

TRANSACTIONS

OF THE

Nova Scotian Institute of Natural Science.

ART. I.—A CONTRIBUTION TOWARDS THE STUDY OF NOVA SCOTIAN MOSSES.—BY JOHN SOMMERS, M. D., *Professor of Psychology and Microscopy, Halifax Medical College; and Lecturer on Zoology in Technological Institute.*

(Read November 11, 1878.)

THE present contribution is a continuation of the study of N. S. Mosses, published in last year's Transactions.

It will be observed that both the present and previous papers exhibit a want of systematic arrangement, inasmuch as there will be found a repetition of genera and orders; a necessary result this of the manner of their preparation, and representing, as they do, the work of successive seasons, the species collected being various, their description as a whole will appear irregular, a difficulty which it is hoped will be overcome at a later stage by the formation of a catalogue of all the species described in these contributions.

ORDER NECKEREI. Mont.

NECKERA. pinnata. Hedw.

Stems pinnate flat, leaves ovate-lanceolate acuminate, nearly entire, nerveless sporangium ovate, oblong, immersed, growing on trunks of trees, fruiting in September.

ORD.—HYPNEL. Br. & Schimp, Mont.

HYPNUM. Schreiberi. Willd.

Leaves imbricated crowded, stems irregularly branched, the branches pinnate, sub-erect, sporangium oblong, ovate cernuous, lid conical, forming yellowish or golden green patches in pine woods, and on exposed banks very abundant, but rare in fruit;

the stems are of a beautiful shining red colour, the leaves are two nerved concave and obtuse, fruiting in Autumn.

H. BLANDOVII. Webb & Mohr.

Leaves ovate papillose, sharply toothed margins recurved, nerved to the top, stem divided, with paraphylla, branchlets crowded, sporangium curved cylindrical, lid conical apiculate.

A beautiful Moss, with many characters of *Thuidium*, forming dense cushions on rocks and stumps in bogs and swampy places, stems feathery, tall, pale green, sub-erect, fruit stalk long reddish common, fruiting in April and May.

H. SPLENDENS. Hedw.

Leaves imbricated, ovate, concave, serrated, pointed, two nerved sporangium, ovate cernuous lid, rostrate; stem sub-erect, more or less bipinnate or sometimes tripinnate, sporangium ovate cernuous lid beaked, common in damp woods, forming large tufts, fruitstalk tall, fruiting in early Spring.

H. TRIQUETRUM, L.

Stem ascending with fasciculate branches, stem-leaves squarrose, branch-leaves spreading, acuminate, cordate, serrate, two nerved sporangium, ovate cernuous. Forming coarse yellowish patches in exposed banks, generally occupying dry situations, fruiting in March and April.

H. CRISTA. castrensis, L.

Stem sub-erect, feathery leaves, secund ovate lanceolate, plicate acuminate, toothed two nerved below, sporangium curved, oblong, cernuous, lid conical. The most beautiful of our mosses, very common and easily distinguished, forming golden green patches on rocks in wooded hills, fruiting in July and August.

H. MOLLUSCUM. Hedw.

Leaves crowded, secund, serrate lanceolate, toothed acuminate, two nerved or nerveless, sporangium, ovate, short, lid conical, resembles *crista castrensis* in general appearance. The habit is smaller, sporangium smaller, lid more acute, the stems have not the abrupt termination of *castrensis*.

H. HAMULOSUM, *Frol.*

Leaves hamulose ovate lanceolate serrate, nerveless, stem procumbent pinnate sporangium, subcylindrical, lid conical acuminate, forming dark green patches, closely matted on rocks, and the boles of trees, bearing fruit in summer.

H. SCORPOIDES, L.

Stems procumbent, irregularly branched leaves imbricated, falcato secund, concave entire, nerveless or two nerved, sporangium, oblong curved cernuous, lid conical, beaked. Not common, in swampy woods, fruiting in spring and early summer.

H. ARCTICUM. *Somm.*

Stem creeping, branching irregularly, procumbent, branches, somewhat erect, leaves spreading, not squarrose, rigid entire nerved sporangium oval, cernuous, lid conical obtuse, forming dark green patches on rocks in running brooks, bearing fruit in May and during the Summer.

PYLAISIA. *polyantha. Schimp.*

Stem creeping, much branched, branches arched growing from the upper side of the stem, leaves secund turned upward, ovate acuminate, faintly two nerved or nerveless, entire, sporangium oblong, curved, fruitstalk long. Common on trunks and boles of trees, fruiting in September.

