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The Flora of the Rainy River Region

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THE FLORA OF THE RAINY RIVER REGION.

HARRIETTE S. KELLOGG.

There is no evidence accessible to the writer that a critical study of the flora of this region has ever been made, although several of the early explorers must have passed over this part of Minnesota.

Mr. Warren Upham¹ mentions the work of Mr. Thomas Say who was with Long's expedition. Keating noted in 1823, that Say had collected from the vicinity of the Lake of the Woods and along Rainy Lake as far as the Lake Superior region, thirty of his plants being from the Minnesota side.

The report of the British North American Boundary Commission submitted by Mr. George Dawson and published in 1875 includes flora from the Lake of the Woods to the Red River and lists 289 plants from Minnesota. Both of these reports would necessarily include many plants indigenous to the Rainy river country.

Mr. John Macoun later surveyed the whole of the Dawson route, his work being recorded in the "Catalogue of Canadian Plants" published in 1883 under the Geological and Natural History Survey of Canada.

Conway Macmillan's "Metaspermae of the Minnesota Valley" covers the southern part of Koochiching county, then a part of Itasca county.

The "Observations on Distribution of Plants along the Shores of the Lake of the Woods", by the same author, has been helpful as a means of comparison with the notes made in the collecting tour described in the present paper.

The territory to which reference is made in the following study lies below Koochiching or International Falls on the south bank of the Rainy river, and on both sides of the "Old Dock" in the city of International Falls, Minnesota. Plants were collected from an area extending about forty feet east of the dock in the timbered belt only, but west of the dock, the survey ex-

¹Warren Upham. Catalogue of Flora of Minnesota. Part VI of the Annual Report of Progress, 1883. Geological and Natural History Survey of Minnesota.

tended not only through the timbered belt but also into the cleared land lying back of this and not more than three hundred feet from the river.

The wooded bank slopes rather abruptly to the river and the clearing lies on higher, rather level ground.

The river itself is a part of the Hudson Bay drainage system, the divide between the Mississippi river and the Bay being situated a short distance southwest of this place. The "Old Dock" was built for a river boat plying on the Minnesota side of the river. Before the coming of the railroad nearly all of the traffic down the river was by boat; freight, including grain, was transported by this means, and in this fact lies the explanation of the exceedingly frequent appearance of tame clover and grasses near the landing.

The river flows in a rocky channel, and many boulders and rocks line the shores; there is a short strip of sandy beach, but partly because of nearness to the falls, the current of the river is rapid and there is very little characteristic strand vegetation, the only exceptions occurring in a covelike inlet east of the dock where the water is more sluggish. Here were found *Carex* and *Juncus*.

Geologically, the region lies within the boundaries of Lake Agassiz which disappeared rather abruptly more than seven thousand years ago, leaving the field open to plant immigration from the south. The icy barrier which extended along the eastern shores of Lake Tecamamisuan or Rainy Lake as it is now called, precluded a similar immigration from the east; hence the marked similarity of the flora of this region to that of southern Minnesota on the one hand, and the evident unlikeness to that of the northeastern part of the state on the other.

For the same reason the flora of the Lake of the Woods bears close relation to that of the Minnesota Valley and the Rainy river region.² The soil is extremely fertile, consisting of a subsoil of modified drift overlaid with a rich humus. Maples, boxelders, cedar, spruces, white birch and willows are the prevailing trees. The two latter are especially characteristic of regions that have been swept by fire.

The forest growth of this region differs markedly from that of the Rainy Lake region, a mile east. In the latter district,

²MacMillan, Conway. Observations on Distribution of Plants along the Shores of Lake of the Woods. Minn. Bot. Studies. Bull. 9, p. 954. Also Metaspermæ of the Minnesota Valley, 326 p., 1892. Geological and Natural History Survey of Minn. Reports of Survey. Botanical Series 1.

conifers, as spruce, pine, and tamarack abound, while along the river, especially where the timber is largely second growth, the trees are deciduous.

