

*Mentha arvensis lanata* Piper. Woolly wild mint. Roadside near Germfask. Apparently infrequent.

#### SOLANACEAE. Nightshade Family

*Solanum dulcamara* L. Climbing nightshade. Bittersweet. Noticed as frequent throughout in cities and villages.

*Solanum nigrum* L. Common nightshade. Black nightshade. Frequent as a weed in gardens and other cultivated grounds.

*Physalis grandiflora* Hook. (*Leucophysalis grandiflora* (Hook.) Rydb.). Large white ground-cherry. Sandy shores and recent clearings. Often plentiful. Abundant about Naubinway in the western part of Mackinac County.

*Lycium halimifolium* Mill. Matrimony vine. Escaping into dry open ground and persisting near Manistique.

#### SCROPHULARIACEAE. Figwort Family

*Verbascum thapsus* L. Common mullein. Roadsides, pastures and cultivated grounds. Common as a weed.

*Linaria vulgaris* Hill. (*Linaria linaria* (L.) Karst.). Butter-and-eggs. Cities, villages, roadsides and cultivated grounds. Plentiful as a weed.

*Scrophularia leporella* Bicknell. Rich open or partially shaded ground throughout. Often plentiful.

*Chelone glabra* L. Snake-head. Turtle-head. Plentiful in wet open or partially shaded places.

*Mimulus glabratus jamesii* (T. & G.) Gray. (*M. geyeri* Torr.). Geyer's yellow monkey-flower. In shallow water or wet springy places. Frequent.

*Veronica americana* Schwein. American brooklime. In brooks, ditches and wet places. Common.

*Veronica scutellata* L. Marsh speedwell. In wet open or shaded swampy places. Apparently infrequent.

*Veronica officinalis* L. Common speedwell. Dryish open or shaded ground. Apparently infrequent.

*Veronica serpyllifolia* L. Thyme-leaved speedwell. Damp grassy places in and near cities and villages. Frequent.

*Veronica peregrina* L. Purslane speedwell. Usually in rich cultivated grounds. Often abundant as a garden weed.

*Gerardia paupercula* (Gray) Britton. (*Agalinis paupercula* (A. Gray) Britton). Small-flowered gerardia. Dry sterile ground, bogs, and sandy beaches. Often abundant.

*Castilleja coccinea* (L.) Spreng. Scarlet painted-cup. Usually in low damp, sandy, open ground. Often abundant.

*Melampyrum lineare* Lam. Narrow-leaved cow-wheat. Usually in dryish shaded ground. Often abundant in open hardwoods.

#### LENTIBULARIACEAE. Bladderwort Family

*Utricularia vulgaris americana* Gray. (*U. macrorhiza* LeConte). Greater bladderwort. Frequent in ponds and slow streams throughout.

*Utricularia intermedia* Hayne. Flat-leaved bladderwort. In very wet places, shallow water, pools and slow shallow streams. Often abundant.

*Utricularia cornuta* Michx. (*Stomosisia cornuta* (Michx.) Raf.). Horned bladderwort. Peat bogs and wet sandy shores. Often abundant.

*Pinguicula vulgaris* L. Common butterwort. Wet calcareous places and often among rocks near the shores of the upper Great Lakes. Plentiful.

#### OROBANCHACEAE. Broom-rape Family

*Epifagus virginiana* (L.) Bart. (*Leplamnium virginianum* (L.) Raf.). Beech-drops. Common and often abundant under beeches.

#### PLANTAGINACEAE. Plantain Family

*Plantago major* L. Common plantain. Cities, villages and near all dwellings. Common. Much resembling the following. Bases of leaves usually green and whitish.

*Plantago rugelii* Dcne. Rugel's plantain. About dwellings, in waste places and cultivated grounds. Often plentiful. Much resembling the preceding. Petioles usually pinkish.

*Plantago lanceolata* L. English plantain. Becoming common as a weed in lawns, pastures and cultivated grounds.

#### RUBIACEAE. Madder Family

*Galium trifidum* L. Small bedstraw. Low damp open ground. Often abundant among grasses and sedges.

*Galium tinctorium* L. Stiff marsh bedstraw. Wild madder. Damp open or shaded ground. Plentiful.

*Galium asprellum* Michx. Rough bedstraw. Usually in damp ground climbing over willows and other shrubs. Common.

*Galium triflorum* Michx. Fragrant bedstraw. Abundant in hardwoods.

*Mitchella repens* L. Partridge-berry. Twin-berry. Dryish woods, especially open hardwoods. Common. Ripe berries red.

**CAPRIFOLIACEAE.** Honeysuckle Family

*Diervilla lonicera* Mill. (*D. diervilla* (L.) MacM.). Bush honeysuckle. Dry sandy open or shaded ground. Common.

*Lonicera canadensis* Marsh. American fly-honeysuckle. Damp woods and thickets. Common.

*Lonicera oblongifolia* (Goldie) Hook. Swamp fly-honeysuckle. Swamps in open or shade. Frequent.

*Lonicera hirsuta* Eat. Hairy honeysuckle. Usually in damp open or shaded ground. Apparently infrequent. A vine, and when favorably situated becomes a fine vigorous climber.

*Lonicera dioica* L. Glauous honeysuckle. Dry open or shaded ground throughout. Frequent. Also a vine and good climber.

*Linnaea borealis americana* (Forbes) Rehder. (*L. americana* Forbes). Twin-flower. Woods and boggy places. Common, and often abundant.

*Viburnum opulus americanum* (Mill.) Ait. (*V. opulus* L.). Cranberry-tree. High-bush cranberry. Borders of woods and along streams but never abundant.

*Viburnum cassinoides* L. Withe-rod. Wild raisin. Damp open or shaded ground. Abundant. When in full bloom, one of the most beautiful wild shrubs in the Upper Peninsula.

*Viburnum lentago* L. Nanny-berry. Open woods and banks of streams. Plentiful. Berries blue-black, palatable.

*Sambucus canadensis* L. Sweet elder. American elder. Open rich ground. Frequent throughout. In bloom September 14, 1915.

*Sambucus racemosa* L. Red-berried elder. Damp open or shaded ground. Common.

**VALERIANACEAE.** Valerian Family

*Valeriana uliginosa* (T. & G.) Rydb. Wet swampy ground on margins of tamarack-black spruce swamps. Often abundant.

**CUCURBITACEAE.** Gourd Family

*Echinocystis lobata* (Michx.) T. & G. (*Micrampelis lobata* (Michx.) Greene). Wild balsam apple. Banks of the Manistique River. Very probably an escape.

**CAMPANULACEAE.** Bluebell Family

*Campanula rotundifolia* L. Harebell. Blue bells of Scotland. Mostly on the sandy beaches of Lake Michigan and Lake Superior. Plentiful.

*Campanula aparinoides* Pursh. Marsh bellflower. Damp grassy open ground throughout. Plentiful.

**LOBELIACEAE.** Lobelia Family

*Lobelia kalmii* L. Kalm's lobelia. Brook lobelia. Bogs and damp shores. Common.

**COMPOSITAE.** Composite Family

*Eupatorium purpureum* L. Joe-pye weed. Usually in low open ground, sometimes in rich damp open woods. Often abundant.

*Eupatorium purpureum maculatum* (L.) Darl. (*E. maculatum* L.). Spotted Joe-pye weed. Wet open ground. Often plentiful.

*Eupatorium perfoliatum* L. Boneset. Thoroughwort. Low open ground. Common.

*Liatris scariosa* Willd. (*Lacinaria scariosa* (L.) Hill.). Large button-snakeroot. Dry open ground. Frequent. Often abundant on the jack pine plains.

*Grindelia squarrosa* (Pursh) Dunal. Broad-leaved gum-plant. Dry open ground in waste places and fields. Apparently an immigrant from the west. Occasional.

*Solidago hispida* Muhl. Hairy goldenrod. Dry open or partially shaded ground. Often abundant.

*Solidago randii* (Porter) Britton. Rand's goldenrod. Mostly on sandy beaches of Lake Michigan and Lake Superior. Common.

*Solidago uliginosa* Nutt. Swamp goldenrod. Boggy open ground throughout. Common.

*Solidago juncea* Ait. Early goldenrod. Dry open or partially shaded ground. Frequent.

*Solidago ulmifolia* Muhl. Elm-leaved goldenrod. Dryish shaded ground. Frequent.

*Solidago rugosa* Mill. Wrinkled-leaved goldenrod. Common in dry open or slightly shaded ground.

*Solidago nemoralis* Ait. Gray goldenrod. Dry open ground and often abundant.

*Solidago canadensis* L. Canada goldenrod. Rich damp or dry open or partially shaded ground. Common throughout.

*Solidago altissima* L. Tall goldenrod. Usually in rich open dryish ground. Common.

*Solidago serotina* Ait. Late goldenrod. In rich open or shaded ground. Frequent.

*Solidago houghtonii* T. & G. Houghton's goldenrod. Sandy beaches of Lake Michigan and Lake Superior. Frequent.

*Solidago graminifolia* (L.) Salisb. (*Euthamia graminifolia* Nutt.). Flat-topped goldenrod. Moist open ground and sandy shores. Common. Often a very slender form noticed, perhaps approaching *S. tenuifolia* Pursh.

- Aster macrophyllus* L. Large-leaved aster. Open woods and thickets. Frequent and in spots abundant.
- Aster multiformis* Burgess. Various-leaved aster. Plentiful in open hardwoods near Indian Lake. Very probably in many other places. See Britton & Brown's Illustrated Flora, Second edition, Vol. 3, page 413.
- Aster lindleyanus* T. & G. Lindley's aster. Open and partially shaded damp places. Common.
- Aster laevis* L. Smooth aster. Dry mostly open ground. Often abundant on the jack pine plains.
- Aster lateriflorus* (L.) Britton. Calico aster. Thickets, damp open places and along streams. Often plentiful.
- Aster tradescanti* L. Tradescant's aster. Low open or partially shaded ground and along low banks of streams. Abundant.
- Aster paniculatus* Lam. Panicked aster. Damp open or partially shaded ground and in damp meadow-like places. Frequent.
- Aster salicifolius* Ait. Willow aster. Low open ground, damp sandy places, and borders of damp woods. Plentiful.
- Aster junceus* Lam. Rush aster. Bogs, wet marshy places and damp meadow-like ground. Abundant.
- Aster puniceus* L. Red-stalk aster. Low wet open or partially shaded ground throughout. Abundant. The most abundant aster so far noticed in the Upper Peninsula.
- Aster umbellatus* Mill. (*Doellingeria umbellata* (Mill.) Nees.). Tall flat-top white aster. Usually in moist shaded ground. Abundant.
- Aster nemoralis* Ait. Bog aster. Bogs and swamps. Often abundant.
- Erigeron philadelphicus* L. Common fleabane. Usually in damp open ground. A field weed and often abundant.
- Erigeron annuus* (L.) Pers. Sweet scabious. Fields and waste places. A frequent field weed.
- Erigeron ramosus* (Walt.) BSP. Daisy fleabane. Fields and roadsides. A common weed and often abundant.
- Erigeron canadensis* L. (*Leptilon canadense* (L.) Britton). Horse-weed. Butter-weed. In gardens, fields and waste places. A common weed and often abundant.
- Antennaria neodioica* Greene. Smaller cat's-foot. Open dryish woods and dryish open ground. Frequent.
- Antennaria neglecta* Greene. Field cat's-foot. Dry open ground, dry open woods and generally on dry prairie-like ground. Often abundant.
- Antennaria petaloidea* Fernald. Common cat's-foot. Dry banks, fields and open woods. Often plentiful.
- Anaphalis margaritacea* (L.) B. & H. Pearly everlasting. Usually in dry open ground. Common.
- Gnaphalium polycephalum* Michx. (*G. obtusifolium* L.). Common

- everlasting. Sweet balsam. In dry or damp open ground. Apparently infrequent.
- Gnaphalium decurrens* Ives. Clammy everlasting. Dry open ground especially in clearings. Frequent.
- Gnaphalium uliginosum* L. Low cudweed. In damp or dryish open ground. Often a field weed. Frequent.
- Iva xanthifolia* Nutt. Burweed marsh elder. West of Manistique near Cooks. Plants large and thrifty. Apparently introduced from the west. Not noticed elsewhere in Schoolcraft County.
- Ambrosia trifida* L. Great ragweed. In cities and villages as a weed. Not common.
- Ambrosia artemisiifolia* L. (*A. elatior* L.). Common ragweed. Becoming common as a weed in fields.
- Ambrosia psilostachya* DC. Western ragweed. Becoming established in cities and villages as a perennial weed.
- Xanthium canadense* Mill. (*X. americanum* Walt.). American cocklebur. As a weed in cities and villages. Apparently infrequent.
- Rudbeckia hirta* L. Yellow daisy. Black-eyed Susan. Dry open ground. Frequent and noticed in cultivated fields.
- Lepachys columnaris* (Sims) T. & G. Prairie cone-flower. In cities, villages and along railroads. Introduced from the west and apparently infrequent. Cornell.
- Bidens frondosa* L. Beggar-ticks. Mostly a weed in damp open ground. Frequent.
- Bidens cernua* L. Nodding bur-marigold. In low wet ground and swamps. Often abundant.
- Achillea millefolium* L. Common yarrow. Open dryish ground everywhere. Mostly a weed.
- Anthemis cotula* L. Mayweed. In cities, villages, on roadsides, and about dwellings. Often abundant.
- Chrysanthemum pinnatifidum* Lecoq. & Lamotte. Ox-eye daisy. Becoming well established along roads, in pastures and all cultivated grounds.
- Chrysanthemum balsamita tanacetoides* Boiss. (*C. balsamita* L.). Costmary. Occasionally escaping to roadsides and persisting. Frequent.
- Tanacetum vulgare* L. Common tansy. Occasionally escaping to roadsides and persisting.
- Tanacetum huronense* Nutt. Lake Huron tansy. Sandy beaches of Lake Michigan and Lake Superior. Often plentiful.
- Artemisia caudata* Michx. Tall wormwood. Sandy beaches of Lake Michigan and Lake Superior. Occasional on interior sand ridges. Plentiful.
- Artemisia vulgaris* L. Common mugwort. In waste places of cities and villages. Frequent. Occasional in open woods.

*Artemisia biennis* Willd. Biennial wormwood. As a weed in damp ground about cities and villages and along railroads. An immigrant from the west. Frequent.

*Artemisia absinthium* L. Common wormwood. On roadsides and about cities and villages as an escape from cultivation.

*Petasites palmatus* (Ait.) Gray. Palmate-leaved sweet colt's-foot. Damp open or shaded ground throughout. Frequent. W. T. S. Cornell.

*Erechtites hieracifolia* (L.) Raf. Fire-weed. Moist open or shaded ground. Often plentiful on burned over areas.

*Senecio aureus* L. Golden ragwort. In damp mostly shaded places throughout. Plentiful.

*Senecio balsamitae* Muhl. (*S. pauperculus* Michx.). Balsam groundsel. In dry open or partially shaded ground and along sandy beaches. Frequent.

*Arctium minus* Bernh. Common burdock. Waste places, roadsides, fields and open woods. Frequent.

*Cirsium lanceolatum* (L.) Hill. Common thistle. Roadsides, pastures and fields. Frequent.

*Cirsium pitcheri* (Torr.) T. & G. Pitcher's thistle. Sandy beaches of Lake Michigan and Lake Superior. Frequent. Seldom abundant.

*Cirsium discolor* (Muhl.) Spreng. Field thistle. Rich open or shaded ground throughout. Frequent.

*Cirsium muticum* Michx. Swamp thistle. In swampy places and damp woods. Frequent.

*Cirsium arvense* (L.) Scop. Canada thistle. Roadsides, pastures and cultivated grounds. Becoming common.

*Cichorium intybus* L. Chicory. Occasional about cities and villages and in cultivated grounds. Frequent.

*Tragopogon porrifolius* L. Oyster plant. Escaping from cultivation to roadsides and along railroads. Frequent.

*Tragopogon pratensis* L. Yellow goat's-beard. Waste places in cities and villages. Often plentiful.

*Taraxacum officinale* Weber. (*Leontodon taraxacum* L.). Common dandelion. Common everywhere. Abundant in fields and pastures.

*Sonchus arvensis* L. Corn sow-thistle. Along railroads, in depot grounds of cities and villages and becoming a weed on roadsides and in fields. Frequent.

*Sonchus oleraceus* L. Common sow-thistle. A weed in waste places, gardens and fields. Plentiful.

*Sonchus asper* (L.) Hill. Spiny-leaved sow-thistle. A weed in waste places, gardens and fields. Frequent.

*Lactuca scariola integrata* Gren. & Godr. Prickly lettuce. A weed in waste grounds of cities and villages and becoming frequent.

*Lactuca canadensis* L. Wild lettuce. Rich open or partially shaded ground. Frequent.

*Lactuca spicata* (Lam.) Hitchc. Tall blue lettuce. Damp open or partially shaded ground. Common and often abundant.

*Prenanthes racemosa* Michx. (*Nabalus racemosus* (Michx.) DC.). Glaucous white lettuce. Damp open ground and in damp sand. Frequent.

*Prenanthes alba* L. (*Nabalus albus* (L.) Hook.). Rattlesnake-root. White lettuce. Rich woods. Apparently infrequent.

*Prenanthes altissima* L. (*Nabalus altissimus* (L.) Hook.). Tall white lettuce. Rich shaded ground. Frequent. W. T. S. Cornell.

*Hieracium scabrum* Michx. Rough hawkweed. Dry open or partially shaded ground. Frequent.

*Hieracium canadense* Michx. Canada hawkweed. Dryish ground, open or shaded. Frequent throughout.

OBSERVATIONS ON THE WILD PLANTS AT WHITEFISH  
POINT AND VERMILION, NEAR THE SOUTH SHORE OF  
LAKE SUPERIOR, AND OTHER PARTS OF CHIPPEWA  
COUNTY, MICHIGAN, IN 1914.

Considerable biological work having been done at Whitefish Point and near Vermilion in Chippewa County, Michigan, by the Michigan Geological and Biological Survey, it was determined to investigate the wild plants there as far as time would permit, referring only to flowering plants, ferns, and fern allies. The writer undertook the work in the summer of 1914. As far as possible other parts of the county were also visited.

REGION SPECIALLY EXAMINED

Special plant examination began at Eckerman east of Soo Junction, June 14, 1914; from this point north about 16 miles to Emerson on the Lake Superior shore, to Shelldrake about 12 miles farther north and west, and then to Whitefish Point and Vermilion about 15 miles farther north. In this whole distance, there are only a very few small clearings apparently long ago abandoned, and only a few little gardens. Eckerman is a mere railway station; Emerson and Shelldrake, only lumbering and sawmill plants; Whitefish Point, a small postoffice; and Vermilion, a life-saving station. About 3 miles northeast of the postoffice is the United States lighthouse. A few fishermen operate along the shore from Emerson to the lighthouse. Just southeast of Eckerman on a ridge is a remarkable hardwood forest of beech, sugar maple, and birch, yet intact. Scattered among the other trees are basswood, elm, and hemlock, specimens as large as the writer has ever seen. North about 6 miles is another hardwood forest, 8 miles wide and reported to be 40 miles long easterly and westerly. In these two hardwood forests, so far as could be examined, no lumbering to speak of has occurred, nor have they been visited by destructive fires. In the larger forests a few lumbering camps were reported, but not seen. Nearby on the south is an extensive cedar swamp, long ago lumbered over and abandoned and later visited by destructive fires. At present it is mostly a sort of jungle in a condition for more devastating fires. Also, just north and west is an extensive swamp of tamarack and black spruce, one at Emerson, and another at Shelldrake, all yet intact, not having been lumbered over nor visited by destructive fires. The trees are generally small and the tamaracks are being killed as explained in the annotated plant list.

The swamps are often very wet and the ground covered with sphagnum. On their margins and in open spaces, *Chamaedaphne calyculata*, *Andromeda glaucophylla*, *Ledum groenlandicum* and *Kalmia polifolia* are abundant and are the dominant bog shrubs of the region. In spots two more swamp shrubs, *Myrica gale* and *Betula pumila glandulifera*, are plentiful. Along the lake shore generally, above Shelldrake around to Vermilion are sand dunes, covered mostly with jack pine, red maple and red oak. Some distance from the shore west to Luce County there are large areas of fixed sand ridges thinly covered mostly with small red pine and jack pine, much of the merchantable timber having long ago been cut. South of Vermilion as far as Shelldrake River, there is a region of large and high sand ridges formerly covered mostly with white pine and red pine, all of which have been cut except perhaps about a section of original forest of fine trees southwest of Vermilion. The lumbered portion has been visited by several destructive fires. In open places there are at present, where not too much shaded by small jack pines and other coniferous shrubs, extensive areas well sodded over with *Poa pratensis* and *Poa compressa*, making good pasture lands. In spots *Frunus pennsylvanica* is abundant.

#### RIVERS AND SMALL LAKES

Two streams perhaps worthy of notice penetrate this locality. The Tahquamenon River which rises in Luce County on the west is much the larger. It passes in two places over precipitous rocks, known as the upper and lower falls, and enters Lake Superior at Emerson. The river was followed up as far as the lower falls, and the writer has never seen a more beautiful small stream. Along its banks elm and black ash are quite common. Shelldrake River rising near the west line of Chippewa County flows northerly toward Vermilion, then southeast, and enters the lake at Shelldrake. This was followed up about 17 miles west of Shelldrake where lumbering camps are at present established. Between these two rivers some distance from the lake, the sand ridges are large and high, and among them are many small lakes, ponds, and swamps.

#### PONDS AND BOGS NEAR THE LAKE SUPERIOR SHORE

From Whitefish Point to Vermilion, near and parallel with the Lake Superior shore, are many ponds and bogs often long and narrow, enclosed mostly by drifting sand dunes on the lake side and higher fixed sand ridges on the land side. Only a few of these have a natural outlet to the lake. Just south of Vermilion are a typical long pond and bog bordered by a tamarack and black spruce swamp and backed by high fixed sand ridges. These ponds and bogs are the natural home of many water plants and sedges. Here the locality and conditions being well-nigh

perfect for that purpose, the late John Clark made a large and productive cranberry farm with modern appliances for flooding the land and collecting the crop. There is also a smaller cranberry farm at Whitefish Point owned by Mr. Frank House.

#### THE REGION WILD AND NEARLY IN NATURAL STATE

The locality from Eckerman to Vermilion, and all that portion of the county north of the railway connecting Soo Junction with Brimley and west to Luce County, is one of the wildest the writer has ever visited. If such a wild region is the proper place for biological work, this has been well chosen, and is typical. It is the home of such wild animals as have been left in Michigan. Bear tracks were common, deer and tiny fawn tracks, and their trails, were numerous. Porcupines were abundant, five having been seen at one time in an abandoned shanty. Its northern latitude was indicated on the night of June 13-14, 1914, by a killing frost, cutting down the common brake wherever exposed, and killing the tender shoots of small black ash and other shrubs and trees.

#### PECULIAR HABITATS

Throughout the locality there is much flat sandy land mostly in streaks with a thin covering of vegetable mold and sphagnum giving it a very swampy appearance. Growing on this were found white birch, black ash, black spruce, balsam and red maple. Forest fires in dry seasons have swept over most of such ground and the dead timber is still standing. Back of Shelldrake was noticed a large area of flat sandy land covered with sphagnum, in which were growing only small scattering jack pines and an occasional small bunch of shrubs.

#### TREES AND SHRUBS WITH DIVERSE HABITATS

As already intimated, black spruce mixed with tamarack is abundant in swamps throughout the county. But black spruce is also common over large tracts of flat, dry, sandy ground, especially so on the dry banks of the Tahquamenon River. In this respect, however, the behavior of red maple is much more striking. General observation and the record in botanical works indicate as a habitat for this species "swamps and wet woods", but in the whole region north and west of Eckerman it is very abundant on dry flat sandy land, fixed sand ridges and drifting sand dunes, although mostly reduced in size and scraggy in this situation. So far as heretofore observed by the writer in Michigan *Ledum groenlandicum* is a bog shrub, but here it extends from bogs to dry flat sandy land, and to sides and even crests of fixed sand ridges and drifting sand dunes.

## FORESTS KNOWN AS HARDWOODS

These forests, composed about equally of beech, sugar maple, and yellow birch, have many peculiarities of their own. Scattered among the trees are here and there, basswood, American elm, hemlock, mountain maple, mountain ash, and balsam. Underneath, the American yew is very abundant, as also are *Clintonia borealis* and *Lycopodium annotinum*. In spots *Oxalis acetosella* carpets the ground.

## CHIPPEWA COUNTY AS A WHOLE

This county, starting on the south shore of Lake Superior at a point a few miles west of Vermilion, extends in a southeasterly direction to the east end of Drummond Island, a distance approximating 100 miles on a straight line connecting these two extreme points. Its lake and river frontage is over 150 miles. That portion of the county not already mentioned,—the eastern, southern and southeastern parts—on the whole differs very materially from the northwestern. There are many sand ridges, numerous tamarack-black spruce swamps, white cedar swamps, many bogs, small lakes and ponds. Large parts of the eastern portion were covered formerly with hardwood forests, and some pine in streaks mixed with hardwoods. But wasteful and destructive methods of lumbering, and devastating fires have changed the face of the county. The timber has been thus substantially removed. It is not, generally speaking, a rocky country. In the eastern portion boulders occasionally appear, and exposed rocks were noticed at Gatesville and from there to Saint Marys River and Detour. These hardwood lands are being cleared for agricultural purposes. From Brimley to Sault Ste. Marie and from there south and east to Detour, about 65 miles, the road on both sides is lined with good farms almost without exception, all appearances indicating good soil, and thrift in the way of buildings and crops. Orchards were scarce, but a few heavily bearing apple trees were noticed. Corn fields were few. Wheat, barley, oats, peas, potatoes, timothy, and clover were the main crops. On September 10, 1914, much of the wheat, oats, and barley was in shock, and many fields of grain yet uncut. The change in appearance and apparent conditions from the western and northwestern to the eastern and southeastern parts is very great. This is over 300 miles direct north of the southern State boundary, so that a list of the wild plants growing here compared with one in Hillsdale County, directly south, would be interesting in the study of plant distribution.

## ACKNOWLEDGEMENTS

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Gray's New Manual of Botany has been followed as far as possible. Changes have been made and a number of new species established since its publication.

## ANNOTATED LIST

## POLYPODIACEAE. Fern Family

*Polypodium vulgare* L. Common polypody. Shaded rocks in eastern portion of county. Plentiful.

*Phegopteris polypodioides* Fée. Long beech fern. In hardwoods throughout. Occasional.

*Phegopteris dryopteris* (L.) Fée. Oak fern. Beech and maple woods throughout Chippewa County. Common and often abundant.

*Adiantum pedatum* L. Maidenhair. Margins of and open spots in, beech-maple-birch woods. Frequent.

*Pteris aquilina* L. Common brake. Very abundant in open or slightly shaded ground. Where exposed it was killed to the ground by a severe frost on the night of June 13-14, 1914.

*Asplenium filix-femina* (L.) Bernh. Lady fern. Open and slightly shaded ground throughout. Common and often abundant.

*Aspidium thelypteris* (L.) Sw. Marsh shield fern. Borders of marshes and swamps and often in slight shade. Common and often very abundant.

*Aspidium noveboracense* (L.) Sw. New York fern. Abundant in beech-maple-birch woods near the lower falls of the Tahquamenon River back of Emerson. Occasional in all hardwood forests.

*Aspidium marginale* (L.) Sw. Evergreen wood fern. Rich open woods. Frequent.

*Aspidium cristatum* (L.) Sw. Crested shield fern. Wet open or shaded rich ground. Frequent.

*Aspidium spinulosum* (O. F. Müller) Sw. Spinulose shield fern. In beech-maple-birch woods throughout. Frequent.

*Aspidium spinulosum intermedium* (Muhl.) D. C. Eaton. American shield fern. Rich hardwoods. Common.

*Cystopteris bulbifera* (L.) Bernh. Bulblet cystopteris. Open woods, and on banks of streams. Occasional throughout.

*Cystopteris fragilis* (L.) Bernh. Brittle fern. Damp rich woods. Occasional.

*Onoclea sensibilis* L. Sensitive fern. Throughout in damp open or shaded ground. Common.

*Onclea struthiopteris* (L.) Hoffm. Ostrich fern. Abundant along the Tahquamenon River above Emerson near lower falls, and occasionally throughout. Fine specimens traced along streams.

*Osmunda regalis* L. Royal fern. In wet and often shaded ground throughout. Common.

*Osmunda claytoniana* L. Interrupted fern. In rich open or slightly shaded ground throughout. Fine specimens noted.

*Osmunda cinnamomea* L. Cinnamon fern. Damp rich open or shaded ground throughout. Fine specimens.

#### OPHIOGLOSSACEAE. Adder's Tongue Family

*Botrychium obliquum* Muhl. Ternate grape fern. In sandy, slightly shaded ground near Whitefish Point. Apparently rare.

*Botrychium virginianum* (L.) Sw. Rattlesnake fern. Common throughout in woods and thickets.

#### EQUISETACEAE. Horsetail Family

*Equisetum arvense* L. Common horsetail. Common throughout. Often on sand dunes acting as a sand binder.

*Equisetum sylvaticum* L. Wood horsetail. Damp ground in swamps and along streams. Abundant throughout.

*Equisetum fluviatile*. Pipes. Wet open places, shallow water, ditches and swamps. Often abundant.

*Equisetum hyemale* L. Common scouring rush. Often on sides of sand dunes where it acts as a good sand binder. Common in dry, sandy, open ground.

*Equisetum variegatum* Schleich. Variegated equisetum. Sandy beaches of Lake Superior, often acting as a sand binder. Frequent.

*Equisetum scirpoides* Michx. Sedge-like equisetum. In woods and open places in tamarack-black spruce swamps. Frequent.

