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Dickinson County Flora (A Preliminary Check-List of the Vascular Plants of Dickinson County, Iowa, Based Largely on the Herbarium of the Iowa Lakeside Laboratory)

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Dickinson County Flora

(A Preliminary Check-List of the Vascular Plants of Dickinson County, Iowa, Based Largely on the Herbarium of the Iowa Lakeside Laboratory)

By MARTIN L. GRANT

I. Geography

Dickinson County is in the northernmost tier of counties in the state of Iowa, it being the third county to the east from the western border of the state. It is bounded on the north by Minnesota, west by Osceola Co., south by Clay Co., and east by Emmet Co. It touches O'Brien Co. at the southwest corner, and Palo Alto Co. at the southeast. Just west of Osceola Co. is Lyon Co., the north-westernmost county in the state. The Iowa Lakeside Laboratory on Miller's Bay, West Lake Okoboji, is at 43° 20' N. Latitude, and 95° 7' W. Longitude. The county has an area of 379 square miles.

The county seat is Spirit Lake. Other towns are Arnold's Park, Lake Park, Milford, Montgomery, Okoboji, Orleans, Superior, and Terril.

The southwestern quarter of the county is covered by Tazewell drift (oldest), the southeastern quarter by Cary drift (intermediate), and the northern half by Mankato drift (youngest), all three representing stages of Wisconsin glaciation. No bed-rock is exposed. The entire area is one of terminal moraines, particularly the Bemis and Altamont, and the topography is thus relatively hilly, with occasional local differences of elevation exceeding one hundred feet. The altitude of West Lake Okoboji is 1392'. The only mineral resources are sand and gravel.

The area is drained entirely (except the northeast corner) by the Little Sioux River (and its tributaries, the largest being Stony and Muddy Creeks), which flows into the Missouri.

The county is perhaps best known for its many large glacial lakes, the biggest being Spirit Lake (5684 acres), West Okoboji (3939), East Okoboji (1875), Silver (1058), Swan (371), Hottes (312), Center (264), Little Spirit (214), Marble (175), Diamond (166), Prairie (136), Jefferson Slough (100), Pleasant (82) and Welch (75). West Okoboji has a maximum depth of 132 feet, while Spirit Lake is 40, and East Okoboji is 27. Of the eight largest natural lakes in Iowa, four are in Dickinson Co., with one each in the adjacent counties of Palo Alto (Lost Island Lake), Clay

(Trumbell Lake), and Emmet (West Swan Lake). (The remaining one, third in size, is Clear Lake, in Cerro Gordo Co.)

The land area is largely prairie, almost all of which is in cultivation or pasture, with only a few small undisturbed sites remaining. There are forest fringes around many of the lakes (Figs. 1-2) and along the Little Sioux River. For a full discussion of the vegetation see Shimek (1915) and Anderson (1938 and 1943).

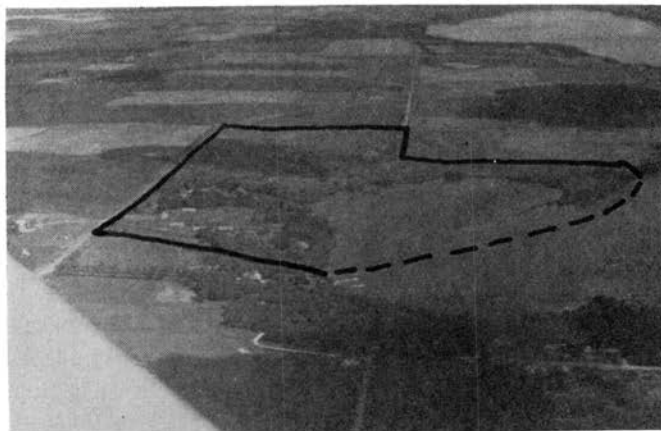


Fig. 1. The Iowa Lakeside Laboratory Property, Including Little Miller's Bay, the Central Western Extremity of West Lake Okoboji, from the South.

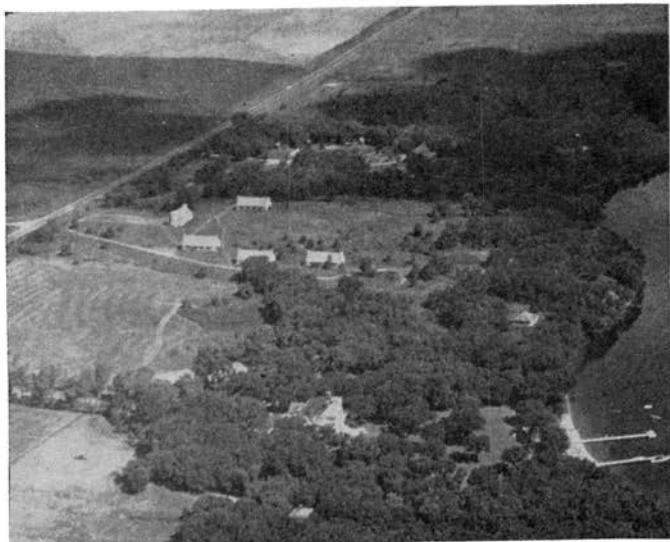


Fig. 2. The Campus of the Laboratory, Including All the Buildings on the Property, from the Southeast.

II. History of Plant Collecting

Charles Geyer collected a dozen species around Spirit Lake in 1839 (Shimek, 1915). Later nineteenth century (1880-1900) collectors in Dickinson Co. included E. W. D. Holway, J. C. Arthur, L. H. Pammel, T. H. Macbride, Bohumil Shimek, R. I. Cratty, and A. S. Hitchcock. Macbride published (1900) a list of the woody plants of the county.

By far the most complete of all collections to date are those of Shimek, resulting in his definitive "Plant Geography of the Lake Okoboji Region" (1915), in which he lists, based exclusively on his own collections, 611 full species of wild vascular plants, including 57 introductions. Nine of the native species listed by Shimek, however, are recorded only from Emmet Co., and this has given rise to some confusion in recent literature, in that all of Shimek's records have been attributed to Dickinson Co. These nine species are indicated in the check-list below.

Since Shimek's paper is written primarily with an ecological viewpoint, it is a bit inconvenient to use as a taxonomic check-list. There are three major lists of plants (swamp, forest, and prairie) and eight minor ones, but when these are put together, it becomes an admirable annotated list of the species then known from the county, with fairly precise locality and habitat records for each. Shimek continued his studies, adding thirty species to the flora of the county (1917a), and repeating and publishing other county records in more general papers (1917b).

W. A. Anderson published several short papers of an ecological nature (1938-1949), which added a number of native and introduced species to the county list.

Additional Dickinson Co. records have been published in Cratty's Iowa Flora (1933), one of the supplements by Hayden (1945), in Pammel's Weed Flora (1913 and 1926, though the second edition is not separately cited in the annotated list below unless it differs in treatment from the first edition) and his Honey Plants (1930), in Gilman & Archer's list of hosts of fungi (1929), and in a number of state taxonomic lists: Grasses (Adams, 1931; and Augustine, 1940), Salix (Ball, 1900), Cyperaceae (Cratty, 1898; Gilly, 1946; and Bennett, 1949), Oxalis (Conard and Hubbard, 1946), Umbelliferae (Murley, 1946), Lysimachia (Goodman and Leyendecker, 1943), Apocynum (Murley, 1947), Boraginaceae (Gilly & O'Brian, 1949), Labiatae (Bass, 1944), Heliantheae (Johns, 1931 and 1935), and Aster (Kellogg, 1948).

III. The Iowa Lakeside Herbarium

The Iowa Lakeside Laboratory was founded in 1909, and set up on Miller's Bay, on the west side of West Lake Okoboji, where, managed indirectly through the State University of Iowa, it has ever since served as a center for biological research and teaching in the Lake Region of Iowa.

The Lakeside Herbarium was founded in 1923 when H. S. Conard collected and mounted 372 sheets of local plants, and added them to 438 of Shinek's collections (1896-1913) and 53 of L. M. Cavanagh's (1910) which Shinek sent up from duplicates of the Iowa City Herbarium.

Various other students and teachers contributed as follows, with dates, and with the numbers of collections in parentheses: 1881 R. I. Cratty (1); 1923 M. Hitchings (3), M. L. Sloan (2), H. L. Tiffany (1), B. O. Wolden (1); 1925 K. A. Gilmore (4), M. L. Lohman (17); 1926 H. E. Jaques (1), L. Sawyer (1); 1932 E. Harrington (1), K. A. Reinke (1), D. Rogers (4); 1933 C. M. Holmes (5), L. W. Miller (13), A. J. Stanley (1); 1940 C. Brooks (1); 1941 W. B. Fox (6).

W. A. Anderson taught at the Laboratory for ten summers (1932, 1934-42), and added 52 collections to the Herbarium, making a total there of 978 sheets of plants. The writer spent the summers of 1948 and 1949 also teaching at the Laboratory, collecting 596 numbers, of which over 500 have so far been inserted. (Duplicates of these will eventually be deposited at the State University of Iowa and at Iowa State College.) Other additions in 1949 were H. S. Conard (1), R. L. King (1), D. Tabb (9), and K. Takehara (13). The Herbarium consists, thus, of approximately 1500 sheets of plants.

IV. Explanation of the Check-List

The annotated list below is primarily a list of the species in the Lakeside Herbarium, and all specimens, unless otherwise noted, are in that collection. All records, both of specimens seen and records from the literature, are from Dickinson Co. A number of specimens have been studied in other herbaria in the state, but no other herbarium has been *completely* checked for Dickinson Co. records. Some specimens cited have not been personally confirmed, e.g., Miss Ada Hayden's published records have been unequivocally incorporated in this paper without comment. The other herbaria are cited as follows: State University of Iowa (SUI), Iowa State College (ISC), Grinnell College (G), and Parsons College (P).

Obviously these (and other) herbaria contain a great many uncited Dickinson Co. records.

Three methods of citing herbarium specimens have been used. It would have been best, of course, to cite the full collection data for each sheet, but that would have made a mere check-list of this sort too long to justify the space involved. First, field numbers have been used whenever they were given by the collector, since that makes possible definitive comparison with duplicate sheets in other herbaria, but unfortunately this applies to very few of the collections except those of the writer. Second, about half of the Lakeside Herbarium has been number-stamped (Pteridophyta through the Nyctaginaceae, arranged according to the Engler-Prantl system), and these numbers have been the next choice. They are always cited here preceded by the letter L. Third, where neither of these numbers existed, the year in which the collection was made is cited. (Bibliographic references are also cited by date, but are here always enclosed in parentheses to distinguish them from collection dates, which are never parenthesized.) It is just a coincidence that no field numbers are included which are the same numerals as the years covered by the collections (1880-1949). For each species the collections cited are generally arranged chronologically.

Secondly, the annotated list below attempts to include all published records of additional species not in the Lakeside Herbarium. In general, published records of species seen in the herbaria consulted have not been cited unless they are listed under different binomials. All bibliographic references have the date of publication enclosed in parentheses. The bibliography at the end includes only those papers cited in the text. This bibliographic searching is probably incomplete, and doubtless many records have been overlooked.

The families are arranged according to the Engler-Prantl system, and the prefixed numbers are those given by Torre and Harms to the families so arranged. While this is not a modern arrangement, it is the only one in general use which has been given standard numbers. To make the list cover the Pteridophyta also, numbers preceded by the small letter p have been given to those families. Within the families, genera and species are arranged alphabetically. All nominative specific and varietal names have been decapitalized.

The synonymy attempts to include all names under which the species have been previously reported for Dickinson Co. Otherwise the usual custom of citing the names given in the seventh edition of Gray's Manual (1908) has not been consistently followed, inas-

much as the new edition of the Manual will be out before this paper appears in print.

The treatment of varieties and forms is not consistent. In some cases they are cited in addition to the species proper, in other cases they are ignored, depending sometimes on the distinctness of the entity involved, and sometimes on the number of specimens available.

Species names in capital letters represent introductions that have become accidentally established. Species occurring only in cultivation are omitted. An asterisk (*) appears before the names of species for which no published county record has been found. A number sign (#) appears before a few (16) species which are excluded as based on misidentifications or incomplete records. Additional exclusions are discussed under the species with which they probably should be identified. Further checking of the specimens on which records have been published will doubtless result in other exclusions. Species marked with a dagger (†) represent, in addition to those marked with an asterisk, those not included in Shimek's list (1915).

V. Statistical Summary of the Flora

Table 1 shows the numbers of families, genera, and species of native and introduced plants in each of the major taxonomic groups. All but ten species are flowering plants. The total flora is 785 full species, of which 113 are introduced. (About 50 additional varieties and forms are mentioned in the annotated list, and perhaps an equal number of frequently recognized subspecific entities are omitted.)

Shimek's list (1915), for Dickinson Co. only, included 602

Table 1

Families, Genera, and Species of Native and Introduced Vascular Plants.

	Families			Genera			Species		
	Nat.	Intr.	Tot.	Nat.	Intr.	Tot.	Nat.	Intr.	Total
A. Pteridophyta	3	0	3	4	0	4	9	0	9
B. Gymnospermae	1	0	1	1	0	1	1	0	1
C. Monocotyledoneae	18	0	18	74	10	84	207	21	228
D. Dicotyledoneae	(72)	(4)	(76)	(213)	(47)	(260)	(455)	(92)	(547)
1. Apetalae	14	1	15	23	7	30	49	21	70
2. Choripetalae	35	2	37	96	20	116	179	33	212
3. Sympetalae	23	1	24	94	20	114	227	38	265
Total	94	4	98	292	57	349	672	113	785

species, of which 57 were introduced. Since then, and in some earlier literature, there have been published records for 155 other species, including 41 introductions, all of which are marked with a dagger (†) in the check-list below. Some 30 of these were reported by Shimek himself (1917a). Then, there are reported in this paper 49 additional species, including 16 introductions, for which no published records have been found, which 49 are marked with an asterisk (*) in the check-list, making a grand total of 204 species added to Shimek's original flora of the county. If this 204 is added to Shimek's original 602, the total, 806, is greater (by 21 species) than the 785 recognized above. This is due to the rejection of some records and the synonymizing of some others.

Table 2 is a list of the numbers of species in the fifteen largest families in the county flora, which includes all those with ten or more species. These fifteen families include two-thirds (67.3%) of the species in the flora. The largest genera are *Carex* (44 species); *Aster* (17); *Potamogeton* (15); *Polygonum* (13); *Ranunculus*

Table 2

Numbers of Species, Native and Introduced, in the 15 Largest Families.