ORDER.—*Drepanophyllei. Mont.*FISSIDENS. *taxifolius. Hedw.*

Leaves crowded, lanceolate, mucronate, margin crenulate, fruitstalk long radical, sporangium oblong cernuous, lid beaked. Bearing fruit in September. In moist woods common.

F. TAMARINDIFOLIUS. *Donn.*

Leaves short, distant, spreading, elliptic, bordered entire, apiculate, sporangium ovate, curved, lid conical, acuminate, fruitstalk arising from the base of the barren shoots, found in fruit in August, growing on roots of beech and other hardwood in damp woods, not so common as the last.

ORD.—BARTRAMIEL. Br. & Schimp.

BARTRAMIA. pomiformis. Hedw., var. *crispa*.

Leaves spreading, crisped, linear lanceolate toothed, sporangium on a short stalk globose, forming soft yellowish patches, very common on granite boulders, fruiting in April and May, the collections have a dessicated appearance due to the peculiarities of the leaves.

ORDER.—Bryei. Br. & Schimp.

MINUM. cuspidatum. Hedw.

Stem simple erect, lower leaves obovate, upper ovate lanceolate, both acuminate, sporangium pendulous oval, lid convex, obtuse, sporangium solitary, nerve not reaching the tip, fruiting in early summer, growing on the banks of water courses in shady places, sometimes in company with *M. punctatum* *loc.* woods back of Melville Island, ditto near Byers Road, D. Vill, Hx.

M. STILLARE, Hedw.

Leaves toothed, not bordered, stems erect sporangium cernuous, ovate, lid hemispherical obtuse, forming soft, deep green patches on moist, shady banks, leaves increasing in size from below upwards, fruitstalk long, arising from the midst of a budlike collection of leaves at the top of the stems, leaf cells smaller than in *punctatum*, bearing fruit in May and June. The leaves shrivel speedily in dry weather, when the fruitstalk and sporangium become the most prominent characteristics of the plant. Plants of this genus are the most beautiful objects of the whole Bryological series, presenting in their ordinary appearance the nearest approach to vascular plants. They are worthy of the attention of the horticulturist. Being very sensitive to atmospheric conditions, they require shade and moisture for their successful cultivation.

M. PUNCTATUM, Br., common on banks of shady brooks.

LEPTOBRYUM PYRIFORMI, Schimp.

Leaves lower lanceolate, entire, upper spreading toothed nerve, reaching the tip, sporangium large pearshaped, pendulous, lid convex, mamillary, common on turfy ground, roadsides, and places

exposed to sunlight, leaves inconspicuous, fruiting in early spring and through the summer.

ORDER.—Polytrichiei, Brid. & Sch.

POLYTRICHUM, commune, L., fruiting in June.

P. JUNIPIRINUM, Hedw., fruiting in June.

ATRICHUM, undulatum, P. Beauv., common, fruiting in autumn, forming dense green patches.

ORDER.—Tetrarhizei, Br. & Schimp.

TETRAPHIS, pellucida, Hedw.

Very common in shady woods and on roots of trees, fruiting in summer and autumn, easily recognized by the four-toothed peristome and the cup-shaped cluster of leaves surrounding the gems.

ORDER.—Grimmiei, Br. & Schimp.

SCHISTIDIUM, maritimum, Br. & Schimp.

Leaves rigid, strongly acuminate nerve excurrent, much crowded erectopate, sporangium obovato truncate, lid very large, shortly rostrate, fruiting in autumn, growing on granite boulders, dark olive green, pulvinate.

ORDER.—Hedwigiacei, Br. & Schimp.

HEDWIGIA, ciliata, Hook & Wils.

Branches fastigiate, leaves imbricated, oblong lanceolate, sporangium globose immersed, veil hairy perichætal leaves ciliated, lid plano convex, with a central papilla, variable, common on granite boulders, lurid green pulvinate, fruiting in autumn and through the winter.

ART II.—ON NOVA SCOTIAN FERNS.—BY REV. E. N. BALL,
MACCAN, *Communicated by* DR. LAWSON.

(*Read November 11, 1878.*)

I HAVE been examining more closely the varieties of *Aspidium Spinulosum* (Gray) this Summer, and offer the following as my more matured observation.