

A BOTANICAL SURVEY OF
TURKEY POINT, ONTARIO.

James H. Soper.

Submitted to the Department of Biology in
partial fulfilment of the requirements for
the degree of Master of Arts.
McMaster University. May 1939.

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The following paper is the result of making a study of the vegetation of a selected region along Lake Erie at Turkey Point, by observations, field notes and collections of botanical specimens together with information and records acquired by examination of provincial institutional and private herbaria and by a survey of the literature. The field work was carried out during the summer of 1938.

Location of the Area Studied.

The area selected for examination consisted of a rectangular section of country approximately four miles wide and five miles long, which included the whole of Turkey Point and the higher plains extending back from the cliffs at Lake Erie a distance of about two miles. Turkey Point is situated in Long Point Bay (See Map 2.)* immediately north of Long Point at a position $42^{\circ} 40'$ north latitude and $80^{\circ} 30'$ west longitude, in the township of Charlotteville, Norfolk County, Ontario, Canada. Long Point is the major projection of the northern or Canadian shore of Lake Erie and is situated about one third of the length of the lake from the eastern end. It extends about twenty miles into the lake and is one of the most southerly points in Canada, the most southerly being Point Pelee in Essex County, near the western end of the lake. (See Map 1.)

A more detailed study was made of a rectangular strip of about six square miles which was outlined perpendicular to the lake shore (See Map 3.) so as to include: shore, marshy ground, old shore lines, low wet woods, cedar-sphagnum bog, wet meadow, rich wooded slopes and ravines, open plains and rather dry woods. This gave a variety of types of plant associations, which will be discussed in the section on vegetational studies.

Geology and Topography.

Geological History. According to Coleman (1922)^{11**} the whole Great Lakes region

* For maps see page 122.

** Numbers used in this way refer to literature cited, page 118.

was a shallow sea in early Paleozoic times which skirted the south side of the Canadian Shield where sediments of varying kinds, mainly shales and limestones, were being deposited. The bottom of this sea apparently sank as rapidly as the sediments were being laid down so that the water remained shallow throughout vast periods of time. Some time during the later Paleozoic the region fringing the pre-Cambrian continent ceased to sink and was finally raised above the sea as a plain gently sloping southwestwards. Most of the Great Lakes region remained a land surface from that time onward, only a small part of its eastern side being briefly submerged at the close of the ice age.

During the millions of years since this elevation, the region has been ceaselessly attacked by weathering and running waters. The crystalline pre-Cambrian rocks of the Canadian Shield resisted the attacks best while beds of shale suffered most. As a result the sedimentary rocks have been stripped off for a long distance south of the latest shore of the Paleozoic sea. Thus a broad trough was carved out with a gently sloping surface of Archaean towards the north and an irregular set of cliffs of strong Niagara limestone towards the south. This row of cliffs has become a strong physiographic feature in what is now Southern Ontario and played an important part in directing the drainage of the region. Some time before the beginning of the glacial period the Great Lakes region stood much higher above the sea than at present, probably to the extent of at least eighteen hundred feet. This had important effects upon the drainage, steepening the grade of the rivers. There were probably no lakes at this time since the valleys had slope enough to allow all the water to run off. The Erie basin and a considerable area to the south was thought to have been drained by the Erigan River, entering the Ontario basin by a channel (later buried) crossing the Niagara escarpment just west of the site of De Cew falls, three or four miles south of St. Catherines*. This river valley was deep enough, or almost

* According to Wright (1921)⁴¹ the actual pre-glacial outlet of Lake Erie emerges from the Niagara escarpment about three miles south-west of St. Catherines, Ontario. This was discovered by Dr. J. W. Spencer about 1907.

deep enough, to drain the Erie basin completely. All of the basins of the Great Lakes except that of Lake Erie reach below sea level: Lake Erie, five hundred and seventeen feet above the sea, reaches only to a depth of two hundred and four feet. It owes its shallow basin partly to the filling with drift of the outlet towards Lake Ontario, but largely to the differential uplift of its north-eastern end.

The glaciation of the Wisconsin or last Labrador ice-sheet blocked or filled in much of the pre-existing drainage system and great lakes were formed by the damming-back of the northward and north-eastward flowing rivers. During the retreat of the ice-sheet and the formation of Lake Algonquin, Lake Erie was no longer dammed by the ice-front and became partly a river valley and partly a separate lake through which for a time Lake Algonquin emptied into the Ontario basin. Finally the north-eastward elevation of the region towards the north closed the Trent valley and Chicago outlets, and the whole drainage of Lake Algonquin emptied into the Ontario basin by way of Lake Erie and Niagara Falls. The rise in sea level due to the melting glaciers resulted in a marine invasion of the Champlain Sea up the St. Lawrence valley as far as the Bay of Quinte on Lake Ontario and perhaps as far as Hamilton, at the extreme western end of the lake.

Sub-surface Geology and Topography. Although rock frequently outcrops along the north shore of Lake Erie from the Niagara River to within half a mile of Port Dover, Stauffer (1915)³⁸ has shown that by the time the western portion of Norfolk county is reached, the glacial drift has thickened to such an extent that our knowledge of the bedrock in that direction is limited chiefly to such information as may be derived from well records. From the records of a well drilled at Port Rowan, situated on the inner bay of Long Point, Norfolk county, it is seen that the bedrock is too far below the surface to outcrop. The surface deposits including drift and clays had a thickness of three hundred feet. Below these were encountered black shales, shaly limestones, dolomitic limestones (of the Niagara series) and finally shales and sandstones of the Medina formation.

The Medina sandstones were found at a depth of thirteen hundred feet or a thousand feet below the surface deposits. Thus the basal Devonian (the characteristic formation in south-western Ontario) which lies at the surface in the eastern part of Norfolk County, lies under about three hundred and seventy-five feet of surface deposits and other rocks at Port Rowan. The westward dip of the bedrock is approximately twenty-five feet per mile since the surface elevation is relatively constant.

At Turkey Point a line of cliffs rising from one hundred to one hundred and fifty feet above the lake separates the upland or higher plains, which are at an elevation of seven hundred to seven hundred and fifty feet above sea level, from the low woods, marsh and beach, which are at an elevation of from five hundred and seventy-five to six hundred feet. From the edge of the cliffs inland, the soil is of a sandy or loamy nature and the whole area consists of open plains, dry woods, thickets and occasionally rich woods with streams. The cliffs are rather bare at the north-eastern portion where the beach is narrow, but from that region south-westwards they gradually become densely wooded. At Forestville Creek, (See Map 3.) about the middle of the portion bordering the Turkey Point marsh, they become grassy slopes.

As Kindle (1936)²² stated, the glacial till forming the cliffs along the north shore of Lake Erie is a light buff clay with numerous small stones and gravel, a deposit which accumulated during the glaciation of the Lake Erie basin. Glacial till, in general, is composed of gravel, i.e. particles more than two millimeters in diameter, sand, i.e. particles from two to one-tenth millimeters, and silt, i.e. particles less than one-tenth millimeter in diameter.

The land below the cliffs, or that area commonly called Turkey Point, consists of a sandy promontory which is fairly well wooded and stretches from the cliffs southwards into Lake Erie. This lowland area is separated by an extensive marsh from the continuation of the main shore-line, which extends in a southwest-northeast direction. The eastern side of the point is a fresh beach

which is apparently moving eastward* since there is evidence of several former shore-lines which are at various distances from the present beach and are parallel to it. The point has apparently been built, and is continuing to be built up, by the accumulation of waste, sand and gravel as a result of the action of waves and currents. Excluding the marsh and beaches, the remaining portion of the point, or mainly the upper half, consists of cedar-tamarack-sphagnum bog and low woods, crossed by several streams which originate in the line of cliffs and back of them.

Climate.

Due to its position on Lake Erie within the moderating influence of the Great Lakes, Turkey Point enjoys a rather mild climate with a fairly long growing season. According to Chapman (1938)⁹ all of Turkey Point and Long Point lie within the region having a frost-free period of from 154 to 161 days. (See Map 1.) This has an important effect on the vegetation of the district, making it a suitable habitat for southern species requiring a fairly long growing season.**

The following table*** (Table I) shows the average temperatures for the different months of the year and is based on a twenty-nine year period (1885-1914) from readings taken at the Port Dover weather station, about twelve miles east of Turkey Point on Lake Erie.

TABLE I.

temperatures in degrees Fahrenheit	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	YR.
NORMAL DAILY MEAN	22.6	19.8	29.8	42.4	54.2	63.9	69.4	67.4	61.2	49.4	38.4	28.0	45.5
NORMAL DAILY MAXIMUM	29.0	27.1	37.1	50.9	63.4	73.2	78.8	70.5	57.8	45.0	34.2	53.7	53.7
NORMAL DAILY MINIMUM	16.1	12.5	22.6	33.9	44.9	54.6	60.1	58.0	51.9	41.1	31.7	21.7	37.4

* Kindle (1936)²² stated: "In the eastern part of Lake Erie foreland structures move eastward."

** For the discussion of the southern elements of the flora see page

*** The information on temperature and precipitation was obtained directly from the files and records of the Meteorological Office Toronto²⁸ through the courtesy of Mr. A. J. Connor.

The normal monthly and total precipitation at the Port Dover weather station are shown in Table II.

TABLE II.

	JAN.	FEB.	MAR.	APR.	MAY.	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	YR.
RAIN (Inches)	1.8	1.31	1.95	2.56	3.03	2.83	3.22	3.12	2.68	2.90	2.57	1.92	29.89
SNOW†(Inches)	16.3	15.0	10.3	3.4	0.2					0.4	4.5	10.5	60.9
TOTAL PRECIPITATION	3.43	2.81	2.98	2.90	3.05	2.83	3.22	3.12	2.68	2.94	3.02	3.00	35.98

† Ten inches of snowfall are calculated as equivalent to one inch of precipitation.

The Port Dover records are used to represent the conditions most similar to those at Turkey Point since the former is also on the north shore of Lake Erie similarly situated and about twelve miles farther east.

From the precipitation figures it is seen that there is a fairly even distribution of precipitation throughout the year. In the lowland portion of the point below the shore cliffs, the water-table is close to the ground level and in the marsh, bogs and low woods evaporation is practically continual throughout the growing season, creating a relatively high humidity. This makes the woods and bogs suitable for moisture-loving plants and conditions the boreal and bog elements of the vegetation. The humidity is less on the upland plains and thickets which in general support a more mesophytic vegetation.

Relation of Turkey Point to the Floral Regions of Canada.

Merriam in 1898²⁷ made a division of North America into six zones according to the geographical distribution of plants and animals and designated them: Arctic, Hudsonian, Canadian, Transition, Upper Austral and Lower Austral. The Upper Austral zone was subdivided into Upper Sonoran area and Carolinian area, the latter including approximately only that part of Canada south of a line from the western end of Lake Ontario to the city of Sarnia. Sargent in 1905³⁵ divided North America into regions on the basis of distribution of trees

and those affecting Canada are the North-western, Rocky Mountain and North-eastern regions. This North-eastern region includes all of Canada east of Saskatchewan as well as about the north-eastern quarter of the United States. In 1911¹⁸ Harshberger, in discussing the phytogeographic regions of North America, made for Canada the divisions: Arctic, Subarctic, St. Lawrence-Great Lakes, Prairie, Rocky Mountain, Sitkan and Columbian. The Carolinian zone would be included in the St. Lawrence-Great Lakes district which covered all the territory along these waterways and as far west as Lake Winnipeg. Again in 1915²⁶ Macoun and Malte gave eleven vegetational areas for Canada: Arctic, Subarctic forest, Hardwood forest, Carolinian, Prairie, Rocky Mountain foothills, Rocky Mountain, Selkirk, Coast range, Vancouver Island and Dry Belts of British Columbia.

Adams in 1938² decreased this last number of eleven zones to six: Arctic, Transcontinental, Eastern, Interlacustrine or Carolinian, Prairie and Western. The region under investigation at Turkey Point lies on the southern edge of this "Carolinian" or "Interlacustrine" region, which includes roughly all that part of Southern Ontario south of a line drawn from the western end of Lake Ontario to the city of Sarnia. (See Map 1.)

Historical Sketch of Investigations on the North Shore of Lake Erie.

By comparison with other sections of Canada perhaps the Lake Erie region has been subject to more visitations of botanical collectors than any other. From Burgess (1899)⁸ in his discussion of the Lake Erie shore as a botanizing ground* the following outline of investigations before 1890 has been gained.

Father Hennepin,¹⁹ a famous Franciscan monk, who accompanied La Salle on his voyages of exploration from 1679 to 1682 was probably the first person to record observations on the vegetation of Lake Erie shores. Apparently he made no collections, but left notes on the vegetation while exploring the St. Lawrence and the Great Lakes to Wisconsin, and spoke of the prevalence of

* The Lake Erie region as he referred to it included besides the counties immediately adjoining the lake the land along "the banks of the Niagara, Detroit, and St. Clair Rivers, and the border of Lake St. Clair."

walnut, chestnut and plum trees along Lake Erie. Following Hennepin, the Jesuit, Charlevoix,¹⁰ who reached Quebec in 1720, travelled by way of the St. Lawrence and the Great Lakes to the Mississippi. He particularly mentioned red and white oaks, butternut and hickory. Kalm in 1749,²¹ Pursh³² in 1806, Michaux the younger in 1807²⁹ and Douglas¹⁵ about fifteen or eighteen years later made expeditions to the Niagara River and the eastern end of Lake Erie. It could hardly be said, however, that they explored any of its northern shore. Their findings were included in Hooker's Flora. The first real investigators of the district were Mr. Goldie (1819)¹⁷ and Drs. Todd (ca. 1870), MacLagan (ca. 1870) and Nichol. (1870, 1871) They collected many interesting plants, some of which had not been found again by 1889. Macoun explored to a limited extent the Niagara peninsula, Pelee Island and the country west from that point to and up the Detroit River. (1882, 1884) David F. Day (1882)¹², while president of the Buffalo Society of Natural History explored the Canadian side of the Niagara River and the shore of Lake Erie as far as Point Abino. Burgess examined the districts about Pt. aux Pins and Point Pelee in 1886 and pointed out (1889)⁸ that the district from Point Abino to Pt. aux Pins, a distance of about one hundred and seventy-five miles, had remained practically unknown except for a little work done in Norfolk County by Dr. Nichol in 1871 and Mr. Yates in 1885, by Professor Macoun about Port Dover in 1882 and by Macoun and Burgess in Essex County in 1886. He stated:

"The island known as Long Point lies about the centre of the unexplored district and I have no doubt would yield a generous harvest of new plants to anyone with the time to visit and work it up."

Without doubt in the last decade of the nineteenth century the most important collections for the Lake Erie region were made by John Macoun while in the services of the Geological Survey of Canada. He made a trip along the lake in 1892,²⁵ which resulted in collections made at Port Colbourne, Port Rowan, Point Pelee and the eastern end of Long Point. In 1894 Macoun visited Rondeau Park and in 1901 made another trip along the Lake Erie shore, collecting at Welland, Courtland in Norfolk County, Point Pelee and Point Edward. Since that time

local naturalists have made collections at various stations along the lake shore but very rarely have any records been published. William Herriot, a naturalist of Galt, Ontario, collected at Port Rowan in 1899, at Long Point in 1901 and at Port Dover in 1927. J.F. Sharpe, L.H. Reid, and H.S. Edmonds did a small amount of collecting in Norfolk County in 1915. The flora of Point Pelee and the islands between that point and the American shore were more thoroughly investigated in 1910 by C.K. Dodge of Port Huron, Michigan, and his results remain the only published annotated list (1914)¹⁴ of flora for any point on the north shore of Lake Erie.

Investigations in the vicinity of Turkey Point in the last while have been undertaken mainly by members of various universities of Ontario and by local naturalists, for all of whom the locality has a great interest on account of its unusual flora. To my knowledge collections have been made in Norfolk County by Professor J.E. Howitt of the Ontario Agricultural College (1932, 1935), by Professor T.M.C. Taylor of the University of Toronto (1932-3), by Professor Marie-Victorin, director of the Botanical Institute of the University of Montreal (1932, 1936), by Dr. Lulu O. Gaiser of McMaster University (1936-8) and by John J. Stroud, also of McMaster University. (1934-7). Norfolk County has been thoroughly explored by Mr. Monroe Landon, a well-known and enthusiastic naturalist of Simcoe, Ontario; Mr. Hubert Brown, of Toronto, has made a good representative collection from Turkey Point, Walsh, Simcoe and various other localities along the lake shore. In the summer of 1936 R.J. Stallwood, an honour student at the Ontario Agricultural College, Guelph, collected at Turkey Point and his results were embodied in an undergraduate thesis. (1937)³⁷ Wray M. Bowden, while a student at McMaster University, Hamilton, collected a considerable number of species at Turkey Point during the summer of 1935 and these have been available to the author for study.

Studies in the Vegetation at Turkey Point.

According to the topographical nature of the country at Turkey Point, the area under investigation may be roughly divided into two portions:

- (a) The lowland beach and woods, and
- (b) The upland plains and woods.

The first portion is more interesting from an ecological standpoint since it is more recent. The vegetation is not stabilized and by examining different areas of the lowland there can be found all the typical stages of a hydrosere commonly recognized in plant succession by writers of ecology such as Weaver and Clements. (1929)³⁹ The following are the stages in the hydrosere, with examples taken from selected areas in the Turkey Point lowlands:

Submerged Stage.

- # 1.* In a small area just off the tip of Turkey Point mainland were observed these species of flowering plants:

Potamogeton Richardsonii**
Elodea canadensis
Vallisneria spiralis
Pontederia cordata
Myriophyllum spicatum

- # 2. The submerged stage is also represented in narrow ponds or "Backwashes" which run parallel to the shore line and occur only a few yards back from it. The important species include:

Flowering plants: Sagittaria latifolia (See Pl. I, fig. 4, p. 127.)
Sagittaria graminea
Alisma Plantago-aquatica
Elodea canadensis
Ceratophyllum demersum
Ranunculus circinatus
Ranunculus aquatilis var. capillaceus
Utricularia vulgaris var. americana
Algae: Dichotomosiphon tuberosa
Hydrodictyon sp.
Nitella sp.

* For the location of these examples see map 3 and for an approximate delimitation of zones revealing these stages see also map 3.

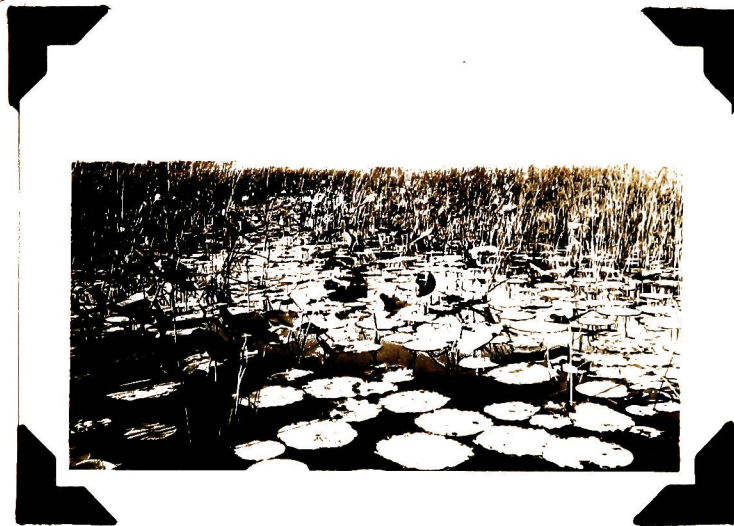
** No attempt is made to list the species in order of their abundance.

Floating stage.

- # 3. Little Bay, where a large stand of the lotus is found(See Photograph No. 1.), is a good example of an area exhibiting the floating stage, and in such places are found:

Potamogeton Richardsonii
Lemna minor
Nymphaea advena
Gastalia tuberosa
Nelumbo lutea

PHOTOGRAPH NO. I.



A stand of American Lotus. (Nelumbo lutea. (Willd.) Pers.)
(Looking north at Little Bay, Turkey Point, Lake Erie.)

Reed-swamp stage. (See Pl. II, fig. 3, p. 128.)

- # 4. A section of the large area of marsh between Turkey Point and the mainland would show this associates to be made up of such elements as:

Typha latifolia
Phragmites communis
Zizania aquatica
Sagittaria latifolia
Alisma Plantago-aquatica
Thalictrum revolutum

5. A similar area taken along the marshy end of the beach reveals:

Typha latifolia
Sagittaria latifolia
Sagittaria graminea
Alisma Plantago-aquatica
Zizania aquatica
Eleocharis palustris
Scirpus americanus
Juncus balticus var. littoralis

Sedge-meadow Stage. (See Pl. III, figs. 1,2, p. 129.)

6. A good example of this stage is seen in a sedge-horsetail meadow lying between the wooded shore cliffs and a low sphagnum woods. The dominant species is Equisetum prealtum. Raf. which forms a rank growth two or three feet high. With it occur:

<u>Equisetum variegatum</u> var. <u>Jesupi</u>	<u>Vitis vulpina</u>
<u>Triglochin maritima</u>	<u>Gentiana crinita</u>
<u>Scirpus cyperinus</u>	<u>Apocynum cannabinum</u> var. <u>hyperici-</u>
<u>Carex tribuloides</u>	<u>Pycnanthemum virginianum</u> (<u>folium</u>
<u>Carex scirpoides</u>	<u>Mentha piperita</u>
<u>Cypripedium parviflorum</u>	<u>Solanum Dulcamara</u>
<u>Caltha palustris</u>	<u>Eupatorium perfoliatum</u>
<u>Apios tuberosa</u>	<u>Solidago canadensis</u>
<u>Impatiens biflora</u>	<u>Rudbeckia hirta</u>

Shrubby or Woodland Stage.

7. On slightly drier ground the following species come in:

Trees and Shrubs

<u>Salix serissima</u>	<u>Populus tremuloides</u>
<u>Salix cordata</u>	<u>Rhus Vernix</u>
<u>Salix candida</u>	<u>Acer spicatum</u>

Herbaceous Plants

<u>Solidago graminifolia</u>	<u>Aster lateriflorus</u>
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Forest Stage. (See Pl. I, fig. 1, Pl. II, fig. 2, 4, Pl. III, figs. 1,3,4, pp. 127,128,129.)

8. The trees common to the low wet woods bordering the marsh are:

<u>Populus tremuloides</u>	<u>Acer saccharum</u>
<u>Juglans nigra</u>	<u>Fraxinus americana</u>
<u>Celtis occidentalis</u>	<u>Fraxinus nigra</u>
<u>Ulmus americana</u>	<u>Tilia americana</u>

9. In the sphagnum bog the following characteristic species occur:

<u>Taxus canadensis</u>	<u>Thuja occidentalis</u>
<u>Larix laricina</u>	<u>Acer spicatum</u>
<u>Picea mariana</u>	<u>Rhus Vernix</u>

10. Along the wooded shore cliffs and its ravines the most abundant species include:

Populus grandidentata
Carpinus caroliniana
Betula alba var. papyrifera
Fagus grandifolia

Quercus rubra
Acer saccharum
Acer rubrum
Fraxinus americana

Less common, but not of infrequent occurrence are:

Taxus canadensis
Pinus Strobus
Tsuga canadensis
Thuja occidentalis
Betula lenta
Betula lutea
Castanea dentata
Quercus velutina

Liriodendron Tulipifera
Sassafras variifolium
Hamamelis virginiana
Amelanchier canadensis
Prunus serotina
Prunus virginiana
Tilia americana
Cornus florida

These wooded hillsides seem to represent the Maple-Beech forest, which is the typical association of the deciduous forest.

11. The open plains and dry woods of the upland district are composed mostly of the following species:

Juniperus communis var. depressa
Pinus Strobus
Castanea dentata
Quercus alba
Quercus rubra
Quercus velutina
Sassafras variifolium

Thus the upland woods appear to belong to the Oak-Chestnut forest.

Distinct Vegetational Areas.

Several of the major divisions or types of habitat have such characteristic associations that they will be treated separately here.

Shore or Beach Associations.

Among those plants which are sand-loving, the following species commonly occur at Turkey Point:

Triglochin palustris
Elymus canadensis
Cenchrus carolinianus
Populus candicans
Populus tremuloides
Saponaria officinalis

Melilotus alba
Desmodium Dillenii
Strophostyles helvola
Rhus Toxicodendron
Vitis vulpina
Arctostaphylos Uva-ursi

Cakile edentula var. lacustris
Polanisia graveolens
Potentilla monspeliensis
Potentilla argentea
Potentilla Anserina

Apocynum cannabinum
Lithospermum croceum
Plantago major
Plantago Rugelii
Xanthium echinatum

In damp places along the beach, especially in the shade of the shore cliffs where the width of sandy beach is less, occur:

Cyperus rivularis
Eleocharis palustris
Spiranthes cernua
Parnassia caroliniana

Gentiana crinita
Gerardia paupercula
Castilleja coccinea
Lobelia siphilitica

Old Shore Lines. (See Pl. II, fig. 2, p. 128.)

The point itself has apparently been repeatedly added to by the action of waves and currents on the east side, which is a fresh beach for most of its length. There is evidence of former shore lines in the presence of sandy ridges separated by slight hollows and running parallel to the present shore line at some distance back from the lake and between it and the big marsh. These shore-line ridges have become covered with grasses and sedges and later by herbs, shrubs and trees. The following species predominate:

Trees and shrubs

Populus tremuloides
Ulmus americana
Acer saccharum

Acer spicatum
Tilia americana
Fraxinus americana

Herbaceous plants

Iris virginica
Phytolacca decandra
Arenaria serpyllifolia
Arenaria stricta
Cerastium vulgatum
Anemone canadensis
Podophyllum peltatum
Sanguinaria canadensis
Dicentra Cucullaria
Capsella Bursa-pastoris
Dentaria laciniata
Cardamine Douglasii
Arabis lyrata
Geum canadense
Trifolium pratense
Trifolium repens
Geranium Robertianum
Rhus Toxicodendron
Evonymus obovatus

Celastrus scandens
Epilobium angustifolium
Epilobium hirsutum
Lysimachia terrestris
Lysimachia thyrsoiflora
Gentiana Andrewsii
Cuscuta arvensis
Scutellaria galericulata
Agastache nepetoides
Nepeta Cataria
Solanum Dulcamara
Chelone glabra
Mimulus ringens
Pedicularis canadensis
Lonicera glaucescens
Lobelia siphilitica
Aster multiflorus
Aster lateriflorus
Aster puniceus

Grasses and sedges

Panicum huachucae

Glyceria grandis

Poa pratensis

Scirpus atrovirens

Juncus Dudleyi

Marsh. (See Pl. I, fig. 1, p. 127; Pl. II, fig. 3, p. 128.)

A large area between the point proper and the mainland is covered with typical marsh vegetation of which the dominant species is Phragmites communis. Trin. In the central part of the marsh region this grass occurs in almost pure stands, forming hummocks or tussocks by means of which one can cross the upper end of the marsh early in the spring. Later in the season, however, the grass forms a tall rank growth shoulder-high and makes walking in the marsh both unpleasant and rather uncertain as to footing. Other species found in the marsh, around the edges and in slightly drier locations include:

Osmunda regalis var. spectabilis

Solidago latifolia

Typha latifolia

Solidago uliginosa

Scirpus cyperinus

Solidago rugosa

Thalictrum revolutum

Solidago canadensis

Caltha palustris

Solidago graminifolia

Epilobium hirsutum

Aster multiflorus

Cicuta maculata

Aster lateriflorus

Asclepias incarnata

Bidens trichosperma

Convolvulus sepium

Bidens trichosperma var. tenuiloba

Teucrium canadense

Senecio aureus

Eupatorium perfoliatum

Cirsium muticum

Sphagnum bog. (See Pl. II, fig. 4, p. 128; Pl. III, fig. 1, p. 129.)

There is a fairly small zone of wet mossy woods between the shore and the shore cliffs where the width of the lowland area is about half a mile. This region consists of low woods of tamarack, white cedar and black spruce with a ground cover or floor of sphagnum moss in hummocks separated by pools of water. The amount of moisture in these woods maintains a very humid atmosphere so that the conditions are suitable for the growth of typical bog species. The dominant species include:

Sphagnum sp.

Larix laricina

Taxus canadensis

Picea mariana

Thuja occidentalis

Among the shrubs occurring in these woods are:

<u>Salix serissima</u>	<u>Ribes floridum</u>
<u>Myrica carolinensis</u>	<u>Pyrus melanocarpa</u>
<u>Vaccinium corymbosum</u>	

The important herbaceous plants observed comprise the following species:

<u>Osmunda regalis</u> var. <u>spectabilis</u>	<u>Cypripedium hirsutum</u>
<u>Osmunda cinnamomea</u>	<u>Coptis trifolia</u>
<u>Equisetum scirpoides</u>	<u>Drosera rotundifolia</u>
<u>Carex tribuloides</u>	<u>Mitella nuda</u>
<u>Carex scirpoides</u>	<u>Geum rivale</u>
<u>Carex leptalea</u>	<u>Rubus triflorus</u>
<u>Carex laxiflora</u> var. <u>leptonervia</u>	<u>Circaea alpina</u>
<u>Clintonia borealis</u>	<u>Cornus canadensis</u>
<u>Smilacina trifolia</u>	<u>Trientalis americana</u>
<u>Cypripedium parviflorum</u>	<u>Menyanthes trifoliata</u>
<u>Cypripedium parviflorum</u> var. <u>pubescens</u>	<u>Galium labradoricum</u>
<u>Linnaea borealis</u> var. <u>americana</u>	

Ravines and Hillside. (See Pl. II, fig. 3, p. 128; Pl. III, fig. 2, p. 129.)

