

ART. XLIII.—Descriptions of new and rare New Zealand Plants.

By J. B. ARMSTRONG.

[Read before the Philosophical Institute of Canterbury, 1st July, 1880.]

Clematis marata, J.B.A.

A CLIMBING shrub, evergreen, rarely deciduous. *Branches* extremely slender, forming dense interlaced masses among scrub or grass, hairy or pubescent. *Branchlets* extremely slender, dark brownish-green, channelled, clothed with appressed, rather scattered, white hairs. *Leaves* dark brown in colour, opposite, trifoliate, 1 inch long, on long pubescent or hairy channelled petioles 2-4 inches long; *leaflets* $\frac{1}{2}$ -1 inch long, $\frac{1}{8}$ - $\frac{1}{4}$ inch wide, narrow-linear, obtuse, pubescent or pilose, simple or three-lobed, or obscurely crenate; *veins* very obscure. *Flowers* sweet-scented, very numerous, greenish-yellow, $\frac{1}{2}$ -1 inch diameter. *Peduncles* very silky, one-flowered, 1-3 inches long, arranged in axillary fascicles, each with four small, hairy, lobulate or entire, sessile, foliaceous bracts, $\frac{1}{2}$ -1 inch long, $\frac{1}{8}$ - $\frac{1}{4}$ wide. *Sepals* four, linear-oblong, obtuse; *outside* covered with dense silky hairs, and ciliated; *inside* puberulous, distinctly veined, revolute at the tips. *Petals* 0. *Stamens* 12-20, in several series, the two inner series shorter and less perfect than the others. *Anthers* short narrow, oblong, not tailed. *Carpels* 10-20. *Achenes* silky, the styles elongated into feathery white awns.

Hab.—Canterbury and Nelson; common.—J.B.A. A very distinct little species, readily recognized by its small size and narrow leaflets.

Ranunculus subscaposus, Hk.f., var. *canterburiensis*.

A small alpine one-flowered herb a few inches high. *Roots* fibrous. *Stem* very short, erect. *Leaves* all radical, united by the sheathing bases of their petioles. *Petioles* very slender, 2-4 inches long, with remarkably broad sheaths, glabrous except a few scattered white hairs. *Blade* about $\frac{1}{2}$ an inch long, broadly cuneate, 2-5-lobed, glabrous, coriaceous, lobes not incised. *Scape* one-flowered, sunk among the bases of the leaves, less than 1 inch high, erect, clothed with long, shaggy, white hairs. *Flower* $\frac{1}{2}$ -1 inch diameter, bright yellow. *Sepals* 5, oblong, obtuse, membranous, spreading, as long as the petals. *Petals* 5, oblong, obtuse, with 1-2 much-depressed glands near the base. *Stamens* very short. *Achenes* not seen.

Hab.—Upper Rangitata.—Mr. J. F. Armstrong. A curious little plant, differing from *R. subscaposus* in the erect habit, almost glabrous, less deeply-divided leaves, and the lobes not incised, also in the much larger leaf sheaths and slender petioles. The leaves are much smaller and more coriaceous, much less hispid and different in form. I have very little doubt but this will turn out to be a distinct species when more specimens are obtainable.

Carmichaelia gracilis, n.sp.

A climbing or twining shrub with very slender twiggy branches 5–6 feet long, climbing among bushes. *Branches* glabrous or very minutely pubescent, striated, terete, naked and simple below, much branched above and leafy; *branchlets* extremely slender. *Leaves* numerous for the genus, trifoliate, shortly stalked. *Leaflets* broadly obcordate, $\frac{1}{4}$ – $\frac{1}{2}$ inch long; the terminal one always the largest, undulated on the margins, sometimes obscurely serrate or crenate, bright green above, whitish below. *Veins* very finely reticulated. *Flowers* $\frac{1}{4}$ – $\frac{1}{2}$ inch long in 2–8-flowered, loose, lateral, erect racemes. *Pedicels* extremely slender, straight, $\frac{1}{2}$ inch long, covered with minute glandular pubescence, each with a very short, narrow-linear ciliated bract at its base. *Calyx* densely minutely pubescent. *Teeth* acuminate, ciliated, the two lower the smallest. *Corolla* white and purple. *Standard* broadly orbicular, longer than the wings. *Keel* deeply incurved. *Stamens* and *style* as in the genus. *Ovary* slightly silky. *Pod* very coriaceous, nearly half an inch long with a broad replum, wrinkled valves, and a curved awl-shaped beak $\frac{1}{2}$ inch long. *Seeds* dark brown, mottled with white.

