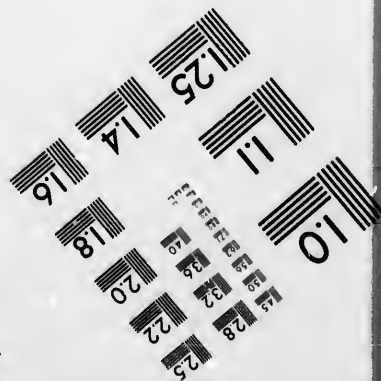
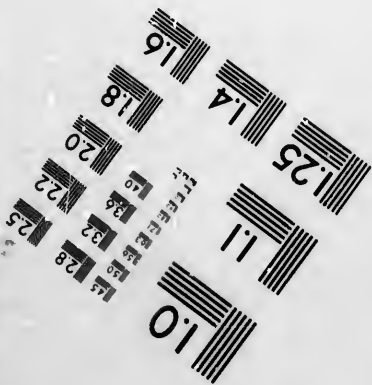
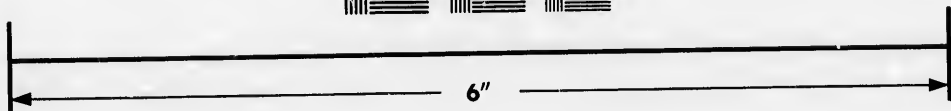
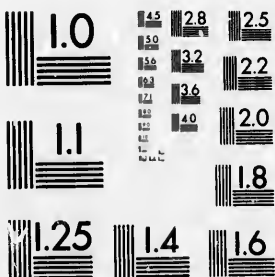


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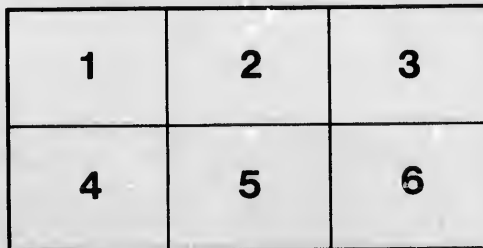
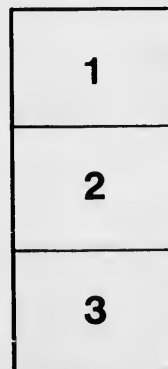
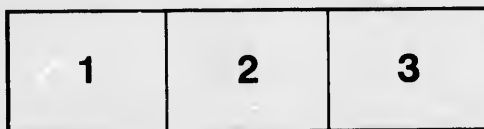
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## THE LAKE ERIE SHORE AS A BOTANIZING GROUND.

*Read before the Biological Section, February 15th, 1887,*

BY T. J. W. BURGESS, M. B.; F. R. S. C.

Perhaps few, if any of you are aware that almost at our very doors, certainly within easy reach of the members of this Association, lies what is probably the best botanizing ground in Ontario, I might even say the best in Canada if we exclude British Columbia and the Rocky Mountains. I refer to the shores of Lake Erie, a region less known botanically than any other part of the Dominion, except the parts I have mentioned. While the counties immediately adjoining the lake constitute the district to which I specially refer, it may be said to include the banks of the Niagara, Detroit and St. Clair Rivers, and the border of Lake St. Clair.

Forty-nine years ago Sir Wm. J. Hooker published his great work, the "Flora Boreali Americana," and in it recorded all then known, through the early travellers and explorers, of our species and their distribution. In 1840 to 1843 appeared the "Flora of North America" by Torrey and Gray, and in 1878, the latter gentleman published the first volume of his "Synoptical Flora of North America," comprising the Gamopetalæ after Compositæ. These works virtually contained all that was known of Canadian botany, except occasional lists which had from time to time appeared in scientific publications, up to 1883, when the first part of Professor Macoun's "Catalogue of Canadian Plants" was brought out. This part, which comprised the Polypetalæ, was followed in 1884 by a second, treating of the Gamopetalæ, and in the same year appeared the second volume of Gray's "Synoptical Flora," completing the Gamopetalous Dicotyledonous plants. In 1886 and 1888, two other parts of Prof. Macoun's great work were issued, treating, respectively, of the Apetalæ and the Endogens. This wonderfully comprehensive catalogue is now our standard work on the number and distribution of Canadian species, and forms a lasting monument of the good work done by Mr. Macoun for the science he loves so well, and which he has done so much to foster in this country. It has thrown the first

great light on our Canadian flora, but even it, as the author on several occasions remarks in its pages, is woefully deficient as regards the flora occupying the region along Lake Erie, in which, no doubt, there are many varieties still to be brought to view.

One of the earliest explorers to leave any special notes on the vegetation of the Lake Erie district, was the famous Franciscan monk, Father Hennepin, who accompanied LaSalle on his voyages, extending from 1679 to 1682. Hennepin explored the country through the region of the St. Lawrence and great lakes, westward into Wisconsin, where he was carried as a captive by the Indians. He appears to have made no collections, nor did he give any special account of the botany of these regions, but on more than one occasion he speaks of the prevalence of walnut, chestnut and plum trees about Lake Erie.

Following Hennepin, the Jesuit, Charlevoix, who reached Quebec in 1720, travelled by way of the St. Lawrence and great lakes and thence descended the Mississippi. His journals contain some notes of interest, and he speaks particularly of the fine timber in the Erie region, mentioning the white and red oaks (*Quercus alba* and *Quercus rubra*) and three kinds of walnut, two of which, from his description, evidently are the butternut and one of the hickories.

