

John Goldie – Pioneer Field Botanist

Early Information

John Goldie was born on March 21, 1793 in Kirkoswald near Ayr, Scotland. He showed enough early promise that he gained employment at the Glasgow Botanic Garden. Through that connection, Sir William J. Hooker, then Director of the Gardens took an interest in John Goldie and underwrote part of Goldie's North American trip. By 1817, he had sufficient money to pay his passage across the Atlantic and to leave a small surplus for expenses. In June 1817, John left Leith bound for New York but, encountering bad weather, the ship diverted to Halifax where he debarked and began botanizing. From Halifax, he journeyed to Quebec and collected for a further two weeks. All the material he had collected was packed up and stowed in a ship bound for Greenock while John traveled on to Montreal. Later he learned that the entire shipment had been lost.

In Montreal, he hoped to get support from Frederick Pursh who had just authored the two volume "*Flora Americae Septentrionalis*" published in 1814. That treatise had described botanical materials collected during the Lewis and Clark expedition. Although Pursh was in poor health at the time, he did not lend Goldie the requisite support that would allow him to travel to the interior of North America. Instead, Goldie settled for botanical searches in less distant locals, almost always on foot, but over distances that we of recent times would never dream of doing.

New York

In 1817, Goldie walked from Montreal down through New York State to Albany, then on to New York City. He was highly impressed by the pine barrens of eastern 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 seen". Goldie sent all his many collections made on this trip to Scotland, but they never arrived there, much to his disappointment. He survived the winter by teaching along the Mohawk River in New York before returning to Montreal

Plans to journey with traders to the north-west failed to materialize in 1818 so he resorted to being a laborer to survive through that year. He spent his weekends hunting for plants and included an exploration for a short distance up the Ottawa River. His collections for the year were sent to Scotland by ship but that ship too was lost in the St. Lawrence.

Ontario

The objective of John Goldie's entire tour is outlined in the opening words of his Diary: "On June 4th, 1819, I commenced my long-talked of journey to examine the natural but more particularly the botanical productions of Upper Canada and of the States in the vicinity of the Lakes". On that date, he set out from Montreal and in the course of his journey during that summer, he was to visit Kingston, York (Toronto), Holland Landing



and many other places. Through self-financing, this was his last chance to make a success of his trip to North America.

His journey in Upper Canada was along the north shore of Lake Ontario from Montreal down to Niagara Falls and Fort Erie and then into the states of New York and Pennsylvania. He noted the presence of sandy soils around Lake Ontario in which crops could only be grown poorly. We now know these soils were remnants of the old beaches of former lakes or morainal deposits. He also noted barren, rocky areas around northern Lake Ontario, too, where farms could not be established. He was tormented by mosquitoes and black flies as he walked carrying all he owned in a knapsack as well as his collections (plants in a collecting book, insects in his hat).

Toronto – Rouge River

On June 25, 1819, Goldie crossed the Rouge River near Kingston Road. Here he found *Penstemon hirsutus* in the east slope of the river in “such a quantity of which I never expected to see in one place”. From here, he passed through miles of “barren sandy Pine Woods, which it is probable will never be cleared” presumably due to the infertile character of the soil. More sand was observed on the cliffs of Scarborough. Although the Rouge area was primarily forested in the past, it did contain meadow wildflowers and even remnants of prairie grasslands with species such as Big Bluestem from a drier climatic period. Some of these remnant wildflower communities were probably on the clearings created through the activities of early native farmers.

Toronto – Holland landing

After walking from Montreal to Toronto along the lakeshore road, he headed north to Holland Landing just south of Lake Simcoe on June 26th, 1819. The next day he reached his destination and stayed for a week collecting plants. Here he found his type locality for Prairie Buttercup *Ranunculus rhomboideus* and much admired species like the orange Butterfly Weed (*Asclepias tuberosa*) and the white-flowered Flowering Spurge *Euphorbia corollata*. Goldie regretted his single week there for he felt new species could be found in this locality that served as camping-grounds for the early Indians and fur-traders.

Toronto - Niagara

After heading back to Toronto, and although he could have taken a ship to Niagara, Goldie continued around Lake Ontario on foot, collecting as he went. Around Toronto, he noted that “the land is naturally dry and sandy; the summer is generally dry”. Three miles west after leaving York, he encountered a Sandy Pine Barren in the area we now recognize as High Park. Such a plant community extended for five miles. He wrote “This is as good a Botanical Spot as any that I ever was in. On July 8th, 1819 he crossed the sand bar that cut off Burlington Bay from Lake Ontario.



Niagara

On reaching the Niagara River, Goldie headed upstream towards the Falls. After reaching Queeston, he was greatly impressed by the nature of the Niagara River gorge. On July 13, 1819, he crossed over to Goat Island and he may have been the first botanist of note to visit the previously inaccessible island. From the stratigraphy of the rocks and such information as he could muster about the Falls, it appeared to him that the calculated time for the falls to retreat from the edge of the escarpment to its present position did not square with the churches' teachings on the age of the earth. Being a devout Christian, this troubled him greatly but he realized that the age of the earth must be much greater than the concepts promoted by the Church. Goldie's visit to Goat Island and his examination of the flora there predates the work of such illustrious botanists as David Douglas, Asa Gray, and John Torrey who were foremost in developing the science of botany on the American continent.

In the Niagara Gorge, Goldie noted Maidenhair Spleenwort (*Asplenium trichomanes*) and Purple Cliff-brake (*Pellaea glabella*). He also found Fringed Gentian (*Gentianopsis procera*) and Kalm's Hypericum (*Hypericum kalmianum*) though neither of these was in bloom at the time he was there.

Pittsburgh to Montreal

After his visit at Niagara, Goldie headed on to Buffalo, New York. In Cattaraugus, Goldie was impressed with an area of swampy ground covered with *Rhododendron maximum* in flower and *Liriodendron tulipifera* with four-foot bases. He then followed the road along Lake Erie. He noted that the flax crop grew poorly on the native sands there though it was later determined that the flax-parasite, Flax Dodder (*Cuscuta epilinum*) likely had some responsibility for the crop problem. From here he continued to walk to Pittsburgh reaching that location on August 2. He then made his way back to Montreal in time to catch a ship that took him back to his homeland, this time with a load of all his specimens.

Among the items he was able to carry back was the root of the fern that bears his name, *Dryopteris goldiana* (Goldie's Fern). Another of the plants he collected which became type specimens was *Helianthus microcephalus* Torr. & Gray

Later History

After returning to Scotland, Goldie made two trips to Russia. He did return to North America in 1833 in search of land to settle on but that visit was short-lived due to a death in the family and he returned home.

In 1844, when financial prospects for his family in Scotland appeared low, at age 51, John Goldie brought his six youngest children to Ontario. On the advice of a friend,



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Goldie settled at Ayr where he established an early plant nursery. Although the nursery was barely a success, the family fortunes changed when one of his sons founded a flourmill on the Nith River at Ayr in 1857. Six years later, they built a much larger mill that was a dramatic financial success. John Goldie died at age 93 in July 23, 1886 after a comfortable old age. We can salute his efforts and great contributions to the early knowledge of botany of Ontario.