

ART. XXVII.—*A Description of some newly-discovered and rare Indigenous Plants; being a further Contribution towards the making known the Botany of New Zealand.* By W. COLENSO, F.L.S.

(Read before the Wellington Philosophical Society, 13th February, 1885.)

Class I. DICOTYLEDONS.

ORDER I.* RANUNCULACEÆ:

Genus 3. *Ranunculus*, Linn.

1. *Ranunculus amphitricha*, sp. nov.

A low perennial, perfectly glabrous, slender, creeping herb, stolons very long, rooting at nodes, rootlets very long. Leaves rather distant, generally two from a node, erect, orbicular-cordate in outline, 7–9 lines diameter, ternisect, the two lateral lobes bisected nearly to base, each lateral lobe having 3–4 lacinations, middle lobe always cuneate and trifid, with a minute lacination or notch on each side, and mostly very regular; petioles slender, fistular, 2–3½ inches long, winged and clasping at base. Scapes or peduncles rather stout, 1–2 inches long, springing from node on the opposite side to the leaves, 1–3-flowered; flowers single, on long pedicels, 3 lines diameter; sepals 5, shorter than petals, orbicular, greatly concave, inflated, erect, obtuse, sub-papillose, one sepal always deeply emarginate or sub-bifid; petals 5–6, spreading, narrow, linear-oblong, obtuse, 2 lines long, yellow, shining, simple veined; vein forked at apex; unguiculate, ungues nearly as long as the lamina, the gland at base of lamina large, extending nearly across, erect, thickened, slightly toothed at top; stamens numerous, filaments long, anthers round bright yellow; styles erect when young, long recurved and subulate when mature; stigmas pubescent; achenes turgid and subpapillose when young, sub-globular and rugosely-papillate when mature, 12–15 collected in a globose head as large as a small pea; receptacle (ripe) largely echinately chaffy or squarrosely-hairy at base; hairs flat, translucent, bordered.

Hab. In muddy watercourses, edges of woods near Norsewood, County of Waipawa; 1880–84: *W.C.*

Obs. I have long known this plant, it has given me no small amount of yearly consideration and labour. I had long supposed it to be a variety of *R. rivularis* and of some allied Australian species; but on closer examination in its living state, and noting its differential (?specific) characters (*supra*), which are permanent, I cannot but conclude it to be distinct.

* The numbers in this paper attached to both orders and genera are those of the "Handbook of the N.Z. Flora."

ORDER X. MALVACEÆ.

Genus 2. *Hoheria*, A. Cunn.1. *Hoheria seawylosa*, sp. nov.

Tree erect, 12–14 feet, fastigiate, much branched; bark scaly with many small cracks and a whitish epidermis; branches long, slender, glabrous, roughish, bark dark reddish-brown; branchlets puberulous, with star-like pubescence. Leaves rather distant, glabrous, very variable in size and shape, mostly, however, lanceolate on the main and flowering branches, 2–2½ inches long, acuminate, sometimes truncated at tips, cuneate, very finely reticulated and dotted, sub-membranaceous, light green above and lighter green below, sharply and deeply serrate, teeth acute; petioles ½ inch, flat above, and (with peduncles and calyces) thickly clothed with star-like pubescence. Flowers numerous, white, 1 inch and more in diameter, axillary and lateral, fascicled, mostly 3–4 together, sometimes 2, and also only 1; peduncles ¾ inch, jointed about the middle; calyx cup-shaped, 5-lobed, lobes large, deltoid-acuminate, acute with a knob at tips, 3-nerved, purplish-green; petals 5, connate at base, oblong, 7 lines long, 3 lines wide, oblique, obtuse, each petal deeply one-notched on the right side near tip, veined, glabrous, hairy within near base, spreading, incurved; filaments 5-adelphous, spreading, 2 lines long; anthers (filaments and styles) white, reniform, sub-versatile; styles 6–7, stout, flexuous, shaggy; stigmas capitate, large, flattish at top, papillose, slightly coloured, yellowish; ovary included sunk, 6–7 ridged, pubescent.

Hab. Skirts of woods and thickets, Norsewood, Matamau, and Tahoraiti, County of Waipawa; 1883–84: *W.C.* Flowering in March and April.

Obs. No two trees can be more unlike in their foliage than this is in its young and in its mature state; and not only so, but the same tree in the leaves on its older and flowering branches, and in those on its younger and lower branches; these latter, like those on the young trees, are under an inch long, rhomboid, trilobed, sub-orbicular, etc., but always deeply serrate and sub-fascicled, generally four together and all of various sizes. On the flowering branches also, the lowest leaves are invariably small. I have long known this plant in its young and leafing state, and had always supposed it to be a variety of *Plagianthus betulinus*, A. Cunn., which it much resembles. When in flower it has a striking and elegant appearance, and it remains a long time in full blossom; it will make a handsome garden tree or tall shrub. Not unfrequently 5–6, or more, standards rise from the one root, all about the same size, forming a little compact clump. The bark of the older trees is often completely covered with handsome crustaceous lichens.

ORDER XXXIII. UMBELLIFERÆ.

Genus 1. *Hydrocotyle*, Linn.1. *Hydrocotyle concinna*, sp. nov.

Plant creeping, slender, pilose, soft, forming dense beds. Stems 2-3 feet (and more) long, rooting at nodes. Leaves membranaceous, green, distant, generally 1, sometimes 2, springing from a node, sub-orbicular, 8-10 lines diameter, roughish above with glandular pubescence of large flattish white and pink hairs, with a few larger and pink coloured ones scattered on the veins, deeply 5-lobed, lobes regular, broadest at apices, sub-tri-lacinate and sharply toothed, teeth long and curved; petioles 3 inches long, slender, finely striate; stipules large, broadly ovate, lacinate. Peduncles axillary and lateral (from nodes), erect, slender, much longer than the leaves, 4-6 inches long, pink-striped, thickly clothed with weak curved hairs; umbels 20-22-flowered; flowers radiate on long glabrous pedicels sub 2 lines long, each bearing a few scattered erect hairs and mostly in a single line; involucrel leaves and bracteoles numerous, ovate-linear, lacinate and pointed; flowers greenish-white tinged with pink, red-striped on the outside; petals ovate, obtuse, spreading; calyx tube raised, tuberculate, dark-red; styles diverging, sub-clavate; stigmas capitate, red, minutely pencilled. Fruit orbicular, at first semi-transparent, echinate, light brown, carpels with one rib on each face.

Hab. In dense rather dry forests, on the ground. Seventy-mile Bush, County of Waipawa; 1878-84: *W.C.* Flowering in March.

Obs. This is a truly graceful species, neat, pretty, and uniform in all its parts. I have long known it, and though I had early considered it to be new, and often brought away specimens, I never found time to dissect, examine and compare it, until the autumn of 1884, when I did so leisurely in its native forests. Sometimes the young immature and unfolded leaves present a highly curious appearance; sessile at the nodes in small globular woolly masses, with their green cut and plaited margins fringing their tops; reminding one of young hazel-nuts. I believe it to be the work of some insect, having found the darkish-yellow larvæ snugly ensconced within.

2. *Hydrocotyle uniflora*, sp. nov.

Stems creeping, rooting at nodes, whence also spring the leaves and peduncles fascicled. Leaves glabrous, entire, orbicular-truncate, or oblong-orbicular, always truncate at base, 5-7 lines long, rounded at apex, finely and regularly crenately toothed (3-4) towards base, and often with one small acute tooth at or below the two corners, 5-nerved, green, often purple above and covered with very minute white dots as if stippled, margins purple, sometimes largely and loosely hairy below at base and on the nerves, veinlets

closely anastomosing; petioles $1\frac{1}{2}$ –3 inches long; stipules large, membranous, veined, entire. Peduncle $1-1\frac{1}{2}$ inches long, slender (two are often united below near base, and thus become bi-peduncled), sometimes largely pilose. Involucral leaves two, sub-orbicular or orbicular-ovate, sessile and half-clasping, glabrous, veined, purple stained or margined, very membranous. Flowers single, sessile (rarely two together, and when so then one is shortly pedicelled), petals rather large, ovate, sub-acute, purple, reflexed. Fruit large, sub-orbicular, compressed, 2 lines diameter, obsolete 3–4-ribbed, tops purplish with a few loosely scattered hairs.

Hab. Wet sides of slopes, gullies near Norsewood, County of Waipawa; 1884: *W.C.* But not common.

Obs. A species having pretty close affinity with *H. asiatica*, Linn., but differing in several particulars.

3. *Hydrocotyle intermixta*, sp. nov.

Plant very small; stems short, creeping and rooting interlaced underground. Leaves orbicular with a narrow deep sinus, 3–4 lines diameter, thickish, much veined, dark green, sparsely pilose on both sides with long succulent scattered hairs, 5–6-lobed, lobes short, broad, sub-tri-lacinate, cut, obtuse; petioles 4–5 lines long; stipules delicately membranous, reticulated, sharply lacinate. Flowers in small globose heads, 9–10 (*sub* 12), minute, red, sessile, petals incurved, obtuse; styles short; peduncles 7–8 lines long, erect, striate; involucral leaves small, obovate, obtuse. Fruit very small, shortly pedicelled, glabrous, turgid, broader above than below, shining, dark brown; carpels sharply keeled on back, 1 rib on each face, and a deep hollow between the two lateral ridges.

Hab. On dry open hills near Matamau, Seventy-mile Bush, County of Waipawa; forming thick little patches among short grasses and mosses, and other small plants, scarcely visible without close search; 1880–84: *W.C.*

ORDER XXXIV. ARALIACEÆ.

Genus 2. *Panax*, Linn.

