

FC
2495
76
H3
1900
R22



THE SOUTH TOBIQUE LAKES.

By G. U. HAY, D. Sc.

Reprinted from Bulletin of the Natural History Society of New Brunswick,
No. XX, 1902.

ARTICLE III.

THE SOUTH TOBIQUE LAKES.

BY G. U. HAY, D. SC.

Before the end of the twentieth century there will probably be few unexplored regions in this province, or lakes where the tell-tale dotted line marks them as unsurveyed, or lakes that have no existence on our maps. But that is the case now. There are some eighteen lakes — large and small — that form the sources of the rivers and streams that enter the Tobique river from the south side. A third of these are either not marked at all or are imperfectly outlined on the maps of New Brunswick in common use. These lie close to the watershed that separates the sources of the Tobique and Miramichi water systems.

In this region Prof. Ganong and I spent nearly four weeks during the summer of 1900, going in to Trowsers Lake from the Tobique river over a portage road twenty miles long, camping nearly a week at the upper extremity of that lake, whence we made short daily excursions to the lakes and streams adjacent. From Trowsers Lake we made a portage to Long Lake, the largest of the system. Here there is also within easy reach of either extremity a number of small lakes. From Long Lake we visited in succession, "carrying" over intervening portages, Portage, Adder and Serpentine Lakes. The outlet of the last named lake is Serpentine River, which, after a swift run of thirty miles, brought us to the Forks of the Tobique, nearly thirty miles above the point where we started in. While Prof. Ganong attended to the physiographic features of the country and took measurements, I examined and collected plants, and took views by means of a camera.

The country traversed is a wilderness, the low lying portions of which are thickly wooded with spruces, firs and other evergreens, giving a somewhat sombre aspect to the country. The ridges are clothed with a more diversified growth of deciduous and evergreen trees. All the smaller lakes are shallow, and the low-lying shores

adjacent are the resorts of moose, deer, caribou, beaver, and many of the small fur-bearing animals. Trout abound in great numbers in the streams and thoroughfares adjacent to the lakes, while the togue or namaycush, a fine species of lake trout, is found in at least one lake of the series — Long Lake.

Owing to the remoteness of this district, the difficulties of transportation, and the fact that the waters do not contain salmon, the lakes are seldom visited by fishermen. But in the fall of the year they are a great resort for moose and deer hunters, and in winter trappers visit the region. The "deadfalls" and other cunningly devised traps met with in every direction during the summer show the elaborate plans made for the capture of the small but valuable fur-bearing animals. The distance from the main waterways of the province is also an obstacle to lumber operations, but in proportion as lumber has become scarce in the more easily reached areas, this region has been penetrated to quite a considerable extent by lumbermen who have erected dams at the outlet of Trowsers, Serpentine, and some of the smaller lakes to hoard up an adequate supply of water for artificial freshets in the small streams that flow from these lakes. As a result, the water has risen five or six feet in the lakes, drowning the plants and roots of trees along the shores, which now present a desolate appearance from the dead trunks leaning out over the waters.

Our two day's journey over that portage road which brought us to Trowsers Lake gave plenty of opportunity to study the general features of the country and the plants by the wayside. The road, for the first three or four miles after leaving the Tobique river, led through bogs and low grounds with the vegetation usually found in such situations. The Labrador Tea (*Ledum latifolium*) exists in profusion; and should our tea-drinkers ever turn to the brewing of the home product there will be an abundant supply in this South Tobique Lake region. *Viburnums*, red and black spruces, *Rhodora*, *Vacciniums*, *Kalmias*, *Andromeda* and other heath plants were found. Then, as the country became more broken and we wound through valleys and over hills, the vegetation became entirely changed. Along the courses of streams the *osmundas* and ostrich ferns lifted their luxurious fronds, purple *trilliums* and violets, blue and white, reminded us that this northern country was still in the midst of its spring season. As we neared Trowsers Lake magnificent forests, some of them such as I had never



seen before, crowned the sides and summits of the ridges. Gray, yellow and white birches, rock maples, beech, spruce, with occasionally some giant white pines told of generous conditions for growth. The white birch and red spruce were especially noteworthy. The white birch in all its luxuriance I had never seen until I saw it on these hillsides. Some well-rounded and symmetrical boles, fully two feet in diameter, rose tapering to the height of sixty or seventy feet, the white bark contrasting with the vivid green of its wealth of foliage. It deserves its title of "The Lady of the Woods." And here were lordly spruces that guarded the gateway to what might be well termed the "Country of the Spruces" that we were now entering. They rose from seventy to ninety feet in height, straight as an arrow, long, slender cone-shaped trees like church spires that were suggestive of some sylvan city of churches—and who would not be a worshipper in a city like that?

