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An Outline of the Vegetation and Flora of the Tararua Mountains.

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INTRODUCTION.

History.

THE earliest records on the botany of the Tararua Mountains were made by Buchanan (1874). The first botanist to ascend the mountains was Cockayne (1907), but he published merely a few new records of species. Petrie (1908) was the first to make notes on the vegetation along the route to Mount Hector. He was followed by Aston (1910), who climbed Mt. Holdsworth and a few other places in addition. Aston made some further references to the Tararua plants in his list of species in the Wellington province (1911), and he also published a list of plants of C. Turakirae (1912). Nothing has been published since, except references to the collectors in Cheeseman's *Manual* (1925) and a few remarks by Cockayne (1926, 1928, 1928a) on ecology.

The present authors commenced their investigations at a time when the late Dr. L. Cockayne was still active in the field of botany. It is due very largely to his influence and every possible encouragement that the investigations were undertaken and the energies of the independent investigators ultimately combined in the present paper. The authors are also deeply indebted to Dr. H. H. Allan for his interest in this work, and to many of their tramping friends in whose company the authors have made pleasant trips into some very difficult country.

The aim of this paper is to give an outline of the primitive, or as nearly such as it is preserved this day, plant covering of the mountains, especial attention being paid to the plant distribution, and an attempt being made to give a critically revised and annotated list of species. Zotov and Elder have traversed practically every ridge and river shown on the map, and Beddie has explored very thoroughly the southern portion, especially the area with Mount Matthews as centre.

ABBREVIATIONS.

A: Aston, 1910.	bog: \pm permanently wet open ground.
B: Beddie, —.	ep: true epiphyte.
Bu: Buchanan, 1874.	fell: fellfield.
C: Cockayne, 1906.	forest: tall forest.
E: Elder, —.	herb: herb field.
K: Kirk, 1899.	mead: meadow, tall tussock, etc.
M: Cheeseman, 1925.*	river: riverbed.
O: Oliver (or Heine in O), 1935.	rocks: rocks, e.g. in gorges or on peaks.
P: Petrie, 1908.	scrub: cold temperate scrub.
To: Townson, in M.	water: watercourse and river bank.
Tr: Travers, in M.	
W: Aston, 1911.	
X: Not observed by B, E, or Z.	dd: single dominant.
Z: Zotov, —.	d: co-dominant.
oo: More than two collectors in M.	pp: very plentiful.
* (Example: M—A! = collected by A, seen by Cheeseman and recorded for Tararua in M).	p: plentiful.
	cc: very common.
	c: common.
LWSubp: lower warm subpolar belt.	ff: very frequent.
UCTemp: upper cold temperate belt.	f: frequent.
LCTemp: lower cold temperate belt.	rr: rather rare.
CTemp: both U+L cold temperate b.	r: rare or very rare.
UWTemp: upper warm temperate b.	
LWTemp: lower warm temperate b.	
WTemp: both U+L warm temperate belt.	
Temp: both cold and warm temperate belt.	

PTERIDOPHYTA.

Hymenophyllaceae.

- Hymenophyllum rarum* Swartz.—A,Z. WTemp, ATA, ep, f.
H. sanguinolentum Swartz.—A,B,Z. Temp, ATA (CTemp, pp).
H. villosum Col.—Z. LCSubp, ATA, rock, f.
H. australe Willd.—Z. LWTemp, NTA, r.
~~*H. pulcherrimum* Col.—Z. LCTemp, WTA, r.~~
H. dilatatum Swartz.—A,B,Z. WTemp, ATA, p.
H. demissum Swartz.—A,B,Z. WTemp, LCTemp, ATA, p.
H. scabrum A. Rich.—A,B,Z. WTemp, ATA, ff.
H. flabellatum Lab.—A,X.
H. ferrugineum Colla.—A,B,Z. WTemp, ATA, rr.
H. tunbridgense Smith.—A,B,Z. WTemp, ATA, c.
H. peltatum Desv.—Z. e. 500 m., WTA (nr. Field Hut, only specimen).
H. multifidum Swartz.—A,B,Z. WTemp, ff, CTemp, pp-dd, ATA.
H. bivalve Swartz.—A,B,Z. WTemp, ATA, c.
~~*Cardiomanes veniforme* Presl.—A,B,Z. WTemp, ATA, pp.~~
~~*Trichomanes Colensoi* Presl.—M—Bu!X.~~
T. venosum Presl.—A,Z. WTemp, ATA, ep, ff.
~~*T. strictum* Presl.—A,X.~~

Cyatheaceae.