Peter Kalm, a pupil and correspondent of Linnæus, in 1749; Frederick Pursh, the celebrated author of the "Flora Americæ Septentrionalis," in 1806; Michaux, the younger, in 1807; and Drummond and Douglas, distinguished botanical explorers, about fifteen or eighteen years later made expeditions to the Niagara River and eastern end of Lake Erie, but can hardly be said to have explored any of its northern shore. The result of their labors was recorded in Hooker's Flora.

The first real investigators of the Flora of this district were Mr. Goldie and Drs. Todd, Maclagan and Nichol, and they have recorded many interesting plants, some of which have not since been seen. Professor Macoun has explored to a limited extent the Niagara Peninsula, Pelee Island and the country along Lake Erie westward from that point and up the Detroit River; while, personally, I have examined the districts about Point aux Pins and Point Pelee. Mr. David F. Day, President of the Buffalo Natural History Society, has carefully explored the Canadian side of the Niagara River

and the shore of Lake Erie as far as Point Abino. The shore, however, between Point Abino and Point aux Pins, a stretch of about 175 miles, remains practically unexplored, with the exception of a little work done by Dr. Nichol and Mr. Wm. Yates in Norfolk County, by Prof. Macoun in the same district about Port Dover, and by the last named gentleman and myself about St. Thomas and Port Stanley in Elgin County. That much is still to be done is evidenced by the discovery during the past season by one of our members, Mr. Hanham, who makes no claim to even the slightest knowledge of botany, of the beautiful and showy *Phlox coronobifolia* introduced at Port Dover, an addition to our Canadian Flora. 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 any one with time to visit and work it up.

What I have called the Erie District is chiefly remarkable for the southern nature of many of the species, some of them being so much so that one would scarcely dream of finding them within our boreal confines. The large size and plentitude of the Kentucky coffee-tree, the pawpaw, mulberry, blue ash and sour-gum trees, clearly show them to be indigenous, and would indicate that they are not merely chance survivors, but that the soil and climate fully meet their requirements. To this region having been but scantily investigated may be attributed the seemingly extraordinary fact that on a trip made to Point Pelee, in the summer of 1882, by Prof. Macoun and myself, in one day we noted no less than eleven species not before recorded as occurring in Canada, and ten additional ones but very rarely met with. In the week preceding our joint trip the Professor had found, about Amherstburgh and on Pelee Island, eight others, which then for the first time found a place in our flora. The vegetation in many respects resembles that of the northern parts of Pennsylvania and Ohio, lying on the opposite or southern shore of the lake, but whether this points toward proving that what is now water was formerly land and connected the two countries I do not pretend to say. In some instances, notably that of the three-thorned acacia (*Gleditschia triacanthos*) some fine specimens of which grow in the sand-dunes on Point Pelee, I have no doubt but southern plants have been introduced through seeds drifting across the lake. The short distance inland to which some of the species extend has always seemed to me a strong argument in favor

of this view, there being seemingly no difference in soil or climate sufficient to account for it. The forest of this region differs markedly from that of any other part of Canada, for while the trees, elsewhere the chief components, occur, the bulk of it is made up, in addition to those I have already named, of chestnut, black walnut, tulip-tree, buttonwood, white-heart and broom hickories, butternut, chestnut oak, scarlet oak, and black oak.

From Prof. Macoun's Catalogue I have prepared two lists; one giving the names, localities and authorities for the occurrence of the Phænogamous species peculiar (so far as known) to the Lake Erie region; the other those very rarely noted as occurring elsewhere in Canadian territory. The former includes 108, the latter 26 species. These combined lists give us 134 plants, out of a total of 2955, restricted, or almost restricted, to this district, that is, a twenty-second part of all the plants known to occur over our vast territory, from the Atlantic to the Pacific, are confined to it, and I have no doubt that quite a number of additional ones will be brought to light when the country is fully worked up.

113 out of the 737 genera known in Canada, or rather more than one-seventh, are represented in the same region, while very nearly one-half the orders, or 54 out of 118, occur. The orders most largely represented in these two lists, as one might naturally expect from their size, are the Leguminosæ, Rosacæ, Compositæ, Labiata, Liliacæ, Cyperacæ and Gramineæ, but, if we go by the proportion of the species to those forming the order in Canada as a whole, the ones best represented are Caryophyllacæ, Umbelliferæ, Juglandacæ and Cupuliferæ. Ranunculacæ and especially Ericacæ, judged by the same standard are, by all odds, the lowest in the scale of numbers. Four of our Canadian orders find their sole representatives in the Lake Erie District, viz: Magnoliacæ (*Magnolia Family*) by *Magnolia acuminata* and Liriiodendron *Tulipifera*, Anonacæ (*Custard-apple Family*) by *Asimina triloba*, Bignoniacæ (*Bignonia Family*) by *Tecoma radicans*, and Hemodoracæ (*Blood-root Family*) by *Aletris farinosa*; while of the two representatives in Canada of the Illecebracæ (*Knawel Family*) one, *Anychia dichotoma*, occurs here, the other, *Paronychia sessiliflora*, in the Northwest Territory.