Families	Nat.	Intr.	Total	Families	Nat.	Intr.	Total
1. Compositae	111	19	130	9. Umbelliferae	16	2	18
2. Gramineae	61	19	80	10. Polygonaceae	13	5	18
3. Cyperaceae	68	0	68	11. Liliaceae	15	2	17
4. Leguminosae	30	8	38	12. Scrophulariaceae	14	3	17
5. Rosaceae	30	1	31	13. Potamogetonaceae	16	0	16
6. Labiatae	26	4	30	14. Euphorbiaceae	9	2	11
7. Ranunculaceae	22	0	22	15. Chenopodiaceae	3	7	10
8. Cruciferae	8	14	22				
				Total	442	86	528

Table 3

Numbers of Vascular Species (and Varieties, Except for Dickinson Co.) in Selected Areas in Iowa.

Area	Reference	Numbers of Species		
		Native	Introd.	Total
1. Dickinson Co.	Grant	672	113	785
2. Emmet Co.	Wolden (1934)	800	130	930
3. Clay & Palo Alto Cos.	Hayden (1943)	623	204	827
4. SE. Iowa (10 Cos.)	Gilly & MacDon. (1949)	723	162	885
5. Jefferson Co.	"			821
6. Johnson Co.	Somes (1913)			1005
7. Mahaska Co.	Augustine (1941)	478	112	590

(11); *Cyperus*, *Chenopodium*, *Euphorbia*, *Helianthus*, and *Solidago* (9 each); and *Panicum*, *Juncus*, *Asclepias*, and *Cirsium* (7 each).

Table 3 is a comparison of the flora (size) with other regions of the state. These figures are not strictly comparable, since the Dickinson Co. figure does not include additional varieties, as do all the other totals. Also, some areas have been collected more carefully, and over longer periods of time.

VI. Annotated List of Species

A. PTERIDOPHYTA

p5. EQUISETACEAE (Horse-tail Family)

Equisetum arvense L. — Cavanagh L8, Conard L7.

†*E. fluviatile* L. — Conard L9.

E. hyemale L. (Including var. *intermedium* A. A. Eaton, and var. *robustum* (A. Br.) A. A. Eaton). — Shimek L10, L11.

†*E. kansanum* Schaffn. — Grant 8689.

E. laevigatum A. Br. — Cavanagh L13, Conard L14. (Probably = *E. hyemale*.)

E. variegatum Schleich. (Including var. *Jesupi* A. A. Eaton). — Shimek L15, L16, L17.

p6. OPHIOGLOSSACEAE (Adder's-tongue Family)

Botrychium virginianum (L.) Sw. — Takehara 1.

#p8. OSMUNDACEAE (Royal Fern Family)

#*Osmunda claytoniana* L. — Reported by Shimek (1915), but from Emmet Co., not Dickinson Co.

p14. POLYPODIACEAE (Polypody Fern Family)

#*Adiantum pedatum* L. — Reported by Shimek (1915), but from Emmet Co., not Dickinson Co.

Athyrium angustum (Willd.) Presl. — Reported by Shimek (1915), as *Asplenium filixfoemina* (L.) Bernh.

Cystopteris fragilis (L.) Bernh. — Cavanagh L20.

B. GYMNOSPERMAE

6. PINACEAE (Pine Family)

Juniperus virginiana L. — Cavanagh L23, Conard L24.

C. MONOCOTYLEDONEAE

8. TYPHACEAE (Cat-tail Family)

†*Typha angustifolia* L. — Fox L28; Anderson, Grant, and Hayden 11230 (ISC).

T. latifolia L. — Conard L23.

10. SPARGANIACEAE (Bur-reed Family)

Sparganium americanum Nutt. — Reported by Shimek (1915) as var. *androcladum* (Eng.) Fern. & Eames.

**S. chlorocarpum* Rydb. — Conard L32 (as *S. diversifolium* Graebn.), Grant 8708.

S. chlorocarpum var. *acaule* (Beeby) Fern. — Shimek L33 (as *S. simplex* Huds.).

S. eurycarpum Englem. — Shimek L31, Sigler 61 (ISC).

11. POTAMOGETONACEAE (Pond-weed Family)

Potamogeton amplifolius Tuckerm. — Shimek L41, Conard L40.

P. epihydrus Raf. — Reported by Shimek (1915).

P. foliosus Raf. var. *macellus* Fern. — Conard L38, Sigler 150 (ISC).

P. friesii Rupr. — Reported by Pammel (1896) as *P. mucronatus* Schrad., and by Shimek (1915).

P. gramineus L. var. *graninifolius* Fries. — Reported by Shimek (1915), as *P. heterophyllus* Schreb.

†*P. illinoensis* Morong. — Sigler 42 (ISC), Sigler & Hayden 5 (ISC).

P. natans L. — Shimek L42, Conard L43, Sigler 50 (ISC), Sigler & Hayden 3 (ISC), Grant 11177.

P. nodosus Poir. — Conard L39 (as *P. americanus* C. & S.), Sigler & Hayden 50 (ISC), Grant 8776. Reported by Pammel (1896) as *P. lonchites* Tuck.

P. panormitanus Biv. — Shimek L45 (as *P. pusillus* L.), Shimek (ISC 25026), Cratty (ISC 12593), Sigler & Hayden 6 (ISC), Grant 8770. Reported by Shimek (1897) as *P. major* (Fries) Morong.

P. pectinatus L. (including *P. interruptus* Kitaibel). — Shimek L47, Conard L48, Grant 8780.

P. praelongus Wulf. — Hitchcock 86959 (ISC), Shimek L49, Conard L50, Grant 8775, 11176.

P. richardsonii (Benn.) Rydb. — Shimek L53, Conard L54, Sigler 37 (ISC), Sigler & Hayden 2 (ISC), Grant 8772, 8774. Reported by Pammel (1896) and Shimek (1897) as *P. perfoliatus* var. *richardsonii* Bennett.

P. spirillus Tuck. — Reported by Shimek (1915), as *P. dimorphus* Raf.

†*P. strictifolius* Benn. — Hitchcock 12594 (ISC).

P. zosteriformis Fern. — Hitchcock 12554 (ISC), Shimek L57 (as *P. zosterifolius* Schum.), Conard L56, Sigler 49 (ISC), Grant 8771.

Zannichellia palustris L. — Shimek L60, Conard L61, Miller L62, Sigler 67 (ISC), Grant 8782, 8948.

12. NAIADACEAE (Naias Family)

Naias flexilis (Willd.) R. & S. — Shimek L34, Sigler 31 (ISC), Grant 8783.

†*N. guadalupensis* (Spreng.) Magnus. — Sigler 63 (ISC), Grant 8980 (det. S. S. Chase).

14. JUNCAGINACEAE (Arrow-grass Family)

†*Triglochin maritima* L. — Anderson L66, Grant 8723, 8955.

**T. palustris* L. — Grant 8956.

15. ALISMACEAE (Water-plantain Family)

Alisma subcordatum Raf. — Shimek L68, L69-70, as *A. plantago-aquatica* L.; Sigler & Hayden 26 (ISC).

Echinodorus cordifolius (L.) Griseb. — Reported by Shimek (1915).

†*Lophotocarpus calycinus* (Engelm.) J. G. Smith. — Sigler & Hayden 25 (ISC), Grant 8976, 11210.

**Sagittaria brevirostra* Mack. & Bush. — Conard L73, as *S. arifolia* Nutt.

- S. cuneata* Sheldon. — Shimek L75 (as *S. arifolia* Nutt.), Anderson L74, Sigler & Hayden 27 (ISC).
S. latifolia Willd. — Shimek L76, Lohman L77, Sigler 69 (ISC).
 **S. rigida* Pursh. — Grant 8987.

17. HYDROCHARITACEAE (Frog's-bit Family)

- Elodea canadensis* Michx. (inc. *E. iowensis* Wylie). — Shimek L79, L81, Gilmore L80, Grant 8778.
Vallisneria americana Michx. — Shimek L82 (as *V. spiralis* L.), Gilmore L83, Sigler & Hayden 1 (ISC), Grant 8785.

19. GRAMINEAE (Grass Family)

- Agropyron pauciflorum* (Schwein.) Hitchc. (*A. trachycaulum* var.) — Shimek L108 (as *A. tenerum* Vasey), Conard L109, Grant 11158, 11159, 11160.
 †*A. REPENS* (L.) Beauv. — Cratty 1921 [ISC, fide Augustine (1940)], Conard L117, Grant 8733, 11140.
A. smithii Rydb. — Shimek L110, Conard L111, Grant 11178.
A. subsecundum (Link.) Hitchc. (*A. trachycaulum* var.) — Shimek L112 (as *A. richardsonii* Schrad.), Shimek L113 [as *A. caninum* (L.) Beauv.], Conard L115, L118, Grant 8732, 8817; Cratty 1920, and Hitchcock n.d., both (ISC) fide Augustine (1940).
AGROSTIS ALBA L. — Shimek L137.1, L139, Conard L138.
A. hyemalis (Walt.) B. S. P. — Shimek L140, L141.
Alopecurus aequalis Sobol. — Shimek L142 (as *A. geniculatus* L.), Conard L143, Sigler & Hayden 92 (ISC), Grant 8834.
Andropogon furcatus Muhl. — Conard L214, Grant 8813. (*A. gerardi* Vitm.)
A. scoparius Michx. — Shimek L216, Conard L217.
Aristida basiramea Engelm. — Reported by Shimek (1915).
 †*AVENA SATIVA* L. — Reported by Anderson (1938).
Beckmannia syzigachne (Steud.) Fern. — Shimek L170 (as *B. erucaeformis* (L.) Host), Conard L171, Sigler & Hayden 34 (ISC), Grant 8730.
Bouteloua curtipendula (Michx.) Torr. — Shimek L173, Conard L174, Grant 8814.
B. gracilis (H. B. K.) Lag. — Shimek L176 [as *B. oligostachya* (Nutt.) Torr.], Conard L177, Grant 8902.
B. hirsuta Lag. — Shimek L179, Conard L180, Grant 8903.
 †*Bromus altissimus* Pursh. — Anderson L84, Adams 1929 [SUI, fide Adams (1931)]. [*B. latiglumis* (Shear) Hitchc.]
B. ciliatus L. — Conard L85.
 **B. COMMUTATUS* Schrad. — Anderson 2015, Grant 11163.
 †*B. INERMIS* Leyss. — Reported by Anderson (1946).
B. purgans L. — Shimek L87.
B. SECALINUS L. — Shimek L88.
Calamagrostis canadensis (Michx.) Nutt. — Shimek L145, Conard L146.
 †*C. inexpansa* Gray. — Anderson L148, Grant 8950.
 †*Cenchrus longispinus* (Hack.) Fern. — Miller L192. Reported by Pammel (1913) as *C. tribuloides* L., and by Shimek (1917b) as *C. carolinianus* Walt.
 **Cinna arundinacea* L. — Shimek L149.
 †*DACTYLIS GLOMERATA* L. — Reported by Shimek (1917a).
 †*DIGITARIA SANGUINALIS* (L.) Scop. — Conard L193.

- ECHINOCHLOA CRUSGALLI* (L.) Beauv. — Shimek L194, Conard L195, Sigler 56 (ISC).
- Elymus canadensis* L., including var. *robustus* (Scribn. & Smith) Mack. & Bush. — Shimek L119.
- **E. macounii* Vasey. — Shimek L123 [as *E. striatus* Willd. var. *arkansanus* (S. & B.) Hitchc.].
- **E. riparius* Wieg. — Grant 8963.
- **E. villosus* Muhl. — Shimek L121 (as *E. striatus* Willd.), Conard L122, Grant 11161 (det. R. W. Pohl).
- E. villosus* forma *arkansanus* (Scribn. & Ball) Fern. — Shimek L120.
- E. virginicus* L. — Conard L125, Sigler 110 (ISC), Grant 8965.
- E. virginicus* var. *jejunos* (Ramaley) Bush. — Shimek L124.
- †*ERAGROSTIS CILIANENSIS* (All.) Link. — Conard L91. Reported by Pammel (1913) as *E. major* Host, and by Pammel (1926) as *E. megastachya* (Koeler) Link.
- **E. hypnoides* (Lam.) B. S. P. — Conard L89, Grant 8905.
- **E. pectinacea* (Michx.) Nees. — Shimek L92.
- †*E. PILOSA* (L.) Beauv. — Conard L90.
- Festuca obtusa* Biehler. — Shimek L93, as *F. nutans* Spreng.
- F. octoflora* Walt. — Shimek L94. [*Vulpia octoflora* (Walt.) Rydb.]
- Glyceria grandis* S. Wats. — Shimek L95, Conard L96, Sigler & Hayden 36 (ISC), Grant 11162.
- G. striata* (Lam.) Hitchc. — Shimek L97 [as *G. nervata* (Willd.) Trin.], Conard L98, Grant 11143.
- †*Hierochloa odorata* (L.) Beauv. — Reported by Pammel (1913) as *H. borealis* R. & S., and by Anderson (1943).
- HORDEUM JUBATUM* L. — Shimek L126, Conard L127. Native?
- Hystrix patula* Moench. — Shimek L129, Conard L130.
- Koeleria cristata* (L.) Pers. — Cavanagh L133, Conard L135, Grant 8738.
- Leersia oryzoides* (L.) Sw. — Shimek L186, Conard L187, Sigler 55 (ISC), Grant 11282.
- L. virginica* Willd. — Shimek L188, Conard L189.
- †*LOLIUM TEMULENTUM* L. — Reported by Pammel (1913).
- Muhlenbergia cuspidata* (Nutt.) Rydb. — Shimek L162, as *Sporobolus brevifolius* (Nutt.) Scribn.; Conard L163.
- **M. foliosa* (R. & S.) Trin. — Anderson L151. [*M. mexicana* (L.) Trin.]
- M. frondosa* (Poir.) Fern. — Shimek L152 [as *M. mexicana* (L.) Trin.], Conard L153.
- M. racemosa* (Michx.) B. S. P. — Shimek L155, Conard L156, Grant 8951.
- M. sabolifera* (Muhl.) Trin. — Reported by Shimek (1915).
- M. sylvatica* Torr. — Shimek L157.
- Oryzopsis racemosa* (Smith) Ricker. — Shimek L158, Grant 11217.
- Panicum capillare* L. — Shimek L196-7 (including his *P. gattingeri* Nash), Conard L198.
- #*P. depauperatum* Muhl. — Reported by Shimek (1915) on the basis of Shimek L199, but the specimen is indeterminate and was questioned by Shimek himself. According to R. W. Pohl it is not this species.
- P. implicatum* Scribn. — Shimek L200 (as *P. dichotomum* L. var. *villosum* Vasey), Shimek L201 (as *P. huachucae* Ashe var. *silvicola* Hitchc. & Chase), Conard L204 (as *P. meridionale* Ashe).
- P. leibergii* (Vasey) Scribn. — Shimek L202, Conard L203.

