FLORA OF WABAUNSEE COUNTY, KANSAS

by

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1928
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INTRODUCTION

The work upon which this thesis is based was done in
Wabaunsee County, Kansas, during the growing seasons of
1926-1927. It is my purpose to give in this paper a list
of the species of plants in the county with some account of their distribution, habitat and time of first flowers or fruiting.

As early as 1889, some collections were made in Wabaunsee County by J. B. Norton, C. L. Clothier and A. S. Hitchcock. Seemingly they were limited to the northern portion of the county.

GEOGRAPHY

Wabaunsee County is an area of 306 square miles situated in the eastern third of the State of Kansas, having the eastern boundary near 96° W. and extending west to just beyond 96°30'. The northern boundary is the Kansas River. It is extremely irregular, following the winding course of the Kansas River, the northeastern corner being six miles south of the northwest corner. The south boundary is at latitude 39°45' N.

The altitude varies throughout the county. Near the headwaters of Mission Creek immediately east of Leavenworth, the altitude, according to the U. S. Geological Survey, is 1000 feet and points five miles west are 1300 feet. In the northern portion of the county at the western boundary it is recorded as 1150 feet while at Maple Mill
on the extreme eastern boundary it is 1000 feet. Harkridge is 1419 feet and McFarland 1025 feet.

Streams are numerous in the county, the major one being Mill Creek. In addition there is Elm Creek and the headwaters of Locust, Elk, Chicken and Onion creeks. These smaller tributaries are dry a portion of the year. These are all, except Mill Creek, south flowing streams. The northern three-fourths of the county is well drained with quite large permanent streams flowing northeastward and emptying into the Kansas River. The main one, as mentioned before, is Mill Creek with West Branch Mill Creek, Illinois Creek, Middle and East Branch, Behring Creek and Kinsley Creek. Four other smaller streams flow northward and empty directly into the Kansas River. The eastern part of the county is drained by Dragoos and Mission Creeks, with their respective tributaries.

GENERAL DESCRIPTION

The east and west portions of the county are undulating prairie, but the north and central portions are hilly, breaking into bluffs along streams. The valleys, ordinarily are about a mile wide. The timber belts are con-
fined exclusively to the borders of the streams and vary in width from a few rods to one-fourth of a mile. Thick ledges of limestone underlie the entire county. Thin veins of coal have been found at various places. The red granular soil, according to geologists, is of sandstone origin while the yellow clay soil is of limestone origin. Glacial drift is evident in the northern portion of the county and also comes to the surface on the east boundary of Mission creek.

Figures 1-10 following show a variety of environments with their respective plant formations and geologic sections of the county.
Fig. 1. High prairie near Maple Hill. Photo by author, June, 1926.

Fig. 2. Wooded area south of Alma. Photo by author, June, 1926.
Fig. 3. Tree-shrub formation on sandstone cliff on Mission Creek east of Keene. Photo by author, June, 1926.

Fig. 4. Open woodland of elm, walnut, oak west ofesubassee. Photo by author, April, 1927.
Fig. 5. High prairie sloping into wooded valley southeast of Alma. Altitude 1900 feet. Photo by author, May, 1937.

Fig. 6. Rhus-Symphoricarpus association west of Wabanneco. Photo by author, May, 1937.
Fig. 7. *Sagittaria-Bigocharis* association east of Wabaunsee. Photo by author, June, 1927.

Fig. 8. Glacial drift as exposed on high prairie east of Wabaunsee. Photo by Author, June, 1927.
Fig. 9. Geologic section of the southern portion of Wabaunsee County.

By John G. Hall.

Fig. 10. Geologic section from eastern to western boundary of Wabaunsee County.

By Bennett and Adams.
HISTORY OF THE COUNTY

Sedanese county has an ancient history of surpassing interest, partly printed in the old Spanish Chronicles and partly determined by archaeological evidence, the two making a record recently completed (1926) which covers a period of 500 years. In 1927, Mr. J. Brower discovered near Alma, in Mill Creek Valley, an ancient village site from which he gathered short spearheads, arrow points, knives, scrapers and pieces of clay pots. Judge J. T. Kochy and others, associated with Mr. Brower in the work, have continued explorations and investigations until the identity of the people who inhabited this country during the pre-Columbian age has been ascertained as the same people who were discovered by Coronado in 1541, at two provinces called Quivira and Xarhway, part of which constituted the prairies and valleys of Sedanese County, the dividing line crossing Scoop Creek and Mill Creek near Volland (now Volland). (Kansas Cyclopedia, Vol. 11, p. 580.)

Prior to 1833 the county now known as Sedanese County belonged to the Kaw Indians. In that year Cov.
Isaac McCoy, a missionary having charge of the location of the different Indian tribes, assisted by his son, John McCoy, surveyed a strip 30 miles in length from east to west, and 10 miles in width from north to south, for an outlet for the Shawnee Indians from their reservation to the buffalo country. This was known as the Shawnee Purchase. By a treaty with the Iowas, January 14, 1846, the Pottawatomies were granted a tract of land thirty miles square, a part of which comprised a portion of Sabannah County.

Sabannah was one of the 33 counties created by the first territorial legislature in 1855, and at that time was named Richardson. In 1859 the legislature changed the name to Sabannah in memory of the Pottawatomie Chief "Sabonse" signifying 'The Dawn of Day.'

The earliest permanent settlers were about 1853-54. One of the first settlers, a few miles north of the present town of Wilmington, was Henry Harvey and in 1860 a post-office was established and named Harveyville in honor of him. In 1866, the Beecher Bible and Rifle Company from Connecticut, 68 in number, exclusive of women and children, encamped May 1, 1856, on the south bank of the Kansas River where Sabannah now stands.
A saw-mill was purchased at Kansas City and brought to this vicinity, and as there was a good supply of timber, log cabins were soon built.

A second colony was formed by a party of Germans in Cincinnati, Ohio, who upon their arrival in Wabaunsee County selected a site near the two branches of Mill Creek and laid out the town of Alma. This colony starved out but in 1857 many settlers came directly from Germany and the first grist mill was built, also a saw-mill. The white population of Wabaunsee County at the close of 1857 was about 400.

The first railroad to enter the county was a branch of the Atchison, Topeka and Santa Fe, running from Burlington northwest through Harveyville, Shakridge to Alma, which was built about 1880. Since then the Chicago, Rock Island and Pacific has been built entering near the northeast corner and crossing the county in a southwest direction to Alta Vista. A branch of the same system leaves the main line at McFarland and runs northwest through Wabaunsee and Manhattan. There are over 75 miles of main track in the county.
FACTORS AFFECTING NATIVE PLANT GROWTH AND THE INTRODUCTION OF NEW SPECIES

As is indicative of the thin veins of coal that have been found in the county, geological records tell us that there must have been in geological times a luxuriant growth of plant life. (State Geological Survey of Kansas, Bull. No. 3, p. 161 and 367.)

We have no records of the nature of the flora from the archaeological investigations nor from Coronado's journey in 1541. However, it probably was of such the same character as when the Indians owned it in 1853 and when Rev. Isaac McCoy made a survey. Early travellers into Kansas leave records of the nature of the country as follows. "As we descended from the high prairie into these timber bottoms, we found thick growth of tall thrifty trees: oaks, elms, cottonwoods, sycamores mingled with hickory and ash, forming a wide grove on either side of the stream." (Boynton and Mason, 1855)

The Indians that travelled frequently over the county did not alter the plant life materially, however, they recognised certain plants which were valuable for
food and no doubt collected these to some extent.

Such animals as are reported to have been observed and many killed were the wildcat, deer, buffalo, turkey, goose, brant, bear, catamount, gray wolf, beaver, panther, muskrat, mink, grouse, skunk, jack-rabbit, buffalo fish and cat fish. All of these were able to maintain themselves either on the flesh of their kind or the plants that grow in the vicinity. Undoubtedly certain plant species were distributed more rapidly because of the animals than had their distribution been dependent upon natural invasion over the area. No record is given of the birds, which by means of migrations, made it possible for the introduction of new plant species.

The prairie fire as a factor played an important part in limiting the growth of seedlings up into the prairies. From records of items from the press and other sources, prairie fires swept thru portions of the county in the years of 1869, 1870, 1871, 1872, 1883, 1884 and 1876 the locusts devoured foliage of every growing plant which was equally as destructive as the nearly annual prairie fires which gave the established species no chance to spread further or conquer barriers and the
introduced species no opportunity to become established.

(Matt Thomson, 1901, pp. 315-350.)

When the settlement of the earliest permanent pioneers came, it marked the beginning of a factor that had the most influence upon the introduction and destruction of species. Along with the pioneer came the responsibility of the prairie fire, the saw mill, and the introduction and cultivation of certain food plants and the destruction of others. The building of the railroads was favorable for the distribution of foreign species even from Europe. With this means of transportation and the natural facilities for cattle grazing, the Alma Signal reported in 1891 that 16,000 foreign cattle grazed in the county in that year and in the issue of the same paper on April 26, 1890, it was reported that 7,000 cattle were owned by people of the county and in addition to these nearly 20,000 head belonging to outsiders could be grazed in the vicinity of Alma. This enormous increase in numbers of cattle coming yearly into the county influences the flora by giving an opportunity for wider and more rapid distribution of native plant species as well as limiting some because of constant pasturage.
Man is chiefly responsible for the orderly growth of the Osage Orange hedges as expressed in Boynton and Mason's book, "A Journey Through Kansas," p. 72. It reads as follows: "To some, perhaps, the following statement, from one who has had experience in hedge growing, may be useful.

"Plant the seed in a nursery, with ground very carefully prepared. In the following spring (April in Kansas) transplant; cut the young plants close to the ground or 'down to the yellow bark,' and, on ground prepared with care, and to be kept free from weeds set them out in diagonal lines six inches apart, thus ----- The plants will then shoot out branches thickly, close to the ground and form an impenetrable fence, sufficient to turn any stock the third year, and which even the second year is a good defense. One quart of seed, as is said properly managed, will produce plants enough for one-fourth mile of hedge. The seed should be Small and sprouted before planting."

In addition man brought with him seeds of other species from other parts of United States and Europe, which he placed under cultivation as soon as he could
break the virgin prairie. No doubt several of these species were exterminated because of unfavorable climatic conditions while others established themselves permanently.

Physiographic factors such as slope, or the degree to which the surface of the land departs from the level have been discussed in general under the head of Geography. Those factors that have to do with local variations in soil relations are called edaphic factors. These include the physical and chemical composition of the soil or other substratum, the degree of acidity or alkalinity. Physiographic factors which change the local conditions such as erosion, soil leaching, landslides are also of great importance in determining the plant species of a community. All of these factors have entered into the change of the flora of this county to a greater or less degree. This would present a very interesting problem from the ecological standpoint.

Two climatic factors along with type of soil determine largely the plant species of any region. The following table will express the relationship of these two factors, temperature and precipitation and the resulting plant formations.
Table I.—Showing the relation between the temperature, the amount and distribution of precipitation and the type of vegetation.

