

and Cobequid bay in a little open sail boat. I have seen men from twenty miles up the Shubenacadie river, away down the bay nearly to Economy point, in log canoes, fishing. And I have seen Indian bark canoes crossing the bay near cape D'Or. Still it must be admitted that the Bay of Fundy is no place for a stranger to be without a good pilot. Finally—as to the dangers of navigation there—I will hazard the assertion that the number of marine disasters in the Bay of Fundy is less than on the same extent of coast in any other part of Nova Scotia.

ART. V. ON TRICHINA SPIRALIS. BY GEORGE LAWSON, PH. D., LL.D., *Professor of Chemistry and Mineralogy, Dalhousie College.*

(Read Feb. 4, 1867.)

IN this paper the author described the structure and development of *Trichina Spiralis*, drawings of which, and specimens under the microscope from the human subject were exhibited. It was stated that although careful search had been made, no trichinæ had been found in pork exposed for sale in the Halifax markets.

Several other *Entozoa* were referred to, and a description given of *Tænia pectinata*, which occurs in the intestines of the porcupine in great quantity, both in Canada and Nova Scotia. Specimens were shown.

ART. VI. A FORTNIGHT IN THE BACKWOODS OF SHELBURNE AND WEYMOUTH. BY J. MATTHEW JONES, F. L. S.

(Read Feb. 4, 1867.)

A FORTNIGHT seems but a brief space, yet much may be done and seen in that time. Some few years ago, on my first arrival from England, I had the good fortune to join an expedition sent to report upon the state of the timber on the admiralty reserves in the western part of this Province, and I was introduced for the first time to the pleasures of a forest life in a snug little camp, pitched in a charming nook beside the limpid waters of the ever winding Roseway, a short distance to the northward of Shelburne. It would be useless for me to dilate upon the feel-

ings of one, who fresh from the cultivated vales of old England, finds himself suddenly placed in the midst of the "forest primeval," with no sounds of civilization to mar the sweet stillness which reigns amid these western wilds; and especially upon those of a naturalist, who loves to look upon nature in her pristine garb; to see the land untouched, and the trees and shrubs in every stage of life and decay, just as they have lived and died through succeeding ages; to listen to the unknown sounds and cries proceeding from animals and birds, and participate in the many other events hourly taking place as he journeys on through these trackless solitudes; for it may be truly said that his cup of pleasure is filled to overflowing, and every moment of his time occupied in marking and studying the changing scenes which at every step burst fresh and enchantingly upon his wondering view.

It was on a fine summer's day towards the close of the month of August, a date which will ever remain stamped on memory's pleasant page, that, accompanied by two worthy representatives of Her Majesty's forces, naval and military, I was ushered into the camp of which I have spoken. We stood upon the bank of a rippling stream, and the first object that caught the eye was the stalwart form of the camp steward, wielding an axe with such power and effect as to make the huge log he was splitting for the night's fire shiver under the strokes, and cause the surrounding forest to ring with their echoes; while near a fire burning briskly between two granite rocks, stood the form of a veritable Indian, reclining in indolent ease over the burning brands, above which hung the stock pot from which the steam was puffing, sending around a goodly smell which made the appetite sharpen as we thought of the eatables within. And then the camp itself; a rough affair it looked—two slender poles some ten feet or so apart, placed upright, a cross pole lashed to them a few feet above the ground, then with their butts resting on this cross pole, and sloping back to the ground, were laid other poles and branches of trees, fern, &c., strewed all over the whole, forming a roof, which, although not waterproof, helped to keep off the falling dew at night. The sides were filled in with twigs and brushwood, while the floor of this primi-

tive domicile was covered with a thick layer of spruce branches, the smaller sprays on top to render the couch more comfortable, and then the occupant had to spread his blanket and make himself as much at ease as circumstances would permit. So we commenced our forest life.