When our guides left us at the lower end of Trowsers Lake on the morning of the 5th July, we devoted ourselves to the consideration of how our 300 pounds weight of baggage and stores could be put away with sufficient compactness and safety in our little basswood canoe of sixty pounds weight. This accomplished, we paddled up the left "leg" of the lake, before a stiff north-west breeze, to the site of our first permanent camping ground, five miles away. Here we remained several days exploring the lakes and forests in the vicinity.

The next morning we started out through a woodland portage path to the next lake, about a mile and a half distant, carrying our canoe, Indian fashion, on our shoulders, resting at times and enjoying the rare beauty that met the eye at every step. It was an ordinary well-beaten path, trodden, perhaps, for centuries past by the feet of Indian hunters, guides, trappers, and perhaps by mere adventurers like ourselves. The vegetation was typical of nearly all our northern forests, but the different layers of vegetation had never appeared so distinct and well arranged as along this particular woodland path. Lowest down was a carpet of moss, chiefly hypnoms, amid the dead leaves of previous summers. Struggling through this and forming the second layer were those plants that delight the wayfarer in nearly all our woodland groves, the Wood Oxalis not yet in bloom, the slender *Linnaea*, "with its twin-born heads" and delicate fragrance, the Solomon's Seal (*Smilacina*), occasional patches of blue violets, the *Clintonia*, the Gold-

thread (*Coptis trifolia*), the Star of Bethlehem (*Trientalis Americana*), with occasional clumps of ferns and lycopodiums. Forming the third layer were the shrubs and young growths of trees, viburnums, maples, the Canadian Holly, etc.; while towering above all these were the trees — spruces, firs, white, yellow and grey birches, maples and others.

The end of our portage path brought us to Milpagos Lake, which means the lake of many coves. It is about two and one-half miles long, very irregular, as its name signifies. A red deer on a little interval fifty yards away gazed on us with wondering eyes for a moment and then disappeared into the woods. We paddled along the shore of this lake for about half a mile until we found a path leading to Gulquac Lake. This, like the lake we had just left, has low-lying and boggy shores. Both lakes are muddy and shallow, the shallower parts sending up a growth of rushes, yellow and white pond lilies, while among innumerable small plants along the shores the *Droseras* are spreading their leaves to catch unwary flies. Here we came face to face with our first moose. The wind was blowing toward us, and he did not see us, so we had a fine opportunity to examine him at our leisure, and a noble-looking animal he was. We watched him browsing, and not until the camp-fire was lighted for our mid-day lunch did he take the alarm. He saw the trail of smoke as it curled up over the trees and vanished. It is thus with all wild animals; the moment they see the smoke, or when the smell of fire reaches their delicate sense of smell, they flee in terror.

Gulquac Lake is a beautiful sheet of water, even though its shores are boggy and low in most places. To the north-west rise two mountains of equal height—about six hundred feet high, and these are in view from every part of the lake. It is about a mile and a half long, and, like Milpagos Lake, it has numerous little bays, with islands near each end, and a fine sheet of water between. Near its west end, where it flows out into the Gulquac river, we came upon a beaver dam, constructed across the narrow part of the lake, the difference of level between the water above and below being about eighteen inches. It was composed of sticks placed slanting in the water and made firm with mud and stones. The cutting of these sticks and small logs in the woods beyond, often a considerable distance away, the carrying and putting them in their places, and then firmly placing them together, anchored with rocks, and cementing the whole with mud and clay,

shows not only the wonderful skill and ingenuity, but most extraordinary industry on the part of this animal. Their houses, too, are built on the same substantial plan. They are found usually on the borders of the lake, at some distance behind the dam, the water stored by the latter means being necessary to secure free entrance and exit at all seasons of the year. The beaver house is a broadly conical structure, built strongly of small logs placed deep in the ground and slanting upwards, secured by stones, the interstices being filled with moss, twigs and clay, forming a fortress absolutely invulnerable to all predatory animals.

Our approach to this, our first beaver house, was slow and cautious, with the hope of obtaining a sight of one of these interesting animals, and we were not disappointed. Just as we rounded a point and the house came in view, we saw a beaver basking in the rays of the afternoon sun, or perhaps taking in the beauties of the purple pitcher plants which bordered the avenue of water that led up to the house.



