigidum Pursh. Flax. Annual; dry sandy and rocky prairies; abundant; flowers yellow, May-September.

Linum sulcatum Ridd. Yellow Flax. Annual; prairies and pastures; infrequent; flowers yellow, May-September.

Linum usitatissimum L. Common Flax, Linseed. Annual; disturbed urban areas; infrequent; flowers blue, May-September.

ZYGOPHYLLACEAE (Caltrop Family)

Tribulus terrestris L. Goat Head, Puncture Weed. Annual; roadsides and disturbed areas; common; flowers yellow, June-September.

POLYGALACEAE (Milkwort Family)

Polygala alba Nutt. Milkwort. Perennial; sandy and rocky bluffs and hillsides; common; flowers white, June-November.

Polygala verticillata L. Annual; rocky hills and prairies; infrequent; flowers purplish, June-October.

EUPHORBIACEAE (Spurge Family)

Croton texensis (Kl.) Muell. Arg. Skunkweed. Annual; dry open rocky or sandy soils; common; flowers May-October.

Euphorbia dentata Michx. Toothed Spurge. Annual; moist or dry soils along roadsides, waste places, and disturbed areas; infrequent; flowers green, July-October.

Euphorbia fendleri T. & G. Perennial; sandy to rocky prairies and dunes; common; flowers green, May-September.

Euphorbia glyptosperma Engelm. Annual; sandy prairies, roadsides, and waste areas; abundant; flowers green, June-September.

Euphorbia hexagona Nutt. Annual; dry sandy soils of roadsides and prairies; common; flowers green, July-September.

Euphorbia lata Engelm. Perennial; dry rocky or sandy prairies; infrequent; flowers green, May-September.

Euphorbia marginata Pursh. Snow-on-the-mountain. Annual; dry sandy to rocky soils of disturbed pasture; common; flowers green and white, June-October.

Euphorbia missurica Raf. var. intermedia (Engelm.) Wheeler. Prairie Spurge. Annual; very dry sandy soils of dunes, prairies, and roadsides; infrequent; flowers green, May-September.

Euphorbia nutans Lag. Nodding Spurge. Annual; moist sandy soils of waste areas, roadsides, and river and stream margins; infrequent; flowers green, May-October.

Euphorbia prostrata Ait. Prostrate Spurge. Annual; roadsides and disturbed areas; common; flowers green, June-October.

Euphorbia serpens H.B.K. Spreading Spurge. Annual; roadsides and disturbed areas; infrequent; flowers green, May-October.

Euphorbia spathulata Lam. Leafy Spurge. Annual; moist sandy soils of roadsides and grazed prairies; infrequent; flowers green, May-July.

Euphorbia stictospora Engelm. Narrow-seeded Spurge. Annual; roadsides, disturbed and waste areas; common; flowers green, July-October.

Stillingia sylvatica L. Queen's Delight. Perennial; loose sandy soils; infrequent; flowers green, May-June.

Tragia ramosa Torr. Noseburn. Perennial; open disturbed areas; infrequent; flowers May-September.

#### ANACARDIACEAE (Sumac Family)

Rhus aromatica Ait. var. serotina (Greene) Rehd. Fragrant Sumac, Polecat Bush. Shrub; deep rocky ravines and sandy scrub; abundant; flowers yellow, April-May.

Rhus glabra L. Smooth Sumac. Shrub; dry sandy or rocky hillsides and bluffs; common; flowers greenish, May-July.

Toxicodendron rydbergii (Small ex. Rydb.) Greene. Poison Ivy. (Rhus radicans L. var. rydbergii (Small) Rehd.). Perennial vine; rocky banks and ravines; locally common; flowers green, May-June.

#### SAPINDACEAE (Soap-berry Family)

Sapindus drummondii Hook. & Arn. Soap-berry. Tree; open sandy fields, stream margins and fencerows; common; flowers white, April-May.

#### RHAMNACEAE (Buckthorn Family)

Ceanothus herbaceus Raf. var. pubescens (T. & G.) Shinners. Redroot. Shrub; rocky hillsides, bluffs, and ravines; common; flowers white, April-May.

### VITACEAE (Grape Family)

Parthenocissus vitacea (Knerr) Hitchc. Woodbine, Thicket Creeper. Perennial vine; disturbed urban areas; infrequent; flowers greenish-yellow, May-July.

Vitis acerifolia Raf. Bush Grape. Perennial bushy vine; dry hillsides, rocky bluffs, and prairie ravines; locally common; dioecious, flowers green, May-July.

Vitis riparia Michx. Riverbank Grape. Perennial vine; rocky soils and ravines; infrequent; dioecious, flowers green, May.

### MALVACEAE (Mallow Family)

Abutilon theophrasti Medic. Velvet-leaf, Butterprint. Annual; waste areas and cultivated ground; infrequent to rare; flowers yellow, June-October.

