

ART. LXXXI.—Description of a New Species of *Pilularia*. By T. KIRK, F.L.S.

[Read before the Wellington Philosophical Society, 24th February, 1877.]

Pilularia novæ zealandiæ, n. s.

Root-stock creeping. Leaves solitary, 1–2 inches long, erect, setaceous. Sporocarpium globose, 2-valved, 2-celled; carpopodium $\frac{1}{4}$ inch long, erect; raphe elongated; micro-sporangia numerous, pyriform, each containing 20–30 microspores; macro-sporangia 20–25, ovoid; macrospores globose, or globose-ovoid, regular, not constricted.

Hab.: South Island: Lake Lyndon and Lake Pearson, Canterbury. Alt., 2,800 feet. J. D. Enys and T. Kirk.

In general appearance our plant resembles *P. globulifera*, L., differing externally in the 2-valved sporocarp, the longer carpopodium, and essentially in the non-constricted macrospores. It appears to be closely allied to *P. novæ hollandiæ*, A. Br., from which it differs in the 2-valved sporocarp, erect carpopodium, and lesser number of macrospores.

A species of *Pilularia* was detected at Whangape Lake, Waikato, by Professor Hutton and myself, in 1869, but the specimens were too imperfect to admit of identification.

DESCRIPTION OF PLATE XXIX.

1. *Pilularia novæ zealandiæ*, natural size.
2. Dehiscing sporocarp.
3. Micro-sporangia.
4. Microspores.
5. Group of Micro-sporangia attached to a fragment of the placenta.
6. Macrospore surrounded by a mucilaginous coat.
7. Macrospore.

All magnified.

ART. LXXXII.—Descriptions of New Plants. By T. KIRK, F.L.S.

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RANUNCULACEÆ.

Ranunculus trilobatus, n. s.

Stem weak, matted, procumbent and rooting at the joints. Lower leaves on long slender petioles, trifoliolate, leaflets 3-lobed, petioled, faintly toothed, with a few weak scattered hairs on both surfaces; upper leaves orbicular, 3-lobed or toothed. Flowers on short slender peduncles, axillary, or oppo-

site the petioles, or below them, very small, sepals deciduous; petals, 5, narrow; stamens 5, carpels 5-7, stigmas spreading; achenes somewhat flattened, smooth, beak slightly recurved, slender.

Hab.: South Island: Catlin River. D. M. Petrie and T. Kirk.

Allied to *R. hirtus*, Banks and Sol., from which it differs in the procumbent habit, short slender peduncles, and small flowers with few carpels. The flowers closely resemble those of *R. parviflorus*, L.

ROSACEÆ.

Acana depressa, n. s.

Stem matted, depressed, much branched, forming dense patches on the surface of the ground. Leaves 1-1½ inches long, villous below, leaflets in 3-5 pairs, decreasing in size towards the base of the petiole, ovate or orbicular, sharply toothed, strigillose above. Head sessile, almost hidden by the leaves; calyx 4-angled, villous, angles produced into four flexuous red spines, spreading, barbed; petals 4; achene 1, bony.

Hab.: South Island: Cardrona Valley; Lake Hawea, Otago.

A singular species. The heads are so closely hidden by the leaves that they would scarcely be observed except for the bright red, soft, flexuous spines, which project in all directions.

HALORAGÆ.

Haloragis uniflora, n. s.

Stem, creeping underground, wiry, much branched, 1 inch high. Leaves opposite, shortly petioled, ovate-lanceolate, acute, with one or two serratures on each side. Stem and leaves sparingly clothed with soft white hairs, not scabrid. Flowers solitary, terminal, shortly peduncled; sepals erect, triangular, obtuse; petals 4, with short hairs; stamens 4; stigmas 4, plumose. Fruit 4-costate, smooth.