- P. oligosanthos* Schult. var. *scribnerianum* (Nash) Fern. — Shimek L205 (as *P. scribnerianum* Nash).
- **P. philadelphicum* Bernh. — Grant 8904.
- P. virgatum* L. — Shimek L206, Grant 11245.
- †*P. wilcoxianum* Vasey. — Anderson L207.
- Phalaris arundinacea* L. — Shimek L184, Conard L185.
- PHLEUM PRATENSE* L. — Conard L159.
- Phragmites communis* Trin. — Shimek L99, Conard L100.
- POA COMPRESSA* L. — Cavanagh L101, Conard L102.
- P. palustris* L. — Shimek L104, 105, and 106, (as *P. triflora* Gilib.), Conard L107.
- P. PRATENSIS* L. — Conard L103.
- SETARIA LUTESCENS* (Weigel) F. T. Hubb. — Shimek L208, 210, [as *S. glauca* (L.) Beauv.], Conard L209 (det. R. W. Pohl), Grant 8908.
- S. VERTICILLATA* (L.) Beauv. — Stanley L211.
- S. VIRIDIS* (L.) Beauv. — Shimek L212, Conard L213.
- Sorghastrum nutans* (L.) Nash. — Shimek L218.
- Spartina pectinata* Link. — Shimek L182 (as *S. michauxiana* Hitchc.), Conard L183, Grant 8835.
- Sphenopholis obtusata* (Michx.) Scribn. — Shimek L136, Conard L137.
- #*S. pallens* (Biehler) Scribn. — Reported by Shimek (1915), but according to Hitchcock (1935) this species is known only from Pennsylvania and South Carolina.
- Sporobolus asper* (Michx.) Kunth. — Shimek L160.
- S. cryptandrus* (Torr.) Gray. — Shimek L164, Sigler 99 (ISC).
- S. heterolepis* Gray. — Shimek L165.
- Stipa spartea* Trin. — Shimek L166, Conard L167.
- **S. viridula* Trin. — Anderson L168.
- **Zizania aquatica* L. — Conard L191, Grant 8855.

20. CYPERACEAE (Sedge Family)

- Bulbostylis capillaris* (L.) C. B. Clarke. — Reported by Shimek (1915 and 1917b), as *Stenophyllus c.* (L.) Britt., but unconfirmed by Gilly (1946).
- Carex albursina* Sheldon. — Reported by Shimek (1915) as *C. laxiflora* Lam. var. *latifolia* Boott. Not confirmed by Gilly (1946).
- †*C. amphibola* Steud. var. *turgida* Fern. — Reported by Bennett (1949) as collected by Shimek.
- †*C. annectens* (Bickn.) Bickn. var. *xanthocarpa* (Bickn.) Wieg. — Reported by Gilly (1946).
- †*C. aquatilis* Wahl. var. *altior* (Rydb.) Fern. — Anderson L220, as *C. stricta* Lam., corrected (apparently by Anderson) to *C. substricta* (Kuk.) Mack., and published (1943) as *C. aquatilis* Wahl.
- C. atherodes* Spreng. — Anderson L221, Grant 8706, 8824. Reported by Shimek (1915) as *C. trichocarpa* Muhl. var. *aristata* (R. Br.) Bailey.
- C. bebbii* Olney. — Conard L224.
- C. bicknellii* Britt. — Shimek L225, Anderson L226. Not seen from this county by Gilly (1946), but Shimek's collection verified by Bennett (1949).
- C. blanda* Dewey. — Shimek L227, as *C. laxiflora* Lam. var. *blanda* (Dewey) Boott.; Anderson L228 (as *C. l.* var. *varians* Bailey); Sigler 115 (ISC). Not confirmed by Gilly (1946), but verified by Bennett (1949).

- C. brevior* (Dewey) Mack. — Cavanagh L229, L230. Reported by Cratty (1898) and Shimek (1915) as *C. foenea* Willd. var. *perplexa* L. H. Bailey, and by Anderson (1938) as *C. festucacea* Schkuhr. ex Willd. var. *brevior* (Dewey) Fern.
- †*C. buxbaumii* Wahl. — Reported by Gilly (1946).
- C. comosa* Boott. — Reported by Shimek (1915 and 1917b) and Gilly (1946).
- **C. crawei* Dewey. — Shimek L231, as *C. tetanica* Schkuhr var. *Meadii* (Dewey) Bailey.
- C. cristatella* Britt. — Shimek L232 (as *C. cristata* Schw.), Conard L233.
- †*C. crus-corvi* Shuttlw. ex Kunze. — Reported by Gilly (1946).
- †*C. deweyana* Schw. — Arthur 967b (ISC), according to Cratty (1898 and 1933); Gilly (1946).
- #*C. eburnea* Boott. — Gilly (1946) cites this as reported from Dickinson Co., but unconfirmed. The reference he gives is to Shimek (1915), where, however, it is reported from Emmet Co., not Dickinson. It does occur in the adjacent counties of Clay and Emmet.
- C. cleocharis* L. H. Bailey. — Shimek L234 (as *C. stenophylla* Wahl.)
- C. festucacea* Schkuhr. ex Willd. — Reported by Cratty (1898) and Shimek (1915 and 1917b) but not confirmed by Gilly (1946).
- C. gravida* L. H. Bailey, including var. *laxifolia* Bailey. — Cavanagh L235, Shimek L236, Conard L237.
- †*C. haydenii* Dewey. — Reported by Gilly (1946).
- C. hirtifolia* Mack. — Shimek L238, as *C. pubescens* Muhl. Not confirmed by Gilly (1946).
- C. hystricina* Muhl. — Shimek L240, Conard L241, Grant 8691. According to Gilly (1946) this species includes Arthur's (1886) record of *C. pseudo-cyperus* L.
- †*C. interior* Bailey. — Reported by Bennett (1949) as collected by Shimek.
- †*C. lacustris* Willd. — Grant 8707. Previously reported by Pammel (1913), but not confirmed by Gilly (1946).
- †*C. lasiocarpa* Ehrh. — Grant 8693. Var. *americana* Fern., reported by Gilly (1946) from Dickinson Co., occurs in the same clump with the typical form.
- C. lasiocarpa* var. *latifolia* (Boeck.) Gilly. — Sigler 7 (ISC), Anderson L243 (as *C. lanuginosa* Michx.).
- †*C. lurida* Wahl. — Reported by Anderson (1943), not confirmed by Gilly (1946).
- C. meadii* Dewey. — Reported by Gilly (1946). See *C. crawei* above.
- †*C. normalis* Mack. — Reported by Gilly (1946).
- C. pennsylvanica* Lam. — Shimek L244.
- †*C. praegracilis* Boott. — Reported by Bennett (1949), as collected by Shimek.
- †*C. projecta* Mack. — Anderson L245.
- †*C. retrorsa* Schwein. — Reported by Gilly (1946).
- C. rosca* Schkuhr ex Willd. var. *pusilla* Peck ex Howe. — Conard L246.
- **C. rostrata* Stokes var. *utriculata* (Boott) Bail. — Anderson L247, as *C. rostrata*.
- C. sartwellii* Dewey. — Shimek L248. Not confirmed by Gilly (1946), but verified by Bennett (1949).
- C. scoparia* Schkuhr ex Willd. — Shimek L249. Not confirmed by Gilly (1946).

- C. sprengelii* Dewey ex Spreng. — Shimek L250 (as *C. longirostris* Torr.), Anderson L251. Not confirmed by Gilly (1946).
- C. stipata* Muhl. ex Willd. — Miller L253, Grant 8694.
- ‡*C. straminea* Willd. — Reported by Cratty (1898) based on Arthur's Spirit Lake specimen (June 4, 1881). I have been unable to locate Gilly's (1946) disposition of this sheet. It has quite probably been identified with one of the many closely related species.
- †*C. stricta* Lam. — Grant 8709. Reported by Cratty (1898), but not confirmed by Gilly (1946). Collected by Shimek, according to Bennett (1949).
- C. sychmocephala* Carey. — Shimek L258, Sigler & Hayden 12 (ISC), Grant 8858, 8977.
- †*C. tenera* Dewey. — Reported by Cratty (1898), but not confirmed by Gilly (1946). Collected by Shimek, according to Bennett (1949).
- C. tribuloides* Wahl. — Shimek L259. Not confirmed by Gilly (1946), but verified by Bennett (1949).
- C. trichocarpa* Muhl. — Anderson 1966, Grant 8692. Not confirmed by Gilly (1946).
- †*C. vesicaria* L. — Anderson L262.
- C. vulpinoidea* Michx. — Cavanagh L263, Sigler 5 (ISC).
- Cyperus inflexus* Muhl. — Shimek L265, Conard L263, Grant 8859.
- †*C. engelmanni* Steud. — Reported by Gilly (1946).
- C. erythrorhizos* Muhl. — Fox L268, Grant 8846, 8867.
- †*C. esculentus* L. — Reported by Pammel (1913). Not confirmed by Gilly (1946). Collected by Shimek, according to Bennett (1949).
- †*C. filiculmis* Vahl. — Reported by Shimek (1917b), but the record not mentioned by Gilly (1946).
- C. odoratus* L. var. *squarrosus* (Britt.) Gilly. — Shimek L276 (as *C. speciosus* Wahl.), Shimek L277 (as *C. strigosus* L.), Conard L278, Grant 8861. Reported by Shimek (1917b) as *C. ferax* Rich.
- C. rivularis* Kunth. — Shimek L269, L270, Conard L272, Grant 8860. According to Gilly (1946) this includes the reports of *C. diandrus* Torr. by Pammel (1896) and Shimek (1917b).
- C. schweinitzii* Torr. — Shimek L274, Conard L275, Grant 8985.
- C. strigosus* L. — Lohman L279, Sigler 59 (ISC), Grant 8868.
- Eleocharis acicularis* (L.) R. & S. — Shimek L281, Conard L282, Sigler & Hayden 14 (ISC), Grant 8831.
- †*E. calva* Torr. — Sigler & Hayden 15 (ISC). Includes the report of *E. intermedia* (Muhl.) Schultes by Gilman & Archer (1929), according to Gilly (1946).
- E. macrostachya* Britt. in Small. — Shimek L283, L284, and L285, as *E. palustris* (L.) R. & S.; Cavanagh L286, as *E. tenuis* (Willd.) Schultes; Conard L287, as *E. ovata* (Roth) R. & S.; Conard L288; Sigler & Hayden 13 (ISC).
- E. obtusa* (Willd.) Schultes. — Shimek L290, as *E. ovata* (Roth) R. & S. Gilly (1946) maps this in Dickinson Co., but also lists it in the "unconfirmed county reports."
- E. wolffi* Gray. — Reported by Shimek (1915), but not confirmed by Gilly (1946).
- †*Eriophorum angustifolium* Honc. — Grant 8702. Gilly (1946) states that Shimek (1917a) reported *E. gracile* Koch, but the reference there is to *E. angustifolium*.

- †*Rhynchospora capillacea* Torr. — Rogers L294, Grant 8952.
 †*Scirpus acutus* Muhl. — Conard L295, Sigler 33 (ISC).
 †*S. americanus* Pers. — Anderson L297, L298, Grant 8727.
S. atrovirens Willd. — Shimek L299, Conard L300, Sigler & Hayden 10 (ISC).
S. fluviatilis (Torr.) Gray. — Shimek L302, Conard L303, Sigler 34 (ISC), Grant 8720.
 **S. paludosus* A. Nels. — Grant 8945. The only other Iowa specimen is Miss Hayden's record (1943) from Palo Alto Co.
S. validus Vahl. var. *creber* Fern. — Shimek L306, Cavanagh L307, Conard L308, Sigler 70 (ISC), Grant 8888.
 †*Scleria triglomerata* Michx. — Collected by Shimek, according to Bennett (1949).

23. ARACEAE (Arum Family)

- Acorus calamus* L. — Shimek L310, Tiffany L311, Grant 8731.
Arisaema triphyllum (L.) Schott. — Conard L312.

24. LEMNACEAE (Duckweed Family)

- †*Lemna minor* L. — Anderson L314, Sigler 54 (ISC), Grant 8717.
L. trisulca L. — Shimek L316, L317, Conard L318, Sigler 11 (ISC), Grant 8712.
Spirodela polyrhiza (L.) Schleid. — Shimek L320, Grant 8711.
 †*Wolffia columbiana* Karst. — Rogers L321, Grant 8715, 8821.
W. punctata Griseb. — Grant 8716, 8822.

33. COMMELINACEAE (Spiderwort Family)

- Tradescantia bracteata* Small. — Cavanagh L325, Shimek L326, Grant 8699.
T. brevicaulis Raf. — Reported by Shimek (1915).
 †*T. occidentalis* (Britt.) Smyth. — Conard L327.

34. PONTEDERIACEAE (Pickerel-weed Family)

- Heteranthera dubia* (Jacq.) Macm. — Shimek L331, Conard L332, Lohman L333, Grant 8784, 11208, Takehara 2. Reported by Shimek (1897) as *H. graminea* Vahl.
H. dubia forma *terrestris* (Farw.) Vict. — Grant 8978.

36. JUNCACEAE (Rush Family)

- **Juncus alpinus* Vill. var. *fuscescens* Fern. — Grant 8953. Apparently a new state record.
 †*J. brachycarpus* Engelm. — Reported by Anderson (1943).
J. bufonius L. — Shimek L336, Conard L337.
J. dudleyi Wieg. — Shimek L339 (including the reports of *J. tenuis* Willd.), Conard L340, Sigler & Hayden 22 (ISC), Grant 8710, 11214, Takehara 4.
J. nodosus L. — Conard L342, Anderson L343, Grant 8865.
J. torreyi Cov. — Shimek L346, Sigler & Hayden 23 (ISC), Grant 11211.
J. vaseyi Engelm. — Reported by Shimek (1915).

38. LILIACEAE (Lily Family)

- Allium canadense* L. — Anderson 1965, Grant 8737.
A. stellatum Fras. — Shimek L350, L351, Conard L352, Grant 8873.
A. tricoccum Ait. — Shimek L355, Grant 11195, Takehara 3.

ASPARAGUS OFFICINALIS L. — Shimek L360, Conard L361, Sigler 87 (ISC).

**CONVALLARIA MAJALIS* L. — Reported by Kelley in manuscript.

Lilium michiganense Farw. — Conard L356, Grant 8807. Reported by Shimek (1915) as *L. canadense* L.

L. philadelphicum L. var. *andinum* (Nutt.) Ker. — Conard L358, Grant 8749.

†*Polygonatum biflorum* (Walt.) Ell. — Shimek L363, as *P. commutatum* (R. & S.) Dietr.; Conard L362.

P. commutatum (R. & S.) Dietr. — Reported by Gilman & Archer (1929).

Smilacina racemosa (L.) Desf. — Sigler 101 (ISC).