Hab.—Site of the city of Christchurch, formerly common but now extinct. My specimens were collected sixteen years ago. It is a very pretty plant when fresh, easily distinguished from the other species of the genus by its slender twining habit, trifoliate leaves, pubescent calyx and small bracts.

Aciphylla crenulata, J.B.A.

A glabrous herb 2 feet or so high. *Radical leaves* few, 4–10 inches long, pinnate, with broad sheathing petioles. *Leaflets* in 2–3 pairs, 3–4 in. long, $\frac{1}{4}$ wide, linear, pungent at the tips, perfectly glabrous, very finely crenulate. *Midrib* strong, bright red when fresh, other veins obsolete. *Panicle* 18 inches long, oblong, loose-flowered. *Floral leaves* very numerous, flaccid, sheaths broad and membranous. *Leaflets* three, the two lower very small, narrow-linear, the upper one 3–6 inches long, linear, pungent. *Umbels* rising from the leaf-sheaths, simple or compound, on extremely slender stalks 1–3 inches long. *Involucral leaves* numerous, $\frac{1}{8}$ – $\frac{1}{4}$ inch long, very narrow-linear and membranous. Flowers and fruit imperfect in my specimens.—“New Zealand Country Journal.”

Hab.—Sources of Rakaia and Waimakariri.—J.B.A. This is a beautiful plant when fresh, with red midribs which give it a somewhat striking appearance. It is more flaccid than any other species, and seems sufficiently distinct from any previously described, being however somewhat intermediate in character between *A. lyallii* and *A. monroi*.

Stilbocarpa lyallii, Armstrong.

A number of living plants of the Stewart Island form of *Stilbocarpa* were presented to the Christchurch Botanic Gardens by the Rev. Mr. Stack,

who collected them. Having cultivated them for two or three years, I now feel satisfied that they are specifically distinct from the Auckland Island *S. polaris*, Planch., which has been cultivated in the garden for many years, and which flowered freely three years ago. I therefore propose to distinguish the Stewart Island plant as *S. lyallii*, in honour of Dr. Lyall, who first collected it. Unfortunately I have not been able to obtain flowers or fruit, but there is no doubt as to the genus. The leaves of *S. lyallii* are reniform, 4–8 inches across or more, with a closed—not open—sinus, rather bluntly bi-serrate, not coarsely lobed, perfectly glabrous, polished and shining above, wanting the stout bristles of *S. polaris*, below dull, with a few scattered white hairs. The petiole is truly terete, striated and clothed with soft white hairs, not flattened and deeply channelled as in *S. polaris*. In *S. polaris* the upper surface of the leaves is ribbed, or much wrinkled, but quite smooth in my plant, which is also by far the handsomer of the two, although the black shiny fruit of *S. polaris* is very ornamental.

Olearia angustata, Armstrong.

I find that this plant has been described by Mr. Kirk as *O. oleifolia*.* My name however, has several years priority, having been used in gardens for the past ten years. The plant was first collected by Messrs. J. F. Armstrong and W. Gray in their exploring tour in the upper Rangitata valley in the year 1869.

I have another new species of *Olearia* from Stewart Island, collected by the Rev. Mr. Stack. It bears considerable resemblance to *O. nitida* in the foliage, but the leaves are cordate, entire, and larger than in that species. It has not yet flowered. Another species of the same genus, brought from the Tararua mountains by Mr. H. Budding, may also be new. It was sent as *O. lacunosa*, but differs from that plant in the leaves being much narrower, longer, less distinctly lacunose, more deeply revolute, nearly glabrous above, and in the strong white midribs. It has not flowered with us. The true *O. lacunosa* was first collected by Mr. J. F. Armstrong, in 1865, in Canterbury.

Celmisia linearis, n.sp.