Callirhoe involucrata (T. & G.) Gray. Wine-cups, Poppy-mallow. Perennial; open prairies, and hillsides, roadsides, and disturbed urban areas; abundant; flowers reddish-purple, May-August.

Malva neglecta Wallr. Common Mallow. Annual; disturbed urban areas and roadsides; infrequent; flowers white to pink, April-October.

Sphaeralcea coccinea (Pursh) Rydb. Scarlet Globe-mallow. Perennial; caliche and gypsiferous outcrops, sandy plains and hills, and roadsides; abundant; flowers orange, April-August.

### TAMARICACEAE (Tamarisk Family)

Tamarix ramosissima Ledeb. Tamarisk, Salt Cedar. Tree or shrub; moist deep sandy soils of river and stream margins; abundant; flowers pink, May-October.

### VIOLACEAE (Violet Family)

Hybanthus verticillatus (Ort.) Baill. Green Violet. Perennial; dry fields and rocky slopes; infrequent; flowers green, March-July.

Viola pratincola Greene. Common Violet. Perennial; low moist prairies; infrequent; flowers blue-violet, March-June.

Viola rafinesquii Greene. Johnny-jump-up. (V. Kitaibeliana R. & S. var. Rafinesquii (Greene) Fern.). Annual; lawns, disturbed urban areas and roadsides; common; flowers violet, March-May.

### LOASACEAE (Stick-leaf Family)

Metzelia decapetala (Pursh) Urban. & Gilg. Sandy Lily, Tenpetal Mentzelia. Perennial; deep sandy soils and exposed road cuts; abundant; flowers white, May-August.

Mentzelia nuda (Pursh) T. & G. Bractless Mentzelia. Perennial; open prairies in sandy soils; common; flowers white, June-October.

Mentzelia oligosperma Nutt. Stick-leaf, Chicken-thief. Perennial; gravelly slopes and road cuts; common; flowers orange, May-August.

### CACTACEAE (Cactus Family)

Coryphantha missouriensis (Sweet) Britt. & Rose. (Mamillaria missouriensis Sweet.). Perennial; sandy or rocky prairies; infrequent; flowers red or purple, June-August.

Coryphantha vivipara (Nutt.) Britt. & Rose. (Mamillaria vivipara (Nutt.) Haw.). Perennial; dry plains; common; flowers red or purple, June-August.

Opuntia fragilis (Nutt.) Haw. Little Prickly Pear. dry sandy or rocky plains; common; flowers yellowish-green, June-August.

Opuntia macrorhiza Engelm. Prickly Pear. Perennial; rocky or sandy prairies and pastures; common to abundant; flowers yellow, May-July.

### LYTHRACEAE (Loosestrife Family)

Ammannia coccinea Rottb. Tooth Cup. Annual; sloughs and wet stream margins; infrequent; flowers pink to purple, June-October.

### ONAGRACEAE (Evening Primrose Family)

Calylophus hartwegii (Benth.) Raven. ssp. lavandulifolius (T. & G.) Towner. & Raven. (Oenothera lavandulifolia T. & G. var. glandulosa Munz.). Perennial; open rocky slopes; abundant; flowers yellow, May-August.

Calylophus hartwegii (Benth.) Raven. ssp. pubescens (Gray) Towner. & Raven. (Oenothera Greggii Gray var. lampasana (Buckl.) Munz.). Perennial; open sandy places; infrequent; flowers yellow, May-August.

Calylophus serrulatus (Nutt.) Raven. Yellow Evening Primrose. (Oenothera serrulata Nutt.). Perennial; sandy or rocky plains, hillsides, and bluffs; abundant; flowers yellow, May-September.

Gaura coccinea Nutt. ex. Pursh. Scarlet Gaura. Perennial; deep sandy soils and roadsides; abundant; flowers pink to red, May-August.

Gaura parviflora Dougl. Lizard-tail, Velvet-leaf Gaura. Annual; roadsides and disturbed areas; common; flowers white to pink, June-October.

Gaura villosa Torr. Wooly Gaura. Perennial; open sandy places and dunes; infrequent; flowers white to pink, May-August.

Oenothera albicaulis Pursh. Prairie Evening Primrose. Annual; open sandy soils; common; flowers white, fading pink, May-July.

Oenothera biennis L. ssp. centralis Munz. Evening Primrose. Biennial; disturbed and waste places; infrequent; flowers yellow, June-October.

Oenothera grandis (Britt.) Smyth. Evening Primrose. (O. laciniata var. grandiflora (Wats.) Robins.). Annual; sandy open places; abundant; flowers yellow, May-October.

Oenothera hookeri T. & G. ssp. hirsutissima (Gray) Munz. Biennial or perennial; low wet places; infrequent; flowers yellow, fading reddish, July-October.