The slopes and ravines of the cliffs which follow the main shore line behind the Turkey Point lowlands are well wooded for the most part and disclose a varied vegetation. The common trees have been listed; (See page 13) the ferns and fern allies which are distributed through these hills and ravines include:

<u>Botrychium virginianum</u>	<u>Pteris nodulosa</u>
<u>Polypodium virginianum</u>	<u>Osmunda Claytoniana</u>
<u>Adiantum pedatum</u>	<u>Osmunda cinnamomea</u>
<u>Polystichum acrostichoides</u>	<u>Equisetum pratense</u>
<u>Cystopteris bulbifera</u>	<u>Equisetum palustre</u>
<u>Cystopteris fragilis</u>	<u>Equisetum fluviatile</u>
<u>Lycopodium lucidulum</u>	

The following are some of the herbaceous plants which make their appearance known in spring and early summer:

<u>Arisaema triphyllum</u>	<u>Anemonella thalictroides</u>
<u>Symplocarpus foetidus</u>	<u>Hepatica triloba</u>
<u>Uvularia grandiflora</u>	<u>Aquilegia canadensis</u>
<u>Smilacina racemosa</u>	<u>Actaea rubra</u>
<u>Maianthemum canadense</u>	<u>Actaea alba</u>
<u>Disporum lamuginosum</u>	<u>Sanguinaria canadensis</u>
<u>Polygonatum biflorum</u>	<u>Saxifraga virginiensis</u>
<u>Trillium erectum</u>	<u>Viola eriocarpa</u>
<u>Trillium grandiflorum</u>	<u>Viola canadensis</u>
<u>Orchis spectabilis</u>	<u>Viola conspersa</u>
<u>Comandra umbellata</u>	<u>Taenidia integerrima</u>
<u>Asarum canadense</u>	<u>Lonicera canadensis</u>
<u>Thalictrum dioicum</u>	<u>Tussilago Farfara</u>

Those herbaceous plants which flower later in the season include:

<u>Lilium philadelphicum</u>	<u>Solanum Dulcamara</u>
<u>Medeola virginiana</u>	<u>Epifagus virginiana</u>
<u>Cypripedium parviflorum</u> var. <u>pubescens</u>	<u>Galium circaezans</u>
<u>Habenaria hyperborea</u>	<u>Solidago caesia</u> var. <u>axillaris</u>
<u>Anemone virginiana</u>	<u>Aster macrophyllus</u>
<u>Impatiens biflora</u>	<u>Erigeron ramosus</u>
<u>Circaea alpina</u>	<u>Rudbeckia hirta</u>
<u>Asclepias phytolaccoides</u>	<u>Helianthus divaricatus</u>
<u>Nepeta Cataria</u>	<u>Arctium minus</u>
<u>Monarda mollis</u>	<u>Lactuca spicata</u>
<u>Collinsonia canadensis</u>	<u>Prenanthes alba</u>
	<u>Prenanthes altissima</u>

Open plains and Dry Woods. (See Pl. III, fig. 3, p. 129.)

The major portion of the upland area consists of extensive grasslands or plains interspersed with wooded areas; the soil is dry and sandy. The species of trees which occur most frequently in these dry woods have already been listed. (See page 13)

The grasses and sedges which make up the open plain areas include:

<u>Digitaria sanguinalis</u>	<u>Calamagrostis canadensis</u>
<u>Panicum Scribnerianum</u>	<u>Poa compressa</u>
<u>Setaria viridis</u>	<u>Poa pratensis</u>
<u>Phleum pratensis</u>	<u>Garex varia</u>
<u>Sporobolus cryptandrus</u>	<u>Garex pennsylvanica</u>

The prominent herbaceous plants of this region are:

<u>Smilacina stellata</u>	<u>Oenothera biennis</u>
<u>Polygonatum biflorum</u>	<u>Oenothera muricata</u>
<u>Smilax herbacea</u>	<u>Vaccinium pennsylvanicum</u>
<u>Sisyrinchium angustifolium</u>	<u>Asclepias tuberosa</u>
<u>Arenaria stricta</u>	<u>Asclepias syriaca</u>
<u>Ranunculus fascicularis</u>	<u>Asclepias verticillata</u>
<u>Anemone virginiana</u>	<u>Acerates viridiflora</u>
<u>Arabis lyrata</u>	<u>Phlox subulata</u>
<u>Fragaria virginiana</u>	<u>Lithospermum croceum</u>
<u>Potentilla recta</u>	<u>Lithospermum canescens</u>
<u>Rubus villosus</u>	<u>Verbascum Thapsus</u>
<u>Lupinus perennis</u>	<u>Campanula rotundifolia</u>
<u>Tephrosia virginiana</u>	<u>Liatris cylindracea</u>
<u>Linum medium</u>	<u>Solidago canadensis</u>
<u>Euphorbia corollata</u>	<u>Aster multiflorus</u>
<u>Euphorbia Cyparissias</u>	<u>Erigeron ramosus</u>
<u>Rhus Toxicodendron</u>	<u>Rudbeckia hirta</u>
<u>Hypericum perforatum</u>	<u>Artemisia caudata</u>
<u>Helianthemum canadense</u>	<u>Hieracium aurantiacum</u>
<u>Lechea villosa</u>	<u>Hieracium florentinum</u>
<u>Viola pedata</u> var. <u>lineariloba</u>	

There are also a few interesting plants which occur in these rather dry woods but could hardly be considered common, such as:

<u>Corallorrhiza maculata</u>	<u>Monotropa uniflora</u>
<u>Polygala polygama</u>	<u>Monotropa Hypopitys</u>
<u>Chimaphila umbellata</u>	<u>Melampyrum lineare</u>
<u>Pyrola elliptica</u>	<u>Mitchella repens</u>
<u>Houstonia longifolia</u>	

Rich Moist Upland Woods. (See Pl. III, fig. 4, p. 129.)

Several woodland areas, usually in the vicinity of streams, occur a few miles back from the shore cliffs and show a vegetation somewhat richer than that of the dry woods or commoner type. These woods are usually rich in ferns and fern allies and some interesting sedges occur in ditches and stream beds.

The ferns and their allies include:

<u>Athyrium angustum</u>	<u>Botrychium virginianum</u>
<u>Onoclea sensibilis</u>	<u>Equisetum pratense</u>
<u>Osmunda regalis</u> var. <u>spectabilis</u>	<u>Lycopodium obscurum</u>
<u>Osmunda cinnamomea</u>	<u>Lycopodium obscurum</u> var. <u>dendroideum</u>
<u>Botrychium matricariaefolium</u>	<u>Lycopodium flabelliforme</u>
ssp. <u>typicum</u>	
<u>Botrychium dissectum</u> var. <u>oneidense</u>	

Among the grasses and sedges occurring are:

<u>Panicum Scribnerianum</u>	<u>Carex tribuloides</u>
<u>Agrostis alba</u>	<u>Carex cristata</u>
<u>Glyceria nervata</u>	<u>Carex crinita</u>
<u>Hystrix patula</u>	<u>Carex aurea</u>
<u>Cyperus strigosus</u>	<u>Carex hystericina</u>
<u>Cyperus ovularis</u>	<u>Carex lupulina</u> var. <u>pedunculata</u>
<u>Scirpus cyperinus</u>	<u>Juncus effusus</u>

Herbaceous species include the following:

<u>Calla palustris</u>	<u>Hydrophyllum canadense</u>
<u>Iris versicolor</u>	<u>Verbena urticaefolia</u>
<u>Penthorum sedoides</u>	<u>Mentha arvensis</u> var. <u>canadensis</u>
<u>Spiraea latifolia</u>	<u>Gerardia tenuifolia</u>
<u>Agrimonia gryposepala</u>	<u>Galium boreale</u>
<u>Desmodium nudiflorum</u>	<u>Galium palustre</u>
<u>Epilobium adenocaulon</u>	<u>Cephalanthus occidentalis</u>
<u>Monotropa uniflora</u>	<u>Lobelia cardinalis</u>
<u>Gaultheria procumbens</u>	<u>Lobelia spicata</u>
<u>Lysimachia quadrifolia</u>	<u>Lobelia inflata</u>
<u>Hydrophyllum virginianum</u>	<u>Eupatorium purpureum</u> var. <u>maculatum</u>

The vegetational studies and the main portion of the annotated list which has been prepared are the results of the author's field work at Turkey Point in the summer of 1938. This list contains 462 species which were collected by the author, as well as records of 123 other species found in the institutional and private herbaria examined. Thus a total of 585 species is given for the Turkey Point region and for each of these a specimen may be found in the herbarium designated. An additional list of 109 species with specimens cited includes any localities in Norfolk county and 159 other species are reported orally for the county by Mr. Monroe Landon and others. Thus the known flora of Norfolk county consists of 694 species and with verifications for the 159 species which are reported orally, the number of known species in Norfolk county would be increased to 875. While making notes on the various kinds of vegetation, it also became evident that one encountered some plants of a northern relationship, a few of coastal plain affinity, and a much larger predominance of southern types.

AFFINITIES OF THE VEGETATION.

Boreal Element.

From observations in the field it is obvious that there is an intermingling of northern species with the southern and temperate elements of the vegetation along Lake Erie. The following predominantly northern species occur at Turkey Point:

Larix laricina

Picea mariana

Salix serissima

Sarracenia purpurea

Drosera rotundifolia

Menyanthes trifoliata

Lathyrus palustris

Galium labradoricum

Habenaria hyperborea

Scirpus rubrotinctus.

Equisetum scirpoides

Linnaea borealis var. americana

Coastal Plain Element.

Peattie (1922)³¹ stated that the flora of the sand dunes and shores of the Great Lakes had long been known to contain some remarkable elements in their

vegetation in sharp contrast to the species of the neighbouring districts. These elements belonged to a coastal plain flora, by which he meant

"the flora of that area of acid bogs, sand barrens, savannahs and marshes anywhere from the Gulf of Mexico and Florida to Cape Cod, Nova Scotia, and Newfoundland."

It excluded any species which, although abundant on the coastal plain, were found in a fairly general way upon other areas.

The presence of coastal plain species was not to be explained by any accidental or deliberate introduction, but rather Peattie assumed a migration of plants along the shores of the glacial lakes and outlets of the Algonquin stage, and their later establishment and isolation on the "islands" or inland stations which duplicated the soil and other conditions controlling the survival of coastal plain species. Of the coastal plain species listed by Peattie³¹ for the Great Lakes region, the following were collected at Turkey Point by the author:

- | | |
|---|-------------------------|
| <u>Juncus balticus</u> var. <u>littoralis</u> | <u>Nelumbo lutea</u> |
| <u>Juncus scirpoides</u> | <u>Lupinus perennis</u> |
| <u>Myrica carolinensis</u> | |

Seven other coastal plain species may be included for the immediate vicinity of Turkey Point as shown in Table III.

TABLE III.

Coastal Plain species.	Locality, collectors, date and location of the specimens seen.*
<u>Panicum oligosanthos</u>	Long Point, <u>Senn & Soper</u> , 1938 (JHS)**
<u>Eleocharis quadrangulata</u>	Long Point, <u>Landon, Gaiser & Smure</u> , 1936 (McM).
<u>Quercus prinoides</u>	Turkey Point, <u>Landon</u> , 1937 (L).
<u>Cakile edentula</u> var. <u>lacustris</u>	Turkey Point, <u>Landon, Gaiser & Smure</u> , 1936 (McM).
<u>Lathyrus japonicus</u> var. <u>glaber</u>	Long Point, <u>Senn & Soper</u> , 1938, (JHS).
<u>Euphorbia polygonifolia</u>	Turkey Point, <u>Stallwood</u> , 1936 (T).
<u>Utricularia resupinata</u>	Long Point, <u>Senn & Soper</u> , 1938 (JHS).

* Only one specimen is cited in each case.

** For the abbreviations for herbaria used in this table see page 22.

Southern Element.

The separation of a Carolinian zone as a definite floral region of Canada seems to be justified by the presence in this region of a distinctive flora with definite southern affinities. Due to the proximity of the Great Lakes the Carolinian zone has a more equable climate with shorter and milder winters than the country farther north, as has been discussed under the climatic conditions.

(See page 5.)

Adams (1938)² stated:

"There are 262 species in this area which are not indigenous to any other part of Canada."

and he listed eleven families with their representative genera which occurred nowhere else in Canada. I have sought confirmation of his statement beyond my own collections in various herbaria which contained specimens from the Lake Erie region. Verification can now be given for ten of the eleven families listed, as shown in the following table. (See Table IV.) Columns I and II, respectively, contain the eleven families and the species by which they are represented, while column III gives the collector's name, the place and date of collection, and the present location of the specimens which have been found.

TABLE IV.

Column I.	Column II.	Column III.
Name of family.	Species represented.	Record of specimen seen.*
<u>DIOSCOREACEAE</u>	<u>Dioscorea villosa.</u> L.	Turkey Point, <u>Taylor</u> , 1932 (T). ^{**}
<u>SAURURACEAE</u>	<u>Saururus cernuus.</u> L.	Jordan, Ont., <u>Snure</u> , 1932 (McM).
<u>MORACEAE</u>	<u>Morus rubra.</u> L.	Pt. Pelee, <u>Marie-Victorin</u> , 1936 (T).
<u>ANONACEAE</u>	<u>Asimina triloba.</u> Dunal.	St. Davids, Ont., <u>Landon</u> , 1937 (L).
<u>MAGNOLIACEAE</u>	<u>Liriodendron Tulipifera.</u> L.	Turkey Point, <u>Soper</u> , 1938 (McM).
	<u>Magnolia acuminata.</u> L.	Turkey Point, <u>Stroud</u> , 1934 (S). (See also note on page 69.)

* Only one specimen is cited in each case.

** For abbreviations for herbaria see page 22.

TABLE IV.
(Cont'd.)

Name of family.	Species represented.	Record of specimen seen.
PHYTOLACCACEAE	<u>Phytolacca decandra</u> . L.	Turkey Point, <u>Soper</u> , 1937 (McM).*
LAURACEAE	<u>Benzoin aestivale</u> . (L.) Nees.	Turkey Point, <u>Soper</u> , 1938 (McM).
	<u>Sassafras variifolium</u> . (Salisb.) Ktze.	Turkey Point, <u>Soper</u> , 1938 (McM).
PLATANACEAE	<u>Platanus occidentalis</u> . L.	Turkey Point, <u>Soper</u> , 1938 (McM).
CASSIACEAE (LEGUMINOSAE)	<u>Cercis canadensis</u> . L.	Pelee Island, <u>Macoun</u> , 1892 (CAN). (See also note on page 76.)
	<u>Gleditsia triacanthos</u> .L.	Pt. Pelee, <u>Gaiser</u> , 1938 (McM).
	<u>Gymnocladus dioica</u> .(L.) Koch.	Pelee Island, <u>Macoun</u> , 1892 (CAN). (See also note on page 76 .)
MELASTOMACEAE	<u>Rhexia virginica</u> . L.	The author has not seen a record for the region.
BIGNONIACEAE	<u>Tecoma radicans</u> . (L.) Juss.	Pelee Island, <u>Macoun</u> , 1892 (CAN).

In his "Survey of Canadian Plants" (1926)¹ Adams named an additional

32 genera which were peculiar to this region. These are as follows:

*MONOCOTYLEDONS. The family Gramineae includes Cenchrus and Triplasis; Cyperaceae includes Fimbristylis, and Scleria; the other genera are Chamaelirium, Echinodorus, Linnobium, Peltandra, and Wolffia.

* In stating the location of the specimens, the abbreviations for the herbaria mentioned in this table, and elsewhere in the paper, are as follows:

- B - Herbarium of Hubert H. Brown, Toronto.
- BM - Herbarium of the Buffalo Society of Natural Science, Buffalo, N.Y.
- CAN - National Herbarium of Canada, Ottawa.
- DAO - Herbarium of the Division of Botany and Plant Pathology, Science Service, Department of Agriculture, Ottawa.
- H - Herbarium of William Herriot, in the care of Mr. Monroe Landon, Simcoe.
- JHS - Herbarium of the author.
- L - Herbarium of Mr. Monroe Landon, Simcoe.
- McM - Herbarium of McMaster University, Hamilton.
- OAC - Herbarium of the Ontario Agricultural College, Guelph.
- S - Herbarium of John J. Stroud, McMaster University, Hamilton.
- T - Herbarium of the University of Toronto.

DICOTYLEDONS. The family Fabaceae includes Baptisia and Lespedeza; Umbelliferae includes Chaerophyllum and Erigenia; Carduaceae includes Mikania, Polymnia, and Silphium; Scrophulariaceae includes Buchnera and Conobea. The other genera are Calceolaria, Castanea, Evonymus, Frasera, Gillenia, Hibiscus, Ipomoea, Isopyrum, Jeffersonia, Lippia, Nelumbo, Nesaea, Nyssa, and Ptelea."

I have found records of specimens for 16 of these 32 genera, or one-half the number, as shown in the following list:

- Gnecrus carolinianus. Walt. Turkey Point, Stallwood, 1936 (T).*
- Triplasis purpurea. (Walt.) Chapm. Long Point, Senn & Soper, 1938 (JHS).
- Scleria verticillata. Muhl. Long Point, Marie-Victorin, 1932 (T).
- Chamaelirium luteum. (L.) Gray. Turkey Point, Landon, 1936 (L).
- Baptisia tinctoria. (L.) R.Br. Lake Erie, Nicholl, 1864 (OAC).
- Lespedeza capitata. Michx. var. velutina. (Bicknell) Fernald. Turkey Point, Soper, 1938 (McM).
- Polymnia canadensis. L. Pelee Island, Botham, 1938 (DAO).
- Silphium terebinthinaceum. Jacq. Sandwich, Macoun, 1892 (CAN).
- Conobea multifida. (Michx.) Benth. Pelee Island, Macoun, 1892 (CAN).
- Castanea dentata. (Marsh) Borkh. Turkey Point, Soper, 1938 (McM).
- Evonymus obovatus. Nutt. Turkey Point, Soper, 1938, (McM).
- Hibiscus Moscheutos. L. Port Rowan, Landon, 1937 (L).
- Ipomoea pandurata. (L.) G.F.W.Mey. Pt. Pelee, Marie-Victorin, 1932 (T).
- Nelumbo lutea. (Willd.) Pers. Turkey Point, Soper, 1938 (McM).
- Nyssa sylvatica. Marsh. Turkey Point, Taylor, 1932 (T).
- Ptelea trifoliata. L. Pt. Pelee, Gaiser, 1938 (McM).

Macoun and Malte (1915)²⁶, when discussing the floral zones of Canada, listed a number of trees and herbaceous plants which they considered characteristic of the Carolinian. The section referred to reads as follows:

* For abbreviations used to indicate the herbaria see page 22.

"The most characteristic trees are the Hickories (six species), the Oaks (ten species), the Black Walnut (Juglans nigra), the chestnut (Castanea dentata) and the Sycamore (Platanus occidentalis). Less abundant and more local in their distribution are: Cucumber tree (Magnolia acuminata), Tulip tree (Liriodendron Tulipifera), Flowering Dogwood (Cornus florida), which all have beautiful and very conspicuous flowers, Papaw (Asimina triloba), Red Mulberry (Morus rubra), American Crab Apple (Pyrus coronaria), Sour Gum (Nyssa sylvatica), Sassafras (Sassafras variifolium) and others.

The herbaceous vegetation is very rich, at least a hundred species occurring nowhere else in Canada being found in the zone. A few of the most conspicuous may be mentioned, viz.: Yellow Nelumbo or "Lotus Flower" (Nelumbo lutea), May Apple (Podophyllum peltatum), Wild Lupine (Lupinus perennis), Tick Trefoil (Desmodium), Flowering Spurge (Euphorbia corollata), Swamp Rose Mallow (Hibiscus moscheutos), Wild Pansy (Viola Rafinesquii), Prickly pear (Opuntia Rafinesquii), Poke Milkweed (Asclepias phytolaccoides), Wild Potato Vine (Ipomoea pandurata), Downy Phlox (Phlox pilosa), Water-Leaf (Hydrophyllum appendiculatum), Bee Balm (Monarda didyma), Foxglove (Gerardia pedicularia, G. virginica), Tall Bellflower (Campanula americana), Great Lobelia (Lobelia siphilitica), Ironweed (Vernonia altissima, V. illinoensis), Dense button Snakeroot (Liatris spicata), Prairie Dock (Silphium terebinthinaceum), Cup Plant (Silphium perfoliatum), Sunflower (Helianthus decapetalus, H. divaricatus), Tall Coreopsis (Coreopsis tripteris), Indian Plantain (Cacalia tuberosa), Showy Lady's Slipper (Cypripedium hirsutum), etc. Golden Seal (Hydrastis canadensis) and Ginseng (Panax quinquefolium) were at one time abundant but are now practically extinct."

Of the trees mentioned by them, records for all have been found with the exception of the Hickories and the Oaks. For the former I have but found a record of Carya cordiformis and a reference (without specimen to cite) of C. ovata and C. microcarpa, and of the latter I have but nine species recorded. (Quercus alba, Q. lyrata, Q. bicolor, Q. Muhlenbergii, Q. prinoides, Q. rubra, Q. coccinea, Q. velutina, and Q. marilandica.) With regard to the herbaceous vegetation, I have found specimens of all except Viola Rafinesquii, Gerardia virginica, Silphium perfoliatum, Monarda didyma, Vernonia illinoensis, Coreopsis tripteris, Hydrastis canadensis and Panax quinquefolium, and of these, the first three have been reported orally for Norfolk county by Mr. Monroe Landon. (See page 114)

The following so-called southern or austral species have also been collected by me during the Turkey Point survey:

Trees and Shrubs

Juniperus communis var. depressa

Betula lenta

Myrica carolinensis

Celtis occidentalis

Ceanothus americanus

Herbs

Lilium philadelphicum
Disporum lanuginosum
Comandra umbellata
Actaea alba

Polanisia graveolens
Helianthemum canadense
Sanicula canadensis
Chimaphila umbellata

Asclepias tuberosa

Burgess, (1889)⁸ in discussing the Lake Erie region as a botanizing ground, made two lists from Macoun's Catalogue (1883-6)²⁴ and in the first list of 108 species he included the names, localities and authorities for the occurrence of these species which were peculiar, so far as known, to the Lake Erie region. In the second list of 26 species he included those species very rarely noted as occurring elsewhere in Canadian territory. These lists gave a total of 134 plants, out of a total of 2955 species of all known Canadian plants, restricted, or almost restricted, to this district; this is equal to about one twenty-second of the Canadian flora known at that time. Also 113 out of the 737 genera then known, or about one seventh, and 54 out of 118 families, or about one half, were represented in this region.

The interesting and important fact was the large number of species in this list which were noted by older writers such as Pursh,^{32*} Hooker,^{20*} and Goldie,^{17*} and which had not been seen since. The reasons for this seemed to be either the region had been but little explored by botanists, or the writers did not give definite localities to aid one in the search, or perhaps that some of the species may have been incorrectly named. Burgess stated that the main object of his paper was to show that:

"it is very necessary in the interests of botanical research that these species, if existing, should be more definitely relocated,"

and his aim was:

"To encourage the various members of this association to aid in hunting up some of the lost or doubtful species mentioned by Professor Macoun as occurring in the Lake Erie region."

From the records of specimens collected in 1938, as well as from other herbaria and the literature survey, I have been interested to make a table (See Table V)

* It has not been possible to see the works of these men at this time; they would probably contain notes on the particular species involved.

showing which species of Burgess' lists have been relocated. Either a specimen has been seen (Column II) or a published record found.(Column III)

TABLE V.

A. SPECIES RESTRICTED IN CANADA (SO FAR AS KNOWN) TO THE LAKE ERIE REGION.

	Column I.	Column II.	Column III.
No. of species.	Name of species.	Specimen seen.	Published record.
1.*	<u>Ranunculus ambigens</u> Wats.		(In inundated places or mud. Southern part of Ont. (Goldie) Vicinity of Port Colbourne.(MCGill Coll.Herb))
2.	<u>Magnolia acuminata</u> . L.	Turkey Point, <u>Stroud</u> , 1934 (S).***	
3.	<u>Asimina triloba</u> . Dunal.	St. Davids, <u>Landon</u> , 1937 (L).	
4.	<u>Nelumbium luteum</u> . Willd.	Turkey Point, <u>Soper</u> , 1938 (McM).	
5.	<u>Corydalis flavula</u> . DC. (See Pl. VIII, fig. 1, p. 134.)	Pt. Abino, <u>Day</u> , 18-- (BM); Pt. Pelee, <u>Macoun</u> , 1901 (T).	
6.	<u>Sisymbrium Thaliana</u> . Gaud.	Pt. Abino, <u>Day</u> , 1883 (BM).	
7.	<u>Viola pedata</u> . L.	Turkey Point, <u>Soper</u> , 1938 (McM).	
8.	<u>Viola palmata</u> . L.		Pt. Pelee, <u>Dodge</u> .(1914) ¹⁴
9.	<u>Polygala incarnata</u> . L.	Sandwich, <u>Macoun</u> , 1901 (CAN).	
10.*	<u>Silene stellata</u> . Ait.		(Found by Douglas in 1823 in dry stoney places on the Niagara River.)

* An asterisk is used to distinguish all those species for which no further information has been found by the author other than that given by Burgess. (1889)⁸

** In cases where no additional information has been found, the original notes in Burgess (1889)⁸ which has originally been taken from Macoun's Catalogue (1883-6)²⁴ is included to aid in the search for the species or for clarification towards its elimination from the list of species not yet found or perhaps falsely reported.

*** Only one specimen is cited in each case, unless there is no date of collection for the first specimen cited; when a specimen has been seen, a published record is not included. For abbreviations used for herbaria, see page 22.

TABLE V.
(Cont'd.)

No. of species.	Name of species.	Specimen seen.	Published record.
11.	<u>Silene nocturna.</u> L. (Britton & Brown note that <u>S. anglica</u> has been mistaken for this species. Vol. II, p.67.(1913) ⁵)***		("A single plant noticed in a roadside at Ft. Erie, Ont., in 1880." - Day, "Pl. of Buffalo." p.86. No specimens.)**
12.	<u>Dianthus Armeria.</u> L.	Hamilton, <u>Soper</u> , 1937 (JHS).	
13.	<u>Cerastium oblongifolium.</u> Torr.	Pelee Island, <u>Botham</u> , 1938 (DAO).	
14.	<u>Hypericum Sarothra.</u> Michx.	Lake Erie, <u>Macoun</u> , 1875 (CAN).	
15.	<u>Hibiscus Moscheutos.</u> L.	Port Rowan, <u>Landon</u> , 1937 (L).	
16.	<u>Ptelea trifoliata.</u> L.	Pt. Pelee, <u>Gaiser</u> , 1938 (McM).	
17.	<u>Evonymus atropurpureus.</u> Jacq.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
18.	<u>Trifolium reflexum.</u> L.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
19.	<u>Tephrosia virginian.</u> Pers.	Turkey Point, <u>Soper</u> , 1938 (McM).	
20.	<u>Onobrychis sativa.</u> Lam.		("Rare. Pt. Abino, Ont." - Day, "Pl. of Buffalo"(1882) ¹² p. 93. No herbarium specimen.)**
21.	<u>Desmodium canescens.</u> DC.	Pt. Pelee, <u>Marie-Victorin</u> , 1936 (T).	
22.	<u>Desmodium ciliare.</u> DC. (<u>D. obtusum.</u> (Muhl.) DC.)		Zenkert (1934) ⁴² states:(P. 187) "Dry, sandy thickets, Queenston Heights, Niagara River, Ont. 1887.(Macoun, Cat. of Can. Pl.). Not collected in recent years."
23.*	<u>Baptisia leucantha.</u> Torr. & Gray.		(Not detected since the time of Goldie, who records it for the shore of Lake Erie)

* See footnote on page 26.

** This note was kindly furnished by Mr. C.A.Zenkert of the Buffalo Society of Natural Science, Buffalo, N.Y.

*** This record is based solely on Day's observation and therefore Silene anglica. L. (S. gallica. of Gray's Man., ed. 7.) should be watched for.

TABLE V.
(Cont'd.)

No. of species.	Name of species.	Specimens seen.	Published record.
24.	<u>Gleditsia triacanthos.</u> L.	Pt. Pelee, <u>Gaiser</u> , 1938 (MCM).	
25.	<u>Geum vernum.</u> Torr. & Gray.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
26.	<u>Agrimonia parviflora.</u> Ait.	Mr. C.A.Zenkert has collected this recently at Fort Erie, Ont.**	Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
27.	<u>Rosa setigera.</u> Michx.	Pelee Island, <u>Macoun</u> , 1892 (CAN).	
28.	<u>Crataegus Crus-galli.</u> L.	Pt. Pelee, <u>Gaiser</u> , 1938 (MCM).	
29.	<u>Saxifraga pennsylvanica.</u> L.	Mr. C.A.Zenkert has "observed it in marshy ground back from Long Beach, Wainfleet Tp., Ont. **	
30.	<u>Heuchera americana.</u> L.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
31.	<u>Ludwigia alternifolia.</u> L.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
32.	<u>Lythrum alatum.</u> Pursh.	Pelee Island, <u>Macoun</u> , 1892 (CAN).	
33.	<u>Opuntia Rafinesquii.</u> Engelm.	Pt. Pelee, <u>Burgess</u> , 1882 (T).	
34.	<u>Thaspium barbinode.</u> Nutt.	Pelee Island, <u>Macoun</u> , 1892 (CAN).	
35.	<u>Berula angustifolia.</u> Koch. (<u>B. erecta</u> of Gray's Man., ed.7.) ***		("Near Port Colbourne, Ont., July 1882." - Day, "Pl. of Buffalo". p. 260. No specimen.)**
36.	<u>Ghaerophyllum procumbens.</u> Crantz.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
37.*	<u>Archangelica hirsuta.</u> Torr. & Gray.		(Both Pursh and Michaux credit this species to Canada but do not say any- thing as to where it is found.)

* See footnote on page 26.

** Information communicated to the author by Mr. C.A.Zenkert.

*** This species is to be looked for on the north shore of Lake Erie.

TABLE V.
(Cont'd.)

No. of species.	Name of species.	Specimen seen.	Published record.
38.	<u>Archemora rigida.</u> DC. (<u>Oxyopolis rigidior</u> of Gray's Man., ed.7.)		("Port Colbourne, Ont., according to Macoun, with specimen in McGill Coll. Herb. No Day specimen here") **
39.	<u>Cornus asperifolia.</u> Michx.	Pt. Pelee, <u>Howitt</u> , 1922 (OAC).	
40.	<u>Nyssa multiflora.</u> Wang. (<u>N. sylvatica</u> of Gray's Man. ed.7.)	Turkey Point, <u>Taylor</u> , 1932 (T).	
41.	<u>Galium pilosum.</u> Ait.	Rondeau, <u>Marie-Victorin</u> , 1936 (CAN).	
42.	<u>Fedia olitoria.</u> Vahl. (<u>Valerianella locusta</u> of Gray's Man., ed.7.)	"Between Fort Erie and Crystal Beach, <u>L.C. Davis</u> , June 5, 1926. Determination confirmed by Dr. H.D. House, New York State botanist." **	
43.	<u>Vernonia altissima.</u> Nutt.	Pelee Island, <u>Macoun</u> , 1892 (CAN).	
44.	<u>Vernonia noveboracensis.</u> Willd.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
45.*	<u>Mikania scandens.</u> L.		(Moist shady places along streams. Amherstburgh. (MacLagan).)
46.	<u>Liatris squarrosa.</u> Willd.		(Dry gravelly or sandy soil Western Ontario. (Gray). Not noticed by any of the late collectors. var. <u>intermedia.</u> DC. Same situation as the type. (Gray). Not lately collected.)***
47.	<u>Liatris spicata.</u> Willd.	Walpole Island, Lake St. Clair, <u>Gaiser</u> , 1938 (McM).	

* See Footnote on page 26.