From Roseway river camp we journeyed to the northward, and camped again on a small point of land which jutted out into a large lake called "Long island lake," and a prettier spot could scarce be conceived. Before us lay the lake whose mirror-like surface scarce ruffled by the breeze, was dotted over with small islands, clothed with spruce and pine, while the evening sun, hot and powerful, reflected their shadows far down in the depths below, and as the shades of evening drew around, and the orb of day sank in majestic splendour behind the dark mass of forest to the westward, the camp fire began to cast a ruddy gleam of light upon the surrounding objects. The fog now rising from the lake, caused a chilly feeling to creep over us, and more wood heaped upon the burning brands, caused the sparks to fly up like miniature rockets in space, while massy flames poured out from our pile of bulky logs, until bursting up in one grand sheet of blazing light, it dazzled with lurid glare the neighbouring forest, and our company all seated around the seething mass busily consuming the evening meal.

From this camp we one day made an excursion to the eastward, in the neighborhood of Jordan river, and found the whole district to be densely wooded with hemlock, spruce, and pine. Indeed of these species of *conifers*, the forest in the vicinity of Shelburne appears to be almost wholly composed, and it is not until you arrive some fifteen miles up the country, that groves of maple and oak are seen. The country around Shelburne bears evidence of the ravages of fire several years ago, the present growth of timber being but small.

An island of an acre or two in extent, stands about the centre of Long island lake, and is known as "Indian island," from the fact that in years gone by, the Indians, who had a stationary camp above this lake, buried their dead here. And surely no fitter resting place could have been found for those children of nature, than here beneath the sombre shade of pine or spruce,

to take their last long sleep, in the full hope of awaking in the happy, yet visionary hunting grounds they suppose to lie in a brighter and better world beyond the sky. It would appear that the Indians have almost entirely left this part of the Province, for only two or three live in the district, one of whom, named *Peter Paul*, accompanied our party the whole way to Weymouth, and proved himself as generous, noble hearted a fellow as ever smoked the calumet of peace. To the absence of Indians may no doubt be attributed, in a great measure, the large number of bears, and the presence of beaver in the vicinity of the granite hills, mid way across the country, called by some the Blue mountains; but more of these presently. From this camping ground we journeyed along the road which led to the district of Sugar Loaf hill, a fine grove of hardwoods, birch, beech, oak, and maple. It was on the further side of this hill that we bade adieu for a while to civilization. Embarking in a rather frail boat upon a lake, we pulled, not without sundry misgivings as to the probable termination of the voyage, for some low marshy ground on its northern shore, and happily succeeded in reaching the mouth of a small river, up which we had to go; but we had not gone very far before we found that our bark must be lightened, and all jumped out and pushed her up the shallows, until we came to a large open savannah of considerable size, on which grew luxuriant grass. Few trees were to be seen about here, and those of a very stunted growth, the most common being the alder. Leaving our boat about mid-way through the plain, we shouldered our packs, which were far too heavy, and made for the north-west end of it, where we entered the thick forest again. Peter Paul having called a halt, addressed us in a very fatherly manner to the effect that we had better look to our weapons, for as he said, "you don't know what be about where we are going." Having complied with his request, we started afresh, and after some pretty bad travelling, arrived about sundown at a small lake at the southern base of the granite plateau. Here we found an old log hut which had been erected some time back by lumberers, and made it our home for two or three days, while we surveyed the country around. This lake from the quantity of small flat stones around

its margin, was called "Whetstone lake." The southern shores of this lake are clothed with a heavy growth of timber, which appears to have escaped the extensive fire that raged over the whole extent of the Blue mountain range. The timber is composed of hemlock, spruce, maple, and birch, with an underwood of withrod, and near the water an abundance of fern of two species, the larger being the well known *Osmunda regalis*.

We may here remark in passing that our Provincial maps are in fault in regard to the route we took, for not a lake or river is marked upon any of them in that quarter, whereas the country abounds with lakes and streams, some of good size. We travelled as near as we could north-west from Shelburne, but owing to the swamps and lakes we had to deviate at intervals. The land from the district of Long island lake is very level, and from what I could judge, is capable, when cleared, of extensive cultivation, particularly that portion in which is comprised the open savannah I have mentioned.