Of the shrubs, hazel, dogwood, low willow, and high-bush cranberry are prominent; herbs do not differ materially from those of southern Minnesota, except, possibly, in their greater luxuriance of growth, due to the high percentage of humidity of the region and to the long periods of sunshine and daylight through the summer months.

The timber extends to the water's edge, while the shrubs lie back from the river.

Opposite the collecting ground are two islands, apparently rocky ledges that have been uplifted in some earlier geological disturbance. Seeds carried by birds, wind, or water have lodged in crevices of rocks, and thus, white pines, birches, and cottonwoods have become established.

The collection, except where otherwise noted, was made between August 14 and August 25, 1914. Vernal plants had practically disappeared, although each day some belated spring blossom was discovered. Thus solitary Aquilegias, Clintonias, and Violas, long past their usual blooming period, displayed flowers. Where locality is not noted, International Falls is understood.

A few specimens are included that were collected near Rainy Lake and others from the Canadian side of the river; also a few from the west bank of the Winnipeg river near Minaki, and one from Hibbing, Minnesota.

To the list referred to, collected by the writer, are added other plants collected in April by Miss Annette Miller at Littlefork, Minnesota, and by Dr. Mary C. Ghostley in 1915 at International Falls, to whom my thanks are due.

It is noticeable that plants from "cleared ground" are largely of a weedy nature, and are introduced plants probably brought in by immigrants.

It is also interesting to note that certain species common in our locality are replaced by other similar species in the more northern habitat; thus, *Polygonum cilinode* is as common around fences and in similar locations in northern Minnesota as its more vigorous representative, *P. Convolvulus* in Iowa. The former is more slender in appearance and its leaves are slightly reddish. It is rather ornamental in character.

Several plants collected by the writer are not numbered since they are not in the collection at Ames. Owing to accident in drying they were discarded.

The willows were identified by Mr. C. R. Ball of the U. S. Department of Agriculture. To him and to members of the Department of Botany who have aided me in identification of specimens, I wish to express my thanks.

CATALOGUE.

HEPATICÆ.

225. *Marchantia polymorpha* L. River bank. June, 1915.

MUSCI.

263. *Funaria hygrometrica* (L.) Sibth. Cord Moss. Moist places. June, 1915.
 192. *Pohlia nutans* (Schreb.) Lindb. Nodding Bryum. River bank. May, 1915.
 136. *Mnium cuspidatum* (L.) Leyss. Reindeer Moss. River bank. April, 1915.
 134. *Amblystegium adnatum* (Hedw.) J. & S. River bank. April, 1915.
 133. *Polytrichum commune* L. Common Hairy Cap Moss. River bank. April, 1915.
 187. *Sphagnum* sp. Sphagnum Moss. Bog. May, 1915.

LICHENES.

124. *Usnea barbata plicata* (L.) Fr. Common on trees along Winnipeg river at Minaki, Ontario.
 131. *Cladonia rangeriferina* (L.) Webb. Reindeer Moss. River bank. April, 1915.
 188. *Cladonia bacillaris* (Del.) Wyl. River bank. May, 1915.
 189. *Cladonia cristatella* Tuck. Crested Cladonia. River bank. May, 1915.
 190. *Cladonia fimbriata prolifera* (Retz.) Mass. River bank. May, 1915.
 208. *Peltigera aphthosa* (L.) Willd. River bank. June, 1915.

FILICES.

180. *Polypodium vulgare* L. Polypody. River bank. May, 1915.
 181. *Phegopteris polypodioides* Fée. Beech Fern. River bank. May, 1915.

78. *Phegopteris dryopteris* (L.) Fée. Oak Fern. Moist places on river bank.
31. *Pteris aquilina* L. Common Brake. Eight to ten inches high. Not abundant.
Aspidium noveboracense (L.) Sw. Wood Fern. River bank.
34. *Aspidium spinulosum* (O. F. Müller) Sw. Wood Fern. River bank.

OPHIOGLOSSACEÆ.