Oenothera laciniata Hill. Cut-leaved Evening Primrose. Annual; sandy fields and waste places; common; flowers yellow, May-October.

Oenothera macrocarpa Nutt. var. macrocarpa. Missouri Primrose. (O. missouriensis Sims.). Perennial; rocky bluffs, hillsides, and ravines; infrequent; flowers yellow, May-August.

Oenothera macrocarpa Nutt. var. incana (Gray) Reveal. Perennial; rocky bluffs, hillsides, and ravines; locally common; flowers yellow, May-August.

Oenothera pallida Lindl. ssp. latifolia (Rydb.) Munz. Perennial; sandy open and disturbed places; infrequent; flowers white, fading pink, April-October.

Oenothera rhombipetala Nutt. Annual or biennial; sandy and waste places; infrequent; flowers yellow, June-September.

Stenosiphon linifolius (Nutt.) Heynh. Perennial; sandy or shallow rocky soils and roadsides; abundant; flowers white, July-October.

#### UMBELLIFERAE (Parsley Family)

Berula erecta (Huds.) Cov. var. incisum (Torr.) Cronq. Water-parsnip. Perennial; low wet places; infrequent; flowers white, May-November.

Cymopterus montanus Nutt. Perennial; open plains and disturbed urban areas; common to infrequent; flowers white to slightly purplish, March-May.

Lomatium orientale Coult. & Rose. Perennial; dry rocky plains; infrequent; flowers white to pink, April-June.

Spermolepis inermis (Nutt.) Robins. Scale-seed. Annual; dry sandy prairies and fields; infrequent; flowers white, May-June.

#### CORNACEAE (Dogwood Family)

Cornus drummondii Mey. Rough-leaved Dogwood. Shrub to tree; dry rocky slopes and ravines; locally common; flowers white, May-July.

#### OLEACEAE (Olive Family)

Fraxinus pennsylvanica Marsh. var. subintegerrima (Vahl.) Fern. Green Ash. Tree; urban areas; shelter belts, and hillsides and ravines; infrequent; flowers April-May.

#### APOCYNACEAE (Dogbane Family)

Apocynum cannabinum L. Indian Hemp. Perennial; open fields and roadsides; infrequent; flowers white, May-August.

Apocynum sibiricum Jacq. Dogbane. Perennial; rocky or sandy soils, usually along streams; infrequent; flowers white, May-August.

#### ASCLEPIADACEAE (Milkweed Family)

Asclepias arenaria Torr. Perennial; deep sandy soils and dunes; common; flowers green, June-July.

Asclepias asperula (Dcne.) Woods. var. decumbens (Nutt.) Shinners. Milkweed. Perennial; prairies, plains, and pastures; infrequent; flowers yellowish-green, often with purple flush, March-July.

Asclepias engelmanniana Woods. Milkweed. Perennial; dry rocky plains and hillsides; abundant; flowers green with purple flush, May-September.

Asclepias latifolia (Torr.) Raf. Milkweed. Perennial; open plains; infrequent; flowers green, May-September.

Asclepias pumila (Gray) Vail. Dwarf Milkweed. Perennial; sandy soils and open plains; infrequent; flowers white, June-September.

Asclepias speciosa Torr. Showy Milkweed. Perennial; disturbed fields and roadsides; infrequent; flowers purplish, May-September.

Asclepias viridiflora Raf. Green Milkweed. Perennial; plains, rocky or sandy hillsides, and roadsides; infrequent; flowers green, May-August.

#### CONVOLVULACEAE (Morning Glory Family)

Convolvulus arvensis L. Field Bindweed. Perennial vine; fields, disturbed areas, and roadsides; common; flowers white, May-September.

Convolvulus equitans Benth. Bindweed. (C. incanus Vahl.). Perennial vine; fields, disturbed areas, and roadsides, especially in sandy soils; common; flowers white, May-September.

Cuscuta cuspidata Engelm. Doder, Love Vine. Annual parasitic vine; pastures, fields, and roadsides; common; flowers straw-colored to orange, July-September.

Evolvulus nuttallianus R. & S. Perennial; rocky or sandy soils; infrequent; flowers lavender to white, May-September.

Ipomoea leptophylla Torr. Bush Morning Glory. Perennial; deep sandy soils and disturbed roadsides; abundant; flowers lavender, May-July.

#### POLEMONIACEAE (Phlox Family)

Gilia rigidula Benth. ssp. acerosa (Gray) Wherry. Perennial; dry rocky or sandy places; infrequent; flowers blue, May-September.

Ipomopsis longiflora (Torr.) V. Grant. Annual or biennial; dry rocky or sandy soils of plains, roadsides, and bottoms of ravines; locally common; flowers white, May-September.