- Dicksonia squarrosa* Swartz.—A,B,Z. LWTemp, NTA, STA, ff.
Cyathea dealbata Swartz.—A,B,Z. LWTemp, ATA, c.
~~*C. medullaris* Swartz.—A,B,Z. LWTemp, ATA, c.~~
~~*C. Smithii* Hook. f.—A,B,Z. WTemp, LCTemp, ATA, pp.~~
~~*C. Colensoi* Domin.—A,Z. LWTemp, NTA, ETA, r.~~

Polypodiaceae.

- Cystopteris fragilis* Bernh.—M—Bu,X.
Polystichum vestitum Presl.—A,B,Z. CTemp, ATA, pp.
P. Richardi J. Smith.—A,B,Z. WTemp, ATA, cc.
P. cystostegia J. B. Armstr.—M—Bu,X.
P. hispidum J. Smith.—B,Z. WTemp, NTA, STA, rr.
P. adiantiforme J. Smith.—B,Z. WTemp, ATA, rr.
Dryopteris glabella C. Christensen.—A,B,Z. WTemp, ATA, f.
D. punctata C. Christensen.—A,Z. WTemp, WTA, rr.
D. pennigera C. Christensen.—A,B,Z. LWTemp, ATA, f.
Leptolepia novae-zealandiae Kuhn.—A,B,Z. LWTemp, ATA, rr.
Arthropteris tenella J. Smith.—B,Z. c. 100 m., nr. Manawatu Gorge, also nr. Porirua Harbour.
Lindsaya cuneata Swartz.—A,B,Z. WTemp, ATA, cc.
Asplenium flabellifolium Cay.—B. WTemp, Mt. Matthews (STA), r.
A. trichomanes Linn.—M—Bu, X.
A. adiantoides C. Christensen.—A,B,Z. LWTemp, ATA, ep, rr.
A. obtusatum Forst. f.—A,X.
A. lucidum Forst. f.—A,B,Z. LWTemp, ATA, c.
A. Hookerianum Col.—A,B,Z. WTemp, STA, f.
A. Colensoi Moore.—B. WTemp, STA, rr.
A. bulbiferum Forst. f.—B,Z. WTemp, ATA, c.
A. Richardi Hook. f.—M—Bu, —H. C. Field, X.
A. flaccidum Forst. f.—A,B,Z. WTemp, LCTemp, ATA, ep, c.
A. bulbiferum × *Hookerianum*.—B,Z.
A. bulbiferum × *flaccidum*.—B.
A. Hookerianum × *flaccidum*.—B.
Blechnum Patersoni Mett.—A,B,Z. WTemp, ATA, c.
B. discolor Keys.—A,B,Z. WTemp, LCTemp, ATA, d-dd.
B. vulcanicum Kuhn.—A,X.
B. lanceolatum Sturm.—A,B,Z. WTemp, ATA, gorges, ff.
B. Banksii Mett.—B. Cliffs, nr. coast, r.
B. penna-marina Kuhn.—A,B,Z. c. 900 m., Park Valley, c; also Big Hill (STA), rr.
P. procerum Labill.—A,B,Z. WTemp, CTemp, ATA, cc.
 There appear to be at least two jordanons.
B. minor Hook. f.—B,Z. LCTemp, ATA, cc. (UWTemp in Ruamahanga upper basin).
B. filiforme Ettingsh.—A,B,Z. WTemp, ATA, ep. c.
B. nigrum Metten.—Z. WTemp. WTA, on steep slopes, c.
B. fluviatile Salom.—A,B,Z. WTemp, ATA, ff.
Pellaea rotundifolia Hook.—B,Z. c. 100 m., vicinity of Manawatu Gorge, nr. Mt. Matthews, r.
H. tenuifolia Bernh.—B. LWTemp, STA, rr.
Hypolepis millefolium Hook.—A,M—A!—To,B. CTemp, STA, rare; Z. Park Valley, c. 1200 m., c.
H. distans Hook.—A,X.
Adiantum formosum R. Br.—Z. c. 100 m., Manawatu Gorge.
A. affine Willd.—A,B,Z. LWTemp, ATA, gorges, c.
Pteris tremula R. Br.—B,Z. WTemp, NTA, ETA, STA, ff.
P. macilenta A. Rich.—B. LWTemp, Mt. Matthews (STA), f.