** Information communicated to the author by Mr. C.A. Zenkert.

*** Dr. Lulu O. Gaiser of McMaster University, Hamilton, Canada, who has been engaged in research work on Liatris for some years, has found no record of this species from Ontario other than the type specimen of L. intermedia Lind., here made a variety of L. squarrosa.

TABLE V.
(Cont'd.)

No. of species.	Name of species.	Specimen seen.	Published record.
48.	<u>Aster ericoides.</u> Ait. var. <u>villosus.</u> T. & G.	"Rockhouse Point (west of Pt. Abino) Ont., <u>G. Edwin Keller</u> , July 27, 1921. Determination confirmed by Dr. H. D. House, N.Y. State botanist." **	(Port Stanley, Ont. (Burgess). Windsor, Ont., (Macoun).) *** <u>Dodge</u> , (1914) ¹⁴ records <u>A. ericoides</u> for Pt. Pelee.
49.*	<u>Silphium perfoliatum.</u> L.		(Islands in the Detroit River. (MacLagan). In thickets along margin of fields, Windsor, Ontario. (Macoun).)
50.	<u>Heliopsis laevis.</u> Pers.		Pt Pelee, <u>Dodge</u> , (1914) ¹⁴
51.*	<u>Helianthus parviflorus.</u> Bernh.		(Thickets in alluvial soil in Western Ontario. (Goldie vide T. & G. Fl. N. Am.)
52.*	<u>Actinomeris squarrosa.</u> Nutt. = (<u>A. alternifolia.</u> (L.) DC.)		(Islands in the Detroit River. (MacLagan). Road-sides along banks of river Thames, Chatham, Ontario. (Macoun).)
53.	<u>Coreopsis trichosperma.</u> Turkey Point, <u>Soper</u> , Michx. var. <u>tenuiloba.</u> 1938 (McM). Gr. (= <u>Bidens trichosperma.</u> var. <u>tenuiloba.</u>)		
54.	<u>Coreopsis tripteris.</u> L.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
55.	<u>Coreopsis verticillata.</u> L. Pt. Dover Junction, <u>Macoun</u> , 1890 (CAN).		
56.	<u>Dyssodia chrysanthemoides.</u> Lag. (<u>D. papposa</u> of Gray's Man., ed.7.)	Fort Erie, Ont., <u>G.W. Clinton</u> , 1862 (BM). (See Pl. VIII, fig. 2, p. 134.)	
57.*	<u>Cacalia atriplicifolia.</u> L.		(Canada. (Leghorn) vide Hooker. Moist woodlands, Western Ontario. (Torr. & Gray).)

* See footnote on page 26.

** Information communicated to the author by Mr. C.A. Zenkert.

*** Since all records I have found refer to A. ericoides, I am including the original information from Macoun (1883-6)²⁴ regarding the variety villosus, which perhaps should also be found.

TABLE V.
(Cont'd.)

No. of species.	Name of species.	Specimen seen.	Published record.
58.*	<u>Krigia virginica.</u> Willd.		(Sandy ground, Western Ontario.(Gray).)
59.	<u>Lactuca floridana.</u> Gaertn.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
60.	<u>Fraxinus quadrangulata.</u> Michx.	Pt. Pelee, <u>Burgess</u> , 1882 (T).	
61.	<u>Asclepias purpurascens.</u> L.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
62.*	<u>Sabbatia angularis.</u> Pursh.		(Rich soil, Western Ontario.(Gray).)
63.	<u>Gentiana Saponaria.</u> L.	"Mistaken by Day as to Squaw Island plant, but <u>G. procera</u> collected at Niagara Falls, Ont., in 1888. This plant may or may not be involved." **	
64.	<u>Phlox subulata.</u> L.	Turkey Point, <u>Soper</u> , 1938 (McM).	
65.	<u>Gilia coronopifolia.</u> Pers.	Port Dover, <u>Hanham</u> , 1888 (CAN).	
66.	<u>Mertensia virginica.</u> DC.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
67.	<u>Ipomoea pandurata.</u> Meyer.	Pt. Pelee, <u>Marie-Victorin</u> , 1932 (T).	
68.*	<u>Cuscuta compacta.</u> Juss.		(Credited to Canada by Dr. Gray. Amherstburg. (Maclagan).)
69.	<u>Solanum carolinense.</u> L.	"No Canadian specimen here, but Day's report (Pl. of Buf.)(for Ft. Erie) would seem to deserve credence. At present this plant has become an obnoxious weed over here (Buffalo) and may have extended its range to the Can. side." **	(Sandy and waste ground near Ft. Erie. (Day).)

* See footnote on page 26.

** Information communicated to the author by Mr. E.A.Zenkert.

TABLE V.
(Cont'd.)

No. of species.	Name of species.	Specimen seen.	Published record.
70.	<u>Gerardia purpurea.</u> L.	Turkey Point, <u>Landon</u> , 1937 (L).	
71.	<u>Tecoma radicans.</u> Juss.	Pelee Island, <u>Macoun</u> , 1892 (CAN).	
72.*	<u>Pycnanthemum linifolium.</u> Pursh.		(Low wet meadows, Point Edward, Ontario. 1884. (J.M.Macoun).)
73.	<u>Pycnanthemum muticum.</u> Pers. var. <u>pilosum.</u> Gray. (= <u>P. pilosum</u> of Gray's Man., ed.7.)	Pt. aux Pins, <u>Burgess</u> , 1886 (DAO).	
74.	<u>Melissa officinalis.</u> L.		Pelee Island, <u>Dodge</u> , ¹⁴ (1914)
75.*	<u>Monarda clinopodia.</u> L.		(Western Canada to Illinois.(Gray).)
76.*	<u>Lophanthus scrophular-</u> <u>iaefolius.</u> Benth.		(Borders of thickets along the slopes of Queenston Heights, one mile beyond Queenston Station.(Macoun).)
77.*	<u>Scutellaria canescens.</u> Nutt.		(River banks, Western Ontario.(Gray). Canada (Goldie).)
78.	<u>Plantago cordata.</u> Lam.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
79.	<u>Anychia dichotoma.</u> Michx.	Lake Erie, <u>Nicholl</u> , 1870 (CAN).	
80.	<u>Amaranthus blitoides.</u> Wat.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
81.	<u>Chenopodium ambrosioides.</u> L. var. <u>anthelminticum.</u> Gr.	Turkey Point, <u>Stallwood</u> , 1936(OAC).	
82.	<u>Morus rubra.</u> L.	Pt. Pelee, <u>Marie-</u> <u>Victorin</u> , 1936 (T).	
83.	<u>Morus alba.</u> L.	Niagara Falls, <u>Macoun</u> , 1896 (CAN).	
84.	<u>Garya tomentosa.</u> Nutt.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴

* See footnote on page 26.

TABLE V.
(Cont'd.)

No. of species.	Name of species.	Specimen seen.	Published record.
85.	<u>Carya porcina</u> . Nutt.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
86.	<u>Juglans nigra</u> . L.	Walsh, <u>Brown</u> , 1933 (B).	
87.	<u>Quercus Primus</u> . L.	Pt. Pelee, <u>Burgess</u> , 1886 (DAO).	
88.	<u>Quercus palustris</u> . Du Roi.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
89.	<u>Coralorrhiza odontorhiza</u> . Nutt.	Simcoe, <u>Landon</u> , 1935 (OAC).	
90.*	<u>Pogonia pendula</u> . Lindley.		(Damp woods, Canada. (Goldie) vide Hooker.)
91.	<u>Habenaria ciliaris</u> . R.Br.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
92.	<u>Aletris farinosa</u> . L.	Sandwich, <u>Macoun</u> , 1892 (CAN).	
93.	<u>Smilax quadrangularis</u> . Pursh.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
94.	<u>Camassia Fraseri</u> . Torr.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
95.*	<u>Erythronium propullans</u> . Gr.		(Rich soil near St. Thomas, Ontario. 1882. (Macoun).)
96.*	<u>Melanthium virginicum</u> . L.		(Upper Canada. (Hooker).)
97.*	<u>Juncus acuminatus</u> . Michx. var. <u>legitimus</u> . Engelm.		(Shore of Lake Erie at Pt. Pelee and Essex Co. (Macoun).) ¹⁴ <u>Dodge</u> (1914) ¹⁴ reports <u>J. acuminatus</u> for Pt. Pelee.
98.	<u>Potamogeton pauciflorus</u> Pursh. var. <u>niagarensis</u> . Gray.		Islands off Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
99.	<u>Cyperus erythrorhizos</u> . Muhl.	Rondeau, <u>Macoun</u> , 1894 (CAN).	
100.*	<u>Carex Stuedelii</u> . Kunth.		(On the banks along the lake at Port Stanley. 1882 (Macoun).)

* - See footnote on page 26.

TABLE V.
†Cont'd.†

No. of species.	Names of species.	Specimen seen.	Published record.
101.	<u>Carex cephalophora.</u> Muhl. var. <u>angustifolia.</u> Boott.		(Abundant in rocky grassy thickets on Pelee Island, Lake Erie, (Macoun).) <u>Dodge, (1914)</u> ¹⁴ reports <u>C. cephalophora</u> for Pt. Pelee.
102.	<u>Carex virescens.</u> Muhl.		(Open woods, Niagara Falls, Essex Centre and Amherstburgh. (Macoun). Low woods, Leamington. (Burgess).) <u>Dodge, (1914)</u> ¹⁴ reports <u>C. virescens var. Swanii</u> for Pt. Pelee.
103.*	<u>Carex triceps.</u> Michx.		(Abundant in rocky thickets, Queenston Heights and Foster's Flats, Niagara Peninsula. (Macoun).)
104.	<u>Carex grisea.</u> Wahl.	Port Dover Junction, <u>Macoun, 1882 (CAN).</u>	
105.*	<u>Aristida dichotoma.</u> L.		(Port Colbourne, Lake Erie. (McGill Coll. Herb.)
106.	<u>Triplasis purpurea.</u> Chapm.	Long Point, <u>Senn & Soper,</u> 1938 (JHS).	
107.*	<u>Eragrostis major.</u> Host.		(Introduced along the railway at Pt. Edward, near Sarnia, Ont. (J.M. Macoun) Windsor. (Macoun).)
108.*	<u>Eragrostis Purshii.</u> Schrad.		(Introduced along the railway. In fields at Port Colbourne and Windsor. (Macoun).)

* See footnote on page 26.

TABLE V.
(Cont'd.)

B. SPECIES IN CANADA ALMOST RESTRICTED (SO FAR AS KNOWN) TO THE LAKE ERIE REGION.

	Column I.	Column II.	Column III.
No. of species.	Name of species.	Specimen seen.	Published record.
1.	<u>Cimicifuga racemosa.</u> Nutt.	Caledonia, <u>Stroud</u> , 1934 (S).	
2.	<u>Liriodendron Tulipifera.</u> L.	Turkey Point, <u>Soper</u> , 1938 (McM).	
3.	<u>Lechea major.</u> Michx.	Turkey Point, <u>Taylor</u> , 1932 (T).	
4.	<u>Polygala sanguinea.</u> L.	Norfolk Co., <u>Taylor</u> , 1932 (T).	
5.	<u>Silene virginica.</u> L.		Islands off Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
6.	<u>Vitis aestivalis.</u> Michx.	"Occurs along the Niagara River, on both sides, but there does not happen to be a mounted plant from the Canadian side in our collection." **	(Abundant on Pelee Is. and Pt. Pelee, Foster's Flats below the Whirlpool, Niagara R., and in thickets around Queenston Hts. (Macoun).)
7.	<u>Baptisia tinctoria.</u> R.Br.	Lake Erie, <u>Nicholl</u> , 1864 (OAC).	
8.	<u>Poterium sanguisorba.</u> L.	Lake Erie, <u>F.W. Johnson</u> , 1923 (BM).	
9.	<u>Sedum ternatum.</u> Michx.		Islands off Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
10.	<u>Aster dumosus.</u> L.		Pt. Pelee, <u>Dodge</u> , (1914). ¹⁴
11.*	<u>Gnaphalium purpureum.</u> L.		(Port Colbourne.(Macoun).)
12.	<u>Silphium terebinthinaceum.</u> L.	Sandwich, <u>Macoun</u> , 1892 (CAN).	

* See footnote on page 26.

** Information communicated to the author by Mr. C.A.Zenkert.

TABLE V.
(Cont'd.)

No. of species.	Name of species.	Specimen seen.	Published record.
13.	<u>Artemisia caudata.</u> Michx.	Turkey Point, <u>Soper</u> , 1938 (McM).	
14.	<u>Krigia amplexicaulis.</u> Nutt.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
15.	<u>Vaccinium stamineum.</u> L.		"Gorge of the river at Niagara Glen." - Zenkert (1934) ⁴² p. 218.
16.	<u>Steironema lanceolatum.</u> Gr.		"Recorded by Day as having been observed at Point Abino, Ontario, and also included by Macoun in his Cat. of Can. Pl. on the authority of Day. No corresponding herbarium specimen has been found; perhaps confused at the time with <u>S. quadriflorum</u> , which does occur in the locality mentioned." - Zenkert (1934) ⁴² p. 221.
17.	<u>Acerates longifolia.</u> Ell.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
18.	<u>Hydrophyllum appendiculatum.</u> Michx.	Pt. Pelee, <u>Macoun</u> , 1882 (CAN).	
19.*	<u>Lithospermum latifolium.</u> Michx.		(Western Ontario.(Gray) Bois Blanc and other islands in the Detroit River. (MacLagan).)
20.	<u>Veronica virginica.</u> L.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴
21.*	<u>Pycnanthemum incanum.</u> Michx.		(Canada.(Goldie). New England to Western Canada. (Gray). Hamilton.(Logie).) Recorded by Buchan (1874) ⁷ as having been collected by <u>A. Logie</u> .
22.	<u>Chamaelirium carolinianum.</u> Willd. (= <u>C. luteum</u> of Gray's Man., ed.7.)	Turkey Point, <u>Landon</u> , 1936 (L).	

* See footnote on page 26.

TABLE V.
(Cont'd.)

No. of species.	Name of species.	Specimen seen.	Published record.
23.*	<u>Eriophorum lineatum</u> . Benth. & Hook.		(Pt. aux. Pins.(Burgess) Pt. Pelee.(Macoun & Burgess). London.(Burgess & Millman).)
24.	<u>Panicum scoparium</u> . Lam.		Pt. Pelee, <u>Dodge</u> , (1914) ¹⁴ .
25.	<u>Cenchrus tribuloides</u> . L.	Pt. aux Pins, <u>Burgess</u> , 1886 (DAO).	
26.	<u>Muhlenbergia diffusa</u> . Schreb.	Pt. Pelee, <u>Klugh</u> , 1905 (H).	

In summing up the information embodied in Table V it may be found that out of a total of 134 species listed as restricted, or almost restricted, in Canada to the Lake Erie district, 59 species have been definitely traced down by locating actual specimens, 33 species have been found recorded in various published records, and the remaining 42 species are represented only by the original notes from Macoun (1883-6)²⁴ or by subsequent written or oral communications to the author.

It is hoped that this will stimulate collectors to keep on the watch both for those species which have not been recently collected and more especially for those which have not been definitely shown to have existed in the Lake Erie region and which may still be flourishing there. Doubtless some of these species will be shown to have been erroneously ascribed to this district, while others may be cases of mistaken identity.

* See footnote on page 26.

Acknowledgments.

This paper would be incomplete without acknowledgment of indebtedness to the many who have contributed to its preparation. I owe especial thanks to Dr. Lulu O. Gaiser of McMaster University, Hamilton, Canada, under whose guidance the entire work was conducted; her valuable advice, criticism and assistance were indispensable to me in completing this paper. Thanks are due also to Mr. Monroe Landon of Simcoe, for his enthusiastic interest and willing co-operation; he has been of valuable aid in locating some of the rarer species reported for the district and has allowed me to examine specimens of his private collections as well as those collected by the late William Herriot, whose herbarium is in his possession. Appreciation is hereby expressed to the officials of the various institutional herbaria visited, for their co-operation: to Dr. T.M.C. Taylor of the University of Toronto; to Mr. A.E. Porsild of the National Herbarium of Canada, Ottawa, who has also supplied several important articles not previously located; to Dr. H.A. Senn of the Department of Agriculture, Ottawa, who has also given valuable advice; to the officials of the Herbarium of the Ontario Agricultural College, Guelph. Mr. C.A. Zenkert of the Buffalo Museum of Science has kindly loaned specimens of some of the critical lake Erie region species and has most painstakingly checked others, providing notes which have been incorporated directly into Table V. Mr. Hubert H. Brown, naturalist of Toronto, has kindly allowed me to check his private herbarium for records of species collected in the Lake Erie region. Dr. T.M.C. Taylor of the University of Toronto, and Dr. W.S. Fox of the University of Western Ontario, London, have supplied information regarding the location of stations in southern Ontario for Gymnocladus. Wray M. Bowden, research fellow at the Blandy Experimental Farm, Virginia, has left available for study a large collection of plants made at Turkey Point in 1935 during his undergraduate days at McMaster. John J. Stroud, of McMaster University, has submitted a small collection of plants to the author for examination. Dr. H.A. Senn has identified several species of Lithospermum; two species of Botrychium were determined by

Dr. T.M.C. Taylor; the species of Iris were checked by Dr. Edgar Anderson of the Missouri Botanical Garden. To all others who have helped me during the course of this work my grateful acknowledgments are due.

ANNOTATED LIST OF THE VASCULAR PLANTS OF TURKEY POINT, LAKE ERIE, ONTARIO.

The order of families used is that represented in Engler and Gilg's "Syllabus der Pflanzenfamilien".(1924)¹⁶ The arrangement of genera and the nomenclature are those adopted by Gray's Manual of Botany, 7th.edition (1908)³⁴ since taxonomic periodicals such as Rhodora and the American Fern Journal have not been readily available. The nomenclature and order of genera in the ferns and their allies, however, follows the revision given in Broun (1938)⁶ and in this case synonyms from Gray's Manual are included. Common names have been given and are taken, in the main, from Britton and Brown's "Illustrated Flora".(1913)⁵ Unless otherwise stated, all collection localities refer to the township of Charlotteville, Norfolk County, Ontario. In the case of specimens cited from other herbaria, the name of the collector(which has been underlined), the year and place of collection are given, together with the herbarium in which the specimen is located. The author's first set of specimens has been placed in the Herbarium of McMaster University, Hamilton, Canada.

PTERIDOPHYTA
(FERNS AND FERN ALLIES)

POLYPODIACEAE
(FERN FAMILY)

Pteretis nodulosa. (Michx.) Nieuwl. (Onoclea Struthiopteris of Gray's Man., ed.7.)
OSTRICH FERN.

803,* stream valley, alluvial soil. Rather infrequent.

Onoclea sensibilis. L. SENSITIVE FERN.

Upland, 331,653, damp open ground, thickets and along streams; Turkey Point, Taylor, 1933 (T).** Common.

Cystopteris bulbifera. (L.) Bernh. BULB-BEARING BLADDER FERN.

338,476,804,811,819,822, rich wooded ravines along shore; common.

C. fragilis. (L.) Bernh. BRITTLE FERN.

439,805,815,817, rich wooded ravines along shore; Turkey Point, Taylor, 1932 (T). Frequent.

* All numbers given in this way and underlined refer to the author's specimens collected in 1938.

** For abbreviations for herbaria see page 22.

Dryopteris intermedia. (Muhl.) A.Gray. (Aspidium spinulosum var. intermedium
of Gray's Man., ed. 7.) AMERICAN SHIELD FERN.

438, rich wooded ravines along shore; Lynedoch, Taylor, 1932 (T).

Occasional.

D. intermedia. (Muhl.) A.Gray. var. fructuosa. (Gilbert) Wherry. (Aspidium
spinulosum var. dilatatum of Gray's Man., ed.7.)

Turkey Point, Brown, 1932 (B).

D. marginalis. (L.) A.Gray. (Aspidium marginale of Gray's Man., ed.7.)
MARGINAL SHIELD FERN.

Turkey Point, Bowden, 1935 (McM).

D. spinulosa. (O.F.Müll.) Watt. (Aspidium spinulosum of Gray's Man., ed.7.)
SPINULOSE SHIELD FERN.

339,493,818, rich wooded ravine along shore; Lynedoch, Taylor, 1932 (T).

D. thelypteris. (L.) A.Gray. var. pubescens. (Lawson) A.R.Prince. (Aspidium
Thelypteris of Gray's Man., ed.7.) NORTHERN MARSH FERN.

Lowland, 367,451,814, marshy open places or slightly shaded ground;

Turkey Point, Taylor, 1932 (T); St. Williams, Taylor, 1932 (T); St.

Williams, Brown, 1938 (B); Fisher's Glen, Brown, 1936 (B). Common.

Polystichum acrostichoides. (Michx.) Schott. CHRISTMAS FERN.

330,651,652, rich shaded ravines along shore cliffs; Turkey Point,

Bowden, 1935 (McM); Norfolk Co., Taylor, 1932 (T). Frequent.

Athyrium angustum. (Willd.) Presl. (Asplenium Filix-femina of Gray's Man., ed.7.)

Lowland, 363, moist soil along base of wooded shore cliff; upland,

383,384, rich woods; 806,812,820, damp shaded ravines; Turkey Point,

Bowden, 1935 (McM); St. Williams, Brown, 1938 (B); Courtland, Middleton

Tp., Macoun, 1901 (CAN); Port Dover, Herriot, 1927 (CAN). Common.

Adiantum pedatum. L. MAIDENHAIR FERN.

328,649, damp ravines and wooded cliff slopes; St. Williams, Brown, 1938

(B); Courtland, Middleton Tp., Macoun, 1901 (CAN); Lynedoch, Taylor,

1932 (T). Common.

Pteridium latiusculum. (Desv.) Hieron. (Pteris aquilina of Gray's Man., ed.7.)
EASTERN BRACKEN.

Upland, 800,801,802, dry sandy plains and thickets; Walsh, Brown, 1938 (B).

Polypodium virginianum. L. (Polypodium vulgare of Gray's Man., ed.7.)
COMMON OR GOLDEN POLYPODY.

799, damp shaded ravine along shore cliff. Infrequent.

OSMUNDACEAE
(FLOWERING FERN FAMILY)

Osmunda cinnamomea. L. CINNAMON FERN.

Lowlands, 325, edge of sphagnum bog and wooded shore cliff; 645, ravine along the shore cliff; 378,807,813,816, upland, rich wet woods; Turkey Point, Taylor, 1932 (T); Turkey Point, Brown, 1931 (B); Turkey Point, Turkey Point, Bowden, 1935 (McM); St. Williams, Cain, 1928 (T); Simcoe, Stallwood, 1936 (OAC). Common.

O. Claytoniana. L. INTERRUPTED FERN.

Upland, 329,650, Ravines and thickets; Turkey Point, Stallwood, 1936 (OAC); Turkey Point, Bowden, 1935 (McM); Walsh, Brown, 1934 (B). Common.

O. regalis. L. var. spectabilis. (Willd.) Gray. (O. regalis of Gray's Man., ed.7.)
ROYAL FERN. FLOWERING FERN.

Lowland, 327,810, sphagnum woods; 648, ravine along shore cliff; 422, upland, rich woods; Turkey Point, Brown, 1931 (B); Turkey Point, Bowden, 1935 (McM). Frequent.

OPHIOGLOSSACEAE
(ADDER'S TONGUE FAMILY)

Ophioglossum vulgatum. L. ADDER'S TONGUE FERN.

Simcoe, Brown, 1932 (B); Lot 1, concession V, Woodhouse Tp., Landon, 1936 (L).

Botrychium dissectum. Spreng. var. obliquum. (Muhl.) Clute. (B. obliquum var. dissectum of Gray's Man., ed.7.)
AUTUMN GRAPE FERN.

Turkey Point, Landon, 1937 (L).

B. dissectum. Spreng. var. oneidense. (Gilbert) Farwell.

Upland, lot 11, concession I, 623,772, rich woods. Quite rare.

B. dissectum. Spreng. var. tenuifolium. (Underw.) Farwell.

Turkey Point, Brown, 1931 (B).

B. matricariaefolium. Al. Braun. ssp. typicum. Clausen. (B. ramosum of Gray's Man., ed.7.) MATRICARY GRAPE FERN.

Upland, lot 11, concession I, 264, rich woods; Turkey Point, lot 11, concession IX, Landon, 1936 (L). Rather infrequent.

B. virginianum. (L.) Sw. VIRGINIA GRAPE FERN. RATTLESNAKE FERN.

Lowlands, 646, old shore lines; 326, ravines and wooded slopes along shore cliff; St. Williams, 647, wooded slope; Turkey Point, Taylor, 1933 (T); Turkey Point, Bowden, 1935 (McM). Common.

EQUISETACEAE
(HORSETAIL FAMILY)

Equisetum arvense. L. COMMON HORSETAIL.

790,793, cliff slopes, sandy soil; 397,792, sandy upland fields; Turkey Point, Taylor, 1933 (T). Common.

E. fluviatile. L. SWAMP HORSETAIL.

Lowland, 791,796,797, wet ground by streams along base of shore cliffs; Turkey Point, Howitt, 1932 (OAC); Turkey Point, Taylor, 1933 (T). Frequent.

E. palustre. L. var. americanum. Victorin. (E. palustre of Gray's Man., ed.7.) MARSH HORSETAIL.

Lowlands, 794, low marshy ground at base of shore cliff; Turkey Point, Stallwood, 1936 (OAC); Turkey Point, Brown, 1934 (B); Turkey Point, Stroud, 1934 (S). Common.

E. pratense. Ehrh. THICKET OR MEADOW HORSETAIL.

Lowland, 788, wet woods along base of shore cliff; upland, 332,419, rich woods. Occasional.

E. prealtum. Raf. (E. hyemale var. robustum of Gray's Man., ed.7.) TALL SCOURING BUSH.

Lowlands, 786,798,827, sedge-horsetail meadow near shore cliff; Turkey Point, Howitt, 1932 (OAC); Turkey Point, Taylor, 1933 (T); Turkey Point, Brown, 1933 (B); Long Point, Landon, Gaiser & Snure, 1936 (McM). Common and very abundant in places.

E. scirpoides. Michx.

SEDGE-LIKE HORSETAIL.

Lowlands, 368, sphagnum bog. Occasional.

E. trachyodon. A. Br. (E. variegatum var Jesupi of Gray's Man., ed.7.)

ROUGH-TOOTHED SCOURING RUSH.

Lowlands, 494,787,795, at edge of sedge-horsetail meadow at base of shore cliff; Turkey Point, Landon, 1938 (L); Turkey Point, Stroud, 1936(S);

Long Point, Landon, Gaiser & Smure, 1936 (McM). Frequent.

LYCOPODIACEAE
(CLUB-MOSS FAMILY)

Lycopodium flabelliforme. (Fernald) Blanchard. (L. complanatum var. flabelliforme of Gray's Man., ed.7.)
RUNNING PINE. "TRAILING CEDAR".

Upland, lot 11, concession I, 257,617,761, rich woods. Abundant in spots.

L. lucidulum. Michx.

SHINING CLUB-MOSS.

789, damp shaded ravine along shore cliff. Infrequent.

L. obscurum. L.

FLAT-BRANCH "GROUND PINE".

Upland, lot 11, concession I, 760, rich woods; Turkey Point, Taylor, 1933 (T).

L. obscurum. L. var. dendroideum. (Michx.) D.C.Eaton.

ROUND-BRANCH "GROUND PINE".

Upland, lot 11, concession I, 256,618,776, rich woods; Walsh, Brown, 1933 (B).

L. tristachyum. Pursh.

CLUB-MOSS.

Turkey Point, Stallwood, 1936 (OAC).

SELAGINELLACEAE
(SELAGINELLA FAMILY)

Selaginella rupestris. (L.) Spring.

"FESTOON PINE". ROCK SELAGINELLA.

Turkey Point, Taylor, 1932 (T); St. Williams, Brown, 1938 (B).

SPERMATOPHYTA
(SEED-PLANTS OR FLOWERING PLANTS)

GYMNOSPERMAE

TAXACEAE
(YEW FAMILY)

Taxus canadensis. Marsh. AMERICAN YEW. "GROUND HEMLOCK".
Lowlands, 27, sphagnum bog; 525, moist soil at base of wooded shore cliff.
Abundant in places.

PINACEAE
(PINE FAMILY)

Picea mariana. (Mill.) BSP. BLACK SPRUCE.
Lowlands, 356, 696, low sphagnum woods; Turkey Point, Bowden, 1935 (McM).
Abundantly spread through wet lowland woods.

Tsuga canadensis. (L.) Carr. HEMLOCK.
435, 704, Damp ravines along shore cliff. Frequent.

Larix laricina. (Du Roi.) Koch. TAMARACK. AMERICAN LARCH.
Lowlands, 204, 724, low sphagnum woods. Common.

Pinus Strobus. L. WHITE PINE.
298, edge of the shore cliff and dry upland woods. Infrequent.

Thuja occidentalis. L. ARBOR VITAE. "WHITE CEDAR".
304, along the wooded slope of the shore cliff; common in the sphagnum-
spruce-tamarack woods between beach and base of shore cliff.

Juniperus communis. L. var. depressa. Pursh. LOW JUNIPER.
Upland, 348, 237, dry woods, forming large mats; Turkey Point, Brown,
1932 (B). Abundant in places.

J. virginiana. L. RED JUNIPER. "RED CEDAR".
Lowlands, 182, sedge-horsetail meadow between beach and base of shore cliff;
Turkey Point, Bowden, 1935 (McM). Frequent.

ANGIOSPERMAE

TYPHACEAE
(CAT-TAIL FAMILY)

Typha latifolia. L. BROAD-LEAVED CAT-TAIL.

Lowlands, 311, marshy ground between old shore lines; 695, wet ground along stream at base of shore cliff. Common.

T. angustifolia. L. NARROW-LEAVED CAT-TAIL.

Turkey Point, Bowden, 1935 (McM); Turkey Point, Landon, Gaiser & Snure, 1936 (McM).

NAJADACEAE
(PONDWEED FAMILY)

Potamogeton heterophyllus. Schreb. VARIOUS-LEAVED PONDWEED.

Turkey Point, Stroud, 1934 (S).

P. praelongus. Wulf. WHITE-STEMMED PONDWEED.

Turkey Point, Stroud, 1934 (S); Port Rowan, Walsingham Tp., Herriot, 1901, (H).

P. pusillus. L. SMALL PONDWEED.

Turkey Point, Stroud, 1934 (S).

P. Richardsonii. (Benn.) Rydb. CLASPING-LEAVED PONDWEED.

Turkey Point, Bowden, 1935 (McM).

JUNCAGINACEAE
(ARROW-GRASS FAMILY)

Triglochin maritima. L. SEASIDE ARROW-GRASS.

Lowlands, 205, brackish marsh between sphagnum woods and shore cliff; Long Point, Gaiser, Landon & Snure, 1936 (McM).