<table>
<thead>
<tr>
<th>Formation</th>
<th>Amount of Rainfall</th>
<th>Cold</th>
<th>Warm</th>
<th>Trop</th>
<th>Distribution of Rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Forest</td>
<td>20-30&quot;: 40-60&quot;: 70-80&quot;: Well distributed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Grassland</td>
<td>10-20&quot;: 20-40&quot;: 30-70&quot;: Dry winters, moist summers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Sclerophyllous: Forest</td>
<td>10-20&quot;: 20-40&quot;: 30-70&quot;: Dry summers, moist winters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Desert</td>
<td>10&quot;: 20&quot;: 30&quot;: Dry practically all of the time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Referring to the meteorological records of Manhattan, just to the west and the closest station with a long record, (Table No. II) it is evident that grassland is to be expected, except in the immediate vicinity of streams.
### Table II. -- Meteorological data for Manhattan, Riley Co., Kansas (1901-1903)

<table>
<thead>
<tr>
<th>Month</th>
<th>Mean</th>
<th>Mean of maximum</th>
<th>Mean of minimum</th>
<th>Absolute maximum</th>
<th>Absolute minimum</th>
<th>Highest</th>
<th>Lowest</th>
<th>No. mean</th>
<th>No. of days precipitation</th>
<th>Total precipitation</th>
<th>Total for wetspell</th>
<th>Year</th>
<th>Average</th>
<th>Direction</th>
<th>Mill. of rain or snow</th>
<th>Mill. of rain or snow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec.</td>
<td>30</td>
<td>45</td>
<td>75</td>
<td>23</td>
<td>-16</td>
<td>42</td>
<td>29</td>
<td>0.8</td>
<td>3</td>
<td>0.5</td>
<td>0.5</td>
<td>8.8</td>
<td></td>
<td>2.8</td>
<td></td>
<td>2.8</td>
</tr>
<tr>
<td>Jan.</td>
<td>26</td>
<td>40</td>
<td>74</td>
<td>19</td>
<td>-26</td>
<td>28</td>
<td>12</td>
<td>0.9</td>
<td>3</td>
<td>0.6</td>
<td>0.0</td>
<td>4.4</td>
<td></td>
<td>2.7</td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>Feb.</td>
<td>30</td>
<td>40</td>
<td>72</td>
<td>13</td>
<td>-32</td>
<td>40</td>
<td>19</td>
<td>1.1</td>
<td>4</td>
<td>1.6</td>
<td>0.0</td>
<td>7.7</td>
<td></td>
<td>2.9</td>
<td></td>
<td>2.9</td>
</tr>
<tr>
<td>Winter</td>
<td>26</td>
<td>42</td>
<td>48</td>
<td>30</td>
<td>20</td>
<td>2.7</td>
<td>10</td>
<td>2.0</td>
<td>1.1</td>
<td>1.1</td>
<td>14.9</td>
<td></td>
<td></td>
<td>14.9</td>
<td></td>
<td>14.9</td>
</tr>
<tr>
<td>March</td>
<td>40</td>
<td>54</td>
<td>95</td>
<td>23</td>
<td>-9</td>
<td>31</td>
<td>23</td>
<td>1.4</td>
<td>6</td>
<td>1.5</td>
<td>4.0</td>
<td>5.0</td>
<td></td>
<td>5.0</td>
<td></td>
<td>5.0</td>
</tr>
<tr>
<td>April</td>
<td>54</td>
<td>71</td>
<td>98</td>
<td>44</td>
<td>17</td>
<td>62</td>
<td>47</td>
<td>2.3</td>
<td>6</td>
<td>0.1</td>
<td>7.5</td>
<td>0.7</td>
<td></td>
<td>7.5</td>
<td></td>
<td>7.5</td>
</tr>
<tr>
<td>May</td>
<td>64</td>
<td>76</td>
<td>101</td>
<td>54</td>
<td>29</td>
<td>70</td>
<td>50</td>
<td>4.4</td>
<td>9</td>
<td>1.1</td>
<td>3.7</td>
<td>0.0</td>
<td></td>
<td>3.7</td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>Spring</td>
<td>55</td>
<td>68</td>
<td>68</td>
<td>42</td>
<td>30</td>
<td>8.6</td>
<td>19</td>
<td>2.7</td>
<td>17.2</td>
<td>5.7</td>
<td></td>
<td></td>
<td></td>
<td>5.7</td>
<td></td>
<td>5.7</td>
</tr>
<tr>
<td>June</td>
<td>73</td>
<td>97</td>
<td>109</td>
<td>68</td>
<td>37</td>
<td>30</td>
<td>61</td>
<td>4.4</td>
<td>8</td>
<td>2.7</td>
<td>4.6</td>
<td>0.0</td>
<td></td>
<td>4.6</td>
<td></td>
<td>4.6</td>
</tr>
<tr>
<td>July</td>
<td>78</td>
<td>91</td>
<td>118</td>
<td>66</td>
<td>40</td>
<td>87</td>
<td>72</td>
<td>4.7</td>
<td>8</td>
<td>2.1</td>
<td>5.7</td>
<td>0.0</td>
<td></td>
<td>5.7</td>
<td></td>
<td>5.7</td>
</tr>
<tr>
<td>Aug.</td>
<td>76</td>
<td>92</td>
<td>110</td>
<td>64</td>
<td>40</td>
<td>84</td>
<td>70</td>
<td>3.5</td>
<td>7</td>
<td>2.9</td>
<td>10.7</td>
<td>0.0</td>
<td></td>
<td>10.7</td>
<td></td>
<td>10.7</td>
</tr>
</tbody>
</table>
AREAS OF LOCAL INTEREST

There are several areas of local interest which would well bear detailed study. I'll mention two areas which I think are outstanding. In the northern and central parts of the county, where the land breaks into bluffs, usually bordering large streams, one will note that some of the hills are entirely void of trees while others support tree growth perhaps to the very top of the hill. The valleys intervening are in nearly every case heavily wooded. For the most part the soil on the hills is deficient in soil moisture and will not support tree growth while the moisture in the intervening valleys is sufficient for tree growth. However, the lack of tree growth may not be entirely due to this factor. There may be sufficient moisture on some of the hills, but because of the heavy growth of grasses, the fruits of the trees find it difficult to light in proper germinating conditions and if such is the case the tree seedling cannot compete with the tall grasses for a number of years, thus invasion into the prairie is not favorable, but not impossible. Two reasons may explain the few hills which support heavy tree growth. One
may be a matter of protection from the early prairie fires and the trees have had sufficient time to gradually invade the prairie and the second point of reasoning lies in the fact that there are in these hills several layers of limestone (pp. 3-6) and in several cases a permanent spring, which would supply sufficient moisture for the growth of trees.

The second area which is outstandingly conspicuous, is situated on a steep (150-200 ft.) north bluff directly south and west of McFarland along a branch of Bill Creek. This area is composed of a number of trees of native Junipers or red cedar and it is the only such area in the county to my knowledge. The Juniper has been protected from the prairie fires that swept thru portions of this county annually. Not only has it had the protection from fires but from animals and prairie grasses. The seedlings of Junipers have a difficult time for the first five years. They are very small and grow slowly; grasses grow over them and shade them too much, then too, they are subject to trampling by stock and pedestrians which result in their death before they are well enough established to withstand all these destructive forces. The native Junipers in this area have been in a favorable environment and have grown
to full-sized trees.

Figures 11 and 12 show distant views of this bluff at McFarland.
Fig. 11. Southeastward to bluff at McFarland on which native Junipers (Juniperus virginiana) are growing. Photo by author, June, 1927.

Fig. 12. Southward to bluff at McFarland on which native Junipers are growing. Photo by author, June, 1927.
IMPORTANT SPECIES OF POISONOUS PLANTS

Robert (in Fawcet, 1913) and other physicians define a poison as "A non-organized body, either organic or inorganic, which under certain conditions affects temporarily or permanently one or more organs of the body, when in a state of health or in a healthy condition." Such poisons may develop in the body or may come from without. Some substances act injuriously in a mechanical way, that is, they may set up disturbances by irritating some parts of the body. Other substances, while poisonous to one is entirely harmless to other persons or animals in a state of health.

Plants which cause mechanical injury are excluded from this list and only the more important plants are listed and these are listed from the standpoint of stock poisoning. With the increasing knowledge of chemistry, has grown the interest in kinds and effects of poison in plants. Factors affecting poisonous substances are light, heat, season, climate, culture, and soil.
Aesculus arguta
Apocynum cannabinum
Asclepias verticillata
Baptisia australis
Baptisia triloba
Baptisia lutea
Cicuta maculata
Datura stramonium
Dolichinella carolinianum
Dolichinella tricornis
Dolichinella virosa
Eupatorium urticaefolium
Euphorbia corollata
Euphorbia marginata
Phytolacca americana
Robinia pseudoacacia
Solanus nigrum
Zygodonus nuttallii

ANNOTATED LIST OF PLANTS OF SABINE COUNTY

In the following annotated list the species are arranged in alphabetical order by families. Authority for identification is based on the 2nd edition of "Illustrated
Flora of the United States and Canada" by Britton and Brown, although in certain cases comparisons were made with specimens in Kansas State College Herbarium.

The tabular view of the work is arranged according to Beccari's phylogenetic classification of flowering plants. He attempts a natural classification, using as a basis of his work all the characters of the plant rather than one or two characters as Linnaeus did in his artificial classification.

In this list are included only those species collected or observed by the author during the course of her work.

**ACANTHACEAE**

*Ruellia ciliata* Pursh

Herb, common in moist and dry soil in shady habitats, flowering from June to September. 20.

**ACEPHALAE**

*Acetifolium* L.

Tree, common in moist soil flowering in April. Dioecious. 189.

*Acetabularia* L.

Tree, well distributed throughout the county near farms, flowering in March. 181.
AESCULACEAE

Aesculus canadensis Buckl.

Shrub, frequent in deep woods, flowering in April. 146.

ALEXANDERACEAE

Scirpus latifolius Willd.

Herb, common in wet ravines, flowering from June. 101.

ANACARDIACEAE

Rhoe glabra L.

Shrub, abundant on rocky hillslopes, flowering in June. 29.

Rhoe trilobata Nutt.

Shrub, common on rocky hillslopes. Stems when broken produce a fetid odor. Flowers appear in March. 50.

Rhoe orenta (Mill.) Greene

One shrub, on roadside 8 miles north of Harveyville and 2 mile east, flowering in April before the leaves appear, sweet scented. 162.

Taxodium radicans (L.) Kuntze

Liana, common throughout the county in waste land and more abundant along moist woods and old rock walls, flowering in June.

APIACEAE

Erymus yuccaefolius Sichs.

Herb, common along dry banks and prairies, flowering in July. 54.
**Placenta nuttallii (DC.) Coulter and Rose**

Herb, common on dry rocky hills, flowering in May. 38.

**Convolvulus foeniculaceae (Butt.) Coulter and Rose**

Herb, abundant on moist and dry prairies, flowering in April and May. 149.

**Senecio Marylandicus L.**

Herb, frequent in moist woods, flowering from May. 301.

**Cheerophyllum toxanum Coulter and Rose (?)**

Herb, in moist woods, flowering in April. 138.

**Giouta beckiana L.**

Herb, common along creeks and low ground, flowering from June to August. 238.

**APOCYNACEAE**

**Apocynum cannabinum Jacq.**

Herb, common in waste and borders of cultivated fields, flowering from June. 10.