A very curious fact that cannot but strike one forcibly in glancing over these lists is the large number of species, noted by the

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older writers, such as Pursh, Hooker and Goldie, which have not since been seen. This is possibly due to two facts, first, that the region has been but comparatively little explored by botanists, and second, that these writers did not give any very definite localities to aid one in the search. In many cases the sole reference to guide us is Canada or Western Canada, both of which, as you are well aware, are pretty extensive localities to cover. It is possible, also, that some of the species have been incorrectly named. The number of such species is 22, and it is to these I would now particularly call your attention. Indeed, such is the main object of this paper, for it is very necessary in the interests of botanical research that these species, if existing, should be more definitely relocated. Any of you, interested in botany, and having a holiday, cannot do better than spend it on some part of the Erie shore. You are liable to come across some of these, or new, floral rarities at any moment, and, even if you do not, I can promise you that you will be amply repaid with vasculums or presses stocked with some of the least common of Canadian plants. Do not let the fact that such plants have been so long hidden deter you or make you doubt their occurrence there. In even comparatively well botanized districts, with almost an army of scientists engaged in the search, it is possible for a plant to remain concealed for years. A notable example of this is seen in the rare American shrub *Shortia galacifolia*. Over a hundred years ago, viz. in 1788, the elder Michaux, on a journey into the mountains of North Carolina in search of living plants of the rare *Magnolia cordata*, collected somewhere on those mountains a specimen of an Ericaceous plant, out of flower but with immature fruit. In 1839 Dr. Gray found and examined, in Michaux's herbarium, this specimen, the exact locality for which was unfortunately not recorded, and on it founded, in 1842, a new genus, *Shortia*, so called in honor of Dr. Chas. W. Short of Kentucky. Lyon, Curtis, Gray, and a host of less noted botanists, in vain traversed the Carolina mountains to rediscover Michaux's locality for the species, but it was not until May, 1877, that Mr. Geo. Hyams found it on a hillside in McDowell County, North Carolina, east of the Black Mountain. For several years after this was supposed to be the only station for the species, and, to the regret of all botanists, the plants were few in number. In 1886, however, a new station was discovered by Mr. Kelsey on the banks of the lower Whitewater River, in Jocassee

Valley, Oconee County, about 33 miles from Highlands. Here there were rods of the banks covered with it and it extended up and down the river, more or less, for three miles, so that this formerly rarest of plants was at last found in sufficient abundance to assure its continuance.

Another instance of the rediscovery of a plant is that of *Nymphaea elegans*, which was originally collected, by Dr. Charles Wright, in a pond near the head of the Leona River, Texas. Neither Lindheimer, Fendler, nor any other Texan collector or botanist was able to find it again, and for nearly forty years it stood in the North American flora on the strength of a single collection at a single vaguely described station on the broad plains of South-western Texas. In 1887, however, it again came to light near Waco in the same State, Messrs. Trimble and Wright having found it abundant in one place there. These are only two of several such instances, and I trust will 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. The following is a list of them, some, as you will note, being actually recorded as found by Mr. Buchan and Judge Logie at Hamilton here.

1. *Nelumbium luteum*, Willd., (Water Chinquepin) Reported as found in the Detroit River, at the Erie entrance to the Welland Canal, and near Burnham's Island in Grand River a few miles from Dunnville. Neither Prof. Macoun nor myself have seen Canadian specimens of this plant, but believe the stations named to be authentic.

2. *Polygala incarnata*, L. Found in rocky places on the Niagara River, near the Falls, by Douglas in 1823, and not since detected.

3. *Silene stellata*, Ait. Also found by Douglas in 1823 in dry stony places on the Niagara River and not since seen.

4. *Silene nocturna*, L. Observed growing near Fort Erie in 1881 by Mr. Day, but not collected since.

5. *Hypericum Sarothra*, Mx. Recorded in Torrey and Gray's Flora as a native of Canada, but we have no proof of its occurrence. As Prof. Macoun says, however, it may be found in sandy soil along Lake Erie.

6. *Baptisia leucantha*, T. & G. Not detected since the time

of Goldie, who records it as occurring in rich alluvial soil on the shore of Lake Erie. I am myself of the opinion that *Baptisia tinctoria*, which occurs as described, is the species referred to, but am at a loss to understand how such an error could have been made. It is of course quite possible that I am wrong in my conjecture and that *Baptisia leucantha*, which is a native of Ohio, may yet be rediscovered.

7. *Sedum ternatum*, Mx. Rocks in the Niagara River and Lake Erie (*Douglas*, 1823); vicinity of Hamilton, Ont. (*Buchan*) Prof. Macoun says this is a doubtful species and should be carefully looked for and verified.

8. *Ludwigia alternifolia*, L. In swamps, Canada. (*Hooker*, Fl. Bor. Am.—*Torrey and Gray*, Fl. N. Am.) Another doubtful species. No exact locality is ascribed for it by these authors, but if it occurs with us at all it will probably be along the Lake Erie shore.

9. *Archangelica hirsuta*, T. & G. Both Pursh and Michaux credit this species to Canada, but do not say to what part. If found it will almost certainly be in the neighborhood of Lake Erie.

10. *Liatrix squarrosa*, Willd. Dry gravelly or sandy soil, Western Ontario (*Gray*) Neither this species nor its variety *intermedia*, D C., which occurs in the same situations as the type, have been noticed by any of the late collectors.

11. *Helianthus parviflorus*, Bernh. Thickets in alluvial soil in Western Ontario (*Goldie*, vide *T. and G.*, Fl. N. Am.)

12. *Cacalia atriplicifolia*, L., (Indian Plantain) Canada (*Cleg-horn*, vide *Hooker*) Moist woodlands, Western Ontario (*T. and G.*) Not collected recently.

13. *Krigia Virginica*, Willd. Sandy ground, Western Ontario (*Gray*)

14. *Sabbattia angularis*, Pursh. Rich soil, Western Ontario (*Gray*) Prof. Macoun says that this species as a Canadian plant is unknown to him. My friend, Mr. Yates, of Hatchley, Ont., tells me he once found a *Sabbattia* in the Erie district but did not know the species and had lost the specimen. It is probable that it was the same as *Gray* refers to.

