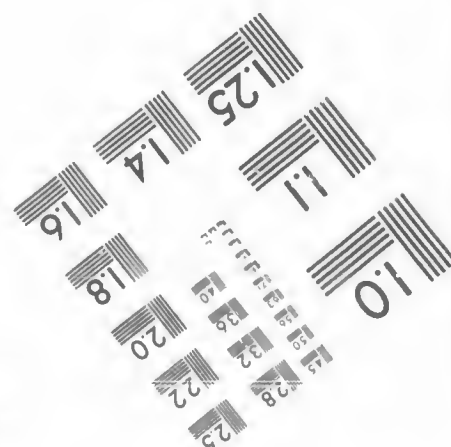
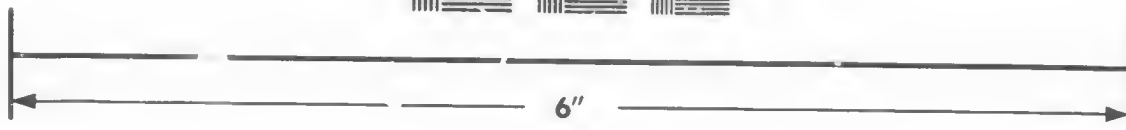
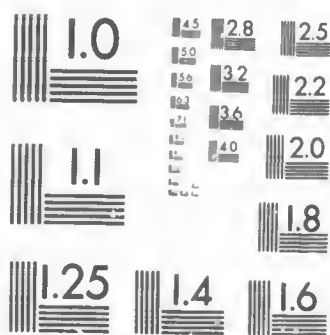


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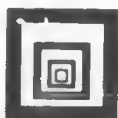
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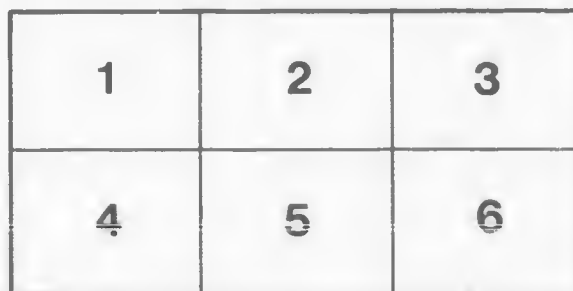
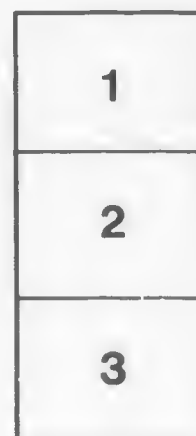
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FROM THE TRANSACTIONS OF THE ROYAL SOCIETY OF CANADA

SECOND SERIES—1897-98

VOLUME III

SECTION IV

GEOLOGICAL AND BIOLOGICAL SCIENCES

JOHN GOLDIE, BOTANIST

By G. U. HAY, Ph.B., M.A.

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V.—*John Goldie, Botanist.*

By G. U. HAY, Ph.B., M.A.

(Read June 23rd, 1897.)

It is not inappropriate, in connection with the Cabot celebration, to introduce the name of John Goldie, botanist, who, 80 years ago, in June, 1817, at the instance of Sir Wm. Hooker, left Leith and shortly after landed in Halifax to make investigations of the flora of Canada and the United States. His researches were rewarded by the discovery of many new plants, but most of these unfortunately were lost in transportation to Great Britain; and his notes, containing sketches and descriptions of his discoveries, were destroyed by fire at a later date. Sufficient, however, has been handed down to show his great industry in botanical research, and the importance of his discoveries. He had many of the characteristics, too, of the discoverer. Of a hardy constitution, fearless disposition, patient in his investigations, accurate in his judgments, and with a fondness for his favourite science that no fatigue or discouragements could overcome, he is not unworthy of a place among those brave spirits of the old world who became the pioneers of research in Canada.