HYDROPHYLLACEAE (Waterleaf Family)

Ellisia nyctelea L. Aunt Lucy. Annual; disturbed urban areas; infrequent; flowers lavender, April-June.

Nama stevensii C.L. Hitchc. Annual; sandy gypsum soils of plains; infrequent; flowers lavender, May-July.

BORAGINACEAE (Borage Family)

Cryptantha jamesii (Torr.) Pays. Perennial; deep sandy soils and dunes; abundant; flowers white, May-July.

Cryptantha minima Rydb. Annual; deep sandy soils, canyons dissecting plains, and disturbed roadside and urban areas; abundant; flowers white, April-July.

Heliotropium convolvulaceum (Nutt.) Gray. Turnsole, Heliotrope. Annual; deep sandy soils and dunes; common; flowers white, June-October.

Heliotropium curassavicum L. Seaside Heliotrope. Perennial; sandy soils and pond margins; infrequent; flowers white, June-July.

Lappula redowskii (Hornem) Greene. Stickseed. Annual; rocky or sandy soils and disturbed areas; common; flowers white to blue, April-June.

Lappula texana (Scheele) Britt. Stickseed. Annual; fields prairies, waste places, and rocky soils; common; flowers white to blue, April-July.

Lithospermum arvense L. Corn Gromwell. Annual; roadsides and disturbed urban areas; infrequent; flowers white, April-June.

Lithospermum incisum Lehm. Yellow Puccoon. Perennial; prairies, pastures, and roadsides; common; flowers yellow, April-June.

VERBENACEAE (Vervain Family)

Phyla cuneifolia (Torr.) Greene. Wedge-leaf Frog-fruit. (Lippia cuneifolia (Torr.) Steud.). Perennial; low moist areas and roadside ditches in sandy soils; infrequent to common; flowers lavender, May-September.

Phyla lanceolata (Michx.) Greene. Northern Frog-fruit. (Lippia lanceolata Michx.). Perennial; sloughs, marshy areas, and stream beds; infrequent; flowers pink, May-September.

Verbena bipinnatifida Nutt. Small-flowered Verbena.

Perennial; roadsides, pastures, and waste areas; abundant; flowers pink to purple, May-September.

Verbena bracteata Lag. & Rodr. Prostrate Vervain.

Biennial; roadsides, pastures, and disturbed areas; abundant; flowers blue to purple, April-October.

Verbena stricta Vent. Hoary Vervain. Perennial; dry prairies and waste places; common; flowers blue to lavender, May-September.

#### LABIATAE (Mint Family)

Lamium amplexicaule L. Henbit. Annual; roadsides and disturbed urban areas; common; flowers lavender, February-November.

Lycopus americanus Muhl. Water Horehound. Annual; marshy areas, and stream and pond margins; infrequent; flowers white, June-October.

Monarda citriodora Cerv. Lemon Mint. Annual; sandy or rocky plains and hillsides, and roadsides; common; flowers white to pink, June-October.

Monarda punctata L. ssp. occidentalis Epl. Spotted Beebalm, Horsemint. Annual, biennial, or perennial; deep dry sandy soils; abundant; flowers white to pink, July-October.

Salvia pitcheri Torr. Blue Sage. (S. azurea Lam. var. grandiflora Benth.). Perennial; prairies and pastures; infrequent to common; flowers blue, July-September.

Salvia reflexa Hornem. Rocky Mountain Sage. Annual; sandy soils, dry rocky slopes, and disturbed areas; common; flowers blue, May-October.

#### SOLANACEAE (Nightshade Family)

Chamaesaracha conioides (Moric.) Britt. False Nightshade. Perennial; dry plains and bluffs and disturbed areas; common; flowers white to yellowish, often with purple blush, May-September.

Datura stramonium L. Jimson Weed. Annual; heavily disturbed and waste areas in sandy soils; infrequent; flowers white, May-October.

Physalis lobata Torr. Purple Ground Cherry. Perennial; disturbed areas and roadsides; abundant; flowers purple, May-September.

Physalis virginiana Mill. var. hispida Waterfall. Ground Cherry. Perennial; plains, often in sand; common; flowers yellow, May-June.

Physalis virginiana Mill. var. sonorae (Torr.) Waterfall. Virginia Ground Cherry. Perennial; prairies, pastures, and roadsides; common; flowers yellow, May-September.

Solanum elaeagnifolium Cav. Silverleaf Nettle. Perennial; low moist places in fields, roadsides, and disturbed areas; abundant; flowers blue, July-September.

Solanum rostratum Dun. Buffalo Bur. Annual; overgrazed and waste places; common; flowers yellow, May-October.

#### SCHOPHULARIACEAE (Figwort Family)

Agalinis tenuifolia (Vahl.) Raf. Slender Agalinis. (Gerardia tenuifolia Vahl.). Annual; sloughs, stream margins, and moist prairies; infrequent; flowers lavender, August-October.

