

(No. 17)

Compliments
T. J. W. Burgess
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RECENT ADDITIONS TO CANADIAN FILICINEÆ.

T. J. W. BURGESS, M.B.

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II.—Recent Additions to Canadian Filicineæ, with New Stations for some of the Species previously recorded. By T. J. W. BURGESS, M.B.

(Presented May 28, 1886.)

The discovery, since the publication of a revision of Canadian Filicineæ by Professor Macoun and myself in the Transactions of this Society for 1884, of several ferns, not hitherto regarded as Canadian, and additions to the stations recorded for some of the rarer species therein mentioned, leads me to hope that a brief supplemental paper on the same subject will not be quite wanting in interest, and to facilitate reference, the numbering of the genera, etc., in the previous article, has been retained through this.

ORDER.—OPHIOGLOSSACEÆ, Lindl.

Genus I.—OPHIOGLOSSUM, L.

1.—*O. VULGATUM*, L. The unknown Nova Scotia station of Professor McCulloch (*vide* "Canadian Filicineæ" in Trans. Roy. Soc. Can., Vol. II, Sect. IV, p. 174), has probably been rediscovered; Mr. Campbell, a student of Dalhousie College, having in 1884 found it in a field near Truro, at which place Mr. McCulloch used to live. Low meadow, Port Stanley, Elgin Co., Ont.—*J. Bowman*.

Genus II.—BOTRYCHIUM, Swz.

1.—*B. LUNARIA*, Swz. Open spaces in damp, grassy thickets at the Hudson's Bay Co.'s post on Lake Mistassini, and in a similar locality near the Oatmeal Falls on Rupert River, Northeast Territory.—*J. M. Macoun*.

2.—*B. MATRICARIEFOLIUM*, A. Br. On damp hillsides, under bushes, Dalhousie, N. B.—*J. Fletcher*. Regina, Assa.—*N. H. Cowdry*. Some specimens collected by Professor Macoun in 1885, near Silver City, Alta., on the grassy slope below the peak of Castle Mountain, Rocky Mountains, are perhaps referable here, but are too immature to admit of separation with certainty from *B. lunaria*. Further search in this locality for more mature specimens is of importance, since, if true *B. matricariefolium*, our western limit for this species ceases to be Regina.

3.—*B. LANCEOLATUM*, Angs. In the Rev. Jas. Fowler's revised list of New Brunswick plants (Bull. Nat. Hist. Soc. N. B., No. IV.) a new station, Kennebecasis, is recorded by Mr. G. U. Hay, but I have seen none of the specimens.

5.—*B. TERNATUM*, Swz. Old pastures, Truemanville, Cumberland Co., N. S.—*H. Trueman*. One of the specimens received from this locality has two perfect sterile fronds,

the one rising from near the base of the plant, the other about an inch and a half higher up. While examples with two sterile fronds, one the product of the previous year, are common, in this case the two are the growth of the same season. In addition, these fronds are much more membranaceous than usual, lacking, indeed, almost completely, that fleshiness so characteristic of this species. Growing with *B. lunaria*, but rare, at the Oatmeal Falls, Rupert River, N. E. Terr. (var. *rutafolium*).—*J. M. Macoun*. Very rare on the snow slides near the summit of the Selkirk Mountains, B. Col., on the line of the C. P. Ry.—*Macoun*. Common about Victoria, Vancouver Island, B. Col., amongst bushes on the margins of lakes and swamps (var. *australe*).—*J. R. Anderson*.

Var. DISSECTUM, Milde. Very characteristic specimens were collected in 1885, by Professor Macoun, in woods near the Whirlpool, Niagara Falls, Ont., where also was found an approach to var. *obliquum*, Milde.

6.—*B. VIRGINIANUM, Swz.* Under hardwood trees, Truemanville, Cumberland Co., N. S.—*H. Trueman*. Very abundant in open, boggy woods, and in burnt woods of any kind, all around Lake Mistassini, N. E. Terr.—*J. M. Macoun*. Rather rare on grassy slopes, and in open woods, from Laggan in the Rocky Mountains, Alta., to Donald in the Columbia Valley, B. Col., along the line of the C. P. Ry.—*Macoun*. Common in rich woods about Victoria, and in other parts of Vancouver Island, B. Col.—*J. R. Anderson*. The so-called var. *gracile*, Hook. and Grev., is noted in the Rev. Jas. Fowler's revised list as occurring on dry, rocky heights at the mouth of the Upsalquitch River, N. B.