- Histiopteris incisa* J. Smith.—A,B,Z. WTemp, ATA, c.
Pteridium aquilinum esculentum Hook. f.—A,B,Z. WTemp, ATA, c-dd.
Paesia scaberula Kuhn.—A,B,Z. WTemp, ATA, r (except on clearings).
Polypodium Billardieri C. Christensen.—A,B,Z. Temp, ATA, c.
P. b. var.—Z. CTemp, ATA, ff. Smaller and more slender than the former.
P. b. var.—Z. LWSubp, wet rocks; r. Much broader than the original species.
P. grammitidis R. Br.—A,B,Z. WTemp, ATA, c, on rocks.
P. pustulatum Forst. f.—B,Z. LWTemp, ATA, rr.
P. diversifolium Willd.—B,Z. WTemp, ATA, rocks or ep, ff.
Cyclophorus serpens C. Christensen.—A,B,Z. WTemp, LCTemp, ATA, rocks or ep, ff.

Gleicheniaceae.

- Gleichenia dicarpa* R. Br.—B,E. WTemp (?), STA, r.
G. alpina Hook. f.—B,E. c. 800 m., Mt. Kapakapanui and Mt. Orongorongo, r; E. c. 800 m., Mt. Kaiparoro, r.
G. Cunninghamii Heward.—A,B,E,Z. LCTemp, ATA, e-pp; UWTemp, f.

Schizaeaceae.

- Schizaea fistulosa* Labill.—E. c. 200 m., nr. Port Nicholson in manuka.

Osmundaceae.

- Leptopteris hymenophylloides* Presl.—A,B,Z. UWTemp, LCTemp, ATA, ff.
L. superba Presl.—A,B,Z. LCTemp, ATA, cc.

Ophioglossaceae.

- Ophioglossum coriaceum* A. Cunn.—E,B,Z. c. 300 m., Tauherenikau and lower Waiohine River flats, cc.
Botrychium australe millefolium (?) Plantl.—B,E. c. 300 m., Waiohine River flats (ETA), Muku-muku basin (STA), r.

Lycopodiaceae.

- Lycopodium australianum* Nerter.—B,E,Z. LWSubp, ATA, rr; also Mt. Matthews, c. 900 m.
L. varium R. Br.—B,E,Z. UWTemp, LCTemp, ATA, f.
L. Billardieri Spring.—B,E,Z. WTemp, ATA, f.
L. fastigiatum R. Br.—B,E,Z. Temp, ATA, r; LWSubp, c.
L. scariosum Forst. f.—B,E,Z. Temp, NTA, ETA, STA, c; WTA, rr.
L. volubile Forst. f.—A,B,Z. WTemp, ATA, r.
Tmesipteris tannensis Bernh.—A,B,E,Z. WTemp, ATA, ep, c.

SPERMATOPHYTES—GYMNOSPERMAE.

Pinaceae.

- Libocedrus doniana* Endl.—Bu,X.

Taxaceae.

- Podocarpus totara* D. Don.—B,E,P,Z. LWTemp, ATA, river, ff.
P. Hallii T. Kirk.—A,B,E,Z. UWTemp, LCTemp, ATA, cc.
P. nivalis Hook.—Bu,W—Bu,X. = epharmon *P. Hallii*?