T. palustris. L. MARSH ARROW-GRASS.

Lowlands, 320, 643, 644, damp sand along the beach; Turkey Point, Bowden, 1935 (McM); Long Point, Landon, Gaiser & Snure, 1936 (McM).

ALISMACEAE
(WATER-PLANTAIN FAMILY)

Sagittaria latifolia. Willd. BROAD-LEAVED ARROW-HEAD.

Lowlands, 738, ponds and backwashes along shore; St. Williams, Edmonds,
1915 (T); Port Rowan, Walsingham Tp., Herriot, 1901 (H).

S. latifolia. Willd. forma hastata. (Pursh) Robinson.

Lowland, 462,690, ponds and backwashes along shore; Turkey Point,
Bowden, 1935 (McM).

S. latifolia. Willd. forma gracilis. (Pursh) Robinson.

Lowland, 465,316, ponds and backwashes along shore; Turkey Point,
Bowden, 1935 (McM).

S. graminea. Michx. GRASS-LEAVED SAGITTARIA.

Lowland, 318, ponds and backwashes along shore; Turkey Point, Bowden,
1935 (McM).

Alisma Plantago-aquatica. L. "WATER-PLANTAIN".

Lowland, 317, ponds and backwashes along shore; Turkey Point, Bowden,
1935 (McM); Turkey Point, Landon, Gaiser & Snure, 1936 (McM). Frequent.

HYDROCHARITACEAE
(FROG'S BIT FAMILY)

Elodea canadensis. Michx. WATER-WEED.

Lowland, 411, submerged stage along edge of marsh; Turkey Point, Bowden,
1935 (McM). Common.

Vallisneria spiralis. L. "TAPE-GRASS". "EEL-GRASS".

Lowland, common in streams and ditches and along edges of the big marsh.
No specimens were taken.

GRAMINEAE
(GRASS FAMILY)

Digitaria sanguinalis. (L.) Scop. LARGE CRAB GRASS. FINGER-GRASS.

Upland, 396, fields and roadsides; Port Dover, Woodhouse Tp., Millman,
1880 (T). Common.

Panicum huachucae. Ashe.

HAIRY PANIC-GRASS.

Lowland, 148, sandy ground along beach; Long Point, Herriot, 1901 (H).

Frequent.

P. Scribnerianum. Nash.

SCRIBNER'S PANIC-GRASS.

Lowland, 134, sandy ground by roadside; upland, 165, sandy plains, 228, along roadsides; Turkey Point, Landon, 1936 (L); Normandale, Marie-Victorin, 1936 (T); St. Williams, Marie-Victorin, 1936 (CAN). Common.

Echinochloa Walteri. (Pursh) Nash.

SALT-MARSH COCKSPUR GRASS.

Turkey Point, Stallwood, 1936 (OAC).

Setaria viridis. (L.) Beauv.

GREEN FOXTAIL. BOTTLE GRASS.

Lowland, 427, sandy ground along beach road. Abundant.

Cenchrus carolinianus. Walt.

SMALL BUR-GRASS.

Lowland, frequently seen along sandy beach but no specimens taken; Turkey Point, Stallwood, 1936 (T); Turkey Point, Stroud, 1937 (S). Frequent.

Zizania aquatica. L.*

INDIAN RICE. WILD RICE.

Lowland, 415, along the shore and edge of marsh. Common.

Phleum pratense. L.

TIMOTHY. HERD'S GRASS.

Upland, 163, dry plains and edges of fields. Common.

Sporobolus cryptandrus. (Torr.) Gray.

SAND DROPSEED.

Upland, 350, sand dunes. Abundant in places. Long Point, Herriot, 1900 (H).

Agrostis alba. L.

RED TOP. FIORIN OR WHITE BENT-GRASS.

Lowland, 321, in the sand along beach; upland, 387, roadsides. Common.

Calamagrostis canadensis. (Michx.) Beauv.

BLUE-JOINT GRASS.

Lowland, 707, sandy soil and shore-line ridges; Long Point, Macoun, 1892 (CAN).

Koeleria cristata. (L.) Pers.

Upland, lot 1, concession VIII, Landon, 1937 (L).

* This species is listed by Wiegand & Eames (1925)⁴⁰, p.456, as a salt plant, or halophyte.

Phragmites communis. Trin.* COMMON REED-GRASS.
Lowland, 700, Marshy ground along base of shore cliffs; 741, the marsh;
Turkey Point, Brown, 1936 (B); Long Point, Herriot, 1899 (H); Turkey
Point, Stallwood, 1936 (OAC). Common and abundant, especially in the big
marsh, of which it is the dominant species.

Poa compressa. L. WIRE-GRASS. FLAT-STEMMED MEADOW-GRASS.
Upland, 166, open sandy plains. Frequent.

P. triflora. Gilib. FALSE RED-TOP. FOWL MEADOW GRASS.
Lowland, 215, sandy soil along stream crossing the beach. Occasional.

P. pratensis. L. JUNE GRASS. KENTUCKY BLUE GRASS.
Lowland, 108,111,149, sandy soil; upland, 58,63, important element in the
sandy open plains; Turkey Point, Taylor, 1933 (T).

P. trivialis. L. ROUGH-STALKED MEADOW GRASS.
Turkey Point, Brown, 1936 (B).

Glyceria nervata. (Willd.) Trin. NERVED MANNA GRASS.
Lowland, 200, moist soil along base of shore cliff; upland, 174, wet
ditches and roadsides. Occasional.

G. grandis. Wats. TALL MANNA GRASS. REED MEADOW G.
Lowland, 211, sandy soil along creek crossing the beach; Courtland,
Middleton Tp., Macoun, 1901 (CAN). Frequent.

Elymus canadensis. L. NODDING WILD RYE.
Lowland, 414, in sandy soil along beach; Turkey Point, Bowden, 1935 (McM).

Hystrix patula. Moench. BOTTLE-BRUSH GRASS.
Upland, 195,297, dry sandy plains and old fields. Common.

CYPERACEAE
(SEDEGE FAMILY)

Cyperus rivularis. Kunth. SHINING CYPERUS.
Lowland, 399, moist sandy soil along beach; Turkey Point, Bowden, 1935
(McM). Occasional.

* This species is listed by Wiegand & Eames⁴⁰ (1925), p.456, as a salt plant or
halophyte.

- C. strigosus. L. STRAW-COLOURED CYPERUS.
St. Williams, lowland, 770, wet sandy soil; upland, 388, Moist ditches along roadside. Occasional.
- C. ovularis. (Michx.) Torr. GLOBOSE CYPERUS.
Upland, 334,395,401, moist woodland. Occasional.
- C. filiculmis. Vahl. SLENDER CYPERUS.
Turkey Point, Brown, 1936 (L),(B).
- Eleocharis quadrangulata. (Michx.) R. & S.* ANGLED-SPIKE-RUSH
Long Point, Landon, Gaiser & Snure, 1936 (L), (McM).
- E. palustris. (L.) R. & S. CREEPING SPIKE-RUSH.
Lowland, 214,809, sandy banks of stream crossing beach; Turkey Point, Bowden, 1935 (McM); Turkey Point, Brown, 1936 (B).
- Scirpus americanus. Pers. "THREE-SQUARE". SWORD-GRASS.
Lowland, 99,207,466, marshy ground along beach; Turkey Point, Bowden, 1935 (McM). Common and abundant.
- S. validus. Vahl. "GREAT-BULRUSH".
Turkey Point, Brown, 1936 (B).
- S. rubrotinctus. Fernald. SMALL-FRUITED BULRUSH.
Lowland, 299, marshy ground along base of shore cliff; Turkey Point, Bowden, 1935 (McM).
- S. atrovirens. Muhl. DARK-GREEN BULRUSH.
Lowland, 147,217,280, marshy ground and old shore-lines; upland, 171,173, ditches along roadside. Frequent.
- S. cyperinus. (L.) Kunth. "WOOL-GRASS".
Lowland, 756,719, marshy ground. Abundant in places.
- Eriophorum viridi-carinatum. (Engelm.) Fernald. THIN-LEAVED COTTON-GRASS.
Turkey Point, Bowden, 1935 (McM).

* This species is listed by Wiegand & Eames (1925)⁴⁰, p. 455, as a "southern element in the flora".

- Carex tribuloides. Wahlenb. BLUNT BROOM SEDGE.
Lowland, 75,84,106,212,309, marshy ground; upland, 390,393, moist stream
beds and ditches. Common.
- C. cristata. Schwein. CRESTED SEDGE.
Lowland, 146,286, moist banks and marshy ground; upland, 377, ditches
along roadside. Frequent.
- C. stellulata. Good. var. ormantha. Fernald. LITTLE PRICKLY SEDGE.
122, rich wooded ravine. Occasional.
- C. stellulata. Good. var. cephalantha. (Bailey) Fernald.
135, moist banks along upland creek. Occasional.
- C. scirpoides. Schkuhr.
Lowland, 157, old shore lines; 182, sedge-horsetail meadow. Frequent.
- C. Sartwellii. Dewey. SARTWELL'S SEDGE.
Upland, 826, dry open plains. Occasional.
- C. crinita. Lam. FRINGED SEDGE SICKLE-GRASS.
Upland, 372,420, rich woods. Occasional.
- C. aurea. Nutt. GOLDEN-FRUITED SEDGE.
Lowland, 424, moist bank along beach; upland, 407, moist woods; Simcoe,
Brown, 1936 (B). Occasional.
- C. leptalea. Wahlenb. BRISTLE-STALKED SEDGE.
Lowland, 74, sphagnum bog; Simcoe, Brown, 1936 (B). Infrequent.
- C. varia. Muhl. EMMON'S SEDGE.
Upland, 808, sandy plains. Common.
- C. pennsylvanica. Lam. PENNSYLVANIA SEDGE.
Upland, 20,21,25,62, open sandy plains. Common.
- C. digitalis. Willd. SLENDER WOOD SEDGE.
69, moist banks along shore. Occasional.
- C. laxiflora. Lam. var. leptonervia. Fernald. TWO-EDGED SEDGE.
Lowland, 70, sphagnum bog.

C. granularis. Muhl. MEADOW SEDGE.

Lowlands, 144, old shore lines, sandy soil. Occasional.

C. vestita. Willd. VELVET SEDGE.

Lowland, 142, old shore line, sandy soil. Infrequent.

C. hystericina. Muhl. PORCUPINE SEDGE.

Upland, 170, ditches along roadside. Frequent.

C. lupulina. Muhl. var. pedunculata. Dewey. HOP SEDGE.

Upland, 376, ditches along road west from Provincial Bird Fam.

Frequent.

C. vesicaria. L. INFLATED SEDGE.

Lowland, 203, moist ground along base of shore cliff. Occasional.

ARACEAE
(ARUM FAMILY)

Arisaema triphyllum. (L.) Schott. INDIAN TURNIP. JACK-IN-THE-PULPIT.

7,468, wooded hillsides and ravines; Turkey Point, Bowden, 1935 (McM);

St. Williams, Edmonds, 1915 (T); Norfolk Co., Sharpe, 1915 (T). Common.

Calla palustris. L. WATER ARUM. WILD CALLA.

Upland, 189, marshy stream in rich woodlands. Occasional.

Symplocarpus foetidus. (L.) Nutt. SKUNK CABBAGE.

Lowlands, common along the base of the shore cliff but no specimens taken.

Acorus Calamus. L. SWEET FLAG.

Turkey Point, Bowden, 1935 (McM).

LEMNACEAE
(DUCKWEED FAMILY)

Lemna minor. L. LESSER DUCKWEED.

Lowland, frequently seen in ponds and slow streams, but not collected.

PONTEDERIACEAE
(PICKEREL-WEED FAMILY)

Pontederia cordata. L. PICKEREL-WEED.
Lowland, 409, shallow water of ponds and marsh; Turkey Point, Stallwood,
1936 (OAC); Port Rowan, Herriot, 1899 (H).

Heteranthera dubia. (Jacq.) MacM. WATER STAR-GRASS.
Turkey Point, Bowden, 1935 (McM); Turkey Point, Stallwood, 1936 (OAC);
Port Rowan, Herriot, 1901 (H).

JUNCACEAE
(RUSH FAMILY)

Juncus Dudleyi. Wiegand.. DUDLEY'S RUSH.
Lowland, 150,210, marshy ground. Frequent.

J. balticus. Willd. var. littoralis. Engelm. BALTIC RUSH.
Lowland, 67,98,154, along the shore and in marshy places; Turkey Point,
Brown, 1932 (B); Long Point, Herriot, 1901 (H). Common.

J. effusus. L. COMMON OR SOFT RUSH. BOG RUSH.
Upland, 258,260,371, marshy ground. Frequent.

J. brachycephalus. (Engelm.) Buchenau. SHORT-FRUITED RUSH.
Lowland, 324, moist ground along sandy beach. Infrequent.

J. nodosus. L. KNOTTED RUSH.
Lowland, 461, moist ground along sandy beach. Occasional. Turkey Point,
Brown, 1936 (B).

J. Torreyi. Coville. TORREY'S RUSH.
Lowland, 458,460, moist ground along beach; Turkey Point, Brown, 1936 (B);
Port Dover, Woodhouse Tp., Macoun, 1890 (CAN).

J. scirpoides. Lam. SCIRPUS-LIKE RUSH.
Lowland, 467, moist sandy ground along shore. Frequent.

LILIACEAE
(LILY FAMILY)

- Chamaelirium luteum. (L.) Gray. DEVIL'S BIT.
Turkey Point, lot 12, concession II, Landon, 1936 (L). Becoming rare.
- Uvularia perfoliata. L. PERFOLIATE BELLWORT.
Upland, 418, rich woods, lot 7, concession II. Rather infrequent.
- U. grandiflora. Sm. LARGE-FLOWERED BELLWORT.
137, rich wooded ravines along shore; Turkey Point, Stallwood, 1936 (OAC);
Turkey Point, Brown, 1931 (B).
- Oakesia sessilifolia. (L.) Wats. SESSILE-LEAVED BELLWORT.
Turkey Point, Stallwood, 1936 (T); Turkey Point, Stroud, 1934 (S).
- Allium canadense. L. WILD OR MEADOW GARLIC.
197, wooded ravines along shore west of Turkey Point. Occasional.
- Lilium philadelphicum. L. WILD OR WOOD LILY.
Upland, 229,608,609, woods or thickets along shore cliffs; 610, rich
woods, lot 7, concession II; Turkey Point, Bowden, 1935 (McM). Common.
- L. canadense. L. CANADA OR NODDING LILY.
Lowland, 313,335, low wet woods. Frequent.
- Erythronium americanum. Ker. YELLOW ADDER'S-TONGUE. DOG-TOOTH VIOLET.
Turkey Point, Brown, 1931 (B).
- E. albidum. Nutt. WHITE ADDER'S-TONGUE.
Turkey Point, Brown, 1933 (B).
- Asparagus officinalis. L. GARDEN ASPARAGUS.
Upland, 245, sandy ridge by reforestation plot; Turkey Point, Bowden,
1935 (McM). Frequently escapes.
- Clintonia borealis. (Ait.) Raf. YELLOW CLINTONIA.
Lowland, 72, sphagnum bog; Turkey Point, Taylor, 1933 (T); Turkey Point,
Bowden, 1935 (McM).

- Smilacina racemosa. (L.) Desf. FALSE SOLOMON'S SEAL. FALSE SPIKENARD.
90, 547, 548, 549, ravines and wooded hillsides along shore; Turkey Point,
Bowden, 1935 (McM). Common.
- S. stellata. (L.) Desf. STAR-FLOWERED FALSE SOLOMON'S SEAL.
Upland, 53, 526, 527, 528, rich or rather dry woods, sandy soil; Turkey
Point, Taylor, 1933 (T); Turkey Point, Bowden, 1935 (McM). Abundant.
- S. trifolia. (L.) Desf. THREE-LEAVED FALSE SOLOMON'S SEAL.
Lowland, 40, sphagnum bog; Turkey Point; Bowden, 1935 (McM). Occasional.
- Maianthemum canadense. Desf. FALSE LILY OF THE VALLEY. TWO-LEAVED FALSE
SOLOMON'S SEAL.
60, 539, moist wooded ravines; Turkey Point, Bowden, 1935 (McM) Frequent.
- Disporum lanuginosum. (Michx.) Nichols. HAIRY DISPORUM.
Lowland, 747, woodland along old shore lines; Port Rowan, Macoun, 1892
(CAN); St. Williams, Brown, 1937 (B); Simcoe, Brown, 1937 (B); Port Dover,
Woodhouse Tp., Macoun, 1882 (CAN); Norfolk Co., Macoun, 1868 (CAN);
Norfolk Co., Brown, 1933 (T). Common.
- Polygonatum biflorum. (Walt.) Ell. SMALL SOLOMON'S SEAL.
Lowland, 561, 716, dry woods along old shore lines; upland, 116, 557, 560,
dry sandy woods; Turkey Point, Taylor, 1933 (T); Turkey Point, Bowden,
1935 (McM). Common and abundant.
- Medeola virginiana. L. INDIAN CUCUMBER-ROOT.
80, 543, rich shaded ravine along shore; Norfolk Co., Sharpe, 1915 (T).
Occasional.
- Trillium erectum. L. ILL-SCENTED WAKE-ROBIN. RED TRILLIUM.
Lowland, 6, moist shaded ground along base of shore cliffs. Frequent.
- T. grandiflorum. (Michx.) Salisb. LARGE-FLOWERED WAKE-ROBIN. WHITE TRILLIUM.
Lowland, 4, moist shaded ground along base of shore cliffs. Common.

Smilax herbacea. L. CARRION-FLOWER.
Upland, 169, dry woods along shore cliffs; Turkey Point, Bowden, 1935,
(McM). Common.

S. ecirrhata. (Engelm.) Wats. UPRIGHT SMILAX.
Upland, 425, dry sandy woods; Turkey Point, Bowden, 1935 (McM). Common.

AMARYLLIDACEAE
(AMARYLLIS FAMILY)

Hypoxis hirsuta. (L.) Coville. STAR GRASS.
Turkey Point, Stroud, 1934 (S); Turkey Point, Brown, 1932 (B); Walsh,
Brown, 1938 (B).

DIOSCOREACEAE
(YAM FAMILY)

Dioscorea villosa. L. WILD YAM-ROOT.
Turkey Point; Taylor, 1932 (T); Stroud, 1934 (S); Brown, 1930 (B); Walsh,
Brown, 1932 (B); St. Williams, Marie-Victorin, 1936 (T).

IRIDACEAE
(IRIS FAMILY)

Iris versicolor. L.* LARGE BLUE FLAG.
Upland, 595, 595a, 595b, wet ditches along road west from Provincial Bird
Farm, lot 9, concession I, Charlotteville Tp. Common.

(St. Williams, Edmonds, 1915 (T); Norfolk Co., Reid, 1898 (T). The
author has seen the specimens and they appear to belong to the next
species, which has been since separated by Anderson. (1928)³)

I. virginica. L. var. Shrevei. (Small) E. Anders.* VIRGINIA BLUE FLAG.
Lowland, 155, low marshy places between old shore lines and along shore
road. Common and abundant.

* The determinations were made by Dr. Edgar Anderson, of the Missouri Botanical
Garden, St. Louis, Missouri.

Sisyrinchium angustifolium. Mill.

NARROW-LEAVED BLUE-EYED GRASS.

Upland, 95, dry thicket along edge of shore cliff, 120, dry sandy plain; Turkey Point, Stroud, 1934 (S); Simcoe, Brown, 1936 (B); Norfolk Co., Reid, 1915 (T). Occasionl.

ORCHIDACEAE
(ORCHID FAMILY)

Cypripedium arietinum. R. Br.

RAM'S HEAD LADY'S SLIPPER.

Found on May 30th. 1908 by Dr. W.E.Saunders (1908) of London, Ontario, (accompanied by J.S.Wallace of Toronto) within a quarter of a mile of Lake Erie at Turkey Point, growing in more open places in a cedar thicket. It "appeared to be flourishing".

Mr. Monroe Landon, of Simcoe, also saw this species at Turkey Point in 1923, but it has not been recently collected, to my knowledge.

C. parviflorum. Salisb.

SMALLER YELLOW LADY'S SLIPPER.

Lowland, 114,825, moist ground along edge of rich woods and in cedar thickets; Turkey Point; Taylor, 1933 (T), Howitt, 1932 (OAC), Bowden, 1935 (McM), Stroud, 1934 (S). Rather frequent.

C. parviflorum. Salisb. var. pubescens. (Willd.) Knight.

(See Pl. V, fig. 1, p. 131.)

LARGER YELLOW LADY'S SLIPPER.

Lowland, 86, rich ravines and low wet woods; Turkey Point, Bowden, 1935, (McM). Frequent.

C. candidum. Muhl.

SMALL WHITE LADY'S SLIPPER.

Lowland, 115, cedar thickets and bog; Turkey Point: Howitt, 1933 (OAC), Brown, 1932 (B), Bowden, 1935 (McM). Rather rare.

C. parviflorum. Salisb. var. pubescens. (Willd.) Knight. X C. candidum. Muhl.*

Lowland, 556,559, moist soil in cedar thicket and edge of sphagnum woods; Turkey Point, Bowden, 1935 (McM).

This hybrid was first discovered by Mr. Monroe Landon, of Simcoe, Ontario,

* A detailed description may be obtained from Mr. Monroe Landon: "Description of a range of Cypripediums, supposedly hybrids between C. pubescens, parviflorum, and candidum, found growing along the north shore of Lake Erie." June 11th. 1932. (Unpublished.)

and shows characteristics intermediate between these two species.

(See plates V, VI, VI.) The small white, small yellow, large yellow, and the hybrid Lady's Slipper all grow in fairly close proximity to one another.

C. hirsutum. Mill. (See Pl. IV, fig. 1.) SHOWY LADY'S SLIPPER.

Lowland, 179, 580, 581, low wet woods and sphagnum bog; Turkey Point, Bowden, 1935 (McM); Courtland, Middleton Tp., Macoun, 1901 (CAN). Frequent.

C. acaule. Ait. PINK MOCCASIN. STEMLESS LADY'S SLIPPER.

Turkey Point, Bowden, 1935 (McM); Turkey Point, Stroud, 1934 (S); Norfolk Co., Sharpe, 1915 (T). The author saw this species growing in a protected woodlot on concession III, Walsingham Tp., in May 1938, but did not take a specimen.

Orchis spectabilis. L. (See Pl. IV, fig. 2, p. 130.) SHOWY ORCHIS.

94, rich moist ravines; Turkey Point, Howitt, 1932 (OAC); Turkey Point, Bowden, 1935 (McM). Infrequent.

Habenaria hyperborea. (L.) R. Br. TALL LEAFY GREEN ORCHIS.

Lowland, 272, 635, banks of stream in shaded ravine. Infrequent.

Galopogon pulchellus. (Sw.) R. Br. CALOPOGON. GRASS PINK.

Turkey Point, Bowden, 1935 (McM); Long Point, Macoun, 1902 (CAN); Long Point, Landon, Gaiser & Snure, 1936 (McM). Abundant in places.*

Spiranthes cernua. (L.) Richard. NODDING LADIES' TRESSES.

Lowland, 828, wet sandy ground along beach; Fisher's Glen, Brown, 1936, (B). Occasional.

S. Romanzoffiana. Cham. HOODED LADIES' TRESSES.

Turkey Point, 1932, Brown (B); Simcoe, 1932, Brown (B).

Coralorrhiza maculata. Raf. LARGE OR SPOTTED CORAL ROOT.

Upland, 417, 774, dry woods. Infrequent.

* According to Mr. Landon (letter of April 17th. 1939) and Wray M. Bowden (letter of April 18th. 1939) the grass pink grows quite plentifully in a small marshy area between the inner end of Turkey Point marsh and the black spruce-cedar woods of the central part of the point.

- C. odontorhiza. Nutt.* SMALL OR AUTUMN CORAL ROOT.
Simcoe, Landon, 1935 (OAC). Rare.
- Liparis Loeselii. (L.) Richard. LOESEL'S TWAYBLADE.
Long Point, Landon, Gaiser & Snure, 1936 (McM), growing in sand near the
mainland.
- Aplectrum hyemale. (Muhl.) Torr. PUTTY ROOT. ADAM-AND-EVE.
Turkey Point: Landon, 1932 (OAC), Brown, 1932 (B). Rather rare.

SALICACEAE
(WILLOW FAMILY)

- Salix serissima. (Bailey) Fernald. AUTUMN WILLOW.
Lowland, 698, low wet ground, sphagnum bog. Common.
- S. cordata. Muhl. HEART-LEAVED WILLOW.
Lowland, 726, low marshy ground along base of shore cliff. Frequent.
- S. candida. Flügge. HOARY OR SAGE WILLOW.
Lowland, 31, woodland along old shore lines; Turkey Point, Taylor, 1933
(T). Common.
- Populus tremuloides. Michx. AMERICAN ASPEN. TREMBLING POPLAR.
Frequently seen along top of shore cliffs and in sandy places on beach,
but no specimen taken.
- P. grandidentata. Michx. LARGE-TOOTHED ASPEN.
Upland, 293, 636, dry thickets along shore cliff; Turkey Point, Bowden,
1935 (McM). Common.
- P. candicans. Ait. BALM OF GILEAD.
Lowland, 743, sandy places along shore. Common.
- P. deltoides. Marsh. EASTERN COTTONWOOD. NECKLACE POPLAR.
Turkey Point, Brown, 1934 (B); Long Point, Landon, Gaiser & Snure, 1936
(McM). Frequent.

* This species is listed by Wiegand & Eames (1925), p. 455, as a "southern
element in the flora".

MYRICACEAE
(SWEET GALE FAMILY)

Myrica carolinensis. Mill. SMALL WAXBERRY. BAYBERRY.

Lowland, 355,720, sphagnum bog; Turkey Point: Taylor, 1933 (T), Brown,
1931 (B), Bowden, 1935 (McM). Common.

M. asplenifolia. L. SWEET GALE. SWEET FERN.

Turkey Point, Howitt, 1932 (OAC).

JUGLANDACEAE
(WALNUT FAMILY)

Juglans cinerea.L. BUTTERNUT.

Turkey Point, Taylor, 1933 (T).

J. nigra. L. BLACK WALNUT.

Walsh, Brown, 1933 (B).

Carya cordiformis. (Wang.) K.Koch. BITTERNUT HICKORY.

Turkey Point, Taylor, 1933 (T).

BETULACEAE
(BIRCH FAMILY)

Carpinus caroliniana. Walt. AMERICAN HORNBEAM. BLUE OR WATER BEECH.

300, along wooded shore cliff slopes and ravines. Common.

Betula lenta. L. BLACK OR SWEET BIRCH.

305, wooded hillsides. Common.

B. lutea. Michx. f. YELLOW BIRCH.

583, rich moist woods and hillsides; Turkey Point, Bowden, 1935 (McM).

Frequent.

B. alba. L. var. papyrifera. (Marsh) Spach. PAPER, CANOE OR WHITE BIRCH.

292, in thickets along shore cliff and wooded hillsides. Common.

FAGACEAE
(BEECH FAMILY)

Fagus grandifolia. Ehrh. AMERICAN BEECH.

492,502,712, wooded shore cliffs. Common.

Castanea dentata. (Marsh) Borkh. AMERICAN CHESTNUT.

Upland, 255,616, woods and thickets; Turkey Point, Brown, 1932 (B);
St. Williams, Marie-Victorin, 1936 (T), (CAN); Ambrose, Walsingham Tp.,
Brown, 1937 (B). Common.

Quercus alba. L. WHITE OAK.

Upland, 55,531,532,533, dry sandy soil along edge of shore cliff and
open sandy plains. Common.

Q. lyrata. Walt. SWAMP POST-OAK.

Turkey Point, Brown, 1930,1932 (B).

Q. bicolor. Willd. SWAMP WHITE OAK.

Turkey Point, Brown, 1938 (B).

Q. Muhlenbergii. Engelm. CHESTNUT OR YELLOW OAK.

Turkey Point, Taylor, 1933 (T).

Q. prinoides. Willd. SCRUB OR DWARF CHESTNUT OAK.

Turkey Point, lot 19, concession V, Landon, 1937 (L); St. Williams,
Brown, 1938 (B).

Q. rubra. L. RED OAK.

Lowland, 290, sandy soil along old shore lines; upland, 402, rich woods;
Turkey Point: Brown, 1930, 1932 (B). Common.

Q. velutina. Lam. BLACK OAK.

Lowland, 751, sandy soil along old shore lines; upland, 56,535, sandy
soil along edge of shore cliff and on open plains; Normandale, Marie-
Victorin, 1936 (T). Common.

URTICACEAE
(NETTLE FAMILY)

Ulmus americana. L. AMERICAN ELM.

Common along the beach and roadsides but no specimens taken.

- Celtis occidentalis. L. HACKBERRY. SUGARBERRY.
Lowland, 769, old shore lines, sandy soil. Frequent.
- Urtica gracilis. Ait. SLENDER OR TALL WILD NETTLE.
Lowland, old shore lines, frequently seen but no specimens taken; Turkey Point, Bowden, 1935 (McM).

- Laportea canadensis. (L.) Gaud. WOOD OR CANADA NETTLE.
Turkey Point: Bowden, 1935 (McM), Stroud, 1935 (S).

- Boehmeria cylindrica. (L.) Sw. FALSE NETTLE.
Lowland, 742, old shore lines; Turkey Point: Stallwood, 1936 (T), Bowden, 1935 (McM). Common.

SANTALACEAE
(SANDALWOOD FAMILY)

- Comandra umbellata. (L.) Nutt. BASTARD TOAD FLAX.
Upland, 41,515,575, dry thickets along edge of shore cliff; Turkey Point: Howitt, 1932 (OAC), Bowden, 1935 (McM), Stroud, 1934 (S). Common.
- C. Richardsiana. Fernald. RICHARD'S COMANDRA.
Turkey Point, Brown, 1932 (B).

ARISTOLOCHIACEAE
(BIRTHWORT FAMILY)

- Asarum canadense. L. WILD GINGER.
79, moist shaded ravines along shore cliff; Turkey Point, Bowden, 1935 (McM). Common.

POLYGONACEAE
(BUCKWHEAT FAMILY)

- Rumex Patientia. L. PATIENCE DOCK.
Lowland, 186, moist bank of stream along base of shore cliff. Occasional.
- R. Britannica. L. GREAT WATER DOCK.
Turkey Point, Bowden, 1935 (McM).