ORDER.—FILICES, *Juss.*

Genus I.—POLYPODIUM, *L.*

1.—*P. VULGARE, L., var. CAMBRICUM, Willdenow, (P. Cambricum, L.)* Specimens referable to this form, commonly known in England as Welsh Polypody, from its being originally collected in Wales, have been found within our limits. They were obtained on rocks at Port Simpson on Portland Inlet, B. Col., opposite the southern extremity of Alaska, and were furnished by Mr. J. R. Anderson of Victoria, B. Col. The fronds are broader and more oval in general outline than in the type, while the primary divisions are acute, widened in the middle, and pinnatifid into narrow, variously shaped segments, many of which are serrulate. Being fertile, the specimens might be placed under var. *semilacerum*, Moore, sometimes called Irish Polypody, from its having been first noticed in Ireland, but Dr. Milde includes this form under var. *Cambricum*, the original type of which is always barren, and I have preferred to follow him.

Genus II.—GYMNOGRAMME, *Desv.*

1.—*G. TRIANGULARIS, Kaulf.* Reported by Mr. J. R. Anderson as common about Victoria, B. Col., on bare hills under the shady sides of rocks.

Genus III.—CHEILANTHES, *Swz.*

1.—*C. GRACILLIMA, D. C. Eaton.* Of this species, Mr. Anderson writes to me, "found

in fissures of dry rocks on Mount Finlayson, at the head of, and on other hills on the east side of, Saanich Arm, near Victoria, B. Col."

Genus IV.—PELLÆA, *Link.*

1.—*P. GRACILIS*, *Hook.* Madawaska, N. B.—*Hay* (Fowler in Bull. Nat. Hist. Soc. N. B., No. IV.) Crevices of wet rocks at the mouth of Temiscami River, about twenty-five miles from the east end of Lake Mistassini, N.E. Terr.—*J. M. Macoun.* Crevices of rocks in rear of the C. P. Ry. water-tank at Kicking Horse Lake, and at Mount Stephen, B. Col.—*Macoun.* Rocky hillsides, not common, Kootenay District, B. Col.—*J. R. Anderson.*

2.—*P. ATROPURPUREA*, *Link.* Very rare in crevices of limestone rocks on the mountains near Kananaskis Station on the C. P. Ry., Alta.—*Macoun.* Hillsides amongst broken rocks, not common, Kootenay District, B. Col.—*J. R. Anderson.*

Genus V.—CRYPTOGRAMME, *R. Br.*

1.—*C. ACROSTICHOIDES*, *R. Br.* Common at Victoria, B. Col., among rocks on bare hills.—*J. R. Anderson.*

Genus VI.—PTERIS, *L.*

1.—*P. AQUILINA*, *L.* Common at Lake Mistassini, and down the Rupert River to James Bay, N. E. Terr.—*J. M. Macoun.*

Var. LANUGINOSA, *Bong.* Our eastern range for this form is now known to extend at least as far as the Columbia River, B. Col., Professor Macoun having found it, in 1885, abundant in pine woods in the valley of that stream, along the line of the C. P. Ry.

Genus VII.—ADIANTUM, *L.*

1.—*A. PEDATUM*, *L.* "Keswick Ridge, York Co.,—*Fowler*; Andover, Victoria Co.,—*Hay*; Moose Mountain, Carleton Co.,—*Dr. Bailey.*" (Fowler, in Bull. Nat. Hist. Soc. N. B., No. IV.)

Var. RANGIFERINUM, *n. var.* Pinnules longer stalked, convex on the lower border, rising from the rachis at an acute angle, gradually tapering at the base, deeply cleft into narrow, toothed lobes on the upper side, rounded from below upward at the outer extremity; sori few.