1. *Panax microphylla*, Col.*

Flowers axillary, in 2–4 small umbellate panicles, conjoined at base and wearing a fascicled appearance, each sub-panicle containing 2–4 flowers—in all 3–14, small and inconspicuous, $1\frac{1}{2}$ lines diameter, pedicelled, each pedicel surrounded by many minute stipellæ; petals broadly ovate, sub-acute, darkish-red on the outside greenish-red within, spreading, slightly recurved, deciduous; calycine teeth minute, acute, purple; filaments short,

* For description of this plant (without flowers), see "Trans. N.Z. Inst.," vol. xvi, p. 328.

alternate with petals; anthers sub-orbicular, bright yellow; disk green, convex; styles long, divergent, recurved, stout, obtuse, arising from an elevated base; stigmas slightly pencilled, purple.

Obs. Flowering in February. Each panicle almost invariably bears one large fruit before the other flowers are open. I have recently detected some larger shrubs, in those same localities, 5–7 feet high.

ORDER XXXVI. LORANTHACEÆ.

Genus 1. *Loranthus*, Linn.

1. *Loranthus polychroa*, sp. nov.

A glabrous spreading shrub of irregular horizontal growth; branches extending 2–3 feet. Leaves 2–2½ inches long, 7–10 lines broad, narrow-oblong and oblong-lanceolate, very obtuse and rounded at apex, sometimes (rarely) apiculate, tapering at base and narrowed into a rather long petiole 4–6 lines long, coriaceous, sub-glaucous-green, veins obscure when fresh, very apparent in dried leaves, 5–7 diverging from near base, margins thickened, sub-revolute, coloured red, and regularly and finely tuberculated. Racemes erect, about 1 inch long, 12–16-flowered; peduncle quadrangular, stout, tapering; pedicels decussate 2 lines long; flowers bright orange-red, 7–8 lines long; corolla slender, straight, swollen about the middle at base of filaments; petals linear-spathulate, sub-acute, longer than anthers, combined to below the middle, recurved and appressed from middle, darkish-coloured on outside at tips; anthers linear; style filiform longer than anthers; stigma dark red, globular, finely papillose; calyx rather deep, margin uniform, even; tube cylindrical, oblong, length of pedicel.

Hab. Parasitical and high up on trunks of *Fagus solandri*; woods near Norsewood, County of Waipawa, but scarce; March, 1884: *W.C.* Specimens, flowers, and leaves picked up.

Obs. A species near to *L. flavidus*, Hook. fil., yet distinct (*vide descript. supra*), as well as from the many other described species (nearly 200!) of this large genus.

ORDER XXXVII. CAPRIFOLIACEÆ.

Genus 1. *Alseuosmia*, A. Cunn.

1. *Alseuosmia pusilla*, sp. nov.

A small glabrous shrub, 5–8 (rarely 10) inches high, erect, simple, sometimes bearing 2–3 very short branches, and also other plants once forked from the base.

Leaves few, 8–12, distant, spreading, petiolate, 1–2½ inches long, oblong and obovate-lanceolate, obtuse with a small mucro, with 3–6 minute and fine distant teeth, sometimes quite entire, sub-coriaceous, green splashed and spotted with red, obsoletely veined, margins red; petioles 3–4 lines long, rather stout. Flowers few, scattered, single, lateral from near base of

near top, rarely axillary, drooping; peduncle stout, glabrous, spotted and striped with red (also the calyx and corolla without), bearing two small alternate bracts, and 3–4 red bracts together at the base with red spreading hairs within; calyx glabrous, 5-lobed, lobes deltoid acute; corolla 4–5 lines long, 5-lobed, lobes thickish, revolute, of a light straw or pale primrose colour, velvety; not veined, sides ruguloso-fimbriate to base, each lobe bearing 3–4 rather long cylindrical white obtuse fimbriæ at tip; anthers large, orbicular, 2-lobed, lobes turgid, shorter than corolla-tube, and longer than the style; stigma large, globose. Berry large, 8–9 lines long, ellipsoid, thickest at apex, succulent, smooth, shining, bright red, containing 9 (or more) dark brown seeds, 2 lines long, oblong, slightly curved and obtusely angled, finely striate, shining.

Hab. In shady forests near Norsewood, County of Waipawa; 1884: *W.C.*

Obs. I. The unexpected discovery of this little shrub pleased me much: (1) from the genus being very scarce in this part of the island, though common in the woods at the north (Bay of Islands, etc.); I had only once before (in 1848) fallen in with a species* so far south, and then only in one spot, in the dense forest between the rivers Manawatu and Ruamahanga: (2) from the distinctness of this species: (3) from the small size of the shrub—a little erect hard-wooded tree in miniature; and (4) from its very large and bright red fruit (which indeed was the cause of my detecting it, hidden among the dense undergrowth of ferns and small herbaceous plants); it bears the largest berry of the known species of the genus.

Obs. II. I brought away living four shrubs, each 5–6 inches high; and planted them here at Napier in a large flowerpot. These are all healthy, and are now flowering (September), although they have not yet fully evolved a leaf; some of the flowers are about 1–2 inches from the base, and all from old wood. From its delicious odour (common to the genus) this species being so small will make a suitable pot plant.

ORDER XXXIX. COMPOSITÆ.

Genus 1. *Olearia*, Mœnch.

1. *Olearia multibracteolata*, sp. nov.

A shrub about 6–7 feet high of dense foliage and thick compact growth; "bark on trunk rough grey and somewhat scaly, wood hard, and leaves in age acquiring a brown colour." Branchlets long slender, dark brown, sulcated, villous with brown and grey pubescence. Leaves 1–2½ inches long, ½–¾ inch wide (decreasing in size towards ends of branches), linear-oblong, obtuse with a tooth, alternate, distant, coriaceous, incurved, deeply

* This, also, I had only found in fruit, in the autumn; Sir J. D. Hooker, in the "Handbook N.Z. Flora," has placed it under *A. quercifolia*,

and sharply serrate, or bi-serrate—the serratures having small teeth in the sinuses, margined, bases dimidiate and sub-truncate, glabrous and shining on upper surface, clothed below with fine appressed golden silky hairs, midrib stout, keeled below, costal veins forming obtuse angles with midrib, greatly and finely reticulated on the upper surface, almost tessellated with minute squarish dots that are sometimes crescent-shaped; petioles $\frac{1}{2}$ inch long, stout, deeply channelled, dark brown, largely decurrent slightly winged or ridged extending to next leaf below. Flowers whitish, in small rounded terminal corymbose-panicles, arising from axils of leaves; panicles long slender, 1–2 inches long, leafy; sub-panicles with 2–4 flowers; flowers rather distant, but together form a close compact corymbose head; peduncles slender, each with a small leaf at its base; pedicels about 8 lines long, slender; peduncles, pedicels, and involucre thickly covered with viscid glandular pubescence, odoriferous. Head of flowers small, about 2 lines long, 2–3 lines diameter, sub-cylindrical or infundibuliform, few-flowered, soon expanding; involucre with 1–2, or more, leafy bracteoles at its base; involucreal scales in two rows, brown with a dark centre, outer shorter and ovate-acuminate, inner long linear obtuse, fimbriate at tips with brown curly tomentum. Florets of the ray white, 7–9, largely revolute, nearly twice as long as the involucre,—of the disk 5–6, reddish, pubescent without; pappus short, rather shorter than florets, not thickened at tips, of a light-brownish colour (*ochroleucus*); achenes small, sub-linear-obovoid, somewhat flattened, ribbed and very hairy; receptacle very small, somewhat irregular and ridgy.

Hab. Forests about Woodville, River Manawatu, North Island; 1882–84. Flowering February and March: *Mr. S. Hutching*.

Obs. A species closely allied to *O. dentata* and *ilicifolia*, with which I was at first inclined to place it; but a closer examination of better and flowering specimens has yielded important characters possessed by neither of those species. It has a very strong and not unpleasant smell, particularly the clammy glandular pubescence of its heads of flowers. *Mr. Hutching* informed me that, during several years residence there, he had only noticed this one plant, which he had early removed into his garden. I think it will make a neat garden shrub.

2. *Olearia populifolia*, sp. nov.

Branchlets slender, bark brown, striate, thickly hairy with brown and grey hairs. Leaves alternate, rather distant, 2–3 inches long, $1\frac{1}{2}$ – $2\frac{1}{4}$ inches broad, membranaceous, broadly ovate, acute, acuminate, sometimes sub-orbicular and dimidiate, sub-truncate at base, sinuate, toothed, teeth few distant and (apex) knobbed, glabrous above, clothed below with densely appressed short pale greenish-white wool of a satiny appearance, midrib

prominent below and densely covered with brown hairs; petioles 5-9 lines long, rather slender, brown, hairy, deeply channelled above, dilated at base but not decurrent. Flowers sub-terminal in long slender sub-corymbose and axillary panicles, 4 inches long, panicles and sub-panicles each with a single small obtuse densely-haired brown bracteole at base; heads few, broad, spreading, 4-5 lines diameter, rather distant, on slender pedicels 5-6 lines long; involucrel scales in three rows, brown with a dark mid-line, outer short sub-ovate, acute, densely hairy on the back, inner longest, linear, obtuse, glabrous on back, densely fimbriate at edges and tips; florets few, tubes glandular-pubescent, thickened downwards; florets of ray broadly lanceolate, tips obtuse and very slightly emarginate; stigmas much exerted, long, narrow, acute, spreading; pappus short, acute, dirty-white, tips recurved reddish; receptacle small, convex, ridgy; achene very small, less than 1 line, nearly linear, broadest at top, sub-cylindrical and very slightly angled, very hairy.

Hab. Woods, east side of the Ruahine Mountain range, County of Waipawa, North Island; January 1884: *Messrs. H. Hill and A. Hamilton.*

Genus 14. *Gnaphalium*, Linn.

1. *Gnaphalium adherens*, sp. nov.