200. *Botrychium virginianum* (L.) Sw. Rattlesnake Fern. River bank. May, 1915.

EQUISETACEÆ.

23. *Equisetum arvense* L. Horsetail. On cleared ground. Infrequent.
132. *Equisetum hyemale* L. Scouring Rush. River bank. April, 1915.
- 207, 70, 95. *Equisetum sylvaticum* L. Wood Horsetail. On cleared ground. Abundant.

LYCOPODIACEÆ.

163. *Lycopodium annotinum* L. Club Moss. River bank. May, 1915.
54. *Lycopodium obscurum* v. *dendroideum* Gray. Club Moss. Along Winnipeg river at Minaki, Ontario.
169. *Lycopodium obscurum* v. *dendroideum* Gray. Club Moss. River bank. May, 1915.
139. *Lycopodium complanatum flabelliforme* Fernald. Ground Pine. Littlefork, Minnesota (Annette Miller).
191. *Lycopodium complanatum flabelliforme* Fernald. Ground Pine. River bank. April, 1915.

PINACEÆ.

- Pinus Strobus* L. White Pine. Observed on rocky island opposite collecting ground.
36. *Pinus Strobus* L. White Pine. River bank. Mainland. May, 1915.
84. *Pinus resinosa* Ait. Red Pine. Not seen in this locality. Hibbing, Minnesota.
- 193, 5. *Larix laricina* (Du Roi) Koch. Tamarack. Near river, farther east.

157. *Picea* sp. Spruce. Young specimen. River bank. May, 1915.
164. *Picea canadensis* (Mill.) BSP. White Spruce. River bank. May, 1915.
24. *Picea canadensis* (Mill.) BSP. White Spruce. Near Rainy Lake.
55. *Abies balsamea* (L.) Mill. Balsam Fir. Rainy Lake.
165. *Abies balsamea* (L.) Mill. Balsam Fir. River bank. May, 1915.
- 118, 162. *Thuja occidentalis* L. Arbor Vitae. River bank.
- Juniperus communis* L. Juniper. On river bank. Common.

TYPHACEÆ.

Typha latifolia L. Cat-tail. On Canadian bank.

ALISMACEÆ.

Sagittaria latifolia Willd. Arrow-head. Canadian bank.

GRAMINEÆ.

77. *Panicum capillare* L. Old-witch Grass. Cleared ground.
69. *Echinochloa crusgalli* (L.) Beauv. Barnyard Grass. Cleared ground.
79. *Phleum pratense* L. Timothy. East of dock.
- Calamagrostis inexpansa* Gray. Reed Bent-Grass. River bank.
66. *Cinna arundinacea* L. Wood Reed Grass. River bank.
- Cinna latifolia* (Trev.) Griseb. Wood Reed Grass. River bank.
29. *Agropyron repens* (L.) Beauv. Quack Grass. Cleared ground. Infrequent.
- Poa Annua* L. East of dock.
49. *Glyceria* sp. Manna Grass. Cleared ground.
72. *Hordeum jubatum* L. Squirrel-tail Grass. Cleared ground. Common.

CYPERACEÆ.

41. *Carex Grayi* Carey. Sedge. River bank. Not abundant.

ARACEÆ.

Arisaema triphyllum (L.) Schott. Indian Turnip. River bank. Observed.

Arisaema Dracontium (L.) Schott. Dragon Root. Observed.

JUNCACEÆ.

219. *Luzula saltuensis* Fernald. Wood Rush. River bank.
June, 1915.

LILIACEÆ.

179. *Uvularia perfoliata* L. Bellwort. River bank. May
1915.
18. *Clintonia borealis* (Ait.) Raf. Northern Lily. River bank.
Frequent.
Smilacina racemosa (L.) Desv. Wild Spikenard. River
bank.
175. *Smilacina stellata* (L.) Desv. False Solomon's Seal.
River bank. May, 1915.
179. *Smilacina trifolia* (L.) Desv. Three-leaved Solomon's
Seal. River bank. May, 1915.
205. *Streptopus amplexifolius* (L.) DC. Claspingleaved
Twisted Stalk. River bank. June, 1915.
122. *Trillium grandiflorum* (Mx.) Salisb. Large-flowered Tril-
lium. River bank.
206. *Trillium cernuum* L. Nodding Trillium. River bank.
June, 1915.
220. *Trillium erectum* L. Erect Trillium. River bank. June,
1915.

