IV

REPORT ON THE FLORA OF ST. ANDREWS, N.B.

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INTRODUCTORY NOTES.

On June 9, 1900, the writer arrived at the Biological Laboratory, at St. Andrews, and devoted his time till August 18, to the study of the flora in the neighbourhood, and to the collection of herbarium specimens. The special object of his visit was to collect and study the marine algæ that might be found in that part of the Bay of Fundy. At the time of his arrival the retreating tide had left the rugged shore bare for a considerable distance, and the rocks, covered with a dense growth of rock-weed (*Fucus*) presented an attractive field for exploration. After spending a couple of days among the slippery rocks and mud, he discovered that very few species of algæ could be secured, and only those of the most hardy species. The rugged character of the shores, formed by the waves and tides from the red sandstone in some localities, and from volcanic rock in others, renders it impossible to travel along the beach any considerable distance in search of specimens. The aid of a boat is indispensable to the collector who wishes to extend his researches beyond the immediate neighbourhood of the station; but unfortunately the writer was precluded from more extended investigations. Disappointed at the small number of species where the prospects seemed so bright, he endeavoured to discover the reasons of their paucity, and is of the opinion that the following facts explain the phenomenon:—

1. The great tides of the Bay of Fundy produce currents which sweep away all plants not firmly anchored to the rocks. The fucaceæ, possessed of tough and flexible stems, and attached to the rocks by holdfasts that cannot be separated from them by any force tugging at the stems and branches, are naturally adapted to resist the action of waves and currents, while other more delicate species are swept away and carried out to sea or thrown up on the rocky shores.

2. At low water, a large extent of shore is left bare, and the algæ attached to the rocks are exposed for several hours every day to the warm winds and drying power of the summer sun. All plants unable to endure this ordeal must give place to the hardier species. The delicate forms that inhabit the pools or marshy shores are consequently unknown.

3. The great rise and fall of the tides stir up the waters of the bay to a great depth and as no broad areas of sand are exposed to the sun's rays to absorb heat and impart it to the waters that cover them at the return of the tide, these waters are always cold. Hence only algæ capable of flourishing in the cold waters are adapted to these rugged shores.

The combination of these factors constitutes an environment which is fatal to all but the most hardy species of littoral algæ. All delicate forms must betake themselves to retired creeks and sheltered inlets where many of them may doubtless be found; but they can only be reached by the collector who is fortunate enough to enjoy the advantage of appropriate transit by water.

Having failed, owing to the causes mentioned above, and the lack of necessary facilities for identifying species, to secure the number of marine plants anticipated, the

collector immediately turned to the streets and fields of the town and its neighbourhood which promised a more abundant harvest. During the early half of the century St. Andrews was distinguished for its great commercial activity, especially in its export of lumber. The long line of wharfs and the numerous warehouses, now falling into ruins, along the front of the town, are monuments of a prosperity which has now completely passed away with the destruction of the forests upon which it depended. Some of the streets as well as the wharfs are now almost deserted, and furnish favourable conditions for the growth and propagation of the foreign weeds and plants imported in earlier days. Many gardens and fields have been abandoned by their owners and are now rich collecting grounds for the botanist. Plants that once ornamented the grounds of wealthy merchants or prosperous farmers, have spread to the roadside and fields, or abound on the sidewalks along the deserted streets. A large area near the town, which once constituted the town park, with its winding paths, its artificial lake and its pleasant flower beds and grass plots, is now a perfect paradise for the botanist.

The writer can recall no locality he has ever visited where such a large number of foreign plants can be found in such a limited area. At the time of his arrival the early blooming plants had shed their flowers. The forest trees and native shrubs had passed the flowering season—had assumed their summer appearance and were now ripening their fruits. The winds were scattering the seeds of the poplars and willows over the neighbourhood where they grew. But though the spring flowers had disappeared the streets and fields were gay with the blossoms of foreign plants. Every rising sun was welcomed with a fresh display of floral beauty.