**ARACEAE**

**Arisaema dracontium (L.) Schott.**

Herb, frequent in moist shaded soil, flowering in May. 238.
ASCLEPIADACEAE

ASCLEPIAS VERTICILLATA L.
Herb, common on prairies, flowering from July to September. 278.

ASCLEPIAS TUBEROUSA L.
Herb, common on hillsides and meadows, flowering in June. 9.

ASCLEPIAS VIRIDIS (L.) Gray
Herb, common in dry soil, flowering in June. 11.

Aceratea angustifolia (L.) Dec.
Herb, occasional in dry soil, flowering in June. 58.

Aceratea lanuginoza (L.) Dec.
Rare herb, in dry soil, flowering in May. 104.

BETULACEAE

Podaophyllum peltatum L.
Herb, occasional in southern and central part of the county in shaded moist soils, flowering in April. 148.

BIOCIMIAE

Catalpa speciosa Sarg.
Tree, commonly cultivated and escaped from cultivation, flowering in June. 185.
BORAGINACEAE

Lithospermum linearifolium Goldie
Herb, very common on dry upland soil, flowering in April. 139.

Gnaphalium occidentale Mackenzie
Herb, frequent on dry rocky hill slopes, flowering in May. 174.

BRASSICACEAE

Lepidium virginicum (Torr.) L.
Herb, very common adjacent to cultivated fields. 59.

Brassica nigra (L.) Koch.
Herb, growing in roadside ditch east of Eskridge, flowering in June. 99.

Brassica campestris L.
Herb, collected along railroad, flowering in April. 166.

Brassica oleracea Walt.
Herb, common on prairies, flowering in April. 110.

Alliaria petiolata Britton
Herb, occasional in moist waste places, flowering in April. 167.

Bunia bursa-pastoris (L.) Britton
Herb, abundant in waste places, flowering in April. 150.

Dentaria incisa Muhl.
Herb, occasional in damp rich woods, flowering in April. 141.
Sophia pinnata (Salt.) Howell

Herb, frequent in waste grounds, flowering in April. 105.

Radicular pinnata (Butt.) Greene

Herb, frequent in waste grounds, flowering in May. 105.

Talinus arvense L.

Herb, occasional in railroad stock yards, fruiting in May. 105.

Cactaceae

Opuntia humifusa Tourn.

Fleshy herb, frequent in dry open prairie, flowering in June. 46.

Cactua missouriensis Sweet.

Fleshy rare herb, in dry rocky soil. One cluster of specimens growing 3½ miles northwest of Ennridge. 203.

Campanulaceae

Specularia perticulata (L.) DC.

Herb, common in moist shaded or partially sunny habitat, flowering from June to September. 7.

Specularia leptocarpa (Butt.) A.Gray

Herb, frequent in moist soils, flowering from June. 255.

Lotelia leptostachya A. DC.

Herb observed. Flowering from June.
Cannabidaceae

Cannabis sativa L.

Herb, occasional, growing in fine moist soil, flowering in July. 118.

Caprifoliaceae

Sambucus canadensis L.

High shrub, common on rich moist soil, flowering in June. 207.

Trisetum perfoliatum L.

Herb, occasional in dry upland soil, flowering in May. 176.

Symphoricarpos albus (L.) Meisn.

Shrub, abundant in lowland pastures, flowering in July. 100.

Carophyllaceae

Scrophularia officinalis L.

Herb in partial-shade, escaped from cultivation, flowering in June. 8.

Silene antirrhina L.

Herb, frequent in dry upland soil, flowering in May. 178.

Geranium brachypodium Engelm.

Herb, frequent in pastures and meadows, flowering in April. 196.
Silene stellata L.
Herb, frequent in moist soil, flowering from June. 261.

CASSIACEAE

Gercia canadensis L.
Tree, common in woods, flowering in April. 144.

Gleditsia triacanthos L.
Tree, common in woods, flowering in May. 249.

Gymnocladus dioecus (L.) Koch.
Tree, observed, frequent in woods, flowering in May.

Celastraceae

Celastrus scandens L.
Liana, common in woods twining on trees and shrubs, flowering in May. 66.

Rhamnus frangula L.
Herb, in moist soils, flowering in May. 306.

CHEIROPODIACEAE

Chenopodium album L.
Herb, common on borders of cultivated fields, flowering from June. 106.

Salsola pestifer A. Nelson
Herb, frequent in the north and west portion of the county. A troublesome weed. 267.
COMPOSOSONAE

Tradescantia bracteata Small

Herb, common along moist banks, flowering from May. 179.

COMPOSITAE

Tragopogon pratensis L.

Herb, occasional in dry soil, fruiting in June. 93.

Agoseris cuspidata (Pursh) B. Dietr.

Herb, frequent on upland prairies and rocky slopes, flowering in April. 31.

Genesee platensis Rutt.

Herb, frequent in pastures and meadows, flowering in May. 189.

Germania oppositifolia (Raf.) Humb.

Herb, in moist pastureland, flowering in May. 189.

Lactuca floridana (L.) Gaertn.

Herb, common in moist woods, flowering from July to September. 224.

Lactuca spicata (Lam.) Hitch.

Herb, common in moist soil, flowering in July and August. 286.

Ratibida columnaris (Sims) D. Don.

Herb, common on dry roadways and prairies, flowering from June. 48.
Silphium laciniatum L.
Herb, common on dry prairies and road sides, flowering from June. 97.

Silphium integrifolium Michx.
Herb, common in dry prairies, flowering from July. 89.

Cirsium undulatum (Batt.) Spreng. (?)
Herb, in prairie soil, flowering from June. 75.

Liatris scariosa (L.) Hill.
Herb, frequent in prairies, flowering from August to September. 284.

Aster sericeus Vent.
Herb, occasional in dry open soil, flowering from August to September. 300.

Hieracium longinimum Torr.
Herb, occasional in prairie soil, flowering from July to September. 207.

Braunia pellida (Batt.) Britton
Herb, common in prairies, flowering from May to July. 277.

Braunia purpurea (L.) Boech.
Herb, common through the county on the prairies, flowering from June. 90.

Chrysanthemum leucanthemum L.
Herb, indigenous to localities in dry prairies, flowering in June. 19.

Achillea millefolium L.
Herb, abundant on prairies, flowering from May to June. 23.
Ericameria philadelphica L.

Herb, in moist meadows, flowering from May. 170.

Ericameria racemosa (Walt.) E.S.P.

Herb, common in dry meadows, flowering in May and June. 190.

Euphobia tuberosa (Sutt.) Britton

Herb, common in moist and dry soil, flowering from June. 140.

Helianthus petiolaris Butt.

Herb, in dry waste soil, flowering from June. 303.

Artemisia ludoviciana Butt.

Herb, common on upland prairies, flowering in August. 108.

Artemisia unana Britton

Herb, occasional in dry prairies flowering from July. 126.

Artemisia campastris Rydberg

Herb, common on upland prairies, flowering in April. 130.

Artemisia occidentalis Greene

Herb, in open woods, flowering in April. 9.

Doeana rapposa (Vent.) Rydb.

Herb, frequent in dry prairies, flowering in May. 230.

Ambrosia elatior L.

Herb, common in dry soil, flowering from July. 91.
Astragalus pallasteciya DC.

Herb, found in wet ditches, flowering from July. 96.

Astragalus trifida L.

Herb in river bottoms.

Amethism americanum Walt.

Herb, abundant in waste grounds and cultivated fields, fruiting in August. 73.

Vernonia missurica Raf.

Herb, abundant in prairies, flowering in autumn. 274.

Solidago missuriana Nutt.

Herb, common on prairies, flowering from June to October. 258.

Coreopsis vulgare Linn.

Herb in waste land.

Helianthus tenuifolius Nutt.

Herb. Five plants along railroad near Babcock. (Gates, No. 15586.)

CONVOLVULACEAE

Convolvulus sepius L.

Herb, common in waste grounds, flowering from June. 16.

Convolvulus roseus L.

Herb, common on dry prairies and waste grounds, flowering in May and June. 171.
Aronoa herderacea Jacq.

Herb, common in moist rich cultivated fields, flowering from July. 226.

CORNACEAE

Cornus asperifolia Michx.

Shrub, commonly grows at the borders of woods, flowering in June. 226.

CUCURBITACEAE

Foppa feestidissima EHR

Vine, frequent in dry waste soil, flowering in June. 226.

Sicusa angulata L.

Vine, frequent in moist shaded soil, flowering from July. 236.

CUCURBITACEAE

Cuscuta sp.

Vine, frequent in low grounds, flowering in June. 196.

CYPARISACEAE

Cyperus filiculmis Vahl.

Sedge, occasional in dry meadows, flowering from June to August. 206.
Scirpus atrovirens Ehrh.

Sedge, common in wet ravines, fruiting in June. 253.

Scirpus pallidus (Eriksen) Fernald

Herb, common in wet ravines, fruit maturing in July. 86.

Scirpus lineatus Michx.

Herb, in wet ditch on upland soil. Bitter fruits in June. 86.

Eleocharis dulcis (Willd.) Schultes

Herb in wet ditch, fruits mature in June. 104.

Carex penicillata Lam.

Herb, common on dry prairies, flowering in April. 122.

Carex hystricina Ehrh.

Herb, in wet ravine, fruits maturing in June. 269.

Carex scopulosa Schkuhr.

Herb, in dry open soils, fruiting in May. 228.

Carex stricta Lam.

Herb, in moist soil, fruiting in May. 235.

Carex vulpinoidea Michx.

Sedge, frequent in wet soil, fruiting in June. 257.

EQUISETACEAE

Equisetum sp.

Herb, frequent in moist soil, fruiting in June. 214.
EUPHORBIEACEAE

**Sithymaloea coronata** H. and G. S. H. and C.
Herb, in upland rocky soil, fruiting in June. 111.

**Sithymaloea cymeriacea** (L.) Hill
Herb, in open prairie, flowering in April. 107.

**Sithymaloea missouriensis** (Horten) Small
Herb, in open prairie flowering in May. 61.

**Heterophyllus marginita** (Pursh) H. and G.
Herb, abundant in dry and moist soil, flowering from July to October. 871.

**Croton pentaphyllum** Michx.
Herb, frequent in dry soil. June to Oct. 270.

**Chrysoecocus praeliti** (Cass.) Arthur
Herb, frequent in dry waste soils. 200.

FABACEAE

**Robinia pseudocacia** L.
Tree, common in timber, flowering in May. 61.

**Amorpha canescens** Pursh
Herb, very common in dry prairie, flowering from June. 76.

**Amorpha nana** Nutt.
Herb, in dry upland soil, flowering in May. 207
Acropha fruticosa L.

Herb, common in wet ditches, flowering in May. 209.

Echionia illinoensis (Gray) Nutt.

Herb, common in dry prairie, flowering from June. 97.

Baptisia leucantha 2. and 6.

Herb, common in dry prairie, flowering from June. 119.

Baptisia bracteata Ell.

Herb, common on dry prairies, flowering in April. 51.

Baptisia australis (L.) R. Br.

Herb, common in dry prairies, flowering in May. 13.

Trifolium pratense L.

Herb, frequently cultivated as a forage crop, flowering from May to September. 209.

Trifolium repens L.

Herb, common throughout county.