Plant a diffuse bushy perennial herb; main stems woody, as thick as a goose-quill, climbing, adhering closely by long lateral rootlets to perpendicular clayey cliffs. Branchlets sub-secund, patent, drooping, 9-14 inches long, stoutish, covered with floccose silky hairs; leaves alternate, scattered, 2 inches apart on stems, $1\frac{1}{2}$ - $2\frac{1}{4}$ inches long, 6-8 lines broad, obovate, acute, apiculate, sessile, half-clasping, margins entire, glabrous above, woolly below, with closely appressed floccose white hairs, membranaceous, flaccid, strongly tri-nerved, light green. Flowers terminal in loose bracteate corymbose panicles, 2-3 inches long, containing 12-13 heads, mostly 3 heads on each sub-panicle or lower peduncle; peduncles and pedicels long, bracteolate, densely woolly like branchlets; bracts and bracteoles foliaceous, margins waved; heads 4 lines diameter; outer involucrel scales densely floccosely silky; inner involucrel scales 2 lines long, linear, clawed, spreading, lamina white as ligulate florets but narrower, claw green shining thickened at base; ligulate florets white, spreading acute and obtuse, lacinate-toothed at tips; pappus few, slender, scabrid, spreading, not thickened at tips; achenes very small, linear, somewhat subquadrangular, obtuse with a central depression or corona at base, glabrous: receptacle small 1 line diameter, flat, subdepressed, alveolar, full of circular holes with raised margins.

Hab. Damp cliffy clayey sides of the River Mangatawhainui (a feeder of the River Manawatu) near Norsewood, County of Waipawa; 1883: *W.C.* Flowering in December, with the dead leaves and flowering panicles of the former year still strongly adhering.

Obs. A species allied to *G. lyallii*, *trinerve*, and *keriense*. From its diffuse flourishing growth, peculiar habit, and numerous heads of pure white flowers, this plant looks exceedingly well in its native home. It clings strongly to the cliffs, like ivy, only its rootlets are very much longer, extending some inches each way.

2. *Gnaphalium sub-rigidum*, sp. nov.

Plant bushy, loosely spreading; stems many from one root, woody, ascending, very slender, 12–20 inches long, 1–1½ lines diameter, of uniform thickness, brittle, branched and naked below, simple and leafy above, scarred throughout; bark dark brown. Leaves rather closely-set, scattered or somewhat whorled, patent, sub-coriaceous, linear, 8–12 lines long, 1–1½ lines broad, sub-acute and apiculate, flat, sessile and half-clasping, glabrous, shining and reddish above, white and cottony below; margins entire, recurved, very thick and shining; midrib stout and prominent below; veinlets anastomosing. Heads of flowers white, numerous, 10–20 at tips of branches, in lax sub-fascicled corymbs, on slender nodding white and cottony peduncles and pedicels of various lengths 3–9 lines long, some 1-, others 2- and 3-flowered, all with long foliaceous narrow bracts, often each pedicel is bi-bracteolate; heads ½-inch diameter; involucrel scales white and spreading, oblong, obtuse, rarely notched at tips, margins entire, claw short, greenish-brown, glabrous; florets very numerous, at first yellow, afterwards with a dull reddish tinge; receptacle flat with a raised flat centre, densely and minutely rugged; pappus few, very slender, weak, slightly scabrid and jointed. Achene short, linear, sub-acute at tip, glabrous.

Hab. Dry hilly country west side of Ruataniwha Plains, County of Waipawa; 1884: *Mr. H. Hill.* Flowering in September.

Obs. A species pretty near to *G. keriense*, *A. Cunn.*, var. *linifolia*, *J. D. Hooker.*

ORDER LIII. SCROPHULARINEÆ.

Genus 4. *Gratiola*, Linn.

1. *Gratiola glandulifera*, sp. nov.

Plant creeping at root, glabrous, stems erect and ascending, 6–12 inches high, simple and branched, stout, semi-succulent, sub-quadrangular, obtusely-angled, deeply channelled on two sides, purple-red, with a few weak and short scattered hairs. Leaves ovate, 4–6 lines long, 2–3 lines wide, obtuse, sessile, half-clasping, thickish, 3-nerved, serrate, sub 6 (generally 4) teeth, teeth and tip dark purple. Flowers few, axillary, solitary,

peduncled, peduncles about 1 line long: calyx 5-leaved, leaves linear-acuminate, 1-nerved, green, longer than capsule, obtuse, somewhat knobbed and purple-tipped, each leaflet having a row of sub-succulent white hairs down the nerve on the outside: corolla $\frac{1}{2}$ inch long, pubescent, limb white; upper lip 2-lobed, sometimes purple-margined; lower lip 3-lobed, lobes all very obtuse; tube yellowish, purple-striped, throat above thickly clothed with golden glandular hairs, and on each side a single row of similar hairs. Capsule broadly-ovoid.

Hab. In boggy spots, edges of water-courses near Norsewood, County of Waipawa; 1884; but very local; flowering in March: *W.C.*

Obs. A species having pretty close natural affinity with *G. sedentata*, A. Cunn. (? *G. peruviana*, Benth.), but apparently differing in several characters, the chief one being the thick glandular pubescence lining the corolla.

Genus 9. *Ourisia*, Comm.

1. *Ourisia robusta*, sp. nov.

Erect, glabrous, scape, sparingly pilose.

Leaves radical broadly-ovate, obtuse, deeply crenate or sub-crenate-serrate, teeth apicular, each with a gland-like circular brownish dot on upper surface within margin, triple-ribbed, veins very stout and prominent below, lamina 6 inches long, thickish, slightly decurrent; petioles same length, thick, sub-succulent, deeply canaliculate, edges purple and slightly hairy. Scape $1\frac{1}{2}$ –2 feet high, very stout, 5 lines diameter, septangular and sulcated, purple-striped, bearing long white jointed and weak hairs scattered on its angles. Bracts, or floral leaves, on the scape all whorled, lowermost 5–8 (generally 8), broadly lanceolate, $2\frac{1}{2}$ inches long, serrate, margins purple, 5-nerved to base of petiole; petioles long broad and flat, edges hairy; upper whorls of bracts very numerous (∞), serrate, decreasing gradually in size to the apex. Flowers umbelled in distant whorls, generally nine; pedicels $1\frac{1}{2}$ inches long, rather slender, sub-angular, purple-striped, covered with thick glandular pubescence; calyx 5-partite, glabrous, purple-striped, lobes linear-subulate, 1-nerved, 5 lines long, obtuse and thickened at tips; tips recurved, margins purple; corolla large 11 lines diameter, white within, purple and purple-striped on the outside; throat yellow-green, densely clothed with numerous jointed and sub-clavate succulent hairs of the same colour; tube short 3 lines long; lamina spreading 5 lines long, lobes large, retuse, veined; veins obtusely angled and rounded. Capsules orbicular-oblong, broadest at base, turgid, glabrous, purple-spotted on top, much smaller than calyx lobes.

Hab. In gullies on the high lands west of Napier, between Napier and Taupo; 1883: *Mr. H. Hill.*

Obs. I. This species has close affinity with *O. macrophylla*, Hook., but differs from it in several particulars; the sepals are narrower longer glabrous and coloured, and only 1-nerved; the corolla is coloured within and there clothed with densely glandular pubescence, and the tube is much shorter, and in the venation of the limb, which is also larger, the angles are rounded at apices, and not acute as in that species, and the pedicels are densely glandular-hairy: the leaves also are different, both in their shape and in their curious little gland-like openings or depressions on their margins; and the scape is very much stouter and 7-angled, with its lower floral leaves much more numerous, larger and petiolate.

Obs. II. From Sir J. D. Hooker's "note"* on an imperfect specimen of *Ourisia* of possibly an additional species allied to *O. macrophylla* which I had early "gathered near Taupo;" I am of opinion that this may very likely be identical with that plant.

ORDER LXX. CUPULIFERÆ.

Genus 1. *Fagus*, Linn.1. *Fagus apiculata*, Col.† (Fruit.)

Fruiting involucre or cupule, green, ovate, obtuse, 4 lines long, 3- (sometimes 4-) sided, with four imbricated tomentose ovate scales on each side, edges scarious and brown, shortly pedicelled, pedicels pilose; nuts 2-3, broadly ovate, sparsely pilose, outer one (or two) sharply ridged down the centre on one side, inner (or middle) one flat, thin, sub-erose at edges above, tips deeply bifid; styles persistent.

Class II. MONOCOTYLEDONS.

ORDER I. ORCHIDÆÆ.

Genus 10. *Microtis*, Banks and Solander.1. *Microtis longifolia*, sp. nov.

Plant variable in size, and in the number of its flowers; tall, erect, 1 foot 3 inches to 2 feet 3 inches high; leaf solitary terete tubular, with 3 longitudinal furrows from base to tip, 2-3 inches longer than scape, and an open oppressed bract at base 1-2 inches long. Scape stout, 2-3 lines diameter, cylindrical below sub-angular above; raceme 3-6 inches long, many flowered (25-40), flowers pedicelled, small, distant, 2-6 lines apart; bracts 2 lines long, broadly ovate-acuminate, transversely rugulose and decurrent; upper sepal boat-shaped, sub-cucullate, acute; lower pair largely divergent sub-revolute, obtuse; petals free, recurved, obtuse; lip oblong, lacinate or sub-lobed, much crisped at margins; tip broad and bifid; the two lumps at base very large, dark green, smooth and shining; the lump near tip tuberculate or crisped, commonly in two ridges; ovarium stout, 3 lines long, finely papillose, flat beneath, very turgid and gibbous above.

* "Flora Novæ-Zelandiæ," vol. i., p. 198.

† For description of this plant (without fruit) see "Trans. N.Z. Inst.," vol. xvi., p. 335.