Our first excursion from the camp at Whetstone lake led us to the rocky slope of the Blue mountains, which lay in full view before us, and on reaching the elevated ground, one of the Indians sighted a bear which was quietly ambling along among the blueberry bushes, regaling himself on the ripe and luscious fruit. It was at once decided to stalk him true highland fashion, and off we set. The Indian, arriving within range first, sent a bullet through one of his feet, as we afterwards found. Turning round, the fellow made right at C—— and myself, standing together some forty yards below. On he came with a growling noise, and when close to us showed a fine array of teeth, which we would have preferred viewing after his decease. There was nothing for it, however, but to stand our ground, when 'crack' went my friend's ponderous Lancaster, and with it the massive conical ball which caused poor bruin to change his course, for with a bound he swerved to the right and was lost in a thicket of birch and alder. Proceeding cautiously along, we found him at last stretched out in a little hollow, and a huge beast he was, measuring from tip to tip seven feet two inches. We must here mention a curious fact which we consider worthy of note. On running hurriedly along from boulder

to boulder, we slipped and fell through a hole, with the knee cap against a rock. The knee instantly swelled up and gave great pain, and we could barely drag along, when one of the Indians said if rubbed with bear fat it would soon be right again. When skinning the animal he cut off a piece, and we rubbed the part well, and singular enough in a quarter of an hour the swelling subsided almost as quickly as it had risen, and we were enabled to walk back to camp. The Indians have a very ready way of transporting bear meat—cutting it up in small pieces they fold up the bear skin neatly with the pieces within, and then tie the whole with bands of withrod (*viburnum*,) and with the same bands secure it across their shoulders as a pack, leaving the arms free for action. Bears were numerous at this spot, and were no doubt attracted by the vast quantities of ripe berries, particularly the huckleberry and blueberry, the (*Gaylussachia resinora*) and (*Vaccinium Canadense*,) the former in astonishing abundance. The trees and shrubs which clothe the sides of this rocky range are principally dwarf birch, (*Betula nigra*, and *B. papyracea*,) alder, (*Alnus viridis*,) interspersed with spruce (*Abies alba and rubra*) and dead pine (*Pinus strobus*.) Under stones in Whetstone lake I found several small leeches, (*Hirudo*,) one of which was of a white colour. The larvæ cases of a caddis-fly, (*Phryganea*,) were abundant composed of pieces of weed and granite sand. We noticed that the bird droppings, which were upon almost every boulder on this range, were of a dark blue colour, caused no doubt by their feeding at this season almost wholly upon the berries of the blueberry and huckleberry. The shores of Whetstone lake were covered with a beautiful granite sand, nearly white.

As we are now in the most famous district in the Province for bears, perhaps it will be well to make a few remarks upon the natural history of the black bear, (*Ursus Americanus*.) The bear comes out of his winter den as soon as the snow disappears, generally about the end of April. The he bear dens by himself. The she bear cubs about the first week in February, and the young are at first about the size of a common squirrel, (*Sciurus Hudsonius*.) They obtain nourishment from the mother

