

## PRELIMINARY SKETCH OF THE CHARACTERISTIC PLANTS OF THE KANKAKEE REGION.

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The following lists will be of use and interest to those who (not technical botanists themselves) are lovers of plants and like to identify them when found; they will also have value for the professional botanist in that they afford a record, so far as they go, of plants actually found, with a description of the spots upon which they grew. A report like this, made for the people, is utterly without use or interest to nine-tenths of its readers (or rather to nine-tenths of those who ought to be its readers) when it is purely technical. Our great American master of botany, the lamented and venerated Asa Gray, knew well the effect of popularizing science and it is to him that we owe our very heaviest debt of gratitude for many long and vigorous steps in the right direction.

It is often the case that a student, struggling (in the early days of his field-studies) with the difficulties surrounding the identification of species, would be greatly helped if he had in hand a localized catalogue which would give him the common name of each plant characteristic of the locality together with a popularized though sufficiently technical description. Indeed I do not regard him a safe botanist, no matter how famous, no matter how great his experience, who is not willing to be taught through the medium of the simplest and least technical language when need be. Text books and the volumes meant for the shelves of scientists only may be best written in the language of science; but I hold that no book or communication aimed at the popular understanding should be made a puzzle rather than an elucidation.

The following is but a beginning, and is meant as the merest sketch containing a few of the plants most characteristic of the region drained by the Kankakee River. We hope to make the lists very full and valuable in the next report, as we have our work fairly begun and the methods of observation pretty well perfected.

1. *ARABIS LYRATA*, (*cress, or rock-cress.*) Very slight plant with delicate leaves starting up from the root and shaped like a lyre. Flowers brilliant white. This was found in light, sandy soil, not far from the shore of English Lake.
2. *ARENARIA STRICTA*, (*sandwort.*) A small plant with thickly set bristle-like leaves crowding its stem. Terminal flowers with open cyme, sharp sepals and conspicuous white petals. On high barrens near Francisville.
3. *ARTEMISIA CANDATA*, (*wormwood.*) A tall weed having divided pinnate leaves with fine thread-like capillary divisions. Head loosely paniced. Sandy soils of the lake shores.
4. *ARETHUSA BULBOSA*, (*no common name.*) This singularly beautiful little plant sends up a scape or smooth stem from its root bulb, which bears a brilliant rose pink flower. Found in the marshes of Starke County.
5. *ASTER LONGIFOLIUS*, (*Long-leaved Aster*) Tall weed with bluish purple flower, long, tapering, pointed glassy leaves. Plentiful in the wet, sandy soils of the Kankakee bottoms.
6. *ALLIUM CERNUUM*, (*Wild Onion.*) This curious plant sends up a long, angular scape from the ground. Flowers rose-color. Leaves grass-like, keeled on the bottom. Damp shores of lake.
7. *BETULA PAPYRACEA*, (*Paper Birch.*) This is reported on the Kankakee, but I have not seen it. It is the well-known tree from which the Indians procured bark for building canoes.
8. *BETULA PUMILA*, (*no common name.*) Reported. I have not found it, and doubt its existence in this region, though good authority stands against me.
9. *CARDEMINA RHOMBOIDEA*, (*Cuckoo-flower, Bitter-cress.*) This pretty plant I found in the wet semi-marshes and spouty, arenaceous soils in Pulaski County. It bears on a straight stem a large purplish flower. Leaves toothed and oblong, the lower one heart-shaped.
10. *CICUTA BULBIFERA*, (*Cowbane.*) Reported, but not seen. It should be found in the barrens, probably.
11. *CORISPERMUM HYSSOPIFOLIUM*. Reported, but I have not seen it in the immediate region of the Kankakee.
12. *DROSERA ROTUNDIFOLIA*, (*Sundew.*) Not often seen, but when sought will be easily found in the boggy spots in the Kankakee Valley. White, round leaves on long petioles forming a tuft, waxy or sticky, white. This is the insect-catching sundew.
13. *ELODEA COMPANULATA*. Reported but not seen in the immediate vicinity of the Kankakee.