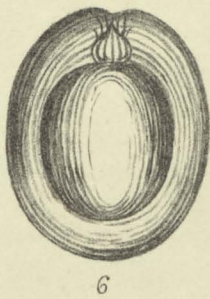
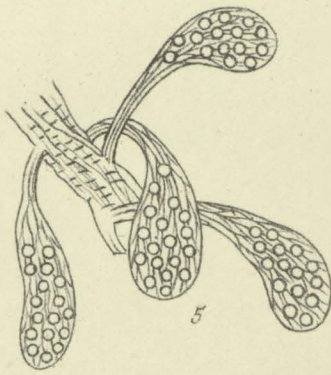
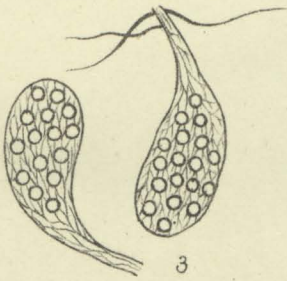
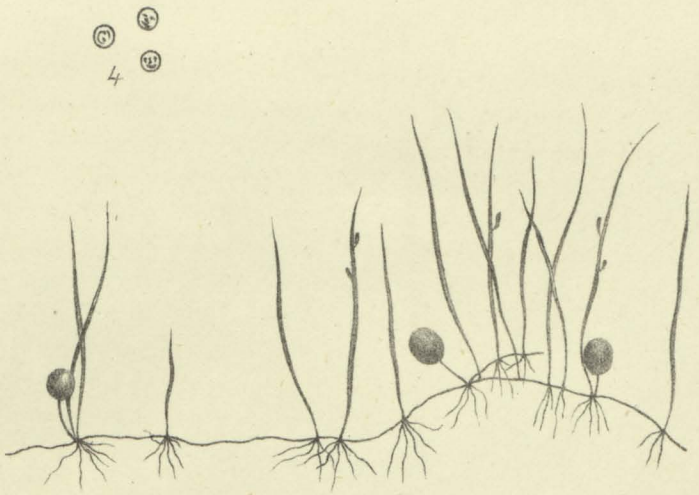
Hab.: South Island: the Bluff Hill, Southland.

Allied to *H. depressa*, Hook., f., from which it is distinguished by its peculiar habit, solitary terminal inflorescence, and narrower fruit. It forms a compact sward in boggy ground.

UMBELLIFERÆ.

Ligusticum enysii, n. s.

Depressed, 2-4 inches high, solitary. Leaves few, spreading, when fresh excessively thick and glaucous, 2-3 inches long, linear, pinnate, leaflets in 3-6 pairs, sessile, ovate, or ovate-acuminate, lobed or deeply toothed, not piliferous. Stem decumbent, 2-4 inches high, simple, or with a single branch. Umbels of 3-5 unequal, spreading rays, springing from a cup-shaped involucre composed of 2 broadly ovate, apiculate, involucre leaves; partial umbels 3-6 flowered, flowers on slender pedicels. Fruit ovoid, carpels 5-winged.





CELMISIA WALKERI, n. sp.

Hab.: South Island: Limestone Rocks, Broken River, Canterbury.
J. D. Enys and T. Kirk.

Allied to *L. aromaticum*, Banks and Sol., from which it differs in its singular habit, excessively thick, glaucous leaves, connate involucre and broad fruit. The cauline leaves are not furnished with sheathing bases.

COMPOSITÆ.

Celmisia walkeri, n. s.

Plate XXX.

Stem woody, procumbent, stout, sparingly branched; branches ascending. Leaves crowded, linear, 1-1½ inches long, acute, patent, with broad imbricating bases, wider than the blade, slightly coriaceous, serrulate, clothed beneath with snow-white appressed tomentum, margins not revolute. Peduncles 5-8 inches long, solitary, axillary, one to three near the tips of the branches; very slender, with numerous linear bracts. Head 1½ inch in diameter. Involucral scales linear, tips recurved, glandular; ray florets 30-40, narrow.

Hab.: South Island: Dividing range above Lake Harris, Otago, 3,500 to 4,000 feet. Captain J. Campbell Walker and T. Kirk.

Stem clothed at the base with the persistent remains of dead leaves; whole plant slightly viscid, peduncles and involucre glandular.