- P. ferrugineus* D. Don.—B,E,P,Z. WTemp, LCTemp, pp-d.
P. spicatus R. Br.—A,B,E,Z. LWTemp, ATA, r; STA, c-dd.
P. dacrydioides A. Rich.—B,P,Z. LWTemp, ATA, river, r.
Dacrydium biforme Pilger.—E,Z. CTemp, NTA, c-d.
D. intermedium T. Kirk.—W,M—oo!, X = *D. biforme*?
D. cupressinum Soland.—B,E,P,Z. WTemp, ATA, e; NTA,
 WTA, dd.
Phyllocladus trichomanoides D. Don.—Bu,W—Bu,X. = *P.*
alpinus?
P. alpinus Hook. f.—E,Z. CTemp, NTA, pp-dd; nr. Mt. Renata
 (STA), isolated patch.

SPERMATOPHYTA—MONOCOTYLEDONAE.

Pandanaaceae.

- Freycinetia Banksii* A. Cunn.—B,E,P,Z. WTemp, ATA, c-pp.

Niadaceae.

- Potamogeton Cheesemanii* A. Bennett.—c. 300-400 m., ETA,
 STA, r.

Gramineae.

- Oplismenus undulatifolius* Beauv.—P,X.
Microlaena Colensoi Petrie.—P,W,M—Tr!, Z. LWSubp, pp.
M. stipoides R. Br.—Z. LWTemp, Manawatu G., Muku-muku R.,
 Paekakariki cliffs, e, probably introduced into the loc.
M. avenacea Hook. f.—B,P,Z. WTemp, LCTemp, ATA, pp-d.
Hierochloe redolens R. Br.—P,Z. UCTemp, ATA, ff.
H. Fraseri Hook. f. var.—P,Z. UCTemp, ATA, f.
Echinopogon ovatus Beauv.—c. 100 m., Manawatu Gorge, r; Big
 Hill (STA), r.
Agrostis alpina Scop.—Z. LWSubp, ATA, rr; CTemp, Waio-
 hine-iti V., c.
A. subulata Hook. f.—A,P,M—P!, X = preceding sp.?
A. muscosa T. Kirk.—P,W,M—oo!, Z. LWSubp, rr.
A. Dyeri Petrie.—P,W,Z. LWSubp, p.
A. parviflora R. Br.—Z. CTemp, ATA, in open places, ff; Mt.
 Waiopahu, pp.
Deyeuxia Forsteri Kunth.—B,P,Z. Temp, ATA, f. There appear
 to be several jordanons.
D. avenoides Buch.—B,Z. WTemp, Mt. Matthews, r.
D. setifolia Hook. f.—B,P,Z. CTemp (rr), LWSubp, c.
D. quadriseta Benth.—A,Z. WTemp, NTA, ETA, STA, r.
Dichelachne crinita Hook. f.—A,B,Z. WTemp, NTA, ETA,
 STA, r.
Deschampsia tenella Petrie.—P,W—Tr, M—Tr!—P!, Z. LW-
 Subp, r; CTemp, Ruamahanga upp. basin, Waiohine-iti
 V., cc.
Trisetum antarcticum Trin.—B, P—A?, Z. CTemp, ETA, r;
 STA, ff.
T. Youngii Hook. f.—P—A?, W,M—Bu!—A!, Z. WTemp, NTA,
 r (probably introduced).
T.y. saxeticolum (Ckn. et Allan).—Z. Coastal cliffs, STA, ff.
Danthonia Cunninghamii Hook. f.—A,B,Z. CTemp, forest, pp.
D. Bromoides Hook. f.—B,Z. Mouth of Muku-muku R., c.