14. *EPILOBIUM PALUSTRE*, (*no common name.*) Plentiful in the wet bottoms and along the river's low shores. Purplish flowers, leaves lance shaped, linear. Plant slender and delicately hoary.
15. *LATHYRUS MARITIMUS*, (*Beach Pea.*) Found in Starke County on sandy hill-side near Cedar Lake. Peduncle with purplish flowers, stipules large, leaflets crowded, oval.
16. *LARIX AMERICANA*, (*Hackmatack.*) Reported in some of the upper swamps of the Kankakee. I have not seen it there, but have the report from excellent authority.
17. *LECHEA MAJOR*, (*Large Pinweed.*) Tall hairy stem, roundish leaves with short points, purplish closely packed flowers, sandy hillsides of Starke County.
18. *LILIUM SUPERBUM*, (*Turk's Cap.*) This beautiful little plant is not common in the Kankakee region, but I have found it in the wet meadows of White County. Flowers yellow, darkly spotted, set in thick pyramid. Leaves lance-shaped and whorled, or scattered.
19. *LINUM SULCATUM*, (*Wild Flax.*) Reported, but not seen growing in the immediate region of the Kankakee.
20. *LINNÆA BOREALIS*, (*Twin Flower.*) A single plant found in Jasper County on the margin of a spouty spring-bog. Creeping stem, hairy leaves of round oval shape, purplish, hairy, sweet-scented flowers.
21. *LOBELIA KALMII*, (*Indian Tobacco* [?].) Found on sandy bank of the Kankakee. About a foot tall, root leaves blunt or obovate, stem leaves scattered, lance-shaped. Flowers brilliant blue
22. *MENYANTHES TRIFOLIATA*, (*Buckbean.*) Scape ten inches long, with a white-pink flower. Found in a boggy spot on north side of Kankakee, below English Lake.
23. *MYRIOPHYLLUM SPICATUM*, (*Millfoil.*) Leaves above water rounded and blunt, bract-like. Flower insignificant. Found in shallow lagoons.
24. *OXALIS AUTOSELLA*, (*Wood sorrel.*) Common enough on sandy, rather dry, banks and sand ridges. Pink veined flowers, much like common sorrel.
25. *POTENTILLA FRUCTICOSA*, (*shrubby cinquefoil.*) A silky, bushy, cinquefoil growing on the barrens. Noted in Starke and White counties on wet spots between sand ridges.
26. *POTENTILLA ARGENTEA*, (*silver cinquefoil.*) Growing on the driest parts of the sand ridges in Pulaski County. A groveling, woolly weed, thickly branched, having peculiar pinnately cleft leaves woolly white below.

27. *RUELLIA CILIOSA*, (*no common name*). Reported on the dry sand ridges, but not seen in the immediate valley of the Kankakee.
28. *SILPHIUM INTEGRIFOLIUM*, (*Rosin plant (?)*). Found on the prairie near San Pierre. Leaves oval lance shaped or heart shaped, distinct.
29. *SCUTELLARIA GALERICULATA*, (*Skull-cap*). A slender stemmed, smooth plant, with heart-shaped or rounded lanceolate, acute, serrate leaves. Blueish flower with strongly arched upper lip.
30. *SOLIDAGO MISSOURIENSIS*, (*Golden Rod*). Reported, but not seen in the Kankakee valley proper.
31. *SILPHIUM LACINIATUM*, (*Compass plant*). Root leaves rough, bristly, deeply cleft, pinnatifid, and thought by some observers to prefer a north and south line for their edges. Prairies bordering the river.

The foregoing thirty-one species, should they prove resident, may be taken as strictly characteristic of the three divisions of the Kankakee region, to-wit: The lake region, the prairie region and the barrens region, speaking with reference to Professor Coulter's lists and to his able paper contained in the report of this department for 1885-6. But the area immediately bordering the Kankakee River shows a number of plants common to the south, and which are not strictly or peculiarly characteristic of any of the divisions above mentioned. These are aquatic and semi-aquatic species imported, no doubt by migratory birds. The *Nelumbium duteum*, water chinquepin, would appear to have come from the south, along the course of the migratory water fowls. So *Nuphar sagittifolia*, or arrow-leaved spatter-dock, observed in a lagoon of the Kankakee, near English Lake, must have found its way, in the same manner, from the Mississippi region. *Ambrosia bidentata*, prairie ragweed, is found on the banks of the Kankakee, where there is no prairie proper. *Asclepias rubra* was found on the sand hills of Starke County, and *A. physaloides* was noted near the same spot. These are milk weeds, the first common from New Jersey south, and the second a hill country plant not to be expected in this region. Two species of Lady's slippers have been identified.