IRIDACEÆ.

262. *Iris* sp. Bogs.

ORCHIDACEÆ.

141. *Calypso bulbosa* (L.) Oakes. Bog Orchid. Bogs. May,
1915.
227. *Cypripedium acaule* Ait. Stemless Lady Slipper. Woods.
June, 1915.
253. *Cypripedium hirsutum* Mill. Showy Lady Slipper. Bogs.
July, 1915.

SALICACEÆ.

160. *Salix* sp. Willow. River bank. April, 1915.
160. *Salix* sp. Willow. River bank. April, 1915.
191. *Salix longifolia* Muhl. Sand-bar Willow. River bank.
- 105, 106. *Salix syrticola* Fernald. Bog Willow. River bank.
May, 1915.
203. *Salix pedicellaris* Pursh. Myrtle-leaved Willow. River
bank. May, 1915.

143. *Salix discolor* Muhl. Glaucus Willow. River bank. April, 1915.
 195. *Salix petiolaris* Sm. Slender Willow. River bank.
 144. *Salix humilis* Marsh. Prairie Willow. River bank. April, 1915.
 91. *Populus tremuloides* Michx. American Aspen. River bank. Common.
 90. *Populus balsamifera* L. Tacamahac. River bank. Very common.
 170. *Populus candicans*. Ait. Balm-of-Gilead. River bank. May, 1915.

BETULACEÆ.

- 68, 69. *Corylus rostrata* Ait. Beaked Hazel-nut. River bank.
 158. *Ostrya*. American Hop Hornbeam. Ironwood. River bank. May, 1915.
 174. *Betula alba* v. *papyrifera* (Marsh) Spach. River bank. Common. May, 1915.

FAGACEÆ.

196. *Quercus macrocarpa* Michx. Bur Oak. River bank. May, 1915.

URTICACEÆ.

199. *Ulmus americana* L. White Elm. River bank. May, 1915.

ARISTOLOCHIACEÆ.

62. *Asarum canadense* L. Wild Ginger. River bank. Common
 150. *Asarum canadense* L. Wild Ginger. May, 1915.

POLYGONACEÆ.

103. *Rumex mexicana* Meissn. Dock. Cleared ground. Rather common.
 88. *Polygonum Muhlenbergii* (Meissn.) Wats. Knotweed. Cleared ground.
 86. *Polygonum acre* HBK. Water Smartweed. On Canadian bank.
 89. *Polygonum Persicaria* L. Lady's Thumb. Cleared ground.
 235. *Polygonum convolvulus* L. Black Bindweed. Cleared ground—climbing on fences. June, 1915.
 87. *Polygonum cilinode* Michx. Black Bindweed. Cleared ground. Employed as an ornamental vine for covering fences.

CHENOPODIACEÆ.

65. *Chenopodium hybridum* L. Maple-leaved Goosefoot.
Cleared ground.
60. *Amaranthus retroflexus* L. Pigweed. Cleared ground.
Common.

CARYOPHYLLACEÆ.

248. *Sagina procumbens* L. Procumbent Pearlwort. Moist
places on river bank. June, 1915.
111. *Silene noctiflora* L. Night-flowering Catchfly. Cleared
ground.
246. *Cerastium vulgatum* L. Larger Mouse-ear, Chickweed.
Woods. June, 1915.

RANUNCULACEÆ.