15. *Pycnanthemum incanum*, Mx. Dry soil, Canada (*Goldie*) New England to Western Canada (*Gray*) Hamilton, Ont. (*Logie*)

Prof. Macoun says he has never seen a Canadian specimen, nor have I myself.

16. *Monarda Clinopodia*, L. Western Canada to Illinois (Gray) Prof. Macoun knows nothing of this species as a Canadian plant. It is to be looked for in the Lake Erie region.

17. *Scutellaria canescens*, Nutt. River banks, Western Ontario (Gray) Canada (Goldie) Prof. Macoun has no knowledge of Canadian localities for this species. If found it will probably be along Lake Erie.

18. *Anychia dichotoma*, Mx. Shore of Lake Erie, Norfolk Co., 1867 (Dr. Nichol) Has not been since reported.

19. *Corallorhiza odontorhiza*, Nutt. Woods along Lake Erie, Norfolk Co. (Dr. Nichol) It is also recorded from Halifax, Montreal, and Hamilton, but it is more than likely that all these references should be to *Corallorhiza innata*, as all the specimens, so-called, seen from those localities by Prof. Macoun have been that species. If it really occurs with us it will be in the Erie District only, I think.

20. *Pogonia pendula*, Lindl. Damp woods, Canada (Goldie, vide Hook., Fl. Bor.-Am.) Prof. Macoun has never seen a Canadian specimen. Must inhabit the Erie region if it occurs at all.

21. *Melanthium Virginicum*, L. Upper Canada (Hooker) Prof. Macoun has never seen a Canadian plant of this species either. It is to be looked for along the Lake Erie shore.

22. *Aristida dichotoma*, L. Port Colborne, Lake Erie (McGill Coll. Herb.) Another and the last, of these plants of which Mr. Macoun has seen no Canadian specimen.

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*Species restricted in Canada (so far as known) to the  
Lake Erie District.*

1. *Ranunculus ambigens*, Watson. In inundated places or mud. Southern part of Ontario (Goldie) Vicinity of Port Colborne (McGill Coll. Herb.)

2. *Magnolia acuminata*, L., (Cucumber-tree) The only recorded station for this is Falls of Niagara on the authority of

L'Abbé Provancher. Whether he considers it introduced or not I am unable to say, but I should most certainly judge that it is.

3. *Asimina triloba*, Dunal, (American Papaw) Rich low woods near the railway below Queenston Heights; very abundant on Pt. Pelee and in the townships bordering Lake Erie between that point and Amherstburgh; doubtless not rare along Lake Erie but not reported (*Macoun*)

4. *Nelumbium luteum*, Willd., (Water Chinquepin) Reported as found in the Detroit River, at the entrance from Lake Erie to the Welland Canal, and near Burnham's Island in Grand River, a few miles from Dunnville, Ont.

5. *Corydalis flavula*, L. C., (Yellow Corydalis) Abundant around the stone quarry on the north end of Pelee Island, and on Pt. Pelee (*Macoun and Burgess*) Pt. Abino on Lake Erie (*Day*)

6. *Sisymbrium Thaliana*, Gaud. Pt. Abino, Lake Erie. This is our only recorded station, but Mr. Day, who discovered it, says it is abundant and he thinks indigenous.

7. *Viola pedata*, L., (Bird-foot Violet) The sole known locality we have for this very handsome species is Tp. of Charlotteville, Norfolk County, Ont., where it is very abundant in open sandy soil (*Burgess*) My specimens exhibit both the type and the var. *bicolor* of Pursh. All other recorded references to this species refer to *Viola delphinifolia* of Nutt., which is common on the western prairies.

8. *Viola palmata*, L. This, the *Viola cucullata*, var. *palmata* of Gray's Manual, is recorded only from damp woods near Amherstburgh, Ont. (*Macoun*)

9. *Polygala incarnata*, L. Found in rocky places on the Niagara River, near the Falls, by Douglas in 1823.

10. *Silene stellata*, Ait. Also found by Douglas, in 1823, in dry, stony places on the Niagara River.

11. *Silene nocturna*, L. Observed growing at Fort Erie, Ont., in 1881 (*Day*)

12. *Dianthus armeria*, L., (Deptford Pink) Introduced into the waste ground between Niagara Falls and the Canada Southern Railway (*Macoun*)

13. *Cerastium oblongifolium*, Torr. Low sandy woods close to Amherstburgh; Pt. Pelee and Pelee Island (*Macoun and Burgess*) A rare and beautiful species.

14. *Hypericum Sarothra*, Mx. In Torrey & Gray's Flora this species is recorded as a native of Canada, but we have no proof of its occurrence.

15. *Hibiscus moscheutos*, L., (Swamp Rose-Mallow) It is one of the handsomest flowers I know. Bright rose color or white, the blossoms often measure from 3-6 inches in diameter. Islands in the Detroit River (*MacLagan*) Marsh at the junction of Pt. Pelee to the main land (*Macoun and Burgess*) Roadside near Windsor, Ont. (*Dr. Kemp*) Islands in Niagara River (*Day*)

16. *Ptelea trifoliata*, L., (Shrubby Trefoil) Pelee Island (*Macoun*) West side of Pt. Pelee (*Macoun and Burgess*) A few specimens on the lake shore above Fort Erie, Ont. (*Day*)

17. *Euonymus atropurpureus*, Jacq., (Burning Bush) In shady woods and open thickets. White Island, opposite Amherstburgh (*Macoun*) Amherstburgh, Ont. (*MacLagan*)

18. *Trifolium reflexum*, L., (Buffalo Clover) Islands in the Detroit River (*MacLagan*) About Sandwich and Amherstburgh (*Douglas*)

19. *Tephrosia Virginiana*, Pers., (Goat's Rue) Covering acres of sandy soil along the Lake Erie shore on the 1st and 2nd Concessions of Charlotteville Tp., Norfolk Co. (*Burgess*)

20. *Onobrychis sativa*, Lam. Introduced at Pt. Abino, near Fort Erie, Ont. (*Day*)

21. *Desmodium canescens*, DC. Amherstburgh, Ont. (*MacLagan*) Abundant in low sandy thickets at Pt. aux Pins and Pt. Pelee, Lake Erie, Ont. (*Burgess*)

22. *Desmodium ciliare*, DC. Dry sandy thickets, Queenston Heights, 1877 (*Macoun*)

23. *Baptisia leucantha*, T. & G. Not detected since the time of Goldie, who records it as occurring in rich alluvial soil on the shore of Lake Erie.