#### LYCOPODIACEAE. Club Moss Family

*Lycopodium lucidulum* Michx. Shining club moss. Damp woods throughout. Abundant near lower falls of the Tahquamenon River above Emerson.

*Lycopodium inundatum* L. Bog club moss. Usually in open damp sandy ground. Plentiful.

*Lycopodium annotinum* L. Stiff club moss. Beech-maple-birch woods. Very abundant throughout.

*Lycopodium clavatum* L. Common club moss. Dry open woods and steep banks of streams. Occasional throughout.

*Lycopodium obscurum* L. Ground pine. Beech-maple-birch woods. Frequent.

*Lycopodium complanatum* L. Running pine. Pine woods and sand dunes throughout. Frequent.

*Lycopodium tristachyum* Pursh. Clustered ground pine. Dry open ground. Apparently infrequent.

#### SELAGINELLACEAE. Selaginella Family

*Selaginella apus* (L.) Spring. Creeping selaginella. Low open or partially shaded ground. Frequent throughout.

#### TAXACEAE. Yew Family

*Taxus canadensis* Marsh. American yew. Beech-maple-birch woods. Abundant, often carpeting the ground. Noticed in particular in the hardwoods north of Eckerman.

#### PINACEAE. Pine Family

*Pinus strobus* L. White pine. Formerly large areas covered with this species, as at present shown by stumps both on level sandy land, and sand ridges. Often mixed with red pine. Large specimens free from limbs and containing several logs of 16 feet each are called by land cruisers "sap pine", and specimens with limbs on the body nearly to ground, "buckwheat pine". Many small trees yet standing and seedlings usually plentiful. About a half section of original trees of this mixed with some red pine noticed yet standing southwest of Vermilion.

*Pinus banksiana* Lamb. Jack pine. Throughout the county on level sandy land and sand ridges. Abundant at Whitefish Point. Trees usually small, occasionally large enough for saw logs. Often mixed with red pine. Shrubs and seedlings abundant. Occasional in sphagnum swamps.

*Pinus resinosa* Ait. Red pine. Formerly plentiful and abundant in spots on dry flat sandy land and sand ridges. A few fine trees yet left, scattered over the county. A large area of sand ridges covered with small trees a few miles west of Emerson. A tree with a long body free from limbs, containing several logs of 16 feet each, called "yellow pine" by land cruisers; one with limbs nearly to the ground, "buckwheat pine". When logs of this species are so heavy as to sink in water many lumbermen call it "pigiron pine".

*Larix laricina* (DuRoi) Koch. Tamarack. Many large swamps covered thickly with this and black spruce, throughout the county, usually referred to as "tamarack-black spruce swamps". Trees generally small and everywhere dying, being attacked by a winged insect from Europe called a saw fly. Shrubs and seedlings plentiful and apparently vigorous. "Tamaracks are being killed all over the State now by a saw fly that came to this country from Europe before the Civil War.

It gradually worked its way westward and arrived in Michigan some ten years ago or thereabout. The naked larva which feeds on the leaves in June and July, when full grown, goes to the ground and pupates just under the surface. The creature being from Europe has no natural enemies or very few of them to control it here, and therefore the death rate of tamaracks has been very high. It usually is followed by a bark beetle which works between the bark and the wood and which is itself capable of killing trees. The name of this saw fly is *Lygaeonematus erichsoni*, and the name of the beetle that works under the bark is *Denbroctonus similis*. We have been spending some effort for a number of years trying to introduce the European parasites which control this pest in its native home and while we have not succeeded in establishing the European species we have some little hopes from an unknown species which we have succeeded in getting several times. There is nothing that can be done particularly."—B. H. Pettit, Professor of Entomology, Michigan Agricultural College, February 18, 1915.

*Picea canadensis* (Mill.) BSP. White spruce. Scattering throughout along Lake Superior shore and on sand ridges. Often affected with a pest known as dwarf mistletoe.

*Picea mariana* (Mill.) BSP. Black spruce. Large areas of this mixed with tamarack growing in wet swampy ground throughout the county. Trees mostly small. Often growing on higher ground, where it is larger and cut for pulpwood. A form of it common on dry sandy land everywhere, and on sand ridges, which some botanists would name *P. brevifolia* Peck, swamp spruce. Twigs of this and *Abies balsamea* near Lake Superior shore above Shelldrake, are covered with a bearded lichen, *Usnea barbata plicata* Ehrh., giving the trees a shaggy and moss-like appearance similar to more northern forests. Often afflicted with the dwarf mistletoe.

*Abies balsamea* (L.) Mill. Balsam fir. Common throughout the county and abundant in spots. Frequent with beech, maple and birch, and occasional in swamps with tamarack and black spruce. A very beautiful forest tree.

*Tsuga canadensis* (L.) Carr. Hemlock. Common throughout but seldom abundant except in streaks or small spots. Frequent with hard maple, yellow birch, and beech. Trees often very large, one recently cut indicating an age of over 300 years. Large trees called "yellow hemlock" by land cruisers; second growth, "white hemlock".

*Thuja occidentalis* L. Arbor vitae, white cedar. Formerly very abundant throughout the county in cedar swamps which have been lumbered over for many years and mostly destroyed by fire. Small trees and seedlings yet abundant. Often growing on sandy ground especially near the Lake Superior shore, but it is usually small in such situations. Shrubs and seedlings abundant. As understood by land cruisers, second growth trees and trees covered with limbs to or nearly to the ground

are "white cedar". Trees with tall smooth bodies without many body limbs and with small tops, are "yellow cedar".

*Juniperus communis depressa* Pursh. Low juniper. Sand dunes, sand ridges, and sandy beaches throughout but seldom abundant. Noticed as more common on rocky ground near Detour.

*Juniperus horizontalis* Moench. Creeping juniper. Abundant in very wet ground growing at the bases of small tamaracks and spruces on the border of a tamarack-black spruce swamp north of Eckerman. Heretofore noticed only on small sand ridges, and sandy beaches, near shores of Lake Huron and Lake Michigan.

*Juniperus virginiana* L. Red cedar. Reported as on sand dunes near Vermilion, but believed to be very doubtful, except possibly as a casual escape.

#### TYPHACEAE. Cat-tail Family

*Typha latifolia* L. Common cat-tail. Common throughout in swampy open places.

#### SPARGANIACEAE. Bur-reed Family

*Sparganium eurycarpum* Engelm. Broad fruited bur-reed. Marshy places, borders of ponds and slow streams. Common throughout.

*Sparganium diversifolium acaule* (Beeby) Fernald and Eames. Stemless bur-reed. Swampy open ground near Vermilion. Apparently infrequent. N. A. Wood.

#### NAJADACEAE. Pondweed Family

*Potamogeton natans* L. Common floating pondweed. Ponds and slow streams throughout. Common.

*Potamogeton epihydrus* Raf. Nuttall's pondweed. Slow creeks, ponds, and ditches throughout. Often abundant.

*Potamogeton heterophyllus* Schreb. Various leaved pondweed. Slow streams and ponds throughout. Frequent.

*Potamogeton angustifolius* Berchtold and Presl. Ziz's pondweed. Small lakes or large ponds throughout. Also noticed in the Tahquamegon River near lower falls above Emerson. Frequent.

*Potamogeton lucens* L. Shining pondweed. In Little Lake at Whitefish Point. Plentiful. Noticed by T. L. Hankinson, ichthyologist.

*Potamogeton pusillus* L. Small pondweed. Ponds, pools and ditches throughout. Common.

*Potamogeton rutilus* Wolfgang. Slender pondweed. In Little Lake at Whitefish Point. Plentiful. Noticed by T. L. Hankinson, ichthyologist.

*Potamogeton foliosus* Raf. Leafy pondweed. In nearly still water of

Tahquamenon River near lower falls above Emerson. Plentiful at this place.

*Potamogeton dimorphus* Raf. Spiral pondweed. Tahquamenon River near lower falls above Emerson. Plentiful.

*Najas flexilis* (Willd.) Rostk. & Schmidt. Slender najas. Ponds, small lakes, and margins of slow streams. Plentiful.

#### JUNCAGINACEAE. Arrow Grass Family

*Scheuchzeria palustris* L. Scheuchzeria. Open boggy places throughout. Abundant near Vermilion.

*Triglochin maritima* L. Sea-side arrow-grass. Marshy open places throughout. Frequent.

*Triglochin palustris* L. Marsh arrow-grass. Damp open sandy ground throughout. Plentiful at Vermilion.

#### ALISMACEAE. Water-plantain Family

*Sagittaria latifolia* Willd. Broad-leaved arrow-head. Muddy places, and shallow water in ponds and ditches and slow streams throughout. Common.

*Alisma plantago-aquatica* L. American water plantain. In shallow water, muddy places, and ditches throughout. Common.

#### HYDROCHARITACEAE. Frog's Bit Family

*Elodea canadensis* Michx. Waterweed. Ponds, small lakes; and slow streams. Plentiful throughout.

*Vallisneria spiralis* L. Tape grass. Wild celery. Ponds and slow streams throughout. Common.

#### GRAMINEAE. Grass Family

*Andropogon scoparius* Michx. Broom beard grass. Dry open ground or among pines. Frequent.

*Andropogon furcatus* Muhl. Forked beard grass. Dry open ground. Apparently infrequent.

*Digitaria humifusa* Pers. Small crab grass. Sandy open ground in and about Sault Ste. Marie. Plentiful.

*Digitaria sanguinalis* (L.) Scop. Crab grass. Cultivated grounds and about villages as a weed. Not abundant.

*Panicum capillare* L. Old-witch grass. About cultivated grounds and in villages as a weed. Apparently not abundant.

*Panicum depauperatum* Muhl. Starved panic grass. On lumbered over and burnt over sand ridges south of Vermilion. Apparently not common.

*Panicum subvillosum* Ashe. Spreading panic grass. Open sandy

ground near Shelldrake River south of Vermilion. Apparently infrequent.

*Echinochloa crusgalli* (L.) Beauv. Barnyard grass. In damp cultivated grounds and about villages. Apparently not common.

*Setaria glauca* (L.) Beauv. Foxtail. Pigeon grass. Cultivated grounds and in cities and villages as a weed. Apparently not very common.

*Setaria viridis* (L.) Beauv. Green foxtail. A weed in cultivated fields and villages. Not abundant.

*Cenchrus carolinianus* Walt. Sandbur. Bur-grass. Open sandy ground in and about Sault Ste. Marie. Plentiful.

*Leersia oryzoides* (L.) Sw. Rice cut-grass. Scratch grass. Swamps and along low banks of streams and in old ditches. Frequent.

*Phalaris arundinacea* L. Reed canary grass. Wet open ground. Frequent.

*Milium effusum* L. Millet grass. Beech-maple-birch woods. Common throughout.

*Oryzopsis asperifolia* Michx. White grained mountain rice. Beech-birch-maple woods throughout. Frequent.

*Muhlenbergia racemosa* (Michx.) BSP. Wild timothy. Satin grass. Moist meadow-like places. Frequent throughout.

*Brachyelytrum erectum* (Schreb.) Beauv. Bearded short-husk. Beech-birch-maple woods throughout. Plentiful.

*Phleum pratense* L. Timothy. Common throughout in both damp and dry open ground.

*Alopecurus geniculatus aristulatus* Torr. Short awned foxtail. In very wet places and shallow water. Frequent.

*Sporobolus uniflorus* (Muhl.) Scribn. and Merr. Late-flowering drop-seed. Damp open ground. Plentiful at Emerson. Apparently infrequent.

*Sporobolus cryptandrus* (Torr.) Gray. Sand drop-seed. Sandy ground near and on the beaches of Lake Superior. Frequent. Never abundant.

*Agrostis alba* L. Red-top. Damp meadow-like ground throughout but nowhere abundant.

*Agrostis hyemalis* (Walt) BSP. Hair grass. Dry or moist open ground throughout. Often plentiful.

*Agrostis perennans* (Walt) Tuckerm. Thin-grass. In damp woods throughout. Plentiful in woods at lower falls of the Tahquamenon River back of Emerson.

*Calamovilfa longifolia* (Hook.) Hack. Long-leaved reed-grass. Sandy shores of Lake Superior but nowhere abundant. A good sand binder, when plentiful and well established.

*Calamagrostis canadensis* (Michx.) Beauv. Blue joint-grass. Damp open marshy ground. Plentiful throughout.

*Ammophila arenaria* (L.) Link. Sea sand-reed. Sandy beach of Lake Superior. Often abundant and acting as an efficient sand binder.

*Cinna latifolia* (Trev.) Griseb. Slender wood reed-grass. Beech-maple-birch woods throughout. Plentiful.

*Koeleria cristata* (L.) Pers. Crested hair-grass. Dry open ground. Frequent.

*Deschampsia flexuosa* (L.) Trin. Common hair grass. Dry open or slightly shaded places near Vermilion. Frequent in that region.

*Avena sativa* L. Common oat. Escaping and apparently persisting in many places near dwellings, and about villages.

*Danthonia spicata* (L.) Beauv. Common wild oat grass. Dry open ground, but not abundant.

*Danthonia intermedia* Vasey. Vasey's wild oat grass. Dry open ground near Vermilion. Apparently infrequent.

*Phragmites communis* Trin. Reed. Margins of, and open places in, tamarack-black spruce swamps throughout but nowhere very abundant.

*Eragrostis pilosa* (L.) Beauv. Small tufted love grass. Dry open ground in and about Sault Ste. Marie. Plentiful.

*Eragrostis megastachya* (Koeler) Link. Strong scented love grass. Gardens and other cultivated grounds. Occasional.

*Melica smithii* (Porter) Vasey. Smith's oat. Open places in beech-maple-birch woods near Eckerman. Apparently not common.

*Melica striata* (Michx.) Hitchc. Purple oat. Borders of, and open places in, beech-maple-birch woods throughout, but apparently not common.

*Dactylis glomerata* L. Orchard grass. In and near cities and villages and in cultivated grounds. Frequent.

*Poa annua* L. Low spear grass. Cultivated grounds and about villages. Frequent. Often abundant in lawns.

*Poa compressa* L. Canada blue grass. In dry open ground throughout. Noticed in particular on lumbered over and burned over sand-ridges where it was often abundant.

*Poa nemoralis* L. Wood meadow grass. Dry open ground near Vermilion. Apparently infrequent.

*Poa pratensis* L. June grass. Frequent and often abundant throughout the county. Noticed in particular on lumbered over and burned over sand ridges where it made good grazing.

*Glyceria canadensis* (Michx.) Trin. Rattlesnake grass. Damp meadow-like ground and along margins of small streams throughout. Often abundant. A beautiful grass.

*Glyceria nervata* (Willd.) Trin. Fowl meadow grass. Open damp or slightly shaded ground throughout. Often abundant.

*Glyceria grandis* Wats. Reed meadow grass. Along streams and in very wet places throughout. Plentiful.

*Festuca ovina* L. Sheep's fescue. In open sandy ground at Whitefish Point. Apparently not common.

*Bromus secalinus* L. Chess. In cultivated grounds and about villages. Not abundant.

*Bromus ciliatus* L. Fringed brome grass. In damp open or slightly shaded ground throughout. Noticed in particular as very abundant in open spots of beech-maple-birch woods at the lower falls of the Tahquamenon River above Emerson.

*Agropyron molle* Rydb. Rydberg's wheat grass. Dry open ground near Vermilion. Apparently infrequent. N. A. Wood. Identified by Prof. A. S. Hitchcock.

*Agropyron repens* (L.) Beauv. Quack grass. Becoming common throughout about dwellings and farm buildings, and in villages.

*Agropyron dasystachyum* (Hook.) Scribn. Northern wheat grass. Sandy beach of Lake Superior. Apparently infrequent (?).

*Hordeum jubatum* L. Squirrel-tail grass. Introduced at Sault Ste. Marie and in villages.

*Elymus virginicus* L. Virginia wild rye. Moist woods and banks of streams throughout but not very common.

*Elymus canadensis* L. Nodding wild rye. Sandy beaches of Lake Superior, acting as an efficient sand binder. Common.

*Elymus glaucus* Buckley. Smooth wild rye. Shaded banks of Tahquamenon River near lower falls back of Emerson. Apparently infrequent.

*Elymus arenarius* L. Sea lyme grass. Sandy beach of Lake Superior at Vermilion. Said to be a good sand binder. Not abundant and not noticed elsewhere in Michigan by the writer. (1914.)

*Hystrix patula* Moench. Bottle-brush grass. Open hardwoods. Apparently infrequent.

#### CYPERACEAE. Sedge Family

*Dulichium arundinaceum* (L.) Britton. Dulichium. Wet swampy places and borders of ponds throughout. Plentiful.

*Eleocharis palustris* (L.) R. & S. Creeping spike rush. Wet meadow-like ground and often in shallow water. Common throughout.

*Eleocharis palustris vigens* Bailey. Large spike rush. Usually in shallow water about ponds throughout. Common.

*Eleocharis acicularis* (L.) R. & S. Needle spike rush. Wet and muddy places about ponds and on margins of slow streams throughout. Plentiful.

*Scirpus hudsonianus* (Michx.) Fernald. Alpine cotton grass. Wet open marshy places. Abundant in spots throughout.

*Scirpus americanus* Pers. Three-square. Margins of ponds and streams throughout. Common.

*Scirpus validus* Vahl. Great bulrush. Margins of ponds throughout. Frequent.

*Scirpus occidentalis* (Wats.) Chase. Viscid great bulrush. Very wet marshy places and in shallow water throughout. Common.

*Scirpus atrovirens* Muhl. Dark-green bulrush. Marshy open places and in swamps throughout. Common and in spots abundant.

*Scirpus cyperinus pelius* Fernald. Wool grass. Wet open meadow-like ground, and often in slight shade. Common throughout.

*Scirpus atrocinctus* Fernald. Dark wool grass. In open meadow-like ground and swamps with slight shade. Frequent throughout.

*Scirpus atrocinctus brachypodus* Fernald. Clustered wool grass. In meadow-like ground near Vermilion. Abundant. N. A. Wood.

*Eriophorum callitrix* Cham. Hare's tail. Open bogs. Common throughout.

*Eriophorum gracile* Roth. Slender cotton grass. Open bogs and swamps throughout. Abundant in one place near the lighthouse at Whitefish Point.

*Eriophorum tenellum* Nutt. Rough cotton grass. Occasional in open wet and swampy places throughout. Plentiful near Vermilion.

*Eriophorum angustifolium* Roth. Tall cotton grass. Wet boggy places throughout. Plentiful near Vermilion.

*Eriophorum viridi-carinatum* (Engelm.) Fernald. Thin leaved cotton grass. Borders of, and open spots in, tamarack-black spruce swamps. Common throughout.

*Eriophorum virginicum* L. Virginia cotton grass. Open bogs and wet meadow-like ground. Common throughout.

*Rynchospora alba* (L.) Vahl. White beak rush. Wet boggy open ground throughout. Common.

*Cladium mariscoides* (Muhl.) Torr. Twig rush. Bogs and very wet sandy ground. Frequent.

*Carex scoparia* Schkuhr. Pointed broom sedge. Open damp or dryish ground throughout. Frequent.

*Carex tribuloides* Wahlenb. Blunt brown sedge. Wet places and damp meadow-like open ground. Frequent throughout.

*Carex siccata* Dewey. Hillside sedge. Dry open sandy ground. Occasional throughout.

*Carex crawfordii* Fernald. Crawford's sedge. Dry open ground at Emerson, Vermilion and Whitefish Point. Plentiful.

*Carex albolutescens* Schwein. Greenish-white sedge. Damp or dryish ground near Emerson, Whitefish Point and Vermilion. Plentiful.

*Carex tenera* Dewey. Straw sedge. Dry open spots in woods near lower falls of the Tahquamenon River above Emerson. Apparently infrequent.

*Carex bebbii* Olney. Bebb's sedge. Low and dryish ground near Emerson and Vermilion. Plentiful.

*Carex aenea* Fernald. Fernald's hay sedge. Dry ground, especially lumbered over and burned over sand ridges near Vermilion. Frequent.

*Carex adusta* Boott. Browned sedge. Dry open ground near Emerson. Apparently not common.

*Carex stellulata* Good. Little prickly sedge. Open low and damp ground. Common throughout.

*Carex leersii angustata* (Carey) Mackenzie. Tapering sedge. Open low ground near Emerson. Apparently infrequent.

*Carex sterilis* Willd. (*C. scirpoides* Schk.). Prickly sedge. Damp open ground near Eckerman and Vermilion. Plentiful.

*Carex canescens disjuncta* Fernald. Disjointed sedge. Wet open ground near Emerson and Vermilion. Plentiful.

*Carex brunnescens* Poir. Brownish sedge. Dry open ground near Vermilion. Apparently infrequent.

*Carex deweyana* Schwein. Dewey's sedge. Beech-maple-birch woods throughout. Frequent.

*Carex trisperma* Dewey. Three-fruited sedge. Tamarack-black spruce swamps throughout. Common.

*Carex tenella* Schkuhr. Soft-leaved sedge. Margins and open places of tamarack-black spruce swamps throughout. Common.

*Carex vulpinoidea* Michx. Fox sedge. Damp open ground near lower falls of the Tahquamenon River back of Emerson. Apparently infrequent.

*Carex diandra* Schrank. Lesser paniced sedge. Open bogs and wet prairie-like ground throughout. Common.

*Carex stipata* Muhl. Awl-fruited sedge. Very wet and open boggy ground. Common throughout.

*Carex sartwellii* Dewey. Sartwell's sedge. Boggy open ground. Frequent.

*Carex chordorrhiza* L.f. Creeping sedge. Wet grassy ground, and boggy places about ponds throughout. Abundant at Emerson, Whitefish Point and Vermilion.

*Carex crinita* Lam. Fringed sedge. Wet and usually shaded ground throughout. Common.

*Carex aquatilis substricta* Kükenthal. Smaller water sedge. Very wet open places throughout. Common.

*Carex stricta* Lam. Tussock sedge. Very wet open or slightly shaded places. Common.

*Carex aurea* Nutt. Golden-fruited sedge. Grassy meadow-like ground. Frequent.

*Carex hassei* Bailey. Hasse's sedge. Gravelly shore of Lake Superior. Frequent.

*Carex pauciflora* Lightf. Few-flowered sedge. Open places in tamarack-black spruce swamp at Vermilion growing in deep sphagnum. Apparently infrequent.

*Carex leptalea* Wahlenb. Bristle-stalked sedge. Bogs and wet open meadow-like ground. Common throughout.

*Carex polygama* Schkuhr. Brown sedge. Bogs and wet prairie-like ground throughout. Common.

*Carex gracillima* Schwein. Graceful sedge. Beech-maple-birch woods throughout. Common.

*Carex communis* Bailey. Fibrous-rooted sedge. Beech-maple-birch woods throughout and frequent.

*Carex pennsylvanica* Lam. Pennsylvania sedge. Dry open ground, especially on lumbered over and burned over sand ridges. Common.

*Carex livida* (Wahlenb) Willd. Livid sedge. Wet marshy open ground throughout.

*Carex paupercula* Michx. Bog sedge. Boggy open ground near Vermilion and Emerson. Frequent.

*Carex limosa* L. Mud sedge. Boggy open ground and very wet sand throughout. Abundant near Whitefish Point and Vermilion.

*Carex laxiflora leptoneuria* Fernald. Two-edged sedge. Damp places on border of beech-maple-birch woods throughout. Often abundant.

*Carex flava* L. Yellow sedge. Damp marshy places. Common.

*Carex flava rectirostra*. Gaudin. Small yellow sedge. Open wet marshy ground throughout. Frequent.

*Carex oederi* Retz. Green sedge. Bogs, damp meadow-like ground and in damp sand near shores. Frequent throughout.

*Carex arctata* Boott. Drooping wood sedge. Beech-birch-maple woods throughout. Frequent.

*Carex debilis rudgei*. Bailey. Rudge's sedge. Lumbered over and burned over sand ridges near Vermilion. Frequent.

*Carex scabrata* Schwein. Rough sedge. Damp open ground near Eckerman and Emerson. Frequent.

*Carex filiformis* L. Slender sedge. Open bogs and wet marshes throughout. Abundant.

*Carex lanuginosa* Michx. Woolly sedge. Low wet open ground, often in wet sand. Frequent.

*Carex houghtonii* Torr. Houghton's sedge. Dry open ground near Vermilion. Apparently infrequent.

*Carex oligosperma* Michx. Few-seeded sedge. Open bogs and very wet marshes throughout. Often abundant.

*Carex hystericina* Muhl. Porcupine sedge. Very wet marshy ground. Common throughout.

*Carex retrorsa* Schwein. Retorse sedge. Wet open or slightly shaded ground throughout. Frequent.

*Carex intumescens* Rudge. Bladder sedge. Beech-maple-birch woods throughout. Frequent.

*Carex folliculata* L. Long sedge. Damp ground on margins of woods and open places in tamarack-black spruce swamps. Plentiful throughout.

*Carex michauxiana* Boeckl. Yellowish sedge. Open bogs and very wet places throughout. Common.

*Carex mainensis* Porter. Maine sedge. Damp open ground near Whitefish Point. Apparently infrequent. See Britton and Brown, 2nd Edition, Vol. 1, page 432.

*Carex vesicaria monile* (Tuckerm) Fernald. Necklace sedge. Damp open ground near Vermilion. Apparently infrequent.

*Carex rostrata utriculata* (Boott) Bailey. Beaked sedge. Very wet open places throughout. Common.

*Carex tuckermanni* Dewey. Tuckerman's sedge. Rich open ground near Tahquamenon River at Emerson. Not common.

#### ARACEAE. Arum Family

*Arisaema triphyllum* (L.) Schott. Indian turnip. Jack-in-the-pulpit. Beech-maple-birch woods throughout. Common.

*Symplocarpus foetidus* (L.) Nutt. Skunk cabbage. Wet ground near Emerson. Apparently rare.

#### ERIOCAULACEAE. Pipewort Family

*Eriocaulon articulatum* (Huds.) Morong. Seven-angled pipewort. On borders of ponds and in shallow water throughout. Abundant near Whitefish Point.

#### PONTEDERIACEAE. Pickerel-weed Family

*Pontederia cordata* L. Pickerel-weed. In shallow water of ponds and small lakes throughout. Frequent.

#### JUNCACEAE. Rush Family

*Juncus bufonius* L. Toad rush. Damp open ground throughout. Common.

*Juncus tenuis* Willd. Slender rush. In open ground throughout. Common.

*Juncus greenii* Oaks & Tuckerm. Green's rush. Open sandy ground near Lake Superior shore at Vermilion. Apparently infrequent.

*Juncus balticus littoralis* Engelm. Baltic rush. Frequent on sandy beach of Lake Superior as an efficient sand binder, and occasionally in low damp ground throughout.

*Juncus effusus* L. Common rush. Soft rush. Marshy open ground. Common throughout.

*Juncus brachycephalus* (Engelm.) Buchenau. Small-headed rush. Marshy open places throughout. Plentiful near Vermilion.

*Juncus brevicaudatus* (Engelm.) Fernald. Narrow paniced rush. Wet and muddy places throughout. Plentiful near Vermilion.

*Juncus canadensis* J. Gay. Canada rush. Low marshy open ground. Plentiful throughout.

*Juncus pelocarpus* Mey. Brown-fruited rush. Swampy open places throughout. Plentiful near Vermilion.

#### LILIACEAE. Lily Family

*Tofieldia glutinosa* (Michx.) Pers. Glutinous tofieldia. Marshy open ground throughout. Abundant near Eckerman.

*Allium tricoccum* Ait. Wild leek. Beech-birch-maple woods throughout and often plentiful.

*Erythronium americanum* Ker. Yellow adder's tongue. Beech-maple-birch woods throughout. Seldom abundant.

*Clintonia borealis* (Ait.) Raf. Yellow clintonia. Very abundant throughout in beech-maple-birch woods.

*Smilacina racemosa* (L.) Desf. False spikenard. Beech-maple-birch woods throughout. Common.

*Smilacina stellata* (L.) Desf. Star-flowered Solomon's seal. Moist open or slightly shaded ground, and also sandy open or shaded places throughout. Often plentiful.

*Smilacina trifolia* (L.) Desf. Three-leaved Solomon's seal. In bogs and wet open places throughout. Abundant near Vermilion.

*Maianthemum canadense* Desf. Wild lily-of-the-valley. Beech-maple-birch woods throughout. Often abundant.

*Streptopus amplexifolius* (L.) DC. Clasping-leaved twisted-stalk. Borders of woods in damp ground and along banks of streams. Often in shade. Frequent throughout.

*Streptopus roseus* Michx. Sessile-leaved twisted-stalk. Beech-maple-birch woods throughout. Plentiful.

*Streptopus longipes* Fernald. Long-stemmed twisted-stalk. Beech-maple-birch woods. Frequent.

*Polygonatum biflorum* (Walt.) Ell. Hairy Solomon's seal. Beech-maple-birch woods throughout. Plentiful.

*Medeola virginiana* L. Indian cucumber-root. Beech-maple-birch woods throughout. Plentiful.

*Trillium cernuum* L. Nodding wake-robin. Beech-maple-birch woods, throughout. Frequent.

#### IRIDACEAE. Iris Family

*Iris versicolor* L. Large blue flag. Open wet ground throughout, but seldom abundant.

#### ORCHIDACEAE. Orchis Family

*Cypripedium parviflorum* Salisb. Smaller yellow lady's slipper. Wet swampy ground throughout.

*Cypripedium parviflorum pubescens* (Willd.) Knight. Larger yellow lady's slipper. Rich shaded ground. Frequent throughout.

*Cypripedium acaule* Ait. Stemless lady's slipper. Tamarack-black spruce swamps in sphagnum throughout, but never abundant. Also in shaded sandy ground.