For several weeks *Ranunculus repens*, L., whether native or introduced, displayed its large yellow flowers abundantly in the ditches along the streets and in the damp grounds; and the common Buttercup (*Ranunculus acris*, L.) adorned the higher grounds. The Wild Mustard (*Brassica arvensis*, L.) has pushed its way successfully out into the open country and many fields were brilliant with its yellow petals. Two other species (*Brassica nigra*, Koch. and *B. campestris*, L.) occupied more limited areas, but added to the general display. Another member of the Cruciferous family (*Lepidium ruderalis*, L.) found a congenial home on the decaying wharfs. Among the introduced forms, which have secured a permanent home for themselves, few have become more conspicuous than the yellow clover (*Trifolium procumbens*, L.) It has spread over roads and railroad tracks in different localities to the almost total exclusion of the other species. It must, however, yield the palm to the Carroway (*Carum carui*, L.) which has not only invaded the town but has overrun the entire country for miles around. If the seeds were collected a sufficient quantity would be obtained to supply the demands of the province, perhaps of the Dominion. Of thirty-two species of Compositæ collected, twenty have been introduced from foreign lands. The less frequented streets were brilliant during the month of June with Dandelions of which two species occur (*Taraxacum taraxacum*, Karst. and *T. erythrospermum*, Andr.). The latter must be rare as the writer has never noticed it elsewhere. One of the most interesting members of this family is the *Hieracium aurantiacum*, L., which is exceedingly abundant near the laboratory, but has not spread into the fields. *Leontodon autumnalis*, L., meets the eye everywhere, and *Tragopogon pratensis* is common in deserted gardens and fields. The Blue-bell family (Campanulacæ) is represented by large numbers of *Campanula rapunculoides*, L., whose long racemes of blue flowers with corollas an inch in length are very conspicuous on the sidewalks and along the garden fences.

Of the native plants in the immediate neighbourhood of the laboratory in the months of June and July the following species are most likely to attract the attention of the visitor from the west:—

Viola primulaefolia, L.
Viola lanceolata, L.
Potentilla tridentata, Ait.
Potentilla anserina, L.
Rosa humilis lucida, Ehrh.
Drosera rotundifolia, L.
Aster tardiflorus, L.
Antennaria neodioica, Greene.

Rhodora Canadensis, L.
Euphrasia Americana.
Rhinanthus Crista-Galli, L.
Carex Goodenovii, J. Gay.
Carex maritima, Muller.
Poa flava, L.
Festuca ovina duriuscula, L.
Botrychium simplex, Hitchcock.

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The following probably mark the sites of former gardens:—

<i>Tilia Europæa</i> , L.	<i>Sedum acre</i> , L.
<i>Geranium pratense</i> , L.	<i>Diervilla florida</i> , Sieb. & Zucc.
<i>Æsculus hippocastanum</i> , L.	<i>Centaurea nigra</i> , L.
<i>Acer platanoides</i> , L.	<i>Syringa vulgaris</i> , L.
<i>Acer pseudo-platanus</i> , L.	<i>Leptandra Virginica</i> , Nutt.
<i>Robinia pseudacacia</i> , L.	<i>Euphorbia Cyparissias</i> , L.
<i>Caragana arborescens</i> , Lam.	<i>Ulmus campestris</i> , L.
<i>Spiræa sorbifolia</i> , L.	<i>Larix Europæa</i> , D.C.
<i>Spiræa ulmaria</i> , L.	<i>Hemerocallis fulva</i> , L.
<i>Crataegus oxyacantha</i> , L.	<i>Lysimachia nummularia</i> , L.
<i>Philadelphus coronarius</i> , L.	

BOTANICAL LIST.

List of plants collected at St. Andrews, N.B., between June 9 and August 18, 1900.

NOTE—The Nomenclature follows that of Brown & Britton, *Illustrated Flora*.

ORDER I. RANUNCULACEÆ.

Genera.	Spec.	Genera.	Spec.
1	1 <i>Thalictrum polygamum</i> , Muhl.	3	4 <i>Oxygraphis cymbalaria</i> , Prantl.
2	2 <i>Ranunculus repens</i> , L.	4	5 <i>Coptis trifolia</i> , Salisb.
	3 <i>Ranunculus acris</i> , L.	5	6 <i>Actæa rubra</i> , Willd.

ORDER II. NYMPHÆACEÆ.

6	7 <i>Castalia odorata</i> , Woodv.	7	8 <i>Nymphaea advena</i> , Soland.
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ORDER III. CRUCIFERÆ.