- D. antarctica* Hook. f. *flavescens* (Hack.)—B,Z. CTemp (except in forest), c; LWSubp, dd.
- D.a. Cheesmanii* (Hack.) (?)—B,Z. WTemp, forest, STA, c.
- D.a.* var. (narrow-leaved).—B,Z. LWSubp, pp-dd; UCTemp, Park V., p.
- D. Raoulii* Steud.—P,X. Probably includes *D. antarctica* and *D. Cunninghamii*.
- D. semiannularis* R. Br.—B,P,Z. WTemp, rr, probably introduced.
- D. nigricans* Petrie.—B,Z. CTemp, open places, pp.
- D. pilosa* R. Br. var.—B,Z. WTemp, STA, ff. possibly introduced.
- D. setacea* R. Br. *setifolia* (Hook. f.)—Z. NTA, WTemp, in gorges, CTemp, E. slopes of Mt. Ruapai cc-dd; Park V., p.
- D. nuda* Hook. f.—M—A!, X.
- Arundo conspicua* Forst. f.—A,B,Z. LWTemp, NTA, STA, introduced?
- A. fulvida* Buch.—B,Z. WTemp, ATA, ff.
- Triodia australis* Petrie.—P,W,X. Petrie's record of this S.I. species is doubtful, although there is a specimen in the Dominion Museum labelled "Mt. Holdsworth."
- Poa novae-zelandiae* Hack.—B,P,W,M—Bu!—Johns!, Z. LW-Subp, c.
- P. anceps* Forst. f.—B,P,Z. Temp, ATA, c. There appear to be two distinct jordanons, one found in WTemp, the other in CTemp.
- P. seticulmis* Petrie.—A,W,X. = epharmane of *P. anceps*?
- P. caespitosa* Forst. f.—B,P,Z. LWTemp, ETA, STA, f, on steep slopes, introduced?
- P. Colensoi* Hook. f.—B,P,Z. LCSubp, pp.
- P. Kirkii* Buch.—B,W,M—Tr—Arnold,Z. LWSubp, c.
- P. imbecilla* Forst. f.—B,P,W,Z. LWSubp, c.
- P.* n.sp. (usu. placed in *P. imbecilla*).—Z. WTemp, STA, rr.
- Festuca multinodis* Petrie.—B,Z. Coastal cliffs (STA), cc.
- F.m.* var.—Z. Low rocks in Manawatu Gorge, pp.
- Agropyron scabrum* Beauv. (glaucous var.).—B,Z. Coastal cliffs and Manawatu Gorge, rr.

Cyperace.

- Mariscus ustulatus* C. B. Clarke.—B,Z. LWTemp, NTA, STA, f, introduced?
- Eleocharis Cunninghamii* Boeck.—A,X. = *E. acuta*?
- E. acuta* R. Br.—B,Z. WTemp, ATA, cut-off meanders, c.
- Isolepis* n.sp. (related to *I. basileris* Hook. f.)—B,Z. LWTemp, Muku-muku basin, r. Possibly exotic to N.Z.
- I. aucklandica* Hook. f.—B,M—A!—P!,P,Z. CTemp, LWSubp, cc.
- I. cernua* Roem. et Schult.—A,B,Z. WTemp, ATA, ff.
- I. mundata gracillima* (Cheesem.)—c. 600 m. High misty (STA), introduced.
- I. sulcata distigmata* (C. B. Clarke)—A,B,Z. LWTemp, ATA, water, ff.
- I. prolifer* R. Br.—A,B,Z. LWTemp, ATA, water, ff.