Hab. Skirts of woods near Norsewood, County of Waipawa; flowering in February and March; 1883-84: *W.C.*

Obs. A species allied to the common *M. porrifolia*, but differing in several characters (*vide descript. supra*); and also from its flowering in the autumn. It is nearly allied to some of the Australian species.

Genus 11. *Caladenia*, Br.

1. *Caladenia variegata*, sp. nov.

Plant erect, 6-12 inches high, glandular-pubescent; pubescence pink-tipped; scape red, sub-rigid not succulent, slender above leaf, stoutish below, arising from a thickened node, having three clasping membranous acute sheaths, one at base enclosing scape and leaf, one at middle 6-8 inches long, and one close under ovarium; root rather long, stoutish, ending in a long white tuber as big as a pea. Leaf single, $\frac{1}{2}$ -1 inch from base, 6-8 inches long, 1-2 lines wide, linear-acuminate, thickish, glabrous, channelled, green on upper and purplish-red on under surface, slightly ciliate at edges, and very sparsely pubescent underneath on the lower portion with long weak glandular hairs. Flower single on top of scape, (one specimen only, out of nearly forty obtained, bore two flowers, both springing from within the upper sheath and pedicelled,) perianth spreading, more than $\frac{1}{2}$ inch diameter; dorsal sepal green, arched, sub-oblong-ovovate, obtuse and apiculate at apex, produced, glabrous above; lateral sepals pinkish, oblong, apiculate, larger than petals, 3-nerved; petals pink, oblong-lanceolate, apiculate, falcate; lip sessile; disk with two longitudinal rows of bright-yellow stipitate glands having large globular heads, extending from inner part of middle lobe down into the throat, with smaller glands scattered on each side, and one or two at the margin of extreme base of the middle lobe; the two lateral lobes are transversely banded with light-purple, margins white, rounded at tips; middle lobe deltoid, deeply crenulate, recurved, bright yellow; column winged throughout, green, pubescent at top, transversely banded below with light purple, similar to lateral lobes; anther acute, tip subulate, margin finely fimbriate. Ovary 8-9 lines long, linear-obovate, sulcate, densely glandular-pubescent.

Hab. Plentifully, but only in one spot, among mosses on fallen and rotten *Fagus* trees, and on the ground alongside, in rotten vegetable soil, shady woods, top of a high hill near Norsewood, County of Waipawa; December, 1883: *W.C.*

Obs. A species closely allied to the two known New Zealand species, *C. minor* and *lyallii*; and also to several Tasmanian and Australian species—*C. carnea*, *alata*, and *angustata*; but while serving naturally to unite them differing from them in all important characters. *C. minor*,

which is so common at the north (Bay of Islands), on clayey open hills among fern (*Pteris esculenta*) and *Leptospermum* scrub, I have never met with in these southern parts.

Genus 15. **Thelymitra**, Forst.

1. *Thelymitra nemoralis*, sp. nov.

Plant stout; tubers large, oblong, narrow. Leaf (occasionally two) variable, 6–17 inches long, 6–9 lines wide, linear-acuminate, acute, broadest at base, green, glabrous, thick, strongly 3- (obsoletely 5-) nerved, keeled. Scape stoutish, 8–16 inches long, bibracteate, bracts equidistant, sub-foliaceous, clasping, acute; raceme 2–8- (usually 7-) flowered; flowers distant, bracteolate on rather long pedicels; bracteoles obovate-oblong, acuminate, acute, obsoletely 5-nerved; perianth spreading $\frac{3}{4}$ inch diameter; sepals pale green with broad white margins, narrower than petals; dorsal sepal much larger than laterals, obovate-oblong, obtuse with a mucro; lateral sepals ovate-lanceolate, acuminate; petals white, sometimes pinkish, broadly elliptic, acute with a mucro; lip similar to petals but narrower and not so highly coloured; column with stout deeply emarginate tip, pinkish below, umber-brown above, edged with bright yellow, margins incurved; appendages produced, rather shorter than column and inclined at top towards it, densely globosely-plumose at tips, white; the base of wings in front of column sub-two-lobed and two-toothed; stigmatic gland bilobed at base, trilobed at apex including rostellum.

Hab. Dry *Fagus* forests. Seventy-mile Bush, County of Waipawa; 1881–83: *W.C.* Flowering in December.

2. *Thelymitra purpureo-fusca*, sp. nov.

The whole plant exceedingly slender, of a dusky purple-brown or purplish-red colour; tubers narrow, oblong. Leaf narrow, $1\frac{1}{2}$ –3 lines wide, 7–10 inches long, thickish, channelled, glabrous. Scape erect, very slender, almost filiform, bibracteate, 8–10 inches long; raceme 3–5-flowered (occasionally only one); flowers rather distant, bracteolate on long slender pedicels; perianth $\frac{1}{2}$ inch diameter; sepals dark purple-brown edged with a bright green line, a yellow central stripe and broad white exterior margins, sub-ovate-acuminate, much concave, dorsal one largest, the two laterals with a long mucro; petals light pink, sometimes white, elliptic-oblong, obtuse, broader than sepals; lip the smallest; column pink dashed with blue, apex stout, much emarginate, incurved, dark and edged with bright yellow (as in *T. nemoralis*), but the plumose appendages are more produced and rise above the column; anterior base slightly erose; stigmatic gland similar to that of *T. nemoralis*; anther very acuminate, tip subulate.

Hab. In *Fagus* woods on dry hills with the preceding species, but usually higher up; 1881–83: *W.C.*

Obs. I have both sought and watched this plant very closely; from the fact of its widely different general appearance at all stages from *T. nemoralis*, and yet, on examination and dissection, I find it possessing such scanty differential characters; the principal ones consisting in its plumose stamindia rising above the tip of the column—its narrower and variegated sepals—its slenderer proportions, dusky aspect and fewer flowers. In all these however it is very uniform; as I have seen and examined (through patiently waiting for their development) some scores of flowers and plants. It has also a peculiar habit of growth, being often found in little clumps (like crocuses and jonquils), from which arise 6–12 scapes. It wears a very striking and elegant appearance, when its dark perianths with their segments edged with white are about expanding, from their contrasts in colour. Notwithstanding the column-appendages being produced beyond its tip, while in *T. nemoralis* they are below it, this species is naturally very closely allied to that one.

ORDER VII. LILIACEÆ.

Genus 2. *Callixene*, Comm.1. *Callixene melantha*, sp. nov.

Perianth darkish-green, $1\frac{1}{4}$ inches diameter; segments obtuse, 3 outer ovate-acuminate, thickish, obsoletely veined longitudinally; 3 inner narrower and thinner, broadly-linear, incurved, venation netted; filaments brown, stout, broad at base, longer than anthers; anthers bright yellow, sub-linear-ovate, 3 lines long, tips emarginate, base sagittate, extrorse; style brown, sub-angular, tapering; stigma ochraceous, small, papillose.

Hab. East sides of Ruahine mountain range, County of Waipawa; 1883: Mr. Hamilton.

Obs. I. The anthers and stigma of this species more closely resemble those of *C. polyphylla* (a South Chilian plant) than they do those of *C. parviflora*, the only known New Zealand species.

Obs. II. I have received but a single unexpanded flower! all that was by chance obtained; fortunately it was mature, uninjured, and fresh. It appears that Mr. Hamilton, on his return from the forests, was clearing out some mosses, leaves, etc., from the outer pockets of his coat, and found among them this one flower-bud (*alabastrum*), and kindly gave it to me. For some time it puzzled me, its dark green colour, so unlike that of a flower, and its being closely shut up, helped to disguise it; it more resembled a caper bud than anything else; but on soaking, dissection, etc., I found out what it was, and believe it will prove to be a new species of *Callixene*. It is allied to *C. parviflora*, which bears a much smaller and white flower and has a very different stigma; this latter, however, grows on the same range at a much higher altitude.

Genus 5. *Astelia*, Banks and Solander.1. *Astelia microspermum*, sp. nov.

Leaves coriaceous, sub-linear-ovate, lanceolate, very acuminate, 2 feet 3 inches to 2 feet 6 inches long; $1\frac{1}{2}$ – $1\frac{3}{4}$ inches wide at the broadest part above, rather suddenly and much dilated at base and there 4 inches wide and greatly overlapping and triquetrous, light yellowish-green, glabrous and shining particularly at bases, but the innermost leaves have a narrow band of white hairs at their bases on the outside, the extreme base somewhat fleshy and succulent, gummy, with a white transverse band 1 inch wide, above that it is black for 2 inches or more; under a strong lens the surface below is closely cottony appressed in minute squares, sub-incurved, deeply channelled, slightly keeled below in the centre of the leaf but not so at base, 2 prominent and stout nerves equidistant from midrib, with many finer nerves; offshoots around the base of scape sharply triangular. *Female* scape terminal very stout, sub-triquetrous, 9 inches long, densely clothed throughout with white silky hairs that are very long at base; panicle nodding, 6–7 inches long, composed of seven slender sub-sessile racemes 4–6 inches long and about 1 inch apart, each with a very long sessile foliaceous bract sub-ovate-acuminate, half-clasping, not cordate, 16–18 inches long, $1\frac{1}{2}$ – $1\frac{3}{4}$ inches wide at base; flowers very small, about 1 line long, excessively numerous, compact, light yellow; pedicels sub-fascicled, 2 lines long, slender, woolly; bracteoles linear, 2 lines long, white with a brown central stripe; perianths woolly on the outside, closely embracing ovary, and nerved below to anthers; segments sub-linear-ovate, obtuse, reflexed, nerveless; ovary ovate, half or more exerted; stigma sessile, spreading, trilobed, papillose; anthers linear, very slender. Fruit small, $1\frac{1}{2}$ lines diameter, sub-globular, somewhat obtusely triquetrous, with a long produced sub-angular beak, greenish; seeds very small, 14–18 in a berry, black, shining, sub-lanceolate, convex above flattish below, produced at one end. *Male* (whole scape not seen), sub-peduncle thickish, obtuse, cylindrical, single raceme 3 inches long, 10 lines wide; flowers light brown, densely compact, sub-fasciculate, pedicelled; pedicels 2–3 lines long, stoutish, shaggy, with an excessively narrow linear bracteole near the base, longer than pedicel and nerved; perianth large spreading, about 1 inch diameter; segments cut to base, 4 lines long, shorter than anthers, deflexed, sub-linear-ovate, obtuse; outer 3, broader, 3-nerved, tips woolly on the outside; inner 3, 1-nerved, tips thickened; filaments 3 lines long, stout, cylindrical; anthers 2 lines long, linear, obtuse, largely hastate; ovary small, sub-triquetrous, spotted white; stigma sessile, tri-orbicular, finely papillose.