A remarkable plant, which might with almost equal propriety be referred to *Olearia*, with which it agrees in having the lower part of the stem woody, in the spreading leaves, and lateral inflorescence. The broad membranous leaf bases, and the slender bracteate flower-heads are essentially those of *Celmisia*.

It is allied to *C. ramulosa*, Hook., f., from which it differs in its larger size, acute spreading leaves, which are never revolute, and in the long axillary peduncles. There can be no doubt that other species with woody stems will ultimately be discovered.

I have named this fine plant in compliment to my friend, Captain J. Campbell Walker, in whose company I had the pleasure of collecting it.

Raoulia petriensis, n. s.

A small, hard, densely tufted species; branches short, erect. Leaves loosely imbricate, $\frac{1}{10}$ inch broad, broadly spatulate, thickened at the tips, nerveless, clothed on the upper surface with appressed white hairs, greenish below; tips of old leaves recurved. Heads deeply immersed amongst the uppermost leaves; involucral scales about 20, rather stout, with membranous apex and margins; outer series linear oblong, obtuse; inner series linear obovate, narrow. Florets numerous. Pappus of few white hairs with thickened tips, finely serrulate. Achene faintly grooved, smooth.

Hab.: South Island: Mount St. Bathans, Otago. D. M. Petrie.

Allied to *R. hectori*, Hook., f., but differs in the peculiar leaves, larger flower heads, and faintly grooved achenes, which are never silky.

I have dedicated this interesting plant to its discoverer, to whom I am indebted for much valuable information on the botany of Otago.

Erechtites glabrescens, n. s.

Stem 1–3 feet high, soft, furrowed, simple or sparingly branched. Leaves 3–6 inches long, 1–2 inches broad, oblong, or lanceolate oblong, more or less pinnatifid, lobed and toothed, with sinuate dentate margins, sessile, with large toothed auricles at the base, glabrous, or with a few scattered cottony hairs, often purple beneath, extremely membranous when dry. Heads numerous, laxly corymbose; involucreal scales, narrow, with scarious margins. Achenes faintly grooved, pappus scabrid.

Hab.: South Island: Roto-iti, Wairau Valley, T.K.; Wairau Valley, Nelson, W. T. L. Travers; Lake Hawea; Valley of the Dart, Otago, T.K.; Stewart Island, G. M. Thompson.

Originally discovered by Mr. W. T. L. Travers.

CHENOPODIACEÆ.

Chenopodium detestans, n. s.

A much-branched, prostrate or decumbent herb; stem and branches sometimes 2 feet long, wiry, terete; whole plant glandular. Leaves $\frac{1}{2}$ – $\frac{3}{4}$ inch long, petioled, rhomboid, or rhomboid-hastate, or ovate, acute, entire, or with a tooth on each side. Spikes short, glomerate, axillary, leafy. Perianth 4–5 partite. Stamens 4. Seed horizontal, minutely punctate.

Hab.: South Island: Between Lake Lyndon and Lake Pearson, Canterbury. Outlet of Lake Hawea, Otago.

Originally discovered by Mr. J. D. Enys, who informs me that he has seen it in several localities in Canterbury.

The whole plant emits a pungent and highly offensive odour, resembling that of decaying fish. It is the "Fish-guts plant" of the shepherds.

JUNCEÆ.

Juncus involucratus, n. s.

Culms erect, 1–1½ inches high, leafy at the base, striated, pith jointed. Leaves grassy, narrow, flat, sheathing at the base, finely striate, sheaths with a narrow membranous margin. Panicle terminal, surrounded by the long involucreal leaves, effuse or close, pale, branches short, involucreal leaves 3–6, slender, drooping. Flowers 2 or 3-fascicled, rarely solitary. Perianth segments lanceolate, acuminate, or apiculate, with membranous margins, strongly nerved. Stamens 3. Capsule (immature) shorter than the perianth, ovoid, prismatic.