- I. sulcataus* × *prolifer*.
I. nodosa R. Br.—B,Z. Coastal, invades bared land.
Scirpus novae-zealandiae Col.—B. Muku-muku R. Introduced.
S. lacustris Linn.—B. Muku-muku R. Introduced?
Cyperus alpina R. Br.—B,P,Z. CTemp, ATA, c, in open places,
 LWSubp, pp.
Schoenus pauciflorus Hook. f.—B,P,Z. LWSubp, pp.
Cladium Sinclairii Hook. f.—Manawatu Gorge, rocks, rr.
C. glomeratum, R. Br.—B. L.Ponui (STA).
C. Gunnii Hook. f.—B. L.Ponui (STA).
Lepidosperma australe Hook. f.—B,Z. WTemp, NTA, STA, r.
 Introduced.
Gahnia setifolia Hook. f.—B,P,Z. LWTemp, ATA, r.
G. pauciflora T. Kirk.—B,P,Z. WTemp, ATA, ff.
G.p. var. (possibly distinct sp.)—B,P,Z. CTemp, ATA, cc.
G. gahniaeformis A. A. Heller.—B. WTemp, STA, r.
Oreobolus strictus Berggr.—W,X.
O. pumilio R. Br.—Z. c. 660 m., Mt. Maunganui, ff.
O. pectinatus Hook. f.—B,P,Z. CTemp, LWSubp, pp.
Uncinia compacta R. Br.—P,W—Bu,M,Z. LWSubp, f. Pos-
 sibly epharmane of *U. fusco-vaginata*.
U. fuco-vaginata Kukenth.—P,M—oo!Z. UCTemp, LWSubp,
 ATA, c.
U. purpurata Petrie.—W—P, X.
U. caespitosa Boott.—P,M—P!,Z?
U. uncinata Kukenth.—B,P,Z. UWTemp, LCTemp, ATA, c;
 STA pp.
U.u. ferruginea C. B. Clarke.—Z. LWTemp, ATA, f; NTA, pp.
U. leptostachya Raoul.—B. WTemp, STA, r.
U. riparia R. Br.—B,Z. CTemp, ATA, cc.
U.r. Banksii C. B. Clarke.—Z. WTemp, ATA, ff.
U. strictissima Petrie.—B,Z. LWTemp, Muku-muku basin
 (STA), f.
U. rupestris Raoul.—P,W—Tr,Z. CTemp, ATA, cc.
U. filiformis Boott.—B,P,W,M—oo!, Z. LCTemp, ATA, cc.
Carex acicularis Boott.—P,W,M—P!,Z. LWSubp, ff.
C. appressa R. Br.—B. WTemp, Mt. Matthews (STA), r.
C. secta Boott.—B,Z. LWTemp, ATA, river flats, rr.
C. Colensoi Boott.—Z. CTemp, Mt. Holdsworth (ETA), r.
C. subdola Boott.—B. c. 600 m., Mt. Orongorongo (STA), r.
C. ternaria Forst. f.—B,P,Z. LWTemp, ATA, rr.
C.t. gracilis Cheesem.—Z. Manawatu Gorge, r.
C. lucida Boott.—B,Z. WTemp, NTA, ETA, STA, r.
C. comans Berggr.—B,Z. WTemp, ETA, STA, rr.
C. dissista Sol.—B,P,Z. CTemp, ATA, ff.
C. monticola Kukenth.—B,Z. WTemp, LCTemp, ATA, c.
C. Solanderi Boott.—B,Z. LWTemp, Orongorongo and Muku-
 muku basin, rr.
C. semi-forsteri C. B. Clarke.—B. LWTemp, nr. Mt. Matthews, r.

Palmae.

- Rhopalostylis sapida* Wendl.—B,E,Z. LWTemp, ATA, ff.

Centrolepidaceae.

Gaimardia ciliata Hook. f.—E,P,M—P,Z. LWSubp, cc.

Juncaceae.

Juncus pallidus R. Br.—B,Z. LWTemp, ATA, river, r.

J. pauciflorus R. Br.—B,Z. LWTemp, ATA, river, r.

J. vaginatus R. Br.—B,Z. LWTemp, ATA, river, r.

J. polyanthemus Buchen.—B,Z. Temp, ATA, wet open places, ff.

J. luxurians Col.—B,Z. LWTemp, ATA, river, r.

J. pallidus × *vaginatus*.

J. pallidus × *polyanthemus*.

J. vaginatus × *polyanthemus*.

J. planifolius R. Br.—A,B,Z. WTemp, ATA, f. Two varieties, one chiefly in NTA, WTA, the other in ETA, STA.

J. caespiticus bracteatus Buchen.—A,B,Z. LWTemp, Mt. Mathews (STA), f.

J. antarcticus Hook. f.—B,E,P,W,Z. UCTemp, LWSubp, ATA, cc.

J. prismatocarpus R. Br.—Z. LWTemp, NTA, Tiritea and Kahuterawa riverbeds, r.

J. scheuchzeroides Gaud.—A,X.

J. novae-zealandiae Hook. f.—B,P,W,Z. CTemp, ATA, ff.

Luzula Colensoi Hook. f.—W—To,M—To!,X.