- R. elongatus. Guss. CURLED OR NARROW DOCK.
Lowland, 587, sandy ground by shore road. Occasional.
- R. obtusifolius. L. BROAD-LEAVED OR BITTER DOCK.
Lowland, 285, marshy ground at edge of low wet woods. Frequent.
- R. Acetosella. L. SOURWEED. SHEEP SORREL.
Upland, 32,59,538, dry sandy plains and fields; Turkey Point, Brown,
1931 (B). Common and abundant.
- Polygonum lapathifolium. L. DOCK-LEAVED OR PALE PERSICARIA.
Turkey Point, Bowden, 1935 (McM).
- P. Careyi. Olney.
Turkey Point, Indian Creek, Landon, 1936 (L).
- P. virginianum. L. VIRGINIA KNOTWEED.
Lowland, 454,708, low wet woods; Turkey Point, Landon, 1937 (L); Turkey
Point, Brown, 1932 (B). Frequent.
- P. Convolvulus. L. BLACK OR CORN BINDWEED.
Upland, 347, open plains and fields, sandy soil; Turkey Point, Bowden,
1935 (McM). Abundant in places.
- P. cilinode. Michx. FRINGED BLACK BINDWEED.
Turkey Point, Landon, 1937 (L).

CHENOPODIACEAE
(GOOSEFOOT FAMILY)

- Cycloloma atriplicifolium. (Spreng.) Coult. WINGED PIG-WEED.
Turkey Point: Brown, 1932 (B), Herriot, 1927 (CAN); St. Williams, Marie-
Victorin, 1932 (T).
- Chenopodium ambrosioides. L. var. anthelminticum. (L.) Gray. MEXICAN TEA.
Turkey Point, Stallwood, 1936 (OAC).
- C. Botrys. L. JERUSALEM OAK.
Turkey Point, Stallwood, 1936 (OAC).

C. hybridum. L.

MAPLE-LEAVED GOOSEFOOT.

Upland, 398, rich moist woodland. Abundant in places.

AMARANTHACEAE
(AMARANTH FAMILY)

Acnida tuberculata. Moq.

ROUGH-FRUITED WATER HEMP.

Turkey Point, Stallwood, 1936 (OAC).

PHYTOLACCACEAE
(POKEWEED FAMILY)

Phytolacca decandra. L.

COMMON POKE OR SCOKE. PIGEON BERRY. GARGET.

Lowland, 838, damp ground between old shore lines; Turkey Point, Bowden, 1935 (McM); Port Rowan, Herriot, 1899 (H).

PORTULACACEAE
(PURSLANE FAMILY)

Claytonia virginica. L.

NARROW-LEAVED SPRING BEAUTY.

Lowland, 16, low wet woods. Occasional.

CARYOPHYLLACEAE
(PINK FAMILY)

Arenaria lateriflora. L.

BLUNT-LEAVED SANDWORT.

Lowland, 841, sandy soil along old shore lines; Turkey Point: Howitt, 1932 (OAC), Bowden, 1935 (McM), Stroud, 1934 (S).

A. serpyllifolia. L.

THYME-LEAVED SANDWORT.

Lowland, 208, sandy ground along old shore lines; upland, 123, open sandy plains; Turkey Point: Bowden, 1935 (McM), Brown, 1937 (B); Long Point, Marie-Victorin, 1936 (T).

A. stricta. Michx.

ROCK SANDWORT.

Lowland, 153, sandy soil along old shore lines; upland, 124, open sandy plains; Turkey Point: Stallwood, 1936 (OAC), Bowden, 1935 (McM), Stroud, 1934 (S); St. Williams: Marie-Victorin, 1936 (T), Brown, 1931 (B).

Common.

- Stellaria longifolia. Muhl. LONG-LEAVED STITCHWORT.
Upland, 259, damp grassy patches in rich woods. Frequent.
- S. graminea. L. LESSER STITCHWORT.
Turkey Point, Landon, 1937 (L).
- Cerastium vulgatum. L. COMMON OR LARGER MOUSE-EAR CHICKWEED.
Lowland, 105, along roadside; upland, sandy soil, 558, along roadside;
Turkey Point, Bowden, 1935 (McM). Common.
- C. nutans. Raf. NODDING CHICKWEED.
Turkey Point, Stroud, 1934 (S).
- Silene antirrhina. L. SLEEPY CATCHFLY.
Turkey Point, Landon, 1937 (L).
- S. noctiflora. L. NIGHT-FLOWERING CATCHFLY.
Upland, 352, dry woods. Occasional.
- S. latifolia. (Mill.) Britten & Rendle. BLADDER CAMPION.
Lowland, 268, sandy soil along beach east of Turkey Point; Turkey Point,
Bowden, 1935 (McM). Occasional.
- Saponaria officinalis. L. SOAPWORT. BOUNCING BET.
Lowland, 654, in sand along the beach; upland, 333, sandy soil by the
roadside; Turkey Point, Bowden, 1935 (McM); Normandale, Brown, 1930 (B).
Common.
- NYMPHAEACEAE
(WATER-LILY FAMILY)
- Nymphaea advena. Ait. SPATTERDOCK. YELLOW POND-LILY.
Lowland, 833, in ponds and ditches through the marsh; Turkey Point,
Bowden, 1935 (McM); Long Point, Boughner, 1893 (T). Common.
- Castalia tuberosa. (Paine) Greene. TUBEROUS WHITE WATER-LILY.
Lowland, 413, in ponds and about edge of the marsh. Frequent.

Nelumbo lutea.*(Willd.) Pers. LOTUS. AMERICAN OR YELLOW NELLUMBO. CHINQUAPIN.

Lowland, 408, abundant in "Little Bay" at the edge of Turkey Point marsh. (See Photograph I, page 11.) St. Williams; Brown, 1934,1936 (B), Richardson, 1918 (DA0); Port Rowan; Herriot, 1899 (H), Macoun, 1892 (CAN), Scott, 1896 (CAN), Sproule, 1900 (T); Trembley Creek, Kent Co., Ontario, Gaiser, 1938 (McM).

CERATOPHYLLACEAE
(HORNWORT FAMILY)

Ceratophyllum demersum. L. HORNWORT.

Lowland, 412, in ponds and slow streams. Common.

C. demersum. L. var. echinatum. Gray.

Turkey Point, Stallwood, 1936 (OAC).

RANUNCULACEAE
(CROWFOOT FAMILY)

Ranunculus circinatus. Sibth. STIFF WHITE WATER CROWFOOT.

Lowland, 319, ponds and backwashes along shore. Common.

R. aquatilis. L. var. capillaceus. DC. WHITE WATER CROWFOOT.

Lowland, 101, ponds and backwashes along shore; Turkey Point, Landon, 1937 (L). Common.

* Macoun (1883)²⁴ reported the lotus lily for the Detroit River and near the mouth of the Welland Canal. He noticed it at St. Williams in 1892, while making a botanical collecting trip along the Lake Erie shore.(1893)²⁵ Richardson also reported the same situation twenty-six years later, and stated: (1918)³³

"one may well conclude that unless the plants in the Detroit River and the Welland Canal mentioned by Macoun in 1883 are still there, St. Williams, so far as known, is the only place in Canada where the lotus lily grows."

Regarding the Welland Canal report, I have seen no recent records or specimens for lotus, but the Detroit River station may well have been correct, since Dr. Lulu O. Gaiser, of McMaster University, collected lotus at Trembley Creek, Kent Co., (near the Lake St. Clair-Detroit River waterways) in the summer of 1938. In the Turkey Point vicinity the lotus was once fairly abundant near Port Rowan and St. Williams but now these stands have diminished and the lotus has taken refuge in "Little Bay", a protected inlet along the edge of the Turkey Point marsh,(See map 3.) where it occupies an area of several acres and is flourishing.

- R. sceleratus. L. CURSED CROWFOOT.
Turkey Point, Bowden, 1935 (McM).
- R. abortivus. L. SMALL-FLOWERED CROWFOOT.
Lowland, 17, low wet woods; Turkey Point: Stallwood, 1936 (T), Bowden, 1935 (McM). Occasional.
- R. recurvatus. Poir. HOOKED CROWFOOT.
Lowland, 544, sandy ground along beach, 81, moist wooded ravine. Occasional.
- R. fascicularis. Muhl. EARLY BUTTERCUP.
Upland, 26,35,44,596, open sandy plains; Turkey Point: Stallwood, 1936 (OAC), (T), Bowden, 1935 (McM), Brown, 1931,1933,1937 (B). Common.
- R. septentrionalis. Poir. SWAMP BUTTERCUP.
136, moist banks of upland stream. Occasional.
- R. hispidus. Michx. HISPID BUTTERCUP.
Turkey Point, Brown, 1933 (B); Walsh, Brown, 1937 (B).
- R. pennsylvanicus. L.f. BRISTLY CROWFOOT OR BUTTERCUP.
Upland, 394, rich woods. Occasional.
- R. acris. L. TALL MEADOW BUTTERCUP.
Lowland, 131, fields and roadside; Turkey Point, Bowden, 1935 (McM).
Common.
- Thalictrum dioicum. L. EARLY MEADOW RUE.
14,507, rich wooded hillsides along shore; Turkey Point, Bowden, 1935 (McM). Frequent.
- T. revolutum. DC. WAXY MEADOW RUE.
Lowland, 590, edge of the marsh; upland, 190,589, marshy ground; Turkey Point, Bowden, 1935 (McM). Common.

Anemonella thalictroides. (L.) Spach.

RUE ANEMONE.

845, wooded ravines; Turkey Point: Howitt, 1932 (OAC), Brown, 1931 (B).

Occasional.

Hepatica triloba. Chaix.

BIJNT-LEAVED HEPATICA OR LIVERLEAF.

24,510, wooded ravine along shore; 511, dry upland woods; Turkey Point,

Bowden, 1935 (McM); Norfolk Co.: Reid, 1915 (T), Sharpe, 1915 (T). Common.

Anemone cylindrica. Gray.

LONG-FRUITED ANEMONE.

Upland, 168,572, dry woods and thickets; St. Williams, Marie-Victorin,

1936 (T). Common.

A. virginiana. L.

TALL ANEMONE. THIMBLE-WEED.

202,222,489,597, dry woods and thickets along shore cliff; Turkey Point,

Bowden, 1935 (McM). Common.

A. canadensis. L.

CANADA ANEMONE.

Lowland, 151,567, sandy ground along roadside and old shore lines; Turkey

Point; Brown, 1932 (B), Bowden, 1935 (McM), Stroud, 1934 (S); Norfolk Co.,

Reid, 1915 (T). Common.

A. quinquefolia. L.

WOOD ANEMONE. WIND FLOWER.

844, wooded ravine; Turkey Point, Bowden, 1935 (McM); Norfolk Co.,

Sharpe, 1915 (T). Occasional.

Clematis virginiana. L.

VIRGIN'S BOWER. WHITE CLEMATIS.

Turkey Point, Stallwood, 1936 (T).

Caltha palustris. L.

COWSLIP. MARSH MARIGOLD.

Lowland, 88,546, marshy ground along base of shore cliff; Turkey Point,

Bowden, 1935 (McM); Long Point, Bayliss, 1885 (T). Abundant in places.

Coptis trifolia. (L.) Salisb.

GOLDTHREAD.

Lowland, 12,506, sphagnum bog; Turkey Point, Bowden, 1935 (McM). Common.

Aquilegia canadensis. L.

WILD COLUMBINE.

61,540, wooded ravines and hillsides; Turkey Point: Bowden, 1935 (McM), Taylor, 1933 (T); Norfolk Co., Sharpe, 1915 (T). Common and abundant.

Actaea rubra. (Ait.) Willd.

RED BANEERRY.

Lowland, 152,686, moist ground and ravines along shore cliff; upland, 568, rich woods; Turkey Point, Bowden, 1935 (McM). Common.

A. alba. (L.) Mill.

WHITE BANEERRY.

39, wooded ravine along shore cliff; upland, 360,480,670,671, rich woods and thickets; Turkey Point: Bowden, 1935 (McM), Taylor, 1933 (T). Common.

BERBERIDACEAE
(BARBERRY FAMILY)

Podophyllum peltatum. L.

MAY-APPLE. MANDRAKE.

Lowland, 30, thickets along old shore lines; Turkey Point, Bowden, 1935 (McM); Ambrose, Walsingham Tp., Brown, 1937 (B), Norfolk Co.: Sharpe, 1915 (T), Reid, 1915 (T). Frequent.

Caulophyllum thalictroides. (L.) Michx.

BLUE COHOSH.

Turkey Point, Bowden, 1935 (McM).

MAGNOLIACEAE

Magnolia acuminata. L.*

CUCUMBER TREE. POINTED-LEAVED MAGNOLIA.

Turkey Point, Stroud, 1934 (S); Walsh, Brown, 1932 (B).

Liriodendron Tulipifera. L.

WHITE WOOD. TULIP TREE.

198,594, Wooded ravine and low wet woods at base of shore cliff; Walsh, Brown, 1934 (B). Several large trees and a few medium-sized ones are scattered through the wooded ravine.

* Mr. Landon reported to the author (orally, March 29th, 1939) that some fairly large trees are growing near Walsh, on lot 13, concession VI and on lot 12, concession VIII, while a number of groups of seedlings can be found between Walsh and St. Williams, for example on lot 6, concession V. He believed it was probably indigenous.

LAURACEAE
(LAUREL FAMILY)

Sassafras variifolium. (Salisb.) Ktze. SASSAFRAS.

Upland, 54,529,530, thickets along edge of shore cliff; St. Williams,
Marie-Victorin, 1936 (T); Simcoe, Brown, 1937 (B). Common and abundant.

Benzoïn aestivale. (L.) Nees. SPICE BUSH.

Lowland, 23,508, swampy ground and low wet woods; upland, 509, banks of
stream in rich woods; Turkey Point, Brown, 1932 (B). Common and abundant.

PAPAVERACEAE
(POPPY FAMILY)

Sanguinaria canadensis. L. BLOODROOT.

2.503, thickets and ravines along shore. Infrequent.

Chelidonium majus. L. CELANDINE.

Lowland, 102, sandy soil by roadside; Turkey Point, Bowden, 1935 (McM).
Abundant in places.

FUMARIACEAE
(FUMITORY FAMILY)

Dicentra Cucullaria. (L.) Bernh. DUTCHMAN'S BREECHES.

Lowland, 5, sandy soil along old shore lines. Infrequent.

CAPPARIDACEAE
(CAPER FAMILY)

Polanisia graveolens. Raf. GLAMMY WEED.

Lowland, 667,829, in sand along the beach; upland, 351,666, sand dunes;
Turkey Point, Weir, 1937 (T); Long Point, Landon, Gaiser & Snure, 1936
(McM). Common and abundant.

CRUCIFERAE
(MUSTARD FAMILY)

Lepidium campestre. (L.) R. Br. FIELD PEPPERGRASS.

Upland, 130,563, fields and roadsides. Common.

- Capsella Bursa-pastoris. (L.) Medic. SHEPHERD'S PURSE.
Lowland, 29, sandy ground by roadside; Turkey Point, Taylor, 1933 (T).
Frequent.
- Cakile edentula. (Bigel.) Hook. var. lacustris. Fernald. AMERICAN SEA ROCKET.
(See Rhod. 24:21-3, 1922.)
Turkey Point, Landon, Gaiser & Snure, 1936 (McM); Lake Erie shore,
Stallwood, 1936 (OAC).
- Sisymbrium altissimum. L. TUMBLING MUSTARD.
Lowland, 113, sandy soil along beach; Turkey Point, Landon, 1937 (L).
Occasional.
- Erysimum cheiranthoides. L. WORM-SEED MUSTARD.
Turkey Point, Bowden, 1935 (McM).
- Radicula Nasturtium-aquaticum. (L.) Britten & Kandle. WATER CRESS.
Lowland, 110, small streams along base of shore cliff. Frequent.
- R. palustris. (L.) Moench. MARSH CRESS.
Turkey Point: Stallwood, 1936 (T), Stroud, 1936 (S).
- R. Armoracia. (L.) Robinson. HORSE-RADISH.
Lowland, 133, sandy ground by roadside. Occasional.
- Barbarea vulgaris. R. Br. WINTER CRESS.
Lowland, 103, sandy soil along shore road. Occasional.
- Dentaria diphylla. Michx. TWO-LEAVED TOOTHWORT. CRINKLEROOT.
Turkey Point, Bowden, 1935 (McM); Houghton Tp., Taylor, 1937 (L).
- D. laciniata. Muhl. CUT-LEAVED TOOTHWORT. PEPPERWORT.
Lowland, 9, sandy soil along old shore line; Turkey Point: Taylor, 1933
(T), Brown, 1931 (B). Abundant in places.
- Cardamine Douglassii. (Torr.) Britton. PURPLE SPRING CRESS.
Lowland, 8, low wet woods along shore line. Occasional.

C. pratensis. L.

MEADOW BITTER CRESS. CUCKOO CRESS.

Lowland, 92,552, moist meadows; Turkey Point: Taylor, 1933 (T), Brown, 1934 (B), Bowden, 1935 (McM); Courtland, Middleton Tp., Macoun, 1901 (CAN). Common.

C. pennsylvanica. Muhl.

PENNSYLVANIA BITTER CRESS.

Lowland, 71, edge of sphagnum woods along base of shore cliff. Occasional.

Arabis lyrata. L.

LYRE-LEAVED ROCK CRESS.

Upland, 18,107,126,684, open plains and sand banks; Turkey Point: Taylor, 1933 (T), Stroud, 1936 (S), Bowden, 1935 (McM); St. Williams, Marie-Victorin, 1936 (T); Long Point, Boughner, 1892 (T). Common.

A. brachycarpa. (T. & G.) Britton.

Turkey Point, Brown, 1932 (B).

A. canadensis. L.

SICKLE-POD.

119,231,431,718, rich wooded hillsides and ravines. Common.

SARRACENIACEAE
(PITCHER-PLANT FAMILY)

Sarracenia purpurea. L.

PITCHER-PLANT. HUNTSMAN'S CUP.

Lowland, 847, sphagnum bog between black spruce-cedar woods and marsh. Occasional.

DROSERACEAE
(SUNDEW FAMILY)

Drosera rotundifolia. L.

ROUND-LEAVED SUNDEW.

Lowland, 713, sphagnum bog. Occasional.

GRASSULACEAE
(ORPINE FAMILY)

Penthorum sedoides. L.

DITCH STONECROP.

Upland, 386,767, moist ditches along roadside; Turkey Point: Stallwood, 1936 (OAC), Landon, Gaiser & Smure, 1936 (McM). Frequent.

Sedum acre. L.

MOSSY STONECROP.

Lowland, 270, in damp sand along beach east of Turkey Point; Turkey Point:

Bowden, 1935 (McM); Long Point, Boughmer, 1898 (T). Occasional.

SAXIFRAGACEAE
(SAXIFRAGE FAMILY)

Saxifraga virginensis. Michx. EARLY SAXIFRAGE.

10, moist shaded ravine; Turkey Point: Bowden, 1935 (McM), Brown, 1933
(B). Frequent.

Mitella diphylla. L. MITERWORT. BISHOP'S CAP.

82, moist banks of wooded ravine. Abundant in places.

M. nuda. L. NAKED MITERWORT.

Lowland, 83, sphagnum woods; Turkey Point, Bowden, 1935 (McM). Common.

Parnassia caroliniana. Michx. GRASS OF PARNASSUS.

Lowland, 771, damp places along beach, 478,490,725, ecotone between
horsetail meadow and cedar thickets; Turkey Point: Stallwood, 1936 (T),
Bowden, 1935 (McM). Common.

Ribes oxycanthoides. L. SMOOTH GOOSEBERRY.

Turkey Point, Taylor, 1933 (T).

R. floridum. L'Her. WILD BLACK CURRANT.

Lowland, 93, low wet woods; Norfolk Co., Sharpe, 1915 (T). Frequent.

HAMAMELIDACEAE
(WITCH-HAZEL FAMILY)

Hamamelis virginiana. L. WITCH-HAZEL.

302, wooded ravines and hillsides along shore. Common.

PLATANACEAE

Platanus occidentalis. L. SYCAMORE. BUTTONTREE. PLANE-TREE.

Lowland, 848, sandy ground along shore; Turkey Point, Bowden, 1935 (McM).
Occasional.

ROSACEAE
(ROSE FAMILY)

Physocarpus opulifolius. (L.) Maxim. NINE-BARK.

Upland, 250, moist shrubland, sandy soil. Occasional.

Spiraea latifolia. Borkh.

BROAD-LEAVED MEADOW SWEET.

Upland, 389, rich moist woods; Long Point, Landon, Gaiser & Smure, 1936 (McM). Occasional.

Pyrus coronaria. L.

AMERICAN OR NARROW-LEAVED CRABAPPLE.

Turkey Point, Stallwood, 1936 (OAC).

P. arbutifolia. (L.) L.f.

RED CHOKEBERRY.

Turkey Point, Taylor, 1933 (T).

P. melanocarpa. (Michx.) Willd.

BLACK CHOKEBERRY.

Lowland, 87, sphagnum bog. Occasional.

Amelanchier canadensis. (L.) Medic.

JUNE-BERRY. SERVICE-BERRY.

Upland, 235, dry thickets along shore cliff. Occasional.

Fragaria virginiana. Duchesne.

VIRGINIA WILD STRAWBERRY.

Upland, 34, dry sandy soil; Turkey Point, Taylor, 1933 (T). Common.

Potentilla monspeliensis. L.

ROUGH CINQUEFOIL.

Lowland, 206,603, dry sandy soil along shore. Common.

P. argentea. L.

SILVERY CINQUEFOIL.

Lowland, 240, sandy soil along beach; Turkey Point; Taylor, 1932 (T),

Bowden, 1935 (McM). Common.

P. recta. L.

YELLOW OR SULPHURY CINQUEFOIL.

Lowland and upland; 224, dry sandy upland plains; Turkey Point, Bowden, 1935 (McM). Common.

P. palustris. (L.) Scop.

MARSH CINQUEFOIL.

Turkey Point, Bowden, 1935 (McM).

P. Anserina. L.

WILD OR GOOSE TANSY. SILVERWEED.

Lowland, 97, sandy soil and marshy ground along beach; Turkey Point,

Bowden, 1935 (McM); Simcoe, Simmonds, 1934 (OAC). Common.

P. canadensis. L.

COMMON FIVE-FINGER. CINQUEFOIL.

Upland, 85,545, dry thickets along shore cliff. Common.

Geum canadense. Jacq.

WHITE AVENS.

Upland, 196,592,593, rich moist woods along shore cliff; Courtland,
Middleton Tp., Macoun, 1901 (CAN). Frequent.

G. strictum. Ait.

YELLOW AVENS.

Upland, 184, rich moist woods along shore cliff; Norfolk Co., Sharpe,
1915 (T). Frequent.

G. rivale. L.

WATER OR PURPLE AVENS.

Lowland, 51,524, wet places along streams; Turkey Point, Bowden, 1935
(McM). Frequent.

Rubus odoratus. L.

PURPLE-FLOWERING RASPBERRY. THIMBLEBERRY.

Lowland, 180,582, damp ground along base of shore cliffs; Turkey Point,
Bowden, 1935 (McM); Norfolk Co., Reid, 1915 (T). Common.

R. triflorus. Richards.

DWARF RED BLACKBERRY.

Lowland, 73, sphagnum bog; Turkey Point: Taylor, 1933 (T), Bowden, 1935
(McM), Stroud, 1936 (S). Common.

R. allegheniensis. Porter.

COMMON HIGHBUSH BLACKBERRY.

Upland, 141,127, sandy soil along edge of shore cliff and about fields,
roadsides. Common.

R. hispidus. L.

HISPID OR RUNNING BLACKBERRY.

Turkey Point, lot 15, concession VII, Landon, 1937 (L).

R. villosus. Ait.

LOW RUNNING BLACKBERRY. DEWBERRY.

Upland, 265, sandy open plains; Walsh, Brown, 1938 (B). Common.

Agrimonia gryposepala. Wallr.

TALL HAIRY AGRIMONY.

Upland, 336,655,656,657, rich moist woods; Turkey Point, Bowden, 1935
(McM). Common.

Rosa blanda. Ait.

SMOOTH OR MEADOW ROSE.

565, sandy slope of shore bank, east of Turkey Point; Turkey Point,
Bowden, 1935 (McM). Frequent.

R. virginiana. Muhl. LOW OR PASTURE ROSE.
Upland, 564, dry woods back from shore cliff. Common.

R. humilis. Marsh. DWARF ROSE.
Upland, 138,239, sandy ground and rolling slopes. Occasional.

Prunus serotina. Ehrh. WILD BLACK CHERRY. RUM CHERRY.
Upland, 291,517,554, dry thickets along edge of shore cliff; Turkey
Point, Bowden, 1935 (McM). Common.

P. virginiana. L. CHOKE CHERRY.
Upland, 45,518, dry thickets along edge of shore cliffs; Turkey Point,
Bowden, 1935 (McM). Common.

LEGUMINOSAE
(PULSE FAMILY)

Gymnocladus dioica. (L.) Koch.* KENTUCKY COFFEE-TREE.
Pelee Island, Macoun, 1892 (CAN).

Cercis canadensis. L.** REDBUD. JUDAS TREE.
Pelee Island, Macoun, 1892 (CAN).

* There is a tree on the lawn of a farmhouse on lot 9, concession II, Charlotteville Tp., Norfolk Co., but this has probably been planted there. Another tree exists in a similar situation near Caledonia on the Caledonia-Hamilton highway, but it is unlikely that this is a native either. Dr. T.M.C. Taylor of the University of Toronto has forwarded to me a list (in letter of April 6th. 1939) of locations of trees of Gymnocladus in Ontario. This list was compiled by Dr. J.H. White of Toronto, and since the trees are all in parks or on city streets, he states that he doubts "very much if any of these are not planted specimens". Rev. John Morrison (1900)³⁰ described a grove of coffee trees along the Sydenham River in Kent Co. and believed them to be indigenous. Dr. W.S. Fox of the University of Western Ontario, London, has told me (in letter of April 21st. 1939) that, according to Mr. H. Millar of Blenheim (letter of April 19th., 1939) these trees are now all gone but one. Mr. Millar reports a native specimen of coffee tree east of the Petrolia Golf Course on Bear Creek, Lambton Co. Macoun (1883-1902)²⁴ recorded the coffee tree as native for Pelee Island (See Part I, p. 123) and nowhere else in Canada. Its distribution may be credited to some extent to neutral Indians using the Pelee Islands a part of a highway from the South into Canada, but in any case the coffee tree, as Mr. Monroe Landon has put it, "is indigenous as far as the white man is concerned."

** This tree was recorded for Pelee Island, where it was collected in 1892 by John Macoun. He wrote concerning this species (1893)²⁵ as follows:
"In conversation with Dr. McCormack, a native of the island, I was informed that a remarkable tree grew on the south end of the island, that many years ago produced an abundance of lovely red flowers in early spring before the

- Lupinus perennis. L. WILD OR PERENNIAL LUPINE.
Upland, 78, dry thickets along shore cliff; Norfolk Co., Sharpe, 1915
(T). Frequent.
- Trifolium pratense. L. RED CLOVER.
Lowland, 143, old shore lines; upland, 566, along roadsides. Common.
- T. repens. L. CREEPING WHITE CLOVER.
Lowland, 158, old shore lines. Common.
- T. agrarium. L. YELLOW HOP CLOVER.
Upland, 251, moist meadow. Abundant in places.
- Melilotus alba. Desr. WHITE MELILOT. WHITE SWEET-CLOVER.
Lowland, 218, sandy soil along beach. Common.
- Tephrosia virginiana. (L.) Pers. GOAT'S RUE. WILD SWEET PEA.
Upland, 246, sandy plains and dunes; Turkey Point: Brown, 1932 (B),
Stroud, 1937 (S); Normandale; Yates, 1885 (T), (CAN). Common.
- Astragalus neglectus. (T. & G.) Sheldon. COOPER'S MILK-VETCH.
Walsingham Tp., Concession X at Big Creek, Landon, 1937 (L.).
- Desmodium nudiflorum. (L.) DC. NAKED-FLOWERED TICK-TREFOIL.
Upland, 385,683, moist upland woods; Turkey Point, Taylor, 1932 (T);
St. Williams, Edmonds, 1915 (T); Norfolk Co., Sharpe, 1918 (T). Frequent.
- D. grandiflorum. (Walt.) DC. POINTED-LEAVED TICK-TREFOIL.
Upland, 341,658,659, rich upland woods; Turkey Point, Bowden, 1935 (McM).
Common.
-

leaves came out. I told him that this could be none other than the Red-bud or Judas tree, (*Cercis canadensis*.) and next day I examined the south point of the island and found the tree. It had been undermined by waves and fallen inland, and more than half of its limbs were dead, but it still bore leaves and what remained was quite healthy. It will soon disappear, but the record of its existence will remain."

As to the probability of it being native, a further note of explanation by J.M. Macoun (1894)²³ states:

"It grows close beside the lake and is doubtless indigenous."

The author has seen a fairly old tree which is growing on the east side of the main street leading to the wharf at St. Williams, Norfolk Co. This tree has such a slanting position that it may possibly be indigenous, since, if it were planted, surely steps would have been taken to straighten it in its early years.

D. bracteosum. (Michx.) DC. LARGE-BRACTED TICK-TREFOIL.

Turkey Point, lot 20, concession VI, Landon, 1937 (L).

D. Dillenii. Darl. DILLEN'S TICK-TREFOIL.

Upland, 345, sandy soil along roadsides; Turkey Point, Brown, 1930 (B).

Common.

D. canadense. (L.) DC. CANADIAN TICK-TREFOIL.

Turkey Point, Landon, Gaiser & Smure, 1936 (McM); Long Point, Marie-Victorin, 1932 (T).

Lespedeza frutescens. (L.) Britton. WAND-LIKE BUSH-CLOVER.

Turkey Point, lot 15, concession VII, Landon, 1937 (L).

L. hirta. (L.) Hornem. HAIRY BUSH-CLOVER.

Turkey Point: Stallwood, 1936 (T), Brown, 1932 (B); Simcoe, Brown, 1937 (B); Delhi, Middleton Tp., Brown, 1930 (B).

L. capitata. Michx. var. velutina. (Bicknell) Fernald. ROUND-HEADED BUSH-CLOVER.

Upland, 474, dry sandy plains; Turkey Point, Brown, 1932 (B); Simcoe, Brown, 1937 (B). Common, and abundant in places.

Vicia Cracca. L. COW VETCH.

Upland, 164, dry soil and edges of fields; Turkey Point, Bowden, 1935 (McM); Normandale, Marie-Victorin, 1936 (T); Norfolk Col, Reid, 1915 (T).
Common.

Lathyrus maritimus. (L.) Bigel. BEACH PEA.

Turkey Point, Stallwood, 1936 (OAC).

L. palustris. L. MARSH PEA OR VETCHLING.

Lowland, 213, sandy soil along streams crossing beach; Turkey Point: Stallwood, 1936 (T), (OAC); Landon, Gaiser & Smure, 1936 (McM). Common.

L. palustris. L. var. myrtifolius. (Muhl.) Gray.

Lowland, 145, 598, 619, 836, sandy soil along streams crossing beach. Common.

Apios tuberosa. Moench.