S. stellata (L.) Desf. — Shimek L364, Cavanagh L366, Conard L367, Grant 8728.

Smilax cecirrhata (Engelm.) S. Wats. — Reported by Shimek (1915).

S. herbacea L. — Conard L369.

S. hispida Muhl. — Shimek L370, Conard L371. (*S. tamnoides* L. var.)

**Trillium flexipes* Raf. — Holmes L359.

Uzularia grandiflora Smith. — Shimek L368.

Zigadenus elegans Pursh. — Shimek L373 (as *Z. chloranthus* Rich.), Grant 8704. Reported by Anderson (1943) as *Z. glaucus* Nutt.

40. AMARYLLIDACEAE (Amaryllis Family)

**Hypoxis hirsuta* (L.) Cov. — Cavanagh L376, Grant 8700.

44. IRIDACEAE (Iris Family)

Iris virginica L. — Shimek L377 and L378 (as *I. versicolor* L.); Anderson, Ewers, and Koehler L379.

Sisyrinchium campestre Bick. — Cavanagh L380.

50. ORCHIDACEAE (Orchid Family)

†*Cypripedium candidum* Muhl. — Shimek 1916, 1917, and 1919, (all SUI); Anderson L382; Grant 8725.

C. calceolus L. var. *pubescens* (Willd.) Correll. — Shimek 1917 (SUI).
A single plant was seen by the writer in 1949.

†*Habenaria viridis* (L.) R. Br. — Reported by Shimek (1917a).

†*H. hyperborca* (L.) R. Br. — Shimek 1918 (SUI), Conard L383.

H. leucophaea (Nutt.) Gray. — Shimek 1916 (SUI).

†*Liparis loeselii* (L.) Rich. — Grant 8724.

†*Spiranthes cernua* (L.) Rich. — Reported by Anderson (1943), but possibly is based on the same species as is the next record.

**S. romansoffiana* Cham. — Grant 11180.

D. DICOTYLEDONEAE: APETALAE (Mainly)

56. SALICACEAE (Willow Family)

†*Populus balsamifera* L. — Reported by Shimek (1917a) and Wolden (1934) as "evidently native."

P. deltoides Bartr. ex Marsh. — Conard L387. Reported by Macbride (1900) as *P. monilifera* Aiton.

P. tremuloides Michx. — Conard L388, Sigler 124 (ISC).

Salix amygdaloides Anders. — Shimek L391; Shimek (SUI), fide Ball (1900); P. A. Anderson (ISC), fide Pammel (1930); Conard L392; Grant 8685.

- S. cordata* Muhl., including *S. missouriensis* Bebb. — Shimek L398 (as *S. discolor* Muhl.), Grant 11277.
S. discolor Muhl. — Shimek (SUI), fide Ball (1900); Conard L393.
S. interior Rowlee. — Shimek L395, as *S. longifolia* Muhl.; Shimek (SUI), as *S. fluvialtilis* Nutt., fide Ball (1900); Austin & Pammel (ISC) fide Pammel (1930); Conard L396, L397, Grant 8686, 11275.
 **S. lucida* Muhl. — Reported by Anderson in manuscript.
 **S. nigra* Marsh.? — Grant 11276. Shimek (1915) reported this, but only from Emmet Co.

60. JUGLANDACEAE (Walnut Family)

- Carya cordiformis* (Wang.) K. Koch. — Shimek L399, Anderson L400, Sigler 130 (ISC). Reported by Macbride (1900) as *C. amara* Nutt.
C. ovata (Mill.) K. Koch. — Reported by Shimek (1915) and Wolden (1934).
Juglans nigra L. — Reported by Macbride (1900) and Shimek (1915).

61. BETULACEAE (Birch Family)

- Corylus americana* Walt. — Reported by Macbride (1900), Shimek (1915) and Pammel (1930).
Ostrya virginiana (Mill.) K. Koch. — Conard L401, Takehara 5.

62. FAGACEAE (Oak Family)

- Quercus alba* L. — Reported by Shimek (1915) and Wolden (1934).
Q. borealis Michx. var. *maxima* (Marsh) Sarg. — Grant 11283. Reported by Macbride (1900) and Shimek (1915) as *Q. rubra* L.
Q. macrocarpa Michx. — Shimek L402, Conard L403, Sigler 125 (ISC).

63. ULMACEAE (Elm Family)

- Celtis occidentalis* L. — Conard L404, Sigler 134 (ISC).
Ulmus americana L. — Shimek L405, Conard L406.
U. fulva Michx. — Shimek L407, Conard L408; Sigler 149a (ISC), as *U. rubra* Muhl.
 #*U. thomasi* Sarg. — Reported by Shimek (1915) from Emmet Co., as *U. racemosa* Thomas, and by Macbride (1900) as "uncommon throughout our region" (Osceola and Dickinson Cos.). No positive reports from Dickinson Co.

64. MORACEAE (Mulberry Family)

- CANNABIS SATIVA* L. — Anderson L409.
 †*Humulus lupulus* L. — Reported by Shimek (1917a).

65. URTICACEAE (Nettle Family)

- Boehmeria cylindrica* (L.) Sw. — Reported by Shimek (1915).
Laportea canadensis (L.) Wedd. — Shimek L410, L411, Conard L412.
Parietaria pensylvanica Muhl. — Shimek L413, Conard L414.
Pilea pumila (L.) Gray. — Reported by Shimek (1915).
Urtica procera Muhl. — Shimek L415 (as *U. gracilis* Ait), Conard L416, Lohman L417, Sigler 106 (ISC).

69. SANTALACEAE (Sandalwood Family)

- Comandra richardsoniana* Fern. — Cavanagh L419; Conard L420, as *C. umbellata* (L.) Nutt.; Grant 11152.

#74. ARISTOLOCHIACEAE (Birthwort Family)

#*Asarum canadense* L. var. *acuminatum* Ashe. — Reported by Shimek (1915), but as from Emmet Co. only. No Dickinson Co. records.

77. POLYGONACEAE (Buckwheat Family)

Polygonum aviculare L. — Conard L427, Sigler & Hayden 32 (ISC).

P. coccineum Muhl. — Shimek L435, as *P. muhlenbergii* (Meisn.) Wats.; Conard L436; Sigler & Hayden 33 (ISC).

P. CONVOLVULUS L. — Shimek L428, L429, Conard L430.

P. erectum L. — Conard L431.

†*P. HYDROPIPER* L. — Sigler 82 (ISC).

P. hydroperoides Michx. — Anderson L432.

P. lapathifolium L. — Shimek L433.

P. natans A. Eaton. — Shimek L424, as *P. amphibium* L.; Conard L426, as *P. a.* var. *hartwrightii* (Gray) Bissell; Miller L425; Sigler 36 (ISC).

P. pensylvanicum L. — Shimek L440, Conard L441.

P. PERSICARIA L. — Shimek L442, Conard L443, Grant 8805, 11212.

P. punctatum Ell. — Shimek L421 and L422, as *P. acre* H. B. K.; Conard L423.

P. ramosissimum Michx. — Shimek L445, Conard L446, Sigler & Hayden 41 (ISC).

P. scandens L. — Reported by Gilman & Archer (1929) as *P. dumetorum* L.

†*RUMEX ACETOSELLA* L. — Reported by Pammel (1913).

R. altissimus Wood. — Shimek L447, Conard L448, L449, L450, as *R. mexicanus* Meisn.

R. brittanica L. — Reported by Shimek (1915, 1917b). (*R. orbiculatus* Gray.)

†*R. CRISPUS* L. — Reported by Pammel (1913).

R. maritimus L. — Shimek L451 and 452, as *R. persicarioides* L.; Conard L453; Gilmore L454.

78. CHENOPODIACEAE (Goosefoot Family)

CHENOPODIUM ALBUM L. — Conard L455, Sigler 93 (ISC).

†*C. AMBROSIOIDES* L. — Shimek L456. Reported by Shimek (1915) as *C. murale* L.

C. BOTRYS L. — Reported by Shimek (1915).

C. gigantospermum Aellen. — Shimek L460, as *C. hybridum* L.; Conard L461; Sigler 122 (ISC). (*C. hybridum* var. Rouleau.)

**C. GLAUCUM* L. — Conard L459.

**C. pratericola* Rydb. — Shimek L462, as *C. leptophyllum* Nutt.

**C. rubrum* L. — Grant 11273.

C. standleyanum Aellen. — Shimek L457, as *C. boscianum* Moq.; Conard L458; Sigler 112 (ISC). (*C. hybridum* var. Fern.)

C. URBICUM L. — Reported by Shimek (1915).

SALSOLA PESTIFER A. Nels. — Conard L463, as *S. kali* L. var. *tennifolia* Tausch.

79. AMARANTHACEAE (Amaranth Family)

Acnida altissima Riddell — Shimek L467, as *A. tuberculata* Moq.; Conard L464, L465, L466.

†*AMARANTHUS ALBUS* L. (*A. graecizans* Auth., non L.) — Conard L471, Grant 8909.

A. GRAECIZANS L. — Shimek L468, as *A. blitoides* S. Wats.; Conard L469.

A. RETROFLEXUS L. — Shimek L472, Conard L473, Sigler 107 (ISC).

80. NYCTAGINACEAE (Four-o'clock Family)

Mirabilis hirsuta (Pursh) MacM. — Shimek L474, as *Oxybaphus hirsutus* (Pursh) Sweet; Shimek L475, as *O. albidus* (Walt.) Sweet; Conard L476; Grant 8895.

M. nyctaginea (Michx.) MacM. — Shimek L477, as *O. nyctagineus* (Michx.) Sweet; Conard L478; Sigler 95 (ISC).

85. PORTULACACEAE (Purslane Family)

†*PORTULACA OLERACEA* L. — Reported by Pammel (1913) and Anderson (1938).

87. CARYOPHYLLACEAE (Chickweed Family)

†*AGROSTEMMA GITAGO* L. — Reported by Pammel (1913).

LYCHNIS ALBA Mill. — Shimek L480.

Silene antirrhina L. — Shimek 1912, Conard 1923.

S. NOCTIFLORA L. — Conard 1923, Hitchings 1923.

S. stellata (L.) Ait. f. — Shimek 1909, Lohman 1925, Grant 11187, Takehara 7.

†*SAPONARIA VACCARIA* L. — Reported by Pammel (1913).

Stellaria longifolia Muhl. — Cavanagh 1910.

E. DICOTYLEDONEAE: CHORIPETALAE (Mainly)

88. NYMPHAEACEAE (Waterlily Family)

Nymphaea tuberosa Paine. — Reported by Shimek (1915) as *Castalia t.* (Paine) Greene. The writer has seen the plant only as an introduction.

Nuphar advena Ait. f. — Shimek 1912, as *Nymphaea advena* Ait.

89. CERATOPHYLLACEAE (Hornwort Family)

Ceratophyllum demersum L. — Shimek 1910, Conard 1923, Sigler 43 (ISC), Grant 8781, 11182.

91. RANUNCULACEAE (Buttercup Family)

Actaea rubra (Ait.) Willd. — Grant 11186.

A. rubra forma *neglecta* (Gillm.) Robins. — Reported by Shimek (1915) as *A. alba* (L.) Mill.

Anemone canadensis L. — Conard 1923.

A. cylindrica Gray. — Cavanagh 1910, Conard 1923, Grant 8739.

A. patens L. var. *wolfgangiana* (Bess.) Koch. — Cavanagh 1910, Shimek 1911.

A. virginiana L. — Conard 1923.

Aquilegia canadensis L. — Cavanagh 1910, Conard 1923.

Caltha palustris L. — Conard 1923, Anderson 1935.

Clematis virginiana L. — Shimek 1910.

Delphinium virescens Nutt. — Shimek 1912 (as *D. penardi* Huth.), Cavanagh 1910, Conard 1923, Grant 8740.

‡*Hepatica acutiloba* DC. — Reported by Shimek (1915), but from Emmet Co. only.

Ranunculus abortivus L. — Cavanagh 1910.

- R. cymbalaria* Pursh. — Shimek 1901, Conard 1923, Grant 8844, Takehara 6.
R. fascicularis Muhl. — Reported by Shimek (1915).
R. flabellaris Raf. — Cavanagh 1910, as *R. delphinifolius* Torr.; Sigler 40 (ISC).
R. longirostris Godron. — Shimek 1910 (as *R. circinatus* Sibth.), Conard 1923, Lohman 1925, Grant 8688.
R. pennsylvanicus L. f. — Shimek 1901, 1910, Conard 1923, Lohman 1923, Grant 8849.
†*R. purshii* Richards. — Reported by Cratty (1933). (*R. gmelini* DC.)
R. rhomboideus Goldie. — Cavanagh 1910. Listed as *R. ovalis* Raf. in Cratty (1933).
R. sccleratus L. — Shimek 1910, Conard 1923, Sigler 3 (ISC), Grant 8687.
R. septentrionalis Poir. — Cavanagh 1910, Shimek 1912, Conard 1923.
R. trichophyllus Chaix. var. *typicus* Drew. — Reported by Shimek (1915) as *R. aquatilis* L. var. *capillaceus* DC.
Thalictrum dasycarpum Fisch. & Lall. — Shimek 1910, 1912, Conard 1923 (as *T. polygamum* Muhl.), Grant 8705.
T. dioicum L. — Shimek 1909.

93. BERBERIDACEAE (Barberry Family)

Caulophyllum thalictroides (L.) Michx. — Reported by Shimek (1915).

94. MENISPERMACEAE (Moonseed Family)

Menispermum canadense L. — Shimek 1911, Conard 1923.

104. PAPAVERACEAE (Poppy Family)

Sanguinaria canadensis L. — Reported by Shimek (1915).

104a. FUMARIACEAE (Fumitory Family)

Corydalis micrantha (Engelm.) Gray — Shimek 1912, Conard 1923.

Dicentra cucullaria (L.) Bernh. — Reported by Shimek (1915).

105. CRUCIFERAE (Mustard Family)

Arabis perstellata E. L. Br. var. *shortii* Fern. Shimek 1912, as *A. dentata* T. & G.

A. pycnocarpa Hopkins. — Grant 11156. Reported by Shimek (1915, 1917b) as *A. hirsuta* (L.) Scop. (*A. hirsuta* var. Rollins.)

†*BARBAREA VULGARIS* R. Br. — Reported by Pammel (1913).

**BERTEROA INCANA* (L.) DC. — Hitchings 1923, Jaques 1926.

†*BRASSICA JUNCEA* (L.) Cosson. — Conard 1923.

B. KABER (DC.) Wheeler. — Conard 1923, as *B. arvensis* (L.) Ktze.

B. NIGRA (L.) Koch. — Shimek 1910.

CAMELINA MICROCARPA Andrz. — Conard 1923. Reported by Pammel (1913) and Shimek (1915) as *C. sativa* (L.) Crantz.