On becoming aware of our approach, he greeted us with a grunt of displeasure, then dived and entered his castle through its only portal. There was a communication to those below in the same grunting tones, sounding more like regret than anger; then all was still. We lingered about the house for a time awaiting some sign of that hospitality due to strangers in a strange land. But no sound came, nor did we get sight of another beaver on that whole trip.

The beaver dam in Gulquac Lake was the largest and best constructed of any that we saw. But nearly everywhere on these shallow lakes and their adjacent streams dams were found, and houses, many of them unoccupied. The advent of the lumbermen, who build dams, often on the sites of the beaver dams, has driven them to more remote wilds. The illustration here shown is of an unoccupied beaver house, in a good state of preservation, at the lower end of Serpentine Lake. Beyond the house may be seen the lumbermen's dam built upon the sight of a former beaver dam.

On Saturday, July 7th, and the following Monday, we made excursions beyond our camping ground to the lakes and sources of the streams in the South Tobique Basin. As a description of these has already been given to this Society by Dr. Ganong in his "Physiography of the South Tobique Lake Basin," I shall merely give an account of some of the plants found: A few of the most common were *Ledum latifolium*, whose white blossoms mingled with the white tufts of the cotton grass (*Eriophorum polystachyon*) formed a striking contrast to the rose-colored blossoms of the *Rhodora Canadensis* and the two *Kalmias* (*K. angustifolium* and *K. glauca*), and the rich purple blossoms of the Pitcher Plant (*Sarracenia purpurea*).

The abundance and variety of blossom, mingled with the vivid green of the foliage in the foreground of these lakes, relieved the sombre character of the woods of black spruce and other evergreens which extended to the hillsides beyond. The black spruce, with its jagged, uneven tops, is everywhere in evidence here. There were very few tamaracks, few alders, except along the courses of the streams, a sprinkling of white birch of a small growth, numbers of *Spirea* (especially *S. salicifolia*), *Viburnums* (*Viburnum cassinoides*, *V. opulus*, *V. pauciflorum*), *Cornuses* (*C. stolonifera*, *C. alternifolia*), Rowan tree (*Pyrus Americana*, with its smaller congener *P. arbutifolia*), wild cherry and bilberry (*Prunus Pennsylvanicum* and *Amelanchier Canadensis*.)

The lakes were filled with Yellow Pond Lilies (*Nuphar advena*, and *N. kalmiana*). The root stocks of these, especially the newer portions as well as the young shoots, serve as food for the moose and other wild animals. The moose may often be seen out in the lakes with head in the water digging them up out of the mud, and on these occasions when their eyes are blinded with the muddy water, and with

the wind in your favor, a very near approach to the animals can be made. The older and tougher portions of the root stocks of the yellow pond lilies cover the surface of the lakes sometimes, especially along the shore, to such an extent that it is difficult to make a landing from a canoe. Whether such a wholesale destruction is caused by moose and by beavers, which are also said to feed upon these, or whether it is caused by the ice in winter freezing down to them and raising them up with the mud in the spring freshets, we could not decide. Along with these the white, sweet-scented Pond Lily was growing, whose root stocks are also said to be relished by moose. Then there were *Brasenia peltata*, numerous potamogetons, *Limnanthemum lacunosum*, the horsetail, *Equisetum limosum*, very abundant, a grass whose bright steel blue leaves lay on the surface of the water—*Glyceria borealis*—which turns out to be a new plant to the province, many sedges, especially carices, with some half dozen species also new to the province. A fuller report of the new and rare plants is given in an appendix in Bulletin Number XIX.

The farthest point examined in these lakes, the waters of which find their way to Trowsers Lake, was a small lake in the form of a triangle, its vertex pointing to the south-east. Into this flowed a stream of ice-cold water from springs in the hills beyond, indicating the sources of the southwest branch of the Tobique. The lake was shallow, with low-lying grounds around, the shores covered with flat stones, and numerous moose and deer paths leading to the water's edge. In the meadow, bordering the stream that flowed into this lake, were found *Iris versicolor*, *Osmunda regalis*, *O. claytonana*, *Onoclea struthiopteris*, *Ranunculus abortivus*, *R. septentrionalis*, *Calla palustris*, with droseras and violets in profusion; and *Hydrocotyle*, *Nasturtium palustre*, several carices and the moss, *Fontinalis antipyretica*—all lovers of cold water.