*Habenaria bracteata* (Willd.) R.Br. Long-bracted orchis. Damp open woods. Frequent.

*Habenaria hyperborea* (L.) R.Br. Tall leafy green orchis. Damp hardwoods. Frequent.

*Habenaria dilatata* (Pursh) Gray. Tall white bog orchis. Open wet and boggy places throughout. Frequent.

*Habenaria clavellata* (Michx.) Spreng. Boggy wet open ground. Frequent. Shaded swampy ground especially in tamarack-black spruce swamps. Frequent throughout.

*Habenaria hookeri* Torr. Hooker's orchis. Dry shaded ground. Apparently infrequent.

*Habenaria orbiculata* (Pursh) Torr. Round-leaved orchis. Rich shaded ground near Vermilion. Apparently infrequent. N. A. Wood.

*Pogonia ophioglossoides* (L.) Ker. Rose pogonia. Open wet boggy ground near Vermilion. Not common.

*Calopogon pulchellus* (Sw.) R.Br. Grass pink. Open wet and boggy places near Vermilion. Apparently not common. N. A. Wood.

*Arethusa bulbosa* L. Dragon's mouth. Open bogs at Vermilion. Probably frequent throughout but overlooked.

*Spiranthes cernua* (L.) Richard. Nodding ladies' tresses. Boggy open places and wet open ground generally. Frequent.

*Epipactis repens ophioides* (Fernald) A. A. Eaton. Lesser rattlesnake plantain. Rich ground and on old mossy logs in beech-maple-birch woods throughout. Frequent.

*Epipactis decipiens* (Hook.) Ames. Menzie's rattlesnake plantain. Dryish open or slightly shaded places, often in rich ground. Plentiful throughout.

*Listera cordata* (L.) R.Br. Heart-leaved twayblade. Very wet and swampy place near Vermilion. Apparently infrequent, probably overlooked.

*Listera convallarioides* (Sw.) Torr. Broad-lipped twayblade. Damp places in hardwoods. Frequent but seldom abundant.

## SALICACEAE. Willow Family

*Salix lucida* Muhl. Shining willow. Damp open ground throughout. Common.

*Salix lucida intonsa* Fernald. Bearded shining willow. Damp open ground at Eckerman. Apparently infrequent.

*Salix alba* L. White willow. Occasionally planted but not noticed as an escape.

*Salix longifolia* Muhl. Sand bar willow. Along small streams and in sandy ground. Frequent.

*Salix glaucophylla* Bebb. Broad-leaved willow. Sandy open ground on or near sandy beach of Lake Superior. Frequent.

*Salix balsamifera* Barratt. Balsam willow. Wet bushy places and borders of tamarack-black spruce swamps at Vermilion and Emerson. Plentiful.

*Salix sylvicola* Fernald. Furry willow. In sandy ground near and on the beach of Lake Superior. Frequent.

*Salix pedicellaris* Pursh. Bog willow. Open wet and boggy places throughout. Common.

*Salix discolor* Muhl. Glaucous willow. Damp open ground and along streams. Common.

*Salix petiolaris* Sm. Slender willow. Damp open ground and often in damp sand. Abundant throughout.

*Salix humilis* Marsh. Prairie willow. Dry open ground on sand dunes and lumbered over and burned over sand ridges. Plentiful.

*Salix rostrata* Richards. Beaked willow. Usually on dryish open ground throughout. Plentiful.

*Salix candida* Flügge. Sage willow. Open wet and boggy places throughout. Common.

*Populus alba* L. White poplar. Occasionally planted but not noticed as spreading.

*Populus tremuloides* Michx. American aspen. Noticed in this region only in dry or sandy ground. Scarce at Eckerman, Emerson, Shell-drake, Whitefish Point and Vermilion. Seldom abundant anywhere in the county.

*Populus grandidentata* Michx. Large-toothed aspen. Throughout the county but nowhere very common.

*Populus balsamifera* L. Balsam poplar. Throughout the county, trees often large. Plentiful.

*Populus deltoides* Marsh. Large-leaved poplar. Carolina poplar. A form of this species, planted at Sault Ste. Marie, but not noticed as spreading.

## MYRICACEAE. Sweet Gale Family

*Myrica gale* L. Sweet gale. Wet places, borders of ponds, and in swamps throughout. Very abundant at Whitefish Point and Vermilion.

*Myrica asplenifolia* L. Sweet fern. Open or slightly shaded dry sandy ground throughout. Often abundant.

## BETULACEAE. Birch Family

*Corylus rostrata* Ait. Beaked hazelnut. Dry open ground throughout. Frequent and in spots abundant.

*Ostrya virginiana* (Mill) K. Koch. Ironwood. Noticed as frequent in rich ground with other trees from Pickford to Detour. Reported as frequent along the Tahquamenon River back of Emerson, but not seen by the writer.

*Betula lutea* Michx.f. Yellow birch. In rich ground with sugar maple and beech forming large forests yet standing. Trees often large. Land cruisers and lumbermen call the small smooth-barked trees "yellow birch" and the large ones with shaggy bark, "red birch".

*Betula alba papyrifera* (Marsh) Spach. White birch. Canoe birch. With other trees throughout. Seldom abundant.

*Betula pumila glandulifera* Michx. Glandular low birch. Borders and in open places of tamarack-black spruce swamps throughout. Abundant.

*Alnus incana* (L.) Moench. Speckled alder. Swamps and borders of streams throughout. Abundant along Shelldrake River, covering the river bottom forming an excellent day shelter for deer.

## FAGACEAE. Beech Family

*Fagus grandifolia* Ehrh. Beech. In rich ground with other trees forming large forests throughout.

*Quercus macrocarpa* Michx. Bur oak. Noticed only in rich ground with other trees from Brimley to Detour. Trees often very large and tall. Reported as formerly plentiful in eastern half of Chippewa County.

*Q. bicolor* Willd. Swamp white oak. Reported along the Tahquamenon River above the lower falls, but not seen. Since noticed along the river in Luce County. Known to lumbermen generally as "blue oak".

*Quercus rubra* L. Red oak. More or less throughout. Frequent on sand ridges; plentiful on sand dunes and in sandy ground along Lake Superior shore from Shelldrake to Vermilion. Common on sandy ground up the Tahquamenon River back of Emerson. Trees usually small, large ones having been cut. Staminate flowers abundant June 17, 1914.

**URTICACEAE.** Nettle Family

*Ulmus americana* L. American elm. Frequent throughout, especially along streams. Often with beech and maple, and many trees large.

*Urtica gracilis* Ait. Slender nettle. Occasional throughout in moist open or slightly shaded ground.

**SANTALACEAE.** Sandalwood Family

*Comandra richardiana* Fernald. Richards' toadflax. Dry sandy ground throughout. Often abundant.

*Comandra livida* Richards. Northern comandra. In dry sandy ground near Vermilion. Apparently infrequent. Probably overlooked.

**POLYGONACEAE.** Buckwheat Family

*Rumex britannica* L. Great water dock. Wet swampy mostly open places throughout. Common near Vermilion on border of tamarack-black spruce swamps.

*Rumex crispus* L. Yellow dock. In cultivated and waste grounds throughout. Common.

*Rumex obtusifolius* L. Bitter dock. As a weed in cultivated grounds. Infrequent.

*Rumex acetosella* L. Field sorrel. Frequent as a weed near dwellings and cultivated grounds.

*Polygonum aviculare* L. Knot-grass. About dwellings and in cultivated grounds as a weed. Frequent.

*Polygonum erectum* L. Erect knotweed. Only as a weed in waste places, cultivated grounds and about dwellings. Not common.

*Polygonum ramosissimum* Michx. Bushy knotweed. Abundant in a clearing north of Eckerman, appearing to be introduced.

*Polygonum lapathifolium* L. Pale persicaria. Occasional about farm buildings and in cultivated grounds, appearing to be introduced.

*Polygonum amphibium* L. Water persicaria. Along streams and ponds throughout. Plentiful.

*Polygonum hydropiper* L. Common smartweed. Damp open or slightly shaded ground throughout. Often plentiful.

*Polygonum persicaria* L. Lady's thumb. Occasional as a weed about farm buildings and in cultivated grounds.

*Polygonum sagittatum* L. Arrow-leaved tear-thumb. Damp or swampy places, open or slightly shaded throughout. Frequent.

*Polygonum convolvulus* L. Black bindweed. As a weed in gardens and cultivated grounds. Not abundant.

*Polygonum cilinode* Michx. Fringed black bindweed. Open dryish or damp ground throughout. Abundant in spots.

*Polygonella articulata* (L.) Meisn. Coast jointweed. In sandy open ground throughout. Often abundant.

**CHENOPODIACEAE.** Goosefoot Family

*Chenopodium capitatum* (L.) Asch. Strawberry blite. Open ground near Eckerman. Apparently infrequent.

*Chenopodium album* L. Lamb's quarters. Pigweed. Only as a weed in cultivated grounds and apparently not abundant.

*Atriplex patula hastata* (L.) Gray. Halbard-leaved orache. Occasional as a weed about farm buildings and in streets of villages.

*Atriplex patula littoralis* (L.) Gray. Shore orache. Streets of Detour. Apparently infrequent.

*Salsola kali tenuifolia* G. F. W. Mey. Russian thistle. Occasional about farm buildings in and about Sault Ste. Marie.

**AMARANTHACEAE.** Amaranth Family

*Amaranthus retroflexis* L. Amaranth pigweed. In cultivated and waste grounds throughout but seldom abundant.

*Amaranthus graecizans* L. Tumbleweed. In cultivated grounds. Not abundant.

*Amaranthus blitoides* Wats. Prostrate amaranth. Only as a weed about villages and not abundant.

**PHYTOLACCACEAE.** Pokeweed Family

*Phytolacca decandra* L. Pokeweed. Pigeon berry. Noticed by T. L. Hankinson, ichthyologist, near Vermilion. Very probably an escape from cultivation.

**CARYOPHYLLACEAE.** Pink Family

*Spergula arvensis* L. Corn spurrey. Along roads and in clearings north of Eckerman. Plentiful.

*Stellaria borealis* Bigel. Northern stitchwort. Open damp places in tamarack-black spruce swamps near Vermilion. Abundant.

*Stellaria longifolia* Muhl. Long-leaved stitchwort. Damp open places throughout. Frequent.

*Stellaria media* (L.) Cyrill. Common chickweed. A weed in waste places and cultivated grounds but seldom abundant.

*Cerastium vulgatum* L. Common mouse-ear chickweed. In cultivated grounds but seldom abundant.

*Lychnis alba* Mill. White campion. Occasional about farm buildings and in waste places as a weed.

**PORTULACACEAE.** Purslane Family

*Claytonia caroliniana* Michx. Carolina spring beauty. Beech-maple-birch woods throughout. Common.

*Portulaca oleracea* L. Common purslane. A weed in gardens but apparently not abundant.

**NYMPHAEACEAE.** Water Lily Family

*Nymphaea advena* Ait. Yellow pond lily. In ponds, small lakes, and slow streams throughout. Common.

*Nymphaea advena variegata* (Engelm) Fernald. Variegated yellow pond lily. Noticed near the lower falls of the Tahquamenon River above Emerson.

*Castalia tuberosa* (Paine) Green. Tuberous white water lily. In open ponds and small lakes throughout. Frequent.

*Brasenia schreberi* Gmel. Water shield. In ponds, small lakes, and slow streams. Plentiful.

**RANUNCULACEAE** Crowfoot Family

*Ranunculus purshii* Richards. Pursh's buttercup. Abundant along a slow stream in tamarack-black spruce swamp near Vermilion. Not noticed elsewhere.

*Ranunculus abortivus* L. Small-flowered crowfoot. In beech-maple-birch woods and other damp shaded places throughout. Frequent.

*Ranunculus recurvatus* Poir. Hooked crowfoot. Beech-maple-birch woods throughout. Frequent.

*Ranunculus septentrionalis* Poir. Swamp buttercup. Moist open or shaded places throughout. Frequent.

*Ranunculus pennsylvanicus* L.f. Bristly crowfoot. Wet open places. Apparently rare.

*Ranunculus acris* L. Tall crowfoot. Established throughout, appearing like a native plant, but nowhere abundant.

*Thalictrum dasycarpum* Fisch. and Lall. Purplish meadow rue. Rich ground on borders of woods, along streams and in thickets. Frequent throughout.

*Hepatica acutiloba* DC. Sharp-lobed liver leaf. Hardwoods. Frequent.

*Anemone canadensis* L. Canada anemone. Damp open ground throughout. Frequent.

*Clematis virginiana* L. Virginia virgin's bower. Along small streams. Frequent throughout.

*Caltha palustris* L. Marsh marigold. Wet open shaded ground throughout. Frequent.

*Coptis trifolia* (L.) Salisb. Goldthread. Damp open or shaded ground throughout. Common.

*Actaea rubra* (Ait.) Willd. Red baneberry. In woods throughout. Frequent.

*Actaea alba* (L.) Mill. White baneberry. Beech-maple-birch woods throughout. Frequent.

**FUMARIACEAE.** Fumitory Family

*Dicentra cucullaria* (L.) Bernh. Dutchman's breeches. Beech-maple-birch woods near Eckerman. Apparently infrequent.

**CRUCIFERAE.** Mustard Family

*Alyssum alyssoides* L. Yellow alyssum. In and about Sault Ste. Marie as a weed. Frequent.

*Lepidium virginicum* L. Wild pepper-grass. In and about Sault Ste. Marie as a weed, and in cultivated grounds.

*Capsella bursa-pastoris* (L.) Medic. Shepherd's purse. As a weed in cultivated grounds, but not abundant.

*Cakile edentula* (Sigel.) Hook. American sea rocket. Beach of Lake Superior. Seldom abundant.

*Brassica arvensis* (L.) Ktze. Common mustard. A weed in cultivated grounds but apparently infrequent.

*Sisymbrium officinale leiocarpum* DC. Smooth-podded hedge mustard. Occasional as a weed about dwellings and in villages.

*Sisymbrium altissimum* L. Tumble mustard. Near Trout Lake as a weed. Infrequent.

*Erysimum cheiranthoides* L. Worm-seed mustard. In cultivated grounds but not abundant.

*Radicula nasturtium-aquaticum* (L.) Britten & Rendle. True water cress. Occasional throughout in small creeks and ditches.

*Radicula palustris* (L.) Moench. Marsh cress. Wet open or slightly shaded places throughout. Not common.

*Barbarea vulgaris* R.Br. Common winter cress. Occasional throughout in low ground.

*Cardamine pratensis* L. Cuckoo flower. Border of small slow-running creek in tamarack-black spruce swamp near Vermilion. Apparently infrequent.

*Cardamine pennsylvanica* Muhl. Pennsylvania bitter cress. Along a slow running creek in a tamarack-black spruce swamp near Vermilion. Apparently rare.

*Arabis lyrata* L. Lyre-leaved rock cress. Sandy shores of Lake Superior at Whitefish Point, but not abundant.

**SARRACENIACEAE.** Pitcher-plant Family

*Sarracenia purpurea* L. Pitcher-plant. Bogs and swamps throughout. Frequent.

**DROSERACEAE.** Sundew Family

*Drosera rotundifolia* L. Round-leaved sundew. In bogs and swamps throughout. Often abundant.

*Drosera longifolia* L. Oblong-leaved sundew. Bogs and wet sandy shores. Apparently infrequent.

**CRASSULACEAE.** Orpine Family

*Sedum acre* L. Mossy stone crop. Noticed on sandy ground in and about Sault Ste Marie.

*Sedum purpureum* Tausch. Live-for-ever. Noticed as an escape in and about Sault Ste. Marie.

**SAXIFRAGACEAE.** Saxifrage Family

*Tiarella cordifolia* L. Beech-maple-birch woods throughout. Frequent.

*Mitella nuda* L. Naked bishop's cap. Woods, especially tamarack-black spruce swamps throughout. Common.

*Chrysosplenium americana* Schwein. Golden saxifrage. Wet shaded places especially along small slow streams. Common throughout.

*Parnassia caroliniana* Michx. Carolina grass-of-parnassus. Swampy open or slightly shaded places throughout. Frequent.

*Ribes floridum* L'Hér. Wild black currant. Damp shaded ground throughout. Frequent.

*Ribes lacustre* (Pers.) Poir. Swamp black currant. Woods throughout and frequent.

*Ribes prostratum* L'Her. Skunk currant. Beech-maple-birch woods throughout. Frequent.

**ROSACEAE.** Rose Family

*Physocarpus opulifolius* (L.) Maxim. Ninebark. Along banks of streams throughout. Common.

*Spiraea salicifolia* L. Meadow-sweet. Low damp open ground, often in damp sand, throughout. Common.

*Pyrus malus* L. Apple. Along roads and margins of woods throughout. Frequent.

*Pyrus arbutifolia atropurpurea* (Britton) Robinson. Purple-fruited chokeberry. Damp open or slightly shaded swampy places. Common throughout. Occasional on sand dunes.

*Pyrus americana* (Marsh.) DC. American mountain ash. Woods everywhere. Common. Often 40 feet high. Prof. C. S. Sargent says in this region the mountain ashes come close to what he calls *Sorbus americana decora* Sarg. See Manual of the Trees of North America, C. S. Sargent, page 357.

*Amelanchier laevis* Wiegand. Smooth-leaved juneberry. In dryish open or shaded ground throughout. Frequent. Rhodora Vol. 14-154. No. 163, July 1912.

*Amelanchier bartramiana* (Tausch) Roemer. Bartram's juneberry. Borders of woods throughout. Common. Rhodora Vol. 14-158, No. 163. July 1912.

*Amelanchier bartramiana laevis*. Common throughout. Hybrids seem to prevail in Chippewa County.

*Crataegus rotundifolia* Moench. Round-leaved thorn. Common along the Tahquamenon River near Emerson.

*Crataegus douglasii* Lindl. Douglas' thorn. (*C. brockwayae* Sarg.). At Emerson and Vermilion in sandy open or slightly shaded ground. Not frequent.

*Fragaria virginiana* Duchesne. Common strawberry. Dryish open or slightly shaded ground throughout. Common.

*Fragaria virginiana glauca* Wats. Glaucous western strawberry. Dry open ground near Vermilion. Frequent.

*Fragaria vesca americana* Porter. American wood strawberry. Woods and often in tamarack-black spruce swamps. Frequent throughout.

*Potentilla monspeliensis* L. Rough cinquefoil. Open sandy ground throughout. Common.

*Potentilla palustris* (L.) Scop. Marsh five finger. Open wet boggy places throughout. Common.

*Potentilla fruticosa* L. Shrubby cinquefoil. Damp open ground throughout. Plentiful near Eckerman.

*Potentilla tridentata* Ait. Three-toothed cinquefoil. Damp or dry open ground throughout. Often abundant in spots.

*Potentilla canadensis* L. Common cinquefoil. Open dry sandy ground throughout. Not common.

*Geum canadense* Jacq. White avens. Woods throughout. Plentiful.

*Geum strictum* Ait. Yellow avens. Moist open ground throughout. Frequent.

*Geum rivale* L. Water avens. Wet open or slightly shaded places throughout.

*Rubus idaeus aculeatissimus* (C. A. Mey.) Regel & Tiling. Wild red raspberry. Dryish open or slightly shaded ground throughout. Common.

*Rubus triflorus* Richards. Dwarf raspberry. Wet shaded places throughout. Common.

*Rubus allegheniensis* Porter. Tail blackberry. Dry open or slightly shaded ground throughout. Frequent.

*Rubus nigricans* Rydb. Bristly blackberry. About dead tamaracks in margin of tamarack-black spruce swamp near Emerson. Plentiful at this place.

*Rubus hispidus* L. Hispid blackberry. Damp open or slightly shaded ground throughout. Frequent.

*Rubus villosus* Ait. Dewberry. Dry sandy ground, often on shaded sand dunes throughout. Frequent.

*Agrimonia gryposepala* Wallr. Tall hairy agrimony. Dryish open or slightly shaded ground throughout. Frequent.

*Rosa acicularis* Lindl. Prickly rose. Dryish open or slightly shaded ground throughout. Not common.

*Rosa blanda* Ait. Meadow rose. Open sandy ground and on sandy beaches. Plentiful.

*Rosa rubiginosa* L. Sweetbriar. In villages and along roads. Noticed in particular on the road from Sault Ste. Marie to Detour. On Mackinac Island, Mackinac County, and in Chippewa County, Michigan, this shrub is being killed to the ground by the sting of the gall fly, *Rhodistes rosae*. The shaggy galls formed are often called "rose apples".

*Rosa carolina* L. Swamp rose. Borders of swamps and streams. Frequent. Noticed in particular along Shell Drake River south of Vermilion.

*Prunus virginiana* L. Choke cherry. Open ground throughout. Common.

*Prunus pennsylvanica* L.f. Wild red cherry. Common throughout. Abundant on lumbered over and burned over sand ridges, and in sandy ground of recent clearings.

*Prunus pumila* L. Sand cherry. Common throughout. Abundant in sandy ground near Lake Superior shore.

*Prunus nigra* Ait. Canada plum. Abundant along streams near Pickford, and common about Gatesville.

#### LEGUMINOSAE. Pulse Family

*Trifolium pratense* L. Red clover. Frequent everywhere as an escape.

*Trifolium repens* L. White clover. Frequent as a weed everywhere, and abundant in clearings.

*Trifolium hybridum* L. Alsike clover. Frequent along roads as an escape.

*Melilotus alba* Desr. White sweet clover. Occasional in and about Sault Ste. Marie.

*Lathyrus maritimus* (L.) Bigel. Beach pea. Along the sandy beach of Lake Superior. Abundant in spots, acting as an efficient sand binder.

*Lathyrus palustris* L. Marsh vetchling. Moist open ground throughout. Frequent.

*Lathyrus palustris linearifolius* Ser. Winged marsh vetchling. Damp places and margins of woods throughout. Common.

#### OXALIDACEAE. Wood Sorrel Family

*Oxalis acetosella* L. Common wood sorrel. Beech-maple-birch woods throughout, often carpeting the ground and old logs. Noticed also in very wet ground under speckled alders along Shell Drake river south of Vermilion.

#### POLYGALACEAE. Milkwort Family

*Polygala paucifolia* Willd. Fringed polygala. Dry shaded sandy ground throughout. Often abundant.

#### ANACARDIACEAE. Cashew Family

*Rhus glabra* L. Smooth sumach. Noticed as occasional from Gatesville to Detour.

#### AQUIFOLIACEAE. Holly Family

*Ilex verticillata* (L.) Gray. Winterberry. Low open or slightly shaded ground. Frequent throughout.

*Nemopanthus mucronata* (L.) Trel. Mountain holly. On margins of and in tamarack-black spruce swamps throughout. Often plentiful.

#### ACERACEAE. Maple Family

*Acer pennsylvanicum* L. Striped maple. Noticed as frequent from Gatesville to Detour.

*Acer spicatum* Lam. Mountain maple. Damp woods and thickets throughout. Abundant.

*Acer saccharum* Marsh. Sugar maple. With beech, birch, some basswood, and hemlock, forming extensive forests still standing throughout the county, excepting in the eastern and southeastern portion where more lumbering has been done. Forests called hardwoods.

*Acer rubrum* L. Red maple. A few large trees noticed in rich ground with other trees. Usually in Chippewa County, it is a small scraggy tree covering sandy level ground, sand ridges and sand dunes. Apparently it is the smaller trees that bear fruit.

*Acer negundo* L. Box elder. Occasionally planted from Sault Ste. Marie to Detour but not noticed as spreading.

**BALSAMINACEAE.** Touch-me-not Family

*Impatiens biflora* Walt. Spotted touch-me-not. Moist open or shaded ground throughout. Abundant.

**RHAMNACEAE.** Buckthorn Family

*Rhamnus alnifolia* L'Her. Alder-leaved buckthorn. Open damp or slightly shaded ground throughout. Often plentiful.

**TILIACEAE.** Linden Family

*Tilia americana* L. Basswood. Often with beech, birch, and maple. Trees sometimes large. Frequent throughout.

**MALVACEAE.** Mallow Family

*Malva rotundifolia* L. Common mallow. A weed about dwellings and in villages. Not abundant.

*Malva moschata* L. Musk mallow. In fields and along roads about Brimley, Sault Ste. Marie, and south to Detour.

**HYPERICACEAE.** St. John's-wort Family

*Hypericum perforatum* L. Common St. John's-wort. An occasional weed on farms and in villages.

*Hypericum punctatum* Lam. Spotted St. John's-wort. In woods and thickets near Brimley. Not noticed elsewhere.

*Hypericum kalmianum* L. Kalm's St. John's-wort. Sandy open ground, usually near shores. Frequent.

*Hypericum ellipticum* Hook. Pale St. John's-wort. Abundant along Shelldrake River south of Vermilion. Noticed throughout.

*Hypericum boreale* (Britton) Bicknell. Northern St. John's-wort. Wet open places throughout. Abundant near Vermilion.

*Hypericum majus* (Gray) Britton. Large Canadian St. John's-wort. Damp sand near lighthouse at Whitefish Point. Plentiful at this place.

*Hypericum canadense* L. Canadian St. John's-wort. In damp open sandy ground near Eckerman. Plentiful at this place.

*Hypericum virginicum* L. Marsh St. John's-wort. Open wet and swampy ground throughout. Frequent.

**CISTACEAE.** Rockrose Family

*Helianthemum canadense* (L.?) Michx. Long-branched frostweed. Sandy open ground throughout. Plentiful.

*Hudsonia tomentosa intermedia* Peck. Awl-leaved hudsonia. Common on the sandy beach of Lake Superior and on sand dunes at Whitefish Point and Vermilion.

**VIOLACEAE.** Violet Family

*Viola cucullata* Ait. Marsh blue violet. Wet open or slightly shaded places throughout. Frequent.

*Viola sororia* Willd. Woolly blue violet. Rich open or shaded places throughout. Plentiful.

*Viola lanceolata* L. Lance-leaved violet. Damp open ground throughout. Often abundant.

*Viola pallens* (Banks) Brainard. Northern white violet. Wet springy places and along small creeks throughout. Common.

*Viola incognita* Brainard. Large-leaved white violet. Woods throughout. Common.

*Viola renifolia* Gray. Kidney-leaved violet. Rich woods throughout. Abundant.

*Viola scabriuscula* Schwein. Smoothish yellow violet. Damp rich shaded ground throughout. Frequent.

*Viola conspersa* Reichenb. American dog violet. Rich damp open shaded ground throughout. Plentiful.

**ONAGRACEAE.** Evening Primrose Family

*Epilobium angustifolium* L. Great willow-herb. Fireweed. Damp or dry ground throughout, especially in clearings and burned-over-ground. Often abundant.

*Epilobium adenocaulon* Haussk. Northern willow-herb. Rich damp or slightly shaded ground throughout. Common.

*Oenothera biennis* L. Common evening primrose. Open sandy ground throughout. Infrequent.

*Circaea lutetiana* L. Enchanter's nightshade. In woods throughout. Noticed in particular near lower falls of Tahquamenon River above Emerson.

*Circaea alpina* L. Smaller enchanter's nightshade. In damp rich woods throughout. Often abundant.

**ARALIACEAE.** Ginseng Family

*Aralia racemosa* L. Spikenard. Rich woods throughout. Not common.

*Aralia hispida* Vent. Bristly sarsaparilla. Usually in dry sandy open ground throughout. Abundant on recently burned over sandy land, sand ridges, and in clearings.

*Aralia nudicaulis* L. Wild sarsaparilla. Moist woods throughout. and abundant. Often plentiful on dry shaded ground and even on shaded sand dunes.

**UMBELLIFERAE.** Parsley Family

*Osmorhiza longistylis* (Torr.) DC. Smoother sweet cicely. Rich woods throughout. Common.

*Osmorhiza divaricata* Nutt. Western sweet cicely. Beech-maple-birch woods throughout. Frequent.

*Cicuta bulbifera* L. Bulb-bearing water hemlock. Wet open ground throughout. Common.

*Carum carvi* L. Caraway. Occasional throughout near farm buildings and in villages.

*Heracleum lanatum* Michx. Abundant near Emerson in one place. Not noticed elsewhere.

**CORNACEAE.** Dogwood Family

*Cornus canadensis* L. Dwarf cornel. In woods and thickets throughout. Often carpeting the ground.

*Cornus circinate* L'Her. Round-leaved cornel. Usually in sandy open ground, or bordering woods and thickets. Common throughout.

*Cornus stolonifera* Michx. Red-osier dogwood. Usually in damp ground, sometimes in sand, throughout. Not common.

*Cornus alternifolia* L.f. Alternate-leaved cornel. Borders of streams and woods. Frequent.

**ERICACEAE.** Heath Family

*Chimaphila umbellata* (L.) Nutt. Prince's pine. Dry shaded ground, usually among pines. Frequent throughout.

*Moneses uniflora* (L.) Gray. One-leaved pyrola. Beech-maple-birch woods near Vermilion. Apparently infrequent but perhaps overlooked. N. A. Wood.

*Pyrola chlorantha* Sw. Greenish-flowered wintergreen. Beech-maple-birch woods throughout. Frequent.

*Pyrola secunda* L. One-sided winter-green. Beech-maple-birch woods throughout. Frequent.

*Pyrola secunda obtusata* Turcz. Obtuse-leaved pyrola. Tamarack-black spruce swamp near Eckerman. Apparently infrequent.

*Monotropa uniflora* L. Indian pipe. Usually in rich woods, sometimes in the open. Noticed by N. A. Wood near Vermilion.

*Monotropa hypopitys* L. Pine sap. Dry sandy shaded ground at Whitefish Point. Apparently rare. Perhaps overlooked.

*Ledum groenlandicum* Oeder. Labrador tea. Open boggy ground and even on sandy ground and sides of shaded sand dunes throughout. One of the most abundant shrubs in the county.

*Kalmia polifolia* Wang. Pale laurel. In open boggy ground throughout. Common.