Hab. Epiphytical on high trees in forests, Seventy-mile Bush, between Norsewood and Danneverke, County of Waipawa; 1884: *W.C.* Flowering in January.

Obs. A very peculiar, fine and distinct species; of which, from its growing so very high up in the trees, it is difficult to obtain good specimens.

2. *Astelia albicans*, sp. nov.

Leaves linear-acuminate, 1 foot 3 inches to 2 feet 6 inches long, $\frac{3}{4}$ inch wide at broadest part, tips much drawn out, obtuse and hairy, drooping, stout, glabrous and green above, closely appressed with short white hairs below mixed with minute dark green dots, sub-8-nerved, edges ciliate, slightly keeled, of a blackish colour for about three inches from base; base thick, dilated, $1\frac{1}{2}$ inches wide, satiny within and densely shaggy on outside with long white hairs. *Male*, scape flexuous, erect or slightly cernuous, 4 inches long, very stout, obtusely triquetrous, densely silky; panicle short, stout, 6-8 inches long, composed of 6 stout short obtuse sub-sessile spikes, each 2 inches long and 1 inch wide, with a broadly ovate and very acuminate bract at the base of each spike, the lowermost bract 1 foot long; perianths sessile, densely crowded, white, $\frac{3}{4}$ inch long, with a single very narrow linear-acuminate light brown bracteole at base, shorter than segments of perianth; segments cut to base, glabrous, shaggy at bases, distant, 6-7 lines long, longer than anthers, narrow-linear-acuminate, very membranous, transparent, obsolete 3-nerved, at first erect, afterwards wholly reflexed; filaments 3 lines long, white, very stout, broad and red at base, tapering, arising from bases of segments; anthers 2-2 $\frac{1}{2}$ lines long, linear-acuminate, hastate, light brown; stigma plumose, sessile on a beak-like projection of disk. *Female* scape much smaller and more slender than male, slightly drooping; panicle composed of 4 (sometimes 5) rather distant racemes, each 2-2 $\frac{1}{2}$ inches long, $\frac{1}{2}$ inch wide; bracts same as in male but narrower; perianths free, shortly pedicelled, closely enclosing ovary below; segments cut half-way to base, very small, reflexed, with here and there minute rudimentary anthers; stigma sessile, somewhat trifid, papillose; ovary ovate-acuminate, cylindrical, glabrous, greenish-yellow.

Hab. Epiphytical on trees, east slopes of Ruahine mountain range, County of Waipawa; January, 1884: *Mr. A. Hamilton.*

3. *Astelia fragrans*, Col.* (Fruit).

Fruit large globular, orange-coloured with puckered sub-angled red tips (stigmatic points); calyx persistent, 6-lobed, large, free, thickened, saucer-

* See "Trans. N.Z. Inst.," vol. xv., p. 333, for a full description of this species, without its fruit.

shaped, spreading, orange-coloured with dark margins; lobes very obtuse; 8 seeds in each berry; seeds black, smooth, shining, gibbous, curved, $1\frac{1}{2}$ lines long, sharply and obsoletely and variously angled.

Obs. The coloured thick and spreading calyx of this species when the fruit is ripe has a very peculiar and novel appearance.

ORDER IX. JUNCEÆ.

Genus 1. *Juncus*, Linn.1. *Juncus macrostigma*, sp. nov.

Plant large, loosely cæspitose in rather small isolated clumps, erect, dull green, sub-glaucous, glabrous but not shining. Culms 3–5 feet high, cylindrical, stout, $\frac{1}{4}$ -inch diameter, tips acuminate and sharp, very finely striate, pith continuous, each culm with several (4–5) membranaceous sheaths at the base, outer ones very small, innermost 8–10 inches long, appressed, very obtuse with a long hair-like mucro 2–3 lines long, sulcate, pale green above dark brown below; flowers lateral, numerous, pale, pedicelled and sessile, in close cymose heads and in sub-panicles on long sub-compressed and rigid peduncles, generally 3–4 main ones, one being much longer (2–3 inches) than the rest; bracts long, awned; bracteoles numerous, short, broadly obovate, sub-acute, sometimes acuminate, clasping, rugulose, pale; perianth lobes acute sub-acuminate, pale green with white membranous margins; stamens 6, anthers bright yellow; style short, distinct; stigmas 3, very long, stout, erect, twisted, spiral, plumose, light reddish-pink; capsule ovoid, pale, reddish at tips, shining, longer than perianth; seeds numerous, small, brown, turgid, oblong, irregular in shape, somewhat sub-lunate and gibbous, very finely striate and reticulated, testa produced at each end.

Hab. Sides of water-courses, Seventy-mile Bush, between Norsewood and Matamau, County of Waipawa; 1882: *W.C.* With other *Junci*, but not like them plentiful; flowering January and February.

Obs. In the flowering season its head of flowers presents a striking and pretty appearance, from their large and coloured pink stigmas and bright yellow anthers; very different from all our other *Junci*. Its affinity is, I think, with *J. vaginatus*, Br., and *J. pseudo-cyperus*, Linn.

ORDER XI. CYPERACEÆ.

Genus 13. *Uncinia*, Persoon.1. *Uncinia nigra*, sp. nov.

Plant large, densely cæspitose. Culms stout, erect, 3 feet long, triquetrous, smooth. Leaves of equal length, $\frac{1}{4}$ inch wide, squarrose, very acuminate with hair-like tips, many nerved, margins finely and closely serrulate, glabrous below, scaberulous on upper surface, keeled, generally 4 leaves on a culm, sheathing below 6–12 inches from base; colour light

green, brown towards base; spurious ligula bi-lunate or kidney-form. Spikelet 6 inches long, slender, upper portion $1\frac{1}{2}$ – $1\frac{3}{4}$ inches male, bracts (often 3) leaf-like, long, outer 12–16 inches long 1 line wide, very filiform at tips, scabrid, crumpled towards top, fugacious; utricles decussate, distant on rhachis about 1 line apart, squarrose, black, $2\frac{1}{2}$ lines long, spindle-shaped, truncate and striped at base, acuminate, shining; bristle $3\frac{1}{2}$ lines long from tip of utricle, greenish; hook long, light brown, thickened and black at curve; glume narrow, narrower than utricle, linear-ovate-acuminate, $5\frac{1}{2}$ lines long, obtuse, glabrous, shining, light brown with a thick central nerve, tri-nerved at base, fugacious; stigmas long, slender.

Hab. Skirts of low woods near Norsewood, County of Waipawa; March, 1884: *W.C.*

Obs. This plant wears a striking appearance when its fruit is ripe, widely different to that of its ripening state; for the light-coloured and long glumes having fallen away, the black and distant utricles stand out patent on the rhachis, which, in clear tranquil and undisturbed situations, arrests the eye immediately from their extreme novelty. The fruits, however, fall off at a very slight touch, often clinging disagreeably by their hooks to clothing, hair, etc.

Genus 14. *Carex*, Linn.

1. *Carex quadrangulata*, sp. nov.

Plant large, tufted, diffuse, dark green. Culms rather slender, 3 feet 6 inches long, drooping, smooth, glossy and finely striate, trigonous but 4-angled owing to the lower angle being double or channelled throughout, and scaberulous on both edges. Leaves shorter than culms, 2 feet 6 inches long, $\frac{1}{4}$ inch wide, channelled, linear, acuminate, margins and upper surface finely scabrid, keeled, keel scaberulous. Spikelets few, under 1 inch long, the lower 2 single, distantly spiked along the culm, the upper and terminal one a short compound panicle, bearing the male spike at top, slender, 1 inch long; peduncles 3, $1\frac{1}{2}$ –2 inches long, erect and nodding, filiform, compressed, scabrid, with 2 small adpressed sheathing brown bracteoles; the 2 lower bracts very long, 12–15 inches, foliaceous, sheathing, with a small transverse scarious bractéole below aperture of sheath on the outside. Glumes as long as the utricles, broadly ovate, bicuspidate, awned with a stout central nerve, membranous at margins, light coloured minutely striped with red. Utricles short, about 1 line long, broadly ovate, turgid above, flattish beneath, bicuspid, scabrous on both margins near tip, glabrous, shining, dark brown. Stigmas 3.

Hab. Sides of water pools, open parts of the forest, Norsewood, County of Waipawa; 1884: *W.C.*

Class III. CRYPTOGAMIA.

ORDER I. FILICES.

Genus 5. *Hymenophyllum*, Smith.1. *Hymenophyllum melanocheilos*, sp. nov.

Plant very small, creeping, glabrous, very thin, light green, cellules large; rhizome filiform. Fronds rather distant on rhizome, upright, simple and bifid, elliptic, linear and spatulate, obtuse, $\frac{1}{4}$ – $\frac{3}{4}$ inch high, about 1 line wide, margins often thickened, black and shining; lacinate-serrate, serratures distant, sometimes dark and rigid, and shining like margins; midrib thick, glossy, dark like stipe, no lateral veins; stipe short, 1–2 lines long, not winged, glabrous, dark brown. Involucre single at tip of frond, elliptic, free, less than 1 line long, flattish, slightly convex; valves free to base, margins entire, black bordered; borders shining; receptacle included; sori few, large.