*Cypripedium acaule*. This beautiful plant was found in a wash or ravine of a sand ridge in Starke County, and *C. spectabile* was noted in the woods bordering the Kankakee River not far below the crossing of the L., N. A. & C. Railroad.

*Cypripedium arietinum* is reported as existing in the boggy woods of the valley, but I have not yet seen it there. It usually is about 8 inches high, slender with lance-shaped oblong leaves and a dull purple, insignificant flower having a conical sac, one ovate or lance-ovate sepal and two linear. Petals two, linear. *Aplectrum hyemale*, common name Adam and

Eve, was found in a "second bottom" between the river and the sand-hills, a single specimen noted, in Starke County. *Viola delphinifolia*, larkspur leaved violet, and *V. rotundifolia*, round-leaved violet, were found almost side by side in the barrens of the northern part of Jasper County. *Passiflora lutea* was noted in White County. This species of passion flower, apparently the degenerate relative of the magnificent southern species (*P. incarnata*), is a slender, timid vine with entire blunt lobes of its leaves scarcely distinguishable at a little distance from the yellowish green flowers. *Lysimachia quadrifolia* was shown me as having been found in the southern part of Porter County, but I have not seen it in the Kankakee region. *Agrimonia parviflora* was reported; probably a mistake. *Vaccinium vacillans*, huckleberry. This species was seen in the sand-hills near English Lake. It may be identified by the yellowish color of its twigs and by its smooth oval, glaucous leaves which are entire. It is sometimes called winter huckleberry. *Humulus lupulus*, common hop, was found in the thickets bordering the Kankakee and along the margins of the "second bottoms." *Hypericum ellipticum*, one of the species of St. John's wort, is found in the wet open woods of the lowest Kankakee bottom lands. Its oblong spreading leaves are thin and its flower paler than the other species and set in a nearly naked cyme. Much smaller than *H. aureum* of the south, and not to be mistaken for *H. sphaerocarpon*, which is larger and has its leaves oblong-linear, diverging and obtuse, and its pods globular. This last is reported from the banks of Monon Creek, but the observer was probably mistaken. The St. John's worts are not very common anywhere north of the Ohio River in the west. Of *Helianthus* (sunflower) there are a number of species. I noted *H. occidentalis*, *H. mollis*, *H. strumosus* and *H. rigidus* (?). The last named is doubtful. *Polygonum hydropiper* (water pepper) was noted, and a few specimens of *Rumex orbiculatus* were observed near the Kankakee below English Lake. *Impatiens pallida* and *Impatiens fulva* both were found in wetish spots between the ridges. These are commonly called touch-me-not, on account of the spiteful action of the seed-pods when shaken or touched. They are generally known as balsam. Flowers paniced, yellow with reddish brown freckles, sac tapering into a long, soft spur. Stems and branchlets are semi-transparent, succulent, brittle; leaves alternate oval, delicate. The two species are much alike; but the flower of *pallida* is, as the name indicates, paler than that of *fulva*, which is a brilliant orange. One small bush of *Negundo aceroides*, box-elder, was observed in a thicket below the L., N. A. & C. R. R. crossing. *Guaphalium polycephalum* and *G. decurrens*, the two cud-weeds, or life-everlastings, were not plentiful, but found here and there on the driest parts of the barrens. *Autennaria margaritica*, pearly-everlasting, grows on sand-knobs and dry barrens ridges, 18 inches high continuously leafy from the ground up; leaves lance-shaped, linear; the head in a broad corymb with scattering imperfect staminate flowers,

the whole showing a pearly whitish gleam. *Vernonia fasciculata* (iron-weed) common in the somewhat sandy spots of the prairies. *Callirrhoe triangulata* (mallow), a single plant noted in Starke County on the bank of Yellow River. It may be common on the dryer parts of the light prairies. *Fragaria Virginiana*, var. *Illincensis* (wild strawberry) common on the dry barrens knobs and sandy slopes. *Mitchella repens* (partridge berry) was noted on the tops of barrens ridges in the oak woods of Starke County near Cedar Lake. *Galium lanceolatum* is reported from Porter County, but I have not seen it. It is a species of wild liquorice. *Dioda teres* (button weed) is noted as having been seen on the sand-hills, but the locality is not kept. This is a southern plant, common in sandy old fields in the Atlantic coast States from New Jersey southward. *Valeriana edulis* (valerian root). Indian root, one specimen identified growing in Kankakee bottom near English Lake, a singular and rather rare plant with heavy root-leaves spatulate; stem leaves divided in 3 or 7 long narrow divisions with delicately woolly edges. The root is a curious radish-shaped, edible turnip which was much sought after by the Indians.