*Andromeda glaucophylla* Link. Bog rosemary. Open or shaded boggy ground throughout. Common.

*Chamaedaphne calyculata* (L.) Moench. Leather leaf. Open or slightly shaded boggy ground throughout. Abundant. This and the three preceding are the prominent and dominant bog shrubs of the county.

*Epigaea repens* L. Trailing arbutus. Sandy open or slightly shaded ground throughout. Common and in spots abundant.

*Gaultheria procumbens* L. Wintergreen. Usually in open or slightly shaded ground, sometimes in tamarack-black spruce swamps in sphagnum. Abundant throughout. Fruit abundant and delicious June 18, 1914.

*Arctostaphylos uva-ursi* (L.) Spreng. Bearberry. Sandy beach of Lake Superior, and on sand dunes throughout. Plentiful near Whitefish Point and Vermilion.

*Chiogenes hispidula* (L.) T. & G. Creeping snowberry. Open or slightly shaded boggy ground throughout. Often abundant in tamarack-black spruce swamps.

*Gaylussacia baccata* (Wang.) C. Koch. Black huckleberry. Open or slightly shaded sandy ground sometimes in swamps, throughout. Frequent. Fruit black and collected for domestic use and occasionally for market.

*Vaccinium pennsylvanicum* Lam. Low sweet blueberry. Open or slightly shaded sandy ground, sometimes in swamps, throughout. Very abundant. Berries delicious, gathered for market and domestic use.

*Vaccinium pennsylvanicum nigrum* Wood. Low black blueberry. Occasional throughout in same habitat as preceding. Fruit black, ripe at the same time as the preceding, and collected with it for market and domestic use.

*Vaccinium canadense* Kalm. Sour top. Dry sandy open ground or in swamps throughout. Abundant. Berries blue and gathered for market and sold as "blueberries", with the preceding species and variety. Fruit slightly tart, abundant and delicious September 3, 1914, but not considered quite so choice as the low sweet blueberry.

*Vaccinium membranaceum* Dougl. Thin-leaved bilberry. Usually in rich shaded ground, sometimes in damp sand. Common throughout. Called "rabbit berry" in Chippewa County. Fruit large, usually black, rather tart, but delicious and gathered for domestic use, ripe September 3, 1914. Berries too tender and delicate for market purposes. Perhaps a shrub worth trial and experiment in cultivation.

*Vaccinium ovalifolium* Sm. Oval-leaved bilberry. Usually in rich shaded ground throughout often growing with the preceding. Abundant. Berry blue, large, but smaller than that of the preceding, slightly tart, but delicious and much sought after for domestic use, although too

delicate and tender for market, ripe September 3, 1914. Known in Chippewa County as "myrtilloid berry", or "myrtilloid huckleberry". Perhaps this shrub also is worth some attention.

*Vaccinium macrocarpon* Ait. American cranberry. Boggy places and swamps throughout. Sometimes abundant. At Vermilion is a model cranberry farm owned and fitted up by the late Mr. John Clark, and another at Whitefish Point owned by Mr. Frank House.

#### PRIMULACEAE. Primrose Family

*Lysimachia terrestris* (L.) BSP. Bulb-bearing loosestrife. Low wet open ground throughout. Frequent.

*Lysimachia thyrsoflora* L. Tufted loosestrife. Very wet open places and in shallow water throughout. Often abundant.

*Trientalis americana* (Pers.) Pursh. Star flower. Damp woods and thickets throughout. Common.

#### OLEACEAE. Olive Family

*Fraxinus nigra* Marsh. Black ash. In swampy ground with other trees throughout. Disappearing in many parts of the county on account of forest fires. Abundant along the Tahquamenon River above Emerson.

#### GENTIANACEAE. Gentian Family

*Halenia deflexa* (Sm) Griseb. Spurred gentian. Common in damp shaded ground throughout, especially in hardwood.

*Menyanthes trifoliata* L. Buckbean. Abundant throughout in boggy places and shallow water.

#### APOCYNACEAE. Dogbane Family

*Apocynum androsaemifolium* L. Spreading dogbane. In open dry ground throughout. Frequent.

#### BORAGINACEAE. Borage Family

*Cynoglossum officinale* L. Common hound's tongue. Occasional about farm buildings. Apparently rare in other places.

*Lappula echinata* Gilibert. European stickweed. Along roads and in villages. Infrequent.

#### LABIATAE. Mint Family

*Scutellaria lateriflora* L. Mad-dog skullcap. Rich shaded ground near lower falls of Tahquamenon River above Emerson. Apparently infrequent.

*Scutellaria galericulata* L. Marsh skullcap. Wet marshy ground near Emerson. Apparently infrequent.

*Nepeta cataria* L. Catnip. In villages but not abundant.

*Nepeta hederacea* (L.) Trevisan. Ground ivy. In damp shaded ground. Infrequent.

*Prunella vulgaris* L. Heal-all. Noticed at Emerson. Apparently rare.

*Galeopsis tetrahit* L. Common hemp nettle. Along roads throughout. Often abundant.

*Blephilia hirsuta* (Pursh) Benth. Hairy blephilia. Beech-maple-birch woods near the lower falls of the Tahquamenon River above Emerson. Apparently infrequent.

*Satureja vulgaris* (L.) Fritsch. Basil. Dryish open ground or in dry open woods and thickets throughout. Frequent.

*Lycopus uniflorus* Michx. Bugle weed. Low open or slightly shaded ground throughout. Frequent.

*Lycopus americanus* Michx. Cut-leaved water hoarhound. Damp open or slightly shaded ground throughout. Common.

*Mentha spicata* L. Spearmint. At Trout Lake. Apparently rare.

*Mentha citrata* Ehrh. Bergamot mint. Rare as an escape from cultivation. Noticed south of Sault Ste. Marie.

*Mentha arvensis canadensis* (L.) Briquet. American wild mint. Rich damp open or slightly shaded ground throughout. Frequent.

#### SOLANACEAE. Nightshade Family

*Physalis heterophylla* Nees. Clammy ground cherry. Foot of a sand dune at Vermilion, a large bunch of it. Not noticed elsewhere.

#### SCROPHULARIACEAE. Figwort Family

*Verbascum thapsus* L. Common mullein. Along roads and in fields throughout. Not noticed as abundant anywhere.

*Linaria vulgaris* Hill. Butter and eggs. A weed at Trout Lake. Apparently rare in this county.

*Scrophularia leporella* Bicknell. Hare figwort. Usually in rich open ground throughout. Frequent.

*Chelone glabra* L. Balmony. Snakehead. Wet ground, borders of wood and thickets and along small streams. Frequent.

*Mimulus ringens* L. Square-stemmed monkey flower. Wet places, borders of creeks and in ditches throughout. Frequent.

*Veronica americana* Schwein. American brooklime. Brooks, ditches, and wet places throughout. Frequent.

*Melampyrum lineare* Lam. Cow wheat. Open woods throughout. Common.

**LENTIBULARIACEAE.** Bladderwort Family

*Utricularia intermedia* Hayne. Flat-leaved bladderwort. Very wet places and shallow water throughout. Often abundant.

*Utricularia cornuta* Michx. Horned bladderwort. Wet sandy open ground throughout. Frequent.

**OROBANCHACEAE.** Broom-rape Family

*Epifagus virginiana* (L.) Bart. Beech-drops. Under beeches throughout. Common.

**PLANTAGINACEAE.** Plantain Family

*Plantago major* L. Common plantain. About farm buildings and in villages but not abundant.

*Plantago rugelii* Dene. Rugel's plantain. Along roads and in fields and clearings throughout. Frequent.

**RUBIACEAE.** Madder Family

*Galium trifidum* L. Small bedstraw. Open or slightly shaded wet and swampy places throughout. Frequent.

*Galium claytoni* Michx. Clayton's bedstraw. Damp places and swamps throughout. Frequent.

*Galium asprellum* Michx. Rough bedstraw. Damp open or slightly shaded places throughout, usually climbing over small shrubs or other plants. Common.

*Galium triflorum* Michx. Sweet scented bedstraw. Rich thin woods throughout. Common.

*Mitchella repens* L. Partridge berry. Dry woods throughout. Common.

**CAPRIFOLIACEAE.** Honeysuckle Family

*Diervilla lonicera* Mill. Bush honeysuckle. Open or slightly shaded dry and sandy ground throughout. Common.

*Lonicera canadensis* Marsh. American fly honeysuckle. Open woods and margins of thickets throughout. Common.

*Lonicera oblongifolia* (Goldie) Hook. Swamp fly honeysuckle. Tamarack-black spruce swamps throughout. Frequent.

*Lonicera hirsuta* Eat. Hairy honeysuckle. Margins of woods near Eckerman. Apparently infrequent. A vine.

*Lonicera dioica* L. Glaucous honeysuckle. Margins of woods and thickets throughout but not common. A vine.

*Symphoricarpos racemosus* Michx. Snowberry. Dry open or slightly shaded places throughout. Frequent.

*Linnaea borealis americana* (Forbes) Rehder. Twin-flower. Open woods throughout. Often abundant.

*Viburnum acerifolium* L. Arrow-wood. Dryish open woods throughout. Frequent.

*Viburnum cassinoides* L. Withe-rod. Wet open or slightly shaded ground throughout. Common.

*Viburnum lentago* L. Nannyberry. Margins of woods and along streams throughout. Frequent.

*Sambucus canadensis* L. Common elder. Open rich ground throughout. Often plentiful.

*Sambucus racemosus* L. Red-berried elder. Rich open or shaded ground throughout. Common.

**VALERIANACEAE.** Valerian Family

*Valeriana uliginosa* (T. & G.) Rydb. Swamp valerian. Open wet places, and on margins of tamarack-black spruce swamps. Abundant about a swamp near Eckerman.

**CAMPANULACEAE.** Bluebell Family

*Campanula rotundifolia* L. Harebell. Mostly on sandy beaches. Frequent throughout.

*Campanula aparinoides* Pursh. Marsh bellflower. Open wet grassy ground throughout. Frequent.

**LOBELIACEAE.** Lobelia Family

*Lobelia kalmii* L. Brook lobelia. Marshy open places throughout. Noticed in particular in swampy ground on margin of tamarack-black spruce swamp north of Eckerman.

**COMPOSITAE.** Composite Family

*Eupatorium purpureum* L. Joe-pye weed. Low damp open ground and margins of woods throughout. Common.

*Eupatorium purpureum maculatum* (L.) Darl. Spotted joe-pye weed. Wet open places throughout. Common.

*Eupatorium perfoliatum* L. Boneset. Low open or slightly shaded ground throughout. Common.

*Solidago hispida* Muhl. Hairy goldenrod. Dry open or slightly shaded ground throughout. Common.

*Solidago randii* (Porter) Britton. Rand's goldenrod. Mostly along or near the sandy beach of Lake Superior. Noticed in particular near Whitefish Point and Vermilion.

*Solidago uliginosa* Nutt. Bog goldenrod. Open wet and boggy ground throughout. Common.

*Solidago juncea* Ait. Early goldenrod. Dry open or slightly shaded ground throughout. Common.

*Solidago rugosa* Mill. Wrinkled-leaved goldenrod. Damp open or dryish slightly shaded ground throughout. Frequent.

*Solidago nemoralis* Ait. Gray goldenrod. Dry open ground throughout. Common and often abundant.

*Solidago canadensis* L. Canada goldenrod. Borders of woods and in rich open or slightly shaded ground throughout. Common.

*Solidago altissima* L. Tall goldenrod. Rich open ground throughout. Frequent.

*Solidago serotina* Ait. Late goldenrod. Rich open or slightly shaded ground throughout. Frequent.

*Solidago graminifolia* (L.) Salisb. Flat-topped goldenrod. Moist open ground throughout. Common.

*Solidago tenuifolia* Pursh. Slender fragrant goldenrod. Damp sandy ground near Whitefish Point. Apparently rare.

*Aster macrophyllus* L. Large-leaved aster. Along a shaded high creek bank near Brimley. Plentiful at this place. Apparently rare in Chippewa County.

*Aster azureus* Lindl. Sky-blue aster. Dry open or shaded ground throughout. Frequent.

*Aster lindleyanus* T. & G. Lindley's aster. Damp or dryish open or slightly shaded ground throughout. Frequent.

*Aster lateriflorus* (L.) Britton. Calico aster. Open ground near lower falls of the Tahquamenon River above Emerson. Apparently infrequent.

*Aster tradescanti* L. Tradescant's aster. Low open ground throughout. Often abundant.

*Aster paniculatus* Lam. Panicked aster. Wet open ground throughout. Frequent.

*Aster junceus* Ait. Rush aster. Wet open meadow-like ground throughout. Frequent.

*Aster longifolius* Lam. Long-leaved aster. Low open ground throughout. Frequent.

*Aster novi-belgii* L. New York aster. Damp ground north of Eckerman. Plentiful there. Not noticed elsewhere.

*Aster puniceus* L. Red-stalked aster. Low swampy ground throughout. Plentiful.

*Aster umbellatus* Mill. Flat-top white aster. Usually in moist shaded ground. Abundant throughout.

*Aster nemoralis* Ait. Bog aster. Very wet boggy open ground throughout. Abundant near Emerson.

*Erigeron philadelphicus* L. Philadelphia fleabane. Occasional as a weed and appearing to be introduced.

*Erigeron annuus* (L.) Pers. Sweet scabious. Apparently as a weed only and probably introduced.

*Erigeron ramosus* (Walt.) BSP. Daisy fleabane. Noticed only as a weed and probably introduced.

*Erigeron canadensis* L. Horse weed. In cultivated grounds as a weed. Not abundant.

*Antennaria neodioica* Greene. Smaller cat's-foot. Open woods throughout. Frequent.

*Antennaria petaloidea* Fernald. Common cat's foot. Dry open ground, sand dunes and fixed ridges, throughout. Common.

*Anaphalis margaritacea* (L.) B. & H. Pearly everlasting. Dry open or slightly shaded ground throughout. Common.

*Gnaphalium decurrens* Ives. Clammy everlasting. Dry open ground throughout, but infrequent.

*Gnaphalium uliginosum* L. Low cudweed. Noticed along roads at Brimley and other villages. Not common.

*Inula helenium* L. Elecampane. Along road near Gatesville. Apparently infrequent.

*Ambrosia artemisiifolia* L. Common ragweed. As a weed only and infrequent.

*Rudbeckia hirta* L. Yellow daisy. Black-eyed Susan. Dry open ground throughout, but infrequent.

*Rudbeckia laciniata* L. Tall cone-flower. Low thickets and along small creeks throughout. Frequent.

*Helianthus giganteus* L. Tall sunflower. Low ground near Eckerman. Apparently rare.

*Bidens frondosa* L. Beggar ticks. Damp open ground but infrequent.

*Bidens comosa* (Gray) Wiegand. Leafy-bracted tickseed. Damp open ground throughout. Frequent.

*Bidens cernua* L. Smaller bur-marigold. Damp open ground throughout. Frequent. Abundant near Shelldrake.

*Achillea millefolium* L. Common yarrow. Roads and fields throughout but not abundant.

*Anthemis cotula* L. May-weed. About farm buildings and in villages. Not abundant.

*Chrysanthemum leucanthemum pinnatifidum* Lecoq & Lamotte. Ox-eye daisy. Occasional as a weed. Not noticed as abundant anywhere.

*Chrysanthemum balsamita tanacetoides* Boiss. Costmary. Roadside near Gatesville. Apparently infrequent as an escape.

*Tanacetum huronense* Nutt. Lake Huron tansy. On or near the sandy beach of Lake Superior. Abundant in spots.

*Artemisia caudata* Michx. Tall wormwood. On sandy beach of Lake Superior, sand dunes and fixed sand ridges throughout. Frequent.

*Artemisia biennis* Willd. Biennial wormwood. Along roads and in villages as a weed. Not common.

*Artemisia absinthium* L. Common wormwood. Occasional throughout. Abundant at Gatesville covering large areas of ground.

*Petasites palmatus* (Ait.) Gray. Palmate-leaf sweet coltsfoot. Wet open or shaded ground throughout. Frequent.

*Senecio aureus* L. Golden ragwort. Wet open or shaded ground throughout. Often abundant.

*Senecio balsamitae* Muhl. Balsam groundsel. Dry open ground throughout. Not common.

*Cirsium lanceolatum* (L.) Hill. Common thistle. Occasional throughout as a weed.

*Cirsium pitcheri* (Torr.) T. & G. Pitcher's thistle. Sandy beach of Lake Superior, but not abundant.

*Cirsium discolor* (Muhl.) Spreng. Field thistle. Rich open or slightly shaded ground throughout. Frequent.

*Cirsium muticum* Michx. Swamp thistle. Wet swampy places throughout. Frequent.

*Cirsium arvense* (L.) Scop. Canada thistle. Gradually spreading as a weed in cultivated grounds.

*Taraxacum officinale* Weber. Dandelion. Throughout but nowhere noticed as abundant.

*Sonchus oleraceus* L. Common saw thistle. As a weed in cultivated grounds, but not common.

*Sonchus asper* (L.) Hill. Spiny-leaved saw thistle. A weed in cultivated grounds. Infrequent.

*Lactuca scariola intergrata* Gren. & Godr. Entire-leaved prickly lettuce. A weed in cultivated grounds, but infrequent.

*Lactuca canadensis* L. Wild lettuce. Rich damp open or slightly shaded ground throughout. Frequent.

*Lactuca spicata* (Lam.) Hitchc. Tall blue lettuce. Low open or slightly shaded ground throughout. Common.

*Hieracium venosum* L. Rattlesnake weed. Dry open or slightly shaded places throughout. Frequent.

*Hieracium scabrum* Michx. Rough hawkweed. Dry open or slightly shaded ground throughout. Common.

*Hieracium canadense* Michx. Canada hawkweed. Dry open or slightly shaded ground throughout.

#### OBSERVATIONS ON THE FLOWERING PLANTS, FERNS AND FERN ALLIES GROWING WITHOUT CULTIVATION IN TUSCOLA COUNTY, MICHIGAN.

The late Professor C. A. Davis, while engaged in geological work for Tuscola County begun in 1897, made incidental observations on the wild plants, and his report with an annotated list of plants was published in the Tenth Annual Report of the state geologist for the year 1908, page 290, under title "The Native Vegetation of Tuscola County. The Factors Affecting Plant Distribution." This was merely the latter part of his valuable report on "The Geology of Tuscola County, Michigan," published in the same report, page 121. The part of the report on plants was timely and very valuable, for about that time the northern part of the county, where the plant observations were mostly made, was rapidly undergoing a radical change brought about by drainage and preparation for sugar beet culture. Long before the publication of his ecological observations and plant list, Professor Davis urged the writer to complete, so far as possible, the plant list of the county, make a separate report, incorporating his list or so much of it as should seem best. Accordingly in 1910 the work was taken up as an independent effort and the county investigated as well as might be. The Saginaw Bay shore was traversed and examined from the west line of Huron County to the east line of Bay County, nearly every small lake visited, its shores and adjacent marshes and swamps examined and the morainal hills looked over as carefully as time would permit, not forgetting swamps yet untouched by destructive fires, the marshes and prairie-like land and the so called islands in the northern part. Professor Davis reported 591 species, a remarkably large number considering that this part of his effort was merely incidental to matters considered at the time of far greater economic importance. After much careful search the number of species noticed did not quite reach 1,000, but it is believed that from 1,100 to 1,200 species of wild plants still exist within the limits of Tuscola County, which will be found and yet recorded if local botanists make a careful search.

It is not intended or believed that this effort shall or can take the place of Professor Davis' report which will ever stand out prominently as a work very clearly and fully representing the surface conditions of the land and ecological relations of plant species at the time.

## GEOGRAPHICAL POSITION

Tuscola County is bounded on the south by Lapeer and Genesee counties, east by Sanilac County, north by a part of Huron County and Saginaw Bay, west by Bay and Saginaw counties. In general outline it is square, approximately 30 miles on a side and is a part of the tract popularly known as "The Thumb." The south line is about 65 miles north of Detroit and 100 miles from the south State line.

## THE PRESENT AND PAST CONDITIONS CONTRASTED

At present this county has the appearance of a valuable, progressive and successful agricultural district. The land generally speaking is of good quality and everywhere general thrift and prosperity are indicated. In recent years the sugar beet industry has become prominent and valuable. But it seems only yesterday that it was a wild district mostly covered with dense forests penetrated only by paths and trails and a favorite locality for the Indian. For him it was a paradise, as game and fish were plentiful, and his daily wants were easily procured and satisfied. These conditions had existed for an unknown length of time. However on the advent of the paleface a radical and almost sudden change took place. The white man felled and used up the forests, killed with his deadly weapons and consumed the game, and even reduced the former abundant supply of fish. The Indians of this region are now known only in history. These great changes have taken place perhaps within the memory of many yet living in 1910.

## GENERAL SURFACE

There is very little rock outcropping in the county and the general surface is indeed very variable. In the northern part near and extending south from the Bay, there is much marsh-like or damp prairie-like ground not very much above the level of Saginaw Bay, formerly covered part of the time with shallow water. Dotted here and there in this low ground are spots called islands, raised a few feet above the general level and covered with trees and shrubbery. As hereafter mentioned this prairie-like land in its drier parts seems to have invited a number of species from prairie habitats farther south and west. Toward the south part of the county is apparently very rough with ridges of morainal formation, and, it is said, rises above the Bay level in places from 200 to 400 feet.

The principal stream having several branches is Cass River with a well defined valley running through the county from northeast to southwest. There are perhaps 16 small lakes and ponds, two of the lakes being partly in Lapeer County, a number of them having no names and not usually noted on maps. The largest of these lakes are mostly in the

south and southeastern part and about or near most of them are tamarack-black spruce swamps, many of them having escaped destructive fires. Among these are Spruce Lake, west of Fostoria; Murphy's Lake, southwest of Mayville; Cat Lake, north of Mayville; Hays Lake in Dayton Township; Cedar Lake, and Long Lake. Along the Saginaw Bay shore temporary ponds are often formed by wave action and these gradually fill up and become marshes, or wet prairie-like land.

## RANGE OF SOME PLANTS EXTENDED

A few plants, mostly peculiar to prairie-like regions farther south and west, have appeared in the northern part of Tuscola County as native or at least long established. Prominent among these are *Silphium terebinthinaceum* L., prairie dock; *Vernonia illinoensis* Gleason, Drummond's iron-weed; *Liatris spicata* (L.) Willd., gay feather; *Cacalia tuberosa* Nutt., tuberous Indian plantain; *Lythrum alatum* Marsh, wing-angled loosestrife; *Acerates floridana* (Lam.) Hitchc., Florida milkweed; and *Asclepias sullivantii* Engelm, Sullivant's milkweed.

## ACKNOWLEDGMENTS

The writer is much indebted to Mr. Kenneth K. Mackenzie of New York City for an examination and determination of the sedges and other difficult and doubtful plants and to Prof. A. S. Hitchcock, agrostologist of the United States Department of Agriculture, for a determination of some of the grasses.

## ANNOTATED LIST

## POLYPODIACEAE. Fern Family

*Phegopteris dryopteris* (L.) Fee. Oak fern. Rich open dryish woods. Frequent.

*Adiantum pedatum* L. Maidenhair. Frequent in rich woods along streams and about the small lakes.

*Pteris aquilina* L. Common brake. Common and abundant on dry ground or in swamps.

*Asplenium acrostichoides* Sw. Silver spleenwort. "Wells and Dayton townships in rich woodlands." C. A. Davis.

*Asplenium filix-femina* (L.) Bernh. Lady fern. Very common in low open or shaded ground.

*Polystichum acrostichoides* (Mich.) Schott. Christmas fern. Its favorite place on bluffy shaded banks of streams. Noticed in particular on the shaded bank of a small stream running into Murphy's Lake.

*Aspidium thelypteris* (L.) Sw. Marsh shield-fern. Very abundant on low marshy shaded or open ground, especially about the small lakes.

*Aspidium marginale* (L.) Sw. Evergreen wood fern. In damp rich woods apparently preferring bluffy shaded banks of streams. Noticed in particular along a small stream running into Murphy's Lake.

*Aspidium goldianum* Hook. Goldie's fern. Noticed in particular near Murphy's Lake in rich woods. Not noticed elsewhere.

*Aspidium cristatum* (L.) Sw. Crested shield-fern. "In rich woods in Aimer Township." C. A. Davis.

*Aspidium cristatum clintonianum* D. C. Eaton. Clinton's fern. Damp rich woods. Frequent.

*Aspidium spinulosum* (O. F. Müller) Sw. Spinulose shield-fern. Common in rich woods.

*Aspidium spinulosum intermedium* (Muhl.) D. C. Eaton. American shield-fern. Common in damp rich woods, especially near the small lakes.

*Cystopteris bulbifera* (L.) Bernh. Bulblet cystopteris. Frequent and noticed especially in tamarack swamps near the small lakes and on bluffy shaded banks of streams.

*Cystopteris fragilis* (L.) Bernh. Brittle fern. Occasional in damp rich woods.

*Onoclea sensibilis* L. Sensitive fern. Very common in damp open or shaded places.

*Onoclea struthiopteris* (L.) Hoffm. Ostrich fern. Apparently preferring rich shaded ground near streams. Noticed only near Murphy's Lake.

#### OSMUNDACEAE. Flowering Fern Family

*Osmunda regalis* L. Royal fern. Common in swamps and wet woods.

*Osmunda claytoniana* L. Clayton's fern. Noticed on low ground near Murphy's Lake. Probably frequent throughout.

*Osmunda cinnamomea* L. Cinnamon fern. Frequent in swamps and damp open woods.

#### OPHIOGLOSSACEAE. Adder's Tongue Family

*Botrychium obliquum* Muhl. Ternate grape fern. In rich woods near Murphy's Lake. Apparently infrequent.

*Botrychium virginianum* (L.) Sw. Rattlesnake fern. Common in rich woods.

#### EQUISETACEAE. Horsetail Family

*Equisetum arvense* L. Common horsetail. Common in rich or poor ground. Usually very abundant along railway embankments, where the extensive roots tend to bind the embankment together.

*Equisetum sylvaticum* L. Wood horsetail. Common in damp shaded

places and sometimes in open wet ground. Abundant in the swamps near the small lakes.

*Equisetum fluviatile* L. Pipes. Swamp horsetail. Common in water and very wet places along slow streams and about the small lakes.

*Equisetum hyemale intermedium* A. A. Eaton. Scouring rush. Frequent in dry open or shaded ground.

*Equisetum variegatum* Schleich. Variegated equisetum. Abundant on spots in wet sand along the Saginaw Bay shore and in wet places about the small lakes.

#### LYCOPODIACEAE. Club Moss Family

*Lycopodium lucidulum* Michx. Shining club moss. Occasional in rich damp woods.

*Lycopodium clavatum* L. Common club moss. Dryish open woods. Frequent.

*Lycopodium obscurum dendroideum* (Michx.) D. C. Eaton. Ground pine. Apparently preferring open dry woods. Noticed only near Murphy's Lake.

*Lycopodium complanatum* L. Trailing Christmas-green. Occasional in dry open woods. Noticed in particular near Murphy's Lake.

#### SELAGINELLACEAE. Selaginella Family

*Selaginella apus* (L.) Spring. Creeping selaginella. Common on low grassy ground, especially near the Saginaw Bay shore and about the small lakes. A very pretty mossy-looking plant.

#### TAXACEAE. Yew Family

*Taxus canadensis* Marsh. American yew. Ground hemlock. Probably frequent throughout. Noticed in particular in tamarack swamps near Cat Lake and in rich woods near Murphy's Lake.

#### PINACEAE. Pine Family

*Pinus strobus* L. White pine. Formerly very abundant on sandy ground and dry ridges. It was very abundant about Fostoria and on dry hills about the small lakes. Now (1910) only an occasional large tree and small shrubs left. Stumps still in place and stump fences give evidence of its former prevalence.

*Pinus banksiana* Lamb. Jack pine. Occasional along or near Saginaw Bay shore.

*Pinus resinosa* Ait. Red pine. Norway pine. Very scattering along or near Saginaw Bay shore.

*Larix laricina* (Du Roi) Koch. Tamarack. American larch. Form-

erly abundant in "tamarack swamps", but now very much less common on account of drainage, fires, and lumbering. Small patches of it are still (1910) noticed throughout the county, especially near the small lakes.

*Picea mariana* (Mill.) BSP. Black spruce. Occasional in swamps mixed with tamaracks. Noticed in particular about Cat Lake.

*Tsuga canadensis* (L.) Carr. Hemlock. Noticed in damp rich ground with other trees near the small lakes. "Common along the western part of Koylton Township and eastern part of Wells Township." C. A. Davis.

*Thuja occidentalis* L. Arbor vitae. White cedar. Common in many places but not large. Noticed in particular in sandy ground along Saginaw Bay shore, about swamps and on hillsides, and borders of swamps about small lakes. "Frequent in swamps. In many places in Akron Township appearing as undergrowth in the swampy woods." C. A. Davis.

*Juniperus communis* L. Common juniper. Occasional in dry open or shaded ground.

*Juniperus communis depressa* Pursh. Low juniper. Frequent in dryish open rocky ground and near beach of Saginaw Bay.

#### TYPHACEAE. Cat-tail Family

*Typha latifolia* L. Common cat-tail. Abundant in very wet ground and swampy places throughout. "Common in ditches and marshes. A bad weed in the ditches of the western part of the county as it checks the outflow of water and helps silt them up." C. A. Davis.

*Typha angustifolia* L. Narrow-leaved cat-tail. Noticed in very wet ground near the Saginaw Bay shore, in particular at Quanicassee.

#### SPARGANIACEAE. Bur-reed Family

*Sparganium eurycarpum* Engelm. Broad-fruited bur-reed. Very common on borders of ponds, slow streams and in wet places. "Ditches, very common. Also on borders of millponds at Vassar and Caro and in bayous of Cass River. At mouth of Quanicassee Creek." C. A. Davis.