24. *Gleditschia triacanthos*, L., (Three-thorned Acacia) A number of trees of this species were found by Prof. Macoun and myself, in the summer of 1882, growing in the sand dunes on Pt.

Pelee. The Professor's surmise is that the seeds had drifted across the lake from Ohio, as sand is not the true habitat of this species. It is quite a common tree in cultivation throughout Ontario.

25. *Geum vernum*, T. & G. Open, damp woods, Amherstburgh, Ont. (*Macoun*)

26. *Agrimonia parviflora*, Ait. Woods near Amherstburgh, Ont. (*Maclagan and Macoun*) This is probably the form referred to as *Agrimonia Eupatoria*, var. *parviflora* by Hooker in his "Flora Boreali-Americana."

27. *Rosa setigera*, Mx., (Climbing Rose) Borders of thickets and along fences about Amherstburgh, and on Pelee Island (*Macoun*)

28. *Crataegus Crus-galli*, L., (Cockspur Thorn) Abundant on Queenston Heights and westward to Amherstburgh, where also it was recorded by Maclagan (*Macoun*) About Lake Erie (*Douglas*)

29. *Saxifraga Pennsylvanica*, L. Low places near Fort Erie, Ont. (*Day*)

30. *Heuchera Americana*, L. Woods near Amherstburgh, Ont. (*Maclagan and Macoun*)

31. *Ludwigia alternifolia*, L. In swamps, Canada (*Torrey and Gray*, Fl. N. Am. *Hooker*, Fl. Bor.-Am.) A species of very doubtful occurrence in Canada.

32. *Lythrum alatum*, Pursh. Amherstburgh, Ont. (*Maclagan*) Low wet sandy places at Pt. Edward, Ont. (*J. M. Macoun*) In ditches along the G. W. Railway, four miles east of Windsor, Ont. (*Macoun*)

33. *Opuntia Rafinesquii*, Englm. In the sand at the southern end of Pt. Pelee (*Macoun and Burgess*) Said also to grow on Long Pt., Lake Erie.

34. *Thaspium barbinode*, Nutt. Foster's Flats, Niagara Falls, and on the Canada Southern Railway, between Colchester and Amherstburgh (*Macoun*) Chippewa and Detroit River (*Maclagan*) Pt. aux Pins, Lake Erie (*Burgess*) The referring of this species to London, Ont., on my authority by Prof. Macoun in Part I. of his Catalogue is a mistake, the specimen should have been placed under *T. aureum*.

35. *Berula angustifolia*, Koch. Near Port Colborne, Ont., July, 1882 (*Day*)

36. *Charophyllum procumbens*, Crantz. Abundant on White Island, in the Detroit River, opposite Amherstburgh (*Macoun*)

37. *Archangelica hirsuta*, T. & G. Both Pursh and Michaux credit this species to Canada, but do not say where found.

38. *Archemora rigida* DC., (Cowbane) Sandy swamps near Colchester Station on the Canada Southern Ry. (*Macoun*) Amherstburgh (*Maclagan*) Leamington, Ont. (*Burgess*) Port Colborne, Ont. (*McGill Coll. Herb.*)

39. *Cornus asperifolia*, Mx., (Rough-leaved Cornel) Growing in sand on Pt. Pelee, Lake Erie (*Macoun and Burgess*)

40. *Nyssa multiflora*, Wang., (Pepperidge) One tree was seen in a field at Bismarck on the Canada Southern Railway (*Macoun*) Abundant in a swamp near Leamington, Ont. (*Macoun and Burgess*) Common report makes this a plentiful tree in many swamps, hence called "pepperidge swamps," in Essex Co., Ont.

41. *Galium pilosum*, Ait., (Hairy Galium) Vicinity of Queens-ton, Ont., and in sand at the southern extremity of Pt. Pelee (*Macoun*) Amherstburgh (*Maclagan*) Pt. aux Pins, Lake Erie (*Burgess*)

42. *Fedia olitoria*, Vahl. Sparingly introduced along Lake Erie, near Port Colborne, Ont. (*Day*) Amherstburgh (*Maclagan*)

43. *Vernonia noveboracensis*, Willd., (Iron-weed) Canada (*Pursh*) Close to the railway station at Essex Centre, Ont. (*Macoun*) Amherstburgh (*Maclagan*) Prof. Macoun states that the Essex Centre reference should possibly be to *Vernonia altissima*, as only the leaves were obtained.