182. *Ranunculus abortivus* L. Small-flowered Crowfoot. River
bank. May, 1915.
101. *Ranunculus pennsylvanicus* L. f. Bristly Crowfoot. River
bank.
Hepatica triloba Chaix. Hepatica. River bank.
166. *Anemone caroliniana* Walt. Carolina Anemone. River
bank. May, 1915.
Anemone canadensis L. Round-leaved Anemone. River
bank.
149. *Anemone quinquefolia* L. Wind Flower. River bank.
May, 1915.
37. *Caltha palustris* L. Marsh Marigold. River bank near
spring.
218. *Coptis trifolia* (L.) Salisb. Goldthread. Swampy land.
June, 1915.
19. *Aquilegia canadensis* L. Columbine. River bank.
Actaea alba (Ait.) Willd. White Baneberry. River bank.
12, 28. *Actaea rubra* (Ait.) Willd. Red Baneberry. Blue
Cohosh. River bank.

MENISPERMACEÆ.

- Menispermum canadense* L. Moonseed. River bank.
Grows with great luxuriance. Employed as an orna-
mental climber.

FUMARIACEÆ.

- Dicentra canadensis* (Goldie) Walp. Squirrel Corn. River
bank.

41. *Corydalis sempervirens* (L). Pers. Pale Corydalis. Three inches to three feet tall. Recent clearings. Very beautiful.
210. *Corydalis aurea* Willd. Golden Corydalis. Rocky bank. May, 1915.

CRUCIFERÆ.

249. *Thlaspi arvense* L. Field Penny-cress. A troublesome weed in the northwest. June, 1915.
38. *Capsella bursa-pastoris* (L.) Medic. Shepherd's Purse. Cleared ground.
36. *Brassica arvensis* (L.) Ktze. Charlock. Cleared ground. Introduced.
250. *Conringia orientalis* (L.) Dumort. Hare's-ear Mustard. Waste ground. June, 1915.
251. *Sisymbrium incisum* Engelm. Cut-leaved Hedge Mustard. Waste places. June, 1915.
259. *Sisymbrium altissimum* L. Tumble Mustard. Edge of woods. July, 1915.
101. *Radicula palustris* (L.) Moench. Marsh Cress. River bank.

SAXIFRAGACEÆ.

230. *Heuchera hispida* Pursh. Alum Root. River bank. June, 1915.
75. *Mitella nuda* L. Bishop's Cap. Shady bank near spring.
178. *Ribes oxyacanthoides* L. Northern Gooseberry. River bank. May, 1915.
204. *Ribes floridum* L'Her. Wild Black Currant. River bank. May, 1915.
106. *Ribes triste* Pall. Swamp Red Currant. Moist places on river bank.
154. *Ribes triste* Pall. Swamp Red Currant. River bank. May, 1915.

ROSACEÆ.

115. *Spiraea salicifolia* L. Meadow Sweet. Moist ground near river.
97. *Pyrus americana* (Marsh) DC. American Mountain Ash. Woods.
177. *Amelanchier canadensis* (L.) Medic. Service Berry. River bank.
138. *Amelanchier spicata* (Lam.) C. Koch. Juneberry. River bank.

172. *Amelanchier spicata* (Lam.) C. Koch. Juneberry. River bank. May, 1915.
201. *Crataegus* sp. Hawthorn. River bank. May, 1915.
197. *Crataegus Crus-galli* L. Cockspur Thorn. River bank. May, 1915.
3. *Fragaria vesca* v. *americana* Porter. Wild Strawberry. Woods.
159. *Fragaria virginiana* v. *illinoensis* (Prince) Gray. Wild Strawberry. River bank. May, 1915.
93. *Potentilla anserina* L. Silver Weed. Near Minaki, Ontario.
202. *Potentilla anserina* L. Silver Weed. River bank. May, 1915.
94. *Potentilla anserina* L. Silver Weed. On Canadian bank.
- 48, 71. *Geum macrophyllum*. Willd. Avens. Woods.
152. *Rubus* sp. River bank. May, 1915.
25. *Rubus strigosus* Michx. Wild Red Raspberry. Thickets on river bank.
243. *Rubus idaeus* L. v. *aculeatissimus* (C. A. Mey.) Regel & Tiling. Wild Red Raspberry. Thickets on bank. June, 1915.
- 20, 59. *Agrimonia gryposepala* Wallr. Agrimony. River bank.
4. *Rosa acicularis* Lindl. Rose. Thickets.
99. *Rosa Woodsii* Lindl. Rose. Dry open places in woods.
95. *Prunus pennsylvanica* L. f. Pin or Bird Cherry. Thickets.
156. *Prunus virginiana* L. Choke Cherry. River bank. May, 1915.