*Sparganium simplex* Huds. Simple-stemmed bur-reed. "Ditches on west side of county." C. A. Davis.

#### NAJADACEAE. Pondweed Family

*Potamogeton natans* L. Common floating pondweed. Noticed in ponds and on borders of small lakes.

*Potamogeton epihydrus* Raf. Nuttall's pondweed. "Quanicassee Creek." C. A. Davis.

*Potamogeton heterophyllus* Schreb. Various-leaved pondweed. "Cass River and millponds at Vassar and Caro." C. A. Davis.

*Potamogeton pectinatus* L. Fennel-leaved pondweed. "Millponds of Caro." C. A. Davis.

*Najas flexilis* (Wild.) Rostk. & Schmidt. Slender najas. "Ditches in Akron and Wisner townships near the bay." C. A. Davis.

#### JUNCAGINACEAE. Arrow Grass Family

*Triglochin maritima* L. Seaside arrow-grass. In marshy places bordering the Saginaw Bay shore and near the small lakes.

*Triglochin palustris* L. Marsh arrow-grass. Occasional in wet sand along the Saginaw Bay beach. "Common on the prairies in Akron and Wisner townships." C. A. Davis.

#### ALISMACEAE. Water Plantain Family

*Sagittaria latifolia* Willd. Broad-leaved arrow-head. Common in wet places along the Saginaw Bay shore, ditches, slow streams and about the small lakes.

*Sagittaria heterophylla* Pursh. Sessile-fruited arrow-head. "In Cass River about Vassar." C. A. Davis.

*Alisma plantago-aquatica* L. Water plantain. Common in ditches, slow streams, wet and muddy places, and about the small lakes.

#### HYDROCHARITACEAE. Frog's Bit Family

*Elodea canadensis* Michx. Water-weed. Noticed in the small lakes and in the creek at Quanicassee.

*Vallisneria spiralis* L. Wild celery. Tape grass. "Millponds at Caro and Vassar. Ditches near Saginaw Bay." C. A. Davis. Said to be an attractive food for wild ducks.

#### GRAMINEAE. Grass Family

*Andropogon scoparius* Michx. Broom beard-grass. Occasional on poor ground near the Saginaw Bay shore.

*Andropogon furcatus* Muhl. Forked beard-grass. Frequent in dry open places.

*Sorghastrum nutans* (L.) Nash. Indian grass. Wood grass. Noticed by Prof. C. A. Davis on low sand ridges in northern part of Akron Township.

*Digitaria sanguinalis* (L.) Scop. Crab grass. A common and vicious weed in gardens and fields.

*Panicum capillare* L. Old-witch grass. Common as a weed in gardens and fields.

*Panicum virgatum* L. Switch grass. Occasional, growing in bunches along low sandy ridges near the Saginaw Bay shore. "Sandy areas and slopes of sand dunes, Akron Township." C. A. Davis.

*Panicum depauperatum* Muhl. Starved panicum. Frequent in poor sandy ground, especially on low sand ridges along the Saginaw Bay shore.

*Panicum lindheimeri* Nash. Lindheimer's panicum. Frequent in prairie-like ground near the Saginaw Bay shore.

*Panicum tennesseense* Ashe. Tennessee panic grass. Often abundant in prairie-like ground near the Saginaw Bay shore.

*Panicum scribnerianum* Nash. Scribner's panicum. Noticed by Prof. C. A. Davis in prairie-like ground in northern part of Akron Township.

*Panicum boscii* Poir. Porter's panicum. "Common on the sand dunes along the bay and in dry woods throughout." C. A. Davis.

*Echinochloa crusgalli* (L.) Beauv. Barnyard grass. A weed in fields and damp waste places.

*Setaria glauca* (L.) Beauv. Foxtail. Pigeon grass. A common weed in gardens and cultivated fields.

*Setaria viridis* (L.) Beauv. Green foxtail. Bottle grass. A common weed in fields and waste places.

*Cenchrus carolinianus* Walt. Sand bur. Bur grass. Becoming very common in light sandy ground along roads. Often a vicious weed in sandy fields and pastures.

*Zizania aquatica* L. Wild rice. Water oats. Indian rice. Occasional in shallow water and on mud along the Saginaw Bay shore, being from 2 to 3 feet high. Noticed also at Shay's Lake and Murphy's Lake. "Borders of marshy prairies in Akron Township. Also in shallow water in the bay near Fish Point." C. A. Davis. Not noticed as very abundant anywhere. A larger form now known as *Zizania palustris* L., larger wild rice, often more than 10 feet high is found about Lake St. Clair and Lake Erie. This was perhaps formerly very abundant about Saginaw Bay and may still exist there.

*Leersia virginica* Willd. White grass. Noticed in damp rich woods near Murphy's Lake. Very probably frequent throughout.

*Leersia oryzoides* (L.) Sw. Rice cut-grass. Scratch grass. Common in low marshy places, ditches and along slow streams.

*Phalaris caveriensis* L. Canary grass. Noticed as occasional in waste places of cities and villages.

*Phalaris arundinacea* L. Reed canary grass. Frequent in wet marshy places.

*Phalaris arundinacea picta* L. Ribbon grass. Frequently escaping from cultivation to marshy places and persisting. It is very prominent in white patches and can be seen from a long distance.

*Milium effusum* L. Millet grass. In rich woods near Murphy's Lake. Probably occurring throughout.

*Oryzopsis pungens* (Torr.) Hitchc. Dry and sandy ground. Frequent throughout.

*Oryzopsis asperifolia* Michx. White-grained mountain rice. Frequent in dry woods. Noticed in particular on the dry shaded hillsides about Murphy's Lake. "Dry woods in Cass River valley. Sand ridges Akron Township." C. A. Davis.

*Stipa spartea* Trin. Porcupine grass. Noticed as occasional on low sand ridges in the northeast part of the county. "Sandy ridges in Wisner Township near Bay Park." C. A. Davis.

*Muhlenbergia mexicana* (L.) Trin. Meadow muhlenbergia. Noticed by Prof. C. A. Davis near Unionville. Probably frequent throughout.

*Muhlenbergia racemosa* (Michx.) BSP. Marsh muhlenbergia. Common in damp places, especially on borders of marshes with other grasses and sedges.

*Brachyelytrum erectum* (Schreb.) Beauv. Brachyelytrum. "Dry woodlands throughout eastern part of county." C. A. Davis.

*Phleum pratense* L. Timothy. One of our best cultivated grasses. Common along roads, in fields, and often a weed in gardens.

*Alopecurus geniculatus aristulatus* Torr. Floating foxtail. Frequent in very wet places, especially in the vicinity of the small lakes.

*Sporobolus cryptandrus* (Torr.) Gray. Sand dropseed. Frequent on low sand ridges and in sand along the Saginaw Bay beach.

*Agrostis alba* L. Red top. Common in damp and frequent in dry sandy ground. Very variable in size and general appearance.

*Agrostis hyemalis* (Walt.) BSP. Rough hair-grass. Occasional and in spots abundant on and near sand ridges, especially near the Saginaw Bay shore. "Islands in the prairies, Akron Township." C. A. Davis.

*Agrostis perennans* (Walt.) Tuckerm. Thin grass. Usually in damp partially shaded places, occasional in moist open ground.

*Calamovilfa longifolia* (Hook.) Hack. Long-leaved reed-grass. Occasional in sand, usually on the middle or upper beach along the Saginaw Bay shore. One of our best shore sand binders protecting mainly the sands from the action of the winds.

*Calamagrostis canadensis* (Michx.) Beauv. Blue-joint grass. Frequent and in spots abundant throughout in damp and wet places, especially on damp prairie-like ground and about the small lakes.

*Ammophila arenaria* (L.) Link. Sea sand-reed. In sand along the Saginaw Bay shore, found even below the middle beach and acting as one of our best known sand binders, protecting the beach from the action of waves. "Sand dunes, Akron and Wisner townships." C. A. Davis.

*Cinna arundinacea* L. Wood reed grass. In damp shaded ground near Murphy's Lake. Very probably frequent throughout.

*Koeleria cristata* (L.) Pers. Koeleria. Noticed on dry sandy ground in many places.

*Deschampsia flexuosa* (L.) Trin. Common hair-grass. Dry sandy shaded ground. Frequent.

*Avena sativa* L. Common oat. Frequently noticed in waste places of cities and villages.

*Danthonia spicata* (L.) Beauv. Common wild oat grass. Common in dry or open shaded ground, especially on dry hilly ground near the small lakes.

*Spartina michauxiana* Hitchc. Slough grass. In damp and marshy places, especially about the small lakes.

*Phragmites communis* Trin. Reed. Occasional in wet and marshy places but not noticed as abundant anywhere. "Marshes throughout. Covers considerable areas on the east side of Fish Point, Akron Township." C. A. Davis.

*Eragrostis hypnoides* (Lam.) BSP. Creeping eragrostis. "Sandy moist soil, banks of streams and ditches." C. A. Davis.

*Eragrostis pilosa* (L.) Beauv. Small tufted love-grass. Along railroads and in dry open places. Frequent throughout.

*Eragrostis megastachya* (Koeler) Link. Strong scented eragrostis. Open sandy ground and a common weed in garden and field.

*Dactylis glomerata* L. Orchard grass. Frequent in yards, streets and roads. Not noticed in cultivation.

*Poa annua* L. Low spear grass. Noticed mostly in lawns and streets of villages.

*Poa compressa* L. Canada blue grass. Wire grass. English blue grass. Common throughout in dry poor ground along roads, in fields, and on hills.

*Poa triflora* Gilib. Fowl meadow-grass. Damp open meadow-like ground and wet places. Frequent.

*Poa pratensis* L. June grass. Kentucky blue grass. Common throughout in pastures, lawns, and along roads. One of our very best pasture grasses.

*Glyceria canadensis* (Michx.) Trin. Rattlesnake grass.

*Glyceria nervata* (Willd.) Trin. Nerved manna-grass. Common in wet open places and damp open woods. "Marshes and wet prairies throughout." C. A. Davis.

*Glyceria grandis* Wats. Reed meadow grass. Frequent in damp and wet ground, especially in the vicinity of the small lakes.

*Glyceria septentrionalis* Hitchc. Floating manna grass. Frequent in ditches, very wet places, borders of ponds and slow streams.

*Glyceria borealis* (Nash.) Batchelder. Slender manna grass. Abundant on the margin of a pond near Fostoria. Not noticed elsewhere.

*Festuca octostora* Walt. Slender fescue grass. Common in dry poor

ground, especially on dry hills. "Dry sandy soil especially in the prairie region of Akron and Wisner townships." C. A. Davis.

*Festuca ovina* L. Sheep's fescue. Frequent on poor dry ground and on low sand ridges.

*Festuca elatior* L. Meadow fescue. Occasional along roads and in waste places of villages.

*Festuca nutans* Spreng. Nodding fescue grass. Noticed on the "islands" in the northern part of Akron Township.

*Bromus secalinus* L. Common chess. Cheat. Noticed along roads and in the waste places of villages.

*Bromus ciliatus* L. Fringed brome grass. Frequent in damp shaded ground, especially near the small lakes.

*Bromus kalmii* Gray. Kalm's chess. Wild chess. Noticed as frequent on dry shaded or open ground near the small lakes. "Dry sandy soil in islands in the prairies, Akron Township." C. A. Davis.

*Agropyron repens* (L.) Beauv. Quack grass. Couch grass. Frequent about villages and along railroads. A vicious weed in cultivated grounds.

*Agropyron dasystachyum* (Hoak.) Scribn. Northern wheat-grass. occasional on and near the Saginaw Bay beaches.

*Agropyron caninum* (L.) Beauv. Awned wheat grass. Occasional in dry open woods.

*Secale cereale* L. Rye. Common as a weed about Mayville along roads, in cultivated fields and pastures. Apparently well established.

*Hordeum jubatum* L. Squirrel-tail grass. Frequent in the waste places of villages, and fast invading damp hayfields and pastures. Apparently a bad weed.

*Elymus virginicus* L. Virginia wild rye. In damp open or partially shaded ground. Frequent.

*Elymus canadensis* L. Nodding wild rye. Frequent in sand on the upper beach of Saginaw Bay. Occasional in other places. "Sand dunes near Saginaw Bay." C. A. Davis.

*Hystrix patula* Moench. Bottle brush grass. Common in rich open woods.

#### CYPERACEAE. Sedge Family

*Cyperus diandrus* Torr. Low cyperus. Frequent in damp and wet ground, and often in damp sand on the beach of Saginaw Bay.

*Cyperus rivularis* Kunth. Shining cyperus. "Beaches Akron Township." C. A. Davis.

*Cyperus esculentus* L. Yellow nut grass. "Moist sandy soil, Columbia Township." C. A. Davis.

*Cyperus strigosus* L. Straw-colored cyperus. Frequent in damp grassy ground.

*Cyperus filiculmus* Vahl. Slender cyperus. Occasional throughout in dry poor open ground.

*Dulichium arundinaceum* (L.) Britton. Dulichium. In very wet places, especially near the small lakes and low banks of slow streams.

*Eleocharis obtusa* (Willd.) Schultes. Blunt spike rush. "Wet mud near the bay in Akron Township." C. A. Davis. Frequent throughout the county.

*Eleocharis palustris* (L.) R. & S. Creeping spike rush. Common in wet marshy places.

*Eleocharis palustris glaucescens* (Willd.) Gray. Creeping spike rush. Noticed by Prof. C. A. Davis in damp places near the shore of Saginaw Bay.

*Eleocharis palustris vogens* Bailey. Larger creeping spike rush. In wet places or shallow water about small lakes. Plentiful.

*Eleocharis acicularis* (L.) R. & S. Needle spike rush. "Wet sandy soil along ditches and the beach of Saginaw Bay in Akron and Wisner townships." C. A. Davis.

*Eleocharis tenuis* (Willd.) Schultes. Slender spike rush. Common in damp open ground.

*Eleocharis rostellata* Torr. Beaked spike rush. "Wisner Township in swales along the base of the dune line next to the shore of the bay." C. A. Davis.

*Scirpus pauciflorus* Lightf. Few-flowered club rush. Noticed by Prof. C. A. Davis in wet ground along the shore of Saginaw Bay where it formed dense carpets below the storm wave line.

*Scirpus subterminalis* Torr. Water club-rush. In shallow water of ponds, caves and small lakes. Frequent.

*Scirpus americanus* Pers. Three-square. Common along the shore of Saginaw Bay, about ponds, the small lakes, and along low banks of slow streams.

*Scirpus validus* Vahl. Great bulrush. Common in wet places, margins of ponds and small lakes.

*Scirpus occidentalis* (Wats.) Chase. Western bulrush. Shay's Lake, Cat Lake, Murphy's Lake, and in shallow water often extending far out into the water along the shore of Saginaw Bay.

*Scirpus atrovirens* Muhl. Dark-green bulrush. Common in wet marshy open places and often in damp ground along roads.

*Scirpus lineatus* Michx. Reddish bulrush. Noticed in marshy ground about Shay's Lake. Probably frequent throughout.

*Scirpus cyperinus pelius* Fernald. Wool grass. Common throughout in wet marshy open places.

*Eriophorum callitrix* Cham. Hare's-tail. Frequent in bogs.

*Eriophorum viridi-carinatum* (Engelm.) Fernald. Tall cotton grass.

Noticed in very wet open places about Cat Lake. Probably frequent throughout.

*Eriophorum virginicum* L. Virginia cotton grass. Frequent in boggy places about Cat Lake. Not noticed elsewhere.

*Rynchospora alba* (L.) Vahl. White beaked rush. In boggy ground at Quanicassee and Cat Lake.

*Rynchospora capillacea* Torr. Capillary beaked rush. Noticed by Prof. C. A. Davis in wet marshy ground near the shore of Saginaw Bay.

*Rynchospora glomerata* (L.) Vahl. Clustered beaked rush. "Prairies, Akron Township." C. A. Davis.

*Scleria verticillata* Muhl. Low nut rush. "In prairie-like ground in the northern part of Akron Township." C. A. Davis.

*Cladium mariscoides* (Muhl.) Torr. Twig-rush. Bogs and often in wet sand. Frequent.

*Carex scoparia* Schkuhr. Pointed broom sedge. Frequent and often abundant in wet marshy ground, especially in places where it is quite wet in spring and fall, but liable to be dry and spongy in summer.

*Carex tribuloides* Wahlenl. Blunt broom sedge. Common in very wet marshy places.

*Carex siccata* Dewey. Hillside sedge. Occasional on shaded sand ridges near shore of Saginaw Bay.

*Carex cristata* Schwein. Crested sedge. Frequent in wet shaded ground.

*Carex mirabilis perlonga* Fernald. Larger straw sedge. Noticed in shaded ground near Akron.

*Carex straminea* Willd. Straw sedge. Noticed by Prof. C. A. Davis near Unionville.

*Carex stellulata* Good. Little prickly sedge. Low wet open ground. Common throughout.

*Carex stellulata cephalantha* (Bailey) Fernald. Larger prickly sedge. "Prairies and wet meadows throughout." C. A. Davis.

*Carex scirpoides* Schkuhr. Inland sedge. In damp marshy places near Cat Lake and Murphy's Lake. (More recent approved name is *C. interior* Bailey.)

*Carex bromoides* Schkuhr. Brome-like sedge. In very swampy places near Cat Lake and the other small lakes.

*Carex deweyana* Schwein. Dewey's sedge. Noticed on the banks of the small lakes. "Rich low woods, Fairgrove Township." C. A. Davis.

*Carex tenuiflora* Wahlenl. Sparse-flowered sedge, open boggy ground. Frequent.

*Carex trisperma* Dewey. Three-fruited sedge. Shaded boggy ground. Plentiful in tamarack-black spruce swamps.

*Carex trisperma billingsii* Knight. Billings' sedge. Tamarack-black

spruce swamps. Plentiful. Very small and slender but resembling the preceding.

*Carex tenella* Schkuhr. Soft-leaved sedge. Swamps and margins of wet woods. Frequent.

*Carex rosea* Schkuhr. Stellate sedge. In rich woods near Murphy's Lake. Probably frequent throughout.

*Carex rosea radiata* Dewey. Ray-like sedge. In damp woods near Mayville. Frequent.

*Carex muhlenbergii* Schkuhr. Muhlenberg's sedge. Frequent on poor sandy ground.

*Carex cephalophora* Muhl. Oval-headed sedge. "Clay soil on oak islands, Akron Township." C. A. Davis.

*Carex sparganioides* Muhl. Bur-reed sedge. In damp rich woods near Murphy's Lake. Probably frequent throughout.

*Carex vulpinoidea* Michx. Fox sedge. Common throughout in low open ground.

*Carex diandra* Shrank. Lesser panicled sedge. In wet boggy ground near Akron, probably frequent throughout.

*Carex diandra ramosa* (Boott) Fernald. Prairie sedge. In very wet and boggy ground near Cat Lake.

*Carex stipata* Muhl. Awi-fruited sedge. Common in very wet open or partially shaded places, especially about the small lakes.

*Carex sartwellii* Dewey. Sartwell's sedge. In very wet open marshy ground, especially about the small lakes.

*Carex crinita* Lam. Fringed sedge. Occasional in and near open or partially shaded places.

*Carex aquatilis* Wahlenb. Water sedge. Frequent in wet places near the shore of Saginaw Bay, and occasional near the small lakes. According to K. K. Mackenzie of New York City, we do not have *C. aquatilis* in this part of Michigan, but rather a variety, *C. aquatilis substricta* Kuntenthal. Smaller water sedge.

*Carex stricta* Lamb. Tussock sedge. In boggy places near the small lakes.

*Carex aurea* Nutt. Golden-fruited sedge. Damp grassy shaded or open places. Frequent.

*Carex leptalea* Wahlenb. Bristle-stalked sedge. In swamps near the small lakes. Plentiful.

*Carex polygama* Schkuhr. Brown sedge. Common in wet marshy places about the small lakes and in prairie-like ground in the northern part of the county.

*Carex gracillima* Schwein. Graceful sedge. In rich woods near Murphy's Lake. Probably frequent throughout.

*Carex communis* Bailey. Fibrous-rooted sedge. Noticed in rich woods in Almer Township by C. A. Davis. Probably frequent throughout.

*Carex varia* Muhl. Emmons' sedge. Dry sterile open ground. Frequent.

*Carex pennsylvanica* Lam. Pennsylvania sedge. Common in dry open or shaded ground.

*Carex tetanica* Schkuhr. Wood's sedge. Frequent in wet open ground about the small lakes.

*Carex laxiflora blanda* (Dewey) Boott. Loose-flowered sedge. Common in woods near Akron. Probably frequent throughout.

*Carex laxiflora latifolia* Boott. White bear sedge. Quite abundant in rich woods near Murphy's Lake. Probably frequent throughout.

*Carex conoidea* Schkuhr. Field sedge. "Prairies, Akron and Wisner townships." C. A. Davis.

*Carex granularis* Muhl. Meadow sedge. In meadow-like ground near Cat Lake. Probably frequent throughout.

*Carex crawei* Dewey. Crawe's sedge. In prairie-like ground in northern part of county. "Common in swales along the shores of bay in Akron and Wisner townships." C. A. Davis.

*Carex flava* L. Yellow sedge. In wet marshy places near the lakes. Common throughout.

*Carex oederi pumila* (Cosson & Germain) Fernald. Green sedge. In damp sand along the shore of Saginaw Bay. "Wet, muddy and sandy shores of Saginaw Bay below storm wave mark." C. A. Davis.

*Carex filiformis* L. Slender sedge. Common in wet prairie-like ground in northern part of county and in wet places about the small lakes. "Common about lakes in Dayton and Watertown townships. Mud Lake, Arbela Township. Also on prairies." C. A. Davis.

*Carex lanuginosa* Michx. Woolly sedge. In wet marshy places, especially about the small lakes and at Quanicassee.

*Carex riparia* W. Curtis. River-bank sedge. In very wet places near the shore of Saginaw Bay and about the small lakes.

*Carex pseudo-cyperus* L. Cyperus-like sedge. In very wet places near the shore of Saginaw Bay and about the small lakes. Frequent.

*Carex comosa* Boott. Bristly sedge. In wet spots on the prairies and about the small lakes.

*Carex hystericina* Muhl. Porcupine sedge. Common throughout in wet places.

*Carex lurida* Wahlenb. Sallow sedge. Frequent in swampy places near the small lakes.

*Carex retrorsa* Schwein. Retrorse sedge. In wet places near the small lakes.

*Carex retrorsa hartii* (Dewey) Gray. Hart Wright's sedge. "Shaded swampy places in Akron and Columbia townships." C. A. Davis.

*Carex lupulina* Muhl. Hop sedge. In wet mostly open places near Murphy's Lake. Probably frequent throughout.

*Carex grayii* Carey. Gray's sedge. In rich woods near Murphy's Lake. Probably common throughout.

*Carex intumescens* Rudge. Bladder sedge. In rich woods near Murphy's Lake. Probably frequent throughout.

#### ARACEAE. Arum Family

*Arisaema triphyllum* (L.) Schott. Jack-in-the-pulpit. Indian turnip. Common throughout in damp rich woods.

*Calla palustris* L. Wild calla. Water arum. "Swamps in Dayton and Arabela townships." C. A. Davis.

*Symplocarpus foetidus* (L.) Nutt. Skunk cabbage. Abundant in shaded ground along and on the banks of a small creek near Murphy's Lake. "Common in swampy woods, Dayton Township." C. A. Davis.

*Acorus calamus* L. Sweet flag. In a wet place on border of Shay's Lake. Probably frequent throughout.

#### LEMNACEAE. Duckweed Family

*Spirodela polyrrhiza* (L.) Schleid. Greater duckweed. Common about ponds and stagnant pools on mud and shallow water. "Common in ditches and ponds." C. A. Davis.

*Lemna minor* L. Lesser duckweed. Floating on stagnant water about the small lakes.

#### PONTEDERIACEAE. Pickerel-weed Family

*Pontederia cordata* L. Pickerel weed. In large ponds and shallow water of the small lakes. Frequent.

#### JUNCACEAE. Rush Family

*Juncus bufonius* L. Toad rush. "Moist roadsides and wet places along ditches. Often very abundant." C. A. Davis.

*Juncus tenuis* Willd. Slender rush. Yard rush. Common on roadsides and along paths.

*Juncus balticus littoralis* Engelm. Baltic rush. Occasional in sand on the beach of Saginaw Bay, and in damp places throughout. An excellent sand binder, holding the shore sands firmly in place against the action of wind and wave.

*Juncus effusus* L. Common rush. Soft rush. Common in wet and marshy ground. Noticed as often abundant in damp pastures.

*Juncus brachycephalus* (Engelm.) Buchenau. Small-headed rush. Marshy places and wet shores. Frequent.

*Juncus brevicaudatus* (Engelm.) Fernald. Narrow-paniced rush. Wet muddy, or damp places about ponds, small lakes, low banks of small streams and wet shores. Frequent.

*Juncus canadensis* J. Gay. Canada rush. Occasional in marshy places near the small lakes and in prairie-like ground in the northern part of Akron Township.

*Juncus pelocarpus* Mey. Brown-fruited rush. Wet gravelly or sandy low beaches of small lakes and in open swampy places. Frequent.

*Juncus nodosus* L. Knotted rush. Frequent in prairie-like ground in Akron Township and probably occurring throughout.

*Juncus torreyi* Coville. Torrey's rush. Noticed in prairie-like ground in northern part of Akron Township by Prof. C. A. Davis.

*Juncus alpinus insignis* Fries. Richardson's rush. Occasional in damp sand along the shore of Saginaw Bay.

*Luzula saltuensis* Fernald. Hairy wood rush. Common throughout in damp shaded ground.

*Luzula campestris multiflora* (Ehrh.) Celak. Common wood rush. Common in old fields and dryish open woods.

#### LILIACEAE. Lily Family

*Tofieldia glutinosa* (Michx.) Pers. Glutinous tofieldia. Damp marshy ground. Frequent.

*Uvularia grandiflora* Sm. Large-flowered bellwort. Frequent in rich woods. Noticed especially in rich woods near Murphy's Lake.

*Oakesia sessilifolia* (L.) Wats. Sessile-leaved bellwort. In rich open woods near Murphy's Lake.

*Allium tricoccum* Ait. Wild leek. "Rich woodlands, Columbia and Akron townships." C. A. Davis.

*Allium canadense* L. Wild garlic. "Moist open sandy soil borders of the prairies, Akron and Wisner townships." C. A. Davis.

*Hemerocallis fulva* L. Common day lily. Noticed as a well established escape throughout, on roadsides and in waste places.

*Lilium philadelphicum andinum* (Nutt.) Ker. Western red lily. "Dry sandy ridges near Saginaw Bay in Akron Township." C. A. Davis.

*Lilium superbum* L. Turk's-cap lily. Noticed in rich open woods near Murphy's Lake and on the "islands" in northern part of county.

*Erythronium americanum* Ker. Yellow adder's tongue. Yellow dog's-tooth violet. Noticed as frequent in rich woods.

*Asparagus officinalis* L. Garden asparagus. Occasional along roads and in open dry woods. Frequent.

*Clintonia borealis* (Ait.) Raf. Yellow clintonia. Common in the swamps near Cat Lake. Probably throughout.

*Smilacina racemosa* (L.) Desf. False spikenard. Common in moist shaded ground and on steep shaded banks of small streams.

*Smilacina stellata* (L.) Desf. Star-flowered Solomon's seal. Frequent

in rich shaded ground and common in shaded sandy places near the beach of Saginaw Bay.

*Smilacina trifolia* (L.) Desf. Three-leaved Solomon's seal. In wet places near Cat Lake. Plentiful.

*Maianthemum canadense* Desf. False lily of the valley. Common in rich shaded ground. "Common in dry woods. Also in sandy plains in Indianfields and Vassar townships." C. A. Davis.

*Streptopus roseus* Michx. Sessile-leaved twisted stalk. Rich damp woods. Frequent throughout.

*Polygonatum biflorum* (Walt.) Ell. Small Solomon's seal. Frequent in rich woods.

*Convallaria majalis* L. Lily of the valley. Apparently escaping and persisting.

*Medeola virginiana* L. Indian cucumber-root. In rich shaded ground near Cat Lake. Probably frequent throughout.

*Trillium erectum* L. Red trillium. Ill-scented wake robin. Common in rich woods near Murphy's Lake. Probably frequent throughout.

*Trillium grandiflorum* (Michx.) Salisb. White trillium. Large-flowered wake robin. In rich woods near Murphy's Lake. Very probably appearing in many places throughout the county.

*Smilax herbacea* L. Carrion flower. Occasional in rich shaded ground. "Borders of sand dunes and oak islands in the prairies of Akron and Wisner townships." C. A. Davis.

*Smilax ecirrhata* (Engelm.) Wats. Upright smilax. In rich woods near Murphy's Lake. Very probably frequent throughout.

*Smilax hispida* Muhl. Hispid greenbrier. Frequent in woods and thickets. "Low rich woodlands and thickets Columbia and Akron townships." C. A. Davis.

#### DIOSCOREACEAE. Yam Family

*Dioscorea villosa* L. Wild yam-root. Common on borders of woods and in thickets. It is claimed by Harley Harris Bartlett in Bulletin 189, United States Department of Agriculture, Bureau of Plant Industry, that the correct name of our plant is *Dioscorea paniculata* Michx.

#### AMARYLLIDACEAE. Amaryllis Family

*Hypoxis hirsuta* (L.) Coville. Star grass. Common on borders of prairie-like land in northern part of county. "Prairies, Akron and Wisner townships." C. A. Davis.

#### IRIDACEAE. Iris Family

*Iris versicolor* L. Larger blue flag. Frequent in wet open places, but seldom abundant.