8	9 <i>Barbarea barbarea</i> , MacM.	11	14 <i>Bursa bursa-pastoris</i> , Britton.
9	10 <i>Erysimum cheiranthoides</i> , L.	12	15 <i>Lepidium ruderales</i> , L.
10	11 <i>Brassica arvensis</i> , L.	13	16 <i>Cakile edentula</i> , Hook.
	12 <i>Brassica nigra</i> , Ksch.	14	17 <i>Raphanus raphanistrum</i> , L.
	13 <i>Brassica campestris</i> , L.		

ORDER IV. VIOLACEÆ.

15	18 <i>Viola obliqua</i> , Hill.	20	<i>Viola primulaefolia</i> , L.
	19 <i>Viola blanda</i> , Willd.	21	<i>Viola lanceolata</i> , L.

ORDER V. CARYOPHYLLACEÆ.

16	22 <i>Moehringia lateriflora</i> , L.	18	27 <i>Cerastium vulgatum</i> , L.
17	23 <i>Alsine media</i> , L.	19	28 <i>Sagina procumbens</i> , L.
	24 <i>Alsine longifolia</i> , Britton.	20	29 <i>Tissa rubra</i> , Britton.
	25 <i>Alsine graminea</i> , Britton.	30	<i>Tissa Canadensis</i> , Britton.
	26 <i>Alsine humifusa</i> , Britton.	21	31 <i>Spergula arvensis</i> , L.

ORDER VI. HYPERICACEÆ.

22	32 <i>Hypericum perforatum</i> , L.	34	<i>Hypericum Canadense</i> , L.
	33 <i>Hypericum mutilum</i> , L.		

ORDER VII. TILIACEÆ.

23	35 <i>Tilia Americana</i> , L.	36	<i>Tilia Europæa</i> , L.
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ORDER VIII. GERANICADÆ.

Genera.	Species.	Genera.	Species.
24	37 <i>Geranium pratense</i> , L.	36	<i>Oxalis stricta</i> , L.
25	38 <i>Oxalis acetosella</i> , L.	26	40 <i>Impatiens biflora</i> , Walt.

ORDER IX. ILICINÆ.

27	41 <i>Ilex verticillata</i> , Gray.
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ORDER X. SAPINDACEÆ.

28	42 <i>Æsculus Hippocastanum</i> , L.	44	<i>Acer platanoides</i> , L.
29	43 <i>Acer spicatum</i> , Lam.	45	<i>Acer pseudo-platanus</i> , L.

ORDER XI. LEGUMINOSÆ.

30	46 <i>Trifolium pratense</i> , L.	33	52 <i>Robinia pseudacacia</i> , L.
	47 <i>Trifolium repens</i> , L.	34	53 <i>Vicia cracca</i> , L.
	48 <i>Trifolium procumbens</i> , L.	35	54 <i>Lathyrus maritimus</i> , Bigel.
31	49 <i>Melilotus officinalis</i> , Willd.		55 <i>Lathyrus palustris</i> , L.
	50 <i>Melilotus alba</i> , Lam.	36	56 <i>Caragana arborescens</i> , Lam.
32	51 <i>Medicago lupulina</i> , L.		

ORDER XII. ROSACEÆ.

37	57 <i>Prunus virginiana</i> , L.	68	<i>Potentilla argentea</i> , L.
38	58 <i>Spiræa salicifolia</i> , L.	69	<i>Potentilla tridentata</i> , Ait.
	59 <i>Spiræa tomentosa</i> , L.	70	<i>Potentilla anserina</i> , L.
	60 <i>Spiræa sorbifolia</i> , L.	71	<i>Potentilla Canadensis</i> , L.
	61 <i>Spiræa ulmaria</i> , L.	43	72 <i>Comarum palustre</i> , L.
39	62 <i>Rubus Americanus</i> , Britton.	44	73 <i>Rosa humilis lucida</i> , Best.
	63 <i>Rubus strigosus</i> , Miche.	45	74 <i>Cratægus oxyacantha</i> , L.
	64 <i>Rubus villosus frondosus</i> , Bigel.	46	75 <i>Aronia nigra</i> , Britton.
40	65 <i>Geum strictum</i> , Ait.	47	76 <i>Sorbus Americana</i> , Marsh.
41	66 <i>Fragaria virginiana</i> , Mill.		77 <i>Sorbus sambucifolia</i> , Roem.
42	67 <i>Potentilla norvegica</i> , L.		