LEGUMINOSÆ.

119. *Trifolium hybridum* L. Alsike Clover.
120. *Trifolium pratense* L. Red Clover.
121. *Trifolium repens* L. White Clover.
- These clovers were growing with great luxuriance on the river bank nearest the town and close to the road leading to the "Old Dock", indicating that the seed probably had been scattered from loads of grain in the days of transportation by the river.
123. *Vicia americana* Muhl. Vetch. Open ground.
240. *Vicia tetrasperma* (L.) Moench. Slender Vetch. Clearings. June, 1915.

255. *Vicia hirsuta* (L.) S. F. Gray. Edge of woods. July, 1915.
 161. *Lathyrus ochroleucus* Hook. Vetchling. River bank. May, 1915.
 256. *Lathyrus venosus* Muhl. Veiny Pea. River bank. July, 1915.
Petalostemum purpureum (Vent.) Rydb. Prairie Clover. Open ground, edge of woods.

ANACARDIACEÆ.

184. *Rhus glabra* L. Smooth Sumac. River bank. May, 1915.

GERANIACEÆ.

9. *Geranium Robertianum* L. Herb Robert. River bank. Very common.

ACERACEÆ.

- 26, 58. *Acer Negundo* L. Box Elder. River bank.
 27. *Acer spicatum*. Lam. Mountain Maple. River bank.
 176. *Acer spicatum* Lam. Mountain Maple. May, 1915.
 137. *Acer rubrum* L. Swamp Maple. River bank. May, 1915.
 126. *Acer rubrum* L. Swamp Maple. Littlefork. Annette Miller.

BALSAMINACEÆ.

8. *Impatiens fulva* Walt. Jewel Weed. Eighteen inches to four feet high. Moist places. A beautiful plant.

RHAMNACEÆ.

17. *Ceanothus americanus* L. New Jersey Tea. River bank.

VITACEÆ.

- Psedera quinquefolia* (L.) Greene. Virginia Creeper. Thickets. Rather common. An ornamental climber.
Vitis vulpina L. Frost Grape. Thickets.

TILIACEÆ.

198. *Tilia americana* L. Basswood. River bank. May, 1915.

VIOLACEÆ.

194. *Viola sororia* Willd. Woolly Blue Violet. River bank. May, 1915.
 142. *Viola blanda* Willd. Wild Sweet Violet. River bank. May, 1915.
 226. *Viola hastata* Michx. Halberd-leaved Violet. Woods, June, 1915.

Viola canadensis L. Canada Violet.

195. *Viola pubescens* Ait. Downy Yellow Violet. River bank.
May, 1915.
155. *Viola labradorica* Schrenk. American Dog Violet. River
bank. May, 1915.

ONAGRACEÆ.

80. *Epilobium angustifolium* L. Great Willow-herb. Clear-
ings.
49. *Epilobium coloratum* Muhl. Fireweed. In clearings
swept by forest fires.
76. *Oenothera biennis* L. Evening Primrose. Clearings.

ARALIACEÆ.

183. *Aralia nudicaulis* L. Wild Sarsaparilla. River bank.
May, 1915.

UMBELLIFERÆ.