A small, perennial, tufted, aggregated herb. Stem erect, simple or branched, covered with the sheathing bases of old leaves, very stout for the size of the plant. Leaves densely imbricated, 2–3 inches long, $\frac{1}{5}$ to $\frac{1}{4}$ broad, linear, sub-acute, coriaceous, not rigid, covered above with persistent pellicles of appressed silvery hairs; below with silvery white glistening tomentum, which becomes brown with age. Convex by the recurvature of the margins. Midrib sunken above, keeled below; sheaths often 1 inch long, broad and

* "Trans. N. Z. Inst.," Vol. XI., p. 463.

membranous; *scapes* one-flowered, 6–8 inches high, clothed with loose white tomentum, rather stout. *Bracts* 4–6, very narrow-linear, 1 inch long, acute, convex, with a long sheath covered with matted cottony hairs. *Heads* 1–1½ inch diameter. *Involucral scales* numerous, in 2–3 rows, ½–¾ inch long, very narrow-linear, densely woolly, with glabrous subulate tips. *Ray-florets* numerous, 1 inch long, narrow, white. *Disc* yellow, glabrous. *Pappus* ¼ inch long. *Achenes* hispidulous.

Hab.—Canterbury Provincial District, 2,500–4,000 feet, forming broad patches among grass.—J.B.A., first collected in 1866. In most colonial herbariums two plants are confounded under Hooker's name of *C. monroi*, the above and the true *C. monroi*, which has much larger leaves deeply furrowed in parallel lines, and larger flowers with glabrous achenes, and fewer stouter bracts.

Brachycome simplicifolia, n.sp.

A small, tufted, branching, perennial herb, 3–4 inches high, stout and leafy. *Radical leaves* 2–3 inches long, linear-spathulate or linear, obscurely three-nerved, obtuse, with broad membranous sheathing petioles and revolute margins; quite entire, except the sheaths which are somewhat shaggy, glandular-pubescent, or glabrous. *Scapes* 1–3 inches high, pubescent, 1–2-flowered, striated or channelled. *Cauline leaves* or *bracts* few, 1 inch long, linear-spathulate, obtuse, sub-amplexicaul, glandular-pubescent, more distinctly nerved than the leaves. *Heads* ½ an inch in diameter. *Involucral scales* 12–16, in one series, or with a second outer series of 2–3 scales only, linear-lanceolate, or oblong, acute, distinctly three-nerved, coriaceous, appressed, with purplish membranous margins. *Ray-florets* short, oblong, obtuse, few or absent, white. *Disc-florets* tubular, 3–5 toothed. *Pappus* entirely absent. *Achene* compressed, ⅓ inch long, glandular-pubescent, thickened at the tip. *Receptacle* very narrow, convex, papillose.

Hab.—Nelson Provincial District, Mr. C. W. Jennings. Marlborough Provincial District (1869).—J.B.A.

Erechtites pumila, J.B.A.

A small slender herb 2–4 inches high, simple or sparingly branched, annual. *Radical leaves* few, ⅓–½ inch long, petiolate, ciliate, puberulous or glabrous, spathulate or oblong, obtuse, coarsely toothed or lobulate or entire. *Veins* obsolete. *Scape* extremely slender, hairy or scabrid, with a single terminal head. *Bracts* 4–6, linear, sessile, sub-amplexicaul, hairy, obtuse or acute, lobulate or entire, the upper two with dark brown dilated tips. *Heads* ⅓ inch long, ½ inch wide. *Involucral scales* 8–10, linear, delicately membranous, green with white margins, nearly glabrous; some with acute, crimson points, others with blackish dilated tips, in one series,

with a few pubescent brown-tipped bracteoles at the base, representing a second series. *Pappus hairs* numerous, slender, very soft. *Achenes* few, $\frac{1}{2}$ inch long, linear, hispid, slender, indistinctly grooved, not angled, with a short discoid top.

Hab.—McKenzie Country.—Mr. J. F. Armstrong, December, 1877.

A singular little plant, differing from all other New Zealand species of the genus in its diminutive size and annual character, also in the solitary heads.

Senecio buchanani, J.B.A.