ORDER XIII.—SAXIFRAGACEÆ.

48	78 <i>Philadelphus coronarius</i> , L.	49	79 <i>Ribes oxyacanthoides</i> , L.
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ORDER XIV.—CRASSULACEÆ.

50	80 <i>Sedum acre</i> , L.
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ORDER XV.—DROSERACEÆ.

51	81 <i>Drosera rotundifolia</i> , L.
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ORDER XVI.—HALORAGCEÆ.

52	82 <i>Callitriche palustris</i> , L.
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ORDER XVII.—ONAGRACEÆ.

53	83 <i>Chamænerion angustifolium</i> , Scop.	55	87 <i>Onagra biennis</i> , Scop.
54	84 <i>Epilobium lineare</i> , Muhl.	56	88 <i>Kneiffia pumila</i> , Spach.
	85 <i>Epilobium coloratum</i> , Muhl.	57	89 <i>Circæa alpina</i> , L.
	86 <i>Epilobium adenocaulon</i> , Haussk.		

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ORDER XVIII.—UMBIFELLIFERÆ.

Genera.	Species.	Genera.	Species.
58	90	60	92
59	91	61	93
	<i>Carum carui</i> , L.		<i>Hydrocotyle Americana</i> , L.
	<i>Cicuta bulbifera</i> , L.		<i>Ligusticum Scoticum</i> , L.

ORDER XIX.—ARALIACEÆ.

62	94	<i>Aralia hispida</i> , Vent.	95	<i>Aralia nudicaulis</i> , L.
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ORDER XX.—CORNACEÆ.

63	96	<i>Cornus Canadensis</i> , L.
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ORDER XXI.—CAPRIFOLIACEÆ.

64	97	<i>Viburnum cassinoides</i> , L.	66	99	<i>Diervilla Diervilla</i> , MacM.
65	98	<i>Linnæa borealis</i> , L.	100		<i>Diervilla florida</i> , Sieb. & Zucc.

ORDER XXII.—RUBIACEÆ.

67	101	<i>Houstonia coerulea</i> , L.
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ORDER XXIII.—COMPOSITÆ.

68	102	<i>Eupatorium perfoliatum</i> , L.	72	110	<i>Doellingeria umbellata</i> , Nees.
69	103	<i>Solidago puberula</i> , Nutt.	73	111	<i>Leptilon Canadense</i> , Britton.
	104	<i>Solidago juncea</i> , Ait.	74	112	<i>Erigeron ramosus</i> , B. S. P.
	105	<i>Solidago rugosa</i> , Mill.	75	113	<i>Anaphalis margaritacea</i> , Benth. & Hook.
	106	<i>Solidago Canadensis</i> , L.	76	114	<i>Gnaphalium uliginosum</i> , L.
70	107	<i>Euthamia graminifolia</i> , Nutt.	77	115	<i>Ambrosia artemisiifolia</i> , L.
71	108	<i>Aster tardiflorus</i> , L.	78	116	<i>Rudbeckia hirta</i> , L.
	109	<i>Aster lateriflorus</i> , Britton.	79	117	<i>Anthemis cotula</i> , D. C.
80	118	<i>Achillea millefolium</i> , L.	88	126	<i>Tragopogon pratensis</i> , L.
81	119	<i>Chrysanthemum leucanthemum</i> , L.	89	127	<i>Leontodon autumnalis</i> , L.
82	120	<i>Artemisia vulgaris</i> , L.	90	128	<i>Hieracium aurantiacum</i> , L.
83	121	<i>Senecio vulgaris</i> , L.	91	129	<i>Taraxacum taraxacum</i> , Karst.
84	122	<i>Antennaria neodioica</i> , Greene.	130		<i>Taraxacum erythrospermum</i> , Audr.
85	123	<i>Arctium minus</i> , Schk.	92	131	<i>Sonchus oleraceus</i> , L.
86	124	<i>Carduus arvensis</i> , Robs.		132	<i>Sonchus asper</i> , Vill.
87	125	<i>Centaurea nigra</i> , L.		133	<i>Sonchus arvensis</i> , L.