CAPSELLA BURSA-PASTORIS (L.) Medic. — Shimek 1911, Conard 1923.

Cardamine bulbosa (Schreb.) B. S. P. — Anderson 1935.

Dentaria laciniata Muhl. — Reported by Shimek (1915).

Descurainia pinnata (Walt.) Britt. var. *brachycarpa* (Richards) Fern. — Shimek 1912, as *Sisymbrium canescens* Nutt. and var. *brachycarpum* (Richards) Wats.

†*Draba reptans* (Lam.) Fern. var. *micrantha* (Nutt.) Fern. — Fitzpatrick (ISC 89808), fide Hayden (1945). Listed as *D. caroliniana* Walt. in Cratty (1933).

ERYSIMUM CHEIRANTHOIDES L. — Shimek 1910, Conard 1923, Lohman 1925, Grant 11215.

**LEPIDIUM CAMPESTRE* (L.) R. Br. — Anderson 1942.

L. DENSIFLORUM Schrad. — Shimek 1909 (as *L. apetalum* Willd.), Conard 1923.

†*L. virginicum* L. — Reported by Pammel (1913).

†*RADICULA ARMORACIA* (L.) Robins. — Reported by Pammel (1913), but, through a mixture of the maps, not cited for Dickinson Co. in the second edition (1926). (*Armoracia lapathifolia* Gilib.)

Rorippa islandica (Oeder ex Murr.) Borbas. — Shimek 1910, as *Radicula palustris* (L.) Moench.; Conard 1923, Lohman 1925, Grant 8892.

R. islandica var. *hispida* (Desv.) Butters & Abbe. — Shimek 1911, Conard 1923, Grant 8848.

SISYMBRIUM ALTISSIMUM L. — Shimek 1910, Conard 1923.

S. OFFICINALE (L.) Scop. — Shimek 1901, Conard 1923, Grant 8842.

**THLASPI ARVENSE* L. — Anderson 1942.

107. CAPPARIDACEAE (Caper Family)

Polanisia graveolens Raf. — Shimek 1910, Conard 1923, Lohman 1925.

P. trachysperma T. & G. — Shimek 1901, Conard 1923, Grant 8979, 11246.

115. CRASSULACEAE (Stonecrop Family)

Penthorum sedoides L. — Shimek 1896, Grant 8857.

117. SAXIFRAGACEAE (Saxifrage Family)

Heuchera richardsonii R. Br. var. *grayana* Ros., But., Lak. — Cavanagh 1910, as *H. hispida* Pursh; Conard 1923, Grant 8748.

Parnassia glauca Raf. — Shimek 1909, as *P. caroliniana* Michx.; Grant 8949.

Ribes americanum Mill. — Shimek 1911, 1912, as *R. floridum* L'Her.; Grant 8818.

†*R. cynosbati* L. — Sigler 135 (ISC).

R. missouriense Nutt. — Anderson 1932, as *R. gracile* Michx.

126. ROSACEAE (Rose Family)

Agrimonia gryposepala Wallr. — Conard 1923.

A. striata Michx. — Shimek 1910.

Amelanchier arborea (Michx. f.) Fern. — Shimek 1910, 1912, and 1913, as *A. spicata* (Lam.) C. Koch and *A. canadensis* (L.) Medic.

Crataegus calpodendron (Ehrh.) Medic. — Shimek 1910, as *C. tomentosa* L.

†*C. chrysoarpa* Ashe. — Possibly this is the basis of the "*C. coccinea* L." of Macbride (1900).

C. margaretta Ashe. — Reported by Shimek (1915).

C. mollis (T. & G.) Scheele. — Shimek 1901, Conard 1923, Sigler 129 (ISC).

C. punctata Jacq. — Reported by Shimek (1915) and Pammel (1930).

C. succulenta Link. — Conard 1923. Reported by Shimek (1915) as *C. macracantha* Lodd.

Fragaria vesca L. var. *americana* Porter. — Cavanagh 1910, Conard 1923.

F. virginiana Duch. — Cavanagh 1910.

F. virginiana var. *illinoensis* (Prince) Gray. — Reported by Shimek (1915).

Geum aleppicum Jacq. var. *strictum* (Ait.) Fern. — Conard 1923. Reported by Shimek as *G. macropphyllum* Willd. (1915) and as *G. strictum* Ait. (1917).

- G. canadense* Jacq., including *G. album* Gmelin. — Shimek 1910, Conard 1923.
G. laciniatum Murr. — Reported by Shimek (1915) as *G. virginianum* L.
 †*Malus iowensis* (Wood) Britt. — Reported by Macbride (1900) as *Pyrus coronaria* L. [*P. iowensis* (Wood) Bailey.]
 **M. PUMILA* Mill. — Reported as an escape by A. P. Kelley in manuscript.
 †*Potentilla anserina* L. — Reported by Anderson (1943).
P. arguta Pursh. — Shimek 1912, Grant 8734.
P. norvegica L. — Shimek 1910 and 1911 as *P. monopeliensis* L., Conard 1923.
P. paradoxa Nutt. — Shimek 1910, Conard 1923, Sigler & Hayden 45 (ISC).
P. rivalis Nutt. var. *pentandra* (Engelm.) Wats. — Shimek 1910, as *P. nicollettii* (S. Wats.) Sheld.; Anderson 1942. (*P. pentandra* Engelm.)
Prunus americana Marsh. — Shimek 1909.
 †*P. pumila* L. — Reported by Pammel (1930) and Cratty (1933).
P. serotina Ehrh. — Grant 8719.
P. virginiana L. — Shimek 1912, 1913, Conard 1923, Sigler 114 (ISC), Grant 8804.
Rosa arkansana Port. & Coult. — Shimek 1912 (as *R. pratincola* Greene), Conard 1923. Reported by Anderson (1943) as *R. suffulta* Greene.
R. blanda Ait. — Shimek 1909, Sigler 108 (ISC).
R. woodsii Lindl. — Reported by Shimek (1915).
Rubus occidentalis L. — Shimek 1909, Conard 1923, Sigler 149 (ISC).
 †*R. strigosus* Michx. — Conard 1923, as *R. idacus* L. var. *aculeatissimus* (C. A. Mey.) Regel & Tiling.
Spiraea alba DuRoi. — Reported by Shimek (1915) as *S. salicifolia* L.

128. LEGUMINOSAE (Bean Family)

- Amorpha canescens* Pursh. — Shimek 1912, Conard 1923, Grant 8828.
A. fruticosa L. var. *angustifolia* Pursh. — Shimek 1909, Conard 1923, Grant 8836.
A. nana Nutt. — Reported by Shimek (1915) as *A. microphylla* Pursh.
Amphicarpa bracteata (L.) Fern. — Reported by Shimek (1915) as *A. monoica* (L.) Ell.
A. bracteata var. *comosa* (L.) Fern. — Shimek 1909, as *A. pitcheri* T. & G.; Conard 1923, Grant 8874.
 †*Apios americana* Medic. — Reinke 1932. Reported by Shimek (1917a) as *A. tuberosa* Moench.
Astragalus canadensis L. — Shimek 1910, Conard 1923, Grant 8823.
A. caryocarpus Ker. — Cavanagh 1910, Conard 1923, Anderson 1935, Grant 11145.
 †*A. goniatus* Nutt. — Grant 11146, 11175. Reported by Anderson (1938) as *A. hypoglottis* L., but is *A. hypoglottis* Richards., non L.
Baptisia leucantha T. & G. — Reported by Shimek (1915).
 †*B. leucophaea* Nutt. — Reported by Pammel (1930) as *B. bracteata* (Muhl.) Ell.
 **Cassia fasciculata* Michx. — Fox 1941.
Dalea alopecuroides Willd. — Shimek 1909, as *D. emmeandra* Nutt.
Desmanthus illinoensis (Michx.) MacM. — Shimek 1899, 1909. Reported by Pammel (1896) as *D. brachylobus* Benth.
Desmodium canadense (L.) DC. — Shimek 1910, Conard 1923, Grant 11171.
D. glutinosum (Muhl. ex Willd.) Wood. — Shimek 1910, as *D. grandiflorum* (Walt.) DC.; Conard 1923.

- D. illinoense* Gray — Reported by Shimek (1915, 1917b).
Glycyrrhiza lepidota (Nutt.) Pursh. — Shimek 1910, 1912, Conard 1923, Grant 8889.
Gymnocladus dioica (L.) Koch. — Reported by Shimek (1915).
Lathyrus palustris L. — Brooks 1940, Grant 8696.
L. venosus Muhl. — Cavanagh 1910, 1910, Conard 1923.
Lespedeza capitata Michx. — Shimek 1910, Grant 8910.
L. leptostachya Engelm. — Shimek 1910, Grant 8911.
†*MEDICAGO LUPULINA* L. — Fox 39.
MELILOTUS ALBA Desr. — Shimek 1911, Conard 1923, Sigler 84 (ISC).
M. OFFICINALIS (L.) Lam. — Shimek 1909, Conard 1923.
Oxytropis lambertii Pursh. — Shimek 1910, Hitchings 1923, Grant 11157.
Petalostemon candidus Michx. — Shimek 1909, Conard 1923, Grant 8816.
P. purpureus (Vent.) Rydb. — Shimek 1910, 1913, Conard 1923, Grant 8829.
Psoralea argophylla Pursh. — Shimek 1910, Conard 1923, Grant 8812.
P. esculenta Pursh. — Shimek 1912, Conard 1923, Grant 8882, 11147.
†*ROBINIA PSEUDO-ACACIA* L. — Sigler 116 (ISC), an escape.
Strophostyles helvola (L.) Eil. — Shimek 1911, Fox 1941.
S. leiosperma (T. & G.) Piper. — Shimek 1909, as *S. pauciflora* (Benth.) Wats.
**TRIFOLIUM HYBRIDUM* L. — Conard 1923.
T. PRATENSE L. — Shimek 1909, Conard 1923.
T. PROCUMBENS L. — Shimek 1912, Conard 1923, Grant 8085.
T. REPENS L. — Cavanagh 1910, Conard 1923.
Vicia americana Muhl. — Cavanagh 1910.

130. OXALIDACEAE (Wood-sorrel Family)

- †*Oxalis europea* Jordan (*O. corniculata* Gray, non L.) and forma *pilosella* Wieg. — Reported by Conard and Hubbard (1946).
O. stricta L. var. *piletocarpa* Wieg. (including *O. filipes* Small). — Shimek 1910, Cavanagh 1910, Conard 1923, Grant 11216.
O. violacea L. — Cavanagh 1910, Grant 8698.

132. LINACEAE (Flax Family)

- Linum sulcatum* Riddell. — Conard 1923, Grant 8881.
L. USITATISSIMUM L. — Shimek 1912.

137. RUTACEAE (Rue Family)

- Xanthoxylum americanum* Mill. — Shimek 1910, Conard 1923, Rogers 1932, Grant 8962.

145. POLYGALACEAE (Milkwort Family)

- Polygala verticillata* L. — Shimek 1912, Conard 1923.

147. EUPHORBIACEAE (Spurge Family)

- Acalypha rhomboidea* Raf. — Shimek 1901, as *A. virginica* L.; Conard 1923.
Euphorbia corollata L. (*Tithymalopsis* Kl. & Garcke). — Reported by Shimek, (1915).
E. CYPARISSIAS L. (*Tithymalus* Hill). — Shimek 1911.
**E. dictyosperma* Fisch & Mey. (*Tithymalus* Kl. & Garcke). — Anderson 1942.
E. ESULA L. (*Tithymalus* Hill). — Sigler 76 (ISC).

- †*E. glyptosperma* Engelm. (*Chamaesyce* Small).—Shimek 1909, Conard 1923.
E. heterophylla L. (*Poinsettia* Kl. & Garcke).—Shimek 1911, Sigler 120 (ISC).
E. maculata L. (*Chamaesyce* Small).—Shimek 1909, as *E. preslii* Guss; Conard 1923. Probably includes *E. preslii*.
 †*E. MARGINATA* Pursh. (*Dichrophyllum* Kl. & Garcke).—Reported by Pammel (1913); probably an escape, though not so listed.
E. preslii Guss. (*Chamaesyce* Arthur).—Sigler 77, as *E. nutans* Lag. (ISC). Reported by Shimek (1915) as *E. maculata* L.
 **E. polygonifolia* L. (*Chamaesyce* Small).—Reported by Gilman & Archer (1929), but probably an error in identification, since this Coastal Plain species is otherwise unknown in Iowa.
E. serpyllifolia Pers. (*Chamaesyce* Small).—Shimek 1912.

148. CALLITRICHACEAE (Water-starwort Family)

Callitriche palustris L.—Reported by Shimek (1915).

153. ANACARDIACEAE (Cashew Family)

Rhus glabra L.—Shimek 1911, Conard 1923.
R. toxicodendron L.—Shimek 1912, Conard 1923. (*R. radicans* L.)

158. CELASTRACEAE (Staff-tree Family)

Celastrus scandens L.—Reported by Shimek (1915).
 †*Euonymus atropurpureus* Jacq.—Sigler 131 (ISC).

163. ACERACEAE (Maple Family)

Acer negundo L.—Conard 1923, Sigler 85 (ISC).
A. saccharinum L.—Reported by Macbride (1900) as “probably native.” Reported by Shimek (1915), but for Emmet Co. only. Status doubtful.
A. saccharum Marsh.—Reported by Shimek (1915).
A. saccharum var. *nigrum* (Michx.) Britt.—Reported by Shimek (1915).

168. BALSAMINACEAE (Touch-me-not Family)

Impatiens capensis Meerb.—Shimek 1909, as *I. biflora* Walt.; Conard 1923.
I. pallida Nutt.—Shimek 1910, 1910, Grant 8869.

169. RHAMNACEAE (Buckthorn Family)

Ceanothus americanus L.—Shimek 1909, Conard 1923.
 †*C. ovatus* Desf.—Reported by Shimek (1917a).
 **RHAMNUS CATHARTICA* L.—Reported by W. A. Anderson in manuscript.

170. VITACEAE (Grape Family)

Parthenocissus quinquefolia (L.) Planch.—Shimek 1909, Conard 1923. Also *P. inserta* (Kern.) K. Fritsch is to be expected, but no specimens are available.
Vitis riparia Michx.—Shimek 1911, as *V. vulpina* L.; Conard 1923.

174. TILIACEAE (Basswood Family)

Tilia americana L.—Shimek 1909, Conard 1923, Sigler 133 (ISC), Takehara 8.

175. MALVACEAE (Mallow Family)

†*ABUTILON THEOPHRASTI* Medic.—Reported by Pammel (1913).