Hab. Woods, Whangaroa, County of Mongonui; 1884: Mr. R. W. Rowson.

Obs. A very peculiar little species, and one of the smallest known of the genus. Its affinity is with *H. marginatum*, Hook. and Grev., of Port Jackson, Australia (a scarce and little-known fern), from which species, however, it is very distinct. It has also some affinity with *H. parvifolium*, Baker, an East-Indian fern of about the same size, but is, also, quite distinct.

2. *H. lophocarpum*, sp. nov.

A climbing fern, mostly pendulous from upper parts of trees. Rhizome creeping, long, branched, hairy. Fronds rather distant on rhizome, glabrous, spreading, flat and slightly waved, transparent, light green when young darker in age, elastic and curled up when dry, rhombic- or ovate-acuminate, apical portion often narrow-elongate, usually dimidiate at base, $2\frac{1}{2}$ –4 inches long, twice the length of stipe, 3-pinnatifid; pinnae alternate, sometimes very close and sub-imbricate, the lowest pinna solitary and very short; rhachises, main and secondary, dark, flexuose, finely tuberculate and striate, winged; wing wide and mostly waved; secondary segments, sub-flabellate, not branched on the lower or outer side; veins dark; ultimate segments or lobes rather long, linear, obtuse, apices rounded, nerves green not extending to margin; margins entire; cellules large, of various shapes and sizes, mostly sub-orbicular and oblong. Stipe stout, 1–1 $\frac{1}{2}$ inch long, blackish, shining, striate, roughish, narrowly winged to base, and (with rhachis) slightly hairy (very hairy when young); hairs scattered, long, brownish, tortuous, jointed and transparent. Involucres free, large, sub-orbicular, loose, rumpled or bladdery, wider than lobes, turgid, much larger than sori, confined to upper portion of frond

and extending to tip, but always supra-axillary and not terminal on lobes; valves free to base, convex, entire, sometimes slightly sinuate or uneven at tip, not toothed, largely crested, the upper one most so, with 3-4 erect lamellæ that are often high and nodding, and wider at apex than at base, not "spinulose" nor "spinuloso-dentate." Receptacle very short, $\frac{1}{3}$ length of involucre, peduncled, clavate, finely puberulous, with sporangia only around the tip; sporangia few, very large, sessile; sporules globular, green, and enclosed in a fine transparent white membrane, separate from the sporangium.

Hab. On trunks and main branches of trees, hilly forests in the interior, Seventy-mile Bush, County of Waipawa; 1860-84: *W.C.*

Obs. I. This fern has the same peculiar and strong though not unpleasant odour that pertains to a few other of our New Zealand ferns, and to some of our foliaceous *Hepaticæ*, which odour it long retains, as well as its elasticity. It also stains paper, leaves of a book, etc., in which it is kept, of a dark colour, often leaving a faithful outline impression. In exposed dry situations, in hot dry weather, this fern will be seen dry and completely rolled up; but on rain falling it again recovers and expands, like some mosses. It is generally found much gnawed and eroded by insects, more so than other species of the genus (allured, probably, by its powerful odour), so that it is rather difficult to obtain fully-developed uninjured specimens.

Obs. II. I have long known this fern, and had early supposed it to be distinct from *H. polyanthos* and *sanguinolentum* (possibly merely as a variety or "sport," but still very distinct). During the last two years, however, I have been induced to pay more attention to it; to study and to examine it closely and repeatedly in the living state and in all stages in its native woods. An extra inducement thereto arose from my obtaining (in addition to the "Flora Novæ-Zelandiæ," and the several commoner works or compilations of ferns,) Hooker and Grev. *Ic. Filicum*, Swartz (original) *Synopsis Filicum*, Beddome's *Ferns of British and Southern India*. Van den Bosch *Hymen. Java*, and Clarke's *Review of Ferns of Northern India*, drawn up and aided at Kew (*Trans. Linn. Soc. Lond. 1880: Botany, vol. i., part vii.*), in all which works *H. polyanthos* and its allies and synonyms are particularly described and investigated. And the conclusion I have come to is, that this fern (*H. lophocarpum*) is really distinct from *H. polyanthos* and *sanguinolentum*, and also from their synonyms included as above. Indeed, in my opinion, there is no near affinity between this fern and *H. polyanthos*, Sw. (as that is fully given in description drawing and dissections by Hook. and Grev. in their *Ic. Filicum, vol. ii., t. 128*, which I take to be a type specimen of that species); *H. polyanthos*, Sw., being also a West-Indian (Jamaica) fern. Neither is there any close

relationship between this fern (*H. lophocarpum*) and *H. protrusum*, Hook.; which species Baker has more recently (in his "Synopsis") united with *H. polyanthos*. While from *H. polyanthos* and *H. polyanthos*, β . *minor* (Bedd. Ferns Brit. India, tt. 280 and 306), *H. blumeanum*, *pycnocarpum*, and *integrum*, (Van den Bosch, Hymen. Java, tt. 36, 37, 38), which ferns Clarke unites with *H. polyanthos*, as being one species (?) and not even sub-varieties, —this fern of mine disagrees still more strongly. Of *H. sanguinolentum* I might say the same; but seeing it is not now recognized as a distinct species or variety by modern authorities, and omitted altogether by Baker from his "Synopsis;" while Swartz himself observed of it, that it was very near to his *H. clavatum* (another Jamaica fern), differing only in form and colour,—and both of these ferns were long ago included by Sir W. J. Hooker, in his "Sp. Filicum," as forming but one species with *H. polyanthos*—I have no need to remark especially upon it.

In fine: this species (*H. lophocarpum*) differs from *H. polyanthos* and its several synonymous allies (*supra*), in outline, in appearance, in colour, in substance both of stem and lamina of frond, in shape of segments and lobes, in position form and appendages of involucre, in the receptacle and sporangia, and in its peculiar hairs. In its fresh natural and perfect state, it is one of the very handsome New Zealand species of this lovely genus of ferns. I have thus written largely on it, after a prolonged and patient investigation, for the sake of future working botanists.

Genus 22. *Polypodium*, Linn.

1. *Polypodium rupestre*, Br., var. *sinuatum*, Col.

Rhizome long, rather stout, creeping, branched, climbing trees, scaly; scales ovate-acuminate, light brown, fixed by centre. Fronds scattered but not distant, erect, of 2 or more forms tapering into long and very slender stipes, somewhat coriaceous, margins recurved, veins largely anastomosing and visible between eye and the light, densely covered with white stellate hairs; hairs 10–11-rayed with brown centres, giving the plant a finely spotted appearance; barren fronds 4–5½ inches long, 1–1¼ inches wide, rhomboid- and oblong-lanceolate, coarsely sinuate, almost crenate; fertile 8–8½ inches long, 8 lines wide, broadly lanceolate, margins sinuate, tips sub-acute; stipes of both barren and fertile fronds 2 inches long, with a thick cluster of imbricated scales at bases; base-scales ovate-acuminate, minutely tuberculate. Sori rather small, often oblong, and distant.

Hab. On living trees, woods, Seventy-mile Bush, between Matamau and Danneverke, County of Waipawa; 1883–84 (also in woods, East Coast): *W.C.*

Obs. A very fine and striking variety (as I take it) of the well-known and common *Polypodium rupestre*; it is not only a much larger plant than

that, but it is also thinner, and sori smaller often oblong and less prominent, more hairy on both surfaces, and stellate hairs with a larger number of rays; the copious scales too are different. When I first detected this plant in the woods on the East Coast in 1846, I noticed only a few specimens, and I thought it was only a "sport" of *P. rupestre*; but where I lately found it, it was very plentiful.

ORDER IV. MUSCI.

Genus 41. *Bartramia*, Hedwig.1. *Bartramia readeriana*, sp. nov.

Stems densely tufted, tall, robust, ascending, $\frac{1}{2}$ -inch diameter, $1\frac{1}{2}$ – $3\frac{1}{2}$ inches long, vaguely dichotomously branched, thickly tomentose with red branched and implexed tomentum; branches above fasciated, strict, almost glabrous, red. Leaves spreading (some are truly divaricating, at first spreading then bent downwards), pale yellow-green, shining, with a short sheathing base, ovate-lanceolate, acuminate, gradually narrowed into a very long hair-like point, serrulate to tips, plaited, minutely papillose, twisted (to the right) when dry contorted; nerve slender, percurrent; cells dense, linear, the marginal at the base larger oblong and translucent; perichæcial leaves broader with lax cells. Fruitstalk 1 – $1\frac{1}{2}$ inches high, erect, red, shining. Capsule large, inclined or horizontal, ovoid, grooved when dry; operculum convex, apiculate; teeth red; spores very minute. Calyptra 2 lines long, narrow, blackish at tip, apiculate. Inflorescence dioecious; antheridia capitate.

Hab. Among *Hepaticæ* on dry elevated ridges, open woods, Seventy-mile Bush, between Norsewood and Danneverke, County of Waipawa; 1882–84: W.C.

Obs. I. A species allied to *B. pendula*, *sieberi* and *comosa*; differing from *pendula*, mainly in the very long points of the leaves, that are twisted when dry and papillose, and in the erect capsule; from *sieberi*, in the shining long-pointed and twisted leaves; and from *comosa* in the long-pointed, twisted and broader leaves, which are serrulate throughout, its densely tomentose stems, and apiculate operculum; and from all three species, also, in the translucent marginal cells at the base of leaves. It appears, however, to be nearest to this last species—*comosa*.