*Sisyrinchium angustifolium* Mill. Pointed blue-eyed grass. Occasional in damp or dry ground.

*Sisyrinchium gramineum* Curtis. Common blue-eyed grass. "Abundant on sandy 'islands', Akron Township." C. A. Davis.

#### ORCHIDACEAE. Orchis Family

*Cypripedium parviflorum* Salisb. Small yellow lady's slipper. In open swampy and boggy places. Frequent.

*Cypripedium parviflorum pubescens* (Willd.) Knight. Larger yellow lady's slipper. In a tamarack swamp near Cat Lake.

*Cypripedium hirsutum* Mill. Showy lady's slipper. In swamps about the small lakes.

*Cypripedium acaule* Ait. Stemless lady's slipper. Growing in sphagnum in a spruce-tamarack swamp near Cat Lake. Probably found throughout.

*Orchis spectabilis* L. Showy orchis. Rich shaded ground. Frequent.

*Habenaria bracteata* (Willd.) R.Br. Long-bracted orchis. Damp woods and thickets. Frequent.

*Habenaria hyperborea* (L.) R.Br. Tall leafy green orchis. Damp woods. Frequent.

*Habenaria dilatata* (Pursh) Gray. Tall white bog orchis. Very wet open places about the small lakes. Frequent.

*Habenaria hookeri* Torr. Hooker's orchis. Noticed in woods near Murphy's Lake. Probably frequent throughout.

*Habenaria orbiculata* (Pursh) Torr. Large round-leaved orchis. Rich shaded ground. Occasional.

*Habenaria blephariglottis* (Willd.) Torr. White-fringed orchis. Abundant in a spruce-tamarack swamp northwest of Cat Lake on the farm of F. E. Warner. Not noticed elsewhere.

*Habenaria lacera* (Michx.) R.Br. Ragged orchis. Mostly in wet open ground. Frequent.

*Habenaria leucophaea* (Nutt.) Gray. Prairie white-fringed orchis. "Frequent on the open prairies of Akron Township." C. A. Davis.

*Habenaria psycodes* (L.) Sw. Smaller purple-fringed orchis. "Road-sides in swamps, Koylton Township." C. A. Davis.

*Pogonia ophioglossoides* (L.) Ker. Rose pogonia. Open marshy and boggy places. Frequent.

*Calopogon pulchellus* (Sw.) R.Br. Grass pink. Calopogon. Abundant in a spruce-tamarack swamp northwest of Cat Lake. Probably frequent throughout.

*Spiranthes gracilis* (Bigel.) Beck. Dry mostly open ground. Occasional. Perhaps overlooked.

*Spiranthes cernua* (L.) Richard. Nodding ladies' tresses. Noticed about Mud Lake southwest of Fostoria. "Moist grassy places, Fremont

Township. Also in swales between dune lines on the prairies in Akron Township." C. A. Davis.

*Liparis loeselii* (L.) Richard. Fen orchis. Noticed in a swampy place near Mud Lake southwest of Fostoria. Probably frequent throughout.

*Aplectrum hyemale* (Muhl.) Torr. Putty-root. Rich shaded ground. Frequent.

#### PIPERACEAE. Pepper Family

*Saururus cernuus* L. Lizard's tail. "Occasional along streams in Columbia Township." C. A. Davis.

#### SALICACEAE. Willow Family

*Salix nigra* Marsh. Black willow. Common in low places especially along small streams. Occasional in damp sand on the beach of Saginaw Bay.

*Salix amygdaloides* Anders. Peach-leaved willow. Common in rich damp ground and usually mixed with other trees. "Borders of the prairies and on low sand dunes along Saginaw Bay in Akron and Wisner townships." C. A. Davis.

*Salix pentandra* L. Ivy-leaved willow. Occasionally planted as an ornamental tree. Not spreading.

*Salix lucida* Muhl. Shining willow. Common in damp and swampy ground with other willows.

*Salix serissima* (Bailey) Fernald. Autumn willow. In low ground near Cat Lake. Pistillate catkins were still clinging to the tree August 6, 1910.

*Salix alba* L. White willow. Planted for ornament and inclined to escape.

*Salix alba vitellina* (L.) Koch. Golden willow. "Planted in many places as a shade tree." C. A. Davis.

*Salix babylonica* L. Weeping willow. Planted as an ornamental tree but not escaping.

*Salix longifolia* Muhl. Sand-bar willow. Common in low places, about the small lakes, and along the banks of small streams.

*Salix pedicellaris* Pursh. Bog willow. Wet open boggy places. Frequent.

*Salix discolor* Muhl. Glaucus willow. Frequent in low places with other willows.

*Salix petiolaris* Sm. Slender willow. Common in wet ground, especially in the vicinity of the small lakes.

*Salix humilis* Marsh. Prairie willow. Noticed on low sand ridges in the northern part of Akron Township by Prof. C. A. Davis. Probably frequent throughout.

*Salix sericea* Marsh. Silky willow. Wet open ground. Frequent.

*Salix rostrata* Richards. Bebb's willow. Noticed in dryish ground near Murphy's Lake. Probably common throughout.

*Salix candida* Flügge. Sage willow. Hoary willow. In boggy places, especially about the small lakes. Frequent.

*Populus alba* L. White poplar. Planted as an ornamental tree in villages and inclined to spread by root. Noticed only pistillate catkins.

*Populus tremuloides* Michx. Common poplar. American aspen. Common throughout. Often springing up very thick on burned-over and low drained ground.

*Populus grandidentata* Michx. Large-toothed aspen. Frequent on dry and hilly ground with other trees.

*Populus balsamifera* L. Balsam poplar. Common in sandy ground on and near the shore of Saginaw Bay, and frequent in other places. "Common in the sandy parts of Cass River valley in Indianfields, Wells and Novesta townships." C. A. Davis.

*Populus deltoides* Marsh. Cotton-wood. Frequent throughout in rich ground with other trees. "Frequent in the vicinity of Saginaw Bay and in moist places generally." C. A. Davis.

*Populus nigra italica* DuRoi. Lombardy poplar. Planted as an ornamental tree and inclined to spread by root.

#### MYRICACEAE. Sweet Gale Family

*Myrica asplenifolia* L. Sweet fern. Noticed on poor ground west of Murphy's Lake. "Light sandy soil, Indianfields and Wells townships." C. A. Davis.

#### JUGLANDACEAE. Walnut Family

*Juglans cinerea* L. Butternut. Frequent throughout in rich ground with other trees. "Arbela and Millington townships." C. A. Davis.

*Juglans nigra* L. Black walnut. Mostly planted, but small apparently native trees occasionally noticed in rich ground. "Along the Cass River below Vassar." C. A. Davis.

*Carya ovata* (Mill.) K. Koch. Shag-bark hickory. Frequent throughout. Many large trees noticed with other trees. "Frequent in the southeastern part of the county." C. A. Davis.

*Carya cordiformis* (Wang) K. Koch. Bitter nut. Frequent in rich ground with other trees.

#### BETULACEAE. Birch Family

*Corylus americana* Walt. Common hazelnut. Noticed in particular as abundant on some of the islands in the north part of Akron Township. "Common in wood and brush lands throughout." C. A. Davis.

*Ostrya virginiana* (Mill.) K. Koch. Ironwood. Common in rich

ground with other trees, especially in the vicinity of the small lakes. "Common with the beech and hard maple." C. A. Davis.

*Carpinus caroliniana* Walt. Blue beech. Common in damp rich ground with other trees.

*Betula lutea* Michx.f. Yellow birch. Frequent in rich ground with other trees. Prof. C. S. Sargent of the Arnold Arboretum, Jamaica Plain, Mass., is inclined to call this birch *Betula allegheniensis* Britton, southern yellow birch, and doubts whether we have *Betula lenta* L., cherry birch, in Michigan or western Ontario.

*Betula alba papyrifera* (Marsh.) Spach. White birch. Paper birch, Canoe birch. Common throughout in rich or poor ground with other trees.

*Betula pumila* L. Low birch. Abundant in the swamps about Cat Lake and Mud Lake.

*Alnus incana* (L.) Moench. Speckled alder. Common in wet rich ground especially along streams and about the small lakes. Often abundant.

#### FAGACEAE. Beech Family

*Fagus grandifolia* Ehrh. Common beech. Common in rich ground with other trees. Often noticed on good hilly land. "Formerly abundant on the better drained clayey soils and on the moraines." C. A. Davis.

*Castanea dentata* (Marsh.) Borkh. Chestnut. "A few trees by the roadside in Millington Township, apparently planted." C. A. Davis.

*Quercus alba* L. White oak. Reported as formerly very abundant, but most of the large and valuable trees were cut many years ago for staves and lumber. Now confined mostly to small trees on hilly, sandy and gravelly land.

*Quercus macrocarpa* Michx. Bur oak. Frequent throughout and usually in rich ground with other trees.

*Quercus bicolor* Willd. Swamp white oak. Frequent throughout with other trees and usually in rich ground. In Akron Township west of Unionville on the north side of the road, this and the preceding species have been set out for some distance as ornamental trees and they appear to be a striking success.

*Quercus muhlenbergii* Engelm. Chestnut oak. "Watertown Township." C. A. Davis.

*Quercus rubra* L. Red oak. Common throughout with other trees, both in damp rich and dry poor ground.

*Quercus coccinea* Moench. Scarlet oak. "Sand dunes and plains in Cass River valley." C. A. Davis.

*Quercus velutina* Lam. Yellow-barked oak. Black oak. "Sandy island in the prairies and on the dunes along the bay shore in Akron and Wisner townships." C. A. Davis.

#### URTICACEAE. Nettle Family

*Ulmus fulva* Michx. Slippery elm. Red elm. "Common along streams." C. A. Davis.

*Ulmus americana* L. American elm. White elm. Very common throughout in rich ground with other trees.

*Ulmus racemosa* Thomas. Rock elm. Cork elm. In rich ground with other trees near Murphy's Lake. Noticed also on the "islands" by Prof. C. A. Davis.

*Cannabis sativa* L. Hemp. Occasional as an escape in cities and villages.

*Humulus lupulus* L. Common hop. Hops. Inclined to escape and persist along fences.

*Maclura pomifera* (Raf.) Schneider. Osage orange. Planted for hedges and inclined to persist, but not spreading. Apparently not a success for hedge purposes in this locality.

*Urtica gracilis* Ait. Slender nettle. Common in rich woods, open damp places, and often inclined to be a weed.

*Laportea canadensis* (L.) Gaud. Wood nettle. In rich woods, especially near Murphy's Lake. Probably frequent throughout.

*Pilea pumila* (L.) Gray. Richweed. Clearweed. Common in damp rich woods and thickets.

*Boehmeria cylindrica* (L.) Sw. False nettle. Frequent in moist shaded or open ground, especially near the small lakes.

#### SANTALACEAE. Sandalwood Family

*Comandra richardsiana* Fernald. Richard's bastard toad-flax. Common throughout in dry poor ground. Formerly included in *C. umbellata* (L.) Nutt.

#### ARISTOLOCHIACEAE. Birthwort Family

*Asarum canadense* L. Wild ginger. In rich woods near Murphy's Lake. Probably appearing throughout.

#### POLYGONACEAE. Buckwheat Family

*Rumex britannica* L. Great water dock. Common in swamps and wet places, especially about the small lakes.

*Rumex crispus* L. Yellow dock. Common as a weed along roads, in hay fields and damp meadows.

*Rumex verticillatus* L. Swamp dock. Occasional in very wet places and often in shallow water, especially along the low wet banks of small streams.

*Rumex obtusifolius* L. Bitter dock. Frequent and often common as a weed along roads, in yards, cultivated fields, and open woods.

*Rumex acetosella* L. Field sorrel. Sheep sorrel. A common weed, especially in old fields.

*Polygonum aviculare* L. Knotgrass. Door-weed. Common as a weed in yards, fields and along roads.

*Polygonum erectum* L. Erect knotweed. Common as a weed in yards and waste places.

*Polygonum lapathifolium* L. Slender pink persicaria. Frequent in wet places, especially near the small lakes, and often a weed in gardens and cultivated fields.

*Polygonum amphibium* L. Water persicaria. Common about ponds and small lakes in very wet places. Often in shallow still water, when in general appearance it much resembles a pond weed.

*Polygonum muhlenbergii* (Meisn.) Wats. Swamp persicaria. In very wet places and often in water near and about the small lakes.

*Polygonum pennsylvanicum* L. Pennsylvania persicaria. Common in moist open or shaded ground.

*Polygonum hydropiper* L. Common smartweed. Frequent in moist open or shaded ground.

*Polygonum acre* HBK. Water smartweed. Common in wet places about the small lakes and along the low grassy banks of small streams.

*Polygonum orientale* L. Prince's feather. Occasionally escaping from cultivation to roads and near-by fields. Often a weed in gardens.

*Polygonum persicaria* L. Lady's thumb. Frequent in damp places, along banks of ditches, and often a roadside weed.

*Polygonum hydropiperoides* Michx. Wild water pepper. In ditches and in and along small streams.

*Polygonum virginianum* L. Virginia knotweed. In rich woods near Murphy's Lake.

*Polygonum sagittatum* L. Arrow-leaved tear-thumb. In wet places about Mud Lake southwest of Fostoria. Very probably appearing in many other wet places.

*Polygonum convolvulus* L. Black bindweed. Everywhere as a weed in cultivated and waste places.

*Polygonum ciliinode* Michx. Fringed black bindweed. On sides of dry hills near Cat Lake and Mud Lake. "Dry woods on the east side of Dayton Township." C. A. Davis.

*Polygonum scandens* L. Climbing buckwheat. Frequent on borders of woods and thickets, especially in the vicinity of the small lakes.

*Fagopyrum esculentum* Moench. Buckwheat. Occasional as an escape along roads, in fields, and about farm buildings.

*Polygonella articulata* (L.) Meisn. Coast jointweed. Noticed by Prof. C. A. Davis on sand ridges near the shore of Saginaw Bay.

### CHENOPODIACEAE. Goosefoot Family

*Cycloloma atriplicifolium* (Spreng.) Coult. Winged pigweed. "In light sand, Indianfields Township, near Caro." C. A. Davis. Spreading as common weed.

*Kochia scaparia* (L.) Schrod. Kochia. Inclined to escape from cultivation and persist.

*Chenopodium botrys* L. Jerusalem oak. Feather geranium. Occasional about depot grounds in villages. "Sand dunes and dry sand near Bay Park, Akron Township." C. A. Davis.

*Chenopodium capitatum* (L.) Asch. Strawberry blite. Noticed on the border of a newly cleared and plowed field near Cat Lake. "Frequent in moist soil throughout." C. A. Davis.

*Chenopodium glaucum* L. Oak-leaved goosefoot. Occasional as a harmless weed in gardens and the streets of villages.

*Chenopodium hybridum* L. Maple-leaved goosefoot. Occasional as a weed in gardens, especially bean fields, open woods and along roads.

*Chenopodium album* L. Common pigweed. Lamb's quarters. A very common weed in all cultivated grounds.

*Beta vulgaris* L. Sugar beet. Noticed in several oat fields, with small but sweet root. After a crop it is said to persist two or more years.

*Atriplex patula hastata* (L.) Gray. Halberd-leaved orache. Noticed in streets of villages and in depot grounds.

*Salsola tenuifolia* G. F. W. Mey. Russian thistle. Noticed as a weed in villages especially about depot grounds. "Sandy roadside, terrace of Cass River opposite Caro, and near the railway crossing at Vassar." C. A. Davis.

### AMARANTHACEAE. Amaranth Family

*Amaranthus retroflexus* L. Amaranth pigweed. Green amaranth. A common weed in cultivated grounds and often called red root.

*Amaranthus hybridus* forma *hypochondriacus* (L.) Robinson. Slender pigweed. "Escaped from cultivation in a few places." C. A. Davis.

*Amaranthus graecizans* L. Tumble weed. A weed in cultivated grounds, especially corn fields.

*Amaranthus blitoides* Wats. Prostrate amaranth. A recent weed from the West noticed mostly in gardens and villages, but occasionally in cultivated fields.

### AIZOACEAE. Carpet Weed Family

*Mollugo verticillata* L. Carpet weed. Occasional on sandy roadsides.

*Spergula arvensis* L. Corn spurry. Often as a weed in gardens and grain fields.

**CARYOPHYLLACEAE.** Pink Family

*Arenaria serpyllifolia* L. Thyme-leaved sandwort. Common as a weed in dry poor ground about villages, along roads and in cultivated grounds.

*Stellaria longifolia* Muhl. Long-leaved stitchwort. Common in damp and marshy places, especially in the vicinity of the small lakes.

*Stellaria graminea* L. Lesser stitchwort. Grassy places in cemeteries and villages. Frequent.

*Stellaria media* (L.) C. Trill. Common chickweed. A common weed in gardens, fields and open woods.

*Cerastium vulgatum* L. Common mouse-ear chickweed. Common as a weed in gardens, fields and open woods.

*Agrostemma githago* L. Cockle. Corn cockle. Noticed as a frequent weed in wheat fields and waste places.

*Lychnis coronaria* (L.) Desr. Mullein pink. "Escaped from cultivation around cemeteries and houses in a few places." C. A. Davis.

*Lychnis alba* Mill. White campian. Becoming a common weed in cultivated grounds.

*Silene antirrhina* L. Sleepy catchfly. Frequent throughout in dry sandy ground.

*Silene noctiflora* L. Night-flowering catchfly. Noticed as occasional along roads, in waste places, and about farm buildings.

*Saponaria officinalis* L. Bouncing Bet. Soapwort. Occasional as a weed along roads and in dry sandy places. Fast spreading.

*Saponaria vaccaria* L. Cow-herb. A recent weed appearing along railroads and in waste places of cities and villages. Frequent.

*Dianthus armeria* L. Deptford pink. Noticed along the road north of Mayville.

**PORTULACACEAE.** Purslane Family

*Claytonia virginica* L. Spring beauty. Common in damp rich woods.

*Portulaca oleracea* L. Common purslane. A common weed in gardens, fields, and waste places.

**NYMPHAEACEAE.** Water Lily Family

*Nymphaea advena* Ait. Yellow pond lily. Cow lily. Common in still and stagnant water, especially about ponds and the small lakes.

*Castalia tuberosa* (Paine) Greene. White water lily. Frequent throughout in ponds, coves and margins of small lakes.

*Brasenia schreberi* Smel. Water slime. Ponds, coves, small lakes and sluggish streams. Frequent.

**RANUNCULACEAE.** Crowfoot Family

*Ranunculus circinatus* Sibth. Stiff water crowfoot. Noticed in still water at Quanicassee. "In millponds at Caro and Vassar." C. A. Davis.

*Ranunculus delphinifolius* Torr. Yellow water crowfoot. Common in ditches, pools, borders of ponds, and slow streams.

*Ranunculus sceleratus* L. Cursed crowfoot. Common in ditches and wet open places.

*Ranunculus abortivus* L. Small-flowered crowfoot. Very common in damp shaded ground.

*Ranunculus recurvatus* Poir. Hooked crowfoot. Common in rich shaded ground.

*Ranunculus septentrionalis* Poir. Swamp buttercup. Usually noticed and frequent in damp rich shaded ground, but sometimes in open marshy places.

*Ranunculus pennsylvanicus* L.f. Bristly crowfoot. Frequent throughout in damp grassy places.

*Ranunculus acris* L. Tall crowfoot. Occasional along roads and in pastures.

*Thalictrum dioicum* L. Early meadow rue. Common, often abundant in rich shaded ground. " 'Islands' in the prairies, Akron Township." C. A. Davis.

*Thalictrum dasycarpum* Fisch. & Lall. Purplish meadow rue. Frequent and often abundant on borders of swamps and low banks of streams. "Common on the borders of the prairies and in open swamps generally." C. A. Davis.

*Hepatica triloba* Chaix. Round-lobed liverleaf. Frequent in woods. Noticed in particular on the steep shaded banks of a small creek running into Murphy's Lake.

*Hepatica acutiloba* DC. Sharp-lobed liverleaf. Usually in damp rich beech and maple woods. Noticed especially in rich woods near Murphy's Lake.

*Anemone cylindrica* Gray. Long-fruited anemone. On low sand ridges near the shores of Saginaw Bay and dry hills about the small lakes.

*Anemone virginiana* L. Tall anemone. Occasional in shaded ground. Noticed in particular near Murphy's Lake.

*Anemone canadensis* L. Canada anemone. Abundant in spots in damp open ground. "Common on the prairies in Akron and Wisner townships." C. A. Davis.

*Anemone quinquefolia* L. Wood anemone. Common in shaded rich ground.

*Clematis virginiana* L. Virginia virgin's bower. Noticed in damp thickets and along the banks of small streams. Frequent.

*Caltha palustris* L. Marsh marigold. Common in swamps, wet woods, thickets and open marshy ground.

*Coptis trifolia* (L.) Salisb. Gold thread. Noticed in particular in tamarack swamps about Cat Lake and Mud Lake. Probably frequent throughout.

*Aquilegia canadensis* L. Wild columbine. Frequent in open shaded sandy ground. Often abundant on low shaded sand ridges near the shore of Saginaw Bay and also on the islands of the prairies.

*Actaea rubra* (Ait.) Willd. Red baneberry. Frequent in rich woods and thickets and noticed on the islands in Akron Township.

*Actaea alba* (L.) Mill. White baneberry. Noticed on damp hillsides among trees near Spruce Lake.

#### MAGNOLIACEAE. Magnolia Family

*Liriodendron tulipifera* L. Whitewood. Tulip tree. "Southern part of Fremont and Watertown townships." C. A. Davis.

#### MENISPERMACEAE. Moonseed Family

*Menispermum canadense* L. Moonseed. Common in rich woods and thickets. Noticed in particular in damp open woods near Murphy's Lake. "Borders of low woodlands and marshes, Akron and Columbia townships." C. A. Davis.

#### BERBERIDACEAE. Barberry Family

*Podophyllum peltatum* L. Mandrake. May apple. Common throughout in rich shaded ground.

*Caulophyllum thalictroides* (L.) Michx. Pappoose root. In rich woods especially near Murphy's Lake. Probably frequent throughout.

*Berberis vulgaris* L. Common barberry. "Roadside in Wisner Township." C. A. Davis.

#### LAURACEAE. Laurel Family

*Sassafras variifolium* (Salisb.) Ktze. Sassafras. Not frequent in northern part of county near Saginaw Bay, but in other parts often abundant, especially on dry hills. "Dry woodlands, Watertown and Dayton townships." C. A. Davis.

*Benzoin aestivale* (L.) Nees. Spice bush. Noticed in particular in rich woods near Murphy's Lake and Mud Lake. Probably frequent throughout.

#### PAPAVERACEAE. Poppy Family

*Sanguinaria canadensis* L. Bloodroot. Frequent in rich woods. Noticed in particular near Murphy's Lake and Mud Lake. Probably frequent throughout.

#### FUMARIACEAE. Fumitory Family

*Dicentra cucullaria* (L.) Bernh. Dutchman's breeches. Rich shaded ground. Frequent.

*Dicentra canadensis* (Goldie) Walp. Squirrel corn. In rich shaded ground near Murphy's Lake. Probably frequent throughout.

*Cordalis sempervirens* (L.) Pers. Pale corydalis. Dry open places, especially burned over ground. Frequent.

#### CRUCIFERAE. Mustard Family

*Alyssum alyssoides* L. Yellow alyssum. Frequent as a weed along roads and in villages.

*Thlaspi arvense* L. Field penny-cress. Waste places about cities and villages. Frequent.

*Lepidium virginicum* L. Wild peppergrass. Common as a weed along roads and about farm buildings.

*Lepidium apetalum* Willd. Apetalous peppergrass. Common along roads, railroads and a weed in cultivated fields.

*Capsella bursa-pastoris* (L.) Medic. Shepherd's purse. A common weed in all cultivated grounds.

*Camelina sativa* (L.) Crantz. Gold-of-pleasure. Along railroads and in waste places of cities and villages. Frequent.

*Cakile edentula* (Bigel.) Hook. American sea rocket. In sand along the beach of Saginaw Bay, often growing below the wave line.

*Raphanus raphanistrum* L. Wild radish. Jointed charlock. "Escaped in sandy places near dwellings." C. A. Davis.

*Brassica arvensis* (L.) Ktze. Common mustard. Charlock. A common weed in grain fields and waste places.

*Brassica nigra* (L.) Koch. Black mustard. "Cultivated and waste land." C. A. Davis.

*Conringia orientalis* (L.) Dumart. Hare's ear mustard. Along railroads and in waste places of cities and villages.

*Sisymbrium officinale leiocarpum* DC. Smooth podded hedge-mustard. A common weed along roads and about farm buildings.

*Sisymbrium altissimum* L. Tumble mustard. Noticed along the road near Murphy's Lake and in villages. Spreading.

*Erysimum cheiranthoides* L. Worm-seed mustard. A weed along roads, about farm buildings and in cultivated grounds.

*Radicula nasturtium-aquaticum* (L.) Britten & Rendle. True water cress. In ditches and small streams. Abundant in a small stream west of Mayville where it climbed three feet and more upon willows like a vine.

*Radicula palustris* (L.) Moench. Marsh cress. Frequent and often abundant in ditches and wet marshy places.

*Radicula armoracia* (L.) Robinson. Horseradish. Noticed as an escape in ditches and wet places, throughout.

*Dentaria diphylla* Michx. Crinkle-root. In rich woods near Murphy's Lake. Probably frequent throughout.

*Dentaria laciniata* Muhl. Cut-leaved toothwort. In rich woods near Murphy's Lake and Mud Lake. Probably frequent throughout.

*Cardamine bulbosa* (Schreb.) BSP. Spring cress. In damp grassy places, especially near the small lakes. Frequent.

*Cardamine douglassii* (Torr.) Britton. Purple cress. Noticed in rich woods near Murphy's Lake. Probably frequent throughout.

*Cardamine pennsylvanica* Muhl. Pennsylvania bitter cress. Noticed in a wet open place near Quanicassee. Probably frequent throughout.

*Cardamine pratensis* L. Cuckoo flower. Wet low places and low banks of streams. Frequent.

*Arabis lyrata* L. Lyre-leaved rock cress. On sandy ridges near the shore of Saginaw Bay, and high hills about Murphy's Lake.

*Arabis glabra* (L.) Bernh. Tower mustard. Dry open or partially shaded ground. Frequent.

*Arabis laevigata* (Muhl.) Poir. Smooth rock cress. "Sandy ridges and poor soil, Akron and Wisner townships." C. A. Davis.

#### SARRACENIACEAE. Pitcher-plant Family

*Sarracenia purpurea* L. Pitcher-plant. Abundant in the swamps about Cat Lake and Mud Lake.

#### DROSERACEAE. Sundew Family

*Drosera rotundifolia* L. Round-leaved sundew. Swamps and peat-bogs. Frequent.

#### CRASSULACEAE. Orpine Family

*Penthorum sedoides* L. Ditch stonecrop. Common in wet places, especially along ditches.

*Sedum acre* L. Mossy stonecrop. Occasional on sandy ground along roads and about cemeteries.

*Sedum purpureum* Tausch. Live-for-ever. Frequent along roads, in cemeteries and about dwellings.

#### SAXIFRAGACEAE. Saxifrage Family

*Tiarella cordifolia* L. False miterwort. Common in rich woods, especially near Murphy's Lake.

*Mitella diphylla* L. Two-leaved bishop's cap. In rich woods about Murphy's Lake and Cat Lake. Probably common throughout.

*Mitella nuda* L. Naked bishop's cap. In tamarack swamps near Cat Lake and Mud Lake.

*Chrysosplenium americanum* Schwein. Golden saxifrage. In a very wet shaded place near Murphy's Lake. Probably occurring throughout.

*Parnassia caroliniana* Michx. Carolina grass of parnassus. Noticed by Prof. C. A. Davis in damp prairie-like ground in the northern part of Akron Township.

*Ribes cynosbati* L. Prickly gooseberry. Very frequent in rich open or shaded ground.

*Ribes oxycanthoides* L. Smooth gooseberry. Frequent in tamarack swamps about Cat Lake and Mud Lake.

*Ribes floridum* L'Her. Wild black currant. Common in rich woods and thickets.

*Ribes prostratum* L'Her. Skunk currant. In a tamarack swamp near Cat Lake.

*Ribes triste* Pall. Swamp red currant. Noticed by Prof. C. A. Davis in rich woods in northern part of Akron Township.

*Ribes aureum* Pursh. Buffalo currant. An escape from cultivation in many places.

#### HAMAMELIDACEAE. Witch-hazel Family

*Hamamelis virginiana* L. Witch-hazel. Common especially on high hilly ground.

#### PLATANACEAE. Plane Tree Family

*Platanus occidentalis* L. Sycamore. Buttonwood. Occasional throughout with other trees. More common near the shore of Saginaw Bay, often fringing the upper beach.

#### ROSACEAE. Rose Family

*Physocarpus opulifolius* (L.) Maxim. Nine-bark. Noticed in the vicinity of small lakes.

*Spiraea salicifolia* L. American meadow-sweet. Common and usually in low open ground.

*Spiraea tomentosa* L. Hardhack. Steeple bush. "Borders of swamps, Dayton and Wells townships." C. A. Davis.

*Sorbaria sorbifolia* (L.) A.Br. Mountain ash spiraea. Inclined to escape from cultivation into streets and roads.

*Pyrus coronaria* L. American crab. Noticed in particular on the dry banks of North Lake. "Akron Township." C. A. Davis.

*Pyrus malus* L. Common apple. Noticed throughout along roads and in open woods.

*Pyrus arbutifolia atropurpurea* (Britton) Robinson. Red chokeberry. In swamps especially about the small lakes.

*Pyrus melanocarpa* (Michx.) Willd. Black chokeberry. Abundant in spots in low open ground, especially near the small lakes.