Petaloctenium purpureum (Vent.) Rydb.

Herb, very common on dry upland prairies, flowering in June. 68.

Petaloctenium candidum (Willd.) Michx.

Herb, common on dry upland prairies, flowering in June. 67.

Helianthus annuus (L.) Lam.

Herb, abundant and widely distributed on dry waste soils, flowering from June. 69.
Elliottia alba Bent.

Herb, abundant and widely distributed on dry waste soils, flowering from June. Sometimes it is cultivated. 70.

Leptodora capitata Michx.

Herb, frequent on prairies, flowering from August to September. 226.

Vicia macrifolia Nutt.

Herb, occasional in dry soil, flowering in April. 42.

Medicago sativa L.

Herb, commonly cultivated, flowering from June to October.

Peoralea floribunda Nutt.

Herb, abundant in prairies, flowering from June. 35.

Peoralea antoniiula Pursh.

Herb, rare in prairies, flowering from June. 79.

Peoralea occidenta Pursh.

Herb, occasional in dry prairies, flowering in May and June. 136.

Geocarpum platense (Nutt.) Rydb.

Herb, rare in prairie, flowering in May. 225.

Geocarpum arcticum (Nutt.) Rydb.

Herb in prairie, flowering in April, fruit maturing in May. 120.

Glycyrrhiza lepidota Pursh.

Herb in prairie. 196.
CISTIIDACEAE

Centaurium tenuifolium Cris. et

Herb, occasional in dry open soil, flowering in June. 51.

GESNERIACEAE

Geranium carolinianum L.

Herb, common in waste ground, fruiting in June. 6.

GROSSULARIACEAE

Grossularia missouriensis (Butt.) Cov. and Britton

Shrub, common in moist woods, flowering in April. 156.

HYMENOPHYLLACEAE

Hylocomia nystoloe (L.) Britt.

Herb, common in damp soil usually in woodlands, flowering in May. 177.

IRIDACEAE

Ixia virginica campetra Michx.

Herb, occasional in prairie, flowering in April. 246.

JUGLANDACEAE

Juglans nigra L.

Tree, common in moist soils along streams, flowering in April. 60.
JUNCIACEAE

Juncus dudleyi Wiegand

Herb, common in wet ravines, fruiting in June. 221.

LAMIACEAE

Leonard fistulosa L.

Herb, abundant in moist and dry soils, flowering in June. 41.

Touerian canadensis L.

Herb, common in moist shaded soils, flowering from July. 41.

Leonurus cardiaca L.

Herb, rare in upland waste soil, flowering in May. 65.

Prunella vulgaris L.

Herb, common fields, woods and waste places, flowering from June to September. 276.

Marrubium vulgare L.

Herb, occasional in waste lands, flowering from June. 262.

Lomatia americana Buhl.

Herb, common in wet soil. 66.

Salvia lanceolata Poir.

Herb, frequent in dry soil, flowering in May. 184.
Scutellaria parvula Rich.
Herb, occasional in dry soil, flowering in May. 135.

Hepatica acutaria L.
Herb, in moist soil, flowering in June. 142.

Hedoran hispida Pursh.
Herb, in dry stony soil, flowering in June. 224.

LILIACEAE

Smilax hispida Buhl.
Liana, common in woods. 105.

Smilax herbacea L.
Liana, in moist woods. 68.

Erythronium missourianum Eng.
Herb, common near woods, flowering in March. 129.

Erythronium albidum Nutt.
Herb, common on upland soils, flowering in April. 151.

Erythronium americanum Nutt.
Herb, common in rich moist woods, flowering in April. 145.

Allium canadense L.
Herb common in prairies, flowering in May. 217.

Squawdena nuttallii Gray
Herb, common in prairies, flowering in May. 170.
Boethocordum bivalve (L.) Britton

Herb, frequent in prairies, flowering in April. 136.

Asparagus officinalis L.

Shrub, rare in open soils, escaped from cultivation. Fruits mature in autumn. 294.

Polygonatum commutatum (L. and S.) Dietr.

Herb, common in moist woods, flowering in May. 261.

LIGULARIA

Linum sulcatum (Riddle) Small

Herb, common on open prairies, flowering in June and July. 26.

MALVACEAE

Callirhoe involucrata (T. and G.) Gray

Herb, common in variable soils, flowering from June. 1.

Callirhoe digitata Butt.

Herb, frequent on rocky hillslopes, flowering in May. 103.

Callirhoe alceaoides (Michx.) A. Gray

Herb, common in dry prairies, flowering in May. 260.

Callirhoe triangulata Leavens.

Herb, in prairie soil, flowering in May. 260.
Abutilon  (L.) Rusby

Hibiscus trionum L.

Herb, in low rich grounds, flowering from June. 30.

Hibiscus

Hyaloches

Crataegus sp.

Tree, occasional in woods, flowering in April. 181.

Monnierina canadensis L.

Vine, abundant in moist woods, flowering in May. 45.

Boronia uncinate Willd.

Herb, common in dry prairie soils, flowering from June. 8.

Boronia

Toxylon  Raf.

Tree, frequent in dry and moist soils. Introduced as defense against stock in the early days. 182.

Borox rubra L.

Tree, occasional on upland soils, fruiting in June. 182.
HORUS ALBA L.

Tree, occasional on upland soil, fruiting in June. 295.

NECTAGINACEAE

ALLIUM NYSTAGINEUM NICH.

Herb, very common on moist and dry soils, flowering in May. 22.

ALLIUM LINEARIS PURSH.

Herb, common in dry soil, flowering in June. 22.

GENUS RHIZOME

MONOPTERIUM MINICORRIENSE SINS.

Herb, common in dry open soils, flowering in May. 16.

HERICLIA PAVRAPARIS (HUTT.) WALP.

Herb, common in open prairies, flowering in June. 130.

STENOCIRRHON LINIFOLIUM (HUTT.) BRITTON

Herb, occasional in open soils, flowering in June. 22.

HEMISPORUM LACINIATA (HILL) ROSE

Herb, occasional in sandy soil, flowering in May. 130.

APOCRIS ALBISAUROLIS (PURSH) BRITTON

Herb, frequent in sunny habitat, flowering from May. 295.

GAURA BLOOMIA L.

Herb, common on dry banks, flowering from June. 295.
Chamaecyparis magnifolia (L.) scop.

Sect herb, common in open prairies, flowering from June to September. 275.

OEMACRACE

Fraxinus americana l.

Tree, common in moist woods, fruiting in May. 262.

Fraxinus pennsylvanica Marsh.

Tree, in moist soil. Dioecious. 266.

Fraxinus pennsylvanica lanceolata (Torrhaass) Sergent.

Tree, in low ground and planted as an ornamental.

OXALIDACEAE

Oxalis ocygyn Small

Herb, common in dry waste soils, flowering in June. 27.

Oxalis violacea (L.) Small

Herb, abundant in dry rocky soil, flowering in April. White flowers are rare. 162.

Oxalis stricta L.

Herb, common in open soils, flowering in April. 49, 266.

PAPAVERACEAE

Apennine intercedin Sweet

Milky herb, rare in open sandy soil, flowering in June. 49.
Cardnoidea micranthum (Engelm.) Britton

Herb, common in low damp woods and roadsides, flowering in April. 103.

Ricinulea acicularis (L.) Hillebr.

Herb, in rich woods, flowering in April. 130.

PHYTOLACCAEEAE

Phytolacca americana L.

Herb, common in moist rich woods, flowering in June and July. 77.

PIRACCEAE

Rhapis orientalis L.

Tree, rarely cultivated in farmyards and cemeteries. 165.

Juniperus virginiana L.

Tree, common in farmyards and along moist bluffs and a few specimens along limestone ledges. 269.

Linum sylvestre Ait.

One tree cultivated in cemetery east of Watauneco. 103.

PLANTAGINACEAE

Plantago lanceolata L.

Herb, common in dry waste soils. 73.
Plantago virginica L.

Plantago media L.
Herb, common in sun-plant formation, flowering in May. 218.

Plantago purshii R. and S.
Herb, in sunny habitat, flowering in June. 230.

PIRANACAE

Platanus occidentalis L.
Tree frequent along streams. 45.

POACEAE

Tripsacum dactyloides L.
Grass, common throughout the county in moist habitats, flowering in June. 84.

Aegopodium podagria L.
Grass, in moist soil, mature fruits in July. 247.

Briza japonica Thumb.
Grass, abundant on dry waste ground. 89.

Elymus virginicus L.
Grass, common in moist soils, fruiting in July. 110.

Phleum pratense L.
Grass, occasionally cultivated.
For perennial

Grass in lawns and generally escaped, fruiting in June.

For compressa

Grass abundant in dry and moist soils.

Echinochloa crusgalli L. Beauv.

Grass, in farmlands and waste places. August to September. 278.

Sordum jubatum L.

Grass, occasional in dry soil. June to August. 193.

Haliblitta dactyloides (Batt.) Raf.

Grass, frequent in prairies. 203.

Agrostis hyemalis (Walt.) B.S.P.

Grass, frequent in wet ravines. June to August. 190.

Echeloria cristata Pers.

Grass, frequent in cultivated fields. 311.

Panicum scirrhosum Nash.

Grass, frequent in open soils, fruiting in May. 236.

POLEMONIACEAE

Phlox divericata L.

Herb, common in damp rich woods, flowering in April. 40.
POLYGONACEAE

Ranunculus trilobus L.
Herb, common in low moist wastes. 87.

Ranunculus acris L. S. Fats.
Herb, common in low waste grounds. 88.

Ranunculus aquatilis Wood.

Polygonum aviculare L.
Herb, common in doorways and waste. 90.

Polygonum pensylvanicum L.
Herb, common in moist waste soil, flowering from July to September. 203.

Polygonum virginianum L.
Herb, frequent in moist woods, flowering from July. 298.

Polygonum tenui fimbriae

Polygonum convolvulus L.
Herb, occasional in dry open soil. June to July. 296.

Polygonum erectum L.
Herb, in waste soils.
POLYPODIACEAE

Polypodium atrorubens (L.) Link.
Herb, common in northern part of the county on limestone ledges. 184.

PRIENULACEAE

Andrographis occidentalis Pursh.
Herb, abundant in upland prairies, flowering in March and April. 184.

Astrolopus ciliatus (L.) Raf.
Herb, frequent in moist waste, flowering from June to August. 288.

PRUNACEAE

Prunus americana Marsh.
Shrub, common in wastes, flowering in April. 231.

Prunus virginiana (L.) Mill.
Shrub, common in moist soil, flowering in April. 33.

RAHUEGULACEAE

Dolichinium virgascena Nutt.
Herb, common in upland soil, flowering in June. 10.

Dolichinium tricocone Michx.
Herb, in moist soil, flowering in May. 197.

Ameroeo decapetalae Ard.
Herb, common on upland prairies, flowering in April. Colors range from bluish purple to white. 126.
Ranunculus abortivus L.
Herb, common in damp woods, flowering in April. 148.

Thalictrum dioicum L.
Herb, in moist woods, flowering in June. 66.

Vierna pitcheri (T. & G.) Britton
Vine, occasional in moist soils, flowering from June. 228.

RHAMNACEAE

Ceanothus ovatus Dec.:
Low shrub, frequent on rocky slopes, flowering in May. 33.

var. pubescens
Low shrub, on rocky hill slope. 107.