GROUNDNUT. WILD BEAN.

Lowland, 477, 487, 715, moist thickets and in horsetail meadow; Turkey Point: Stallwood, 1936 (OAC), Bowden, 1935 (McM), Brown, 1930 (B). Common.

Strophostyles helvola. (L.) Britton.

TRAILING WILD BEAN.

Lowland, 423, in sand along the beach; Turkey Point: Stallwood, 1936 (OAC), (T), Bowden, 1935 (McM); Port Dover, Woodhouse Tp., Macoun, 1890 (CAN); Long Point: Landon, Gaiser & Snure, 1936 (McM), Herriot, 1899 (H). Common.

Amphicarpa monoica. (L.) Ell.

HOG PEANUT.

Lowland, 750, old shore lines; upland, 459, dry thickets along shore cliff; Turkey Point, Bowden, 1935 (McM); Norfolk Co., Sharpe, 1915 (T). Frequent.

GERANIACEAE
(GERANIUM FAMILY)

Geranium maculatum. L.

WILD OR SPOTTED CRANESBILL.

49, 523, wooded hillsides and ravines; Turkey Point: Bowden, 1935 (McM), Taylor, 1933 (T); Norfolk Co., Sharpe, 1915 (T). Common.

G. Robertianum. L.

HERB ROBERT.

Lowland, 287, along old shore lines; Turkey Point, Bowden, 1935; Norfolk Co., Reid, 1915 (T). Common.

OXALIDACEAE
(WOOD SORREL FAMILY)

Oxalis stricta. L.

UPRIGHT YELLOW WOOD SORREL.

Upland, 139, sandy soil around fields; Turkey Point, Brown, 1931 (B); St. Williams, Marie-Victorin, 1936 (T). Common.

O. corniculata. L.

YELLOW PROCUMBENT WOOD SORREL.

Upland, 263, sandy soil at edges of woods and fields; Norfolk Co., Sharpe, 1915 (T). Common.

LINACEAE
(FLAX FAMILY)

- Linum medium. (Planch.) Britton. STIFF YELLOW FLAX.
Upland, 359,669, sandy plains; Turkey Point, Brown, 1932 (B); Long Point,
Landon, Gaiser & Snure, 1936 (McM); Simcoe, Brown, 1937 (B). Common.

POLYGALACEAE
(MILKWORT FAMILY)

- Polygala polygama. Walt. RACEMED MILKWORT.
Upland, 277, dry woods; Turkey Point, Landon, lot 1, concession VIII,
(L). Occasional.
- P. Senega. L. SENECA ROOT. SENECA SNAKEROOT.
Upland, 76, dry thickets along shore cliff edge; Turkey Point: Stallwood,
1936 (T), Howitt, 1932 (OAC). Common.
- P. sanguinea. L. PURPLE MILKWORT.
Turkey Point, lot 18, concession VI, Landon, 1937 (L); Simcoe, Brown,
1937 (B); Norfolk Co., Taylor, 1932 (T).
- P. verticillata. L. WHORLED MILKWORT.
Turkey Point, Taylor, 1932 (T); Simcoe, Brown, 1937 (B).

EUPHORBIACEAE
(SPURGE FAMILY)

- Euphorbia corollata. L. FLOWERING SPURGE.
Upland, 176,573,574,576,831, open sandy plains and thickets; Turkey
Point: Bowden, 1935 (McM), Stroud, 1937 (S), Stallwood, 1936 (T),
Boughner, 1898 (T). Common and abundant.
- E. polygonifolia. L. SEASIDE OR KNOTTED SPURGE.
Turkey Point, Stallwood, 1936 (T).
- E. Cyparissias. L. CYPRESS SPURGE.
Upland, 406,689, dry sandy open woods; Turkey Point, Bowden, 1935 (McM).
Abundant in places.

ANACARDIACEAE
(CASHEW FAMILY)

Rhus typhina. L. STAGHORN SUMACH.

Upland, 294,637, sandy plains and thickets; Long Point, Boughner, 1898
(T). Common and abundant.

R. Vernix. L. POISON SUMACH. POISON DOGWOOD.

Lowland, 185,586, low wet woods and sphagnum bog; Turkey Point, Brown,
1930,1932 (B). Common.

R. Toxicodendron. L. POISON IVY. POISON OAK.

140, too common along beach road, shore lines, ravines and hillsides,
thickets along edge of shore cliff.

AQUIFOLIACEAE
(HOLLY FAMILY)

Nemopanthes mucronata. (L.) Trel. WILD OR MOUNTAIN HOLLY.

Turkey Point, Taylor, 1933 (T); Courtland, Middleton Tp., Macoun, 1901 (CAN).

CELASTRACEAE
(STAFF TREE FAMILY)

Evonymus obovatus. Nutt. RUNNING STRAWBERRY BUSH.

Lowland, 736, old shore lines; Turkey Point, Bowden, 1935 (McM); Courtland,
Middleton Tp., Macoun, 1901 (CAN); Pt. Dover, Woodhouse Tp., Macoun, 1890
(CAN). Frequent.

Celastrus scandens. L. WAXWORK CLIMBING BITTERSWEET.

Lowland, 710, old shore lines; Turkey Point: Bowden, 1935 (McM), Brown,
1931 (B). Common.

STAPHYLEACEAE
(BLADDERNUT FAMILY)

Staphylea trifolia. L. AMERICAN BLADDERNUT.

Turkey Point, Brown, 1932 (B).

ACERACEAE
(MAPLE FAMILY)

- Acer spicatum. Lam. MOUNTAIN MAPLE.
Lowland, 199,832, low wet woods; Turkey Point, Bowden, 1935 (McM). Common.
- A. saccharum. Marsh. SUGAR MAPLE.
754, along wooded shore cliff slopes. Common.
- A. rubrum. L. RED MAPLE.
Upland, 295, thickets along edge of shore cliffs. Common.

BALSAMINACEAE
(TOUCH-ME-NOT FAMILY)

- Impatiens biflora. Walt. SPOTTED TOUCH-ME-NOT.
Lowland, 436,475,496, damp places, along streams and between shore lines;
Turkey Point, Bowden, 1935 (McM); Norfolk Co., Reid, 1915 (T). Common.

RHAMNACEAE
(BUCKTHORN FAMILY)

- Ceanothus americanus. L. RED-ROOT. NEW JERSEY TEA.
Upland, 244, dry woods and thickets; Turkey Point; Bowden, 1935 (McM),
Stallwood, 1936 (OAC); Normandale, 1936, Marie-Victorin, (T); Port
Rowan, Brown, 1930 (B). Common and abundant in places.

VITACEAE
(GRAPE FAMILY)

- Psedera vitacea. (Knerr.) Greene. WOODBINE.
305,785, climbing over shrubs along wooded hillside. Occasional.
- Vitis vulpina. L. RIVER-BANK OR FROST GRAPE.
Lowland, 706, sedge-horsetail meadow, 727, in sandy places along shore,
746, old shore lines; Turkey Point, Brown, 1931 (B). Common.
- V. palmata. Vahl. RED OR CAT GRAPE.
Upland, 428,491, sandy plains and thickets. Occasional.

TILIACEAE
(LINDEN FAMILY)

- Tilia americana. L. BASSWOOD. LINDEN.
289, wooded hillsides, ravines and old shore lines; Turkey Point, Bowden,

1935 (McM). Frequent.

MALVACEAE
(MALLOW FAMILY)

Hibiscus Moscheutos. L.

SWAMP ROSE MALLOW.

Big Creek Marsh, near Port Rowan, Landon, 1937 (L); Long Point, Senn & Soper, 1938 (CAN). Occasional.

HYPERICACEAE

Hypericum perforatum. L.

COMMON ST. JOHN'S-WORT.

Upland, 225, dry sandy plains and thickets; Norfolk Co., Sharpe, 1915 (T).
Common and abundant.

H. punctatum. Lam.

SPOTTED ST. JOHN'S-WORT.

Upland, 342,660,661, rich woods and thickets. Frequent.

H. boreale. (Britton) Bicknell.

NORTHERN ST. JOHN'S-WORT.

Upland, 375, grassy places along roadside west from Provincial Bird Farm.
Occasional.

H. majus. (Gray) Britton.

LARGER CANADIAN ST. JOHN'S-WORT.

Turkey Point, lot 17, concession VI, Landon, 1937 (L); Long Point, Marie-Victorin, 1932 (T).

H. virginicum. L.

MARSH ST. JOHN'S-WORT.

Turkey Point: Stallwood, 1936 (OAC), Brown, 1932 (B); Long Point, Marie-Victorin, 1932 (T).

CISTACEAE
(ROCKROSE FAMILY)

Helianthemum canadense. (L.) Michx.

LONG-BRANCHED FROSTWEED. ROCKROSE.

Upland, 167, grassy places in woods west of Provincial Bird Farm; Walsh, Brown, 1938 (B); Normandale, Marie-Victorin, 1936 (CAN). Frequent.

H. majus. BSP.

HOARY FROSTWEED.

Upland, 279, dry woods; Turkey Point, 1935, Stroud (S). Occasional.

Lechea villosa. Ell.

HAIRY PINWEED.

Turkey Point: Taylor, 1932 (T), Bowden, 1935 (McM), Brown, 1932 (B);
frequent.

VIOLACEAE
(VIOLET FAMILY)

Viola pedata. L.

VARIEGATED BIRD'S FOOT VIOLET.

Upland, 685, sandy plains, and banks in dry woods and thickets.

Turkey Point: Howitt, 1932 (OAC), Brown, 1931, 1934 (B), Stroud, 1934 (S);

Normandale, Yates, 1885 (CAN); St. Williams, 1936, Marie-Victorin (T);

Charlotteville Tp., Herriot, 1902 (H); Norfolk Co., Yates, 1885 (T).

The species, having the upper petals dark purple, is less common than the variety which follows:

V. pedata. L. var. lineariloba. DC.

COMMON BIRD'S FOOT VIOLET.

Upland, 33,512, common and abundant over the sandy plains, banks and rather open woods. The concolourous variety is more common.

V. cucullata. Ait.

MARSH BLUE VIOLET.

Lowland, 48,688, low wet places along streams; Turkey Point, Taylor, 1933 (T). Common.

V. triloba. Schwein.

THREE-LOBED BLUE VIOLET.

Turkey Point, Howitt, 1932 (OAC).

V. septentrionalis. Greene.

NORTHERN BLUE VIOLET.

Turkey Point, Brown, 1933 (B).

V. fimbriatula. Sm.

OVATE-LEAVED VIOLET.

Turkey Point, Brown, 1936 (B); St. Williams, Marie-Victorin, 1936 (T);

Ambrose, Walsingham Tp., Brown, 1937 (B).

V. sagittata. Ait.

ARROW-LEAVED VIOLET.

Upland, 37, dry sandy soil in open woods and thickets. Occasional.

V. pallens. (Banks.) Brainerd.

NORTHERN WHITE VIOLET.

Lowland, 13, low wet woods at base of shore cliffs. Occasional.

- V. blanda. Willd. SWEET WHITE VIOLET.
Lowland, 11, low wet woods along base of shore cliffs; Turkey Point,
Taylor, 1933 (T). Occasional.
- V. pubescens. Ait. DOWNY YELLOW VIOLET.
Turkey Point, Bowden, 1935 (McM);
- V. eriocarpa. Schwein. (V. scabriuscula of Gray's Man., ed. 7.) SMOOTHISH YELLOW VIOLET.
Lowland, 117, damp banks of cool streams; Turkey Point: Taylor, 1933 (T),
Brown, 1933 (B); Walsh, Brown, 1933 (B). Common.
- V. canadensis. L. CANADA VIOLET.
118, rich wooded hillside. Occasional.
- V. conspersa. Reichenb. AMERICAN DOG VIOLET.
Upland, 42, thickets along top of shore cliff; Turkey Point: Taylor, 1933
(T), Bowden, 1935 (McM). Frequent.

ONAGRACEAE
(EVENING PRIMROSE FAMILY)

- Epilobium angustifolium. L. FIREWEED. GREAT WILLOW-HERB.
Lowland, shore lines, 284, sandy soil; Turkey Point, Bowden, 1935 (McM).
Common and abundant in places.
- E. hirsutum. L. HAIRY WILLOW-HERB.
Turkey Point: Bowden, 1935 (McM), Landon, Gaiser & Snure, 1936 (McM).
- E. molle. Torr. DOWNY OR SOFT WILLOW-HERB.
Turkey Point, Bowden, 1935 (McM).
- E. densum. Raf. LINEAR-LEAVED WILLOW-HERB.
Turkey Point, south of Indian Creek Pond, Landon, 1936 (L).
- E. coloratum. Muhl. PURPLE-LEAVED WILLOW-HERB.
Turkey Point, Indian Creek Pond, Landon, 1936 (L).
- E. adenocaulon. Haussk. NORTHERN WILLOW-HERB.
Upland, 763, rich moist woods. Occasional.

Oenothera muricata. L.

NORTHERN EVENING PRIMROSE.

Upland, 278, sandy plains. Occasional.

O. biennis. L.

COMMON EVENING PRIMROSE.

Upland, 307, 639, 640, 337, 479, dry sandy plains and thickets; Turkey Point,

Bowden, 1935 (McM); Norfolk Co., Carman, 1915 (T). Common and abundant.

Circaea lutetiana. L.

LARGER ENCHANTER'S NIGHTSHADE.

Lowland, 288, low wet woods. Abundant in places.

C. alpina. L.

SMALLER ENCHANTER'S NIGHTSHADE.

Lowland, 175, banks of cool shaded streams and sphagnum bog; Turkey

Point, Bowden, 1935 (McM). Common.

HALORAGIDACEAE
(WATER MILFOIL FAMILY)

Myriophyllum spicatum. L.

WATER MILFOIL.

Lowland, 839, edge of marsh in shallow water, and in ponds and backwashes along the shore; Turkey Point, Bowden, 1935 (McM). Common.

Proserpinaca palustris. L.

MERMAID WEED.

Long Point: Landon, Gaiser & Snure, 1936 (McM), Marie-Victorin, 1932 (T).

Rather rare in damp places (sedge meadows) on Long Point; probably occurs at Turkey Point also and has been overlooked.

ARALIA CEAE
(GINSENG FAMILY)

Aralia nudicaulis. L.

WILD SARSAPARILLA.

Upland, 43, 516, woods along the top of the shore cliff; also observed along the shore lines of the lowland; Turkey Point: Taylor, 1933 (T),

Bowden, 1935 (McM); Norfolk Co., Sharpe, 1915 (T). Common and abundant.

A. racemosa. L.

AMERICAN SPIKENARD.

447, 483, 354, wooded hillside and ravines. Frequent.

UMBELLIFERAE
(PARSLEY FAMILY)

- Sanicula marilandica. L. BLACK SNAKEROOT OR SANICLE.
172, wooded hillside. Occasional.
- S. canadensis. L. SHORT-STYLED SNAKEROOT.
444, wooded hillside. Occasional.
- Osmorhiza Claytoni. (Michx.) Clarke. WOOLLY OR HAIRY SWEET CICELY.
273, 626, 68, wooded hillsides and ravines. Common.
- O. longistylis. (Torr.) DC. LONG-STYLED SWEET CICELY.
Turkey Point, Bowden, 1935 (McM).
- Cicuta maculata. L. SPOTTED COWBANE. WATER HEMLOCK.
Lowland, 216, 599, damp and marshy places along base of shore cliffs.
Frequent.
- C. bulbifera. L. BULB-BEARING WATER HEMLOCK.
Turkey Point: Stallwood, 1936 (OAC), Brown, 1930 (B).
- Cryptotaenia canadensis. (L.) DC. HONEYSUCKLE.
178, 577, 578, 579, common along shaded hillsides and ravines; Turkey Point:
Stallwood, 1936 (T), Bowden, 1935 (McM). Common.
- Taenidia integerrima. (L.) Drude. YELLOW PIMPERNEL.
Upland, 843, damp thickets along top of shore cliff; Turkey Point, Landon,
1937 (L). Occasional.
- Thaspium aureum. Nutt. EARLY OR GOLDEN MEADOW PARSNIP.
Turkey Point, Howitt, 1932 (OAC).
- Pastinaca sativa. L. PARSNIP.
Lowland, 209, sandy places along shore streams. Frequent.
- CORNACEAE
(DOGWOOD FAMILY)
- Cornus canadensis. L. DWARF CORNELL. BUNCHBERRY.
Lowland, 109, 555, sphagnum bog; Turkey Point, Bowden, 1935 (McM); Court-
land, Middleton Tp., Macoun, 1901 (CAN). Infrequent.

- C. florida. L. FLOWERING DOGWOOD.
Upland, 65, dry rolling hillsides and ravines; Turkey Point; Stallwood,
1936 (T),(OAC), Taylor, 1933 (T), Brown, 1932 (B); St. Williams, Brown,
1938 (B); Walsh, Brown, 1932 (B), Simcoe, Brown, 1937 (B); Norfolk Co.,
Billo, 19-- (McM). Frequent.
- C. circinata. L'Her. ROUND-LEAVED DOGWOOD.
Lowland, 628, woods along base of shore cliffs; upland, 275, dry woods;
Turkey Point, Brown, 1931 (B). Common.
- C. Anomum. Mill. SILKY CORNEL. KINNIKINNIK.
Turkey Point: Stallwood, 1936 (OAC), Brown, 1930, 1932 (B).
- C. asperifolia. Michx. ROUGH-LEAVED DOGWOOD.
Turkey Point, Bowden, 1935 (McM).
- C. stolonifera. Michx. RED-OSIER DOGWOOD.
Upland, 64, dry rolling hillsides and ravines; Norfolk Co., Sharpe, 1915
(T). Common and abundant.
- C. paniculata. L'Her. PANICLED DOGWOOD.
Upland, 232, dry thickets along top of shore cliff. Occasional.
- C. alternifolia. L.f. ALTERNATE-LEAVED DOGWOOD.
Turkey Point, Brown, 1932 (B).
- Nyssa sylvatica. Marsh. TUPELO. PEPPERIDGE. SOUR GUM.
Turkey Point; Taylor, 1932 (T), Landon, Gaiser & Smure, 1936 (McM), Brown,
1922 (B).

ERICACEAE
(HEATH FAMILY)

- Chimaphila umbellata. (L.) Nutt. PIPSISSEWA. PRINCE'S PINE.
Upland, 276, 629, dry woods; Turkey Point, Brown, 1932 (B). Infrequent.
- Pyrola elliptica. Nutt. ELLIPTIC-LEAVED PYROLA OR SHINLEAF.
Upland, 227, 606, 607, dry woods along top of shore cliffs; Turkey Point,
Brown, 1912 (B); St. Williams, Marie-Victorin, 1936 (T). Common.

- Monotropa uniflora. L. INDIAN PIPE. CORPSE PLANT.
678, moist shaded ravine along shore cliff; upland, 374,677, rich woods;
frequent.
- M. Hypopitys. L. PINESAP. FALSE BEECH DROPS.
Upland, 230, dry woods along edge of shore cliff. Rare.
- Gaultheria procumbens. L. AROMATIC WINTERGREEN. CHECKERBERRY.
Upland, 421, rich upland woods. Abundant in places.
- Arctostaphylos Uva-ursi. (L.) Spreng. BEARBERRY.
Lowland, 28, sand-binder in sandy hummocks along shore road; Turkey
Point, Taylor, 1933 (T). Common.
- Vaccinium pennsylvanicum. Lam. EARLY-FRUITING BLUEBERRY.
Upland, 112, dry sandy open woods. Common.
- V. vacillans. Kalm. LATE-FRUITING BLUEBERRY.
Upland, 132, dry sandy open woods. Common.
- V. corymbosum. L. SWAMP, TALL OR HIGH BLUEBERRY.
Lowland, 22, marshy ground at base of shore cliffs; Turkey Point: Taylor,
1933 (T), (B). Frequent.
- Gaylussacia baccata. (Wang.) C.Koch. BLACK HUCKLEBERRY.
121, thicket along top of shore cliff. Occasional.

PRIMULACEAE
(PRIMROSE FAMILY)

- Lysimachia quadrifolia. L. WHORLED LOOSESTRIFE.
Upland, 159,570, rich moist woods; Walsh, Brown, 1938 (B); Silver Hill,
Brown, 1936 (B); Ambrose, Walsingham Tp., Brown, 1936 (B); Courtland,
Middleton, Tp., Macoun, 1901 (CAN). Common.
- L. terrestris. (L.) BSP. BULB-BEARING LOOSESTRIFE.
Lowland, 271, swamp ground between old shore lines; Turkey Point: Bowden,
1935 (McM), Stallwood, 1936 (T). Common.

L. thyrsoflora. L.

TUFTED LOOSESTRIFE.

Lowland, 156,569, marshy ground between old shore lines; Turkey Point, Bowden, 1935 (McM). Common.

Steironema ciliatum. (L.) Raf.

FRINGED LOOSESTRIFE.

Upland, 283, rich moist woods; Turkey Point, Bowden, 1935 (McM). Common.

Trientalis americana. (Pers.) Pursh.

STARFLOWER.

Lowland, 38,513,514, damp woods and sphagnum bog; Turkey Point, Bowden, 1935 (McM). Frequent.

OLEACEAE
(OLIVE FAMILY)

Fraxinus americana. L.

WHITE ASH.

Upland, 274,627, woods and thickets along shore cliff; also common on the lowland shore lines; Turkey Point: Bowden, 1935 (McM), Brown, 1930 (B). Common.

F. nigra. Marsh.

BLACK ASH.

Lowland, 301, mostly in damp soil along base of shore cliffs. Common.

GENTIANACEAE
(GENTIAN FAMILY)

Gentiana crinita. Froel.

FRINGED GENTIAN.

Lowland, 692, damp places along streams at base of shore cliffs; also observed in damp ditches along road west from Provincial Bird Farm. Common.

G. Andrewsii. Griseb.

CLOSED OR BOTTLE GENTIAN.

Lowland, 728,758, damp ground between old shore lines; Turkey Point, Bowden, 1935 (McM); St. Williams, Edmonds, 1915 (T). Common.

Menyanthes trifoliata. L.

BUCKBEAN. MARSH TREFOIL.

Lowland, 52, sphagnum bog; Turkey Point, Bowden, 1935 (McM); Courtland, Middleton, Tp., Macoun, 1901 (CAN). Occasional.

APOCYNACEAE
(DOGBANE FAMILY)

Apocynum androsaemifolium. L. SPREADING DOGBANE.

Upland, 161,571, dry sandy soil along edge of shore cliff and thickets;
Turkey Point, Bowden, 1935 (McM). Common and abundant.

A. cannabinum. L. INDIAN HEMP.

Lowland, 835, in sand along the beach. Frequent.

A. cannabinum. L. var. hypericifolium. (Ait.) Gray.

Lowland, 183, in sedge-horsetail meadow; upland, 584,585, dry sandy plains
and thickets; Turkey Point, Bowden, 1935 (McM). Common and abundant.

ASCLEPIADACEAE
(MILKWEED FAMILY)

Asclepias tuberosa. L. BUTTERFLY-WEED. PLEURISY-ROOT.

Upland, 226,604,605,762, dry sandy plains; Turkey Point: Stallwood, 1936
(OAC), Bowden, 1935 (McM), Stroud, 1937 (S); Normandale, Brown, 1930 (B);
Simcoe, Marie-Victorin, 1933 (T). Common and abundant.

A. incarnata. L. SWAMP MILKWEED.

Lowland, 365,674, swampy or marshy ground along base of shore cliffs and
near edge of marsh; Turkey Point, Bowden, 1935 (McM). Common.

A. syriaca. L. COMMON MILKWEED.

Upland, 242, along roadsides and in open plains. Common and abundant.

A. phytolaccoides. Pursh. POKE MILKWEED.

Lowland, 442, damp places in wooded ravine; Norfolk Co., Reid, 1915 (T).
Occasional.

A. verticillata. L. WHORLED MILKWEED.

Upland, 346,663, sandy plains and edges of dry woods; Turkey Point: Taylor,
1932 (T), Landon, 1937 (L). Common.

Acerates viridiflora. Ell. GREEN MILKWEED.

Upland, 266,624, sand dunes and open plains. Common.

A. viridiflora. Ell. var. lanceolata. (Ives.) Gray. LANCE-LEAVED GREEN MILKWEED.

Upland, 404, 400, open sandy plains; Turkey Point, lot 11, concession I, Landon, 1936 (L). Frequent.

CONVOLVULACEAE
(MORNING-GLORY FAMILY)

Convolvulus spithameus. L. UPRIGHT OR LOW BINDWEED.

Upland, 192, dry sandy plains and fields. Occasional.

C. sepium. L. HEDGE BINDWEED. WILD MORNING-GLORY.

Lowland, 410, marshy ground near edge of the marsh; Turkey Point, Stallwood, 1936 (OAC). Occasional.

C. arvensis. L. FIELD BINDWEED.

Upland, 243, sandy field. Common.

Cuscuta arvensis. Beyrich. FIELD DODDER.

Lowland, 456, banks of stream in low wet woods, climbing on Impatiens biflora; 731, at edge of old shore line, climbing on Solanum Dulcamara; Turkey Point, Landon, 1930 (L), on Poa sp. Common.

C. Gronovii. Willd. COMMON DODDER.

Turkey Point, Brown, 1936 (B), on Boehmeria cylindrica.

POLEMONIACEAE
(PHLOX FAMILY)

Phlox subulata. L. GROUND PHLOX. MOSS PINK.

Upland, 3, 504, sandy banks and plains, at edge of dry woods; Turkey Point: Bowden, 1935 (McM), Brown, 1931 (B); Normandale, Yates, 1885 (CAN), (T); Simcoe, Howitt, 1935 (OAC). Common and abundant, making a splendid showing in early spring.

HYDROPHYLLACEAE
(WATERLEAF FAMILY)

Hydrophyllum virginianum. L. VIRGINIA WATERLEAF.

Upland, 193, moist rich woods along shore; Turkey Point, Stallwood, 1936

(T). Abundant in places.

H. canadense. L.

BROAD-LEAVED WATERLEAF.

Upland, 194, rich moist woods along shore cliff. Abundant in places.

BORAGINACEAE
(BORAGE FAMILY)

Cynoglossum officinale. L.

HOUND'S TONGUE.

Upland, 128,562, sandy soil by roadside; Turkey Point: Bowden, 1935 (McM),
Stroud, 1934 (S). Common.

Lappula virginiana. (L.) Greene.

VIRGINIA STICKSEED.

448, wooded ravines and hillsides. Frequent.

Myosotis laxa. Lehm.

SMALLER FORGET-ME-NOT.

Lowland, 221,749, damp ground by streams; Courtland, Middleton Tp.,

Macoun, 1901 (CAN). Frequent.

Lithospermum arvense. L.

CORN GROMWELL. WHEAT-THIEF.

Turkey Point: Taylor, 1933 (T), Brown, 1931 (B).

L. officinale. L.

COMMON GROMWELL.

840, grassy places along the roadside; Turkey Point, Bowden, 1935 (McM).
Frequent.

L. croceum. Fernald. (L. Gmelini, in part, of Gray's Man. ed. 7.) HAIRY PUCCOON.
(See Rhod: Vol. 37, p.329. 1935.)

Lowland, 47, in sand along shore road; upland, 223,522, sandy ground in
open woods or thickets along shore cliffs; 602, dry upland woods.

Due to the change in nomenclature, this species will probably include the
following citations, most of which were identified prior to the change:

Turkey Point, Howitt, 1932 (OAC); Normandale, Marie-Victorin, 1936 (T);

Long Point: Boughner, 1892 (T), Landon, Gaiser & Smure, 1936 (McM),

Herriot, 1899,1901 (H). Common.

L. canescens. (Michx.) Lehm.

HOARY PUCCOON.

Lowland, 536, in sandy ground along beach; upland, 536, sandy ground in open woods or thickets along top of shore cliff; 537, open sandy plains; Turkey Point: Taylor, 1933 (T), Stroud, 1934 (S); Walsh, Brown, 1937 (B); Simcoe, Howitt (OAC). Common.

Echium vulgare.L.

BLUE-WEED. BLUE DEVIL. VIPER'S BUGLOSS.

Upland, 254, sandy soil along roadsides. Common.

VERBENACEAE
(VERVAIN FAMILY)

Verbena urticaefolia. L.

NETTLE-LEAVED OR WHITE VERVAIN.

Lowland, 709, moist ground below shore cliffs; upland, 392, rich moist woods. Common.

V. hastata. L.

BLUE VERVAIN.

Upland, 306,638, dry sandy soil; Turkey Point, Bowden, 1935 (McM). Common.

LABIATAE
(MINT FAMILY)

Teucrium canadense. L.

WOOD SAGE. AMERICAN GERMANDER.

Lowland, marshy ground, 837, damp open places; Turkey Point, Brown, 1936 (B); Long Point: Howitt, 19-- (OAC), Landon, Gaiser & Snare, 1936 (McM). Common.

Scutellaria lateriflora. L.

MAD-DOG SKULLCAP.

Turkey Point, Bowden, 1935 (McM).

S. galericulata. L.

HOODED SKULLCAP.

Lowland, 310, damp sandy soil along beach and marsh; Long Point: Boughner, 1898 (T), Landon, Gaiser & Snare, 1936 (McM). Common.

Agastache nepetoides. (L.) Ktze.

GIANT HYSSOP.

Lowland, 453, low wet woods. Rather rare.

Nepeta Cataria. L.

CATNIP.

Upland, 308,641, woods along top of shore cliffs. Common.

- Prunella vulgaris. L. HEAL-ALL. SELF-HEAL.
Lowland, 614,615, damp places along base of shore cliff and along old shore lines; upland, 252, damp meadows; Turkey Point, Bowden, 1955 (McM).
Common.
- Leonurus Cardiaca. L. MOTHERWORT.
Lowland, 267,625, low wet woods. Common.
- Stachys palustris. L. WOUNDWORT.
Turkey Point, Stallwood, 1936 (T).
- Monarda fistulosa. L. WILD BERGAMOT.
Turkey Point, 1930, Brown, (B).
- M. mollis. L. PALE WILD BERGAMOT.
Upland, 344, dry thickets along shore cliff edge; Turkey Point, Stroud, 1934 (S); Simcoe, ---, 1924 (OAC). Common.
- Hedeoma pulegioides. (L.) Pers. AMERICAN PENNYROYAL.
Turkey Point, Landon, 1937 (L); Port Dover, "T.A.", 1880 (T).
- Pycnanthemum virginianum. (L.) Durand & Jackson. VIRGINIA MOUNTAIN MINT.
Lowland, 357,824, in sedge-horsetail meadow; Turkey Point, Stroud, 1934 (S); St. Williams, Marie-Victorin, 1936 (T). Common.
- Lycopus americanus. Muhl. CUT-LEAVED WATER HOREHOUND.
Lowland, 625,452, low wet woods; Turkey Point, Bowden, 1935 (McM); Long Point, Marie-Victorin, 1932 (T). Common.
- Mentha piperita. L. PEPPERMINT.
Lowland, 694, damp banks of stream along base of shore cliffs. Common.
- M. arvensis. L. var. canadensis. (L.) Briquet. AMERICAN WILD MINT.
Upland, 391, rich moist woods; Long Point, Marie-Victorin, 1932 (T). Common.
- Collinsonia canadensis. L. HORSE BALM. RICH WEED. STONE ROOT.
Upland, 437,500, moist shaded ravines and hillsides; Turkey Point, Brown, 1932 (B). Common.