**HIBISCUS TRIONUM* L. — Conard 1923.

**MALVA NEGLECTA* Wallr. — Conard 1923, as *M. rotundifolia* L.

187a. HYPERICACEAE (St. John's-wort Family)

Hypericum majus (Gray) Britt. — Reported by Shimek (1915).

H. sphaerocarpum Michx. — Reported by Shimek (1915), as *H. cistifolium* Lam.

H. virginicum L. — Shimek 1910, Grant 8901.

193. CISTACEAE (Rockrose Family)

†*Helianthemum bicknellii* Fern. — Reported by Shimek (1917a) as *H. majus* B. S. P.

198. VIOLACEAE (Violet Family)

Viola pennsylvanica Michx. var. *leiocarpa* (Fern. & Wieg.) Fern. — Reported by Shimek (1915) as *V. scabriuscula* Schwein.

†*V. nephrophylla* Greene. — Reported by Anderson (1943).

V. pedatifida Don. — Cavanagh 1910; Shimek 1912 as *V. palmata* L.

V. pubescens Ait. — Reported by Shimek (1915).

V. septentrionalis Greene. — Cavanagh 1910, as *V. cucullata* Ait.

V. sororia Willd. — Cavanagh 1910, 1911.

215. ELAEAGNACEAE (Oleaster Family)

†*ELAEAGNUS ANGUSTIFOLIA* L. — Reported by Cratty (1933).

216. LYTHRACEAE (Loosestrife Family)

Lythrum alatum Pursh. — Shimek 1910, Conard 1923, Grant 8982.

224. ONAGRACEAE (Evening-primrose Family)

Circaea latifolia Hill. — Conard 1923, Grant 8853. Reported by Shimek (1915) as *C. lutetiana* L.

†*Epilobium coloratum* Biehler. — Shimek 1910.

†*E. leptophyllum* Raf. — Grant 11280. (*E. densum* Raf.)

E. glandulosum Lehm. var. *adenocaulon* (Haussk.) Fern. — Conard 1923, Grant 8863.

Ludwigia polycarpa Short & Peter. — Shimek 1910.

Oenothera biennis L. — Reported by Pammel (1913), Gilman & Archer (1929), Anderson (1938).

†*O. parviflora* L. — Shimek 1909, as *O. biennis* L.; Conard 1923.

O. serrulata Nutt. — Conard 1923, Grant 8744.

225. HALORAGACEAE (Water-milfoil Family)

†*Hippuris vulgaris* L. — Grant 8845.

Myriophyllum exalbescens Fern. — Shimek 1910 (as *M. spicatum* L.), Conard 1923, Gilmore 1925, Sigler 28 (ISC), Grant 8777.

227. ARALIACEAE (Ginseng Family)

‡*Aralia nudicaulis* L. — Reported by Shimek (1915), but from Emmet Co. only.

A. racemosa L. — Shimek, 1910.

228. UMBELLIFERAE (Umbel Family)

†*Berula pusilla* (Nutt.) Fern. (*B. erecta* (Huds.) Cov.) — Anderson 1935.

Cicuta bulbifera L. — Shimek 1910.

C. maculata L. — Shimek 1909, Conard 1923.

- Cryptotaenia canadensis* (L.) DC. — Shimek 1912, Conard 1923.
**DAUCUS CAROTA* L. — Reported by A. P. Kelley in manuscript.
Eryngium yuccifolium Michx. — Shimek 1912.
Heracleum maximum Bartr. — Shimek 1909, Conard 1923. (*H. lanatum* Michx.)
Osmorhiza claytoni (Michx.) Clarke. — Shimek 1912, Conard 1923.
O. longistylis (Torr.) DC. — Shimek 1912.
O. longistylis var. *villicaulis* Fern. — Reported by Shimek (1915) and Murley (1946).
PASTINACA SATIVA L. — Shimek 1910, Conard 1923.
†*Sanicula canadensis* L. — Anderson 1941, Grant 11219.
†*S. gregaria* Bickn. — Shimek 1911, as *S. marilandica* L.; Grant 11173.
S. marilandica L. — Conard 1923.
Sium suave Walt. — Shimek 1910, 1912, as *S. cicutaefolium* Schrank; Sigler & Hayden 43 (ISC).
Taenidia integerrima (L.) Drude. — Shimek 1912, Grant 11120.
Thaspium barbinode (Michx.) Nutt. — Shimek 1911, 1912, as *T. aureum* Nutt.; Conard 1923, Grant 11165.
Zizia aurea (L.) Koch. — Cavanagh 1910, Conard 1923, Anderson 1932, Grant 8735.
**Z. aptera* (Gray) Fern. (*Z. cordata* (Walt.) DC.). — Grant 8736.

229. CORNACEAE (Dogwood Family)

- Cornus alternifolia* L. f. — Reported by Shimek (1915).
C. obliqua Raf. — Shimek 1912 (as *C. amomum* Mill.), Grant 8819.
C. racemosa Lam. — Holmes 1933, Grant 8718, 8959. Reported by Shimek (1915) as *C. paniculata* L'Her.
C. stolonifera Michx. — Reported by Macbride (1900) and Shimek (1915).

F. DICOTYLEDONEAE: SYMPETALAE

233. ERICACEAE (Heath Family)

- Monotropa uniflora* L. — Reported by Shimek (1915).

237. PRIMULACEAE (Primrose Family)

- Lysimachia ciliata* L. — Shimek 1912, as *Steironema c.* (L.) Raf.; Lohman 1925.
†*L. hybrida* Michx. — Reported by Goodman and Leyendecker (1943).
L. quadriflora Sims. — Conard 1923, Grant 11179. Reported by Shimek (1915) as *Steironema quadriflorum* (Sims) Hitchc., by Pammel (1930) as *S. quadrifolium* (Sims) Hitchc., and by Anderson (1943) as *Lysimachia longifolia* Pursh.
†*L. thrysisflora* L. — Anderson 1935, Grant 11244.

243. OLEACEAE (Olive Family)

- ‡*Fraxinus americana* L. — Reported by Macbride (1900) as "Common everywhere" (in Dickinson Co.), but his failure to mention the following is assurance it was a misidentification.
F. pennsylvanica Marsh. and vars. *subintegerrima* (Vahl) Fern. and *austini* Fern. — Shimek 1911, Sigler 123 (ISC), Grant 11164.

246. GENTIANACEAE (Gentian Family)

- †*Gentiana andrewsii* Griseb. — Holmes 1933.
†*G. crinita* Froel. — Reported by Shimek (1917a).

- †*G. procera* Holm. — Holmes 1933, Grant 11279.
G. puberula Michx. — Miller 1933.

247. APOCYNACEAE (Dogbane Family)

- Apocynum androsaemifolium* L. — Shimek 1911.
A. cannabinum L. — Shimek 1909, Conard 1923.
A. cannabinum var. *glaberrimum* A. DC. — Reported by Murley (1947).
A. sibiricum Jacq. — Shimek 1910, 1911, 1912, as *A. cannabinum* var. *hypericifolium* (Ait.) Gray; Conard 1923.
A. sibiricum var. *cordigerum* (Greene) Fern. — Reported by Murley (1947).

248. ASCLEPIADACEAE (Milkweed Family)

- Acerates lanuginosa* (Nutt.) Dcne. — Reported by Shimek (1915).
A. viridiflora (Raf.) Eaton. — Shimek 1912, 1912, Conard 1923, Grant 8741, 8742. The varieties of this based on leaf shape are not recognizable, since two or more of them may occur on the same plant. (*Asclepias* Raf.)
Asclepias incarnata L. — Conard 1923, Grant 8875, 8876.
A. ovalifolia Dcne. — Anderson 1935.
†*A. speciosa* Torr. — Reported by Pammel (1913, 1930).
A. sullivantii Engelm. — Shimek 1911.
A. syriaca L. — Conard 1923, Sigler 79 (ISC).
A. tuberosa L. — Shimek 1910, Conard 1923, Grant 8714.
A. verticillata L. — Shimek 1910, Conard 1923, Grant 8878, Takehara 9.

249. CONVULVULACEAE (Morning-glory Family)

- **CONVOLVULUS ARVENSIS* L. — Conard 1923.
C. sepium L. — Shimek 1910, Conard 1923.
Cuscuta cephalanthi Engelm. — Shimek 1901, Conard 1923.
C. glomerata Choisy. — Shimek 1901, Sloan 1923, Grant 11218, Takehara 11.
†*C. gronovii* Willd. — Conard 1923.
†*C. pentagona* Engelm. — Conard 1923. Reported by Pammel (1913) as *C. arvensis* Beyrich.
C. polygonorum Engelm. — Shimek 1910 (as *C. obtusiflora* H. B. K.), Conard 1923, Lohman 1925, Grant 8856.

250. POLEMONIACEAE (Phlox Family)

- †*Gilia linearis* (Nutt.) Gray. — Conard 1923. (*Collomia* Nutt.)
Phlox divaricata L. — Reported by Shimek (1915).
P. pilosa L. — Shimek 1910, Conard 1923, Grant 8703, 11148, 11149. Includes pink-flowered and white-flowered forms.
Polemonium reptans L. — Reported by Shimek (1915).

251. HYDROPHYLLACEAE (Waterleaf Family)

- Ellisia nyctelea* L. — Shimek 1912, Conard 1923, Grant 8695.
Hydrophyllum virginianum L. — Shimek 1912.

252. BORAGINACEAE (Borage Family)

- †*CYNOGLOSSUM OFFICINALE* L. — Reported by Pammel (1913), as *C. virginianum* L., but no specimens available according to Gilly and O'Brian (1949).
Hackelia americana (Gray) Fern. — Shimek 1896 (SUI), and McDonald 3607 (P), according to Gilly and O'Brian (1949); Shimek 1912, as *Lappula deflexa* (Wahlenb.) Garcke var. *americana* (Gray) Greene.

H. virginiana (L.) Johnston. — Shimek 1911, as *Lappula v.* (L.) Greene; Conard 1923; Grant 8941.

†*LAPPULA ECHINATA* Gilib. — Conard 1923.

L. REDOWSKII (Hornem.) Greene var. *OCCIDENTALIS* (Wats.) Rydb. — Reported by Shimek (1915, 1917b).

Lithospermum canescens (Michx.) Lehm. — Cavanagh 1910, Conard 1923.

L. incisum Lehm. — Cavanagh 1910 (as *L. angustifolium* Michx.), Grant 8879, 11155.

Onosmodium occidentale Mack. — Shimek 1909, Cavanagh 1910, Conard 1923.

†*SYMPHYTUM OFFICINALE* L. — Sargent 1928 (G), the only specimen known from Iowa, according to Gilly and O'Brian (1949).

253. VERBENACEAE (Verbena Family)

†*Verbena bracteata* Lag. & Rodr. — Conard 1923, as *V. bracteosa* Michx.; Grant 8942.

V. hastata L. — Shimek 1909, Conard 1923, Grant 11207.

V. stricta Vent. — Shimek 1909, Conard 1923, Grant 8893. Also with white-flowered and pink-flowered forms.

V. urticifolia L. — Shimek 1909, Conard 1923, Sigler 140 (ISC), Grant 8847.

254. LABIATAE (Mint Family)

Agastache foeniculum (Pursh.) Ktze. — Shimek 1911, Conard 1923.

†*A. nepetoides* (L.) Ktze. — Reported by Pammel (1930).

A. scrophulariaefolia (Willd.) Ktze. — Shimek 1909.

Dracocephalum parviflorum Nutt. — Shimek 1911.

GLECHOMA HEDERACEA L. — Reported by Pammel (1913) and Shimek (1915) as *Nepeta h.* (L.) Trev.

Hedeoma hispida Pursh. — Shimek 1912.

LEONURUS CARDIACA L. — Shimek 1912, Conard 1923.

Lycopus americanus Muhl. — Shimek 1911, Sigler & Hayden 46 (ISC), Grant 8851.

L. asper Greene. — Shimek 1910, 1912, as *L. lucidus* Turcz. var. *americanus* Gray; Sigler and Hayden 47 (ISC), Grant 8729, 8850.

L. rubellus Moench. — Grant 8864, 8957.

**L. uniflorus* Michx. — Conard 1923, 1923. Reported by Shimek (1915) as *L. virginicus* L.

Mentha arvensis L. var. *villosa* (Benth.) Stew. — Shimek 1912, Grant 8830.

Monarda fistulosa L. — Shimek 1912.

M. mollis L. — Shimek 1909, Conard 1923. Bass (1944) maintains these two species.

NEPETA CATARIA L. — Shimek 1910, Conard 1923.

**Physostegia virginiana* (L.) Benth. var. *speciosa* (Sweet) Gray. — Miller 1933, Grant 8967. Reported by Shimek (1915) as *P. parviflora* Nutt.

†*Prunella vulgaris* L. — Reported by Pammel (1913).

Pycnanthemum tenuifolium Schrad. — Shimek 1910, as *P. flexuosum* (Walt.) B. S. P.

P. virginianum (L.) Dur. & Jack. — Conard 1923, Grant 8815. Reported by Pammel (1896) as *P. lanceolatum* Pursh.

†*Salvia azurea* Lam. var. *grandiflora* Benth. (*S. pitcheri* Torr.). — Reported by Bass (1944).

†*S. reflexa* Hornem. — Conard 1923, Grant 8943.

- †*S. SYLVESTRIS* L. — Reported by Cratty (1933) and Bass (1944).
Scutellaria epilobiifolia Hamilton. — Shimek 1910, 1911, Conard 1923, as *S. galericulata* L.
S. lateriflora L. — Anderson 1932.
S. leonardi Epling. — Shimek 1910, as *S. parvula* Michx. var. *ambigua* (Nutt.) Fern.; Anderson 1935, as *S. nervosa* Pursh.; Grant 8747, 8900.
S. parvula Michx. — Reported by Shimek (1915).
Stachys palustris L. — Shimek 1911.
Teucrium canadense L. — Conard 1923.
T. occidentale Gray. — Shimek 1910, 1911, Grant 8877.
T. occidentale var. *boreale* (Bickn.) Fern. — Reported by Bass (1944).
Trichostema brachiatum L. — Shimek 1901, as *Isanthus brachiatus* (L.) B. S. P.

256. SOLANACEAE (Nightshade Family)

- †*DATURA TATULA* L. — Reported by Pammel (1913).
†*Physalis heterophylla* Nees. — Shimek 1912 (as *P. pruinosa* L.), Conard 1923, Grant 8690.
†*P. IXOCARPA* Brot. — Conard 1923.
P. PUBESCENS L. — Conard 1923.
†*P. virginiana* Mill. — Shimek 1911, Conard 1923.
†*SOLANUM DULCAMARA* L. — Conard 1923.
S. NIGRUM L. — Shimek 1909, Conard 1923.
S. ROSTRATUM Dunal. — Shimek 1911, Conard 1923, Lohman 1925.