Ceanothus americanus L.
Shrub, frequent on rocky hill slopes, flowering in June. 118.

Rhynna lanceolata Pursh.
Shrub, common in waste ground, fruiting in June. 225.

ROSACEAE

Rosa arkansana Greene
Shrub, frequent along roadsides, flowering in June. 197.

Rosa woodsii
Shrub, flowering in May. 215.
Rosa blanda Lindl.

Shrub, occasional in sunny habitats, flowering in May. 268.

Fragaria virginiana Duchesne

Herb, common in moist soil, flowering in April. 261.

Rubiaceae

Houstonia mining Decne.

Small herbaceous plant in dry prairie, reported to be extremely abundant east of Emporia in the spring season of 1937. I also collected specimens in Riley county this same spring. 128.

Calium cirrosanghi Hight.

Herb, common in deep woods, fruiting in May. 175.

Calium aperin L.

Herb, frequent in deep woods, flowering in May. 173.

Symphoricarpos symphoricarpos (L.) Beck.

Shrub, abundant in moist soils, flowering in July. 100.

Rutaceae

Euphorbiaceum americanum Mill.

Shrub, occasional on rocky hillslopes and woods, flowering in April before the leaves appear. 132.

Salicaceae

Populus italica Moench.

A rare cultivated tree. 191.
**Populus alba** L.
A rare cultivated tree. 237.

**Populus serotina** Bode
Tree, common in moist soil. 244.

**Salix longifolia** Muhl.
Tree, common along Kansas River.

**SANTALACEAE**

**Comandra pallida** A. DC.
Herb, rare on upland soil, flowering in May. 12.

**SCROPHULARIACEAE**

**Penstemon cobaea** Nutt.
Herb, common in dry prairies, flowering in June. 60.

**Penstemon grandiflorus** Nutt.
Herb, frequent on dry prairies, flowering in May. 219.

**Verbascum thapsus** (Tourn.) L.
Herb, common in dry prairies, flowers in July. 44.

**Nelsonia reveri** Torr.
Herb, below permanent spring. Rare, flowering in May. 219.

**Veronica peregrina** L.
Herb, occasional in moist soil, flowering in May. 201.
SIMARUBACEAE

Allophyes altissima (Miller) Swingle
Tree, escaped from cultivation. 27.

SOLANACEAE

Solanum carolinense L.
Herb, common in dry and moist soils, flowering in July. 5.

Solanum rostratum Dallas.
Herb, very common in waste soils, flowering in June. 4.

Fuchsia streptocaulon L.
Fleshy herb, common in moist rich soil, flowering from June to September. 26.

STAPHYLACEAE

Staphylea trifolia L.
Shrub, occasional on the borders of woods, flowering in April. 165.

TYPHACEAE

Typha latifolia L.
Herb, common along creeks and in ponds, fruiting from August to September. 203.
ULMACEAE

Ulmus fulva nigh.
   Tree, common in timber. 64.

Ulmus americana L.
   Tree, common in moist soil, flowering in March and April. Sycamore ripe in May. 270.

Celtis occidentalis L.
   Tree, common in open woodland. 88.

URTICACEAE

Urtica gracilis Ait.
   Herb, abundant in moist waste soils.

VERBENACEAE

Verbena stricta vent.
   Herb, very common in dry and moist soil, flowering from July to September. 39.

Verbena canadensis (L.) Britton
   Herb, occasional in dry rocky soil, flowering in April. 39.

Verbena angustifolia Mich.
   Herb in prairie.
VIOLACEAE

Viola reflexa Greene
Herb, abundant in upland meadows, flowering in April. 137.

Viola pedatifida C. Don.
Herb, very common in upland prairie soil, flowering in April. 137.

Viola palustris L.
Herb, on dry rocky hilltops, flowering in April. 123.

Viola eriocarpa Schwein.
Herb, common in moist woods, fruit mature in May. 161.

Viola papilionacea Pursh.
Herb, in moist woods. Fruit mature in May. 137.

VITACEAE

Parthenocissus quinquefolia L. Planch.
Liana, abundant in moist soils in woods and along fences, fruiting in August. 116.

Vitis vulpina L.
Liana, frequent in rich woods and borders of cultivated fields, flowering in April. 113.

Vitis palustris Vahl.
Liana, occasional in moist grounds. 190.

Vitis cordifolia Michx.
Liana, occasional in moist soil. 264.
## Tabular View of Families of Furbs and Seed Plants Treated in This Paper

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**General Consideration of the Flora of the County**

In considering the flora of Wabunsee County in its entire aspect one may say that the flora of the county has changed very materially since the establishment of per-
manent home with respect to the numbers of individuals of certain species. It would be difficult to say with certainty whether or not species as a whole have increased or decreased in numbers or whether new species have merely replaced the old ones and the number is nearly the same. One fact is very evident with respect to its flora. On virgin prairie, where neither cultivation nor pasturage has been permitted, bright colored flowers are conspicuous. Where cultivation occurs plants of economic value have displaced the prairie, while in the case of areas that are pastured, one no longer finds the display of prairie flowers. Grasses are able to withstand cropping and spread without seed formation while other plants are crowded out. There may not be a great difference in number of species but a vegetation differing in appearance.

The variety of environments throughout the county, that is, high prairie, wet ravines, springs, and woods make it very favorable for a diversity in types of species.

Up to date 477 species have been reported from the county. The 19 families which have the largest number of species are:

- Compositeae: 60 species
- Poaceae: 38 species
Leguminosae  23 species
Brassicaceae  18 "
Polygonaceae  17 "
Euphorbiaceae  17 "
Cyperaceae  17 "
Lamiaceae  14 "
Liliaceae  11 "
Rosaceae  10 "
Ranunculaceae  9 "
Oenotheraceae  9 "
Solanaeae  9 "
Oenotheraceae  9 "
Scrophulariaceae  9 "
Malvaceae  9 "
Verbenaceae  8 "
Chenopodiaceae  8 "
Apocynaceae  8 "

To compare my work with that done up to 50 years ago, the following three lists were made, namely:

1. Species not listed by A.S. Hitchcock in 1900 which I have collected.

2. Species reported by both A.S. Hitchcock (1903) and myself.
3. Species reported by A.S. Hitchcock which I did not collect.

List No. 1.—Species not listed by A.S. Hitchcock in 1930 which I have collected.

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<td>Viola reflexa sequii</td>
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Vitis palmata 168
Zanthoxylum americanum 138
Eugenia nattallii 178

Referring to List number 1, it does not mean that because these species were not reported by Hitchcock that they were not in the county, for example, the orange orange <i>Xylopia</i> <i>macifolia</i> was introduced into the county in early pioneer days but Mr. Hitchcock does not include it in his list and then again maple trees (<i>Acer saccharum</i>) are well over 60 years of age. In the case of the cultivated plants which are few in number and are cultivated for ornamental purposes primarily, these may not all have been cultivated at that time, however, it is quite likely that <i>Ficus sylvatica</i> and <i>Catalpa speciosa</i> were, basing my judgment on the size of the trees I observed and knowing that they do not grow rapidly. As far as the other species are concerned it would be safe to say that several have migrated into the county from the west or east. I have observed the <i>Argania intermedia</i> only at the extreme western boundary of the county. It has probably migrated to that point from the west as 10 miles west the plant is quite abundant in waste ground.

<i>Cactus missouriensis</i> is not abundant in the county as I observed it in only one locality northwest of Eskridge. It too, is probably a migrant from the west.
List No. 2—Species reported by both A.S. Hitchcock (1909) and the writer. (The collection numbers are those of the writer in 1926-27.)

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Stenocephalum linifolium
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Taramacum vulgare
Tithymalopsis corollata
Trifolium pratense
Trifolium repens
Tripsacum dactyloides
Typha latifolia
Ulmus americana
Ulmus fulva
Urtica gracilis
Verbena angustifolia
Verbena canadensis
Verbena stricta
Vernonia fasciculata
Viola palustris
Viola pedatifida
Viola crucifera
Viorna pitcheri
Vitis vulpina
Xanthium americanum
Vitis cordifolia Nich.
List No. 3.—Species reported by A.S. Hitchcock but not collected by the writer during the course of her trips.

Acalypha ostryaefolia
Acalypha virginicae
Aegida tamariacinae
Aegida illinoensis
Afoelia macrophylla
Agastache neptoides
Agrimonia mollis
Agrimonia parviflora
Agropyron repens
Allionia albida
Allium stellatum
Amaranthus blitoides
Amaranthus grucsisana
Amaranthus retroflexus
Amaranthus spinosus
Anopheles cordata
Andropogon scoparius
Amsonia virginiana
Apiasstrum patens (Aporosphales patens)
Apocynum cannabinum
Arctis canadensis
Acróclito minus
Argyranthe alba
Arisarum triphyllum
Artemisia dracunculoides
Artemisia grapheloides
Asclepias sullivantii
Asclepias syriaca
Asimina triloba
Aster laevis
Aster multiflorus
Astragalus canadensis
Botrychium virginianum
Bouteloua oligostachya
Bouteloua curtispendulosa
Brassica juncea
Calocolaria verticillata
Campanula americana
Carduus auricom
Circium lanceolatum
Circium altissimum
Carex crus-corvi
Carex latiflora
Carex Rubenborgii var. salopensis
Chamaericta fasciculata
Conchorus pasciflorus
Cophalanthus occidentalis
Chenopodium bousianum
Chenopodium hybridum
Chenopodium leptophyllum
Chenopodium leptophyllum var. subglabrum
Chrysopogon avenaceus (Sorghastrum nutans)
Cochrella daucifolia
Comandra umbellata
Comolina virginica
Croton capitatus
Cuscuta polygonorum
Cycloloma atriplisfolium
Cyperus esculentus
Cyperus speciosus
Dolphinium carolinianum
Dianthera americana
Eatonia obtusata (Sphenopholis obtusata)
Eleocharis palustris (Claoxocoma)
Elymus canadensis
Eupatorium altissimum
Eupatorium articaefolium
Euphorbia dentata (*Euphorbia dentata*)
Euphorbia heterophylla (*Euphorbia heterophylla*)
Euphorbia hexagona (*Euphorbia hexagona*)
Euphorbia maculata (*Euphorbia maculata*)
Euphorbia serpens (*Euphorbia serpens*)
Euphorbia nuttallii (*Euphorbia serpens* sygophylloides)
Euphorbia strictosperma

Buthusia graminifolia (*Solidago graminifolia*)

Evolvulus pilosus

Uragrostis capillaris

Uragrostis ciliaris

Uragrostis pectinacea

Falcata pitcheri

Pectua nutans

Calium concinum

Calium triflorum

Caura perviflora

Cantiana puberula (*Eucystophana puberula*)

Coremia densiflora (*Otophylla densiflora*)