107. *Sanicula canadensis* L. Black Snakeroot. River bank.
10. *Hydrocotyle americana* L. Water Pennywort. River bank.
Hydrocotyle americana L. Water Pennywort. May, 1915.
140. *Carum Carvi* L. Caraway. Cleared ground. April, 1915.
112. *Sium cicutaefolium* L. Schrank. Water Parsnip. River
bank.
37. *Pastinaca sativa* L. Wild Parsnip. River bank.
16. *Daucus Carota* L. Wild Carrot. Growing with *Impa-
tiens fulva*.

CORNACEÆ.

8. *Cornus canadensis* L. Bunchberry. In damp woods. Com-
mon.
40. *Cornus stolonifera* Michx. Red Osier. Dogwood? Moist
woods.

ERICACEÆ.

14. *Pyrola asarifolia* var. *incarnata* (Fisch.) Fernand. Shin
Leaf. Moist places.
163. *Pyrola elliptica* Nutt. Shin Leaf. River bank. May, 1915.
135. *Ledum groenlandicum* Oeder. Labrador Tea. River bank.
April, 1915.
202. *Kalmia polifolia* Wang. Pale Laurel, Swamp Laurel.
River bank. May, 1915.
127. *Epigaea repens* L. Trailing Arbutus. Littlefork, Annette
Miller. April, 1915.

130. *Gaultheria procumbens* L. Wintergreen. Littlefork, Annette Miller. April, 1915.
 33. *Arctostaphylos Uva-ursi* (L.) Sprengel. Bearberry. River bank. April, 1915.
 129. *Arctostaphylos Uva-ursi* (L.) Sprengel. Bearberry. Littlefork. Annette Miller, April, 1915.
 46. *Gaylussacia baccata* Wang. L. Koch. Huckleberry. Sandy slope.
 173. *Vaccinium pennsylvanicum* Lam. Blueberry. Dry sandy places. May, 1915.
Vaccinium canadense Kalm. Blueberry. Moist places.

PRIMULACEÆ.

222. *Trientalis americana* (Pers.) Pursh. Chickweed Wintergreen. Woods. June, 1915.

OLEACEÆ.

95. *Fraxinus nigra* Marsh. Black Ash. River bank.

GENTIANACEÆ.

47. *Gentiana amarella* L. Northern Gentian. Rocky bank.

APOCYNACEÆ.

- 13, 61. *Apocynum androsaemifolium* L. Spreading Dogbane. River bank.

BORAGINACEÆ.

211. *Mertensia paniculata* (Ait.) G. Don. River bank. June, 1915.
 229. *Lithospermum canescens* (Michx.) Lehm. Hoary Puccoon. Sandy soil. June, 1915.

LABIATÆ.

108. *Scutellaria laterifolia* L. Mad-dog Skull-cap. River bank.
 238. *Dracocephalum parviflorum* Nutt. Dragon Head. Rocky bank. June, 1915.
 83. *Physostegia virginiana* (L.) Benth. False Dragon-head. River bank.
 116. *Stachys* sp. River bank.
 74. *Mentha arvensis* L. var. *canadensis* (L.) Briquet. Mint. River bank.

SOLANACEÆ.

52. *Physalis grandiflora* Hook. Ground Cherry. River bank.

SCROPHULARIACEÆ.

228. *Castilleja coccinea* (L.). Spreng. Scarlet Painted cup.
Sandy soil. Woods. June, 1915.

PLANTAGINACEÆ.

12. *Plantago major* L. Dooryard Plantain. Cleared ground.
85. *Plantago Rugelii* Dene. Rugel's Plantain. In clearings.

RUBIACEÆ.

1. *Galium triflorum* Michx. Sweet-scented Bedstraw. River bank.
234. *Galium boreale* L. Northern Bedstraw. Rocky bank. June, 1915.
6. *Mitchella repens* L. Partridge Berry. Moist places on bank.

CAPRIFOLIACEÆ.