This very peculiar and beautiful form, to which the name *rangiferinum* has been given on account of the resemblance of the pinnules to the horns of the reindeer, was found on thickly shaded rocks overhanging the waters of Gold Stream, at the base of Mount Finlayson, twelve miles from Victoria, B. Col., by Mr. J. R. Anderson. The pinnæ are very few in number and long in proportion to the size of the plant, e. g., a specimen about two feet high has only three on each of the primary branches, those nearest the forking on each side measuring not less than thirteen inches. It is in the pinnules, however, that the most marked peculiarities are seen. These, in the ordinary form, are short stalked, spring from the rachis at right angles, and have the lower margin usually straight or more or less concave, but in this they are well petioled, rise at a very acute angle, and

have the lower border markedly convex. Their base, instead of being straight and square, is gradually tapering; the upper edge is deeply cleft into narrow, toothed lobes; and the outer extremity is not rounded from above downward, but has its upper margin projecting beyond the lower, so as to make the rounding just the reverse. Only a few of the lobes are fertile. The accompanying figure of a part of a pinna will probably give a better idea of these distinctions.

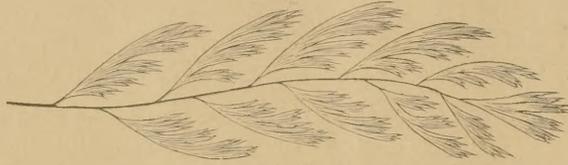


FIG.—*A. pedatum* var. *rangiferinum*.

Interesting points about this plant, which I am now trying to determine, refer to the frequency of its occurrence and constancy in cultivation.

Genus VIII.—*LOMARIA*, Willd.

1.—*L. SPICANT*, *Desv.* Reported by Mr. Anderson as common in rich woods near Victoria, Vancouver Island, B. Col., and along the coast of the mainland. All the specimens that I have seen from this locality have the pinnæ, except the lower reduced ones, acute or mucronate instead of obtuse, as is said to be oftentimes the case.

Genus X.—*ASPLENIUM*, L.

1.—*A. VIRIDE*, *Huds.* Clefs of shaded rocks at the mouth of Temiscami River, twenty-five miles from the east end of Lake Mistassini, N. E. Terr.—*J. M. Macoun.* In rich soil amongst broken rocks, at Port Simpson on Portland Inlet, Northern B. Col.—*J. R. Anderson.*

2.—*A. TRICHOMANES*, L. Amongst broken rocks on Mount Isonhailim, near the mouth of Cowichan River, Cowichan District, Vancouver Island, and in Kootenay District, B. Col.—*J. R. Anderson.*

5.—*A. THELYPTEROIDES*, *Mx.* For New Brunswick, where this fern is said to be scarce, the following new stations are recorded: "Bass River,—*Fowler*; Fredericton,—*Vroom*; Salmon River, Victoria. Co.,—*Hay.*" (*Fowler*, in *Bull. Nat. Hist. Soc. N. B.*, No. IV.)

Genus XI.—*SCOLOPENDRIUM*, *Smith.*

1.—*S. VULGARE*, *Smith.* Three interesting forms, vars. *marginatum*, *ramosum* and *multifidum*, of this very variable fern, collected near Woodstock, N. B., have been received from Mr. Peter Jack of Halifax, N. S.

Var. MARGINATUM, *Moore.* (*Nature Printed British Ferns*, II, pp. 139 and 166; *Hand-book of British Ferns*, 3rd ed., 198). The following is Mr. Moore's description:—"Fronds

narrow-oblong, strap-shaped, truncate at the base; attenuate at the apex, the margin inciso-lobate; fertile; the epidermis of the under surface also developed near the margin into a lobed, excurrent membrane, which bears sori on both surfaces." In the New Brunswick specimens, the peculiar lobed, excurrent membrane is well marked, and gives the frond the appearance of being double, i. e., as if two fronds, both soriferous, had been pasted together, the one on top of the other. The layer corresponding to the frond proper slightly exceeds (one-sixteenth to one-eighth of an inch) that from the epidermis, and is lobed and dentate. The only deviation, which is of little account, from the description, is that the base is heart-shaped and auricled instead of truncate. *S. vulgare* is occasionally seen with sori on the upper as well as the under surface of the fronds, which abnormality sometimes proceeds from the normal sori being prolonged round the margin; but at others they are produced on the upper side within the margin, and without corresponding ones beneath. This freak, caused in the first of these ways, is a marked feature in some of the Woodstock specimens of var. *marginatum*, which have thus four soriferous surfaces instead of the usual three.