Bacopa rotundifolia (Michx.) Wettst. Disc Water-Hyssop. Perennial; sloughs and marshy places; infrequent; flowers white, July-September.

Castilleja purpurea (Nutt.) G. Don. var. citrina (Penn.) Shinners. Indian Paintbrush. (C. citrina Pennell). Perennial; sandy and rocky hills and prairies; abundant; flowers and bracts yellow, April-May.

Mimulus glabratus H.B.K. var. fremontii (Benth.) Grant. Monkey Flower. Perennial; shallow water of streams or muddy places; infrequent; flowers yellow, May-October.

Penstemon albidus Nutt. White Beard-tongue. Perennial; sandy or rocky plains; common; flowers white to lavender, April-June.

Penstemon angustifolius Nutt. ssp. caudatus (Heller) Keck. Perennial; deep sandy soils and dunes; infrequent; flowers blue to lilac, April-June.

Penstemon buckleyi Penn. Perennial; sand dunes; infrequent; flowers lavender, April-May.

Veronica anagallis-aquatica L. Water Speedwell, Brook-pimpernel. Perennial; standing in water of streams; common; flowers lavender, March-June.

Veronica arvensis L. Corn Speedwell. Annual; lawns and disturbed areas; infrequent; flowers blue, March-May.

BIGNONIACEAE (Trumpet Creeper Family)

Catalpa speciosa Warder. Catalpa. Tree; urban areas, farmsteads, and shelter belts; infrequent; flowers white, May-June.

MARTYNIACEAE (Unicorn-Plant Family)

Proboscidea louisianica (Mill.) Thell. Devil's Claw. Annual; sandy soils, fields, and disturbed areas; common; flowers white to purplish, June-September.

PLANTAGINACEAE (Plantain Family)

Plantago patagonica Jacq. var. patagonica. Salt-and-pepper Plant. (P. purshii R. & S.). Annual; sandy or rocky soils of prairies, plains, and hillsides; abundant; flowers green, May-August.

Plantago rhodosperma Dcne. Red-seeded Plantain. Annual or biennial; sandy or rocky soils along streams, prairies, and roadsides; abundant; flowers white, May-June.

RUBIACEAE (Madder Family)

Cephalanthus occidentalis L. Buttonbush. Shrub; sloughs marshy areas, and margins of streams; infrequent; flowers white, June-August.

Galium aparine L. Cleavers, Bedstraw. Annual; disturbed urban areas; infrequent; flowers white, May-July.

Hedysotis nigricans (Lam.) Fosb. (Houstonia nigricans (Lam.) Fern.). Perennial; open prairies; common; flowers white to lavender, May-October.

CAPRIFOLIACEAE (Honeysuckle Family)

Sambucus canadensis L. Common Elder-berry. Shrub; wet soil in low places; infrequent; flowers white, May-July.

CUCURBITACEAE (Gourd Family)

Cucurbita foetidissima H.B.K. Buffalo-gourd. Perennial; sandy soils in waste places, along roadsides, and disturbed areas; common; flowers yellow, June-July.

## CAMPANULACEAE (Bellflower Family)

Triodanis holzingeri McVaugh. Venus' Looking-glass.  
(Specularia holzingeri (McVaugh) Fern.). Annual;  
 sandy soils in open prairies, and roadsides; common;  
 flowers lavender to purple, April-July.

Triodanis leptocarpa (Nutt.) Nieuw. Western Venus' Looking-glass.  
(Specularia leptocarpa (Nutt.) Nieuw.). Annual;  
 prairies, roadsides, and urban areas; infrequent;  
 flowers purple, May-August.

Triodanis perfoliata (L.) Nieuw. Venus' Looking-glass.  
(Specularia perfoliata (L.) Nieuw.). Annual; prairies,  
 roadsides, and urban areas; infrequent; flowers  
 purple, April-August.

Lobelia cardinalis L. Cardinal Flower. Perennial; margins  
 of streams; infrequent; flowers red, July-October.

## COMPOSITAE (Sunflower Family)

Achillea millefolium L. ssp. lanulosa (Nutt.) Piper.  
 Yarrow. Perennial; open prairies and plains; infre-  
 quent; flowers white, May-November.

Ambrosia grayi (A. Nels.) Shinners. Ragweed. (Franseria  
tomentosa Gray). Perennial; cultivated and low wet  
 places in plains; infrequent; flowers green, June-  
 September.

Ambrosia psilostachya DC. Western Ragweed. Perennial;  
 pastures and disturbed areas; common; flowers green,  
 June-September.

Ambrosia trifida L. Giant Ragweed. Perennial; roadsides  
 and disturbed areas; common; flowers green, June-  
 September.