*Pyrus americana* (Marsh.) DC. American mountain ash. In woods near Shay's Lake and perhaps an escape.

*Amelanchier canadensis* (L.) Medic. Juneberry. May-cherry. Noticed in particular on high dry ground about the small lakes.

*Amelanchier oblongifolia* (T. & G.) Roem. Shad bush. On low sand ridges near the shore of Saginaw Bay. "In swampy woods throughout." C. A. Davis.

*Crataegus crus-galli* L. Cockspur thorn. Frequent and usually in dry open ground. "One tree about a foot in diameter noted in north part of Akron Township." C. A. Davis.

*Crataegus punctata* Jacq. Large-fruited thorn. Frequent in woods and open ground.

*Crataegus tomentosa* L. Pear thorn. Pear haw. Noticed by Prof. C. A. Davis, near Unionville. Probably frequent throughout.

*Fragaria virginiana* Duchesne. Common strawberry. Common in damp or dry ground.

*Fragaria vesca americana* Porter. American wood strawberry. In rich woods along a small stream with high shaded banks near Murphy's Lake. Also frequent on the "islands."

*Potentilla monspeliensis* L. Rough cinquefoil. A weed in yards, fields and along roads.

*Potentilla argentea* L. Silvery cinquefoil. Frequent on dry sandy ground. Noticed in particular on dry hills about the small lakes.

*Potentilla palustris* (L.) Scop. Marsh five-finger. In very wet and swampy places especially near the small lakes.

*Potentilla fruticosa* L. Shrubby cinquefoil. "Moist or dry sandy soil back of Algonquin beach in Akron Township." C. A. Davis.

*Potentilla anserina* L. Silver weed. In damp ground near the shore of Saginaw Bay. Often very abundant. "Frequent on the sandy tracts in the prairies of Akron and Wisner townships and in moist places along the dunes of the bay. Rare inland in moist sand." C. A. Davis.

*Potentilla canadensis* L. Five-finger. Common in dry open ground.

*Geum canadense* Jacq. White avens. Common throughout in damp rich woods.

*Geum virginianum* L. Rough avens. "Rich woodlands and wet open grounds." C. A. Davis.

*Geum strictum* Ait. Yellow avens. Frequent in damp meadows and moist grassy places.

*Geum rivale* L. Water avens. In very wet places and wet open woods. Noticed in particular near Cat Lake.

*Rubus idaeus aculeatissimus* (C. A. Mey.) Regel & Tiling. Wild red raspberry. Common in open dry or damp shaded ground.

*Rubus occidentalis* L. Black raspberry. Black caps. Frequent in damp woods and thickets.

*Rubus odoratus* L. Purple-flowering raspberry. In hilly ground north of Cat Lake. Not noticed elsewhere.

*Rubus triflorus* Richards. Dwarf raspberry. Common in wet woods and thickets.

*Rubus allegheniensis* Porter. High-bush blackberry. Common along fences, on dry sandy ground and in open dry woods.

*Rubus nigricans* Rydb. Peck's dewberry. "Borders of swamps, Dayton Township." C. A. Davis.

*Rubus hispidus* L. Hispid blackberry. Common in tamarack swamps and in damp open or shaded ground.

*Rubus villosus* Ait. Dewberry. Common in sandy open ground and on dry hills.

*Agrimonia gryposepala* Wallr. Common agrimony. Occasional in woods and thickets. "Rich low woods in Columbia Township." C. A. Davis.

*Agrimonia parviflora* Ait. Many flowered agrimony. Columbia Township. Beech and maple woods.

*Rosa acicularis* Lindl. Prickly rose. "Sand dunes along Saginaw Bay." C. A. Davis.

*Rosa blanda* Ait. Meadow rose. Common throughout on dry or damp ground.

*Rosa spinosissima* L. Scotch rose. Inclined to escape from cultivation and persist. Noticed in particular in the yard of F. E. Warner near Cat Lake.

*Rosa canina* L. Dog rose. "Roadsides near old gardens in Columbia Township." C. A. Davis.

*Rosa rubiginosa* L. Sweetbrier. Frequent along roads, occasional in old fields and open dry woods.

*Rosa carolina* L. Swamp rose. Common in swamps and low marshy places.

*Rosa humilis* Marsh. Pasture rose. On high and dry ground. Noticed in particular on sides of dry hills near the small lakes.

*Prunus serotina* Ehrh. Wild black cherry. Common in rich ground with other trees. "Rich woods. Also in pine slashings and on dunes." C. A. Davis.

*Prunus virginiana* L. Choke cherry. Common throughout in damp or dry ground often on dunes. "Sand dunes in Akron and Wisner townships." C. A. Davis.

*Prunus pennsylvanica* L.f. Wild red cherry. Along fences, borders of dry woods and on dry hills. "Common in old pine slashings, in Indianfields and Vassar townships. Also in Watertown and Fremont townships." C. A. Davis.

*Prunus pumila* L. Sand cherry. In sandy places on and near the beach of Saginaw Bay and dry hills.

*Prunus cerasus* L. Common sour cherry. Abundant and fast spreading along road fences and about dwellings.

*Prunus americana* Marsh. Wild red plum. Frequent on borders of woods and thickets. Noticed in particular in the vicinity of Murphy's Lake and North Lake.

*Prunus persica* (L.) Stokes. Common peach. Noticed on roadsides in several places as an escape from cultivation.

#### LEGUMINOSAE. Pulse Family

*Gleditsia triacanthos* L. Honey locust. Occasionally planted for ornament in villages, but apparently not escaping.

*Trifolium arvense* L. Rabbit-foot clover. Stone clover. "Noted in a single station in southwest Watertown and also near Vassar Railroad station." C. A. Davis.

*Trifolium pratense* L. Red clover. Common along roads, in yards and pastures.

*Trifolium repens* L. White clover. Common along roads, in yards and pastures.

*Trifolium hybridum* L. Alsike clover. Becoming common everywhere as an escape.

*Trifolium agrarium* L. Hop clover. Occasional in villages and along roads.

*Melilotus officinalis* (L.) Lam. Yellow melilot. Occasional in villages.

*Melilotus alba* Desr. Sweet clover. Common in villages and along roads preferring hard clayey ground, and often a weed in cultivated fields.

*Medicago sativa* L. Alfalfa lucerne. Frequent in villages and occasional along roads and railroads.

*Medicago lupulina* L. Black medic. Common along roads and in waste places. Often a lawn weed.

*Robinia pseudo-acacia* L. Common locust. Planted and often escaping and persisting.

*Astragalus neglectus* (T. & G.) Sheldon. Cooper's milk vetch. "Sandy soil, section 9, Kingston Township." C. A. Davis.

*Desmodium nudiflorum* (L.) DC. Naked-flowered tick-trefoil. Noticed in shaded dry ground on the hills about Murphy's Lake and Spruce Lake. "Oak woods and islands in the prairies." C. A. Davis.

*Desmodium grandiflorum* (Walt.) DC. Pointed-leaved tick-trefoil. In rich woods especially near the small lakes. "Open dry woods and oak islands in prairies of Akron Township." C. A. Davis.

*Desmodium rotundifolium* (Michx.) DC. Prostrate tick-trefoil. On the dry shaded banks of North Lake. Not noticed elsewhere.

*Desmodium paniculatum* (L.) DC. Panicked tick-trefoil. On the dry banks of North Lake. "Oak woods and islands in the prairies." C. A. Davis.

*Desmodium canadense* (L.) DC. Showy tick-trefoil. Occasional on low sand ridges near the shore of Saginaw Bay and on some of the "islands." "Sandy prairies." C. A. Davis.

*Lespedeza violacea* (L.) Pers. Bush clover. "Sandy and gravelly woods, Watertown Township." C. A. Davis.

*Lespedeza virginica* (L.) Britton. Slender bush clover. On the dry banks of North Lake. Not noticed elsewhere.

*Lespedeza frutescens* (L.) Britton. Wand-like bush clover. In dry hilly ground near Murphy's Lake and Spruce Lake.

*Lespedeza capitata* Michx. Round-headed bush clover. On high and dry hills about the small lakes. "Sandy ridges and flats, Akron and Columbia townships." C. A. Davis.

*Lespedeza hirta* (L.) Hornem. Hairy bush clover. On dry rocky hills near Spruce Lake. "Sandy ridges and flats, Akron and Columbia townships." C. A. Davis.

*Vicia angustifolia* (L.) Reichard. Common vetch. Along roads and railroads. Frequent.

*Vicia americana* Muhl. American vetch. On dry hilly ground among brush near Murphy's Lake. Not noticed elsewhere.

*Vicia villosa* Roth. Hairy vetch. Noticed in clover fields and along the road north of Mayville where it appeared to be a permanent escape.

*Lathyrus maritimus* (L.) Bigel. Beach pea. Occasional on the beach of Saginaw Bay.

*Lathyrus palustris* L. Marsh vetchling. Common in damp marshy places.

*Lathyrus palustris myrtifolius* (Muhl.) Gray. Myrtle-leaved marsh pea. Along ditches and about the small lakes.

*Lathyrus ochroleucus* Hook. Cream-colored vetchling. Abundant on shaded hillsides near Murphy's Lake.

*Apios tuberosa* Moench. Wild bean. In damp open ground and on borders of thickets. Common.

*Amphicarpa monoica* (L.) Ell. Hog peanut. Frequent in woods and thickets.

#### LINACEAE. Flax Family

*Linum usitatissimum* L. Common flax. Frequent in villages, along railroads, about stations and depot grounds.

*Linum sulcatum* Riddell. Grooved yellow flax. In dry open ground near North Lake. Not noticed elsewhere.

**OXALIDACEAE.** Wood Sorrel Family

*Oxalis stricta* L. Upright yellow wood sorrel. Often along railroads, in depot grounds and waste places.

*Oxalis corniculata* L. Lady's sorrel. Dry or damp open ground. Often a weed in gardens and waste places.

**GERANIACEAE.** Geranium Family

*Geranium maculatum* L. Wild crane's-bill. "Burned over sandy land in the Cass River valley, Vassar Township." C. A. Davis.

*Geranium bicknellii* Britton. Bicknell's crane's-bill. Open woods and especially in recent clearings and burned over ground. Frequent.

**RUTACEAE.** Rue Family

*Zanthoxylum americanum* Mill. Northern prickly ash. Common in damp woods and thickets.

**SIMARUBACEAE.** Quassia Family

*Ailanthus glandulosa* Desf. Tree of heaven. Planted occasionally as an ornamental tree and often escaping.

**POLYGALACEAE.** Milkwort Family

*Polygala pauciflora* Willd. Fringed polygala. In dry sterile shaded ground. Frequent.

*Polygala polygama* Walt. Racemed milkwort. "Low sand ridges on the prairies and in Indianfields Township." C. A. Davis.

*Polygala senega* L. Seneca snakeroot. Abundant on an "island" near Bay Park. "Low sandy areas on the prairies of Akron and Wisner townships." C. A. Davis.

**EUPHORBIACEAE.** Spurge Family

*Euphorbia polygonifolia* L. Seaside spurge. Occasional in sand along the beach of Saginaw Bay.

*Euphorbia preslii* Guss. Upright spotted spurge. Dry open ground. Noticed particularly about depot grounds in cities and villages.

*Euphorbia maculata* L. Milk purslane. On roadsides in villages and along railroads. Common.

*Euphorbia corollata* L. Flowering spurge. Occasional on low sand ridges near the shore of Saginaw Bay, and on dry hills about the small lakes.

*Euphorbia cyparissias* L. Cypress spurge. Frequent in cemeteries and on sandy dry ground along roads.

**ANACARDIACEAE.** Cashew Family

*Rhus typhina* L. Staghorn sumach. Common throughout in dry or damp ground.

*Rhus glabra* L. Smooth sumach. Frequent and usually on high and dry ground. Noticed in particular on the hills about Cat Lake.

*Rhus copallina* L. Dwarf sumach. Abundant on high ground in one place near North Lake. Not noticed elsewhere.

*Rhus vernix* L. Poison sumach. Poison dogwood. In swampy ground throughout. Abundant in swamps near the small lakes.

*Rhus toxicodendron* L. Poison ivy. Poison oak. Common in dry or damp, open or shaded ground. In spots very abundant, especially on sand ridges near the shore of Saginaw Bay. Occasionally climbing trees as a vine, which some authors designate as *Rhus toxicodendron radicans* (L.) Torr., climbing poison ivy.

*Rhus canadensis* Marsh. Fragrant sumach. Noticed by Prof. C. A. Davis on low sand ridges in northern part of Akron Township.

**AQUIFOLIACEAE.** Holly Family

*Ilex verticillata* (L.) Gray. Winterberry. Black alder. Common in low ground and rich open woods, especially in the vicinity of the small lakes.

*Nemopanthus mucronata* (L.) Trel. Mountain holly. In tamarack swamps and in swampy places among willows and other shrubs, especially in the vicinity of the small lakes.

**CELASTRACEAE.** Staff Tree Family

*Evonymus obovatus* Nutt. Running strawberry bush. Frequent in rich damp woods. Noticed in particular near Murphy's Lake.

*Celastrus scandens* L. Climbing bittersweet. Common in woods, thickets and along fences. Known in Michigan and Western Ontario as bitter-sweet.

**STAPHYLEACEAE.** Bladder Nut Family

*Staphylea trifolia* L. American bladder nut. "Cass River valley north of Vassar and in Tuscola Township." C. A. Davis.

**ACERACEAE.** Maple Family

*Acer spicatum* Lam. Mountain maple. Common in swamps and rich open woods, especially about the small lakes.

*Acer pseudo-platanus* L. Sycamore maple. Occasionally planted as an ornamental tree, but not spreading.

*Acer saccharum* Marsh. Sugar maple. Common throughout in rich ground with other trees, often covering hilly land.

*Acer saccharum nigrum* (Michx.f.) Britton. Black maple. Black sugar maple. "Frequent in Akron and Columbia townships." C. A. Davis.

*Acer saccharinum* L. Silver maple. Usually on borders of rich woods and along small streams. Frequent.

*Acer rubrum* L. Red maple. Common in rich wet ground with other trees.

*Acer platanoides* L. Norway maple. Occasionally planted in villages along streets and in yards, but apparently not escaping.

*Acer negundo* L. Box elder. Planted in villages as a street and yard tree and escaping everywhere. "Banks of Cass River near Vassar. Planted generally." C. A. Davis.

#### SAPINDACEAE. Soapberry Family

*Aesculus hippocastanum* L. Common horse-chestnut. Planted in villages as a street and lawn tree and occasionally escaping.

#### BALSAMINACEAE. Touch-me-not Family

*Impatiens biflora* Walt. Spotted touch-me-not. Very common in damp open and shaded places.

#### RHAMNACEAE. Buckthorn Family

*Rhamnus alnifolia* L'Her. Alder-leaved buckthorn. Common in swampy places, especially near the small lakes.

*Ceanothus americanus* L. New Jersey tea. Red-root. Common throughout on dry sandy ground. Noticed in particular on the hills about the small lakes.

#### VITACEAE. Vine Family

*Psedera vitacea* (Knerr) Greene. American woodbine. American ivy. Common in moist woods and along fences. Often cultivated as an ornamental vine.

*Vitis bicolor* LeConte. Summer grape. In woods or open ground. Noticed in particular on hilly ground near Cat Lake, Murphy's Lake and Spruce Lake.

*Vitis vulpina* L. River-bank grape. Common in woods and on dry sandy or rich open ground, along streams, and often fringing the upper beach of Saginaw Bay. Also on sand dunes.

#### TILIACEAE. Linden Family

*Tilia americana* L. Basswood. Common in rich ground with other trees.

#### MALVACEAE. Mallow Family

*Abutilon theophrasti* Medic. Velvet leaf. Noticed along roads and as a weed in gardens and bean fields.

*Althaea rosea* Cav. Hollyhock. "Escaped from cultivation along moist roadsides in Fairgrove and Columbia townships." C. A. Davis.

*Malva rotundifolia* L. Common mallow. Cheeses. Common as a roadside and garden weed.

*Malva sylvestris* L. High mallow. "Millington Township by the roadside." C. A. Davis.

*Malva moschata* L. Musk mallow. Occasional as an escape along roads and in old fields.

#### HYPERICACEAE. St. John's-wort Family

*Hypericum ascyron* L. Great St John's-wort. Damp open ground and on banks of streams. Frequent.

*Hypericum perforatum* L. Common St. John's-wort. Frequent as a weed along roads and occasional in old fields.

*Hypericum punctatum* Lam. Spotted St. John's-wort. Occasional in damp shaded ground, especially near the small lakes.

*Hypericum prolificum* L. Shrubby St. John's-wort. In dryish open woods near Murphy's Lake. Probably frequent throughout.

*Hypericum kalmianum* L. Kalm's St. John's-wort. Occasional in sand near the beach of Saginaw Bay. "Prairies in Akron Township." C. A. Davis.

*Hypericum mutilum* L. Small-flowered St. John's-wort. Frequent in low grassy ground, especially in the vicinity of the small lakes.

*Hypericum canadense* L. Canadian St. John's-wort. "Along the shores of the bay in Akron Township." C. A. Davis.

*Hypericum virginicum* L. Marsh St. John's-wort. Common, especially in low open and marshy ground about the small lakes.

#### CISTACEAE. Rockrose Family

*Helianthemum canadense* (L.?) Michx. Long-branched frostweed. In dry sandy ground near the shore of Saginaw Bay and on the hills about the small lakes.

*Lechea villosa* Ell. Hairy pinweed. Noticed by Prof. C. A. Davis in the northern part of Akron Township.

#### VIOLACEAE. Violet Family

*Viola cucullata* Ait. Marsh blue violet. Common in wet marshy ground, especially about the small lakes.

*Viola sororia* Willd. Woolly blue violet. Common in meadows and

woods, and on the "islands". This and the preceding were formerly included under the name of *Viola palmata cucullata* Gray.

*Viola fimbriatula* Ait. Arrow-leaved violet. Along the railroad between Sebawaing and Akron. Probably frequent throughout in dry sandy ground.

*Viola pallens* (Banks) Brainard. Northern white violet. Wet springy places and along the low banks of shaded brooks. Frequent.

*Viola blanda* Willd. Sweet white violet. "Cold swamps in Wells Township." C. A. Davis.

*Viola incognita* Brainard. Sweet white violet. Common in rich damp open ground and woods.

*Viola pubescens* Ait. Downy yellow violet. In dry woods and on dry shaded hills.

*Viola scabriuscula* Schwein. Smooth yellow violet. Common in rich damp woods and thickets.

*Viola canadensis* L. Canada violet. Dryish rich open woods. Frequent throughout.

*Viola striata* Ait. Pale violet. Striped violet. Rich shaded ground. Frequent.

*Viola conspersa* Reichenb. American dog violet. Common in rich woods, damp shaded places, and often abundant in wet open ground.

*Viola rostrata* Pursh. Long-spurred violet. On shaded hillsides about Murphy's Lake. Probably frequent throughout.

*Viola tricolor* L. Pansy. Cultivated and inclined to escape.

#### THYMELAEACEAE. Mezereum Family

*Dirca palustris* L. Leatherwood. Moosewood. "Rich woods in Almer Township." C. A. Davis.

#### LYTHRACEAE. Loosestrife Family

*Decodon verticillatus* (L.) Ell. Water willow. Often abundant in swampy places in the vicinity of the small lakes. The beautiful little Cedar Lake is completely encircled with it.

*Lythrum alatum* Pursh. Wing-angled loosestrife. Frequent on prairie-like ground throughout.

#### ONAGRACEAE. Evening Primrose Family

*Ludvigia polycarpa* Short & Peter. Many-fruited ludvigia. "Ditches and wet marshy places in prairies of Akron Township." C. A. Davis.

*Ludvigia palustris* (L.) Ell. Water purslanes. Abundant, when found at all, in ditches and muddy places.

*Epilobium angustifolium* L. Great willow herb. Common in low

open ground or open woods. One of the recent common names is fireweed.

*Epilobium molle* Torr. Downy willow herb. Noticed in wet open places about Cat Lake.

*Epilobium densum* Raf. Linear-leaved willow herb. Frequent in low marshy ground. Very abundant about Mud Lake.

*Epilobium coloratum* Muhl. Purple-leaved willow herb. "Low meadows and pastures throughout." C. A. Davis.

*Epilobium adenocaulon* Haussk. Northern willow herb. Frequent in rich damp open ground, especially about the small lakes.

*Oenothera biennis* L. Common evening primrose. Common in dry sandy open or shaded ground.

*Circaea lutetiana* L. Enchanter's nightshade. Very common in rich woods and thickets.

*Circaea alpina* L. Smaller enchanter's nightshade. In thick damp woods and thickets. Noticed in particular in tamarack swamps near Cat Lake and Murphy's Lake.

#### HALORAGIDACEAE. Water Milfoil Family

*Myriophyllum spicatum* L. Spiked water-milfoil. In shallow water on margins of small lakes. Frequent.

*Myriophyllum heterophyllum*. Various leaved water-milfoil. Margins of small lakes in shallow water. Frequent.

*Proserpinaca palustris* L. Mermaid-weed. Frequent and often abundant in wet marshy places near the shore of Saginaw Bay and near the small lakes.

#### ARALIACEAE. Ginseng Family

*Aralia racemosa* L. Spikenard. Common in rich damp woods. Noticed in particular in woods near Cat Lake and Murphy's Lake.

*Aralia hispida* Vent. Bristly sarsaparilla. Noticed in dry poor ground on the hills near Cat Lake. Probably frequent throughout.

*Aralia nudicaulis* L. Wild sarsaparilla. Very common in moist woods and thickets, and occasional in dry sandy ground.

*Panax quinquefolium* L. Ginseng. Not noticed, but reported by old residents as formerly abundant.

*Panax trifolium* L. Dwarf ginseng. Ground-nut. "Rich moist woodlands." C. A. Davis.

#### UMBELLIFERAE. Parsley Family

*Sanicula marilandica* L. Black snakeroot. Common in rich woods and thickets.

*Osmorhiza claytoni* (Michx.) Clarke. Woolly sweet cicely. On the "islands" in Akron Township. C. A. Davis.

*Osmorhiza longistylis* (Torr.) DC. Smoother sweet cicely. Common in rich woods, especially near the small lakes.

*Conium maculatum* L. Poison hemlock. Frequent in waste places of cities and villages.

*Cicuta maculata* L. Water hemlock. Beaver poison. Frequent throughout in wet marshy ground, and often in open damp woods. Root said to be very poisonous.

*Cicuta bulbifera* L. Bulb-bearing water hemlock. Common in open wet places along the shore of Saginaw Bay and about the small lakes.

*Carum carvi* L. Caraway. Occasional as an escape along roads and about dwellings.

*Sium cicutaefolium* Schrank. Water parsnip. Common in ditches, wet and muddy places.

*Cryptotaenia canadensis* (L.) DC. Honewort. Very common in rich woods and thickets.

*Zizia aurea* (L.) Koch. Golden alexanders. Meadow-like ground. Frequent.

*Taenidia integerrima* (L.) Drude. Yellow pimpernel. On the "islands" in Akron Township and the dry banks of North Lake.

*Thaspium aureum* Nutt. Purple meadow parsnip. "Dry ground, Millington and Watertown townships." C. A. Davis.

*Pastinaca sativa* L. Parsnip. Frequent along roads as an escape.

*Heracleum lanatum* Michx. Cow Parsnip. Occasional in woods in northern part of Akron Township.

*Daucus carota* L. Carrot. Noticed along roads and as a frequent weed in fields.

#### CORNACEAE. Dogwood Family

*Cornus canadensis* L. Dwarf cornel. Bunch berry. In tamarack swamps about Cat Lake. "Indianfields Township in old pine slashings." C. A. Davis.

*Cornus florida* L. Flowering dogwood. Plentiful on the dry banks of North Lake. Not noticed elsewhere.

*Cornus circinata* L'Her. Round-leaved dogwood. In open woods and thickets and on hilly ground about the small lakes. "Rich low woodlands, Columbia and Fairgrove townships." C. A. Davis.

*Cornus amomum* Mill. Silky cornel. In wet swampy places, especially about the small lakes.

*Cornus baileyi* Coult & Evans. Bailey's dogwood. "Sand dunes near Saginaw Bay." C. A. Davis.

*Cornus stolonifera* Michx. Red-osier dogwood. Often called red willow. Common near the shore of Saginaw Bay and occasional throughout in swampy ground. "Common in wet places, especially on the prairies of Akron and Wisner townships, where it has spread rapidly since they were drained." C. A. Davis.

*Cornus paniculata* L'Her. Panicle dogwood. Common throughout on borders of woods and banks of streams.

*Cornus alternifolia* L.f. Alternate-leaved dogwood. Common in open damp woods, especially near the small lakes.

*Nyssa sylvatica* Marsh. Black gum. Pepperidge. Noticed only north of Mayville on hilly ground. Perhaps frequent throughout.

#### ERICACEAE. Heath Family

*Chimaphila umbellata* (L.) Nutt. Prince's Pine. Pipsissewa. Noticed under pines near North Lake. Probably frequent throughout.

*Moneses uniflora* (L.) Gray. Rich woods. Frequent. Liable to be overlooked.

*Pyrola secunda* L. One-sided wintergreen. In rich woods near Murphy's Lake. Probably frequent throughout.

*Pyrola elliptica* Nutt. Shin leaf. On shaded hilly ground near Murphy's Lake. Probably frequent throughout.

*Pyrola americana* Sweet. Round-leaved wintergreen. In dry shaded ground near North Lake. Probably frequent throughout.

*Monotropa uniflora* L. Indian pipe. Rich Woods. Frequent.

*Ledum groenlandicum* Oeder. Labrador tea. Abundant in a spruce-tamarack swamp near Cat Lake.

*Kalima polifolia* Wang. Pale laurel. In a spruce-tamarack swamp near Cat Lake.

*Andromeda glaucophylla* Link. Bog rosemary. Abundant in a spruce-tamarack swamp near Cat Lake.

*Chamaedaphne calyculata* (L.) Moench. Leather leaf. Abundant in a spruce-tamarack swamp near Cat Lake. "Boggy margins of lakes in Dayton and Watertown townships." C. A. Davis.

*Epigaea repens* L. Trailing arbutus. Mayflower. Occasional under pines and in other shaded places. Apparently infrequent.

*Gaultheria procumbens* L. Teaberry. Known as wintergreen in Michigan and Western Ontario. In poor open or shaded ground throughout. Abundant and rank in sphagnum in a black spruce-tamarack swamp near Cat Lake.

*Arctostaphylos uva-ursi* (L.) Wang. Bearberry. Occasional on sand ridges near the shore of Saginaw Bay.

*Chiogenes hispidula* (L.) T. & G. Creeping snowberry. Moxie plum. "Cedar swamps in various parts of the county." C. A. Davis.

*Gaylussacia baccata* (Wang.) C. Koch. Black huckleberry. Common in poor open ground, dry open woods, and under pines. Also often noticed in swampy ground.

*Vaccinium pennsylvanicum* L. Low sweet blueberry. Common in dry and sandy shaded ground.

*Vaccinium pennsylvanicum nigrum* Wood. Low black blueberry. Often found with the preceding. Berries very black.

*Vaccinium corymbosum* L. High-bush huckleberry. Swamp blueberry. Common in swamps especially about the small lakes. Abundant in a spruce-tamarack swamp near Cat Lake. "Abundant in a swamp in Koylton Township." C. A. Davis.

*Vaccinium oxycoccus* L. Small cranberry. Abundant in a spruce-tamarack swamp near Cat Lake. Probably frequent throughout.

*Vaccinium macrocarpon* Ait. American cranberry. Noticed about Mud Lake southwest of Fostoria. "Sphagnum bogs in Dayton and Watertown townships." C. A. Davis.

#### PRIMULACEAE. Primrose Family

*Samolus floribundus* HBK. Water pimpernel. Brookweed. "Sandy banks of pools in Watertown Township." C. A. Davis.

*Lysimachia quadrifolia* L. Whorled loosestrife. Crosswort. On dry open ground near Murphy's Lake and North Lake. "Sandy soil in Indianfields and Vassar townships." C. A. Davis.

*Lysimachia terrestris* (L.) BSP. Bulb-bearing loosestrife. Frequent in damp and marshy ground. "Borders of prairies, Akron Township." C. A. Davis.

*Lysimachia nummularia* L. Moneywort. Occasional as an escape in the streets of villages. Often a bad weed in lawns. "Well established by roadsides near Columbia postoffice on the banks of a ditch." C. A. Davis.

*Lysimachia thyrsoflora* L. Tufted loosestrife. Noticed in wet ground near Mayville. Probably frequent throughout.

*Steironema ciliatum* (L.) Raf. Fringed loosestrife. Common throughout in rich woods and thickets.

*Steironema quadriflorum* (Sims) Hitchc. Prairie moneywort. Damp prairie-like open ground in northern part of county. Plentiful.

*Trientalis americana* (Pers.) Pursh. Star flower. Common throughout in rich woods.

#### OLEACEAE. Olive Family

*Fraxinus americana* L. White ash. Common in rich ground with other trees.

*Fraxinus pennsylvanica* Marsh. Red ash. Frequent in damp rich ground with other trees.

*Fraxinus pennsylvanica lanceolata* (Borkh.) Sarg. Green ash. Rich open woods with other trees, and along streams. Frequent.

*Fraxinus nigra* Marsh. Black ash. Formerly abundant in swampy ground, but becoming scarce on account of drainage and fires. Noticed

in particular in swamps about the small lakes. "Abundant in Akron, Wisner and Gilford townships." C. A. Davis.

*Syringa vulgaris* L. Common lilac. Noticed as an escape from cultivation along roads. Infrequent.

#### GENTIANACEAE. Gentian Family

*Gentiana crinita* Froel. Fringed gentian. Noticed by Prof. C. A. Davis in prairie-like ground in the northern part of Akron Township.