Var. RAMOSUM, Gray. (Moore's Nature Printed British Ferns, II, pp. 140 and 195; Handbook of British Ferns, 3rd ed., 199.—*S. officinarum*, Swz., var. *ramosum*, Willd.) Mr. Jack's specimens closely approach this variety, which is said to be constant in cultivation and reproduce itself from spores, being characterized by their short fronds having the stipes branched, the branches, which start singly from the stipes, becoming ramified like the branches of a tree, and ending in crisped tufts.

Var. MULTIFIDUM, Gray. (Moore's Nature Printed British Ferns, II, pp. 140 and 188; Handbook of British Ferns, 3rd ed., 198.—*S. officinarum*, Swz., var. *multifidum*, Schk.) In this form the stipes are unbranched, but the fronds are furcately divided at the apex, and these divisions are few—to many—cleft at their points.

Genus XIII.—PHEGOPTERIS, *Fee.*

1.—*P. POLYPODIOIDES, Fee.* Rather rare near the line of the C. P. Ry. in the valley of Beaver Creek, Selkirk Mountains, B. Col., both along this stream on stumps, and on rocks along mountain torrents near Stony Creek.—*Macoun.* Shaded, rocky places, Port Simpson on Portland Inlet, Northern B. Col.—*J. R. Anderson.*

2.—*P. HEXAGONOPTERA, Fee.* In rich woods, not common, just east of the Waterworks Reservoir, Toronto, Ont.—*Burgess.*

4.—*P. CALCAREA, Fee.* Not rare in rather low woods at the base of limestone cliffs, and in crevices of the cliffs themselves, at the mouth of Temiscami River, Lake Mistassini, N. E. Terr.—*J. M. Macoun.*

5.—*P. ALPESTRIS, Mett.* The finding of this species in British Columbia, by Professor Macoun, in August, 1885, is strongly confirmatory of its having been originally collected by Dr. Lyall in the Cascade Mountains of the same province. It grew abundantly, at an altitude of 7000 feet, in wet places on the slopes of the glacier mountain along Bear Creek at the summit of the Selkirk Mountains, near the line of the C. P. Ry. The stalks of most of these specimens are long in proportion to the size of the plants, in the largest making

eight inches of the total twenty-four. The fronds, rather narrowly oblong-lanceolate in general outline, are gracefully acuminate, and have all the pinnæ densely soriferous, the lower ones being distant and considerably decreased in size.

Genus XIV.—ASPIDIUM, Swz.

2a.—*A. OREOPTERIS*, Swz., (Mountain Shield-Fern), Syn. Fil., 50. Willdenow, Sp. Pl., V, 247. Eaton, Ferns of N. A., II, 273. Underwood, Our Nat. Ferns, etc., 105.

A. montanum, Milde, Fil. Eur. et Atlant., 115.

A. odoriferum, Gray.

Polypodium fragrans, L.

Polypodium montanum, Vogler.

Polypodium pterioides, Villars.

Polypodium limbospermum, Bellardi.

Polypodium oreopteris, Ehrh.

Polypodium thelypteris, Bolton.

Polystichum montanum, Roth.

Lastrea oreopteris, Presl.

Lastrea montana, Moore.

Hemestheum montanum, Newman.

Nephrodium oreopteris, Desvaux.

Nephrodium montanum, Baker.

This is a rich, golden-green, handsome, though rather stiff-looking species, found growing in patches, usually in open wet ground, in ravines and on mountain slopes, and varying in height from one to three feet. Rootstock short, erect or ascending, chaffy, and covered with old stalk-bases; stalks short, generally forming about one-fifth or less of the height of the plant, somewhat chaffy especially at the base; fronds erect, firmly membranaceous, glandular beneath, commonly with some scattered chaff along the rachis, ten to thirty inches long, lanceolate in outline, acute, tapering from near the middle to a narrow base, pinnate; pinnæ sessile from a broad base and deeply pinnatifid, the middle ones lanceolate-acuminate and two to five inches long, gradually reduced to the lowest, which are deltoid, one-third to one inch long and slightly but increasingly distant; pinnales numerous, oblong, obtuse, entire or slightly crenulate, and, like *A. thelypteris*, their margins sometimes revolute so as to give them the appearance of being acute; veins free, often forked; sori near the margin; indusia very delicate, more or less toothed at the margin, fugacious.

