

1. *M. scapigera* (Sol. ex. A. Cunn.) Sch. Bip. in *Pollichia* 22-24, 1866, 309. *Scorzonera* ? *scapigera* (Sol. Mss.) A. Cunn. in *Ann. nat. Hist.* 2, 1839, 125. *M. pygmaea* Raoul Choix 1846, 45 non D. Don in *Phil. Mag.* 1832, 388. *M. forsteri* Hook. f. *Fl. N.Z.* 1, 1853, 151. *Scorzonera scapigera* Sol. ex Forst. f. *Prodr.* 1786, 91 (*nomen nudum*).

Perennial with short, vertical, much-branched caudex and ∞ fleshy taproots. Lvs all basal, glab. or furfuraceous, entire to denticulate to pinnatifid. Scapes \pm furfuraceous, naked, unbranched, striate. Bracteoles deltoid to elliptic or lanceolate, obtuse to acuminate. Florets yellow, conspicuously exceeding phyll. Achenes narrowed to base, distinctly ribbed, the ribs smooth. Pappus-hairs *c.* 14-24, stiff, brownish, widened to membranous base, barbellate above.

DIST.: N., S., St. Grassland and open places. FL. 12-2-(5). FT. 1-3-(6). A. Cunningham (loc. cit.) records "New Zealand (Northern Island).—1769, Sir Jos. Banks. Among fern, on the hills, Bay of Islands.—1834, R. Cunningham." Not recently recorded north of about lat. 37°. Type not seen.

A critical comparison between Australian, Tasmanian and N.Z. forms has not been made; certain specimens and the position of *M. scapigera* in the genus are discussed by Chambers (*Contr. Dudley Herb.* 4, 1955, 248, 278), and his species description is largely adopted here. The forms found in N.Z. may be roughly grouped as below, but there are intermediates and how far the polymorphism is due to genetic and how far to habitat conditions is not clearly known. The description in Solander's *Primitiae Florae Novae Zelandiae* and the figure in the unpublished Banks and Solander plate come nearest to forma *obovata*. The distribution and status of the complex need further study. Plants in cultivation often assume large dimensions.

(a) forma *linearis*. Lvs 3-15 cm. \times < 1-4 mm., filiform to linear, obtuse, entire or with very few runcinate teeth. Scapes 5-15 cm. long, not > *c.* 1 mm. diam. Capitula 10-15 mm. long and wide. Bracteoles broadly ovate to bluntly triangular, up to 4 mm. long; phyll. linear, subacute. Florets up to 10. Achenes *c.* 5 mm. long, glab. or with very sparse hairs when young. Pappus up to 8 mm. long. DIST.: N., S. Montane to subalpine damp grassland, herbfield, and boggy ground from lat. 38° 30' southwards.

(b) forma *pinnatifida*. Lvs 5-12 cm. long, linear to lanceolate in outline, obtuse, with distinct patent linear lobes up to 1 cm. long, widened at base, diminishing towards apex to 1 mm. long. Scapes 10-15 cm. long, *c.* 1 mm. diam. Capitula *c.* 18 mm. long and wide. Bracteoles ovate-oblong, up to 5 mm. long; phyll. elliptic to obovate-oblong, obtuse. Florets *c.* 20. Achenes *c.* 5-6 mm. long, glab. Pappus up to 1 cm. long. DIST.: N., S., St. Lowland to montane, mainly damp grassland, from lat. 39° 30' southwards.

(c) forma *obovata*. Lvs 5-10 cm. \times 5-10 mm., obovate-spathulate, apiculate, subentire to distantly runcinate toothed. Scapes 10-20 cm. long, up to 2 mm. diam. Capitula *c.* 2 cm. long and wide; Bracteoles ovate-oblong, up to 5 mm. long; phyll. narrow-linear. Florets *c.* 20. Achenes 6-7 mm. long, thinly clad in slender hairs when young. Pappus up to 7 mm. long. DIST.: S. Grassland and open places from lat. 41° to 42°.

(d) forma *major*. Lvs 10-25 cm. \times 5-10 mm., linear, tapering above to apiculate tip, entire or remotely sharply dentate, sts sparingly lobed towards base. Scapes up to *c.* 40 cm. long, 3 mm. diam. Capitula 2-2.5 cm. long, 1-1.5 cm. diam. Bracteoles broadly ovate-triangular, 2-4 mm. long, margins ciliate; phyll. oblong, dentate-ciliate. Florets *c.* 20. Achenes *c.* 7 mm. long, oblong. Pappus up to 7 mm. long. DIST.: S. Moist limestone cliffs, Ure River, Marlborough, B. C. Aston, G. Simpson.