44. *Vernonia altissima*, Nutt. In damp places, St. Clair Flats (*J. M. Macoun*) Along the G. W. Railway and margins of fields, near Windsor, Ont. (*Macoun*)

45. *Mikania scandens*, L., (Climbing Hemp-weed) Moist shady places along streams. Amherstburgh (*Maclagan*)

46. *Liatris squarrosa*, Willd. Dry gravelly or sandy soil, Western Ontario (*Gray*)

47. *Liatris spicata*, Willd. Not uncommon in marshy meadows between Pt. Edward and Sarnia, Ont. (*J. M. Macoun*) Abundant in low sandy soil at Leamington, Ont. (*Burgess*)

48. *Aster ericoides*, Ait., var. *villosus*, T. & G. Port Stanley, Ont. (*Burgess*) Windsor, Ont. (*Macoun*)



49. *Silphium perfoliatum*, L., (Cup Plant) Rich soil along streams. Islands in Detroit River (*Maclagan*) In thickets along margins of fields, Windsor, Ont. (*Macoun*)

50. *Heliopsis laevis*, Pers. Dry thickets. St. Catharines and Amherstburgh, Ont. (*Maclagan*)

51. *Helianthus parviflorus*, Bernh. Thickets in alluvial soil in Western Ontario (*Goldie* vide *T. and G.*, Fl. N. Am.)

52. *Actinomeris squarrosa*, Nutt. Islands in Detroit River (*Maclagan*) Roadsides and along banks of River Thames, Chatham, Ont. (*Macoun*)

53. *Coreopsis trichosperma*, Mx., var. *tenuiloba*, Gr. Islands in Detroit River (*Maclagan*) Edge of marsh at junction of Pt. Pelee to main land (*J. M. Macoun*) Border of marsh at Rondeau, Lake Erie (*Macoun*)

54. *Coreopsis tripteris*, L. Amherstburgh and islands in Detroit River (*Maclagan*) Around marshes and along the G. W. Railway, near Windsor, Ont. (*J. M. Macoun*)

55. *Coreopsis verticillata*, L. Moist places and margins of swamps, Western Canada (*Gray*) On the beach near a marsh, a little west of Rondeau, Lake Erie (*Macoun*)

56. *Dysodia chrysanthemoides*, Lag. Rare. A railroad weed at Fort Erie, Ont. (*Day*)

57. *Cacalia atriplicifolia*, L., (Indian Plantain) Canada (*Cleghorn* vide *Hooker*) Moist woodlands, Western Ontario (*Torrey and Gray*)

58. *Krigia Virginia*, Willd. Sandy ground, Western Ontario (*Gray*)

59. *Lactuca Floridana*, Gært. Islands in Detroit River (*Maclagan*)

60. *Fraxinus quadrangulata*, Mx., (Blue Ash) Pelee Island (*Macoun*) Pt. Pelee, Ont. (*Macoun and Burgess*)

61. *Asclepias purpurascens*, L., (Purple Milkweed) Amherstburgh and islands in the Detroit River (*Maclagan.*)

62. *Sabbatia angularis*, Pursh. Rich soil, Western Ontario (*Gray*)

63. *Gentiana Saponaria*, L. Moist woods, Western Ontario (*Gray*) Fort Erie, Ont. (*Day*)

64. *Phlox subulata*, L., (Ground or Moss Pink) Sand hills near Simcoe, Norfolk County (*Dr. Nicholl*) Near Cayuga, Ont. (*Wilkins*) Very showy and abundant in sandy soil near Lake Erie, Charlotteville Township, Norfolk County, Ont. (*Burgess*)
65. *Gilia coronopifolia*, Pers. Introduced at Port Dover, Ont., 1888 (*A. W. Hanham*)
66. *Mertensia Virginica*, DC. Alluvial banks. Pt. Abino, Lake Erie (*Day*)
67. *Ipomœa pandurata*, Meyer, (Man-of-the-Earth) Dry ground, Western Ontario (*Gray*) In warm gravelly soil toward the southern end of Pt. Pelee (*Macoun and Burgess*)
68. *Cuscuta compacta*, Juss. Credited to Canada by Dr. Gray. Amherstburgh (*MacLagan*)
69. *Solanum Carolinense*, L. Sandy and waste grounds near Fort Erie, Ont. (*Day*)
70. *Gerardia purpurea*, L. Low and moist grounds, Canada (*Gray*) Niagara Falls and Pt. Pelee (*Burgess*) Windmill Point, Lake Erie (*Day*) The var. *paupercula* is common from the Province of Quebec to the Saskatchewan.
71. *Tecoma radicans*, Juss. (Trumpet Creeper) This species is either indigenous on Pelee Island and Pt. Pelee, or it has become so naturalized as to run wild and appear to be native. It is cultivated in other parts of Ontario as a garden flower for covering trellis-work.
72. *Pycnanthemum linifolium*, Pursh. Low wet meadows. Pt. Edward, Ont., 1884 (*J. M. Macoun*)
73. *Pycnanthemum muticum*, Pers., var. *pilosum*, Gr. Pt. aux Pins and Leamington, Lake Erie (*Burgess*)
74. *Melissa officinalis*, L. (Common Balm) Waste ground, Pelee Island (*Macoun*) Well established in two or three places at Niagara Falls, Ont. (*Burgess*)
75. *Monarda clinopodia*, L. Western Canada to Illinois (*Gray*)
76. *Lophanthus scrophulariæfolius*, Benth. Borders of thickets along the slopes of Queenston Heights, one mile beyond Queenston Station (*Macoun*)
77. *Scutellaria canescens*, Nutt. River banks, Western Ontario (*Gray*) Canada (*Goldie*)

78. *Plantago cordata*, Lam. Along streams. Canada (*Pursh*) Amherstburgh (*MacLagan*) Ditches and swamps along the Canada Southern R'y. at Colchester Station, near Amherstburgh (*Macoun*)

79. *Anychia dichotoma*, Mx. Shore of Lake Erie, Norfolk Co., 1867 (*Nicholl*) Has not been reported since and should be looked for in South-western Ontario.