This fern approaches more closely to *A. thelypteris* than to any other of our Canadian species, but is readily separated, both from it and from *A. noveboracense*, by its tufted, not creeping, rootstocks. In the absence of root, the most obvious distinguishing characteristics are that, in the former, the stalks are long, the fronds are rarely narrowed at the base, the veins are nearly all forked, and the sori are not marginal; while in the latter, the fronds are thin-membranaceous, minutely ciliate and hairy, and the veins are almost always simple. Of North American species as a whole, however, *A. oreopteris* finds its closest ally in the Californian *A. nevadense*, Eaton. The rootstocks are alike, and both are narrowed to the base, but as a rule, the former is a coarse, rigid fern, and the latter is slen-

der and graceful, with thinly membranaceous fronds, which have the pinnæ cut deeper with wider sinuses and narrower lobes, and the veins mostly simple.

The fronds of all the Canadian plants I have seen are narrower and more graceful looking, both as a whole and in all their parts, than those of Unalaskan and most European and Asiatic forms, but Professor Eaton, to whom a specimen was sent, writes me, "most fronds are broader and have broader pinnules, but I have one from Mettenius which is as narrow and slender as yours." The largest of our specimens examined is one foot and one-half long, of which three and one-half inches form the stalk, while the middle pinnæ are only about two inches long. The segments, the basal ones of which, especially on the upper side, are often large in proportion to those next them (often twice as long) are but little more than a line in width, and the under surface is but very slightly glandular.

A. oreopteris is common in Europe, from England to Spain and to Russia, occurring also in Madeira and Asia Minor, but is not found in Siberia. In America, previous to 1885, it was only known to exist on the Island of Unalaska, where Mr. L. M. Turner found it in 1878, but in August of that year it was discovered by Professor Macoun on Mount Dawson, at the summit of the C. P. Ry. pass through the Selkirk Range, B. Col., a little south of lat. 51°. It grew in large patches, at an altitude of 6500 feet or a little less, on a comparatively dry slope about 1500 feet from the summit of the mountain, immediately below the bare, sloping rock, and also in wetter soil and at a greater altitude on a neighboring mountain, the upper slopes of which were covered by a glacier.

NOTE.—As this fern belongs to the subgenus *Nephrodium* and finds its closest relative, among our species, in *A. thelypteris*, its discovery, owing to its less thinly membranaceous character and want of creeping rootstocks, would necessitate a change in, and subdivision of, subsection* of that subgenus in "Canadian Filicineæ," (Trans. Roy. Soc. Can., Vol. II, p. 200). The first part of *Aspidium*, in the article referred to, should therefore, by the introduction of this species, read:—

§ *Indusia* kidney-shaped or round, with a narrow sinus.

* Fronds membranaceous, decaying in autumn, bipinnatifid. Veins simple or once forked.

† Rootstock slender and creeping, with scattered fronds.

A. noveboracense, Swz.

A. thelypteris, Swz.

†† Rootstock short, with clustered fronds.

A. oreopteris, Swz.

3.—*A. CRISTATUM*, Swz. So far as known, this fern is scarce in New Brunswick, and the following stations only are recorded: "Bass River, Green Head,—Fowler, *Hay*; Andover and Upper Gaspereaux,—*Wetmore*." (Fowler, in Bull. Nat. Hist. Soc. N. B., No. IV.)

5.—*A. FILIX-MAS*, Swz. A second New Brunswick station has been discovered, viz., Daley's Wood, Richmond.—*Hay*. (Fowler, in Bull. Nat. Hist. Soc. N. B., No. IV.) Abundant on the line of the C. P. Ry. on the lower slopes of Mount Carroll near Bear Creek, summit of the Selkirk Range, B. Col.—*Macoun*.