ORDER XXIV. LOBELIACEÆ.

93	134	<i>Lobelia inflata</i> , L.	138	<i>Lobelia Dortmanna</i> , L.
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ORDER XXV. CAMPANULACEÆ.

94	136	<i>Campanula rapunculoides</i> , L.	137	<i>Campanula rotundifolia</i> , L.
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ORDER XXVI. ERICACEÆ.

95	138	<i>Vaccinium Pennsylvanicum</i> , Lam.	98	143	<i>Rhodora Canadensis</i> , L.
	139	<i>Vaccinium Canadense</i> , Richards.	99	144	<i>Ledum Grœnlandicum</i> , (Eder.
	140	<i>Vaccinium vitis-idaea</i> , L.	100	145	<i>Pyrola elliptica</i> , Nutt.
96	141	<i>Oxycoccus macrocarpus</i> , Pers.	101	146	<i>Monotropa uniflora</i> , L.
97	142	<i>Kalmia angustifolia</i> , L.			

ORDER XXVII. PLUMBAGINACEÆ.

102	147	<i>Limonium Carolinianum</i> , Britton.
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ORDER XXVIII. PRIMULACEÆ.

103	148	<i>Trientalis Americana</i> , Pursh.	150	<i>Lysimachia nummularia</i> , L.	
104	149	<i>Lysimachia terrestris</i> , B.S.P.	105	151	<i>Glaux maritima</i> , L.

ORDER XXIX. OLEACEÆ.

106	152	<i>Fraxinus nigra</i> , Marsh.	107	153	<i>Syringa Persica</i> , L.
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ORDER XXX. GENTIANACEÆ.

Genera.	Species.	Genera.	Species.
108	154		

Menyanthes trifoliata, L.

ORDER XXXI. BORAGINACEÆ.

109	155	Myosotis arvensis, Hoffm.	111	157	Pneumaria maritima, Hill.
110	156	Lappula Lappula, Karst.			

ORDER XXXII. CONVULVULACEÆ.

112	158	Convolvulus sepium, L.
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ORDER XXXIII. SCROPHULARIACEÆ.

113	159	Linaria linaria, Karst.	116	162	Veronica scutellat, L.
114	160	Chelone glabra, L.	117	163	Euphrasia Americana, Wettst.
115	161	Leptandra Virginica, Nutt.	118	164	Rhinanthus Crista-Galli, L.

ORDER XXXIV. LABIATÆ.

119	165	Mentha sativa, L.	122	169	Prunella vulgaris, L.
	166	Mentha Canadensis, L.	123	170	Galeopsis tetrahit, L.
120	167	Lycopus Americanus, Muhl.	124	171	Stachys palustris, L.
121	168	Scutellaria galericulata, L.	125	172	Glechoma hederacea, L.

ORDER XXXV. PLANTAGENACEÆ.

126	173	Plantago major, L.	174	Plantago maritima, L.
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ORDER XXXVI. CHENOPODIACEÆ.

127	175	Atriplex hastata, L.	129	177	Dondia Americana, Britton.
128	176	Salicornia herbacea, L.			

ORDER XXXVII. POLYGONACEÆ.

130	178	Rumex Brittanica, L.	182	Polygonum Persicaria, L.
	179	Rumex acetosella, L.	183	Polygonum sagittatum, L.
131	180	Polygonum aviculare, L.	184	Polygonum convolvulus, L.
	181	Polygonum erectum, L.		

ORDER XXXVIII. EUPHORBIACEÆ.

132	185	Euphorbia Cyparissias, L.
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ORDER XXXIX. URTICACEÆ.

133	186	Ulmus campestris, L.
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ORDER XL. MYRICACEÆ.

134	187	Myrica gale, L.
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ORDER XLI. CUPULIFERÆ.

135	188	Betula lutea, L.	136	190	Alnus alnobetula, Koch.
	189	Betula populifolia, Ait.		191	Alnus incana, Willd.

ORDER XLII. SALICACEÆ.

137	192	Salix lucida, Muhl.	194	Salix balsamifera, Barratt.
	193	Salix Bebbiana, Sarg.		

ORDER XLIII. CONIFERÆ.