L. campestris DC.—A,B,M,P,Z.

L.c. picta Hook. f.—B,Z. WTemp, LCTemp, ATA, c.

L.c. australasica Buchen.—B,Z. CTemp, ATA, c.

L.c. floribunda Buchen.—B,Z. CTemp, ATA, water, f; LWSubp, cc.

Liliaceae.

Rhipogonum scandens Forst.—B,E,P,Z. WTemp, ATA; STA and other drier places, r-f, elsewhere up to 450 m. pp-dd.

Enargea parviflora Scottsberg.—B,E,P,Z. LCTemp, ATA, cc.

Cordylone Banksii Hook. f.—B,E,P,Z. WTemp, LCTemp, ATA, water, f.

C. australis Hook. f.—B,Z. LWTemp, nr. Manawatu Gorge, Muku-muku basin, f.

C. indivisa Steud.—B,E,P,Z. CTemp, ATA, ff.

Astelia linearis Hook. f.—B,E,P,Z. UCTemp, ATA, rr; LWSubp, p.

A. Solanderi A. Cunn. (= *Cunninghamii* Hook. f. of Manual).—B,E,P,Z. WTemp, LCTemp, ATA, pp.

A. Haastata Col.—B,E,P,Z. WTemp, ATA, ep, cc.

A. Cunninghamii × *Solanderi*.—Z.

A. nervosa Banks et Sol.—B,E,P,Z. CTemp, ATA, pp.

A. Cockaynei Cheesem.—B,E,Z. UCTemp, LWSubp, pp-dd.

Dianella intermedia Endl.—B,E,P,Z. WTemp, ATA, f.

Phormium tenax Forst.—A,X.

P. Colensoi Hook. f.—B,E,P,Z. CTemp, ATA, pp-dd; WTemp, in gorges and coastal cliffs, c.

P. Colensoi × *tenax*.—B,Z. on coastal cliffs, f.

Bulbinella Hookeri Benth.—B,E,P,Z. LWSubp, p.

Arthropodium candidum Raoul.—LWTemp, STA, ff.

Herpolirion novae-zealandiae Hook. f.—W,X.

Iridaceae.

- Libertia ixiooides* Spreng.—B,E,P,Z. WTemp, ATA, rr.
L. (undescribed sp.).—B,E,Z. WTemp, STA, rr.
L. pulchella Spreng.—B,E,P,Z. LCTemp, ATA, pp; UWTemp
 Ruamahanga and Mangatainoka basins, c.

Orchidaceae.

- Dendrobium Cunninghamii* Lindl.—B,E,P,Z. WTemp, ATA, ep,
 c.
Bulbophyllum pygmaeum Lindl.—B,E,Z. LWTemp, ATA, ep, rr.
Earina muconata Lindl.—B,E,P,Z. LWTemp, ATA, ep, rr.
E. autumnalis Hook. f.—A,B,E,Z. WTemp, ATA, ep, cc.
Sarochilus adversus Hook. f.—B,E,Z. LMTemp, ATA, ep, rr.
Thelymitra longifolia Forst. var.—B,E,Z. WTemp, STA, c.
T.l. var.—E,Z. WTemp, STA, r.
T. venosa R. Br.—B,E,Z. WTemp, STA, open pl., rr.
T. uniflora Hook. f.—B,P,Z. CTemp, ATA, open pl., c.
Orthoceras strictum R. Br.—A,E,Z. WTemp, ATA, rr.
Microtis unifolia Reichenbach.—B. WTemp, STA, r.
Prasophyllum Colensoi Hook. f.—B,E,P,Z. CTemp, ATA, bogs, f.
Pterostylis confertifolia Cockn. et Allan.—A,B,E,Z. UCTemp,
 ATA, r.
P. Banksii R. Br.—A,B,E,Z. LWTemp, STA, f.
P. graminea Hook. f.—A,B,E. WTemp, STA, r.
~~*P. foliata*~~ Hook. f.—A,M—A!,E. WTemp, STA, r.
P. venosa Col.—E,M—To!,Z. UCTemp, LCSubb, NTA, ETA,
 WTA, rr.
P. trullifolia Hook. f.—E. LWTemp, STA, r-f.
P. barbata Lindl.—E. LWTemp, STA, r.
Acianthus Sinclairii Hook. f.—E. LWTemp, STA, r.
Cyrtostylis oblonga Hook. f.—A,E. LWTemp, STA, r.
Calochilus paludosus R. Br.—W—Atkinson,X.
Lyperanthus antarcticus Hook. f.—E,P,W,Z. UCTemp, ATA, f.
Caladenia minor Hook. f.—E,W. LWTemp, STA, rr.
C. bifolia Hook. f.—E,P,W,Z. UCTemp, ATA, c.
Chiloglottis cornuta Hook. f.—A,B,E,W. UWTemp, LCTemp,
 STA, rr.
Adenochilus gracilis Hook. f.—E,Z. UWTemp, Ruamahanga
 basin (NTA), ff.
Corysanthes oblonga Hook. f.—B,W—Phillips. LWTemp, STA,
 r.
C. rivularis Hook. f.—E. c. 400 m., Mangatainoka R., r.
C. rotundifolia Hook. f.—B. LWTemp, STA, r.
C. triloba Hook. f.—B,E,P,Z. LCTemp, ATA, ff.
C. macrantha Hook. f.—B,E,Z. WTemp, ATA, c.
~~*Gastrodia sesamoides*~~ R. Br.—A,W,X.
~~*G. Cunninghamii*~~ Hook. f.—B,E,P,Z. LWTemp, ATA, ff.