until about the latter end of June, and den with her through the next winter; remaining with her till two years old, and leave her for good when she leaves her den the second spring after birth. Bears are fat when they leave their dens in spring, but soon get poor, finding but little food at that time of year. It is at this time that they are apt to commit forays upon the flocks of the back settlers. These animals are known to sit and watch at the falls of streams for fish passing up in spring. Their principal food, however, consists of the wild fruits of the forest, ants, hornets and wasps and bees, whose nests they invade for the purpose of securing the larvæ, wax, or honey within. They care nothing for the stings of the infuriated hornets and wasps, but the cubs cry out when stung, but nevertheless keep fast hold of the comb. Cubs will not fight with the mother when she attacks any one, but run up trees. Rutting time is in June when the he bears are very savage, sometimes going in gangs of twenty or more, and when they come near a she bear they commence fighting among themselves furiously, making the most hideous roarings all the time, and if one gets killed in the fray the rest fall upon him and eat him. They fight by first rising on their hind legs and rushing at each other, hugging, biting and scratching, endeavouring to rip their antagonists' stomachs open with their hind claws. Bears shed their coats about July. They stalk young moose by creeping upon them, and when close to make a great spring. Having killed the moose they skin him just as clean as a man would, and begin to eat the chest first, tearing out the paunch which they throw away. They dislike wet weather, and take shelter where they can keep dry under rocks, &c., and other places. When the old bears go into dens in the fall, they take plenty of dead leaves and fern, and make a good bed of them, and the she bear makes no further provision at cubbing time. They always return, if alive, to the same den each fall, but if a porcupine takes possession while they are away in summer, and leaves droppings about, the bear will not return to that den again. A large size bear will weigh over six hundred pounds, and give one hundred pounds of grease, for which one shilling sterling per pound is given at Shelburne, while at Halifax a wine bottle full sells for

four shillings. The meat of the bear is excellent eating, tasting something like mutton. It is best boiled to render it tender, and then fried with pieces of the fat. The tongue is very similar to a calf's tongue when boiled. The Indians cure bear meat by cutting it up into long strips and placing it on a frame work of poles, lighting a fire underneath so as to dry it in the smoke, which process takes about two days, and if kept dry afterwards in a proper place will keep for a year or more. They never make use of the inside portions of the animal, viz. : heart, liver, &c. When they cook fresh meat they cut it up into small pieces and fry it. The meat when partially smoked we found much better boiled than fried, frying making it too hard. The bones of the bear are salted down and used to put into soup. The gall of the bear the Indians use for sprains and wounds.

The Indians appear to be a very superstitious race of beings, and the most trivial events cause anxiety. For instance, one night the light of our fire attracted a little Acadian owl, (*Strix Acadica*,) which perched on a branch close by, making its curious noise. One of the Indians at once predicted that bad luck would attend our expedition, and begged us to level a gun at the unfortunate bird, whose death alone could cast away the spell that rested upon us.

One day we started with Peter Paul in a westerly direction from the camp, and after travelling about two miles through thick forest and swamps, we arrived on the borders of a good sized lake with an outlet at its western end. On walking round, we came upon a large beaver house, situate on the lake edge, where the water was deep. The house appeared as if two cart loads of faggots had been thrown down in a heap and flattened above. Having no implements to enable us to take it asunder, we were obliged to leave it as it was. Going still further down the lake side we arrived at the outlet, which we found dammed across by the beavers. It was constructed of sticks and mud, overgrown with grass and weeds, the sticks laid over each other in a line of lace work, almost entirely stopping the escape of the lake water down the brook. There was an older dam below this one about fifteen yards lower down the brook. The smaller

alders, poplars, and other trees near the dam, were cut short off near the ground. This lake on its west side is muddy, with a vigorous growth of rushes, sedges, &c. An island of about half an acre, covered with spruce and pine, divided from the south shore by a narrow passage, has upon its eastern side a very large beaver house upon the shore, extending into the water. The house, or rather stack of sticks, is very large, built of larger sticks than usual. In this great pile there must be several cart loads of sticks and small logs, from the small twig up to pieces four inches in diameter. Some pieces are several feet in length, while others are only three or four inches long. The beaver pups early in spring, having two cubs, but they are sometimes known to have young in August. When the cubs are two years old they pair and go off to another place. Beaver skins sell about Shelburne now for four shillings sterling per pound, while some years ago they sold for eighteen shillings per pound. A good skin will weigh four pounds.

About Whetstone lake the robin, (*Turdus migratorius*), was very common, flocking together in large numbers at sundown on the shore, picking up insect food. The hermit thrush, (*T. solitarius*), well named so from its retired habits, occurred there also, treating us as the shades of evening drew around, to its plaintive note; and the spotted snake, (*Coluber sirtalis*), was fond of sunning itself on the granite boulders by the lake side, about mid-day. These boulders had been carried up from the lake to their present position by the action of ice, for the course they had travelled was clearly perceptible in the deep channel which led from each of them to the bed of the lake.