Aphanostephus skirrobasis (DC.) Trel. Lazy Daisy. Annual;  
 open sandy areas; infrequent; flowers white (ray) and  
 yellow (disk), March-June.

Artemisia campestris L. ssp. caudata (Michx.) Hall. & Clem.  
 Sagebrush. (A. caudata Michx.). Biennial or  
 perennial; deep sandy soils; flowers yellowish, July-  
 October.

Artemisia carruthii Wood. (A. kansana Britt.). Perennial;  
 sandy or rocky prairie; infrequent; flowers yellowish,  
 July-September.

Artemisia filifolia Torr. Sand Sage. Perennial shrub; deep sandy soils and dry sandy or rocky plains; abundant; flowers yellowish, April-October.

Artemisia ludoviciana Nutt. var. ludoviciana. White Sage. Perennial; roadsides, prairies, and pastures; common; flowers yellowish, June-September.

Aster ericoides L. var. ericoides. Wreath Aster. Perennial; roadsides, prairies, and pastures; common; flowers lavender (ray) and yellow (disk), July-October.

Aster fendleri Gray. Perennial; rocky gypsiferous prairies and breaks; common; flowers lavender (ray) and yellow (disk), September-October.

Aster oblongifolius Nutt. Oblong-leaved Aster. Perennial; rocky prairies; infrequent; flowers blue, July-November.

Aster subulatus Michx. var. ligulatus Shinners. (A. exilis Ell.). Annual; low wet places; common; flowers blue (ray) and yellow (disk), June-October.

Baccharis salicina T. & G. Willow Baccharis, Groundsel Tree. Shrub; wet sandy soil, especially near water; common; flowers white, July-August.

Baccharis wrightii Gray. Shrubby perennial; sandy or gravelly hillsides; infrequent; flowers white, July-August.

Berlandiera texana DC. Green Eyes. Perennial; deep sandy soils; infrequent; flowers yellow (ray) and brown (disk), June-October.

Bidens bipinnata L. Spanish Needles. Annual; low wet areas, and lake and stream margins; infrequent; flowers yellow, August-October.

Bidens cernua L. Sticktight. Annual; low wet areas, and lake and stream margins; infrequent; flowers yellow, August-October.

Bidens comosa (Gray) Wieg. Beggars Tick. Annual; margins of lake and streams; infrequent; flowers yellow, August-October.

Bidens frondosa L. Beggars Tick. Annual; margins of lake and streams; common; flowers yellow, August-October.

Chrysopsis stenophylla (Gray) Greene. Golden Aster. (C. villosa (Pursh) Nutt. var. stenophylla Gray and Heterotheca stenophylla (Gray) Shinners). Perennial; deep sandy soils and rocky hills; common; flowers yellow, June-October.

Chrysopsis villosa (Pursh) Nutt. Golden Aster. Perennial; deep sandy soils and rocky hills; abundant; flowers yellow, June-October.

Cirsium ochrocentrum Gray. Yellow-spined Thistle. Perennial; open disturbed areas; infrequent; flowers purple to whitish, June-September.

Cirsium undulatum (Nutt.) Spreng. Common Thistle. Perennial; pastures, roadsides, and disturbed areas; abundant; flowers lavender or white, June-October.

Conyza canadensis (L.) Cronq. Horse Weed. (Erigeron canadensis Michx.). Annual; roadsides and cultivated fields; common; flowers white (ray) and yellow (disk), June-November.

Conyza ramosissima Cronq. Dwarf Fleabane. (Erigeron divaricatus Michx.). Annual; roadsides, waste areas, and disturbed areas; common; flowers white (ray) and yellow (disk), May-September.

Coreopsis tinctoria Nutt. Tick-seed, Coreopsis. Annual; low moist areas; infrequent; flowers yellow, often with reddish-brown spot at base of rays, May-July.

Dyssodia papposa (Vent.) Hitchc. Fetid Marigold. Annual or biennial; roadsides and disturbed areas; common; flowers yellow, July-October.

Echinacea angustifolia DC. var. angustifolia. Purple Coneflower. Perennial; rocky prairies and hillsides; common; flowers purple, May-August.

Eclipta alba (L.) Hassk. Annual; edges of lake, ponds, and streams; infrequent; flowers white, July-October.

Engelmannia pinnatifida T. & G. Engelmann Daisy. Perennial; open plains and roadsides; abundant; flowers yellow, June-August.

Erigeron bellidiasterum Nutt. Western Fleabane. Annual; open sandy soils; common; flowers lavender (ray) and yellow (disk), May-August.

Erigeron divergens T. & G. var. cinereus Gray. Perennial; dry open plains; abundant; flowers white (ray) and yellow (disk), April-June.