11.—*A. LONCHITIS*, Swz. One of Mr. A. H. MacKay's Aspey Bay, Cape Breton, speci-

mens presents, in its upper two-thirds, a marked resemblance to *A. munitum*, having narrow and wide-spreading, nearly sessile pinnæ, which are almost destitute of falcateness. Their teeth, too, are incurved and almost free from the bristle points, which give so formidable an appearance to typical *A. lonchitis*. All this gentleman's other specimens that I have seen, from the same locality, are in every respect normal, except that the stalks of some of them are longer than is usual in this species. On the upper slopes of Cathedral Mountain at Kicking Horse Lake, B. Col., and on the snowslides near the summit of the Selkirk Mountains, B. Col.—*Macoun*.

12.—*A. ACROSTICHOIDES*, Swz. A peculiar form of this was found by Mr. Peter Jack near Halifax, N. S. The whole of the fronds had the edges of the pinnæ crinkled or crimped, while their points were rounded. In other respects, the specimen sent me, which was barren, resembled the type. Some additional New Brunswick stations are "Upper Tobique and Kennebecasis,—*Hay*; Mosquito Cove,—*Mrs. Heustis*; Andover, common at Salmon River,—*Wetmore*." (Fowler, in Bull. Nat. Hist. Soc. N. B., No. IV.)

14.—*A. ACULEATUM*, Swz., (Prickly Shield-Fern, Hard Prickly Shield Fern), Syn. Fil., 53. Willdenow, Sp. Pl., V. 258. Hooker, Sp. Fil., IV. 18. Milde, Fil. Eur. et Atlant. 104. Hook. and Baker, Syn. Fil., 252. Eaton, Ferns of N. A., II. 123. Underwood, Our, Nat. Ferns, etc., 103.

A. aculeatum, α *lobatum*, Hook.

A. aculeatum, var. *lobatum*, Kunze; Eaton, Ferns of N. A., II, 124.

A. lobatum, Smith; Swartz, Syn. Fil., 53.

A. lobatum, α *vulgare*, Doell.

Polystichum Plunkeneti, DC.

Polystichum aculeatum, Presl.

Polystichum aculeatum, var. *lobatum*, Moore.

Polypodium aculeatum, Fries.

Polypodium lobatum, Huds.

A handsome, evergreen, prickly-looking fern, found growing among rocks or in rocky ravines, generally in mountainous districts. It attains a height of one to three feet, the fronds forming a crown. Rootstock stout, erect or ascending, covered with old stalk-bases; stalks variable in length but considerably shorter than the fronds, very chaffy with large and small brown scales intermixed, as is the rachis and usually its branches; fronds one to two feet long, dark-green, rigid, subcoriaceous, more or less chaffy-fibrilose beneath, lanceolate or oblong-lanceolate, tapering to the apex and also toward the base, pinnate; pinnæ lanceolate from a broad base, acute, generally curved upward (some of the lower sometimes horizontal or deflexed) incisedly pinnatifid or again pinnate; pinnales obliquely set, variable in shape, rhomboid-oval and sessile or unequally triangular-ovate and auricled on the upper side of a slightly stalked base, the superior basal ones generally much larger than the next and more distinctly auricled, serrate with the teeth aculeate in varying degrees; sori in two rows on the segments, nearer the midvein than the margin.

Professor Eaton states that the difference between typical *A. aculeatum* and var. *lobatum* is only that usually seen between the fronds of mature (therefore more divided) and younger plants, and includes in var. *lobatum*, like Kunze and Milde, both these forms. I have

preferred, however, to combine the two under the specific name, and have also included the synonymy of both under the same head.

The Californian forms, var. *Californicum*, Eaton, and var. *angulare*, Braun, are, broadly speaking, distinguished from the type by the pinnæ of the former being less, of the latter more divided. In var. *Californicum*, which is more like a hybrid between *A. munitum* and *A. aculeatum* than anything else, the fronds are much elongated, scarcely narrowed at the base, and so little divided that even the superior basal segment is scarcely distinct as a pinnule and is not at all auricled. In var. *angulare* the fronds, which are lighter colored and less stiff, rigid and prickly-looking, are scarcely or not at all narrowed at the base, and so much divided as to be truly bipinnate, the pinnules being distinctly short-stalked, mostly auricled, slightly incised, and the superior basal one often again pinnatifid. Var. *Braunii*, Doell, differs in being less rigid and much thinner in texture, with shorter stalk, more narrowed base, and more divided pinnæ, the lower of which are obtuse; the pinnules, too, which are more distinct and auricled, have short stalks and truncate, rectangular bases, while the under or both sides of the fronds are covered with characteristic, long, soft hairs, which are absent or very scanty in true *aculeatum*. Var. *scopulinum*, D. C. Eaton, is readily recognized by its short, narrowly lanceolate, almost smooth fronds, which have ovate, rather obtuse pinnæ, with less aculeate teeth.