After three days spent in this locality, we made a move to the north-west, but had not proceeded far before some of our party shot another bear, and we had to call a halt in order to skin him. We had now arrived on the upper ridge of the granite plateau, from which we had a magnificent view of the country around for many miles on every side. And a wild and curious scene it was. All around us lay a perfect wilderness of granite boulders, from among which rose a dense growth of the blueberry and huckleberry, and interspersed with thickets of dwarf spruce, birch, and alder. The Labrador tea, (*Ledum latifolium*), and

a species of *Myrica*, were also abundant. Small lakes were seen in every direction, and the shrill cry of the loon (*Colymbus glacialis*,) marked the breeding place of that shy and solitary bird. Our camp here was an exceedingly primitive one—a few small poles stuck against the side of an overhanging boulder, and covered with brushwood, was all that gave us shelter, but the day's toil sufficed to send us into a sound sleep, which was only broken by the sharp frost of the early morning. On awaking early I went out to survey the scene, which was indeed lovely in the extreme. The sun was just rising, illuminating the eastern sky with glowing colours; a flock of waxwings (*Bombicilla Carolinensis*,) sat preening their feathers on the bleached branches of a blasted pine hard by, in company with a few migratory thrushes, while a keen north-west wind was blowing, bracing up the nerves, and the whole country round became gradually lit up to the life of another day.

We now travelled still upon the elevated table land, passing here and there through some terribly swampy ground, covered with moss, which sunk at every step, letting us up to the knees. We were freighted with our heavy packs, and above all the heavy green bear skins, and the work told upon all. Sometimes our route lay over spots where, in addition to the mossy swamps, fallen spruce and pine lay beneath with their dead sharp-pointed spikes of branches sticking up, on which we occasionally got a painful reminder; but after all our trouble, about noon we gained the summit of a high point of land, on which rested a huge granite boulder, split into two pieces, under which was a large well of delicious water. We gave this the name of "Split Rock well." Leaving this place, we arrived a little before sundown, near a stream which joined two large lakes. The stream was deep and about twenty feet wide, and presenting a good site we camped here. But at dusk three of us started for the upper lake to see the beaver which Peter Paul told us he had seen there some time back, when in company with an old Indian he had visited it. We came cautiously upon its banks, and lay down, looking and listening for the animals. In a short time, at some distance, we could see in the twilight, ripple marks on the surface, and presently a head or two moving about swimming

in the direction of the opposite shore. We watched them carefully and observed that the beavers coasted along shore, engaged now and then in looking for food, just as we have often seen the water rat of England do in a pond. After watching them for some short time, we heard on our right where Peter Paul had gone, a loud flap on the water, just as if a paddle had been struck on the lake, and all signs of beaver vanished at once. This we considered came from a sentinel beaver who, having heard Paul coming in the direction of their head quarters, had sounded this tocsin of alarm. Although we waited for some time after this not a beaver could be seen.

The next day we travelled also along the table land in a north-west direction, passing over much the same kind of land, the spruce woods getting larger. I chased a porcupine for about a hundred yards, when he took to a spruce tree some twenty feet high and was killed. I noticed that the Indians shaved the porcupine of his quills before carrying him. The process is as follows:—taking a sharp knife, they shave from tip of tail to head, and are extremely careful not to get any of the small quills in their hands, as the puncture is very painful. The old woman's tale of a porcupine throwing its quills at a person chasing it is untrue; the truth of the matter being, that if a stick be presented to it, or any one attempts to handle it, it immediately strikes the offender with its tail, driving the smaller quills with such force as even to stick them firmly into a piece of wood. The flesh of the porcupine is delicious, tender and sweet, the tail when fried nicely being the choicest morsel. We camped this night in dense woods by the side of a stream, and having exhausted all our provisions, began to feel somewhat alarmed that if we did not reach the settlement on the west or Weymouth coast before long we should fare badly. I may say that we fully expected to have struck some marks of civilization at noon of the first day according to our reckoning, but on sending an Indian up the highest trees, during the afternoon, he only gave us the unwelcome intelligence, "no sign clearing, big woods all along." The next morning early, we were determined to try our best to get out of our dilemma, and so it was decided that we should stow away all our goods and chattels;