80. *Amarantus blitoides*, Wat. Well established at Pt. Edward, near Sarnia, Ont., 1884 (*J. M. Macoun*) Probably a railway introduction.

81. *Chenopodium ambrosioides*, L., var. *anthelminticum*, Gray. Lake shore, Fort Erie, Ont. (*Day*)

82. *Morus rubra*, L., (Red Mulberry) Rich woods bordering Lake Erie. Not uncommon from Niagara along the river to the Whirlpool; common on Pelee Island and frequently met with in the woods at Amherstburgh and northward to Windsor (*Macoun*) Sandy soil, Leamington, Ont. (*Burgess*)

83. *Morus alba*, L., (White Mulberry) Niagara Falls (*Macoun*) Sandy plains, Sarnia, Ont. (*Burgess*)

84. *Carya tomentosa*, Nutt., (White-heart Hickory) Rather rare in the Niagara Peninsula from Lake Ontario to Lake Erie (*Macoun*)

85. *Carya porcina*, Nutt., (Pig-nut or Broom Hickory) Not uncommon in the Niagara Peninsula in woods along base of Queenston Heights, about Niagara Falls, and at many points along Lake Erie to Amherstburgh and northward as far as Windsor, Ont. (*Macoun*)

86. *Juglans nigra* L., (Black Walnut) Once the commonest wood in the district of which we are speaking, and still plentiful in places from Niagara Falls to Amherstburgh (*Macoun and Burgess*)

87. *Quercus Prinos*, L., (Rock Chestnut-Oak) From the Niagara River, along Lake Erie, to Amherstburgh (*Macoun*) Common at Pt. Pelee (*Burgess*) Pt. Abino (*Day*)

88. *Quercus palustris*, Du Roi, (Pin Oak) Abundant in wet woods below Queenston Heights and along Lake Erie and the Detroit River to Windsor (*Macoun*) Pt. Abino (*Day*) Leamington (*Burgess*)

89. *Corallorhiza odontorhiza*, Nutt. Woods along Lake Erie, Norfolk Co. (*Nicholl*)

90. *Pogonia pendula*, Lindl. Damp woods, Canada (*Goldie* vide *Hook.*)
91. *Habenaria ciliaris* R.Br. Canada (*Goldie*) Low sandy soil, Leamington, Ont. (*Burgess*)
92. *Aletris farinosa*, L., (Colic root) Sandy thickets, Leamington, Ont., 1887 (*Burgess*)
93. *Smilax quadrangularis*, Pursh. Thickets in damp woods, Pt. Pelee (*Macoun*) Low woods near Leamington (*Burgess*)
94. *Camassia Fraseri*, Torr. White Island in the Detroit River opposite Amherstburgh, 1882 (*Macoun*)
95. *Erythronium propullans*, Gr. Rich soil, near St. Thomas, Ont., 1882 (*Macoun*)
96. *Melanthium Virg.icum*, L. Upper Canada (*Hooker*)
97. *Juncus acuminatus*, Mx., var. *legitimus*, Englm. Shore of Lake Erie at Pt. Pelee and at Essex Centre (*Macoun*)
98. *Potamogeton pauciflorus*, Pursh., var. *Niagarensis*, Gray. Rapids above Niagara Falls (*Burgess*) Niagara River, near the brink of the "Hog's Back" (*Tuckerman*)
99. *Cyperus erythrorhizos*, Muhl. Pt. aux Pins, Lake Erie, Ont. (*Burgess*)
100. *Carex Steudelii*, Kunth. On banks along the lake at Port Stanley, 1882 (*Macoun*)
101. *Carex cephalophora*, Muhl., var. *angustifolia*, Boott. Abundant in rocky, grassy thickets on Pelee Island, Lake Erie (*Macoun*)
102. *Carex virescens*, Muhl. Open woods, Niagara Falls, Essex Centre and Amherstburgh (*Macoun*) Low woods, Leamington (*Burgess*)
103. *Carex triceps*, Mx. Abundant in rocky thickets, Queenston Heights and Foster's Flats, Niagara Peninsula (*Macoun*)
104. *Carex grisea*, Wahl. Damp thickets, Port Dover Junction, Elgin Co., Ont. (*Macoun*)
105. *Aristida dichotoma*, L. Port Colborne, Lake Erie (*McGill Coll. Herb.*)
106. *Triplasis purpurea*, Chap. Sandy shore, Pt. Pelee and Pt. aux Pins (*Burgess*)

107. *Eragrostis major*, Host. Introduced along the railway at Pt. Edward, near Sarnia, Ont. (*J. M. Macoun*) Windsor, Ont. (*Macoun*)

108. *Eragrostis Purshii*, Schrad. Introduced along the railway. In fields at Port Colborne and Windsor (*Macoun*)

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*Species in Canada almost restricted (so far as known) to the Lake Erie District.*

1. *Cimicifuga racemosa*, Nutt., (Black Snake-root) Rich woods, Cayuga, Haldimand Co. (*MacLagan*) Norfolk Co. (*Nicholl*) Squaw Island, Niagara River (*Day*) Also found by Mr. Geo. Prescott in the vicinity of Galt, Waterloo Co., Ont.

2. *Liriodendron Tulipifera*, L., (Tulip-tree. White-wood) Though extending throughout the western peninsula of Ontario, from Hamilton to the Township of Tuckersmith, Huron Co., it is really only found plentiful and in perfection in what may be called the Lake Erie District, where, with the black walnut, it once formed the great bulk of the forest. When covered with its large tulip-shaped blossoms, about the first of July, it forms an object of beauty that once seen can never be forgotten.