SOLANACEAE
(NIGHTSHADE FAMILY)

Solanum Dulcamara. L. BITTERSWEET NIGHTSHADE.

Lowland, 177, moist places along base of shore cliffs and between old shore lines; Turkey Point, Bowden, 1935 (McM). Common.

S. nigrum. L. BLACK OR DEADLY NIGHTSHADE.

Lowland, 752, low wet woods. Common.

S. rostratum. Dunal. BUFFALO BUR.

Turkey Point, Stallwood, 1936 (OAC).

Physalis heterophylla. Nees. CLAMMY GROUND CHERRY.

Lowland, sandy soil along beach east of Turkey Point; 269; Turkey Point, Bowden, 1935 (McM). Frequent.

SCROPHULARIACEAE
(FIGWORT FAMILY)

Verbascum Thapsus. L. COMMON MULLEIN.

Upland, 296, sandy plains and hillsides; Turkey Point, Bowden, 1935 (McM).
Common and abundant.

Pentstemon hirsutus. (L.) Willd. HAIRY BEARD-TONGUE.

Turkey Point, Stroud, 1936 (S).

Chelone glabra. L. TURTLEHEAD.

Lowland, 701,735, old shore lines; upland, 764, rich moist woods; Turkey Point, Bowden, 1935 (McM). Common.

Mimulus ringens. L. MONKEY FLOWER.

Lowland, 315, wet sandy ground between shore lines; upland, 642, damp ground along roadside west from Provincial Bird Farm; Turkey Point, Bowden, 1935 (McM). Common.

Veronica americana. Schwein. AMERICAN BROOKLIME.

Lowland, 220, by streams across the beach. Occasional.

- V. officinalis. L. COMMON SPEEDWELL.
Turkey Point, Stroud, 1934 (S).
- Gerardia pedicularia. L. FERN-LEAVED OR LOUSEWORT FALSE FOXGLOVE.
Turkey Point, Brown, 1932 (B).
- G. purpurea. L. LARGE PURPLE GERARDIA.
Turkey Point, Landon, 1937 (L).
- G. paupercula. (Gray) Britton. SMALL-FLOWERED PURPLE GERARDIA.
Lowland, 732, moist sandy places between shore lines. Common.
- G. tenuifolia. Vahl. SLENDER GERARDIA.
Upland, 757, damp ditches along road west from Provincial Bird Farm;
Walsh, Brown, 1938 (B). Common.
- Castilleja coccinea. (L.) Spreng. INDIAN PAINTBRUSH. PAINTED CUP.
Lowland, 96, damp places along base of shore cliff, east of Turkey Point.
Occasional.
- Melampyrum lineare. Lam. COW-WHEAT.
Upland, 353,668, dry woods; Silver Hill, Brown, 1936 (B). Occasional.
- Pedicularis canadensis. L. COMMON LOUSEWORT. WOOD BETONY.
Lowland, 104, sandy ground; Turkey Point: Howitt, 1932 (OAC), Taylor,
1933 (T), Brown, 1931 (B), Stroud, 1934 (S), Bowden, 1935 (McM); St.
Williams, Edmonds, 1915 (T); Norfolk Co.: Reid, 1915 (T), Carman, 1915
(T). Common.

OROBANCHACEAE
(BROOM-RAPE FAMILY)

- Epifagus virginiana. (L) Bart. BEECH-DROPS.
711, damp shaded ravines along shore. Infrequent.

LENTIBULARIACEAE
(BLADDERWORT FAMILY)

- Utricularia vulgaris. L. var. americana. L. GREAT BLADDERWORT.

Lowland, 314,830, ponds and backwashes along the shore; Big Creek, near Port Rowan, Landon, 1937 (L). Common.

PHRYMACEAE
(LOPSEED FAMILY)

Phryma Leptostachya. L. LOPSEED.

Lowland, 282, low wet woods and shore lines; 631,632,633, wooded ravines and hillsides; Turkey Point, Brown, 1930 (B). Common.

PLANTAGINACEAE
(PLANTAIN FAMILY)

Plantago major. L. BROAD-LEAVED OR GREATER PLANTAIN.

Upland, 379, along roadsides. Common.

P. Rugelii. Dcne. RUGEL'S PLANTAIN.

Lowland, 679, in sand along beach. Common.

P. lanceolata. L. RIB-GRASS. NARROW-LEAVED OR ENGLISH PLANTAIN.

Upland, 369, along roadside west from Provincial Bird Farm; Turkey Point, Bowden, 1935 (McM). Common.

RUBIACEAE
(MADDER FAMILY)

Galium circaezans. Michx. CROSS-CLEAVERS. WILD LIQUORICE.

234, moist shaded hillside. Occasional.

G. lanceolatum. Torr. WILD LIQUORICE.

Turkey Point, Brown, 1932 (B).

G. boreale. L. NORTHERN BEDSTRAW.

Upland, 261, dry sandy ground; Turkey Point, Landon, 1937 (L). Common.

G. palustre. L. MARSH BEDSTRAW.

Upland, 249, moist shaded places. Infrequent.

G. labradoricum. Wiegand. LABRADOR MARSH BEDSTRAW.

Lowland, 201, sphagnum bog. Occasional.

- G. asprellum. Michx. ROUGH BEDSTRAW.
50,714, moist shaded hillsides and ravines. Common.
- G. triflorum. Michx. SWEET-SCENTED OR FRAGRANT BEDSTRAW.
687, moist shaded hillside and ravine. Infrequent.
- Mitchella repens. L. PARTRIDGE BERRY.
Upland, 241, dry woods. Occasional.
- Cephalanthus occidentalis. L. BUTTONBUSH.
Upland, 381,681, wet ditches along road west from Provincial Bird Farm;
Turkey Point, Brown, 1931 (B); Long Point, Landon, Gaiser & Snure, 1936
(McM). Common.
- Houstonia longifolia. Gaertn. LONG-LEAVED HOUSTONIA.
Upland, 188,373,588, sand banks and open ground, dry woods; Turkey Point,
Brown, 1932 (B); St. Williams, Marie-Victorin, 1936 (T); Normandale,
Marie-Victorin, 1936 (T). Common.
- CAPRI FOLIACEAE
(HONEYSUCKLE FAMILY)
- Diervilla Lonicera. Mill. BUSH HONEYSUCKLE.
Upland, 160, dry thickets along shore cliffs. Common.
- Lonicera canadensis. Marsh. FLY HONEYSUCKLE.
Lowland, wet woods, 1, damp places along base of shore cliffs; Turkey
Point, Brown, 1933 (B). Common.
- L. glaucescens. Rydb. DOUGLAS' HONEYSUCKLE.
Lowland, 66, moist banks of stream; Turkey Point, Howitt, 1932 (OAC).
Common.
- Linnaea borealis. L. var. americana. (Forbes) Rehder. TWIN-FLOWER.
Lowland, 846, sphagnum bog; Turkey Point: Bowden, 1935 (McM), Brown, 1932
(B). Rather infrequent.
- Viburnum acerifolium. L. ARROW-WOOD. MAPLE-LEAVED VIBURNUM.
Upland, 233, dry thickets along edge of shore cliffs. Frequent.

Sambucus canadensis. L.

COMMON ELDER. ELDERBERRY.

Upland, 247, sandy dunes; Courtland, Middleton Tp., Macoun, 1901 (CAN).
Common.

S. racemosa. L.

RED-BERRIED ELDER.

238, moist shaded hillside; Turkey Point, Bowden, 1935 (McM). Common.

CAMPANULACEAE
(BLUEBELL FAMILY)

Campanula americana. L.

TALL AMERICAN BELLFLOWER.

Lowland, 455,834, low wet woods; Turkey Point: Stallwood, 1936 (OAC),
Bowden, 1935 (McM), Brown, 1932 (B). Common.

C. rotundifolia. L.

HAREBELL. SCOTCH BLUEBELL.

Upland, 191,591, along shore cliff edge and roadsides. Common.

C. uliginosa. Rydb.

BLUE MARSH BELLFLOWER.

Turkey Point, Landon, 1936 (L).

LOBELIACEAE
(LOBELIA FAMILY)

Lobelia cardinalis. L.

CARDINAL-FLOWER.

Upland, 382,682,766, moist ditches and stream beds in rich woods. Common.

L. siphilitica. L.

GREAT LOBELIA.

Lowland, 488,693,755, moist banks below shore cliffs; upland, 768, damp
places along road west from Provincial Bird Farm; Turkey Point, Bowden,
1935 (McM). Common.

L. spicata. Lam.

PALE SPIKED LOBELIA.

Lowland, 620,621,622, sedge-horsetail meadow; upland, 262, open marshy
ground in rich woods. Common.

L. inflata. L.

EYEBRIGHT. INDIAN TOBACCO.

Upland, 380,680, grassy places along roadsides; Turkey Point, Taylor,
1932 (T). Common.

COMPOSITAE
(COMPOSITE FAMILY)

- Eupatorium purpureum. L. JOE PYE-WEED.
Turkey Point, Bowden, 1935 (McM).
- E. purpureum. L. var. maculatum. (L.) Darl.
Lowland, 664, moist ground along base of shore cliffs; upland, 349,665,
moist woods, along streams. Common.
- E. perfoliatum. L. THOROUGHWORT. BONESET.
Lowland, 364,673, moist ground along base of shore cliffs; upland, 672,
rich woods; Turkey Point, Bowden, 1935 (McM). Common.
- E. urticaefolium. Reichard. WHITE SNAKEROOT. NETTLE-LEAVED EUPATORIUM.
Lowland, 443,744, damp places along base of shore cliffs and shore lines;
Turkey Point, Bowden, 1935 (McM). Common.
- Liatris cylindracea. Michx. CYLINDRIC BLAZING STAR.
Upland, 405, open sandy plains, lot 11, concession I; Silver Hill, Brown,
1936 (B). Abundant in places.
- Solidago caesia. L. var. axillaris. (Pursh) Gray. BLUE-STEMMED OR WREATH GOLDENROD.
Upland, 495, dry thickets along shore cliffs. Common.
- S. latifolia. L. ZIGZAG OR BROAD-LEAVED GOLDENROD.
Lowland, 780, old shore lines and dry thickets. Common.
- S. bicolor. L. WHITE GOLDENROD. SILVERROD.
Turkey Point, Brown, 1932 (B).
- S. uliginosa. Nutt. BOG OR SWAMP GOLDENROD.
Lowland, 702, marshy ground. Common.
- S. rugosa. Mill. WRINKLE-LEAVED OR HAIRY GOLDENROD.
Lowland, 782, marshy ground; Simcoe, Brown, 1937 (B). Frequent.
- S. canadensis. L. CANADA GOLDENROD.
Lowland, 781, marshy ground; upland, 370,433,472,485, dry woods and
thickets, along roadside. Common.

S. ohioensis. Ridell.

OHIO GOLDENROD.

Turkey Point, Brown, 1932 (B); Long Point, Marie-Victorin, 1932 (T).

S. graminifolia. (L.) Salisb.

NARROW-LEAVED OR FLAT-TOPPED GOLDENROD.

Lowland, 740, marsh and woodland transition areas, marshy shrubland.

Common and abundant.

Aster macrophyllus. L.

LARGE-LEAVED ASTER.

Upland, 473, woods and thickets along top of shore cliffs. Common.

A. novae-angliae. L.

NEW-ENGLAND ASTER.

Lowland, 777, marshy ground. Common.

A. laevis. L.

SMOOTH ASTER.

Lowland, 778, shrub-marsh transition areas. Common.

A. multiflorus. Ait.

DENSE-FLOWERED ASTER.

Lowland, 753, along old shore lines; upland, 430, sandy ground, open plains; Port Ryerse, Burgess, 1909 (CAN). Common and abundant.

A. lateriflorus. (L.) Britton.

STARVED OR CALICO ASTER.

Lowland, 739, 779, shore lines and marshy shrubland. Common and abundant.

A. puniceus. L.

PURPLE-STEMMED ASTER.

Lowland, 697, 730, shore lines and low marshy ground. Common.

Erigeron pulchellus. Michx.

ROBIN'S PLANTAIN.

Lowland, 77, moist sandy soil; upland, 542, sandy ground; Turkey Point: Howitt, 1932 (OAC), Brown, 1932 (B); Walsh, Brown, 1936 (B). Common.

E. philadelphicus. L.

PHILADELPHIA FLEABANE.

Lowland, 46, 519, 520, 521, sandy soil along shore; Turkey Point: Taylor, 1933 (T), Bowden, 1935 (McM), Stroud, 1934 (S). Common.

E. ramosus. (Walt.) BSP.

TALL WHITE-TOP. DAISY FLEABANE.

Lowland, 361, 441, 497, sandy and clayey soil along base of shore cliffs; upland, 253, dry sandy hills and plains; Turkey Point, Bowden, 1935 (McM). Common and abundant in places.

E. canadensis. L.

CANADA FLEABANE. HORSEWEED.

Upland, 434, dry sandy plains. Frequent.

Antennaria fallax. Greene.

Upland, 36, dry sandy soil, open ground. Common.

A. neodioica. Greene.

SMALLER CAT'S FOOT.

Upland, 19, dry sandy soil; Walsh, Brown, 1937 (B). Common.

Gnaphalium polycephalum. Michx.

COMMON OR FRAGRANT EVERLASTIN.

Upland, 484, 429, dry sandy hillsides and thickets; Turkey Point: Bowden, 1935 (McM), Stroud, 1936 (S); Simcoe, Brown, 1937 (B). Common.

Ambrosia trifida. L.

GREAT RAGWEED.

Lowland, 745, damp soil along base of shore cliffs; Turkey Point, Stallwood, 1936 (OAC); St. Williams, 1936, Brown, (B). Occasional.

Xanthium echinatum. Murr.

BEACH CLOTHBUR.

Lowland, 459, in sand along the beach. Common.

Rudbeckia hirta. L.

BLACK-EYED SUSAN.

Lowland, 612, sedge-horsetail meadow; upland, 248, 611, 613, thickets and sandy ground along top of shore cliffs; Courtland, Middleton Tp., Macoun, 1901 (CAN). Common.

Helianthus scaberrimus. Ell.

ROUGH OR STIFF SUNFLOWER.

Turkey Point, Brown, 1932 (B).

H. divaricatus. L.

WOODLAND SUNFLOWER.

Lowland, 662, sedge-horsetail meadow; upland, 343, thickets and sandy ground along top of shore cliffs. Common.

Bidens cernua. L.

STICK-TIGHT. NODDING BUR-MARIGOLD.

Turkey Point, Bowden, 1935 (McM); Walsh, Brown, 1932 (B).

B. trichosperma. (Michx.) Britton.

TICKSEED SUNFLOWER.

Lowland, 703, 734, sphagnum bog, marshy places and sedge-horsetail meadow. Common.

- B. trichosperma. (Michx.) Britton. var. tenuiloba. (Gray) Britton.
NARROW-LEAVED TICKSEED SUNFLOWER.
Lowland, 784, sphagnum woods; Turkey Point: Bowden, 1935 (McM), Brown,
1932 (B). Less common than the type.
- Achillea Millefolium. L. COMMON YARROW.
Lowland, 219,600,601, sandy ground along the beach. Common.
- Chrysanthemum Leucanthemum. L. WHITE OR OX-EYE DAISY.
Turkey Point, Bowden, 1935 (McM).
- Artemisia caudata. Michx. TALL OR WILD WORMWOOD.
Upland, 403,426,463, dry sandy plains; Turkey Point, Bowden, 1935 (McM).
Common and abundant in places.
- Tussilago Farfara. L. COLTSFOOT. COUGHWORT.
89,446,450,482, moist ground along hillsides and ravines. Common.
- Senecio aureus. L. GOLDEN RAGWORT. SWAMP SQUAW-WEED.
Lowland, 91,550,551, sphagnum bog and along streams at base of shore
cliffs; Turkey Point, Bowden, 1935, (McM); Simcoe, Simmonds, 1934 (OAC).
Frequent.
- Arctium minus. Bernh. COMMON BURDOCK.
445, shaded ravine and hillside; Common.
- Cirsium muticum. Michx. SWAMP THISTLE.
Lowland, 366,675,676, marshy and wet places along base of shore cliff and
shore lines; Turkey Point, Brown, 1936 (B). Common.
- C. arvense. (L.) Scop. CANADA THISTLE.
Lowland, 281,630, low wet woods and shore lines. Common.
- Taraxacum officinale. Weber. COMMON DANDELION.
Turkey Point, Bowden, 1935 (McM).
- T. erythrospermum. Andrz. RED-SEEDED DANDELION.
Upland, 129, grassy ground along roadside. Common.

- Sonchus arvensis. L. FIELD OR PERENNIAL SOW THISTLE.
 Upland, 464, dry sandy plain. Occasional.
- Lactuca spicata. (Lam.) Hitchc. TALL BLUE LETTUCE.
 Upland, 691, dry thicket along top of shore cliffs. Occasional.
- Prenanthes alba. L. WHITE LETTUCE. LION'S FOOT. RATTLE-SNAKE ROOT.
 Lowland, 737, wooded shore lines; upland, 440,470,498,705,766, dry thickets
 along top of shore cliffs and rich woods back from shore cliffs; Turkey
 Point, Bowden, 1935 (McM). Common.
- P. altissima. L. TALL LETTUCE. LION'S FOOT.
481, wooded hillside and ravines along shore cliff. Occasional.
- Hieracium aurantiacum. L. ORANGE HAWKWEED. DEVIL'S PAINT-BRUSH.
 Upland, 162, sandy plains and fields. Common.
- H. pratense. Tausch. FIELD HAWKWEED. KING DEVIL.
 Upland, 432,358, dry sandy plains and fields. Common.
- H. florentinum. All. KING DEVIL.
 Upland, 125, common in sandy fields and plains.
- H. canadense. Michx. CANADA HAWKWEED.
 Lot 15, concession VI, Charlotteville Tp., Landon, 1937 (L).

* * * *

TABULAR VIEW OF THE TURKEY POINT FLORA.

Major Groups.	Collected by author in 1938.	Additional records from herbaria.	Totals.	Number of species, var- ieties & forms.
Pteridophyta	29	7	36	36
Spermatophyta	433	116	549	--
Gymnospermae	8	--	8	8
Angiospermae	425	116	541	--
Monocotyledoneae	91	24	115	115
Dicotyledoneae	334	92	426	<u>426</u>

Total number of different plants - 585.

ADDITIONAL RECORDS OF SPECIMENS COLLECTED IN NORFOLK COUNTY, ONTARIO.

The following list of 109 species includes any localities within the limits of Norfolk County. Perhaps many or all of these may eventually be found in the Turkey Point vicinity on further investigation. Taken with the previous list of 585 species, they increase the known flora of Norfolk County to 694 species.

Dryopteris campyloptera. (Kunze) Clarkson. (Thelypteris spinulosa. (O.F.Müll.) Nieuwl. var. americana. (Fisch) Weatherby.)

Lynedoch, Charlotteville Tp., Taylor, 1932 (T).

D. clintoniana. (D.C.Eaton) Dowell. (Thelypteris cristata. (L.) Nieuwl. var Clintoniana. (D.C.Eaton) Weatherby.)

Lynedoch, Charlotteville Tp., Taylor, 1932 (T); Courtland, Middleton Tp., Macoun, 1901 (CAN).

D. noveboracensis. (L.) A.Gray. (Thelypteris noveboracensis. (L.) Nieuwl.)

St. Williams, Taylor, 1932 (T); St. Williams, Brown, 1936 (B).

Phegopteris hexagonoptera. (Michx.) Fee.

Walsh, Brown, 1938 (B); Port Rowan, Macoun, 1892 (CAN).

Dennstaedtia punctilobula. (Michx.) Moore. (Dicksonia punctilobula. (Michx.) Gray.)

St. Williams, Brown, 1938 (B); Fisher's Glen, Brown, 1936 (B); Courtland, Middleton Tp., Macoun, 1901 (CAN).

Athyrium angustum. (Willd.) Presl. var. rubellum. (Gilbert) Butters.

Lynedoch, Charlotteville Tp., Taylor, 1932 (T).

Diplazium thelypteroides. (Michx.) Presl. (Asplenium acrostichoides. Sw.)

Ambrose, Walsingham Tp., Brown, 1937 (B); St. Williams, Brown, 1938 (B).

Botrychium dissectum. Spr.

Simcoe, Brown, 1937 (B).

Lycopodium complanatum. L.

Walsh, Brown, 1932 (B).

Selaginella apoda. (L.) Spring. (S. apus. of Gray's Man., ed.7.)

Long Point, Macoun, 1892 (CAN).

Sparganium americanum. Nutt. var. androcladium. (Engelm) Fernald & Eames.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Potamogeton amplifolius. Tuckerm.

Port Rowan, Herriot, 1901 (H).

P. perfoliatus. L.

St. Williams, Brown, 1936 (B).

Sagittaria heterophylla. Pursh. var. rigida.(Pursh) Engelm.

Port Rowan, Herriot, 1901 (H).

Alisma brevipes. Greene.

St. Williams, Brown, 1936 (B).

A. subcordatum. Raf.

St. Williams, Brown, 1936 (B).

Edodea canadensis. Michx.(var. plandorii)

Long Point, Marie-Victorin, 1932 (T).

Panicum Boscii. Poir.

St. Williams, Brown, 1938 (B).

P. implicatum. Scribn.

Long Point, Herriot, 1901 (CAN).

P. lamuginosum. Ell. (var. fasciculatum.)

Fisher's Glen, Brown, 1936 (B).

P. Lindheimeri. Nash (var. septentrionalis.)

Long Point, Macoun, 1892 (CAN).

P. virgatum. L.

Long Point: Herriot, 1900 (H), Soper & Senn, 1938 (JES).

P. Wernerii. Scribn.

Silver Hill, Charlotteville Tp., Brown, 1936 (B).

Panicum xanthophysum. Gray.

Port Dover Jn., Woodhouse Tp., Macoun, 1882 (CAN).

Aristida gracilis. Ell.

Long Point, Marie-Victorin, 1932 (T).

Cyperus filiculmis. Vahl. var. macilentus. Fernald.

St. Williams, Marie-Victorin, 1932 (T).

Eleocharis acicularis. (L.) R. & S.

St. Williams, Brown, 1936 (B).

E. palustris. (L.) R. & S. (var. major.)

Port Rowan, Herriot, 1899 (CAN).

E. palustris. (L.) R. & S. var. vicens. Bailey.

Port Rowan, Herriot, 1901 (H); St. Williams, Brown, 1936 (B).

Rynchospora capillacea. Torr.

Long Point, Macoun, 1892 (CAN).

Scleria verticillata. Muhl.

Long Point: Marie-Victorin, 1932 (T), Soper & Senn, 1938 (CAN).

Carex grisea. Wahlenb.

Pt. Dover, Woodhouse Tp., Macoun, 1882 (CAN).

C. laxiflora. Lam. var. blanda. (Dewey) Boott.

Simcoe, Brown, 1936 (B).

C. lurida. Wahlenb.

Fisher's Glen, Brown, 1936 (B).

C. Muhlenbergii. Schkuhr.

St. Williams, Marie-Victorin, 1936 (T).

C. scoparia. Schkuhr. var. condensa. Fernald.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

C. Tuckermanni. Dewey.

Pt. Dover Jn., Woodhouse Tp., Macoun, 1882 (CAN).

Carex varia. Muhl. var. colorata. Bailey.

Ambrose, Walsingham Tp., Brown, 1937 (B).

C. vesicaria. L. var. monile. (Tuckerm.) Fernald.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Arisaema Dracontium. (L.) Schott.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Luzula campestris. (L.) DC. var. multiflora. (Ehrh.) Celak.

Walsh, Brown, 1937 (B).

L. saltuensis. Fernald.

Ambrose, Walsingham Tp., Brown, 1937 (B).

Smilax hispida. Muhl.

Port Dover, Woodhouse Tp., Macoun, 1882 (CAN).

Habenaria flava. (L.) Gray.

Lot 2, concession V, Woodhouse Tp., Landon, 1936 (L).

H. lacera. (Michx.) R. Br.

Port Rowan, Macoun, 1892 (CAN).

H. Hookeri. Torr.

Norfolk Co., Sharpe, 1915 (T).

Epipactis pubescens. (Willd.) A.A.Eaton.

Norfolk Co., Sharpe, 1915 (T).

Listera cordata. (L.) R. Br.

Delhi, Middleton Tp., Landon, 1937 (L).

Microstylis monophyllos. (L.) Lindl.

Delhi, Middleton Tp., Landon, 1936 (L).

Quercus marilandica. Muench.

Delhi, Middleton Tp., Brown, 1936 (B).

Cannabis sativa. L.

St. Williams, Brown, 1936 (B).

Polygonum amphibium. L. var. Hartwrightii. (Gray) Bissell.

Big Creek Marsh, Port Rowan, Landon, 1937 (L) .

Salsola Kali. L. var. temuifolia. G.F.W.Mey.

Long Point, Landon, Gaiser & Smure, 1936 (McM).

Arenaria litorea. Fernald.

Ambrose, Walsingham Tp., Brown, 1937 (B).

Ranunculus rhomboideus. Goldie.

Ambrose, Walsingham Tp., Brown, 1937 (B).

Thalictrum polygamum. Muhl.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Neslia paniculata. (L.) Desv.

Walsh, Brown, 1933 (B).

Brassica juncea. (L.) Cosson.

Port Rowan, Herriot, 1901 (H).

Barbarea vulgaris. R. Br. (var. stricta.)

Port Dover, Woodhouse Tp., Dearness, 1889 (CAN).

Tiarella cordifolia. L.

Norfolk Co., Garman, 1915 (T).

Potentilla canadensis. L. var. simplex. (Michx.) T. & G.

St. Williams, Marie-Victorin, 1936 (T).

P. fruticosa. L.

St. Williams, Edmonds, 1915 (T).

Geum virginianum. L.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Rubus hispidus. L.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Rosa rubiginosa. L.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Lespedeza capitata. Michx.

Norfolk Co., Graham, (OAC).

Vicia americana. Muhl.

Delhi, Middleton Tp., Brown, 1930 (B).

Linum striatum. Walt.

Long Point, Marie-Victorin, 1932 (CAN).

Polygala paucifolia. Willd.

Norfolk Co., Sharpe, 1915 (T).

Malva moschata. L.

St. Williams, Edmonds, 1915 (T).

Hypericum Kalmianum. L.

Long Point, Landon, Gaiser & Snure, 1936 (McM).

Sanicula gregaria. Bicknell.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Sium cicutaeifolium. Schrank.

Norfolk Co., Sharpe, 1915 (T).

Pyrola asarifolia. Michx. var. incarnata. (Fisch.) Fernald.

Delhi, Landon, 1936 (L).

P. chlorantha. Sw.

Long Point, Boughner, 1898 (T).

P. minor. L.

Delhi, Middleton Tp., Brown, 1930 (B).

Pterospora andromedea. Nutt.

Long Point, Wm. Scott, 1898 (T).

Vaccinium Oxycoccus. L.

Delhi, Middleton Tp., Landon, 1937 (L).

Fraxinus pennsylvanica. Marsh.

Long Point, Landon, Gaiser & Snure, 1936 (McM).

Gilia rubra. (L.) Heller. (= G. coronopifolia. Pers.)

Port Dover, Woodhouse Tp., Hanham, 1888 (CAN).

Verbena angustifolia. Michx.

Delhi, Middleton Tp., Landon, 1937 (L).

Scutellaria integrifolia. L.

Big Creek Marsh, Port Rowan, Landon, 1937 (L).

Nepeta hederacea. (L.) Trevisan.

Simcoe, Simmonds, 1934 (OAC).

Satureja glabra. (Nutt.) Fernald.

Port Dover, Marie-Victorin, 1936 (T).

Mentha spicata. L.

St. Williams, Brown, 1936 (B).

Physalis pubescens. L.

Simcoe, Brown, 1937 (B).

P. virginiana. Mill.

Lot 12, concession VIII, Charlotteville Tp., Landon, 1937 (L);

Normandale, Marie-Victorin, 1936 (T); Port Dover Jn., Woodhouse Tp.,

Macoun, 1882 (CAN).

Datura Tatula. L.

Port Rowan, Herriot, 1899 (H).

Verbascum Blattaria. L.

Port Ryerse, Marie-Victorin, 1936 (CAN); Fisher's Glen, Brown, 1930 (B).

V. Blattaria. L. var. albiflorum. Ktze.

Port Ryerse, Marie-Victorin, 1936 (T).

Linaria minor. (L.) Desf.

Simcoe, Brown, 1936 (B).

L. vulgaris. Hill.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Melampyrum latifolium. Muhl.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Veronica scutellata. L.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Utricularia minor. L.

St. Williams, Landon, 1937 (L).

Galium trifidum. L.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Houstonia ciliolata. Torr.

Walsh, Brown, 1938 (B).

Lonicera oblongifolia. (Goldie) Hook.

Courtland, Middleton Tp., Macoun, 1901 (CAN).

Viburnum Lentago. L.

St. Williams, Edmonds, 1915 (T).

Dipsacus sylvestris. Huds.

Port Dover, Woodhouse Tp., Millman, 1880 (CAN), (DAO).

Campanula aparinoides. Pursh.

Long Point, Landon, Gaiser & Snure, 1936 (McM).

Lobelia Kalmii. L.

Long Point: Kicher, 1926 (T), Landon, Gaiser & Snure, 1936 (McM).

Solidago hispida. Muhl.

Walsh, Brown, 1932 (B).

Helianthus subrhomboides. (Rydb.) Waubashese.

Simcoe, Sim, 1898 (B).

Coreopsis verticillata. L.

Port Dover Jn., Woodhouse Tp., Macoun, 1890 (CAN).

Galinsoga parviflora. Cav.

Simcoe, Brown, 1937 (B).

Helenium nudiflorum. Nutt.

Simcoe, Brown, 1937 (B).

Artemisia canadensis. Michx.

Long Point, Herriot, 1899 (H).

Tragopogon pratensis. L.

Simcoe, Brown, 1932 (B).

LIST OF SPECIES WHICH HAVE BEEN FOUND REPORTED FOR NORFOLK COUNTY.