138	195	Larix laricina, Koch.	140	198	Juniperus nana, Willd.
	196	Larix Europæa, DC.		199	Juniperus Sabina, L.
139	197	Thuya occidentalis, L.			

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ORDER XLIV. ORCHIDACEÆ.

Genera.	Species.	Genera.	Species.
141	200 <i>Achroanthus unifolia</i> , Raf.	144	203 <i>Gyrostachys Romanzoffiana</i> , MacM.
142	201 <i>Leptorchis Loeselii</i> , MacM.	145	204 <i>Pogonia ophioglossoides</i> , Nutt.
143	202 <i>Corallorhiza multiflora</i> , Nutt.	146	205 <i>Habenaria hyperborea</i> , R. Br.

ORDER XLV. IRIDACEÆ.

147	206 <i>Iris versicolor</i> , L.	148	207 <i>Sisyrinchium angustifolium</i> , Mill.
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ORDER XLVI. LILIACEÆ.

149	208 <i>Hemerocallis fulva</i> , L.	151	210 <i>Unifolium Canadense</i> , Greene.
150	209 <i>Vaganea stellata</i> , Morong.	152	211 <i>Steptopus roseus</i> , Michx.

ORDER XLVII. JUNCACEÆ.

153	212 <i>Juncus effusus</i> , L.	216	<i>Juncus articulatus</i> , L.
	213 <i>Juncus Balticus</i> , Willd.	217	<i>Juncus Canadensis brevicaudatus</i> , Engelm.
	214 <i>Juncus Gerardii</i> , Loisel.		
	215 <i>Juncus bufonius</i> , L.	154	218 <i>Juncoides campestre</i> , Kuntze.

ORDER XLVIII. TYPHACEÆ.

155	219 <i>Typha latifolia</i> , L.
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ORDER XLIX. ALISMACEÆ.

156	220 <i>Sagittaria latifolia</i> , Willd.
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ORDER L. NAIADACEÆ.

157	221 <i>Triglochin maritima</i> , L.	159	223 <i>Zostera marina</i> , L.
158	222 <i>Potamogeton Nuttallii</i> , Cham. & Sch.		

ORDER LI. CYPERACEÆ.

160	224 <i>Eleocharis ovata</i> , R. Br.	239	<i>Carex Goodenovii</i> , J. Gay.
	225 <i>Eleocharis palustris glaucescens</i> , Gray.	240	<i>Carex intumescens</i> , Rudge.
	226 <i>Eleocharis tenuis</i> , Schutes.	241	<i>Carex lurida</i> , Wahl.
161	227 <i>Scirpus microcarpus</i> , Presl.	242	<i>Carex maritima</i> , Muller.
	228 <i>Scirpus atrovirens</i> , Muhl.	243	<i>Carex Novæ-Angliæ</i> , Schwein.
	229 <i>Scirpus fluviatilis</i> , Gray.	244	<i>Carex pallescens</i> , L.
	230 <i>Scirpus cyperinus</i> , L.	245	<i>Carex pedicellata</i> , Britton.
	231 <i>Scirpus Americanus</i> , Pers.	246	<i>Carex scoparia</i> , Schk.
162	232 <i>Eriophorum Virginicum</i> , L.	247	<i>Carex sterilis</i> , Willd.
163	233 <i>Carex arcuata</i> , Boott.	248	<i>Carex sterilis cephalantha</i> , Bailey.
	234 <i>Carex aurea</i> , Nutt.	249	<i>Carex stipata</i> , Muhl.
	235 <i>Carex brunnescentis gracilior</i> , Britton.	250	<i>Carex tenera</i> , Dewey.
	236 <i>Carex canescens</i> , L.	251	<i>Carex tenuis</i> , Rudge.
	237 <i>Carex crinita</i> , Lam.	252	<i>Carex retrorsa</i> , Schwein.
	238 <i>Carex flava</i> , L.	253	<i>Carex viridula</i> , Michx.

ORDER LII.—GRAMINEÆ.