Obs. II. This species seems to be scarce; hitherto I have only detected it in two similar open ridgy spots, growing two-thirds concealed among dense and erect pale *Hepaticæ* (*Mastigobryum*, sp. nov.); and then only in small quantities, and rarely found in fruit, although I have visited those places some twenty times in hopes of finding good fruiting specimens. From its dense and shaggy tomentum, and intermixed habit among the *Hepaticæ*, and aged appearance, it seems to be of very slow growth.

Obs. III. I have with pleasure named this species after Mr. F. Reader (formerly of Blenheim, New Zealand, but now of Victoria), an amiable, persevering and unassuming young botanist, and diligent collector of plants, especially mosses; which Order he has long made his particular and close study, and that from pure love of nature, and not for mere pecuniary gain.

Genus 71. *Hookeria*, Smith.

1. *Hookeria trichophora*, sp. nov.

Plant small, under 1 inch high, densely tufted, stems erect; branches red, stout, $\frac{1}{2}$ — $\frac{3}{4}$ inch long, simple and branched above, rooting below. Leaves minute, $\frac{1}{3}$ of a line long, sub-quadrifarious, oblong-orbicular, acuminate, serrulate half-length down from tip, nerve about half-through; crisp when dry; cells very small above, increasing in size downwards from apex of nerve and very large at base; perichætil erect, sub-ovate-lanceolate, acuminate. Fruitstalk erect, $\frac{1}{2}$ — $\frac{3}{4}$ inch long, longer than stems, flexuous, smooth, red, springing from below the base of a branch, thickened and rooting at base. Capsule oval, inclined or horizontal, sub-apophysate, reddish, beak long, curved upwards. Calyptra white, fimbriate at base, tip black and hairy; hairs loose and very long.

Hab. In patches on rotten trunks, deep and wet forests, Norsewood, County of Waipawa; 1884: *W.C.*

Obs. A species having some affinity with *H. apiculata* and *rotundifolia*; differing from the former in its nerve and small cells; and from the latter by its small cells and white and hairy calyptra.

2. *Hookeria sciadophila*, sp. nov.

Plant 1—1 $\frac{1}{2}$ inches high, sub-flabellate, bipinnately branched, thickly tomentose below on main stems with branched red-brown hairs; branches flat, compressed, 3—4 lines wide, slightly concave, dark below, branchlets and leaves closely imbricate. Leaves sub-quadrifariously disposed, broadly elliptic, round at tips, above 1 line long, spreading, flat, light green, nerve extending nearly to margin, margin entire and very thin; cells small in regular hexagons in the upper portion, and in very large oblong-hexagons at lower half of nerve and base of leaf; perichætil small, ovate, nerve stronger and cells larger. Fruitstalk lateral, springing from base of branchlets, 3 lines long, black, flexuous, shining, incrassated at base with a sheathing ring; 2—3 together on a branchlet. Capsule oblong, sub-erect, regularly and finely reticulate; operculum conical, beak long. Calyptra small, glabrous, very acuminate, tip black, slightly and finely lacerate at base.

Hab. On the ground, sides of deep narrow watercourses, dark forests near Norsewood, County of Waipawa; 1883—84: *W.C.*

3. *Hookeria luteo-vivens*, sp. nov.

Plant largely gregarious, stout, sub-erect, 2–2½ inches high, dichotomously branched above, branches sub-compressed, 5–6 lines wide, stem stout, dark brown. Leaves sub-quadrifariouly disposed, oblong-orbicular, 2 lines long, obtuse and rounded at tip, dorsal and ventral smaller and more orbicular, minutely papillose, thin, margins entire, light green, whitish and yellowish at tips, slightly convex, densely imbricated; nerve short, forked, slender, green, largely cellular; cellules (of leaf) large, sub-orbicular, smaller at margins and apex, larger and oblong at base; perichæatial erect, small, sub-rhombic, nerveless. Fruitstalk stout, 1¼ inches long, smooth, flexuous, twisted, slightly sulcate, dark brown, thickened at base. Capsule oblong, reddish, smooth (minutely reticulate under a lens), cernuous, slightly tuberculate at base; tubercles few and mostly above, round, smooth; cells of capsule large, oblong; external teeth 4-lined longitudinally, pretty closely trabeculate, strongly denticulate, reddish. Calyptra large scabrid, whitish, ragged at base.

Hab. Sub-pendulous on sides of shaded cliffs, in large patches, but rarely fruiting, in forests, Seventy-mile Bush, County of Waipawa; 1883–84: *W.C.*

Obs. A fine species having affinity with *H. quadrifaria*, but differing in several particulars.

4. *Hookeria lophophora*, sp. nov.

Stems simple and slightly once-branched, flat, sub-erect, 1½ inches high, 4 lines broad, thickly clothed between leaves with large red branched transparent and jointed hairs. Leaves pale, densely imbricated, sub-quinquefariouly disposed, the lateral ones spreading, crisp when dry, broadly oblong-apiculate, 2 lines long, very thin, transparent, margined, upper portion sharply serrulate; nerve forked; dorsal and ventral similarly shaped but smaller; cells lax, orbicular-hexagonal in the upper part of leaf, larger and oblong-hexagonal in the central and lower part; perichæatial oblong, very acuminate. Fruitstalk springing from near the top of stem, 2½ lines long, stout, pale, hairy; hairs short, patent; much fimbriate at top; fimbriæ erect, crest-like, nodding over apophysis. Capsule apophysate, inclined or horizontal, sub-obovate, turgid, red, finely reticulated, shining, tuberculate at base; apophysis dark brown. Calyptra not seen.

Hab. In dry woods, hill country near Napier.

Obs. A species allied to *H. cristata*.

ORDER V. HEPATICÆ.

Genus 25. *Noterochlada*, Taylor.1. *Noterochlada perpusilla*, sp. nov.

Plant very small creeping, densely compact, under 1 inch long, 2 lines wide, branched, branches very short about ½ inch long, deeply pinnatifid or sub-pinnate, glabrous, glistening, light green; midrib or stem stoutish,

and clothed beneath with purple-brown rootlets ; leaves or lobes, sub-flabellate, under 1 line diameter, very thin, transparent, minutely crenulate on upper margin, closely imbricated at base free above ; involucreal leaves paler, longer, and lacerate at tips ; areolæ minute but prominent, sub-rhomboid-orbicular, more oblong in involucreal leaves ; stipule 0 ; perianth terminal and sub-terminal on short lateral branchlets, cylindric, oblong, whitish, mouth gaping, jagged, often two together closely adjoining at tip ; peduncle rather stout, striate and septate, 3 lines long ; capsule globular, minutely pitted, at first purple afterwards brown, bursting irregularly, 3-4 valves ; valves sub-rhombic-ovate, lacerate, minutely reticulate.

Hab. Among mosses, etc., shady banks, Scinde Island, Napier ; August, 1883 : *W.C.*

Genus 26. **Petalophyllum**, Gottsche.

1. *Petalophyllum australis*, sp. nov.

Rhizome short, stout, fleshy, with fine hair-like rootlets. Frond single, procumbent, sub-rotund, 6-8 lines diameter, reflexed, sub-bilobed, largely lamellate waved and crisped above, nerved below, margin sinuate and finely crenulate, colour bright light green with reddish-brown margins ; perianth large, bell-shaped, open, crisped, mouth much lacinate ; peduncle stout, 1½ inches long, white, succulent, very tender ; capsule large, globular, more than 1 line diameter, dark brown, finely pitted, bursting irregularly and raggedly, bearing large brown tessellated markings ; sporules circular and tuberculated ; elaters geminate, twisted and truncate.

Hab. Among mosses and *Hepaticæ*, Petane, near Napier ; 1883 : *Mr. Hamilton.*

Obs. A rather scarce, or, from its smallness, overlooked plant, possessing pretty close alliance with the single British species *P. ralfsii*, which it also resembles. I have only seen 3 specimens that I picked out from among mosses and *Hepaticæ*.

Genus 30. **Symphyogyna**, Mont. and Nees.

1. *Symphyogyna crispula*, sp. nov.

Plant terrestrial, single, stipitate, erect, dark green. Frond dichotomous, flabellate, 6-8 lines long, 9-12 lines broad, segments broadly-linear, 2 lines wide, very obtuse, deeply emarginate, distantly serrate above and in sinuses but not below, undulate and crisped, wide at base and broadly decurrent on stipe ; cellules large, elliptical, nerves dark brown, stout, extending to base of apical notch. Stipe dark brown, ½ inch long, stout, flexuose, with fine rootlets at base. Involucreal scale on upper surface at main forks and scattered on nerves, several on a frond, middle size, 1½ lines wide, papillose, very lacinate ; laciniæ irregular and transversely barred. Calyptra stout, 2 lines long, shortly peduncled, sub-clavate, finely papillose, light green, largely fimbriate at mouth ; fimbriæ red, stout, truncate, barred.

Hab. Bases of wet and shaded cliffs, sides of the River Mangatawhainui, near Norsewood, County of Waipawa; May, 1884: *W.C.*

Obs. A species allied to *S. melanoneuron* and *vulgaris* ("Trans. N.Z. Inst.," vol. xvi., pp. 351, 352), but distinct from both.

2. *Symphygyna flavo-virens*, sp. nov.

Plant terrestrial, densely gregarious and compact (like moss), stipitate, erect, single, very light green. Frond small, once forked, diverging and irregular, 3-4 lines long, 6-7 broad, sub-flabellate, each fork having 2-4 short segments, segments narrow, linear, about 1 line wide, round at tips and deeply emarginate, slightly and distantly serrate, much undulated and crisped, truncate and incurved at base concealing scale, not decurrent on stipe; cellules large, sub-quadrate-orbicular; nerves same colour as frond and not extending to base of notch. Stipe stout, flattish, sub-succulent, light pink, $\frac{3}{4}$ -1 inch long, very flexuous, 2-nerved, thickened and rooting at base. Involucral scale on upper surface at main forks, 1-2 on a frond, very small, ovate, lacinate. Calyptra large, erect, 4 lines long, cylindrical, whitish, generally extending beyond margin of frond, mouth lacinate and fimbriate. Seta slender, 1 inch long. Capsule linear-oblong, apiculate, 2 lines long, dark-brown, finely longitudinally striate.