43. *Diervilla Lonicera* Mill. Bush Honeysuckle. River bank.
145. *Lonicera canadensis* Marsh. American Fly-Honeysuckle. River bank. May, 1915.
53. *Lonicera hirsuta* Eat. Hairy Honeysuckle. River bank.
73. *Linnæa borealis* v. *americana* (Forbes) Rehder. Twin-flower. River bank.
167. *Linnæa borealis* v. *americana* (Forbes) Rehder. Twin-flower. May, 1915.
245. *Viburnum pauciflorum* Raf. Squashberry. Woods. June, 1915.
81. *Viburnum Opulus* L. v. *americana* (Mill.) Ait. High-bush Cranberry. Canadian bank. Fruit used as a substitute for cranberries.

COMPOSITÆ.

113. *Solidago serotina* Ait. Goldenrod. Cleared ground.
64. *Boltonia asteroides* (L.) L'Her. Cleared ground.
125. *Aster Drummondii* Lindl. Aster. Cleared ground.
63. *Aster umbellatus* Mill. Aster. Cleared ground.
185. *Antennaria canadensis* Greene. Everlasting. River bank. May, 1915.
180, 31. *Anaphalis margaritacea* B. & H. Pearly Everlasting. River bank.
Erigeron philadelphicus L. Fleabane. Moist bank.
30. *Ambrosia trifida* L. Great Ragweed. Cleared ground.
7. *Xanthium canadense* Mill. Cocklebur. Cleared ground.

35. *Bidens frondosa* L. Beggar-ticks. Cleared ground.
 50. *Helenium autumnale* L. Sneezeweed. Cleared ground.
 148. *Petasites sagittatus* (Pursh.) Gray. Sweet Coltsfoot. River bank.
 11. *Achillea Millefolium* L. Common Yarrow. Cleared ground.
 258. *Chrysanthemum Leucanthemum* L. Ox-eye Daisy. Woods. July, 1915.
 223. *Senecio vulgaris* L. Groundsel. Cleared ground.
 261. *Senecio Jacobaea* L. Stinking Willie. Woods. July, 1915.
 67. *Cirsium arvense* (L.) Scop. Canada Thistle. Cleared ground.
 39. *Cirsium lanceolatum* (L.) Hill. Scotch Thistle. Cleared ground.
 117. *Taraxacum officinale* Weber. Dandelion. Cleared ground. Not over-abundant.
 114. *Sonchus arvensis* L. Sow Thistle. Cleared ground.
 52. *Lactuca pulchella* (Pursh.) DC. Blue Thistle. Cleared ground.
 2. *Prenanthes alba* L. Rattlesnake Root. Woods. Common.
 51. *Hieracium canadense* Michx. Woods.

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FIG. 1.—Island opposite collecting ground on which are white pine, cottonwoods, spruces and willows.



FIG. 2.—Birches along Rainy River.



FIG. 3.—North of dock. Trees are cottonwoods, birches, maples and poplars.

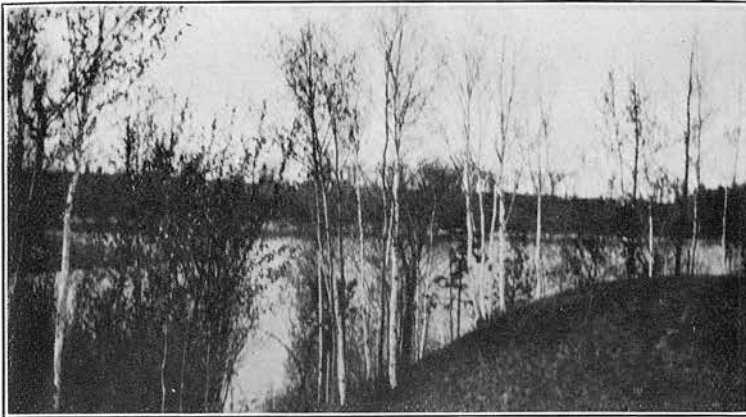


FIG. 1. Rocky bank of Rainy River. Poplars and birches.



FIG. 2.—1. Blueberry (*Vaccinium canadense*).
2. Swamp Laurel (*Kalmia polifolia*).
3. Labrador Tea (*Ledum groenlandicum*).