3. *Lechea major*, Mx., (Greater Pinweed) Sandy woods near Port Dover Junction (*Macoun*) Sandy soil, Windsor, Ont. (*J. M. Macoun*) Pt. Pelee (*Burgess*) Also found by myself in sandy woodlands at London, Ont.

4. *Polygala sanguinea*, L. Sandy ground, Sandwich, Ont. (*MacLagan*) Pt. Pelee, Ont. (*Burgess*) Windsor, Ont. (*J. M. Macoun*) Also reported by Logie and Buchan as occurring in dry ground at Hamilton, Ont.

5. *Silene Virginia*, L., (Fire Pink) Islands in the Detroit River (*MacLagan*) but also reported from Lake Huron by Dr. Todd. This is probably the species referred to by Hooker, in his "Flora Boreali-Americana," as *Silene Pennsylvanica*, occurring on rocky islands on the north side of Lake Erie, he not having seen the specimens.

6. *Vitis aestivalis*, Mx. Abundant on Pelee Island and Pt. Pelee; Foster's Flats below the Whirlpool, Niagara River; and in thickets around Queenston Heights (*Macoun*) Vicinity of Hamilton, Ont. (*Buchan*)

7. *Baptisia tinctoria*, R.Br., (Wild Indigo) Sandwich, Ont. (*Maclagan*) Sandy thickets near Leamington, Ont. (*Macoun and Burgess*) Oak-wooded plains of Charlotteville Tp., Norfolk Co. (*Yates*) Windsor, Ont., in sandy thickets (*J. M. Macoun*) Vicinity of Hamilton, Ont. (*Logie*)

8. *Poterium sanguisorba*, L. Well established at Pt. Abino on Lake Erie (*Day*) This species was detected during the past summer by our fellow-member, Mr. J. Alston Moffatt, in Halton Co., where he reports it as becoming quite a troublesome garden weed.

9. *Sedum ternatum*, Mx. Rocks along the Niagara River and Lake Erie (*Douglas*) Vicinity of Hamilton, Ont. (*Buchan*) As Prof. Macoun says this is a doubtful species and should be carefully looked for, and, if possible, verified.

10. *Aster dumosus*, L. South-western Ontario (*Maclagan*) Dry thickets, Windsor, Ont. (*Macoun*) Vicinity of Hamilton, Ont. (*Logie*)

11. *Gnaphalium purpureum*, L. Abundant amongst grass at Port Colborne, Ont. (*Macoun*) Common about Victoria, B. C. (*Fletcher*)

12. *Silphium terebinthinaceum*, L., (Prairie Dock) Open woods and grassy banks, Cayuga and Amherstburgh, Ont. (*Maclagan*) Along the G. W. Railway, east of Paris, Ont. (*Prescott*)

13. *Artemisia caudata*, Mx. Half-way Island, Detroit River, Ont. (*Maclagan*) Gravel ridge, west of Fort Ellice, Manitoba (*Macoun*)

14. *Krigia amplexicaulis*, Nutt. Damp grassy thickets around Amherstburgh (*Macoun*) Islands in Detroit River (*Maclagan*) Near Lake Winnipeg (*Dr. Houghton*)

15. *Vaccinium stamineum*, L., (Deerberry) Whirlpool below Niagara Falls (*Maclagan*) Dry rocks, Thousand Islands in St. Lawrence River (*Macoun*)

16. *Steironema lanceolatum*, Gr. Low grounds and thickets, Western Ontario (*Gray*) Pt. Abino, Lake Erie (*Day*) London, Ont. (*Burgess*)

17. *Acerates longifolia*, Ell. Sandy shore, Pt. Pelee (*Macoun*) Sand beach at Pt. Edward, Lake Huron, Ont. (*J. M. Macoun*)

18. *Hydrophyllum appendiculatum*, Mx. Abundant in thickets at Pt. Pelee (*Macoun*) Amherstburgh (*Maclagan*) London, Ont. (*Burgess and Saunders*)

19. *Lithospermum latifolium*, Mx. Open ground and borders of thickets, Western Ont. (*Gray*) Bois Blanc and other islands in Detroit River (*Maclagan*) Alluvial flats of Thames, London, Ont. (*Burgess*)

20. *Veronica Virginica*, L., (Culver's Physic) Moist woods and banks from Canada and the Winnipeg valley southward (*Gray*) Islands in Detroit River (*Maclagan*)

21. *Pycnanthemum incanum*, Mx. Dry soil, Canada (*Goldie*) New England to Western Canada (*Gray*) Hamilton, Ont. (*Logie*)

22. *Chamaelirium Carolinianum*, Willd. Swamp near Brantford, Ont. (*Yates*) Canada (*Gray*) Niagara River (*Day*)

23. *Eriophorum lineatum*, Benth. & Hook. Pt. aux Pins (*Burgess*) Low ground at the southern end of Pt. Pelee (*Macoun and Burgess*) Gravelly river flat, London, Ont. (*Burgess and Millman*)

24. *Panicum scoparium*, Lam. Sandy woodlands, Pt. Pelee (*Burgess*) Pacific Coast (*Macoun*)

25. *Cenchrus tribuloides*, L. Port Colborne, Ont. (*McGill Coll. Herb.*) Pt. Pelee and Pt. aux Pins (*Burgess*) G. W. Railway, a mile east of Dundas (*Logie*)

26. *Muhlenbergia diffusa*, Schreb. Above the canal at Port Colborne, in grassy woodlands (*Macoun*) Pt. Pelee (*Burgess*) Hamilton, Ont. (*Buchan*)