28. KIRKIANELLA Allan gen. nov.

Capitula large, solitary. Scapes slender, fistular, bearing 1-5 linear bracts, densely to sparsely clad in soft white tomentum, densely to sparsely dotted with dark slender glandular hairs. Phyll. in *c.* 4 series, imbricate, membr. to scarious; outermost short, tomentose on back; innermost long, narrowly ovate-oblong; all \pm clad in dark slender glandular hairs, and somewhat narrowed to the base and below the rounded and fimbriate scarious dark tips. Receptacle shallowly concave, alveolate. Florets *c.* 30, ligulate; limb pale yellow, about = slender claw in length, rather deeply 5-fid. Fertile achenes few, glab., strongly compressed, broad, bluntly rounded at tips, gradually narrowed

to base, crowned by minute asperities, dark brown, with 4-5 longitudinal primary ribs and 4-5 weaker secondary ones, \pm strongly transversely wrinkled towards base, walls coriaceous. Sterile achenes ∞ , narrow-subcylindric, pale, finely ribbed, walls weak. Style-arms long, densely furnished with minute processes, finely coiled. Anthers long; cells obtuse at base. Pappus-hairs cop., slender, soft, white, connate at very base, minutely barbellate in upper half. Scapigerous herbs with stout taproot, rosulate lvs and cop. white latex. Type and only known sp.: *K. novae-zelandiae*.

Named in honour of T. Kirk, author of *The Students' Flora of New Zealand*, 1899. Pending detailed study in the field I describe three forms. Solander in his *Primitiae* described form (a) as *Hieracium fragile*. Hooker had all three forms before him when he drew up his composite description under *Crepis* (*Handbk N.Z. Fl.* 1864, 165). He remarks, "not well according with any described genus". In Bentham and Hooker's *Gen. Pl.* it is placed under *Sonchus*, probably on account of the characters of the fertile achenes. Stebbins (Babcock *The Genus Crepis* 1947: 386), after an examination of the K specimens, suggested including it in *Launaea*, which it approaches in carpological characters.

1. *Kirkianella novae-zelandiae* (Hook. f.) Allan comb. nov. *Crepis novae-zelandiae* Hook. f. *Handbk N.Z. Fl.* 1864, 164.

Though the three forms described below are very distinct there are intermediates and it seems inadvisable to create vars at present. It is not yet known how far the various forms noted are due to genetic differences and how far to modifications evoked by habitat conditions. No clear evidence has been adduced that hybridism plays a part. FL. 11-1. FT. 12-3.

(a) forma *novae-zelandiae*.

Taproot stout, sts multicapital. Lvs 10-15 cm. long or more, including flattened petiole. Lamina membr., glab., lyrate, bright green; terminal lobe 3-5 \times 2-3 cm., sinuately shallowly to rather deeply distantly lobulate; lobules rounded, apiculate; lateral lobes diminishing from 1 cm. to 1 mm. long, confluent, merging into winged petiole. Scapes up to 15 cm. or more long, slender, sparingly tomentose, becoming glab. except near capitulum, furnished with c. 5 linear, distant bracts tomentose at base; glandular hairs few or absent. Capitula c. 1.5 cm. long, 1-1.5 cm. diam. Florets c. 30. Outer phyll. 3-5 mm. long; inner ovate-oblong, up to 15 mm. long; all \pm densely clad on back in white tomentum and glandular hairs; tips glab., dark, finely toothed. Fertile achenes c. 3 mm. long, narrowed slightly to base, glab., primary ribs prominent. Pappus-hairs up to c. 8 mm. long, minutely barbellate in upper portion, flattened towards base.

DIST.: N., S. Lowland to subalpine rocky places and grassland. Exact distribution uncertain. The description is drawn up from specimens collected on Dore Pass, between the head of Lake Te Anau and the Eglinton Valley. Probably the specimen in K, "Canterbury, N.Z. Riverbed 2-3000 ft. 1862, J. Haast 727" should be selected as the lectotype of the sp.

(b) forma *glauca*.

Taproot stout, simple to paucicapital. Lvs 5-10 cm. long, including petiole, glab., glaucous, somewhat fleshy, deeply pinnatifid, lineolate when dry. Terminal lobe 5-15 \times 4-15 mm., closely to rather distantly dentate-apiculate; lateral lobes close-set, densely dentate-apiculate, diminishing downwards regularly from c. 5 mm. long to minute teeth, cut to widened axis; petiole widening to broad base. Scapes 2-10 cm. long, at first