Eum canadense

Grindelia squarrosa

Hartmannia speciosa

Helianthus annuus

Helianthus grossoserratus
Helianthus maximilianis
Helianthus argyllis
Helianthus scaberrimus
Heliopsis scabra
Hibiscus militaris
Hicoria cordifolia
Hordeum pusillum
Houtania angustifolia
Hydrophyllum virginianum
Hypericum cistifolium
Impatens pallida
Ipomoea pandurata
Ipomoea purpurea
Chaetochloa lutea
Chaetochloa viridis
Juncus torreyi
Kuhnia eupatorioides
Laciniaria punctata (Liatris punctata)
Lappula virginiana
Lepidium densiflorum
Lepidium canadense
Lepeodesa violacea
Lippia cuneifoliae
Lippia lansiolata
Lycium vulgare (Lycium halimifolium)
Lythrum alatum
Malva rotundifoliae
Meibomia grandiflora
Meibomia canescens
Montha canadensis
Montezuma oligosperma
Mesadenia atriplicifolia
Niculus ringens
Nolulgo verticillata
Nonolepis nuttalliana
Oenothera biennis
Oenocodon volle
Ostryna virginiana
Panicularia nervata
Panicum capillare
Parietaria pennsylvanica
Parosela dalca
Paspalum ciliatifolium
Penthorus roedoloides
Petalostomum multiflora
Coptosella daucifolia
Phryna leptostachya
Physalis heterophylla
Physalis longifolia
Physalis punila
Pilea punila
Plantago aristata
Plantago rugelli
Polygala verticillata
Polygonum alchemil gestão
Polygonum littorale
Polygonum ramosissimum
Polygonum scandens
Polygonum persicariae
Polygonum punctatum
Populus deltoides
Portulaca oleracea
Quercus prinoides
Ratibida pinnata
Radicula palustris
Radicula ocealiflora
Rubus canadensis
Rubus occidentalis
Rubus Dallemanus
Rudbeckia hirta
Ruellia strepense
Rumex acetosella
Sagittaria annulata
Salix amygdaloides
Salix cordata
Salvia pitcherie
Schoenoprasum paniculatum
Scirpus validus
Sorophularia virginiana
Sida spinosa
Tridens flava
Sisymbrium officinale (Brysmum officinale)
Sisymbrium angustifolium
Solanum elegansifolium
Solanum nigrum
Sonchus asper
Sophia incisa
Spartina michauxiana
Sporobolus cryptandrus
Stipa spartea
Strophostyles pauciflora
Syntherisana sanguinale
Teucrium occidentale
Thalesia uniflora
Thalictrum revolutum
Tilia glabra
Tragia ramosa
Ulnia latifolia
Verbascum alternifolium
Verbena bracteosa
Verbena hastata
Verbena urticifolia
Vernonia baldwinii
Viola papilionacea
Vitis cinerea

Several plant species that are without a doubt present in the county flora, but were not collected during the present study, for the reason that they were not in season for identification.

A continued study of the county, especially during the autumn and in other parts of the county, would without doubt cut down List No. 5. Some of these are plants of very special habitats.
SUMMARY

1. Labarnec County is an area of 304 square miles situated in the eastern third of the state of Kansas, bounded on the north by the Kansas River. The altitude varies from about 1000 to 1900 feet. The streams are well distributed throughout the county. Limestone outcrops are common, while glacial drift is evident in the northern part of the county.

2. As a result of continuous dry winters and moist summers grass thoroughly dominates the vegetation.

3. The earliest permanent settlers came about 1855-56.

4. Portions of the county were swept by prairie fires in the years 1909-71; 1875, 1880 and 1881, for which the early settlers were responsible. They also introduced the new mil and many new plant species which were cultivated for food. After the railroad was built many cattle were shipped in and grazed on the open prairie.

5. Areas which have been protected by fires, trampling by stock, and cultivation, for example high bluffs and valleys along streams with sufficient moisture to support quite a dense tree growth, otherwise the area is open prairie. One area of local interest supports the growth of native junipers.
6. Nineteen species of important stock poisoning plants are found in Wabaunsee County.

7. A tabulated list shows a total of 477 species of which composites were most numerous, grasses and legumes second, and mustards third.

8. In 1908, A. S. Hitchcock listed about 850 species from the county. In 1926-27, the author collected and observed 592 which included 116 not previously listed which leaves 196 species not found in the limited time. However, 56 of these are without question in the county.

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EXPLANATION OF MAPS

In the instances where the map is plotted with it refers to the fact that the specimen has actually been collected by the writer in the general location indicated. The symbol merely means the species has been observed by the writer but not collected and its position on the map has no reference to general location. The symbol indicates that A. S. Hitchcock has reported the species in the county previous to 1900 and its position on the map has no specific significance.
Reported by A. S. Hitchcock.

Species collected by author.

Species observed by author.
OPHIOGLOSSACEAE
Botrychium virginianum
L. Sw.

POLYPODIACEAE
Pellaea atropurpurea (L.) Link
ALISMATACEAE

Sagittaria ambiguа J.

G. Sm.

Sagittaria latifolia Willd.
LILIACEAE
Smilax hispida Muhl.

WABAUNSEE COUNTY
Map No. 16

Nothoscordum bivalve (L)
Britton

WABAUNSEE COUNTY
Map No. 17
LILIACEAE

Smilax herbacea L.

WHAUNSEE COUNTY
Map No. 18

Allium canadense L.

WHAUNSEE COUNTY
Map No. 19
LILIACEAE
Toriscordion nuttallii
(A. Gray) Rydb.

Allium stellatum Ker.
GOMELLIACEAE
Gomelina virginica L.

WABAUNSEE COUNTY
Map No. 22

TRADESCANTIA BRACEATEA SMALL

WABAUNSEE COUNTY
Map No. 23
COMELINACEAE

Tradescantia virginiana

JUNCACEAE

Juncus dudleyi Weigund
JUNICAGEAHE
Juncus tenuis Willd.

WABAUNSEE COUNTY
Map No. 26

Juncus torreyi Coville

WABAUNSEE COUNTY
Map No. 27
Araceae

Arisaema triphyllum

(L.) Schott.

Arisaema dracontium (L.)

Schott.
GYPHERACEAE
Carox pennsylvanica Lam.

Scirpus atrovirens pallidus
Britton
Cyperaceae

Carex hystericina Muhl.

Wabaunsee County
Map No. 32

Carex laxiflora Lam.
Cyperaceae
Carex muhlenbergii
Schku.

Wabaunsee County
Map No. 34

Carex vulpinoidea Michx.

Wabaunsee County
Map No. 35
Cyperaceae
Carex crus-galli

Wabaunsee County
Map No. 36

Carex festucacea Schkuhr.

Wabaunsee County
Map No. 37
Cyperaceae

Carex stricta Lam.

Wabaunsee County
Map No. 23

Cyperus speciosus Vahl.

Wabaunsee County
Map No. 39
Cyperus esculentus L.

Cyperus filiculmis Vahl.

Wabaunsee County
Map No. 40

Wabaunsee County
Map No. 41
Cyperaceae

Cyperus esculentus L.

Cyperus filiculmis Vahl.
CYPERACEAE

Scirpus lineatus Michx.

Scirpus validus Vahl.
Cyperaceae

Eleocharis palustris
(Willd.) Gray
(glaucescens)

WABAUNSEE COUNTY
Map No. 45

Gramineae

Agropyron smithii Rydb.
Hordeum jubatum L.

Hordeum pusillum Nutt.
GRANDBAE
Tripsacum dactyloides
L.

WAHAUNSEE COUNTY
Map No. 49

Uniola latifolia Michx.

WAHAUNSEE COUNTY
Map No. 50
GRAMINEAE
Stipa spartea Trin.

Syntherisna sanguinale (L.)
Dulac.
Sporobolus cryptandrus
(Torr.) Gray

Huhlenbergia cuspidatus
(Torr.) Nash

WABAUNSEE COUNTY
Map No. 53

WABAUNSEE COUNTY
Map No. 54
GRANINEAE
Tridens flava (L.)
Hitchock

WABAUNSEE COUNTY
Map No. 55

Spartina cynosuroides (L.)
Roth

WABAUNSEE COUNTY
Map No. 56
GRAMINEAE
Sorghastrum nutans
(L.) Nash

Sphenopholis obtusata (Michx.) Scribn.
GRAMINEAE

Atheropogon curtipendulus (Michx.) Fourr.

Map No. 61

Genchrus tribuloides L.

Map No. 62
GRAMINEAE:

Paspalum ciliatifolium

Michx.

Phleum pratense L.
GRAMINEAE

Agrostis hyemalis (Walt)
B.S.P.

WABAUNSEE COUNTY
Map No. 65

Schizachyrium scoparium
(Michx.) Nash

WABAUNSEE COUNTY
Map No. 66
GRAMINEAE

Agropyron repens (L.) Beauv. (glaucum) Hitchc.

Bromus japonicus D.C.

WABAUNSEE COUNTY
Map No. 67

WABAUNSEE COUNTY
Map No. 68
GRASSES
Echinochloa crus-galli
(L.) Beauv.

Panicularia nervata Willd.
Kuntze
GRAMINEAE

_Panicum capillare_ L.

_Wabaunsee County_

Map No. 81

_Panicum dichotomiflorum_

Michx.

_Wabaunsee County_

Map No. 82
GRAMINEAE
Panicum scribnerianum
Nash.

WAKAUNSEE COUNTY
Map No. 83

Koeleria cristata Pers.

WAKAUNSEE COUNTY
Map No. 84
IRIDACEAE
Sisyrinchium campestre
Bicknell

Sisyrinchium angustifolium
Mill.

WABAUNSEE COUNTY
Map No. 85

WABAUNSEE COUNTY
Map No. 86
MAGNOLIACEAE
Asimina triloba Dunal.

SAURURACEAE
Juglans nigra L.
MAGNOLIACEAE
Asimina triloba Dunal.

SAURURACEAE
Juglans nigra L.
Ranunculaceae
Thalictrum revolutum DC.

Wabaunsee County
Map No. 29
RANUNCULACEAE

Ranunculus abortivus L.

Dolphinium virescens Nutt.

WABANSEE COUNTY
Map No. 35
RANUNCULACEAE
Delphinium carolinianum
Walt.

Delphinium tricorne Michx.

WABAUNSEE COUNTY
Map No. 94

WABAUNSEE COUNTY
Map No. 95
RANUNCULACEAE

Anemone decapetala Ard.

WABAUNSEE COUNTY
Map No. 96

Anemone virginiana L.

WABAUNSEE COUNTY
Map No. 97
BERBERIDACEAE
Menispermum canadense L.

WABAUNSEE COUNTY
Map No. 98

Podophyllum peltatum L.

WABAUNSEE COUNTY
Map No. 99
MALVAEAE
Gallirhoe digitata Nutt.

WAUHUNSEE COUNTY
Map No. 100

Gallirhoe triangulata Leavens.
MALVACEAE

Callirhoe acoelides
(Michx.) A. Gray

Callirhoe involucrata (T & G)
Gray
Hibiscus militaris Cav.

Hibiscus trionum L.

Wabaunsee County
Map No. 104

Wabaunsee County
Map No. 105
MALVACEAE

Abutilon abutilon (L.)

Rusby

Malva rotundifolia L.

WABAUNSEE COUNTY
Map No. 106

WABAUNSEE COUNTY
Map No. 107
MORACEAE
Morus rubra L.

WAUSAUNSEE COUNTY
Map No. 112

Morus alba L.

WAUSAUNSEE COUNTY
Map No. 118
MORACEAE

Toxylon pomiferum Raf.