Of a Canadian example sent him, Professor Eaton remarks:—"I have not before this seen anything just like your specimen. It is more exactly the European var. *lobatum* than any I have had from California, the difference being in the firmer texture of your plant, and the decidedly more aculeate teeth of the pinnules."

Heretofore the only forms of *A. aculeatum* known to be Canadian were vars. *Braunii* and *scopulinum*, the specimens now referred to the type having been received in 1886 from Mr. J. R. Anderson of Victoria, B. Col., who informs me they were collected in moist, rocky places at Port Simpson, on Portland Inlet, Northern B. Col.

Genus XV.—CYSTOPTERIS, *Bernh.*

2.—*C. BULBIFERA*, *Bernh.* "Very abundant about Lower St. John, Coldbrook,—*Hay.*" (Fowler, in Bull. Nat. Hist. Soc. N. B., No. IV.)

3.—*C. MONTANA*, *Bernh.* Abundant for about one hundred yards along a spring brook, which ran through spruce woods, about ten miles from the H. B. Co.'s. post on Lake Mistassini, N. E. Terr.—*J. M. Macoun.* A few yards of soil on either side of the creek was covered with thick moss, in which, and up to the edge of the stream, grew the fern, the roots in some cases growing right in the water. Some of the specimens were very large, measuring about twenty inches in height.

Genus XVI.—ONOCLEA, *L.*

1.—*O. SENSIBILIS*, *L.*, var. *OBTUSILOBATA*, *Torr.* "Richibucto,—*Fowler*; Havelock, King's Co.,—*Brittain.*" (Fowler, in Bull. Nat. Hist. Soc. N. B., No. IV.)

Genus XVII.—WOODSIA, *R. Br.*

1.—*W. GLABELLA*, *R. Br.* In Rev. J. Fowler's new list of New Brunswick plants

(Bull. Nat. Hist. Soc. N. B., No. IV.) the specimens collected at the Tunnel in Restigouche by Mr. Fowler, and at Grand Falls by Mr. Jack, are named *W. hyperborea*. Mr. Jack's Grand Falls plant, however, which I have examined, is undoubtedly true *W. glabella*.

4.—*W. obtusa*, Torr. A specimen collected amongst loose rocks at Port Simpson, on Portland Inlet, Northern B. Col., and supplied by Mr. J. R. Anderson, has broad though very thin indusia and so is undoubtedly genuine *W. obtusa*. This important discovery renders it possible that Dr. Lyall's plants, collected on the Galton Mountains, B. Col., in 1861, may after all be this species, and not *W. scopulina*, as was stated in "Canadian Filicineæ" (Trans. Roy. Soc. Can., Vol. II, Sect. IV, p. 174), Professor Eaton, with whom I have communicated on the subject, informing me, that he has never personally examined Dr. Lyall's specimens. Our known stations for this rare Canadian fern are now, therefore, two in number, and strangely far apart, the one being in Nova Scotia, the other in British Columbia.

5.—*W. scopulina*, D. C. Eaton. Specimens, thickly glandular on the upper as well as the lower surface, have been received from Mr. Anderson, who says it grows abundantly amongst loose rocks on Mount Finlayson and other hills about Victoria, B. Col.

6.—*W. oregana*, D. C. Eaton. The range of this species has been extended along the Thompson River to Kamloops, B. Col., where typical specimens, but of rather stunted growth, were collected in crevices of dry rocks exposed to intense heat and sunlight, by Mr. Jas. Fletcher of Ottawa, in June, 1885.

Genus XX.—OSMUNDA, L.

1.—*O. regalis*, L. Abundant around Lake Mistassini, N. E. Terr.—*J. M. Macoun*.

2.—*O. claytoniana*, L. Very abundant among boulders all around the margin of Lake Mistassini, N. E. Terr., and back from the lake in woods on higher ground.—*J. M. Macoun*.



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