A small dense-growing shrub about 3 feet high; the branches, petioles and leaves below, entirely covered with closely-appressed light brown tomentum. *Petioles* about 1 inch long, tomentose. *Leaves* ovate or obovate or oblong, obtuse or sub-acute, entire, thickly coriaceous, 1–2 inches long; when young covered on both surfaces with brown tomentum; when old glabrous above. *Veins* distinctly reticulated, often of a silvery white colour. *Heads* oblong or obconic, yellow, $\frac{1}{4}$ – $\frac{1}{2}$ inch diameter, situated on the branches of a terminal or lateral, tomentose, leafy panicle, which is about 4 inches long and contains 6–10 heads. *Peduncles* leafy, simple or forked, bracteate, tomentose. *Involucral scales*, in one row, very thick, and purple at the tips, covered on the outside with white cottony hairs. *Ray* absent. *Anthers* thickened at the tips. *Pappus hairs* white, thickened upwards, slender, scabrid. *Achene* grooved, glabrous. *Receptacle* pitted.—“New Zealand Country Journal,” Vol. III., p. 56.

Hab.—Mount Egmont, Arthur’s Pass, Kaikoura, and in Otago. I have no hesitation in pronouncing this plant to be quite distinct from any other *Senecio*, although it appears to have been confounded with *S. elaeagnifolius* by Sir J. D. Hooker and other New Zealand authors.

Senecio stewartiæ, n.sp.

Among a number of living plants brought from Stewart Island by the Rev. Mr. Stack, and kindly presented by him to the Christchurch Botanic Garden, I find a fine new *Senecio* which has not yet flowered, but will probably prove quite distinct. I propose to attach the above name to it provisionally, until I am able to furnish a better description. It has the habit of *S. huntii*, F. Müller, but is a much smaller plant. The leaves are about three inches long, linear-lanceolate, narrower than in *S. huntii*, more sharply acute, very obscurely serrated, without the obscure ribs of that species, more finely reticulated above, and below wholly covered with loose white tomentum, quite different from the grey, closely appressed tomentum of *S. huntii*. The leaves above are densely glandular dotted, in the young state pubescent and viscid, glabrous and shining when old. The leaf scars are larger and darker coloured than in *S. huntii*. If this should prove to be

a mere variety of the Chatham Island plant, it will add another to the already numerous links connecting the flora of those islands with the southern islets.

Myosotis capitata, Hk.f., var. *albiflora*.

Stouter than in the type. *Leaves* linear-spathulate, thick and somewhat fleshy, hispid with white hairs 4–6 inches long. *Flowers* in dense scorpioid racemes, several of which are united into a many-flowered head, flowers pure white, shortly pedicelled. *Calyx* five-lobed below the middle. Other characters as in the type.

Hab.—Stewart Island.—*Rev. Mr. Stack.* This is a very beautiful variety, with the flowers of a different colour from the mainland plant, and the foliage larger and more fleshy. Unfortunately it is very difficult to cultivate, showing a remarkable impatience of confinement.

Gentiana hookeri, J.B.A.

A dark green perennial herb, sending up numerous sub-decumbent branches. *Roots* fibrous. *Stem* very short. *Radical leaves* numerous, crowded, petiolate, spathulate or linear-spathulate in outline. *Petiole* 2–3 inches long, pubescent, slender, channelled with a broad clasping base. *Blade* 1–2 inches long, flaccid, membranous, obtuse, entire or rarely obscurely crenate, minutely pubescent on both surfaces, gradually narrowed into the petiole. *Midrib* evident, remaining veins obsolete or nearly so, when present parallel to the midrib. *Cauline leaves* numerous, opposite, of two kinds, the lower as in the radical leaves but smaller, the upper sessile, linear, acute, 1 inch long. *Flowers* numerous, white and yellow, $\frac{1}{2}$ to 1 inch diameter. *Peduncles* 2–4 inches long, slender, striated or slightly winged, one-flowered. *Calyx* cleft almost to the base into five narrow, acuminate teeth. *Corolla* five-cleft to below the middle, white or yellow, with faint blue veins; lobes sub-acute. *Fruit* not seen.

Hab.—Canterbury and Otago Provincial Districts, common at considerable elevations.—*J.B.A.*; Stewart Island.—*Rev. Mr. Stack.*

Gentiana saxosa var. γ , Hk.f. ?

A beautiful plant, at once distinguished from the other New Zealand species by its flaccid habit and deeply cut calyx. Its nearest relative is *G. novae-zealandiae*, Armstrong.