164	254 <i>Spartina cynosuroides</i> , Willd.	267	<i>Poa pratensis</i> , L.
	255 <i>Spartina patens</i> , Muhl.	268	<i>Poa trivialis</i> , L.
	256 <i>Spartina stricta maritima</i> , Scrib.	172	269 <i>Panicularia Canadensis</i> , Kuntze.
165	257 <i>Panicum implicatum</i> , Scrib.		270 <i>Panicularia nervata</i> , Kuntze.
166	259 <i>Anthoxanthum odoratum</i> , L.		271 <i>Panicularia Americana</i> , MacM.
167	260 <i>Phleum pratense</i> , L.	173	272 <i>Puccinella maritima</i> , Parl.
168	261 <i>Alopecurus geniculatus</i> , L.	174	273 <i>Dactylis glomerata</i> , L.
169	262 <i>Agrostis alba</i> , L.	175	274 <i>Festuca ovina duriuscula</i> , L.
	263 <i>Agrostis hyemalis</i> , B.S.P.		275 <i>Festuca elatior</i> , L.
170	264 <i>Danthonia spicata</i> , Beauv.	176	276 <i>Agropyron repens</i> , L.
171	265 <i>Poa compressa</i> , L.	177	277 <i>Hordeum jubatum</i> , L.
	266 <i>Poa flava</i> , L.	178	278 <i>Elymus arenarius</i> , L.

ORDER LIII.—EQUISETACEÆ.

179	279 <i>Equisetum arvense</i> , L.	280	<i>Equisetum sylvaticum</i> , L.
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ORDER LIV.—FILICES.

Genera.	Species.	Genera.	Species.
180	281 Polypodium vulgare, L.	288	Dryopteris cristata, Gray.
181	282 Pteris aquilina, L.	289	Dryopteris acrostichoides, Sw.
182	283 Asplenium filix-foemina, Bernh.	290	Onoclea sensibilis, L.
183	284 Phegopteris Phegopteris, Underw.	185	291 Woodsia ilvensis, R. Br.
	285 Phegopteris dryopteris, Fee.	187	292 Dicksonia punctilobula, Gray.
184	286 Dryopteris spinulosa intermedia, Und.	188	293 Osmunda Claytoniana, L.
	287 Dryopteris spinulosa dilatata, Underw.		294 Osmunda cinnamomea, L.

ORDER LV.—OPHIOGLOSSACEÆ.

189	295 Botrychium simplex, Hitch.	296	Botrychium ternatum, Sw.
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ORDER LVI.—LYCOPODIACEÆ.

190	297 Lycopodium lucidulum, Michx.	299	Lycopodium complanatum, L.
	298 Lycopodium obscurum, L.		

MUSCI.

ORDER LVII.—SPHAGNACEÆ.

191	300 Sphagnum acutifolium, Ehrh.	301	Sphagnum cymbifolium, Ehrh.
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ORDER LVIII.—BRYACEÆ.

192	302 Leucobryum glaucum, L.	307	Polytrichum juniperinum, Willd.
193	302 Ceratodon purpureus, L.	196	308 Webera nutans (Schreb.) Hedw.
194	303 Ulota crispa, Brid.	197	309 Pylaisia Schimper, Card.
	304 Ulota crispula, Brid.	198	310 Aulacomnium palustre, Schwaegr.
	305 Ulota Ludwigii, Brid.	199	311 Hypnum uncinatum, Hedw.
195	306 Polytrichum commune, L.		

ORDER LIX.—JUNGERMANNIACEÆ.

200	312 Ptilidium ciliare, Nees.
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LICHENES.

201	313 Alectoria jubata, L.	205	317 Peltigera aphthosa, Hoffm.
202	314 Usnea barbata, L.	206	318 Cladonia rangiferina, L.
203	315 Theloschistes parietinus, L.		319 Cladonia cristatella, Tuck.
204	316 Sticta pulmoraria, L.		

ALGÆ.

207	320 Fucus vesiculosus, L.	212	326 Rhodymenia palmata, Grev.
	321 Fucus nodosus, L.	213	327 Porphyra vulgaris, Ag.
208	322 Laminaria longicruris, De la Pyl.	214	328 Enteromorpha compressa, Grev.
209	323 Chordaria flagelliformis, Ag.	215	329 Ulva linza, L.
210	324 Polysiphonia fastigiata, Grev.		330 Ulva latissima, L.
211	325 Corallina officinalis, L.	216	331 Gigartina mamillosa, Ag.

Several specimens of Algæ collected in addition to the foregoing have not yet been determined.