257. SCROPHULARIACEAE (Snapdragon Family)

- Castilleja sessiliflora* Pursh. — Cavanagh 1910, Conard 1923, Grant 11153.
†*Gerardia auriculata* Michx. — Miller 1933.
G. aspera Doug. — Shimek 1909, Grant 8970.
†*G. purpurea* L. — Anderson 1932, Grant 11278.
G. tenuifolia Vahl. — Shimek 1909, Conard 1923, Lohman 1925.
LINARIA VULGARIS Hill. — Shimek 1901.
Lindernia dubia (L.) Pennell var. *typica* Pennell. — Grant 8832. Reported by Shimek (1915) as *Ilysanthes d.* (L.) Barnh.
Mimulus ringens L. — Shimek 1910, Conard 1923, Grant 8837.
Pedicularis canadensis L. — Cavanagh 1910, Shimek 1910.
P. lanceolata Michx. — Shimek 1909, Conard 1923.
†*PENSTEMON DIGITALIS* Nutt. — Conard 1923, as *P. laevigatus* Ait.
P. grandiflorus Nutt. — Shimek 1913, Anderson 1935.
Scrophularia lanceolata Pursh. — Shimek 1909 (as *S. leporella* Bickn.), Conard 1923, Grant 11172.
S. marilandica L. — Shimek 1910, 1911.
†*VERBASCUM THAPSUS* L. — Miller 1933, Sigler 147 (ISC), Takehara 13.
Veronica comosa Richter. — Conard 1923, Grant 8862. Reported by Shimek (1915) as *V. anagallis-aquatica* L.
Veronicastrum virginicum (L.) Pennell. — Shimek 1909 (as *Veronica virginica* L.), Conard 1923, Grant 8827.

260. MARTYNIACEAE (Unicorn-plant Family)

- MARTYNIA LOUISIANA* Mill. — Reported by Shimek (1915).

261. OROBANCHACEAE (Broom-rape Family)

†*Orobanche fasciculata* Nutt. — Collected by Hitchcock, according to Cratty (1933).

O. uniflora L. — Cavanagh 1910.

264. UTRICULARIACEAE (Bladderwort Family)

**Utricularia minor* L. — Rogers 1932.

U. vulgaris L. var. *americana* Gray. — Conard 1923, Sawyer 1926, Miller 1933, Sigler 1 (ISC), Grant 8701. Reported by Anderson (1943) as *U. macrorhiza* LeConte.

268. PHRYMACEAE (Lopseed Family)

Phryma leptostachya L. — Shimek 1912, Conard 1923, Takehara 10.

269. PLANTAGINACEAE (Plantain Family)

†*PLANTAGO MAJOR* L. — Reported by Pammel (1913).

P. rugelii DC. — Conard 1923.

270. RUBIACEAE (Madder Family)

**Cephalanthus occidentalis* L. — Grant 8826.

Galium aparine L. — Conard 1923.

G. boreale L. — Cavanagh 1910, Conard 1923.

#*G. latifolium* Michx. — Reported by Shimek (1915), but this is an Appalachian species, otherwise unknown in Iowa.

G. obtusum Bigel. — Conard 1923. Reported by Shimek (1915) as *G. tinctorium* L.

#*G. palustre* L. — Reported by Shimek (1917a), but this is an eastern species, occurring west to Michigan, and otherwise unknown in Iowa.

G. tinctorium L. — Reported by Shimek (1915) as *G. claytoni* Michx.

G. trifidum L. — Conard 1923.

G. triflorum Michx. — Conard 1923.

271. CAPRIFOLIACEAE (Honeysuckle Family)

Lonicera dioica L. — Shimek 1912.

L. SEMPERVIRENS L. — Shimek 1912.

Sambucus canadensis L. — Shimek 1910, Conard 1923, Sigler 149b (ISC).

Symphoricarpos occidentalis Hook. — Shimek 1909, Conard 1923, Sigler 105 (ISC).

S. orbiculatus Moench. — Reported by Shimek (1915).

Triosteum perfoliatum L. — Reported by Shimek (1915).

Viburnum lentago L. — Shimek 1910, Conard 1923, Grant 8947.

V. prunifolium L. — Reported by Shimek (1915).

†*V. rafinesquianum* Schult. — Reported by Shimek (1917a) as *V. pubescens* (Ait.) Pursh.

275. CUCURBITACEAE (Gourd Family)

Echinocystis lobata (Michx.) T. & G. — Shimek 1909, Conard 1923.

Sicyos angulatus L. — Sigler 119 (ISC).

276. CAMPANULACEAE (Bluebell Family)

Campanula americana L. — Miller 1933, Grant 11185.

C. aparinoides Pursh. — Reported by Shimek (1915).

**C. RAPUNCULOIDES* L. — Holmes 1933 (as *C. rotundifolia* L.), Grant 11167.

- †*Lobelia kalmii* L. — Anderson 1932, Grant 8944.
L. siphilitica L. — Shimek 1909, Conard 1923, Sigler & Hayden 44 (ISC).
L. spicata Lam. var. *hirtella* Gray. — Shimek 1910.
L. spicata var. *leptostachys* (A. DC.) Mack. & Bush. — Shimek 1912, Conard
1923, Grant 8899, 11150.

280. COMPOSITAE (Composite Family)

- Achillea lanulosa* Nutt. — Shimek 1909 (including *A. millefolium* Iowa authors), Conard 1923.
Agoseris cuspidata (Pursh.) Raf. — Cavanagh 1910.
Ambrosia coronopifolia T. & G. — Shimek 1910 (as *A. psilostachya* DC.),
Conard 1923, Grant 8886.
A. elatior L. — Shimek 1909 (as *A. artemisiifolia* L.), Conard 1923.
A. trifida L. — Shimek 1909, 1909, Conard 1923.
‡*Antennaria campestris* Rydb. — Reported by Shimek (1915) as questionable.
A. neglecta Greene. — Cavanagh 1910, 1910.
A. neodioica Greene. — Reported by Shimek (1915).
A. plantaginifolia (L.) Hook. — Reported by Shimek (1915).
ARTEMIS COTULA L. — Conard 1923, Grant 8843.
ARCTIUM MINUS (Hill) Bernh. — Shimek 1910, Conard 1923. Reported
by Pammel (1913) as *A. lappa* L.
ARTEMISIA BIENNIS Willd. — Reported by Pammel (1913), Shimek
(1915), Gilman & Archer (1929).
A. caudata Michx. — Shimek 1909, Conard 1923, Sigler 78 (ISC).
A. glauca Pall. — Shimek 1909, as *A. dracunculoides* Pursh.
A. serrata Nutt. — Shimek 1909, Conard 1923.
A. ludoviciana Nutt. — Conard 1923. Reported by Shimek (1915, 1917b). No
specimens are available of the var. *gnaphalodes* (Nutt.) T. & G.
†*Aster concinnus* Willd. — Reported by Kellogg (1948).
A. cordifolius L. — Shimek 1901, Conard 1923, Sigler 143 (ISC, as *A. finkii*
Rydb. var. *moratus* Shinnery.)
A. ericoides L. — Shimek 1909, as *A. multiflorus* Ait.
A. ericoides forma *caeruleus* (Benke) Blake. — Reported by Kellogg (1948).
A. ericoides forma *gramsii* Benke. — Reported by Kellogg (1948).
A. ericoides forma *prostratus* (Ktze.) Fern. (*A. exiguus* Rydb.). — Reported
by Kellogg (1948).
A. laevis L. — Shimek 1909.
†*A. lateriflorus* (L.) Britt. — Reported by Pammel (1930); not confirmed by
Kellogg (1948).
A. lucidulus (Gray) Wieg. — Shimek 1911, as *A. puniceus* L. var. *lucidulus*
Gray.
A. novae-angliae L. — Reported by Shimek (1915, 1917b) and Anderson
(1943).
A. oblongifolius Nutt. — Shimek 1909.
A. paniculatus Lam. — Sigler 137 (ISC).
A. paniculatus var. *simplex* (Willd.) Burgess. — Reported by Kellogg (1948).
A. pilosus Willd. — Reported by Shimek (1915) and Wolden (1934) as *A.*
ericoides L.
†*A. praecaltus* Poir. — Reported by Pammel (1913), as *A. salicifolius* Ait.
†*A. prenanthoides* Muhl. ex Willd. — Reported by Pammel (1930), but not
confirmed by Kellogg (1948).

- A. ptarmicoides* (Nees) T. & G. — Shimek 1909, Grant 8880.
 †*A. puniceus* L. — Reported by Anderson (1943).
A. sagittifolius Wedem. — Reported by Shimek (1915), Pammel (1930), and Wolden (1934).
A. sagittifolius var. *drummondii* (Lindl.) Shinnars. — Conard 1923. Reported by Shimek (1915) and Wolden (1934) as *A. drummondii* Lindl.
A. sericeus Vent. — Shimek 1909.
A. umbellatus Mill. — Shimek 1909.
A. umbellatus var. *pubens* Gray. — Miller 1933.
 †*Bidens aristosa* (Michx.) Britt. — Reported by Johns (1935).
B. beckii Torr. — Shimek 1912, Sloan 1923. (*Megalodonta* Greene.)
B. cernua L. — Shimek 1911, Sigler 65 (ISC).
B. frondosa L. — Shimek 1911, Lohman 1925, Sigler & Hayden 48 (ISC).
 †*B. laevis* (L.) B.S.P. — Reported by Shimek (1917a).
B. vulgata Greene. — Shimek 1912.
B. vulgata var. *puberula* (Wieg.) Greene. — Reported by Shimek (1915, 1917b).
Boltonia asteroides (L.) L'Her. var. *recognita* (Fern. & Griscom) Cronq. (*B. latisquama* var. Fern. & Griscom.). — Shimek 1910, Conard 1923.
Cacalia tuberosa Nutt. — Shimek 1910.
 CARDUUS ACANTHOIDES L. — Anderson 2022, Grant 11205.
C. NUTANS L. — Reported by Anderson (1949).
Cirsium altissimum (L.) Spreng. [Including *C. iowensis* (Pammel) Fern. and its var. *Crattyi* Pammel.]. — Shimek 1901, Grant 8913.
C. ARVENSE (L.) Scop. — Shimek 1910, Lohman 1925.
C. discolor (Muhl.) Spreng. — Shimek 1909; Conard 1923, as *C. altissimum* (L.) Spreng.; Grant 8870.
C. flodmani (Rydb.) Arthur. — Shimek 1901 (as *C. canescens* Nutt.), Grant 8841, 8872.
C. muticum Michx. — Reported by Shimek (1915).
C. undulatum (Nutt.) Spreng. — Shimek 1911.
C. VULGARE (Savi) Tenore. — Shimek 1910, as *C. lanccolatum* (L.) Hill; Conard 1923, Sigler 148 (ISC), Grant 8838, 8871.
Coreopsis palmata Nutt. — Shimek 1912, Conard 1923, Grant 11170.
 †*Dyssodia papposa* (Vent.) Hitchc. — Reported by Pammel (1913).
Echinacea angustifolia DC. — Shimek 1910, as *Brauneria a.* (DC.) Heller; Conard 1923.
Eclipta alba (L.) Hassk. — Reported by Shimek (1915).
 †*Erechtites hieracifolia* (L.) Raf. — Reported by Pammel (1913).
Erigeron annuus (L.) Pers. — Reported by Pammel (1913) and Shimek (1915).
E. canadensis L. — Shimek 1909, Conard 1923, Sigler 75 (ISC), Grant 8898.
E. divaricatus Michx. — Shimek 1901, Conard 1923.
E. philadelphicus L. — Cavanagh 1910, Conard 1923, Grant 11142.
E. strigosus Muhl. — Shimek 1909, as *E. ramosus* (Walt.) B. S. P.; Conard 1923, Grant 11144.
Eupatorium altissimum L. — Shimek 1910, as *E. purpurcum* L. var. *maculatum* (L.) Darl.; Conard 1923.
E. perfoliatum L. — Shimek 1909, Conard 1923.
E. purpurcum L. — Shimek 1909, Grant 8960.

- E. rugosum* Houtt. — Shimek 1911 (as *E. urticaefolium* Reich.). Conard 1923, Lohman 1925, Sigler 117 (ISC).
- **GALINSOGA CILIATA* (Raf.) Blake. — Grant 11274.
- GRINDELIA SQUARROSA* (Pursh.) Dunal. — Fox 1941.
- †*Haplophappus spinulosus* (Pursh.) DC. — Anderson 1932, Hayden 10772 (ISC).
- Helenium autumnale* L. — Shimek 1909, Conard 1923, Grant 8946.
- †*HELIANTHUS ANNUUS* L. — Reported by Pammel (1913).
- H. decapetalus* L. — Reported by Shimek (1915) and Johns (1931).
- H. grosseserratus* Martens. — Shimek 1909.
- H. laetiflorus* Pers. — Reported by Shimek (1915) and Gilman & Archer (1929).
- H. maximiliani* Schrad. — Shimek 1911.
- H. rigidus* (Cass.) Desf. — Shimek 1896 (as *H. scaberrimus* Ell.), Conard 1923. (*H. laetiflorus* Pers. var. Fern.)
- †*H. strumosus* L. — Shimek 1910.
- **H. subrhomboides* Rydb. — Grant 8887. (*H. laetiflorus* Pers. var. Fern.)
- H. tuberosus* L. — Shimek 1896.
- H. tuberosus* var. *subcanescens* Gray. — Reported by Shimek (1915).
- Heliopsis helianthoides* (L.) Sweet var. *scabra* (Dunal) Fern. (*H. scabra* Dunal). — Shimek 1912, Conard 1923, Grant 8697.
- Hieracium canadense* Michx. — Conard 1923.
- Iva xanthifolia* Nutt. — Shimek 1901, 1909, Conard 1923.
- Kuhnia eupatorioides* L. var. *corymbulosa* T. & G. — Shimek 1909, Conard 1923, Grant 8984.
- †*Lactuca biennis* (Moench.) Fern. — Reported by Gilman & Archer (1929) as *L. spicata* (Lam.) Hitchc.
- †*L. campestris* Greene. — Cratty 1931 (ISC). (*L. ludoviciana* f. Fern.)
- L. canadensis* L. — Conard 1923, Sigler 145 (ISC).
- L. canadensis* var. *integrifolia* (Bigel.) Gray. — Shimek 1911. Reported by Pammel (1896) as *L. integrifolia* Bigel. This is possibly also the plant reported by Shimek (1917b) as *L. sagittifolia* Ell., which is Appalachian.
- L. ludoviciana* (Nutt.) Ridd. — Pammel 1913 (ISC), Grant 8854.
- L. pulchella* (Pursh.) DC. — Conard 1923, Grant 8914.
- L. SCARIOLA* L. — Shimek 1909, Conard 1923, Sigler 109 (ISC).
- L. SCARIOLA* var. *INTEGRATA* Gren. & Godr. — Shimek 1896 (SUI), Cratty 1901 (SUI), Shimek 1909.
- †*LAPSANA COMMUNIS* L. — Anderson 1941.
- **Liatris acidota* Engelm. & Gray. — Grant 8912.
- L. aspera* Michx. — Shimek 1909 (as *L. scariosa* Willd.), Conard 1923.
- L. cylindracea* Michx. — Reported by Shimek (1915, 1917b).
- L. punctata* Hook. — Shimek 1909, Conard 1923.
- L. pycnostachya* Michx. — Shimek 1910, Conard 1923, Grant 8968.
- L. squarrosa* (L.) Michx. — Shimek 1910.
- Lygodesmia juncea* (Pursh.) D. Don. — Shimek 1901, 1910, Conard 1923, Grant 8988.
- **MATRICARIA MATRICARIOIDES* (Less.) Porter. — Lowey 1949 (Herb. Lowey).
- Prenanthes aspera* Michx. — Shimek 1909, Grant 8969.
- P. racemosa* Michx. — Miller 1933.