WABAUNSEE COUNTY
Map No. 116

KANSAS RIVER

WABAUNSEE COUNTY
URTICACEAE

Parietaria pennsylvanica
Muhl.

Urtica gracilis Ait.
URTIGACEAE
Celtis occidentalis L.

PILEA PUMILA (L.) Gray

WHAHNSEE COUNTY
Map No. 119

Kansas River

WHAHNSEE COUNTY
Map No. 120
OXALIDACEAE

Xanthoxalis cymosa Small.

Oxalis violacea (L.) Small
OXALIDACEAE
Xanthoxylis corniculata
(L.) Small

Xanthoxylis stricta (L.)
Small

WABAUNSEE COUNTY
Map No. 124

WABAUNSEE COUNTY
Map No. 125
LINACEAE
Cathartolinum sulcatum
(Ridd.) Small

BALSAMINACEAE
Impatiens pallida Nutt.
RUTACEAE
Xanthoxylum americanum
MILL.

WABAUNSEE COUNTY
Map No. 128

SIMARUBACEAE
Ailanthus glandulosa Deaf.

WABAUNSEE COUNTY
Map No. 129
POLYGALACEAE

Polygala verticillata L.

WABAUNSEE COUNTY
Map No. 130
EUPHORBIACEAE

Tithymalopsis corollata
(L.) Kl. & Garcke

WABANSEE COUNTY
Map No. 131

Tithymaloides cyparissias (L.)
Hill

WABAUNSEE COUNTY
Map No. 132
EUPHORBIAEAE

Groton capitatus Michx.

WAUSAU SEE COUNTY
Map No. 133

Groton monantherogynus Michx.

WAUSAU SEE COUNTY
Map No. 134
**EUPHORBIACEAE**

**Poinsettia dentata**

*Michx.* Small

**Poinsettia heterophylla** *(Lc.)*

Kl. & Garcke

*Wabaunsee County*

Map No. 135

*Wabaunsee County*

Map No. 136
EUPHORBIACEAE

Euphorbia strictospora
(Engelm.)

Dichrophyllum marginatum
(Pursh.) Kl. & Garcke

Wabaunsee County
Map No. 139
EUPHORBIACEAE
Chamaesyce zygophylloides
(Boiss.) Small

WABAUNSEE COUNTY
Map No. 143

Tithymalus missouriensis
(Norton) Small

WABAUNSEE COUNTY
Map No. 144
EUPHORBIACEAE

Acalypha ostryaeefolia
Ridd.

Acalypha virginica L.

WABAUNSEE COUNTY
Map No. 145

WABAUNSEE COUNTY
Map No. 146
EUPHORBIEACEAE
Zygophyllidum hexagonum
(Nutt.) Small

Tragia ramosa Cav.
GUTTIFERACEAE
Hypericum cistifolium
Lam.

VIOLACEAE
Viola palmata L. cucullata
Gray
VIOLACEAE
Viola rafinesquii Green

WABAUNSEE COUNTY
Map No. 151
Calcocolaria alcocoides (Grt.)
Kuntze

WABAUNSEE COUNTY
Map No. 152
VIOLACEAE

Viola pedatifida Don.

Viola eriocarpa Schwein.
BRASSICACEAE
Thlaspi arvense L.

WAHAUNSEE COUNTY
Map No. 160

Lepidium apetalum Willd.

WAHAUNSEE COUNTY
Map No. 160
BRASSICACEAE
Radicula palustris (L.)
Hocneh

WABAUNSEE COUNTY
Map No. 163

WABAUNSEE COUNTY
Map No. 164

Radicula sessiliflora (Nutt.)
Greene
BRASSICACEAE

Alliaria alliaria Britton

WABANSEE COUNTY
Map No. 165

Dentaria laciniata Muhl.

WABANSEE COUNTY
Map No. 166
BRASSICACEAE
Sophia atroirrens (?)

WABAUNSEE COUNTY
Map No. 169

Sophia incisa (Engelm.) Greene

WABAUNSEE COUNTY
Map No. 170
BRASSICACEAE
Bursa bursa-pastoris
(L.) Britton

WABAUNSEE COUNTY
Map No. 171

Sophia pinnata (Walt.)
Howell

WABAUNSEE COUNTY
Map No. 172
BRASSICACEAE
Brassica campestris L.

Lepidium virginicum (Tourn.) L.

WABAUNSEE COUNTY
Map No. 173

WABAUNSEE COUNTY
Map No. 174
CARYOPHYLLACEAE
Saponaria officinalis L.

WABAUNSEE COUNTY
Map No. 178

Silene antirrhina L.

WABAUNSEE COUNTY
Map No. 179
CARYOPHYLLACEAE
Cerastium brachypodum
Engelm.
CARYOPHYLLACEAE
Silene stellata (L.) Ait.

PORTULACACEAE
Portulaca oleracea L.
SALICACEAE
Salix amygdaloides
Anders.

Salix cordata Muhl.
SALICACEAE
Salix longifolia Muhl.

PHYTOLACCACEAE
Phytolacca americana L.

WHAUNSEE COUNTY
Map No. 199

WHAUNSEE COUNTY
Map No. 190
AMARANTHACEAE

Amaranthus retroflexus L.

WAUAUNSEE COUNTY
Map No. 191

Amaranthus spinosus L.

WAUAUNSEE COUNTY
Map No. 192
AMARANTHACEAE
Amaranthus blitoides
S. Wats.

WABAUNSEE COUNTY
Map No. 193

Amaranthus graccisans L.

WABAUNSEE COUNTY
Map No. 194
ANARANTHACEAE
Acnida tamariscina
(Nutt.) Wood

CHENOPODIACEAE
Monolepsis nuttalliana
(R & S) Wats.

WABANSESE COUNTY
Map No. 196

WABANSESE COUNTY
Map No. 196
CHENOPODIACEAE
Chenopodium album L.

Map No. 197

WHAU NSEE COUNTY

Cyclolema atriplicifolium
(Spreng.) Goult.
CHENOPODIACEAE

Chenopodium boscianum

Moq.

Chenopodium hybridum L.

WHAUUNSEE COUNTY
Map No. 199

WHAUUNSEE COUNTY
Map No. 200
POLYGONACEAE
Polygonum littorale

polygomonum ramosissimum Michx.
POLYgonaceae

Persicaria lapathifolia
(L.) S.F. Gray

Persicaria penasylvanicum
(L.) Small.

KANSAS RIVER

WARAUNSEE COUNTY
Map No. 215

WARAUNSEE COUNTY
Map No. 216
POLYCOMACEAE
Persicaria muhlenbergii
(S. Wats.) Small

WABAUNSEE COUNTY
Map No. 217

Tiniaria scandens (L.) Small

WABAUNSEE COUNTY
Map No. 218
NYCTAGINACEAE
Allionia albida Walt.

WABAUNSEE COUNTY
Map No. 219

Allionia nyctagineus Michx.

WABAUNSEE COUNTY
Map No. 220
NYCTAGINACEAE

Allionia linearis

Pursh.

WABANSEE COUNTY

Map No. 221

WABAUNSEE COUNTY
PRIMULACEAE
Androsace occidentalis

Pursh.

WABAUNSEE COUNTY
Map No. 222

Steironema ciliatum L. Raf.

WABAUNSEE COUNTY
Map No. 223
PLANTAGINACEAE

Plantago virginica L.

Plantago media L.
Plantaginaceae

Plantago aristata

Michx.

Plantago purshii R. & S.
CONVOLVULACEAE

Convolvulus sepium L.

WABAUNSEE COUNTY
Map No. 230

Evolvulus pilosus Nutt.

WABAUNSEE COUNTY
Map No. 281
POLEMONIACEAE
Phlox divaricata L.

WAHAUNSEE COUNTY
Map No. 232

CONVOLVULACEAE
Convolvulus repens L.

WAHAUNSEE COUNTY
Map No. 235
CONVOLVULACEAE
Ipomoea hederacea Jacq.

Ipomoea pandurata (L.)
G.F.W. Mey.
CONVOLVULACEAE
Ipomoea purpurea (L.) Roth.

Cuscuta polygonorum Engel.
BORAGINACEAE
Lithospermum linearifolium Goldie.

Osmodium occidentale
Hackensie
BORAGINACEAE

Lappula virginiana

(L.) Greene
SOLANACEAE
Solanum rostratum
Dunal.

Solanum nigrum L.
SOLANAECES

Datura stramonium L.

WHAUNSEE COUNTY
Map No. 247

Datura tatula L.

WHAUNSEE COUNTY
Map No. 248
SOLANACEAE

Physalis heterophylla

Neos

Physalis longifolia Nutt.

WABANSEE COUNTY
Map No. 249

WABANSEE COUNTY
Map No. 250
OLEACEAE
Fraxinus pennsylvanica
Marsh.

Fraxinus campestris Britton
GENTIANACEAE

Centaurium texense
(Griseb.)

WABAUNSEE COUNTY
Map No. 254

Dasystephana puberula (Michx.) Small

WABAUNSEE COUNTY
Map No. 255
APOCYNACEAE

Apocynum cannabinum L.

Apocynum sibiricum Jacq.

WASAUNSEE COUNTY
Map No. 257

WASAUNSEE COUNTY
Map No. 258
ASCLEPIADACEAE
Acerates angustifolia
(Nutt.) Dec.

Acerates lanuginosa (Nutt.)
Dec.

WABAUNSEE COUNTY
Map No. 259
ASCLEPIADACEAE
Asclepias sullivantii
Engelm.

Asclepias syriaca L.

WABAUNSEE COUNTY
Map No. 261

WABAUNSEE COUNTY
Map No. 262
ASCLEPIADACEAE
Ascplepias tuberosa L.

Ascplepias verticillata L.
ASCLEPIADACEAE

Asclepiodora viridis

(Walt.) A. Gray
SCROPHULARIACEAE

*Mimulus ringens* L.

WABAUNSEE COUNTY
Map No. 266

*Mimulus goyeri* Torr.

WABAUNSEE COUNTY
Map No. 267
Scrophulariaceae

Pentstemon cobaea Nutt.

Wabaunsee County
Map No. 268

Pentstemon grandiflorus Nutt.

Wabaunsee County
Map No. 269
SCROPHULARIACEAE
Verbascum thapsus
(Tourn.) L.

WABAUNSEE COUNTY
Map No. 270

Otophylla densiflora (Benth.)
Small

WABAUNSEE COUNTY
Map No. 271
BIGNONIACEAE
Catalpa speciosa Warder.

LENTIBULARIACEAE
Thalesia uniflora L.
ACANTHACRAE
Phryma leptostachya
L.

WAHAUNSEE COUNTY
Map No. 276

Ruellia strepens L.

WAHAUNSEE COUNTY
Map No. 277
AGANTHACEAE

Ruellia ciliosa Pursh.

Dianthera americana L.

WABAUNSEE COUNTY
Map No. 278

WABAUNSEE

MAP NO. 279
Verbena angustifolia

Verbena bracteosa

WANAUNSEE COUNTY
Map No. 280

WABAUNSEE COUNTY
Map No. 281
VERBENACEAE

Verbena canadensis (L.) Britton
VERBENACEAE
Verbena hastata L.

WAUSAUNSEE COUNTY
Map No. 283

Verbena lanceolata Michx.