Nat. Order Scrophularinæ.

Siphonidium, nov. gen.

Leaves opposite. *Flowers* hermaphrodite. *Calyx* campanulate, deeply four-toothed, much wrinkled when dry; *teeth* with narrow acuminate points. *Corolla* funnel-shaped with an extremely slender curved tube 3 inches long, dilated upwards, swollen or slightly spurred about three-fourths of the way up at the commencement of the broadest part; *throat* campanulate; *limb*

two-lipped; *upper lip* of one narrow, erect or sub-erect, concave lobe; *lower lip* of three nearly equal, spreading, rounded lobes, throat not tumid, but having a few scattered hairs. *Stamens* four, didynamous, inserted on the throat, included, the two lower the longest. *Anthers* two-celled, introrse. *Style* extremely slender, a little longer than the stamens, with a two-lobed stigma. *Ovary* superior. *Capsule* two-celled, loculicidal? included within the calyx. *Seeds* minute. (Capsule immature.)

This genus is allied to *Euphrasia*, from which it differs in the long curved gibbous tube and bi-lobed stigma. It also approaches the South American genus *Gerardia*, and in some characters the South African *Lyperia*.

Siphonidium longiflorum, n.sp.

A small creeping or trailing herb. *Branches* clothed with scattered spreading hairs. *Leaves* opposite, $\frac{1}{4}$ inch long, entire, linear-lanceolate, rarely ovate, acuminate, obscurely three-nerved, pubescent or glabrous, shortly petiolate. *Flowers* solitary, axillary, very shortly peduncled, not bracteate. *Corolla* pubescent, pale blue (?) with darker veins.

Hab.—Karamea, west coast of Nelson.—Mr. Spencer.

Some allowance must be made for the above description, as many more specimens are wanted to furnish a good diagnosis. I have seen only one perfect flower.

Grammitis pumila, n.sp.

A very small species, less than 1 inch high. *Rhizome* seldom more than 1 inch long, creeping, epigeous, comparatively very stout, covered with membranous imbricating scales, and sending down slender hair-like fibres.

Fronds erect, $\frac{1}{2}$ – $\frac{3}{4}$ inch long, simple, entire or irregularly toothed near the base, almost sessile, linear-cuneate or cuneate-oblong, rarely spatulate, obliquely truncate at the tip, crowded, glabrous above, below clothed with minute greyish or brownish pubescence, margins never recurved. *Costa* distinctly keeled below, remaining veins very obscure. *Veinlets* free. *Sori* naked, irregular in outline, rounded or oblong, usually only one on a frond, sometimes two, in which case they are confluent, situated on the uppermost veinlet near the apex of the frond, almost terminal, composed of numerous long-stalked sporangia.

Hab.—Canterbury and Otago Provincial Districts, first collected by Mr. J. F. Armstrong in 1865, at 3–6,000 feet altitude.

A remarkable little fern, quite distinct from *G. australis*, H.B., readily distinguished by its diminutive size, sub-terminal, solitary sori, pubescent costa, and obscure veins. The fronds are also invariably uniserial, whilst those of *G. australis* are generally tufted. It is truly alpine, and is an exceedingly interesting little fern.

Ophioglossum minimum, J.B.A.

Rhizome creeping underground, and throwing up fascicles of fronds. *Stipes* 2–3 inches long, slender, hypogeous, often or perhaps always jointed to the rhizome. *Barren* and *fertile fronds* sometimes quite distinct. *Barren* $\frac{1}{2}$ –1 inch long ovate, acute, closely appressed to the ground, usually in pairs on the same stipes, with one *fertile* rising between them, but often solitary, in which case the fertile rises from the stipes as in other species of the genus. *Costa* 0. *Veins* obsolete or faintly reticulated. Fertile frond less than one inch high, spike-like, very narrow, with 10–24 capsules in two rows.

Hab.—Canterbury plains, near Christchurch; rare. This very rare little plant differs from all other species of the genus in its widely creeping rhizome. Its nearest ally is the South African *O. bergerianum*. I am indebted to Mr. Brown, of Christchurch, an old Scotch botanist and an excellent cryptogamist, for pointing out to me the peculiarities of this plant, which was first found in the Christchurch Botanic Garden. It is quite distinct from *O. vulgatum* var. *minimum*.