*Houstonia minima*, bluet, a few seen on dry barren ridges in the thin woods of Starke County north of Cedar Lake. The rushes of the Kankakee will be interesting, likewise the mosses, grasses and ferns, when they shall have been studied and reported, more especially as regards the light they will throw upon the question of the survival of species far outside of their proper habitat. The timber trees and larger arborescent plants of the Kankakee region have no points of great interest botanically speaking. *Liquidambar Styraciflua*, sweet gum, has been reported, but I have not verified this and doubt its existence in the Kankakee bottoms, though it is possible, as the tree is found in New England and in Southern Illinois, Southern Indiana, and in Missouri. In a general way the trees of the Kankakee swamps are common to all the swamps of Northern Indiana and Southern Michigan.

Of the ash trees (*Fraxinus*) the *F. Americana*, white ash, (reported but not seen by me), the *F. sambucifolia*, black ash, and *F. vividis*, green ash are probably present. The maples are chiefly *Acer rubrum*, swamp maple, *A. saccharinum*, sugar maple, and *A. dasycarpum*, white maple, with, probably, varieties of each species, especially of the sugar maple. Of the walnut family, which includes the hickories as well as the walnuts, the list will contain *Juglans nigra*, black walnut, and *J. cinerea*, butternut, both rare in the valley, *Carya sulcata*, shell-bark hickory, *C. porcina*, pig-nut hickory, and *C. amara*, bitternut hickory. Of the oaks nearly or quite all the species common to middle Indiana are found. *Quercus nigra*, black-jack, probably; *Q. ilicifolia*, scrub-oak, and *Q. palustris*, Spanish or pin-oak, and the large timber trees white-oak (*Q. bicolor*), bur-oak (*Q. macrocarpa*) and probably *Q. rubra*, red-oak of stunted growth, are plentiful in places. The bass-wood (*Tilia Americana*) was noted along the dryer

banks of the Kankakee, but the trees were not large. The beech (*Fagus ferruginea*) is not common, but by no means rare along the higher bottomlands of the river. Some stunted hackberry (*Celtis occidentalis*) trees were observed in the second bottom of the Yellow River near the Kankakee. The poplar, yellow-wood, or tulip-tree (*Liriodendron tulipifera*) is not common, though an occasional one may be seen along the Kankakee and Yellow River. The cotton-wood (*Populus monilifera*) is met with unfrequently. The wild cherry tree (*prunus serotina*) is seen growing small here and there in favorable spots along the second bottoms. A few red-bud or Judas-trees (*Cercis Canadensis*) grow in the thickets on the richer highlands of the Kankakee, but the plant is out of place, as its true habitat is much farther south. The coffee-nut tree, (*Gymnocladus Canadensis*) was seen along the timber-line of the Kankakee, especially on the south side of the river. The hornbeam or water beech (*Carpinus Americana*) not very common along the Kankakee and tributaries, overhangs the banks, however, here and there. Of the hazel-nut (*Corylus*) both species, *C. Americana* and *C. rostrata*, reported, but I saw neither. The service-berry, or June-berry (*Amelanchier*) is also reported, but without any description as to variety. I did not find it. So a hawthorn (*Crataegus*), probably *C. tomentosa*, *Var. mollis*, was seen but not examined, as I was in a canoe and, although near shore, could not land. The wild apple (*Pyrus*), *P. Angustifolio*, narrow-leaved crab apple, and the choke-berry (*P. arbutifolia*) probably are present in the second bottoms, but I can say only that they are reported, as I have not identified them.

This closes the list, so far as the work has gone, and it is proper to say here that the botanical examinations have been merely incidental to the work of the survey, the notes having been hurriedly taken—on the run, so to say—while in search of geological facts. It is to be hoped that the future will afford the opportunity of making out a complete and properly arranged list of the plants of this great untouched region.