It is to be regretted that the botanical journal in which Mr. Goldie kept a record and descriptions of the plants discovered, was destroyed. A diary of a journey through Upper Canada and some of the Northern States in 1819 has been preserved, and was published this year (1897) in Toronto. A list of the new and rare plants found by Mr. Goldie during his two years' explorations in America was published in the *Edinburgh Philosophical Journal* for April, 1822. This contains a brief account of his journey with descriptions of new plants. To both of these the writer has had access, and with additional information kindly furnished by Mr. James Goldie, of Guelph, Ontario, son of the botanist, and himself a botanist and horticulturist, he has obtained materials for this sketch, which, meagre in regard to scientific information of his researches, may be found to possess some interest to botanical and general students, interwoven as it is, to some extent, with the purpose that brings the society together at this time and place.

During his lifetime Mr. Goldie carried on an extensive correspondence, particularly after he came to Canada to reside, with many prominent botanists of the old world, and especially with his friend, Sir Wm. Hooker. But no permanent record of the results of this correspondence has been preserved, except such as has found its way into the published writings of these botanists, to which, however, no access has been possible in the preparation of this memoir.

Sec. IV., 1897. 7.

In the diary of his journey through Upper Canada and a portion of the Northern States, Mr. Goldie does not give us any distinctly scientific account of his observations on plants. The strictly botanical journal which Mr. Goldie kept during the journey described in this diary, was lost by fire. It contains, rather, general impressions of the aspect of the country through which he passed, the character of the people, soil, productions, coupled with observations on the weather, as the occurrence of storms, highest readings of the thermometer each day, general notes on the flora, &c. It is written in a quaint, simple style, characteristic of the man, and is of interest in comparing the country and some of its features eighty years ago with the present.

In the article published in the *Edinburgh Philosophical Journal*, after Mr. Goldie's return to Scotland, there is a description of over a dozen new plants, with notes on rare and ill-determined species. The conciseness of his descriptions and the acuteness with which he notices points of differences in plants, which seemed to have escaped the eyes of other botanists, places the stamp of originality and accuracy of judgment upon his work. The stately *Aspidium*,¹ named in honour of its discoverer, is a rare fern in this part of Canada. It was a great pleasure to present to Mr. Goldie's son, on his visit to St. John last summer, one of the two living specimens of this fern that I possessed.

John Goldie was born in the parish of Kirkoswald, Ayrshire, Scotland, on the 21st of March, 1793, and died at Ayr, Ontario, July, 1886, in the 94th year of his age. In early life he was a great lover of plants, and making collections and classifying these was his greatest pleasure. He served an apprenticeship as a gardener and afterwards entered the Glasgow Botanic Gardens, and there received a thorough scientific and practical training in botany. Later he graduated from the University of Glasgow, where he was distinguished for skill in language and science. In 1815, the English Government having to send an expedition to the west coast of Africa to explore the Congo River, Mr. Goldie applied for and obtained the position of botanist, conditional on his passing the required examination. Having satisfied the examiners he proceeded to join the expedition, but at the last moment was superseded through adverse political influence. The disappointment was most fortunate for him. The coast fevers of Africa were too much for the Europeans, and the expedition was forced to return to England shortly afterwards without its botanist, who had succumbed to the fever.

In the spring of 1817, by the advice of Dr. Hooker, afterwards Sir William Hooker, Mr. Goldie sailed for America accompanied by his brother-in-law, Robert Smith. By stress of weather the vessel was obliged to put into Halifax. Here he left the ship and spent several days in exploring the neighbourhood of the city and examining its flora. He

¹ *Aspidium Goldianum*, Hook.

mentions several interesting plants, among them a yellow flowered variety of *Sarracenia purpurea*, which he never noticed elsewhere. From Halifax he proceeded to the north shore of New Brunswick, where he spent some time. He often mentioned the beautiful orchid—*Calypso borealis*—found near the Baie de Chaleurs. He made numerous sketches of the coast scenery, with notes on the geology and botany of the various places visited. From New Brunswick he proceeded to Quebec, carrying with him all the roots and specimens that he had obtained, which, with the results of two weeks' exploration in the neighbourhood of Quebec, he placed on board a vessel bound for Greenock, but never heard of them afterwards. The same fate awaited two collections afterwards made, the one shipped from New York, the other from Montreal.