The country about the sources of the South Tobique River has been untouched by forest fires. May it long remain so! Owing to its remoteness, it has not been lumbered to any great extent. Far as the eye can reach from the top of some lofty pinnacle, it is a great evergreen forest—the country of the spruces—the swamps and lake borders covered with the slender black spruce of the swamps, the higher grounds and ridges covered with red spruce, that valuable timber tree, intermingled with birches, maples, and a few pines.

This country, with other tracts at the headwaters of our great rivers, may be preserved for ages, and, by judicious management, it may yield every year a handsome revenue, and still steadily increase in value. New Brunswick's greatest source of wealth must be her forests. What has taken many generations of the past to come to perfection should not be despoiled by one generation. It should be the pride of our government and people, and a sign of their growing public spirit and scientific knowledge, sacredly to hand down that wealth that we have inherited to future citizens of the country.

The dangers threatening extinction to our forests are three: from forest fires; from selfish, illegal and unintelligent plans of lumbering; and from the cutting of young trees for pulp mills. The bare tracts of country in the southern parts of the province, and on the Nepisiguit, and some portions of the Miramichi, show how a country may be utterly devastated by ravages from fire, without hope of restoration to its former condition for many generations. The pictures of desolation from forest fires, which can be seen from so many hill-tops in the province, should show us how careful we should be to lessen this great danger to our forest wealth; and not only have forests been destroyed,—in many instances the land has been rendered incapable of production perhaps for centuries.

If our lumbermen select the largest and best trees for their operations, gathering the tops and branches, with some of the smaller growth in the denser portions, for the pulp-mill manufacturer, this region of the South Tobique and others through the province would increase in value each succeeding year. The great need in these forests is a judicious pruning of small trees, especially on the low grounds, in order to give an opportunity for the stronger and more shapely trees to grow; and the careful removal of branches and tops to lessen the danger from forest fires. Thus the waste products of the lumberman, which have been the source of so much damage in times past to our forests, and the stunted and misshapen growth of smaller trees in the denser woods, would not only be removed, but much of it made use of for manufacturing purposes. In Germany the forests, in spite of the large and profitable lumber "cut" each year, are constantly becoming more valuable. And this is the result of trained and intelligent supervision. And so it would be in New Brunswick if similar methods prevailed. Our game and fish wardens

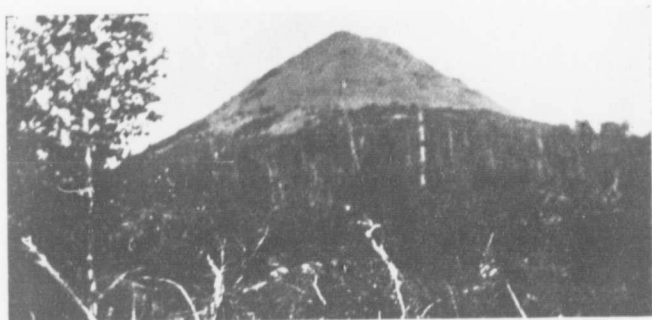
should be trained in forestry. It would pay the government a hundred, yes a thousand-fold, to give our game commissioner added authority over forests, give him intelligent and trusted wardens, skilled not only in the knowledge and habits of game and fish, but also in forestry. It would take a little time to train such a body of experts, but the results would be great, placing New Brunswick in a position to preserve and add to what must prove the source of her greatest material wealth—her forests, her game, and her fisheries. At the same time she would place herself in line with those countries which, by wise and effective legislation, are laying a foundation for the preservation and future development of rich material resources.

We were encamped at the head of Trowsers Lake for five days. During the next ten days, amid almost continuous rains, with here and there a fine day, we journeyed eastward to the Serpentine river, passing over Long, Portage, Adder and Serpentine Lakes with several smaller lakes and ponds. Owing to the heavy rains the streams were swollen to freshet size, and the swamps and low grounds near them were difficult to cross. There was water everywhere. Of the portages, one was two and a half miles long (between Trowsers and Long Lakes); another was fully three miles, and very rough and uneven, but several small ponds intervened, which were easily crossed in canoes. The lakes, above named, are all very beautiful, especially Long Lake, a sheet of water bordered by high hills, six miles long and from one to two miles in breadth. The soundings at one place in this lake showed a depth of 117 feet. A mile or two to the southwest of this lake is Milnagek, or the "Lake of Many Islands," no less than fourteen of which dot its surface. About six or seven miles to the southeast lies the lake which is the source of the Little Southwest Miramichi, the portage path to which, described by Professor Hind many years ago, Professor Ganong, aided by Mr. Furbish and guide, attempted to find, but in vain.*