The following list of 159 species includes oral reports and unpublished records for which the author has not yet seen a specimen. Unless otherwise stated, the species are reported on the authority of Mr. Monroe Landon, of Simcoe, Ontario, with the exception that all species preceded by an asterisk (*) are records taken from Stallwood's "Annotated List of the Ferns and Flowering Plants of Turkey Point" (1937)³⁷

Dryopteris cristata. (L.)
A.Gray.

D. goldiana. (Hook.) A.Gray.

Phegopteris dryopteris. (L.)
Fee. -

**Botrychium multifidum. (S.G.Gmel.)
Rupr. var. silaifolium.
(Presl.) Weatherby.

Equisetum sylvaticum. L.

***Panicum millaceum. L.

*Leersia oryzoides. (L.) Sw.

*Dactylis glomerata. L.

*Festuca elatior. L.

*Elymus virginicus. L.

*Juncus articulatus. L.

Allium tricoccum. Ait.

***Trillium undulatum. Willd.

Aletris farinosa. L.

Smilax rotundifolia. L.

Orchis rotundifolia. Banks.

Habenaria dilatata. (Pursh) Gray.

H. psycodes. (L.) Sw.

*Populus alba. L.

P. balsamifera. L.

*Carya microcarpa. Nutt.

*C. ovata. (Mill.) K.Koch.

Corylus americana. Walt.

C. rostrata. Ait.

* Reported for the Turkey Point region by R.J.Stallwood. (1937).³⁷

** Reported for Norfolk County by Mr. Hubert Brown, Toront.

*** The Ontario Agricultural College Herbarium (OAC) has an undated specimen from Norfolk County.

- Ostrya virginiana. (Mill.) K.Koch. *Dicentra canadensis. (Goldie) Walp.
Alnus incana. (L.) Moench. *Thlaspi arvense. L.
Quercus coccinea. Moench. Lepidium virginicum. L.
Q. macrocarpa. Michx. Camelina sativa. (L.) Crantz.
Ulmus fulva. Michx. Arabis glabra. (L.) Bernh.
U. racemosa. Thomas. Chrysosplenium americanum. Schwein.
Maclura pomifera. (Raf.) Schneider. Ribes Cynosbati. L.
Morus rubra. L. *Spiraea salicifolia. L.
*Polygonum acre. HBK. *Pyrus americana. (Marsh) DC.
*P. aviculare. L. Amelanchier spicata. (Lam.) C.Koch.
*P. persicaria. L. *Crataegus coccinea. L.
P. sagittatum. L. C. Crus-galli. L.
P. scandens. L. C. punctata. Jacq.
*Chenopodium album. L. Potentilla arguta. Pursh.
C. album. L. var. viride. (L.) Moq. P. intermedia. L.
*C. capitatum. (L.) Asch. P. pumila. Poir.
*Amaranthus graecizans. L. Geum triflorum. Pursh.
*A. retroflexus. L. *Rubus occidentalis. L.
Cerastium arvense. L. var. oblong-
ifolium. (Torr.) Hollick &
Britton. Dalibarda repens. L.
Rosa carolina. L.
*Agrostemma Githago. L. R. rubiginosa. L.
*Lychnis alba. Mill. *Prunus nigra. Ait.
*Dianthus deltoides. L. *Prunus pennsylvanica. L.f.
*Portulaca oleracea. L. Gleditsia triacanthos. L.
Ranunculus delphinifolius. Torr. Trifolium arvense. L.
R. repens. L. *T. hybridum. L.
*Menispermum canadensis. L. T. procumbens. L.
Adlumia fungosa. (Ait.) Greene. T. reflexum. L.

- *Melilotus officinalis. (L.) Lam. Viola sororia. Willd.
*Medicago lupulina. L. V. striata. Ait.
*M. sativa. L. Dirca palustris. L.
*Robinia pseudo-acacia. L. *Shepherdia canadensis. (L.) Nutt.
Astragalus canadensis. L. *Decodon verticillatus. (L.) Ell.
Desmodium obtusum. (Muhl.) DC. *Lythrum Salicaria. L.
D. paniculatum. (L.) DC. Oenothera pumila. L.
D. viridiflorum. Heck. Panax quinquefolium. L.
Vicia caroliniana. Walt. P. trifolium. L.
Lathyrus ochroleucus. Hook. Heracleum lanatum. Michx.
Linum virginianum. L. Cornus Baileyi. Coult & Evans.
*Zanthoxylum americanum. Mill. Chimaphila maculata. (L.) Pursh.
Acalypha virginica. L. Pyrola americana. Sweet.
Euphorbia hirsuta. (Torr.) Wiegand. P. secunda. L.
Rhus glabra. L. Chiogenes hispidula. (L.) T. & G.
Ilex verticillata. (L.) Gray. Vaccinium macrocarpon. Ait.
Evonymus atropurpureus. Jacq. *Lysimachia nummularia. L.
*Acer negundo. L. L. producta. (Gray) Fernald.
*A. saccharinum. L. Halenia deflexa. (Sm.) Griseb.
*A. saccharum. Marsh. var. nigrum. Asclepias purpurascens. L.
 (Michx. f.) Britton. *Phlox divaricata. L.
Impatiens pallida. Nutt. Lithospermum angustifolium. Michx.
Rhamnus alnifolia. L!Her. Teucrium canadense. L. var. littorale.
*Malva rotundifolia. L. (Bicknell) Fernald.
Hypericum Ascyron. L. Lamium amplexicaule. L.
H. canadense. L. Pycnanthemum verticillatum. (Michx.) Pers.
H. mutilum. L. Pentstemon laevigatus. Ait. var. digitalis.
Lechea minor. L. (Sweet) Gray.
Viola Rafinesquii. Greene. Veronica arvensis. L.

Veronica peregrina. L.

Sicyos angulatus. L.

Gerardia virginica. (L.) BSP.

*Erigeron annuus. (L.) Pers.

**Pedicularis lanceolata. Michx.

***Antennaria neglecta. Greene.

Utricularia cornuta. Michx.

*Inula helenium. L.

U. resupinata. B.D.Greene.

Silphium perfoliatum. L.

Conopholis americana. (L.f.) Wallr.

*Ambrosia artemisiifolia. L.

Orobanche uniflora. L.

*Helianthus giganteus. L.

Lonicera dioica. L.

*Bidens connata. Muhl. var. pinnata. Wats.

Triosteum aurantiacum. Bicknell.

B. laevis. (L.) BSP.

*Viburnum cassinoides. L.

*Helenium autumnale. L.

V. opulus. L. var. americanum. (Mill.) Ait.

Prenanthes racemosa. Michx.

V. pubescens. (Ait.) Pursh.

***Hieracium longipilum. Torr.

***H. scabrum. Michx.

- - - - -

Summary of groups of species discussed in this paper.

Number of specimens cited for Turkey Point region - -	585
Additional specimens cited for Norfolk County - - - -	109
Total number of species cited for Norfolk County - - -	694
Additional oral and unpublished records of species for Norfolk County - - -	159
Approximate possible total number of species known for Norfolk County - - -	<u>853.</u>

- 37 -----
- * Reported for the Turkey Point region by R.J.Stallwood. (1937).
 - ** Reported for the vicinity of Turkey Point by John J. Stroud, McMaster University.
 - *** The Ontario Agricultural College Herbarium (OAC) has an undated specimen from Simcoe, Norfolk County.

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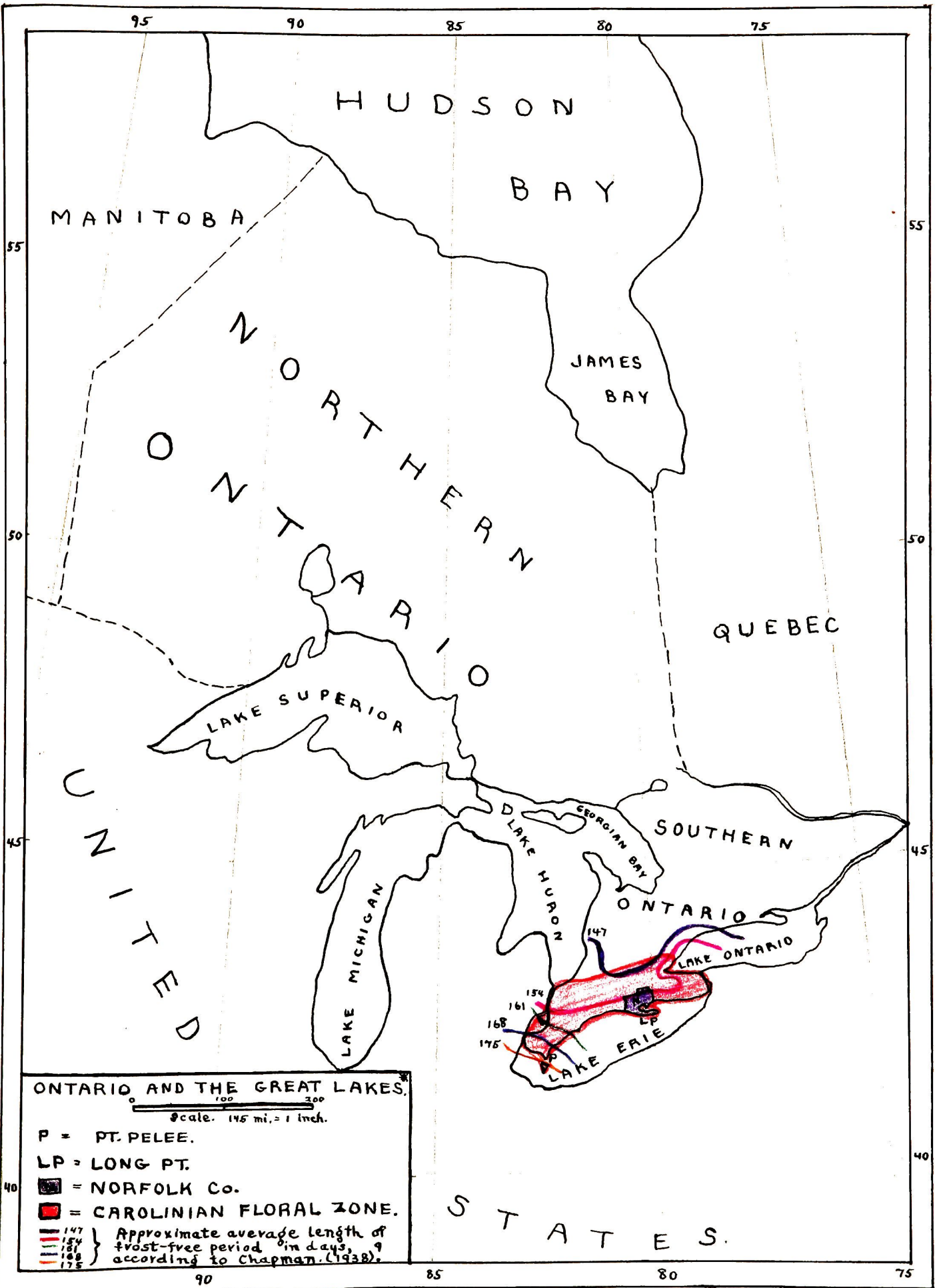
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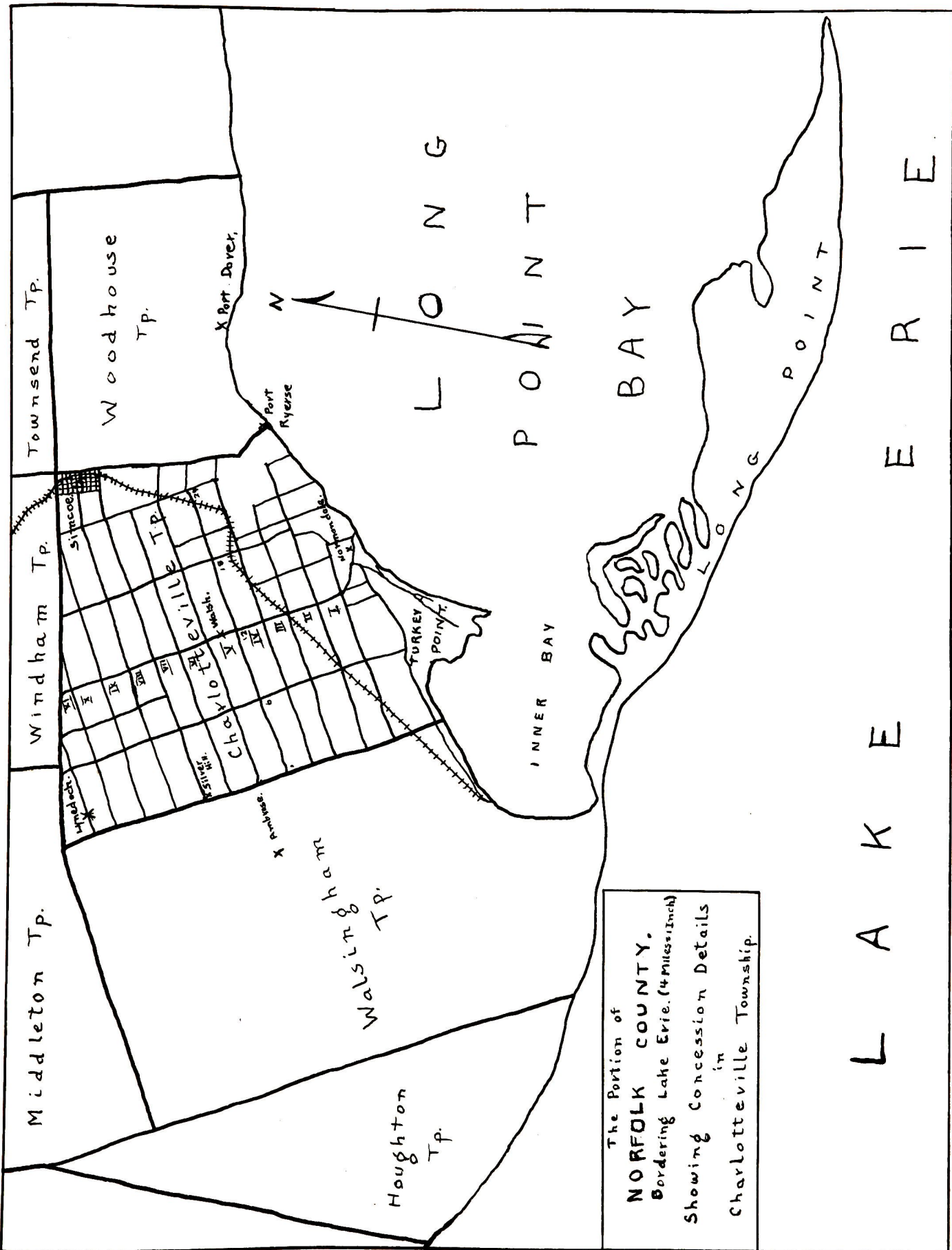
ONTARIO AND THE GREAT LAKES.

Scale. 145 mi. = 1 inch.

- P = PT. PELEE.
- LP = LONG PT.
- [Square with diagonal lines] = NORFOLK Co.
- [Red shaded area] = CAROLINIAN FLORAL ZONE.
- 147 } Approximate average length of
- 154 } frost-free period in days, of
- 161 } according to Chapman. (1938).
- 168 }
- 175 }

S T A T E S .

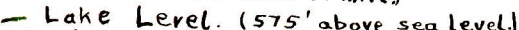
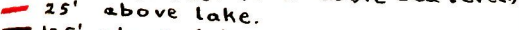
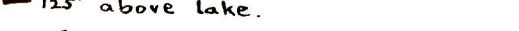

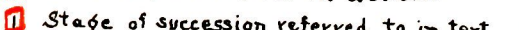
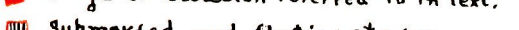
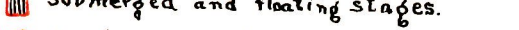

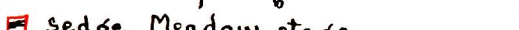
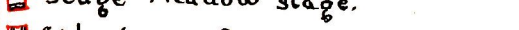
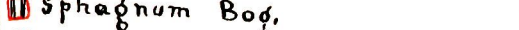
* Redrawn from "Canada. Descriptive Atlas", Ottawa, 1927.

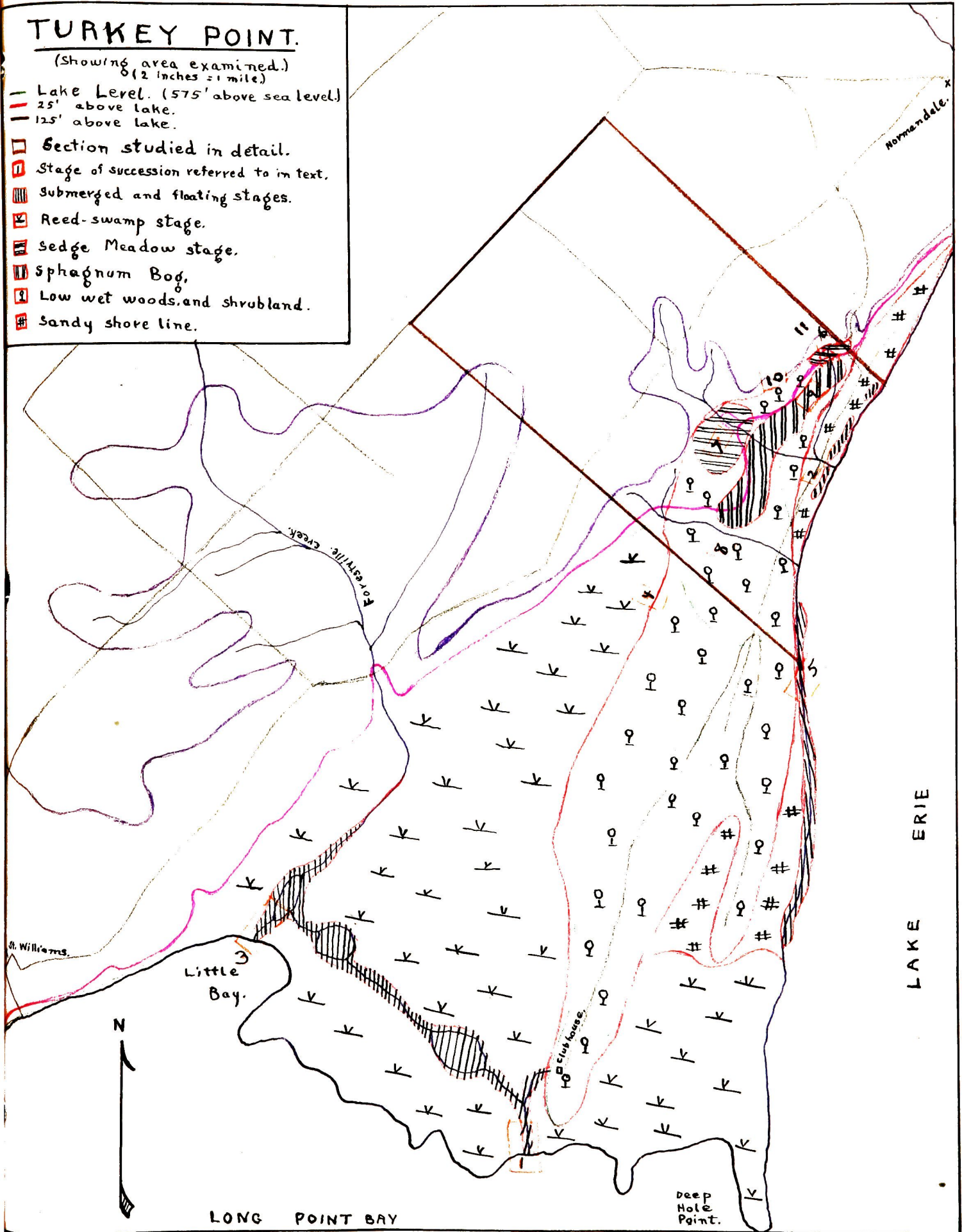


* Redrawn from a Road Map of the County of Norfolk, published by the Simcoe Reformer, Simcoe, Ontario.

TURKEY POINT.

(Showing area examined.)
(2 inches = 1 mile)

-  Lake Level. (575' above sea level.)
-  25' above lake.
-  125' above lake.
-  Section studied in detail.
-  Stage of succession referred to in text.
-  Submerged and floating stages.
-  Reed-swamp stage.
-  Sedge Meadow stage.
-  Sphagnum Bog.
-  Low wet woods and shrubland.
-  Sandy shore line.



EXPLANATION OF PLATES.

Plate I.
(P. 127.)

- Fig. 1. Looking south from the shore cliffs towards Long Point Bay. Black spruce and cedar woods in the foreground; Turkey Point marsh in the background.
- Fig. 2. Section of the shore cliff at "Devil's Hole", a quarter of a mile east of Turkey Point, showing the cliffs of glacial till, clay and sand.
- Fig. 3. Looking east along the shore at Turkey Point.
- Fig. 4. Example of submerged stage in hydrosere. Pond or "backwash" along the shore at Turkey Point.

Plate II.
(P. 128.)

- Fig. 1. Group of sycamores (Platanus occidentalis. L.) on sandy soil along the beach.
- Fig. 2. Looking south along an old "shore line".
- Fig. 3. Looking west across the northern end of the marsh towards the shore cliffs. Note the tussocks or hummocks of Phragmites communis. Trin. which is the dominant species.
- Fig. 4. The northern end of the marsh at the edge of the sphagnum woods of black spruce, cedar and tamarack.

Plate III.
(P. 129.)

- Fig. 1. Edge of horsetail meadow with black spruce-cedar woods in the background.
- Fig. 2. Transition between horsetail meadow (dominant species is Equisetum prealtum. Raf.) and shrubland, showing invasion of sumach. (Rhus typhina. L.)
- Fig. 3. Upland plains, and dry woods in the background.
- Fig. 4. Edge of rich moist upland woods in early spring.

Plate IV.
(P. 130.)

- Fig. 1. Showy Lady's Slipper (Cypripedium hirsutum. Mill.) in more open area at edge of the sphagnum bog.
- Fig. 2. Showy Orchis (Orchis spectabilis. L.) on rich ground along shaded ravine side.

- Plate V. (P. 131.) Fig. 1. Group of Large Yellow Lady's Slippers (Cypripedium parviflorum, Salisb. var. pubescens, (Willd.) Knight.) on side of wooded ravine.
- Fig. 2. Group of Hybrid Lady's Slippers in low marshy ground along base of shore cliff.
- Plate VI. (P. 132.) Fig. 1. Photograph of herbarium specimen of Small Yellow Lady's Slipper (Cypripedium parviflorum, Salisb.) collected at Turkey Point.
- Fig. 2. Photograph of herbarium specimen of Large Yellow Lady's Slipper (Cypripedium parviflorum, Salisb. var. pubescens, (Willd.) Knight.) collected at Turkey Point.
- Plate VII. (P. 133.) Fig. 1. Photograph of herbarium specimen of Small White Lady's Slipper (Cypripedium candidum, Muhl.) collected at Turkey Point.
- Fig. 2. Photograph of herbarium specimen of Hybrid Lady's Slipper (supposedly a hybrid between Cypripedium parviflorum, Salisb. var. pubescens, (Willd.) Knight. and Cypripedium candidum, Muhl.) collected at Turkey Point.
- Plate VIII. (P. 134.) Fig. 1. Photograph of herbarium specimen of Corydalis flavula, Raf. loaned by Mr. C.A.Zenkert of the Buffalo Museum of Science. This species is referred to in the list of species which Burgess (1889) gave as being restricted to the Lake Erie region. (See page 26.)
- Fig. 2. Photograph of herbarium specimen of Dyssodia chrysanthemoides, Lag. loaned by Mr. C.A.Zenkert of the Buffalo Museum of Science. This species is referred to in the list of species which Burgess (1889) gave as being restricted to the Lake Erie region. (See page 30.)

PLATE I.



Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.

PLATE II.



Fig. 1.

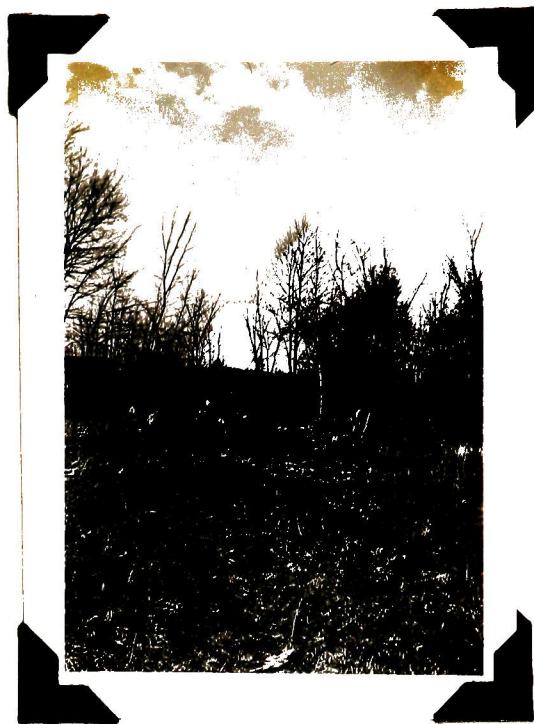


Fig. 2.

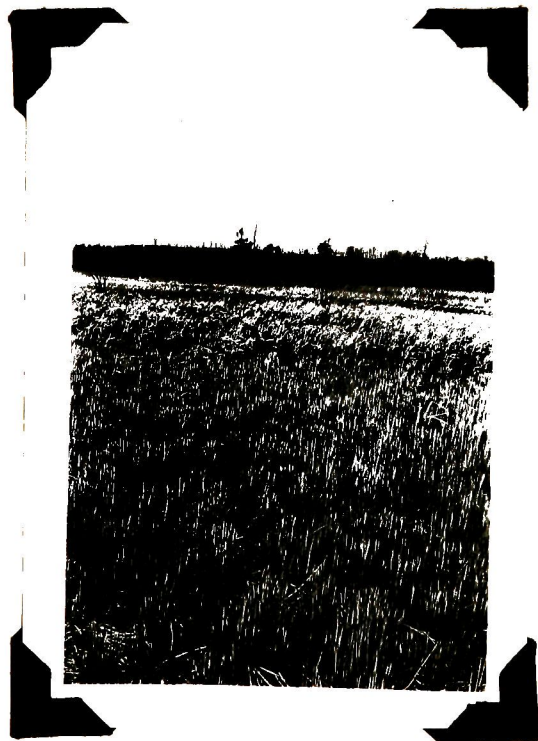


Fig. 3.



Fig. 4.

PLATE III.



Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.

PLATE IV.



Fig. 2.



Fig. 1.

PLATE V.

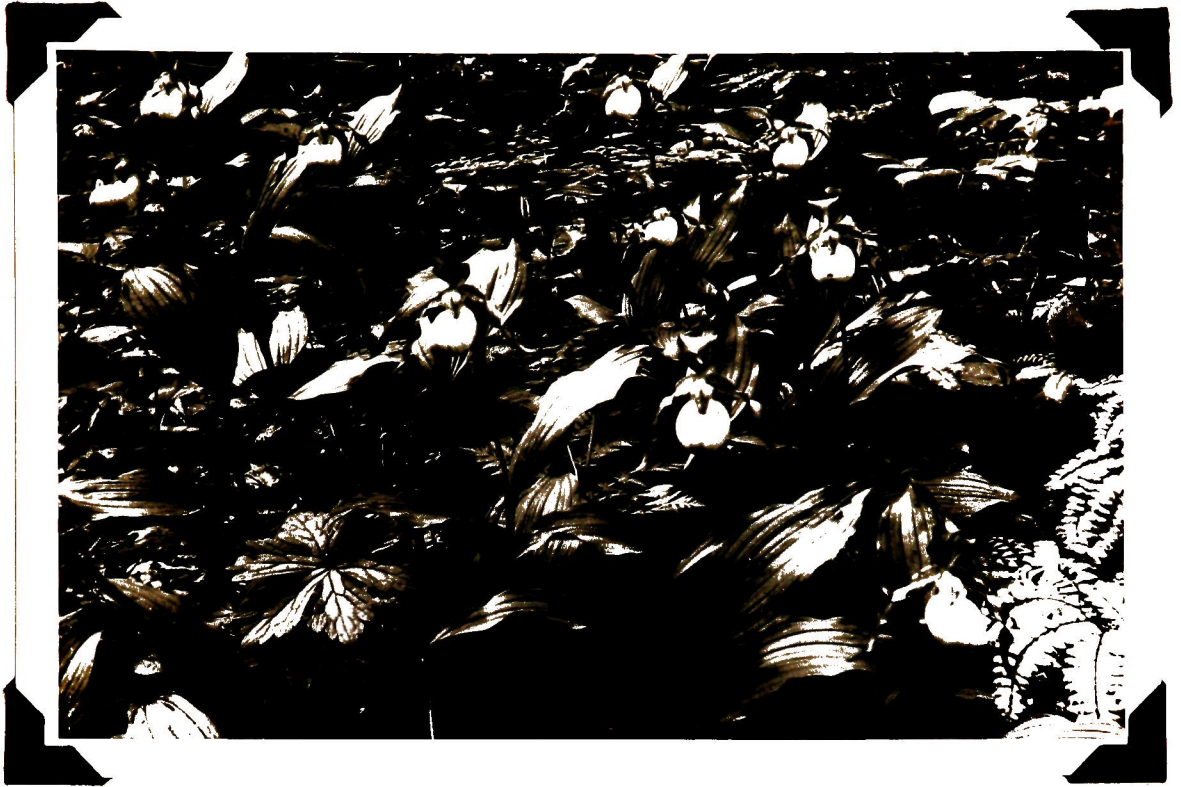


Fig. 1.



Fig. 2.

PLATE VI.



Allium kinerleyi Bartramii
 Name: *Allium kinerleyi* Bartramii
 Locality: *Allium kinerleyi* Bartramii
 Collector: *Allium kinerleyi* Bartramii
 Date: *Allium kinerleyi* Bartramii

Fig. 2.



Allium kinerleyi Bartramii
 Name: *Allium kinerleyi* Bartramii
 Locality: *Allium kinerleyi* Bartramii
 Collector: *Allium kinerleyi* Bartramii
 Date: *Allium kinerleyi* Bartramii

Fig. 1.

PLATE VII.



Mimosa biuncifera
 Name: *Mimosa biuncifera* (Lam.) DC.
 Locality: *Mimosa biuncifera* (Lam.) DC.
 Collector: *Mimosa biuncifera* (Lam.) DC.
 Date: *Mimosa biuncifera* (Lam.) DC.

Fig. 2.

Mimosa biuncifera
 Name: *Mimosa biuncifera* (Lam.) DC.
 Locality: *Mimosa biuncifera* (Lam.) DC.
 Collector: *Mimosa biuncifera* (Lam.) DC.
 Date: *Mimosa biuncifera* (Lam.) DC.

Fig. 1.

PLATE VIII.



Fig. 2.



Fig. 1.