and leave them covered up with branches, so that if we got out all safe we might send in for them afterwards, there being but little fear of robbery in such a situation. We therefore took with us only a blanket and our guns, and being thus lightly burdened we made good way. But after a long and tedious march until mid-day we could strike no blaze, (*i. e.*, the marks placed upon trees by surveyors in the back settlements,) and we sat down to rest and devour our last scrap of biscuit and a small tin of chocolate among six, with anxious thoughts as to what would constitute the next meal—off again, we traversed through thick woods, descending all the time, and in a valley first discovered an old blaze, which gave us fresh courage, and we contrived to follow it for some distance, until to our horror we arrived on the shore of a large lake, about midway from its extremities, so there was nothing for it but to trudge, wearied as we were, all round its lower end, which having been accomplished, we struck out through the forest again by compass, no blaze being seen. It was getting dark, and we had given up all hope of getting out that night, when Peter Paul, who was some distance ahead, called out, “road, road!” and on arriving at the spot, sure enough there lay an old track, which following to the southward till dark we came to an open spot surrounded by woods, in which was a field of turnips and potatoes. We may be excused when we say that we dispensed at this time with the ordinary courtesies of society and allowed every one to help himself, and a ludicrous sight it was to see six hungry individuals sitting in the midst of a turnip patch refreshing themselves on the vegetable esculents. An old shed, with large holes in the roof, stood in one corner, and we adjourned to this, and making a fire, roasted potatoes and made ourselves as comfortable as we could, but the rain began to pour in torrents, and drenched and lightless we passed a weary night. The morning, however, no sooner dawned than we trudged down the road, and hearing the sound of an axe we directed our course that way, and soon found ourselves in the presence of a worthy settler, whose snug farm house lay close by on the banks of the Sissiboo river, Digby Co. A forlorn looking group indeed we must have appeared, all tattered and torn as we were, after our hard travel over

mountain and swampy barren; but the heart of the worthy Nova Scotian warmed towards us as he hurried us along to his dwelling, and soon with his table groaning under the weight of good fare, he bade us welcome to civilized life once more, and it is almost needless to add, that while enjoying such welcome hospitality, we soon forgot the weary tramp we had had during that ever memorable "Fortnight in the Backwoods of Shelburne and Weymouth."

ART. VII. NOTES ON THE WEATHER AT HALIFAX, NOVA SCOTIA, DURING 1866. BY COLONEL MYERS.

(Read March 4, 1867.)

January. The four first days of this month were mild, but dull and rainy. On the 5th a sharp frost set in, which lasted till the 9th, the thermometer standing during the night of the 6th, 7th, at 15° below zero. The remainder of the month was in general fine and moderate. Mean temperature 20° being 2° lower than that of the same month last year, and 5° below the average of the three preceding years.

February began with very cold weather. On the night of the 6th, 7th, the thermometer indicated 7° below zero, and on the 8th the harbour was sufficiently frozen to admit of persons crossing over on the ice, the ferry boats being unable to ply. On the 11th a rapid thaw occurred, and the ice broke up on the following day. The weather to the end of the month continued mild for the season, with some high winds from the southward, and rain. Mean temperature 25° , being 1° above that of 1865, and of the average of three preceding years.

March was ushered in with a strong gale from the north-east, but of short continuance. The month was generally cold and disagreeable, and towards the end of it very stormy, with snow and rain. Mean temperature 29° , 5° below that of 1865, but corresponding exactly with the average of three preceding years.

April. Some stormy weather at the commencement of this month, and a heavy gale from south-west on the morning of the 25th, but the month generally fine. Mean temperature 40° , the same as last year, but in excess of the average of three preceding years by 2° .