- Ratibida columnifera* (Nutt.) Woot. & Standl. — Reported by Shimek (1915) as *Lepachys columnaris* (Sims) T. & H., and by Johns (1931).
- R. pinnata* (Vent.) Barnhart. — Shimek 1911, as *Lepachys pinnata* (Vent.) T. & G.; Conard 1923.
- †*Rudbeckia hirta* L. — Reported by Pammel (1913) and Johns (1931).
- R. laciniata* L. — Shimek 1911, Conard 1923.
- R. triloba* L. — Reported by Shimek (1915).
- Senecio aurcus* L. — Anderson 1935, Grant 11141.
- S. integerrimus* Nutt. — Reported by Shimek (1915, 1917b).
- S. palustris* (L.) Hook. — Shimek 1912.
- S. pauperculus* Michx. var. *balsamitae* (Muhl.) Fern. — Shimek 1912, as *S. balsamitae* Muhl.
- S. plattensis* Nutt. — Cavanagh 1910.
- Silphium laciniatum* L. — Shimek 1911, Conard 1923, Grant 8806.
- S. perfoliatum* L. — Shimek 1910, 1911, Conard 1923.
- Solidago altissima* L. — Sigler 138 (ISC).
- S. canadensis* L. — Shimek 1910, 1911, Conard 1923, Anderson 1942, Grant 8983, Tab 4, 6.
- S. flexicaulis* L. — Shimek 1911 (as *S. latifolia* L.), Conard 1923.
- S. gigantea* Ait. var. *leiophylla* Fern. — Shimek 1909 (as *S. serotina* Ait.), Conard 1923, Sigler 139 (ISC), Tab 2, 5.
- S. missouriensis* Nutt. — Shimek 1909, Conard 1923, Tab 7.
- S. graminifolia* (L.) Salisb. var. *nuttallii* (Greene) Fern. — Shimek 1910, Conard 1923, Grant 11281.
- S. nemoralis* Ait. — Shimek 1909, Conard 1923.
- S. riddellii* Frank. — Reported by Shimek (1915) and Anderson (1943).
- S. rigida* L. — Shimek 1909.
- S. speciosa* Nutt. var. *angustata* T. & G. — Tab 9.
- †*SONCHUS ARVENSIS* L. — Miller 1933.
- S. ASPER* (L.) Hill. — Conard 1923.
- †*S. OLERACEUS* L. — Reported by Pammel (1913).
- TANACETUM VULGARE* L. — Shimek 1910.
- TARAXACUM ERYTHROSPERMUM* Andr. — Conard 1923.
- T. OFFICINALE* Weber. — Cavanagh 1910; Sigler 81 (ISC), as *T. palustre* (Lyons) Lam. & DC.
- †*TRAGOPOGON PRATENSIS* L. — Reported by Anderson (1938).
- Vernonia fasciculata* Michx. — Shimek 1910, Conard 1923.
- #*V. noveboracensis* (L.) Michx. — Reported by Shimek (1915), but this is an eastern Coastal Plain species.
- Xanthium italicum* Mor. — Conard 1923. Reported by Pammel (1913) as *X. canadense* Mill. (which is *X. americanum* Walt.). Reported by Shimek (1915) and Pammel (1926) as *X. commune* Britt.
- X. speciosum* Kearney. — Shimek 1909.

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VIII. Finding-List For Families And Genera

	<i>Family No.</i>		<i>Family No.</i>		<i>Family No.</i>
Abutilon	175	Antennaria	280	Betulaceae	61
Acalypha	147	Anthemis	280	Bidens	280
Acer	163	Apios	128	Boehmeria	65
Aceraceae	163	Apocynaceae	247	Boltonia	280
Acerates	248	Apocynum	247	Boraginaceae	252
Achillea	280	Aquilegia	91	Botrychium	p6
Acnida	79	Arabis	105	Bouteloua	19
Acorus	23	Aralia	227	Brassica	105
Actaea	91	Araliaceae	227	<i>Brauneria</i>	280
Adiantum	p14	Arctium	280	Bromus	19
Agastache	254	Arisaema	23	Bulbostylis	20
Agoseris	280	Aristida	19	Cacalia	280
Agrimonia	126	Aristolochiaceae	74	Calamagrostis	19
Agropyron	19	Artemisia	280	Callitrichaceae	148
Agrostemma	87	Asarum	74	Callitriche	148
Agrostis	19	Asclepiadaceae	248	Caltha	91
Alisma	15	Asclepias	248	Camelina	105
Alismaceae	15	Asparagus	38	Campanula	276
Allium	38	<i>Asplenium</i>	p14	Campanulaceae	276
Alopecurus	19	Aster	280	Cannabis	64
Amaranthaceae	79	Astragalus	128	Capparidaceae	107
Amaranthus	79	Athyrium	p14	Caprifoliaceae	271
Amaryllidaceae	40	Avena	19	Capsella	105
Ambrosia	280	Balsaminaceae	168	Cardamine	105
Amelanchier	126	Baptisia	128	Carduus	280
Amorpha	128	Barbarea	105	Carex	20
Amphicarpa	128	Beckmannia	19	Carya	60
Anacardiaceae	153	Berberidaceae	93	Caryophyllaceae	87
Andropogon	19	Berteroa	105	Cassia	128
Anemone	91	Berula	228	<i>Castalia</i>	88

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	<i>Family No.</i>		<i>Family No.</i>		<i>Family No.</i>
Castilleja	257	Dicentra	104a	Haloragidaceae	225
Caulophyllum	93	<i>Dichrophyllum</i>	147	Haplopappus	280
Ceanothus	169	Digitaria	19	Hedeoma	254
Celastraceae	158	Draba	105	Helenium	280
Celastrus	158	Dracocephalum	254	Helianthemum	193
Celtis	63	Dyssodia	280	Helianthus	280
Cenchrus	19	Echinacea	280	Heliopsis	280
Cephalanthus	270	Echinochloa	19	Hepatica	91
Ceratophyllaceae	89	Echinocystis	275	Heracleum	228
Ceratophyllum	89	Echinodorus	15	Heteranthera	34
<i>Chamaesyce</i>	147	Eclipta	280	Heuchera	117
Chenopodiaceae	78	Elaeagnaceae	215	Hibiscus	175
Chenopodium	78	Elaeagnus	215	Hieracium	280
Cicuta	228	Eleocharis	20	Hierochloe	19
Cinna	19	Elodea	17	Hippuris	225
Circaea	224	Elymus	19	Hordeum	19
Cirsium	280	Epilobium	224	Humulus	64
Cistaceae	193	Equisetaceae	p5	Hydrocharitaceae	17
Clematis	91	Equisetum	p5	Hydrophyllaceae	251
Comandra	69	Eragrostis	19	Hydrophyllum	251
Commelinaceae	33	Erechtites	280	Hypericaceae	187a
Compositae	280	Ericaceae	233	Hypericum	187a
Convallaria	38	Erigeron	280	Hypoxis	40
Convolvulaceae	249	Eriophorum	20	Hystrix	19
Convolvulus	249	Eryngium	228	Impatiens	168
Coreopsis	280	Erysimum	105	Iridaceae	44
Cornaceae	229	Eupatorium	280	Iris	44
Cornus	229	Euphorbia	147	<i>Isanthus</i>	254
Corydalis	104a	Euphorbiaceae	147	Iva	280
Corylus	61	Evonymus	158	Juglandaceae	60
Crassulaceae	115	Fagaceae	62	Juglans	60
Crataegus	126	Festuca	19	Juncaceae	36
Cruciferae	105	Fragaria	126	Juncaginaceae	14
Cryptotaenia	228	Fraxinus	243	Juncus	36
Cucurbitaceae	275	Fumariaceae	104a	Juniperus	6
Cuscuta	249	Galinsoga	280	Koeleria	19
Cynoglossum	252	Galium	270	Kuhnia	280
Cyperaceae	20	Gentiana	246	Labiatae	254
Cyperus	20	Gentianaceae	246	Lactuca	280
Cypripedium	50	Gerardia	257	Laportea	65
Cystopteris	p14	Geum	126	Lappula	252
Dactylis	19	Gilia	250	Lapsana	280
Dalea	128	Glechoma	254	Lathyrus	128
Datura	256	Glyceria	19	Leersia	19
Daucus	228	Glycyrrhiza	128	Leguminosae	128
Delphinium	91	Gramineae	19	Lemna	24
Dentaria	105	Grindelia	280	Lemnaceae	24
Descurainia	105	Gymnocladus	128	Leonurus	254
Desmanthus	128	Habenaria	50	<i>Lepachys</i>	280
Desmodium	128	Hackelia	252	Lepidium	105

	<i>Family No.</i>		<i>Family No.</i>		<i>Family No.</i>
Lespedeza	128	Ophioglossaceae	p6	Potamogeton	11
Liatris	280	Orchidaceae	50	Potamogetonaceae	11
Liliaceae	38	Orobanchaceae	261	Potentilla	126
Lilium	38	Orobanche	261	Prenanthes	280
Linaceae	132	Oryzopsis	19	Primulaceae	237
Linaria	257	Osmorhiza	228	Prunella	254
Lindernia	257	Osmunda	p8	Prunus	126
Linum	132	Osmundaceae	p8	Psoralea	128
Liparis	50	Ostrya	61	Pycnanthemum	254
Lithospermum	252	Oxalidaceae	130	<i>Pyrus</i>	126
Lobelia	276	Oxalis	130	Quercus	62
Lolium	19	<i>Oxybaphus</i>	80	Radicula	105
Lonicera	271	Oxytropis	128	Ranunculaceae	91
Lophotocarpus	15	Panicum	19	Ranunculus	91
Ludvigia	224	Papaveraceae	104	Ratibida	280
Lychnis	87	Parietaria	65	Rhamnaceae	169
Lycopus	254	Parnassia	117	Rhamnus	169
Lygodesmia	280	Parthenocissus	170	Rhus	153
Lysimachia	237	Pastinaca	228	Rhynchospora	20
Lythraceae	216	Pedicularis	257	Ribes	117
Lythrum	216	Penstemon	257	Robinia	128
Malus	126	Penthorum	115	Rorippa	105
Malva	175	Petalostemon	128	Rosa	126
Malvaceae	175	Phalaris	19	Rosaceae	126
Martynia	260	Phleum	19	Rubiaceae	270
Martyniaceae	260	Phlox	250	Rubus	126
Matricaria	280	Phragmites	19	Rudbeckia	280
Medicago	128	Phryma	268	Rumex	77
Melilotus	128	Phrymaceae	268	Rutaceae	132
Menispermaceae	94	Physalis	256	Sagittaria	15
Menispermum	94	Physostegia	254	Salicaceae	56
Mentha	254	Pilea	65	Salix	56
Mimulus	257	Pinaceae	6	Salsola	78
Mirabilis	80	Plantaginaceae	269	Salvia	254
Monarda	254	Plantago	269	Sambucus	271
Monotropa	233	Poa	19	Sanicula	228
Moraceae	64	<i>Poinsettia</i>	147	Sanguinaria	104
Muhlenbergia	19	Polanisia	107	Santalaceae	69
Myriophyllum	225	Polemoniaceae	250	Saponaria	87
Naiadaceae	12	Polemonium	250	Saxifragaceae	117
Naias	12	Polygala	145	Scirpus	20
Nepeta	254	Polygalaceae	145	Scleria	20
Nuphar	88	Polygonaceae	77	Scrophularia	257
Nyctaginaceae	80	Polygonatum	38	Scrophulariaceae	257
Nymphaea	88	Polygonum	77	Scutellaria	254
Nymphaeaceae	88	Polypodiaceae	p14	Senecio	280
Oenothera	224	Pontederiaceae	34	Setaria	19
Oleaceae	243	Populus	56	Sicyos	275
Onagraceae	224	Portulaca	85	Silene	87
Onosmodium	252	Portulacaceae	85	Silphium	280

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	<i>Family No.</i>		<i>Family No.</i>		<i>Family No.</i>
Sisymbrium	105	Symphytum	252	Urticaceae	65
Sisyrinchium	44	Taenidia	228	Utricularia	264
Sium	228	Tanacetum	280	Utriculariaceae	264
Smilacina	38	Taraxacum	280	Uvularia	38
Smilax	38	Teucrium	254	Vallisneria	17
Solanaceae	256	Thalictrum	91	Verbascum	257
Solanum	256	Thaspium	228	Verbena	253
Solidago	280	Thlaspi	105	Verbenaceae	253
Sonchus	280	Tilia	174	Vernonia	280
Sorghastrum	19	Tiliaceae	174	Veronica	257
Sparganiaceae	10	<i>Tithymalopsis</i>	147	Veronicastrum	257
Sparganium	10	<i>Tithymalus</i>	147	Viburnum	271
Spartina	19	Tradescantia	33	Vicia	128
Sphenopholis	19	Tragopogon	280	Viola	198
Spiraea	126	Trichostoma	254	Violaceae	198
Spiranthes	50	Trifolium	128	Vitaceae	170
Spirodela	24	Triglochin	14	Vitis	170
Sporobolus	19	Trillium	38	Vulpia (Festuca)	19
Stachys	254	Triosteum	271	Wolffia	24
<i>Steironema</i>	237	Typha	8	Xanthium	280
Stellaria	87	Typhaceae	8	Zannichellia	11
<i>Stenophyllus</i>	20	Ulmaceae	63	Zanthoxylum	137
Stipa	19	Ulmus	63	Zigadenus	38
Strophostyles	128	Umbelliferae	228	Zizania	19
Symphoricarpos	271	Urtica	65	Zizia	228

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