From Quebec Mr. Goldie proceeded to Montreal, where he met Frederick Pursh, author of the North American Flora, who gave him much information which guided him in his future movements. Mr. Pursh advised him to turn his course to the northwest and promised to secure for him permission to accompany the traders leaving Montreal the following spring.

I shall let Mr. Goldie tell his own story of his wanderings in America, with its hardships and disappointments, quoting from the *Edinburgh Philosophical Journal* :

“Leaving Montreal, I travelled on foot to Albany, and then proceeded by water to New York. I remained but a short time in this last place, for I explored the eastern part of New Jersey, a country which, though barren and thinly inhabited, yet presents many rarities to the botanist, and gave me more gratification than any part of America that I have ever seen. At a place called Quaker's Bridge I gathered some most interesting plants, and having accumulated as large a load as my back would carry, I took my journey to Philadelphia, where I staid but a very short time; for, knowing that a ship was about to sail from New York to Scotland, I hastened to return thither; and having again entrusted my treasures to the deep, I had again, as the first time, the disappointment of never obtaining any intelligence whatever of them.

“My finances being now extremely low, and winter having commenced, I hardly knew what to do; but after some delay went up the Mohawk river, where I found employment during that season as a schoolmaster. I quitted this place in April, 1818, and proceeded to Montreal, expecting to be ready to depart on my journey towards the northwest country. I was disappointed in finding that Mr. Pursh had left Montreal for Quebec, and that even if present, his interest would scarce have been sufficiently strong to have obtained for me the assistance and protection which I desired. My only alternative was now the spade, at which I worked all summer, excepting only two days in each week, which I devoted to botanizing, and went also a little way up the Otoway or Grand

river, the only excursion of any length which I accomplished. In the autumn I shipped my collection of plants, and in two months had the mortification to learn that the vessel was totally wrecked in the St. Lawrence. Thus did I lose the fruit of two years' labour. During the next winter I did little, except employing myself with such small skill as I was able in designing some flower pieces, for which I got a trifle. Early in the following spring I commenced labour again, and by the beginning of June had amassed about fifty dollars, which, with as much more that I borrowed from a friend, formed my stock of money for the next summer's tour. I started in the beginning of June from Montreal, and passing through Kingston went to New York, to which, after an excursion to Lake Simcoe, I returned; then visited the Falls of Niagara and Fort Erie, and crossed over to the United States, keeping along the eastern side of Lake Erie for ninety miles. I afterwards took a direct course to Pittsburgh on the Ohio, which, owing to the advanced state of the season, was the most distant point to which I could attain. On my return I kept along the side of the Alleghany river to Point Olean, in the state of New York; then visited the salt works of Onondago and Sackett's Harbour on Lake Ontario, whence, proceeding to Kingston, I packed up my whole collection, with which I returned to Montreal, and embarking on a vessel which was bound to Greenock, got safely home; the plants which I carried with myself being the whole that I saved out of the produce of nearly three years spent in botanical researches.

"In spite of the ill-fortune which has hitherto attended my endeavours, I have still so great a desire to bring plants and seeds to this country that I purpose, in the ensuing spring, if my pecuniary circumstances will permit me, to make another excursion to that country for the purpose of exploring the forests which lie toward the west."

Mr. Goldie was not able to carry out his intentions.

In 1824 he was employed by the Russian government to assist in the formation of the new Botanic Gardens at St. Petersburg, after which he obtained passports to visit different parts of Russia and was thus enabled to examine its plants. When he returned to Scotland he took with him a number of plants not before introduced into that country, among them *Abies Siberica*, *Paeonia tenuifolia*, and many others.

About the year 1830 Mr. Goldie again visited Russia, and the government, in recognition of his skill, asked him to investigate and report upon the flora of some of its recently acquired territory, but owing to business engagements at home he was compelled to decline the congenial task.

In the course of his wanderings through Canada, Mr. Goldie had formed a favourable opinion of the country, and came with his family, in 1844, to Ayr, Ontario, where he settled and continued to reside until his death.