Donatia novæ-zealandiæ, Hk.f.

Dracophyllum muscoides, Hk.f.

On the herbarium sheet of *Donatia* in the Canterbury Museum, there is written a note to the effect that I referred the plant to *Dracophyllum muscoides*, and that the latter plant is confined to Otago. The plant I referred to Hooker's *Dracophyllum muscoides*, is undoubtedly the true plant of that author, and is found in many localities in the Canterbury and Nelson Provincial Districts. I append an amended description of both plants.

Dracophyllum muscoides, Hk.f. Very small, *stems* and *main branches* creeping under ground, stout for the size of the plant, woody. *Branchlets* erect or spreading, forming dense tufted masses. *Leaves* $\frac{1}{10}$ – $\frac{1}{8}$ inch long, linear-oblong, densely imbricated, subulate, obtuse, or subacute, coriaceous, ciliate, with broad sheathing bases, greyish when dry. *Flowers* solitary or in pairs, terminal or subterminal, $\frac{1}{8}$ inch long. *Sepals* linear-ovate, acute. *Corolla* pubescent, white, the lobes scarcely spreading. *Capsule* not seen.

Hab.—Rangitata and Ashburton Valleys.—J. F. Armstrong. Various places in the Alps.—J.B.A.

Donatia novæ-zealandiæ, Hk.f. A small dense-growing plant, forming broad rigid patches in alpine swamps. *Branches* 2–3 inches long or less, $\frac{1}{2}$ an inch diameter (including the leaves), densely clothed with closely imbricated, rigidly coriaceous leaves. *Lower leaves* reddish brown, hidden by the *upper*, which are bright green, $\frac{1}{4}$ – $\frac{1}{2}$ an inch long, suberect, linear-subulate, obtuse, nerveless, punctate or pitted, woolly at the bases. *Flowers* terminal, sunk among the uppermost leaves. *Calyx* obconic, adnate. *Lobes* five, unequal, acute. *Petals* five, white, ovate-oblong, obtuse, $\frac{1}{8}$ inch

long. *Stamens* two. *Ovary* two-celled, inferior. *Styles* two. *Capsule* longer than the calyx, coriaceous, dehiscing near the top by the falling away of the summit. *Seeds* very minute, numerous, ovoid-oblong.

Hab.—Throughout the South Island abundant in alpine swamps from 2,000–6,000 feet altitude.

This plant is very closely allied to *Helophyllum*, and perhaps should be united with that genus. It may not be congeneric with the Fuegian plant on which *Donatia* was originally founded by Forster.

ART. XLIV.—*On the Occurrence of the Morel (Morchella esculenta, Pl.) in New Zealand.* By J. B. ARMSTRONG.

[Read before the Philosophical Institute of Canterbury, 2nd September, 1880.]

THE object of this short paper is to place on record the discovery in New Zealand of the well-known European edible fungus, popularly known as the morel, and called by botanists *Morchella esculenta*, Pers. About three years ago a number of specimens of this plant were found growing in the Christchurch Botanic Garden, under the shade of some large trees of *Eucalyptus globulus*, Lmk. At first we supposed the plant to be a recent introduction, but as so many other European fungi are found in New Zealand, and as the morel occurs in Australia and in nearly all other countries, I now feel satisfied that we may look upon it as indigenous to our colony. The morel belongs to the sub-order Ascomycetes and to the tribe Elvellacei, and is described by Berkeley as follows :—

Gen. Morchella, Dillenius.

Receptacle clavate or pileate, impervious in the centre, stipitate, covered with the hymenium which is deeply folded and pitted.

M. esculenta, Persoon.

Pileus ovate, conical or sub-cylindrical, adnate at the base, ribs firm, anastomosing and forming deep pits, stem even.

In woods and gardens, esculent, varying much in breadth and height, sometimes almost cylindrical.

British specimens are often 4 or 5 inches high, but all the New Zealand specimens I have yet seen were considerably smaller; their diminutive size, however, may have been owing to the poverty of the soil in which they were grown. The colour of our specimens was a dull brown, whilst European ones are described as olive-coloured. In the arrangement published in