Hab.: South Island: Amuri; 3,000 feet. Easily distinguished from all other New Zealand species by its long involucreal leaves.

Allied to *J. planifolius*, Hook., f., and *J. bufonius*, L.

Juncus pauciflorus, n. s.

A small densely tufted species. Leaves $\frac{1}{2}$ –1 inch long, with broad sheathing bases, linear acuminate, flat, shorter than the culms. Culms simple, 1–2 inches high, leafy at the base only, 1–5 flowered; involucreal leaves ovate, perianth segments lanceolate, acuminate, with membranous margins. Stamens 3; stigmas 3. Fruit ovate, prismatic, equalling the perianth, faintly 3-angled.

Hab.: South Island: Broken River, Canterbury, 2,000 feet.

The peculiar habit at once distinguishes this from all other New Zealand species. The capsule resembles *J. novæ zealandiæ*, Hook., f., from which it differs in the flat radical leaves and simple culms.

CYPERACEÆ.

Cladium huttoni, n. s.

Culms slender, 3–5 feet high, glabrous, terete, wiry, striate, pith continuous. Leaves terete, subulate, with broad sheathing bases, finely striated. Panicle elongated, 10–18 inches long, drooping, lower branches distant, with spathaceous, membranous, acuminate bracts; spikelets sessile in rather loose fascicles, $\frac{1}{3}$ inch long; glumes ovate-lanceolate, membranous, acute. Nut ovoid, 3-ribbed, smooth.

Hab.: North Island: Whangape, Waikare, and Wahi Lakes, Lower Waikato; Tikitapu Lake, Taupo.

Allied to *C. glomeratum*, Br., but at once distinguished by its drooping habit, open panicle, and small florets.

Gahnia rigida, n. s.

Densely tufted, culms leafy at base, harsh and rigid, erect, 3 feet high. Leaves 2–3 feet long, convolute, with drooping points and cutting margins, lower surface excessively scabrid. Panicle erect, branches numerous, short, strict, erect, spikelets crowded. Glumes coriaceous, outer longer than the spikelets, awned, margins membranous; upper glumes lanceolate, acute, with a stout nerve serrated at the back. Stamens 5. Nut ovate, brown, or slightly mottled, narrowed at both ends, with 4 furrows on the outside, transversely grooved within.

Hab.: South Island: Between Ross and Hokitika; near the Junction Hotel on the Christchurch-road; between Hokitika and Marsden; near Greymouth, Westland; Valley of the Grey; near Square-town; Nelson.

Allied to *G. setifolia*, Hook, f., from which it is distinguished by its erect panicle, and larger furrowed nuts, transversely grooved within. The nut resembles that of *G. procera*, Forst., from which it is separated by its habit, densely branched panicle, and smaller glumes.

Gahnia hectori, n. s.

Culms 2–3 feet high, sparingly leafy, leaves flat, panicle slender, droop-

ing, branches distant, slender, 2–6 feet long. Leaves convolute, scabrid above and beneath, and with cutting edges. Spikelets not crowded, sessile or shortly pedicelled; outer glumes coriaceous, ovate lanceolate, awned, shorter than the spikelet; upper glumes obtuse, with finely ciliated margins; stamens 4, filaments elongating slightly after flowering. Nut ovoid, obscurely trigonous, deeply furrowed on one side, acute, orange-brown, shining, transversely furrowed within.

Hab.: North Island; not unfrequent: Auckland, Wellington, etc. South Island: Westland, Buller Valley, etc.

Allied to *G. procera*, Forst., but differs in the slender, drooping panicle, elongated branches, short lower glumes, obtuse upper glumes, shorter filaments, and nut.

This species is the *G. pauciflora* of my list of Auckland plants,* and the *G. procera* of Mr. Buchanan's list of Wellington plants.† That species, however, is restricted to the South Island, and at present has not been found north of Hokitika.

G. hectori is the most elegant of all the New Zealand species.

* "Trans. N.Z. Inst.," Vol. III., p. 156.

† "Trans. N.Z. Inst.," Vol. VI., p. 225..