WAUSAUNSEE COUNTY
Map No. 284
Verbena stricta Vent.

Verbena urticifolia L.
VERBENACEAE

Lippia cuneifolia (Torr.) Steud.

Lippia lanceolata Michx.

WAUSAUNSEE COUNTY
Map No. 287

WAUSAUNSEE COUNTY
Map No. 288
Labiatae

Leonurus cardiaca L.

Wabaunsee County
Map No. 289

Honestea canadensis (L.)
Eriquet

Wabaunsee County
Map No. 290
LABIATAE

Lycopterus americanus Michx.

Scutellaria parvula Michx.
**Labiatae**

*Monarda fistulosa* L.

**Map No. 205**

*Agastache nepetoides* (L.) Kuntze

**Map No. 206**
LABIATAE

Salvia lanceifolia Poir.

WABANSEE COUNTY
Map No. 209

Salvia pitcheri Torr.

WABANSEE COUNTY
Map No. 300
Rosa arkansana (?)

Rosa woodsii Lindl.
Agrimonia mollis
(T. & G.) Britton

Agrimonia parviflora Soland.
ROSACEAE
Fragaria virginiana
Duchesne

MALACEAE
Crataegus

WABAUNSEE COUNTY
Map No. 510

WABAUNSEE COUNTY
Map No. 511
ROSACEAE

Rubus Baileyannus

Britton
MIMOSACEAE
Morongia uncinata Willd.

CASSIACEAE
Chamaecrista fasciculata
(Michx.) Greene
Mimosaceae
Acuand illinoensis
(Nichx.) Kuntze

Wabaunsee County
Map No. 319

Fabaceae
Glycyrrhiza lepidota Pursh.

Wabaunsee County
Map No. 320
LEGUMINOSAE
Robinia pseudacacia L.

CASSIAE
Cercis canadensis L.
LEGUMINOSAE

Geoprumon plattense
(Nutt.) Rydb.

Geoprumon crassicarpus
(Nutt.) Rydb.
LEGUMINOSAE

Melilotus officinalis
(L.) Lam.

Wabaunsee County
Map No. 327

Melilotus alba Desv.
LEGUMINOSAE
Petalostemum purpureum
(Vent.) Rydb.

WAUSAUNSEE COUNTY
Map No. 329

Petalostemum candidum (Willd.) Michx.

WAUSAUNSEE COUNTY
Map No. 330
LEGUMINOSAE
Petalostemon multiflorum Nutt.

Vicia sparsifolia Nutt.
LEGUMINOSAE

Baptisia australis

(L.)(R.) R. Br.

Wabaunsee County
Map No. 335

Baptisia bracteata Ell.

Wabaunsee County
Map No. 334
LEGUMINOSAE
Baptisia leucantha T. & G.

Amorpha nana Nutt.
FABACEAE

**Neibomia grandiflora**
(Walt.) Kuntze

**Neibomia canescens** (L.) Kuntze
Fabaceae
Psoralea floribunda
Hutt.

Psoralea agrophylla Pursh.

Wabaunsee County
Map No. 343

Wabaunsee
Map No. 344
Fabaceae
Psoralea esculenta
Pursh.

Wabaunsee County
Map No. 545

Falcata pitcheri (T & C) Runtze

Wabaunsee County
Map No. 546
FABACEAE
Lespedeza violacea
(L.) Pers.

Lespedeza capitata Michx.
LEGUMINOSAE

Parosela dalea (L.) Britton

Strophostyles pauciflora
(Benth.) Wats.

WABAUNSEE COUNTY
Map No. 353

WABAUNSEE COUNTY
Map No. 354
GROSSULARIACEAE
Grossularia missouriensis (Nutt.) Cav. & Britt.

CRASSULACEAE
Ponthonum sedoides L.
PLATANACEAE
Plantanus occidentalis

LYTHRACEAE
Lythrum alatum Pursh.
OENOThERAceAE

Raimannia laciniata (Hill)
Rose

WABAUNSEE COUNTY
Map No. 361

Hartmannia speciosa (Nutt.) Small

WABAUNSEE COUNTY
Map No. 362
OENOTHERACEAE

Stenosiphon linifolium
(Nutt.) Britton

Anogra albicaulis (Pursh.) Britton
Gaura biennis L.

Gaura parviflora Dougl.

Map No. 365

Map No. 366
OENOTHERACEAE

Megapterium missouriensis
Sims.

WABAUNSEE COUNTY
Map No. 367

Oenothera serrulata Nutt.

WABAUNSEE COUNTY
Map No. 368
CACTACEAE

Opuntia humifusa Tourn.

Coryphantha missouriensis (Sweet) Britton & Rose
LOCASACEAE

Mentzelia oligosperma

Nutt.
CUCURBITACEAE
Pepo foetidissima
H.B.K. Britton

Sicyos angulatus L.
**RHAMNACEAE**

**Rhamnus lanceolata Pursh.**

**Ceanothus ovatus Deaf.**
VITACEAEs

Vitis cinerea Engelm.

Vitis cordifolia Michx.
SAPINDACEAE
Aesculus arguta
(Duckley) Robinson

WABAUNSEE COUNTY
Map No. 389

Quercus prinoides Willd.

WABAUNSEE COUNTY
Map No. 390
SAPINDACEAE

Quercus macrocarpa
Michx.

WABAUNSEE COUNTY
Map No. 391

Quercus muhlenbergii Engelm.

WABAUNSEE COUNTY
Map No. 392
**Aceraceae**

*Acer negundo* L.

**Wabaunsee County**
Map No. 393

*Acer saccharinum* L.

**Wabaunsee County**
Map No. 394
ANACARDIACEAE

Rhus crenata (Mill)
Greene

Toxicodendron var. radicans
(I. e. Vent.)
ANACARDIACEAE

Rhus glabra L.

Rhus trilobata Nutt.
JUGLANDACEAE
Hicoria cordiformis
(Wang.) Britton

WABAUNSEE COUNTY
Map No. 399

BETULACEAE
Ostrya virginiana (Mill)
K. Koch

WABAUNSEE COUNTY
Map No. 400
FUMARIACEAE

Bicuculla cucullaria (L.) Millsp.

WABAUNSEE COUNTY

Map No. 401

Capnoides micranthum (Engel.) Britton

WABAUNSEE COUNTY

Map No. 402
FUMARIACEAE
Capnoides aureum (Willd.)
Kuntze
APIACEAE

Spermolepis patens
(Nutt.) Robinson

Washingtonia longistylis
(Torr.) Britton
Sanicula marylandica L.

Chaerophyllum texanum (?)
Coulter & Rose
APLACENAE

Bryngium yuccaeolium
Michx.

WABAUNSEE COUNTY
Map No. 412

Cerefolium cerefolium (L.)
Britton

WABAUNSEE COUNTY
Map No. 413
APACEAE
Zinia aurea (L.) Koch.

CORNACEAE
Cornus asperifolia Michx.
RUBIACEAE

Houstonia minima Beck.

Houstonia angustifolia Michx.

WABAUNSEE COUNTY
Map No. 410

WABAUNSEE COUNTY
Map No. 417
Rubiaceae

Galium concinnum Torr. & Gray

Galium triflorum Michx.
Rubiaceae
Galium aparine L.

Wabaunsee County
Map No. 420

Galium cirrosezans Michx.

Wabaunsee County
Map No. 431
Rubiaceae
Gephalanthus occidentalis L.

Caprifoliaceae
Triosteum perfoliatum L.

Wabaunsee County
Map No. 422

Wabaunsee County
Map No. 423
Symporicarpus symphoricarpus

(L.) Mack.
LOBELIACEAE
Lobelia leptostachys
A. DG.
Camparulaceae
Campanula americana L.

Specularia perfoliata (L.) A. DC.

Wabaunsee County
Map No. 427

Wabaunsee County
Map No. 428
GCHORIACEAE

Lactuca spicata (Lam.) Hill

Sonchus asper (L.) Hill
Lactuca ludoviciiana (Nutt.) DC.

Lactuca floridana (L.) Gaertn.
GICHOIACEAE

Tragopogon pratensis L.

WHAUNSEY COUNTY
Map No. 458

Agoseris cuspidata (Pursh.)
D. Dietr.
COMPOSITAE

Antennaria campestris

Rydb.

Antennaria neglecta Greene
Grindelia squarrosa
(Pursh) Dunal.

Chrysanthemum leucanthemum L.
COMPOSITAE
Leontodon taraxacum L.

WABAUNSEE COUNTY
Map No. 445

Heliopsis scabra Dunal.

WABAUNSEE COUNTY
Map No. 446
COMPOSITAE
Artemisia kansana
Britton
Artemisia dracunculoides Pursh.

Artemisia gnaphalodes Nutt.
COMPOSITAE
Cirsium undulatum (Nutt.)
Sprague

WABAUNSEE COUNTY
Map No. 452

Cirsium altissimum (L.) Sprague

WABAUNSEE COUNTY
Map No. 453
COMPOSITAE

Helianthus annuus L.

Helianthus grosse-serratus Martens.

WABAUNSEE COUNTY

Map No. 454

WABAUNSEE COUNTY

Map No. 456
COMPOSITAE

Helianthus annuus

Schrad.

Helianthus maximiliani

WABAUNSEE COUNTY
Map No. 456

Helianthus argyrias DC.

WABAUNSEE COUNTY
Map No. 457
COMPOSITAE
Ambrosia trifida L.

WABAUNSEE COUNTY
Map No. 462

Euthamia graminifolia (L.)
Hutt.

Euthamia graminifolia (L.)
Hutt.

WABAUNSEE COUNTY
Map No. 463
COMPOSITAE

Aster laevis L.

WABAUNSEE COUNTY
Map No. 464

Aster multiflorus Ait.

WABAUNSEE COUNTY
Map No. 465
COMPOSITAE

Arotchum minus Benth.

Boebera papposa (Vont.) Rydb.

WABAUNSEE COUNTY
Map No. 466

WABAUNSEE COUNTY
Map No. 467
COMPOSITAE

Achillea millefolium

L.

WAHAUNSEE COUNTY
Map No. 468

Erigeron philadelphicus L.

WAHAUNSEE COUNTY
Map No. 469
**ESKIDGE**
COMPOSITAE
Eupatorium altissimum
L.

WABAUNSEE COUNTY
Map No. 472

Eupatorium urticaefolium
Reichard

WABAUNSEE COUNTY
Map No. 473
COMPOSITAE
Liatris punctata
(Hook) Kuntze

Liatris var. squarrulosa
Michx.
COMPOSITAE
Brauneria pallida
(Nutt.) Britton

WABAUNSEE COUNTY
Map No. 476

Brauneria purpurea (L.)
Moench.

WABAUNSEE COUNTY
Map No. 477
COMPOSITAE
Ratibida pinnata
(Vent.) Barnhart

WABAUNSEE COUNTY
Map No. 480

Ratibida columnaris (Sims)
D. Don.

WABAUNSEE COUNTY
Map No. 481
COMPOSITAE

Veronia baldwinii Torr.

Veronia fasciculata Michx.
COMPOSITAE
Solidago missouriensis
Mut.:

Xanthium americanum Mill.

WAKAUNSEE COUNTY
Map No. 436

WAKAUNSEE COUNTY