The Serpentine Lake and River, both of which have remarkable windings, brought us into the Right Hand Branch of the Tobique river, and from that we came to the main Tobique to our place of starting. The Serpentine river is thirty miles long, and descends in

* During the summer of 1901 Professor Ganong and Mr. Furbish again visited this section, made a path for themselves across the country from Long Lake, and descended the Little Southwest Miramichi. See Professor Ganong's articles in this Bulletin.

that length 1,000 feet. The water was very high and the stream running like a race-horse. Our canoe shot over boulders and turned the many windings of the river with a speed that was exhilarating to the highest degree. I shall never never forget the joy of that first afternoon on the Serpentine, the delight of riding full speed on the back of a rapid torrent, racing past little islands covered with *Osmundas* (*O. regalis* and *O. claytoniana*), the tumultuous waters rioting among the fronds, whose dainty green contrasted with the darker shades of alder and viburnums on the banks. Virgin's Bower twined gracefully in festoons over shrubs, with Meadow Rue and Joe-Pye Weed bending their tall stems over the waters, while on the near hill-



sides beyond were the darker evergreens. It was difficult to take in the full beauty of the scene, as each turn of the river brought fresh pictures constantly into view. The delights of days like that, with a little spice of danger thrown in, linger in the memory for a lifetime. I have often since found myself careering in imagination over that wild and capricious little river, involuntarily ducking my head to escape an overhanging branch, or shying to avoid some dangerous boulder as we swept by; and then as we came into more quiet stretches of the river, resting on our paddles and taking in these scenes of wildness and beauty.

I can only briefly refer to two side trips that we made while descending the Tobique,—one to Sisson gorge, six miles from the forks of the Tobique, and the other to Bald Head mountain, a picture of

which is here given from a photograph taken from the plain near the base. The trip up the Sisson Branch, as far as the gorge, was accomplished with the greatest difficulty, owing to the high water, although the stream itself presents no obstructions. We were well repaid, however, for the extra exertion by a view of the gorge, one of the wildest and most picturesque spots in New Brunswick. There is a succession of five cataracts tumbling one after the other to a depth of one hundred feet, after which the stream flows in a series of rapids through a gorge walled by perpendicular rocks until it reaches the smoother stretches beyond. On the rocks overhanging the stream further down were found *Aspidium fragrans* and *Woodsia glabella*, two of the rarest ferns in the province.

The descent of the Sisson Branch and the main Tobique, as far as Riley Brook, a distance of twelve miles, was made in a little over an hour and a half in the midst of torrents of rain. On the following afternoon, Friday, July 27th, we paddled leisurely twenty miles further down in about three hours, which may show the swiftness of the current, the river being unusually high for this season.

On the morning of this day we visited Bald Head, a distance of five miles from the village of Riley Brook. This elevation, which is about 1,400 feet above the valley of the Tobique, is perhaps the most typical and regular mountain in New Brunswick, rising one thousand feet from the plain at its base, in the shape of cone, the upper portion covered with loose stones and boulders. On the top we found a narrow ridge which contained a great variety of plants, as follows, the trees being stunted and irregular: *Pyrus Americana*, *Betula lenta*, *B. papyracea*, *B. pumila*, *Prunus Pennsylvanica*, *Acer rubrum*, *A. Pennsylvanicum*, white and black spruces and firs, *Nemopanthes fascicularis*, *Ledum latifolium*, *Sambucus pubens*, *Epilobium angustifolium*, *Cornus Canadensis*, *Vaccinium Canadense*, *V. Pennsylvanicum* (narrow and wide leaved forms), *Ribes lacustre*, *R. prostratum*, *Rubus strigosus*, *R. triflorus*, *Antennaria margaritacea*, *A. plantaginifolia*, *Galium triflorum*, *Kalmia angustifolium*, *Aralia nudicaulis*, *Trillium erythrocarpum*, *Aspidium spinulosum*; besides several grasses and erices, two species of lycopodium; hypnums, polytrichums, and lichens covering the rocks and trunks of trees.

[For a list of the new and rare plants found during the trip, see Bulletin XIX, 1901.]