Two of the new plants described by Mr. Goldie are not found in our manuals, and I have been unable to trace them owing to the want of access to a botanical library. These are *Lithospermum linearifolium* and *Primula pusilla*. The *Primula*, as figured in the plate in the *Philosophical Journal* of 1822, is a beautiful little plant not exceeding two or three inches in height. Quoting from Mr. Goldie's description: "From *P. mistassinica* it differs by its very much smaller dimensions, shorter capsules, and particularly its flowers, of which the calyx is oblong and almost equal to the tube of the corolla in length. The divisions of the corolla are considerably broader and more obtuse—more resembling those of *P. farinosa*, or even *P. Scotica*, from which two species again the form of its leaves keeps the *P. pusilla* distinct. The flowers are from four to eight in number."

What has become of this plant? Was Goldie mistaken in its identity?

Caprifolium pubescens, now *Lonicera hirsuta*, and *Xylosteum oblongifolium*, now *Lonicera oblongifolia*, are two new plants described by Mr. Goldie. The latter plant, known as the Swamp honeysuckle, was found on Montreal island, and has not since been found east of that place until last summer, when the writer discovered it in the northern part of New Brunswick.

In his description of *Viola Selkirkii* there are two points which I cannot make agree with the plant as I have seen it. He describes its general aspect as very similar to that of *Viola blanda*, and gives July as its time of flowering. The plant flowers with us early in May—I have seen it in flower in April—and is a very small plant with pale blue flowers, with a very long spur. Mr. Goldie adds this note to his description: "I showed this plant to Mr. Pursh, at Montreal, and he informed me that it was what he called *Viola Selkirkii*, and hence I have thought it right to adopt his name." I have never found this plant in flower later than May.

A new *Drosera* (*D. linearis*) was discovered by Mr. Goldie on the shores of Lake Simcoe, and a small primrose (*Enothera Canadensis*), which is not now found in the manuals; *Stellaria longipes*, *Ranunculus rhomboideus* and *Corydalis Canadensis* (perhaps the *C. glauca* of Pursh) were also discovered by him.

He appears to have made a mistake in *Habenaria orbiculata*, a large form of which he takes for a new species—*H. macrophylla*. He says: "Of all the orchideous plants I have seen in America, this is without a question the largest and most striking (*Orchis* of Pursh and Nuttall), having like it two plane orbicular approaching to elliptical leaves, . . . which in this plant are four times as large as those of *H. orbiculata*, measuring six to eight inches in length." He also describes the flower as white. All who have met with this remarkable plant, with the many

varieties and shapes of its leaves, will hardly blame Goldie for his mistake, if mistake it was. Last summer I found in the rich woodlands of the Upper Restigouche a plant strikingly like the plant described by Goldie, and which ought, perhaps, to be regarded as a variety of *H. orbiculata*. It was growing in tropical luxuriance, with leaves roundish-oval, from seven to eight inches in length, and a spike of white flowers fully six inches long.

The *Osmunda alata* of Goldie, found on the island of Montreal and along the Ottawa river, has few specific differences to distinguish it from *O. cinnamomea*, but these are well marked, and Macoun and Burgess have placed it in their monograph on the Ferns of Canada as a variety of *O. cinnamomea*.

Aspidium Goldianum is thus described: "From one and a half to two feet in height. Allied to *Aspidium cristatum* more than to any other species in the genus; but abundantly distinguishable by the greater breadth of the frond, which gives quite a different outline, and by the form of the pinnae, which are never broader at the base, but are, on the contrary, narrower than several of the segments just above them. These segments, too, are longer and narrower, slightly fulvate, and those of the lowermost pinnae are never lobed, but simply serrated at the margin. The serratures are likewise terminated by more decided, though short spinules. The fructifications are central, near the mid-rib, and this circumstance prevents the species from bearing, as it would otherwise do, no inconsiderable affinity to *A. marginale*."

"Specimens of this plant, cultivated in the Botanical Garden at Glasgow, from roots which I brought from Canada, retain all the characters which I have above described."

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