Erigeron flagellaris Gray. Running Fleabane. Perennial; rocky hills and bluffs; infrequent; flowers white to blue (ray) and yellow (disk), April-June.

Erigeron strigosus Muhl. Daisy Fleabane. Annual or perennial; prairies, pastures, and roadsides; infrequent; flower white (ray) and yellow (disk), May-September.

Evax prolifera Nutt. Rabbit-tobacco, Cotton-rose. Annual; rocky plains; infrequent; flowers March-June.

Flaveria campestris J.R. Johnst. Annual; low waste ground, disturbed areas, and wet sandy streams; infrequent; flowers yellow, July-October.

Gaillardia pulchella Foug. Indian Blanket, Firewheel. Annual; open sandy or rocky plains, roadsides, and disturbed urban areas; abundant; flowers red, tipped with yellow (ray) and yellow (disk), May-July.

Grindelia squarrosa (Pursh) Dun. var. nuda (Wood) Gray. Curly-cup Gumweed. Annual; open plains and roadsides; common; flowers yellow, June-October.

Gutierrezia dracunculoides (DC.) Blake. Broomweed. Annual; waste and disturbed areas; infrequent; flowers yellow, July-October.

Gutierrezia sarothrae (Pursh) Britt. & Rusby. Perennial Broomweed. (Xanthocephalum sarothrae (Pursh) Shinners). Perennial; open rocky prairies and disturbed pastures; abundant; flowers yellow, July-October.

Happlopappus ciliatus (Nutt.) DC. Annual or biennial; open sandy or rocky plains, roadsides, and disturbed areas; common; flowers yellow, August-September.

Happlopappus spinulosis (Pursh) DC. Perennial; open plains and prairies; abundant; flowers yellow, June-September.

Haplopappus validus (Rydb.) Cory. Scratch-daisy. Annual; dry sandy fields; infrequent; flowers yellow, June-September.

Helianthus annuus L. Common Sunflower. Annual; waste and disturbed areas, fields, and roadsides; common; flowers yellow (ray) and brown (disk), July-November.

Helianthus maximilianai Schrad. Maximilian Sunflower. Perennial; rocky plains, hillsides, and ravines; infrequent; flowers yellow, July-October.

Helianthus petiolaris Nutt. Plains Sunflower. Annual; waste and disturbed areas, fields, and roadsides; abundant; flower yellow (ray) and brown (disk), July-November.

Heterotheca latifolia Buckl. Camphor Weed. Annual; sandy or open rocky soils; common; flowers yellow, May-September.

Hymenopappus filifolius Hook. var. polycephalus (Osterh.) B.L. Turner. Perennial; sandy or rocky plains; infrequent; flowers white, May-September.

Hymenopappus tenuifolius Pursh. Old Plainsman. Biennial; rocky plains and hillsides, and roadsides; abundant; flowers white, May-August.

Hymenoxyss acaulis (Pursh) Parker. Bitterweed. (Tetraneuris acaulis (Pursh) Greene). Perennial; rocky bluffs, slopes, and roadsides; infrequent; flowers yellow, May-June.

Hymenoxyss scaposa (DC.) Parker. Bitterweed. (Tetraneuris scaposa (DC.) Greene). Perennial; dry rocky bluffs, ravines, and roadcuts in gypsiferous soils; abundant; flowers yellow, March-June.

Iva annua L. Marsh Elder. (I. ciliata Willd.). Annual; low wet areas and lake, pond, and stream margins; common; flowers green, July-October.

Iva xanthifolia Nutt. Annual; sandy stream beds and margins; infrequent; flowers green, July-September.

Kuhnia eupatorioides L. var. corymbulosa T. & G. False Boneset. Perennial; rocky hillsides and bluffs of plains; common; flowers white, July-October.

Lactuca ludoviciana (Nutt.) D.C. Western Lettuce. Annual or biennial; roadsides, waste and disturbed areas; infrequent to common; flowers yellow, June-August.

Lactuca serriola L. Prickly Lettuce. (L. scariola L.). Annual or biennial; roadsides, waste and disturbed areas; infrequent to common; flowers yellow, June-October.

Leucelene ericoides (Torr.) Greene. White Aster, Rose Heath. (Aster arenosus (Heller) Blake). Perennial; dry rocky open plains; abundant; flowers white (ray) and yellow (disk), May-September.

Liatris punctata Hook. Gay Feather. Perennial; prairies and pastures; common to abundant; flowers lavender, August-October.

Lygodesmia juncea (Pursh) D. Don. Skeleton Weed.  
Perennial; dry rocky bluffs, hillsides, and roadcuts;  
common; flowers pink to lavender, June-August.

Machaeranthera tanacetifolia (H.B.K.) Nees. Tahoka Daisy.  
(Aster tanacetifolius H.B.K.). Annual; deep sandy  
soils; infrequent; flowers white to blue (ray) and  
yellow (disk), May-August.