Hab. Shady sides of hills, west side of Ruataniwha Plains, County of Waipawa; 1884: *Mr. H. Hill.*

Genus 32. *Aneura*, Dumort.

1. *Aneura polyantha*, sp. nov.

Plant green, small, creeping, spreading, very flat, effuse, but often forming a circular patch about 1-1 $\frac{1}{2}$ inches diameter, radiating from the centre: fronds flattened, thickish, scarcely branched, pinnatifid, lobes rounded, obtuse, crenately cut, generally broadest at apices and sub-flabellate. Calyptras very numerous, 20-40 close together, arising from the centre of the plant, sometimes 2-3-fascicled, above 1 line in height, brownish-white, cylindrical, minutely and much tubercled. Seta nearly 1 inch long; capsule linear-oblong, brown, smooth, segments rather long with numerous and large elaters at tips.

Hab. On denuded rotten branches, in dense wet woods near Norsewood, County of Waipawa; May, 1884: *W.C.*

Obs. A pretty and very distinct little species: its numerous upright calyptras standing so close together give it a curious sub-coralloid appearance.

2. *Aneura biflora*, sp. nov.

Plant spreading, effuse, crisp, waved and ruffled, sub-imbriate; branchlets 1-1 $\frac{1}{2}$ inches long, sub-obovate, somewhat pinnatifid, lobes sub-rotund, round at tips, finely and regularly denticulate, with numerous short brownish rootlets beneath. Calyptra 5 lines long, cylindrical, slightly

rugulose, broader towards top, hairy about tip; hairs short, patent; mouth small, contracted, much tuberculated at base, springing from frond in pairs, greenish-white at first, brownish-white in age.

Hab. Epiphytical on *Hookeria* (sps.) and other mosses and *Hepatica*, but easily separated; growing low down in sides of dark water-courses, hill forests, near Norsewood, County of Waipawa; 1883-84: *W.C.*

Obs. A species near to *A. orbiculata*, and *imbricata*, МИИ: "Trans. N.Z. Inst.," vol. xvi., p. 359.

Genus 39. *Anthoceros*, Micheli.

1. *Anthoceros pellucidus*, sp. nov.

Plant prostrate, spreading, effuse, 2-6 inches diameter, densely imbricate, thin, transparent, fragile, crumpled, minutely tuberculate, light green, cells large, nerveless, with a few very fine rootlets at the extreme base: fronds $\frac{1}{2}$ -1 $\frac{1}{2}$ inches broad at top, mostly narrow at base, sub-flabellate, more or less branched or deeply laciniate at top, irregularly lobed; lobes largely crenate or rounded at tips, margins free, sub-erect, finely and irregularly torn and sub-fimbriate; some fronds are very narrow, $\frac{1}{2}$ -2 lines wide, pinnatifid (like *Aneuræ multifida*). Involucre stout, conical, finely tuberculated near base, generally 3 or more arising from centre of a frond, 1-2 lines high, lips sub-bivalve, scarious. Capsule linear very narrow, almost filiform, arcuate, 3 lines long, light brown, dehiscing centrally on both sides and then margins reflexed, cohering at tips; columella exceedingly fine; spores light brownish-green; elaters large, numerous. Gemmæ, little oblong dark green bodies immersed and scattered in the frond. Apparently the seeds and filaments are at first contained in a thin transparent membrane around the columella, which is soon ruptured.

Hab. On rotten logs in dark wet woods, spreading over and adhering to other small *Hepatica*, mosses, dead twigs, etc., near Norsewood, County of Waipawa; 1882-84: *W.C.*

ORDER VII. LICHENES.

Genus 5. *Sphærophoron*, Persoon.

1. *Sphærophoron vividulum*, sp. nov.

Thallus sub-cæspitose, with a few small scales at the base, erect, flat, 1-1 $\frac{1}{2}$ inches high, main stem 1-3 lines wide and unbranched below, sub-palmate and dichotomous above, very smooth and slightly convex on the upper surface, rugulosely pitted on the lower, edges entire, whitish beneath, light green above when living, but a dull olive-green when dried; upper branchlets numerous, very narrow $\frac{1}{30}$ - $\frac{1}{40}$ inch wide, sub-linear-clavate, ultimate segments cuneate-truncate, obconic, and spatulate, narrower at bases, having a sub-articulated appearance like some species of *Corallina*. Apothecia very small on slightly raised hemispherical receptacles just below

the edge of the ultimate segments, usually two apart—one at each angle, sometimes three on a broad, and one only central on a narrow, segment; at first light brown, closed, with a finely puberulent covering, afterwards the minute ostiole opens, and the black shining capitulum is protruded.

Sometimes the thallus is largely coloured bright red on both surfaces, as if red ink had been splashed over it; this colour is permanent.

Hab. On trunks of *Fagus solandri*, forests near Norsewood, County of Waipawa; 1880–84: *W.C.*

Obs. I have known this pretty species for many years, but always (until this year) barren. Specimens that I had long ago sent to England in that state, were supposed to be small ones of *S. australe*, Laur. (*S. compressum*, Ach.), but I never could bring myself to believe it, the difference being so great between them, especially when closely compared together in a living state. It is, however, very rarely found in fruit, like some of its European congeners.

2. *Sphaerophoron* (?) *stereocauloides*, Nyl.

Plant ascending, bushy, diffuse, 8–10 inches diameter; height 4–5 inches; main stems very stout, sub-cylindrical, $\frac{1}{2}$ inch circumference near base, 6–8 springing separately from one root-stock or thick and flat broad disc 1 inch diameter; spreading, prostrate, naked below and adhering by fresh large rooting discs; much and thickly branched above, transversely and finely fissured; branches flattish, sub-flabellate, and dichotomous, naked here and there on upper and under surfaces but not on the sides; general colour greyish-white, stems more white with a light pinkish tinge; branchlets numerous crowded, densely covered with many short compound spurs or branchlets, composed of cylindrical and sub-angular obtuse and clavate fibrils that are patent sessile and fascicled, and sometimes coalescent, bearing at tips small black circular soredia. Apothecia large, globular, 1–3 lines diameter on tips of branches, mostly solitary sometimes 2–3 together, much broader than branch or peduncle, which is naked, sub-terete and lacunose, 1–2 lines long; receptacle cernuous, smooth and naked or slightly lacunose on the outside, bursting irregularly, containing numerous globose black rough spores entangled in a mass of thin flat hairs; “diameter of spores .01 mm” (Dr. Knight). *Sph. robustum*, Col.

Hab. Stony declivities in hilly forests, west side of highway, Seventy-mile Bush, County of Waipawa; 1882: *W.C.* And on east slopes of Ruahine Range (same county): 1884: *Mr. A. Hamilton.*

Obs. This fine Lichen has given Dr. Knight and myself some study and research. Believing it to be another new species of this small and peculiar genus, I early referred a specimen of it to Dr. Knight's superior judgment, who agreed with me that it was a new species, and closely allied to *Sphaerophoron stereocauloides* of Nylander. Subsequently, however, on my

forwarding larger and better specimens to Dr. Knight, and on his re-examination of them, he found the plant to be identical with the species named by Nylander (*supra*), which Lichen Dr. Knight had himself sent in 1868 from New Zealand to Nylander, and it was published by him in the "Flora," No. 5, 1869 (a French serial). Notwithstanding, from that work being so little known here (Dr. Knight, the original publisher of the plant, not having republished it), and the plant itself so fine and rare and new to us—with, also, some differences as to size, etc., between Dr. Nylander's and my own measurements and descriptions—I bring it now forward, together with Dr. Nylander's description, kindly transcribed for me by Dr. Knight, from the foreign botanical work above-mentioned.

"*Sphaerophoron stereocauloides*. Thallus ei pallidus v. albidus, dendroideo-ramosus, teres, (altit. 10–12 centimetrorum et trunco primario basi crassit. circiter 2 mm.) cortice sat conferte transversim supra diffracto, ramis et ramulis fibrillis teretibus, divisivis vel ramosis conferte minutis; apothecia in receptaculis subglobosis inclusa; sporæ globosæ vel subglobosæ, diam. 0·008 ad 0·01 mm. Legit *Dr. Knight*."

ORDER VIII. FUNGI.

Genus 69. *Xylaria*, Fries.1. *Xylaria polytricha*, sp. nov.

Sub-succulent, fleshy, black and densely hairy; hairs rigid, patent. Stem 1 inch long, cylindrical, rather stout. Receptacle obovate, and spathulate, 6–7 lines long, 3–4 lines broad, thickish, margins sinuate above, tip obtuse, deeply and broadly grooved on one side, obtusely keeled on the other: some specimens are shortly 2-lobed at top, lobes cylindrical, tips round; others have a small obovate and sessile head, or lobe, springing laterally from stroma low down; perithecia not visible; hairs (*sub lente*) brown-black, lanceolate, twisted, acute.

Hab. On the earth among mosses, etc., at Glenross, near Napier; 1884: *Mr. D. P. Balfour*.

Obs. A species having affinity with *X. castorea*, Berk., originally discovered in forests in this same locality; and also with a few of Montagne's South American species.

ART. XXVIII.—*A List of Fungi recently discovered in New Zealand.*

By W. COLENZO, F.L.S.

[*Read before the Wellington Philosophical Society, 1st October, 1884.*]

LAST year (1883) I detected several peculiar and interesting Fungi in the woods and glens of the Seventy-mile Bush, Waipawa County, that were new to me; these, with a few others already known but rare, I exhibited at