

(*B. Lunaria*). As exact figures are never out of place, I shall describe a mature specimen as it lies before me at this moment. Height 9 inches; common stem $4\frac{1}{2}$ inches, covered for 1 inch with brown sheaths of previous year's growth; fertile frond $4\frac{1}{2}$ inches consisting of a stem ($2\frac{1}{4}$ inches) and a bipinnate fruiting spike ($2\frac{1}{4}$ inches); sterile frond $3\frac{1}{2}$ inches long, consisting of a stem ($1\frac{1}{2}$ inches) and a leaf (2 inches) narrow-oblong in outline with 9 cuneate, simple, entire lobes; the first pair alternate at a little distance from one another; nearly half an inch higher the second pair contiguous-alternate, the third pair a quarter of an inch higher overlapping-alternate, the fourth pair opposite, and at the apex of the frond a single lobe strongly notched.

The normal form of *B. simplex* is said to grow on dry hill sides and to be very rare. Is it not possible that botanists have been begging the question in deciding that the form found in dry exposed stations was the normal form and that the fern was therefore very rare? In that little cedar wood of some 30 or 40 yards square there is hardly any vegetation apart from *Botrychium simplex*; I have counted half a hundred plants in the shade of a single cedar; it would be a modest estimate to say there were 1,000 plants in the colony. It is surely possible that rich vegetable mould in cedar swamps is the natural habitat of *B. simplex* and that the dwarfed rigid form on dry hill sides is only a variety. Of course, *B. simplex* is closely akin to *B. Lunaria*, which also is rare and has its home in exposed situations, so that the form I have may be a variety; it is of exactly the appearance and habit you would expect in a plant subjected to somewhat abnormal conditions: it is lank, flaccid and pale, like a plant grown in a cellar; but on the other hand its abundant fruiting proves it healthy.

For four years this damp cedar wood remained my only station for *B. simplex* (if I have rightly determined the species); but in September last at the close of my season's botany I got a great surprise while staying in North Burgess at a mica mine near Otty Lake (between Perth and the Rideau). The owner of the mine, an old pupil, was taking me to see a "mud lake" on his property; on our way through cedar alleys growing on an elevated rocky plateau a few feet above marsh level we found a colony of *B. ramosum*; they had shed their spores, but were still erect, living and green; all about the more open turfy parts of this plateau were plants of *B. obliquum*, some of them enormous, others very small and delicate, but all fruiting freely; the Virginia Rattlesnake was also, as usual, abundant.

From there we dropped to swamp level and came out at the upper end of the mud lake; it was unusually treacherous,