Melampodium leucanthum T. & G. Black-foot. Perennial;  
rocky bluffs, ravines, and hillsides in gypsiferous  
soils; common; flowers white or yellow (ray) and  
yellow (disk), March-November.

Palafoxia sphacelata (Nutt.) Cory. Annual; deep sandy  
soils and dunes; infrequent; flowers pink to mauve,  
May-October.

Psilostrophe villosa Rydb. Paper Flower. Biennial or  
perennial; rocky plains and hills, pastures, and  
roadsides; abundant; flowers yellow, May-September.

Pyrrhopappus scaposus DC. False Dandelion. (P. grandiflorus  
Nutt.). Perennial; open rocky plains and roadsides;  
common to infrequent; flowers yellow, March-May.

Ratibida columnifera (Nutt.) Woot. & Standl. Mexican Hat,  
Prairie Coneflower. Biennial or perennial; prairies,  
pastures, and roadsides; abundant; flowers yellow,  
or with red-brown spot at base (ray), and brown  
(disk), June-September.

Senecio plattensis Nutt. Prairie Ragwort. Perennial;  
prairies and roadsides; common; flowers yellow, May-  
June.

Senecio riddellii T. & G. Groundsel, Squaw-weed. Perennial;  
prairies and roadsides; common; flowers yellow, July-  
October.

Solidago graminifolia (L.) Salisb. var. gymnospermooides  
(Greene) Croat. (S. gymnospermooides (Greene) Fern.).  
Perennial; open plains and roadsides; infrequent;  
flowers yellow, August-October.

Solidago graminifolia (L.) Salisb. var. media (Greene)  
Harris. (S. media (Greene) Bush.). Perennial; open  
plains and roadsides; infrequent; flowers yellow,  
August-October.

Solidago missouriensis Nutt. Missouri Goldenrod. Perennial;  
prairies and roadsides; infrequent; flowers yellow,  
July-September.

Solidago mollis Bartl. (S. incana T. & G.). Perennial; open sandy prairies; infrequent; flowers yellow, September-October.

Solidago petiolaris Ait. Goldenrod. Perennial; dry rocky prairies; infrequent to common; flowers yellow, May-November.

Taraxacum officinale Weber. Common Dandelion. Perennial or biennial; roadsides and disturbed urban areas; common; flowers yellow, May-October.

Thelesperma megapotamicum (Spreng.) O. Ktze. Green-thread. Perennial; rocky gypsiferous plains and hills; abundant; flowers yellow, May-October.

Townsendia exscapa (Rich.) Porter. Perennial; rocky bluffs, ravines, and breaks in rocky gypsiferous soils; common; flowers white to lavender (ray) and yellow (disk), March-May.

Tragopogon dubius Scop. Goat's Beard. Perennial; roadsides and disturbed urban areas; abundant; flowers yellow, May-July.

Vernonia baldwini Torr. var. interior (Small) Schub. Ironweed. Perennial; pastures and roadsides; infrequent; flowers purple, May-September.

Xanthium strumarium L. Cocklebur. Annual; fields, waste, and disturbed areas; common; flowers green, August-October.

Zinnia grandiflora Nutt. Zinnia. Perennial; rocky bluffs, ravines, and breaks in rocky gypsiferous soils; common; flowers yellow, May-September.

## SUMMARY

The checklist of vascular plants of Clark County, Kansas, includes 72 families, 269 genera, and 455 species. Forty-five percent of all species listed belong to three families: Gramineae, Compositae, and Leguminosae. The number of families, genera, and species in each division are shown in Table V. Table VI lists the number of genera and species in the ten largest families, and the number of species in the twelve largest genera are shown in Table VII.

Table V. Number of families, genera, and species in each plant division.

Division	Species	Genera	Families
ArthropHYTA	1	1	1
PterophYTA	1	1	1
ConiferophYTA	1	1	1
AnthophYTA			
Monocotyledoneae	117	62	12
Dicotyledoneae	<u>335</u>	<u>194</u>	<u>57</u>
Total	455	269	72

Table VI. Number of genera and species in the ten largest families.

Family	Genera	Species
Gramineae	44	80
Compositae	48	79
Leguminosae	24	47
Cyperaceae	4	18
Euphorbiaceae	4	15
Onagraceae	4	14
Cruciferae	9	12
Polygonaceae	3	12
Scrophulariaceae	6	9
Boraginaceae	4	8

Table VII. Number of species in the twelve largest genera.

Genus	Species	Genus	Species
Euphorbia	12	Psoralea	6
Oenothera	9	Eragrostis	5
Asclepias	7	Panicum	5
Cyperus	7	Sporobolus	5
Polygonum	7	Amaranthus	5
Petalostemon	6	Dalea	5

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