*Gentiana andrewsii* Griseb. Closed gentian. Near Mud Lake and North Lake. Probably frequent throughout.

*Halenia deflexa* (Sm.) Griseb. Spurred gentian. In woods near Mud Lake. "In swampy woods by the roadside, Fremont Township three miles north of Mayville." C. A. Davis.

*Menyanthes trifoliata* L. Buckbean. In very wet places about the small lakes.

#### APOCYNACEAE. Dogbane Family

*Vinca minor* L. Common periwinkle. Popularly known as myrtle. Becoming a permanent escape in the village of Akron.

*Apocynum androsaemifolium* L. Spreading dogbane. Frequent in dry open woods. "Sandy ridges and plains, Indianfields Township."

*Apocynum cannabinum* L. Indian hemp. Frequent in low ground near the small lakes. "Terraces of Cass River south of Caro." C. A. Davis.

*Apocynum cannabinum hypericifolium* (Ait.) Gray. Clasping-leaved dogbane. Frequent in low open ground and the more common form.

#### ASCLEPIADACEAE. Milkweed Family

*Asclepias tuberosa* L. Butterfly-weed. Occasional throughout in dry open ground.

*Asclepias purpurascens* L. Purple milkweed. "Frequent on the sandy islands in the prairies of Akron and Wisner townships." C. A. Davis.

*Asclepias incarnata* L. Swamp milkweed. Abundant throughout in low damp ground. Has a strong fine fiber that may yet be made useful.

*Asclepias syriaca* L. Common milkweed. On sand ridges near the shore of Saginaw Bay and in dry open ground throughout. Often a miserable weed in old fields and pastures.

*Asclepias sullivantii* Engelm. Sullivant's milkweed. Noticed in abundance on prairie-like ground in Akron Township, especially in the northern part. Perhaps the northern limit of the plant.

*Asclepias phytolaccoides* Pursh. Poke milkweed. "Good soil and moist places in Akron, Columbia and Fairgrove townships." C. A. Davis.

*Acerates floridana* (Lam.) Hitchc. Florida milkweed. Often abundant in prairie-like ground in the northern part of Akron Township. Perhaps its northern limit.

#### CONVOLVULACEAE. Convolvulus Family

*Convolvulus spithameus* L. Upright bindweed. Dry sandy usually open ground. Frequent.

*Convolvulus sepium* L. Hedge bindweed. In damp open ground especially in the vicinity of the small lakes.

*Convolvulus arvensis* L. Field bindweed. Noticed as occasional in waste places about villages, and along railroads. Liable to become a bad weed.

*Cuscuta Gronovii* Willd. Love-vine. Gronovius' dodder. In damp shaded or open ground on willows and other plants along streams and near the small lakes.

#### POLEMONIACEAE. Polemonium Family

*Phlox divaricata* L. Blue phlox. Abundant in rich woods near Murphy's Lake. Probably frequent throughout.

#### HYDROPHYLLACEAE. Waterleaf Family

*Hydrophyllum virginianum* L. Virginia waterleaf. In rich woods near Murphy's Lake. Probably frequent throughout.

#### BORAGINACEAE. Borage Family

*Cynoglossum officinale* L. Common hound's-tongue. Along roads, in open dry woods, old fields and about dwellings.

*Cynoglossum virginianum* L. Wild comfrey. Common throughout in open dryish woods.

*Lappula echinata* Gilibert. European stickseed. Roadsides and waste places throughout.

*Myosotis virginica* (L.) BSP. Early scorpion-grass. "Sandy islands in prairies in Akron Township." C. A. Davis.

*Lithospermum arvense* L. Corn gromwell. Noticed as an occasional weed in villages and along railroads.

*Lithospermum officinale* L. Common gromwell. "Roadsides, Watertown Township about a mile south of Mayville." C. A. Davis.

*Lithospermum gmelini* (Michx.) Hitchc. Hairy puccoon. On low sand ridges near the shore of Saginaw Bay and often in sand on the beach.

*Lithospermum canescens* (Michx.) Lehm. Hoary puccoon. Abundant on some of the islands in the northern part of Akron Township.

*Echium vulgare* L. Blue-weed. Blue devil. A weed along railroads and in the waste places of cities and villages.

#### VERBENACEAE. Vervain Family

*Verbena urticaefolia* L. White vervain. Occasional along roads and in waste places.

*Verbena hastata* L. Blue vervain. Often abundant in damp places along roads and in open damp ground.

#### LABIATAE. Mint Family

*Teucrium canadense* L. American germander. Wood sage. In rich low open ground, especially along streams and about the small lakes.

*Scutellaria lateriflora* L. Mad-dog skullcap. Common throughout in damp shaded ground.

*Scutellaria galericulata* L. Hooded willow-herb. Marsh skullcap. Frequent in swampy places, especially about the small lakes.

*Marrubium vulgare* L. Common horehound. Frequent as an escape about dwellings.

*Agastache nepetoides* (L.) Ktze. Catnip. Giant hyssop. Noticed in open rich woods near Murphy's Lake. Probably frequent throughout.

*Nepeta cataria* L. Catnip. Common along roads, in yards and waste places. Often a weed in cultivated grounds.

*Nepeta hederacea* (L.) Trevisan. Ground ivy. Gill-over-the-ground. Noticed throughout in damp shaded places and near dwellings. Often a vicious lawn weed.

*Prunella vulgaris* L. Heal-all. Common throughout in dry or damp, open or partially shaded ground.

*Leonurus cardica* L. Common motherwort. Common as a weed near dwellings and in waste places.

*Stachys tenuifolia aspersa* (Michx.) Fernald. Rough hedge nettle. "Prairies and open swamps. Occasional throughout." C. A. Davis.

*Stachys palustris* L. Hedge nettle. Marsh woundwort. Frequent in wet marshy ground, especially near the small lakes.

*Monarda fistulosa* L. Wild bergamot. "Dry soil, common throughout." C. A. Davis.

*Monarda mollis* L. Pale wild bergamot. In hilly ground and dry open woods throughout.

*Satureja vulgaris* (L.) Fritsch. Basil. Mountain mint. Occasional throughout in dry open ground and dry open woods.

*Pycnanthemum virginianum* (L.) Durand. Virginia mountain mint. Common throughout in damp and marshy places.

*Lycopus uniflorus* Michx. Bugle weed. Throughout in low damp and often shaded ground.

*Lycopus americanus* Muhl. Cut-leaved water horehound. Abundant throughout in damp open or shaded ground. Often producing long vine-like runners near the base of the stem.

*Mentha spicata* L. Spearmint. Occasional along roads and near dwellings.

*Mentha piperita* L. Peppermint. Frequent in damp places along roads.

*Mentha arvensis canadensis* (L.) Briquet. American wild mint. Frequent throughout in damp open or shaded ground.

*Collinsonia canadensis* L. Stone-root. Noticed in rich damp woods near Murphy's Lake. Probably frequent throughout.

#### SOLANACEAE. Nightshade Family

*Solanum dulcamara* L. Known mostly in Europe as bittersweet, in Michigan and western Ontario as nightshade. Very common throughout.

*Solanum nigrum* L. Common nightshade. Frequent in rich open or shaded ground and common as a garden and field weed. Ripe berries not poisonous as formerly supposed.

*Physalis pruinosa* L. Strawberry tomato. Noticed in sandy places in northern part of Akron Township by Prof. C. A. Davis.

*Physalis heterophylla* Nees. Clammy ground cherry. Frequent throughout in open sandy places.

*Lycium halimifolium* Mill. Common matrimony vine. Planted about dwellings as an ornamental shrub and inclined to become a permanent escape in villages and along country roads.

*Datura stramonium* L. Stramonium. Occasional in waste places and about villages. Seed poisonous.

*Datura tatula* L. Purple stramonium. Occasional in villages and waste places. Also noticed as a weed in bean fields. Seed poisonous the same as the preceding. A few years ago five children in Alpena, Michigan, were poisoned from eating the seed.

#### SCROPHULARIACEAE. Figwort Family

*Verbascum thapsus* L. Common mullein. Occasional along roads and often abundant in old fields and pastures.

*Linaria vulgaris* Hill. Butter and eggs. Along roads, about dwellings and occasional as a weed in old fields.

*Linaria canadensis* (L.) Dumont. Wild toadflax. Common on sand ridges near the shore of Saginaw Bay.

*Linaria minor* (L.) Desf. Small snap-dragon. A recently introduced weed along railroads and in waste places of cities and villages.

*Scrophularia leporella* Bicknell. Hare figwort. Noticed in rich open ground near Cat Lake.

*Chelone glabra* L. Turtlehead. Snakehead. Balmony. Frequent in wet open ground, especially near the small lakes.

*Mimulus ringens* L. Square-stemmed monkey flower. Frequent in ditches, wet places and along small streams.

*Ilysanthes dubia* (L.) Barnhart. Short-stalked false pimpernel. "Wet muddy banks of small ponds in Wells and Vassar townships." C. A. Davis.

*Veronica anagallis-aquatica* L. Water speedwell. "Common in the drained part of the county." C. A. Davis.

*Veronica americana* Schwein. American brooklime. "Brooks, Wells Township." C. A. Davis.

*Veronica scutellata* L. Marsh speedwell. Frequent throughout in wet and swampy places.

*Veronica serpyllifolia* L. Thyme-leaved speedwell. Common throughout in damp grassy places.

*Veronica peregrina* L. Neckweed. Purslane speedwell. A common weed in gardens and cultivated fields.

*Veronica arvensis* L. Corn speedwell. Occasional in edge of woods like a native plant. Noticed near Murphy's Lake.

*Gerardia pedicularia* L. Fern-leaved false foxglove. Occasional in dry open woods. Noticed on hilly ground near Murphy's Lake.

*Gerardia paupercula* (Gray) Britton. Small-flowered gerardia. Occasional in damp ground near the small lakes. "Moist sandy soil, Wells Township. Also shores of Saginaw Bay." C. A. Davis.

*Castilleja coccinea* (L.) Spreng. Scarlet painted cup. Noticed by Prof. C. A. Davis in prairie-like ground in northern part of Akron Township.

*Melampyrum lineare* Lam. Cow wheat. Frequent in dry shaded ground, especially under pines. Noticed in particular in dry shaded ground about North Lake.

*Pedicularis canadensis* L. Common lousewort. Woods betony. Frequent in shaded ground.

*Pedicularis lanceolata* Michx. Swamp lousewort. Noticed on a number of the "islands" in Akron Township.

#### LENTIBULARIACEAE. Bladderwort Family

*Utricularia vulgaris americana* Gray. Common American bladderwort. Ponds, small lakes, and slow streams. Frequent.

*Utricularia intermedia* Hayne. Flat-leaved bladderwort. Very wet places, usually in water. Frequent.

#### OROBANCHACEAE. Broom-rape Family

*Epifagus virginiana* (L.) Bart. Beech-drops. Noticed under beeches near North Lake. Probably frequent throughout.

**BIGNONIACEAE.** Bignonia Family

*Catalpa bignonioides* Walt. Catalpa. Indian bean. Occasionally planted in villages but apparently not escaping.

**PHRYMACEAE.** Lopseed Family

*Phryma leptostachya* L. Lopseed. Noticed in damp rich woods near Murphy's Lake. Probably frequent throughout.

**PLANTAGINACEAE.** Plantain Family

*Plantago major* L. Common plantain. Common near dwellings, and often in fields.

*Plantago rugelii*. Rugel's plantain. Common along roads, in old fields and pastures.

*Plantago lanceolata* L. English plantain. A recent common name is buckhorn. A common weed along roads, in lawns, old fields, meadows and pastures.

**RUBIACEAE.** Madder Family

*Galium aparine* L. Goose grass. Cleavers. In shaded ground throughout.

*Galium circaezans* Michx. Wild liquorice. Frequent throughout in rich woods.

*Galium boreale* L. Northern bedstraw. Common on the "islands" in Akron Township and frequent throughout.

*Galium trifidum* L. Small bedstraw. Frequent in swamps about the small lakes.

*Galium tinctorium* L. Stiff marsh bedstraw. Frequent throughout in damp and marshy open places.

*Galium asprellum* Michx. Rough bedstraw. Common in damp bushy places, especially about the small lakes.

*Galium triflorum* Michx. Sweet-scented bedstraw. Common in rich but dryish woods.

*Mitchella repens* L. Partridge berry. Frequent throughout in dry woods, especially under pines.

*Cephalanthus occidentalis* L. Buttonbush. Common in swamps, wet places, about small ponds, and along sluggish streams.

**CAPRIFOLIACEAE.** Honeysuckle Family

*Diervilla lonicera* Mill. Bush honeysuckle. Frequent in dry woods and dry open ground. Noticed especially on dry hills about Cat Lake and Spruce Lake.

*Lonicera canadensis* Marsh. American fly honeysuckle. Noticed

in particular in rich woods near Murphy's Lake. Probably common throughout.

*Lonicera oblongifolia* (Goldie) Hook. Swamp fly honeysuckle. Plentiful in the swamps about Cat Lake. Probably frequent throughout.

*Lonicera glaucescens* Rydb. Douglas' honeysuckle. Frequent throughout and usually on hilly, dry or sandy ground.

*Lonicera dioica* L. Glauous honeysuckle. "Rich low ground." C. A. Davis.

*Linnæa borealis americana* (Forbes) Rehder. Twin-flower. Abundant in the tamarack swamps about Cat Lake.

*Triosteum aurentiacum* Bicknell. Scarlet-fruited horse gentian. Occasional on the "islands" in Akron Township.

*Viburnum opulus americanum* (Mill.) Ait. Cranberry-tree. High-bush cranberry. Occasional in the edge of rich woods and along small streams, especially near the small lakes.

*Viburnum acerifolium* L. Arrow-wood. Dockmaekie. On dry hills, especially about Cat Lake, Murphy's Lake and Spruce Lake.

*Viburnum pubescens* (Ait.) Pursh. Downy arrow-wood. Noticed in dry ground near Spruce Lake.

*Viburnum cassinoides* L. Withe-rod. In damp open ground near Cat Lake.

*Viburnum lentago* L. Nannyberry. Sweet viburnum. Throughout in rich open woods and along the banks of small streams.

*Sambucus canadensis* L. Common elder. Throughout in rich open and shaded places.

*Sambucus racemosa* L. Red-berried elder. Occasional in damp rich woods. Noticed in particular in rich woods near Murphy's Lake.

**VALERIANACEAE.** Valerian Family

*Valeriana uliginosa* (T. & G.) Rydb. Swamp valerian. "Banks, cold swamps in Dayton Township." C. A. Davis.

**DIPSACACEAE.** Teazel Family

*Dipsacus sylvestris* L. Wild teasel. A few specimens noticed along the road near the village of Akron. "Becoming common in Tuscola County as a weed." C. A. Davis.

**CUCURBITACEAE.** Gourd Family

*Sicyos angulatus* L. One-seeded bur cucumber. Occasional as a weed in and about cities and villages.

*Echinocystis lobata* (Michx.) (T. & G.) Wild balsam-apple. Noticed as an occasional escape in villages, and waste places.

### CAMPANULACEAE. Bluebell Family

*Campanula rapunculoides* L. Creeping bellflower. Along the road near Mayville. An escape and apparently rare.

*Campanula americana* L. Tall bellflower. In rich woods near Murphy's Lake. Probably frequent throughout.

*Campanula rotundifolia* L. Harebell, Bluebell. On sand ridges near the shore of Saginaw Bay.

*Campanula aparinoides* Pursh. Marsh bellflower. Common throughout in wet grassy ground.

### LOBELIACEAE. Lobelia Family

*Lobelia cardinalis* L. Cardinal flower. In a swampy open place near Cat Lake. Probably frequent throughout.

*Lobelia siphilitica* L. Great lobelia. Frequent in low wet ground, especially in the vicinity of the small lakes.

*Lobelia spicata* Lam. Pale spiked lobelia. Common in prairie-like ground, especially in the northern part of Akron Township.

*Lobelia kalmii* L. Brook lobelia. Noticed by Prof. C. A. Davis in the northern part of Akron Township.

*Lobelia inflata* L. Indian tobacco. Noticed as occasional along roads and in old fields.

### COMPOSITAE. Composite Family

*Vernonia illinoensis* Gleason. Drummond's ironweed. Noticed in prairie-like ground in the southern part of Akron Township by Prof. C. A. Davis. Perhaps the northern limit at least for Michigan.

*Eupatorium purpureum* L. Joe-pye weed. Trumpet weed. Common in marshy or swampy places, especially in the vicinity of the small lakes. Often in rich woods where the plant is usually much larger and the flowers much paler than in the following variety.

*Eupatorium purpureum maculatum* (L.) Darl. Spotted Joe-pye weed. Frequent. Generally shorter and in wetter and more open places than the preceding species.

*Eupatorium perfoliatum* L. Thoroughwort. Boneset. Very common in damp or wet open ground.

*Eupatorium urticaefolium* Reichard. White snakeroot. Frequent on the "islands" and in rich woods, especially near the small lakes.

*Liatris cylindracea* Michx. Cylindric blazing star. "Sandy and gravelly ridges in the Cass River valley." C. A. Davis.

*Liatris spicata* (L.) Willd. Dense button snakeroot. Gay-feather. Often abundant on prairie-like ground in the northern part of Akron Township. "Abundant on the prairies of Akron and Wisner townships and on the sandy flats and borders of oak islands." C. A. Davis.

*Solidago caesia* L. Blue-stemmed goldenrod. Common in rich woods, especially near the small lakes.

*Solidago latifolia* L. Broad-leaved goldenrod. In rich woods along a small stream with high shaded banks. Near Murphy's Lake. Also noticed on the low "islands" in Akron and Wisner townships by Prof. C. A. Davis.

*Solidago hispida* Muhl. Hairy goldenrod. Noticed on dry hilly ground near the small lakes. Probably frequent throughout.

*Solidago uliginosa* Nutt. Bog goldenrod. In wet boggy ground about Mud Lake. Apparently not common.

*Solidago patula* Muhl. Rough-leaved goldenrod. In shaded swampy places about Cat Lake and Mud Lake. "Open swamps and low ground throughout." C. A. Davis.

*Solidago juncea* Ait. Early goldenrod. Common throughout in dry open or shaded ground. "Common in sandy soil, especially in the Cass River valley." C. A. Davis.

*Solidago ulmifolia* Muhl. Elm-leaved goldenrod. "Swampy woods in Columbia and Fairgrove townships." C. A. Davis.

*Solidago rugosa* Mill. Wrinkle-leaved goldenrod. Common along roads and in open dry places. "Dry sandy soil throughout the county." C. A. Davis.

*Solidago nemoralis* Ait. Gray goldenrod. Field goldenrod. On dry hilly ground near Fostoria. "Abundant in dry sandy soil, especially in the old pine lands in the central and southern parts of the county." C. A. Davis.

*Solidago canadensis* L. Canada goldenrod. In rich open ground, open woods and thickets. Common and often abundant.

*Solidago altissima* L. Tall goldenrod. Common throughout in rich open ground.

*Solidago serotina* Ait. Late goldenrod. Frequent throughout on borders of woods and thickets, usually in rich ground.

*Solidago ohioensis* Riddell. Ohio Goldenrod. Often abundant in prairie-like ground in Akron Township. "Abundant on the wet parts of prairies in Akron and Wisner townships." C. A. Davis.

*Solidago riddellii* Frank. Riddell's goldenrod. "Common on the prairies of Akron Township." C. A. Davis.

*Solidago graminifolia* (L.) Salisb. Bushy goldenrod. Very common in moist open ground and often in wet sand on and near the beach of Saginaw Bay.

*Aster divaricatus* L. White wood aster. "Woods. Common." C. A. Davis.

*Aster macrophyllus* L. Large-leaved aster. Common throughout in dryish open woods and thickets.

*Aster novae-angliae* L. New England aster. Occasional in damp ground along roads.

*Aster azureus* Lindl. Sky-blue aster. In open dry woods near Fostoria. Plentiful.

*Aster cordifolius* L. Common blue wood aster. In rich woods near the small lakes.

*Aster sagittifolius* Wedemeyer. Arrow-leaved aster. Noticed by Prof. C. A. Davis in northern part of Akron Township.

*Aster laevis* L. Smooth aster. In dry hilly and shaded ground near the small lakes.

*Aster ericoides* L. White heath aster. Noticed by C. A. Davis in dry ground.

*Aster lateriflorus* (L.) Britton. Calico aster. Common throughout along roads, on borders of woods and in old fields.

*Aster tradescanti* L. Tradescant's aster. Common in low wet open ground near the small lakes.

*Aster paniculatus* Lam. Panicked aster. Common in woods and thickets.

*Aster junceus* Ait. Rush aster. In wet boggy ground about Mud Lake. Probably frequent throughout.

*Aster puniceus* L. Red-stalk aster. In damp open woods about Mud Lake. "Swamps common." C. A. Davis.

*Aster umbellatus* Mill. Tall flat-top white aster. Common throughout in damp thickets.

*Erigeron pulchellus* Michx. Robin's plantain. "Often abundant on sandy islands in the prairies of Akron and Wisner townships." C. A. Davis.

*Erigeron philadelphicus* L. Philadelphia fleabane. Field daisy. Common throughout along roads and in fields. Often abundant in hay fields.

*Erigeron annuus* (L.) Pers. Sweet scabious. Common throughout in fields and waste places. Often abundant in hay fields.

*Erigeron ramosus* (Walt.) BSP. Daisy fleabane. Frequent and usually in dry ground, along roads and in fields.

*Erigeron canadensis* L. Horse-weed. Common as a weed in gardens, fields, waste places, and along roads.

*Antennaria canadensis* Greene. Canadian cat's-foot. Occasional in mats on sand ridges near the shore of Saginaw Bay and in dry open ground throughout.

*Antennaria fallax* Greene. Tall cat's-foot. Frequent in dry open woods and often on open sandy ground.

*Antennaria neglecta* Greene. Field cat's-foot. Noticed in old dry fields and on border of prairie-like ground in Akron Township.

*Anaphalis margaritacea* (L.) B. & H. Pearly everlasting. Occasional in poor ground along roads and in dry open woods.

*Gnaphalium polycephalum* Michx. Sweet balsam. Very abundant along roads, in dry fields, and on hilly ground about the small lakes.

*Gnaphalium decurrens* Ives. Clammy everlasting. Frequent throughout in dry poor ground, often growing with the preceding.

*Gnaphalium uliginosum* L. Low cudweed. Frequent and in spots very abundant in old fields and pastures.

*Gnaphalium purpureum* L. Purplish cudweed. Plentiful in dry poor open ground just north of Mud Lake. Not noticed elsewhere.

*Inula helenium* L. Elecampane. Frequent and often abundant along roads, in old fields, pastures, and occasional on the border of dry open woods.

*Silphium terebinthinaceum* Jacq. Prairie dock. Noticed as common on and near the "islands" in Akron and Wisner townships. Often on roadsides and a weed in fields. Probably its northern limit in Michigan.

*Ambrosia trifida* L. Great ragweed. Occasional in villages and waste places.

*Ambrosia artemisiifolia* L. Common ragweed. Everywhere as a weed along roads and in cultivated fields.

*Xanthium canadense* Mill. American cocklebur. Common in damp places along roads and in villages.

*Rudbeckia hirta* L. Yellow daisy. Black-eyed Susan. Frequent throughout in dry open ground, but not noticed anywhere as abundant.

*Rudbeckia laciniata* L. Tall cone-flower. "Open swamps. Frequent." C. A. Davis.

*Helianthus annuus* L. Common sunflower. Occasional as an escape in villages.

*Helianthus giganteus* L. Tall sunflower. Noticed in damp open ground near Murphy's Lake. "Common on the prairies and frequent on borders of swamps elsewhere." C. A. Davis.

*Helianthus divaricatus* L. Rough sunflower. Frequent and often abundant throughout in dry open woods.

*Helianthus strumosus* L. Pale-leaved wood sunflower. Noticed on or near the banks of Murphy's Lake. Apparently not common.

*Helianthus decapetalus* L. Thin-leaved sunflower. "Frequent in Wells and Dayton townships." C. A. Davis.

*Helianthus tuberosus* L. Jerusalem artichoke. Noticed only in cultivation.

*Bidens frondosa* L. Beggar-ticks. Common as a weed in damp ground and often in cultivated fields.

*Bidens comosa* (Gray) Wiegand. Leafy-bracted tickseed. In damp ground, especially in the vicinity of the small lakes.

*Bidens connata* Muhl. Purple-stemmed swamp beggar-ticks. Frequent throughout in ditches and wet places.

*Bidens cernua* L. Stick-tight. Common in wet open places, especially near the small lakes.

*Bidens laevis* (L.) BSP. Larger bur marigold. Common in swampy open places about the small lakes.

*Bidens trichosperma tenuiloba* (Gray) Britton. Tall tickseed sunflower. Occasional in swampy places, especially near the small lakes. "Marshes throughout the county." C. A. Davis.

*Helenium autumnale* L. Sneezeweed. False sunflower. Occasional in wet marshy ground, especially near the small lakes.

*Achillea millefolium* L. Common yarrow. Milfoil. Common everywhere as a weed in dryish ground.

*Anthemis cotula* L. May-weed. Dog fennel. Common along roads and about dwellings.

*Chrysanthemum leucanthemum pinnatifidum* Lecoq & Lamotte. Ox-eye daisy. White daisy. Marguerite. Whiteweed. Occasional along roads, in fields and villages. Not noticed as a bad weed.

*Chrysanthemum balsamita tanacetoides* Boiss. Costmary. Mint geranium. An escape from cultivation to roads and near-by fields. Frequent and well established.

*Tanacetum vulgare* L. Common tansy. Frequent as an escape to roadsides and well established.

*Artemisia caudata* Michx. Tall wormwood. On sand ridges and often in sand near and on the beach of Saginaw Bay.

*Artemisia abrotanum* L. Old Man. Southernwood. Noticed as persisting in old yards, but apparently not escaping.

*Artemisia biennis* Willd. Biennial wormwood. Noticed as an occasional weed in villages and depot grounds.

*Artemisia absinthium* L. Wormwood. Absinthe. Noticed as an escape to roadsides near Mayville.

*Erechtites hieracifolia* (L.) Raf. Fireweed. Frequent throughout in moist woods and open places. The common name fireweed has also recently been given to *Epilobium angustifolium* L.

*Cacalia tuberosa* Nutt. Tuberous Indian plantain. Plentiful from near Quanicassee to Sebewaing in Huron County and even farther east. "Abundant in moist prairies in Akron and Wisner townships." C. A. Davis.

*Senecio aureus* L. Golden ragwort. Noticed in a wet marshy place near Murphy's Lake. Probably frequent throughout.

*Senecio balsamitae* Muhl. Balsam groundsel. Often very abundant covering the prairie-like ground with a golden mantle in the northern part of Akron Township. "Very abundant on the sandy 'islands' in the prairies and along the moist slopes of dunes in Akron and Wisner townships. The sandy islands often covered with the bright yellow blossoms of this form during the last of May and early June." C. A. Davis.

*Arctium minus* Bernh. Common burdock. Common as a weed about dwellings and in cultivated grounds. Also occasional in open woods and along streams.

*Cirsium lanceolatum* (L.) Hill. Common thistle. Bull thistle. Frequent on roadsides and in pastures.

*Cirsium discolor* (Muhl.) Spreng. Field thistle. "Cass River valley in sandy and gravelly soil." C. A. Davis.

*Cirsium muticum* Michx. Swamp thistle. Frequent throughout in low swampy places.

*Cirsium arvense* (L.) Scop. Canada thistle. Frequent throughout. Apparently not as vicious a weed here as in Sanilac and Huron counties.

*Cichorium intybus* L. Common chicory. Occasional on roadsides and in villages.

*Krigia virginica* (L.) Willd. Carolina dwarf dandelion. "Low sand ridges in the prairies of Akron Township." C. A. Davis.

*Krigia amplexicaulis* Nutt. Cynthia. Virginia goat's beard. "Sandy soil in prairies of Akron Township." C. A. Davis.

*Tragopogon porrifolius* L. Salsify. Oyster-plant. Frequent in villages, along roads and railroads.

*Tragopogon pratensis* L. Goat's beard. Noticed as a weed about Mayville. Often plentiful along railroads and in waste places of cities and villages.

*Taraxacum officinale* Weber. Common dandelion. Common everywhere in cultivated ground, lawns and pastures.

*Sonchus arvensis* L. Field sow thistle. Occasional about railway stations, depot grounds, and along railroads.

*Sonchus oleraceus* L. Common sow thistle. As a weed along roads, in villages, gardens and fields.

*Sonchus asper* (L.) Hill. Spiny-leaved sow thistle. As a weed in villages, gardens, cultivated fields and about dwellings.

*Lactuca scariola integrata* Gren. & Godr. Prickly lettuce. Common along roads and in waste places.

*Lactuca canadensis* L. Wild lettuce. Frequent in rich damp ground, especially on borders of and in open woods and thickets.

*Lactuca hirsuta* Muhl. Hairy wood lettuce. "Sandy soil near Caro." C. A. Davis.

*Lactuca spicata* (Lam.) Hitchc. Tall blue lettuce. Frequent in low ground and rich open woods.

*Prenanthes alba* L. White lettuce. Rattlesnake-root. Frequent throughout in rich woods and thickets.

*Prenanthes altissima* L. Tall white lettuce. In damp ground near Cat Lake. Probably frequent throughout.

*Hieracium venosum* L. Rattlesnake-weed. "Sandy woodlands, Indianfields and Vassar townships." C. A. Davis.

*Hieracium longipilum* Torr. Long-bearded hawkweed. "Abundant on some of the older dune ridges near and south of Bay Park. Not seen elsewhere." C. A. Davis.

*Hieracium canadense* Michx. Canada hawkweed. Along the road east of Fostoria. Apparently infrequent.

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