SPERMATOPHYTES—DICOTYLEDONAE.

Piperaceae.

- Macropiper excelsum* Miq.—A,B,E,Z. 0-100 m., NTA, STA, pp.
Peperomia Urvilleana A. Rich.—E,Z. c. 20 m. Tokomaru G., nr.
 Mt. Wainui, r.

Fagaceae.

- Nothofagus Menziesii* Oerst. -B,E,P,Z. UWTemp, Mangahou V.
(NTA), ETA, ce; UTemp, ETA, WTA, STA, dd.
N. fusca Oerst. -B,E,P,Z. UWTemp, LWTemp, ATA, p-dd, but
absent north of Mt. Mairakau.
N. truncata Cockayne. -B,E,Z. WTemp, ETA, f; STA, pp-dd.
N. Solandri Oerst. -B,E,P,Z. WTemp, ETA, ff; STA, pp-d; nr.
Manawatu G. (NTA), r.
N. cliffortioides Oerst. -A,X.
N. Solandri \times *truncata* = \times *N. apiculata* (?) -B,E,P,Z. ce.

Moraceae.

- Paratrophis microphylla* Cockayne. -B,E,Z. LWTemp, NTA,
ETA, STA, r.
P. opaca Britton. -M, A,B,E,Z. LWTemp, STA, r; west slopes
of Mt. Wainui, ce.

Urticaceae.

- Urtica ferax* Forst. f. -B,E,Z. LWTemp, NTA, STA, ff.
U. incisa Poir. -B,P,Z. LWTemp, ATA, ff.
Elatostema rugosum A. Cunn. -E,Z. LWTemp, NTA, water, pp.
Parietaria debilis Forst. f. -B,Z. LWTemp, NTA, STA, ff.
Ausaralina pusilla Gaud. -B,Z. LWTemp, Manawatu G., r;
STA, r.

Proteaceae.

- Knightsia exelsa* R. Br. -A,B,E,Z. WTemp, NTA, STA, ce;
WTA, ETA, r.

Santalaceae.

- Mida salicifolia* A. Cunn. -E,Z. WTemp, NTA, p; WTA, rr.
M. mortifolia A. Cunn. -B,Z. LWTemp, STA, r, Mt. Wainui, f.

Loranthaceae.

- Elytranthe Colensoi* Engl. -P,B. WTemp, ETA, STA, r.
E. tetrapetala Engl. -A,E,Z. WTemp, ETA, STA, f.
E. flavida Engl. -B. LWTemp, STA, r.
Loranthus micranthus Hook. f. -B,Z. LWTemp, ETA, STA, rr,
c. 800 m., Mt. Mitre (ETA), single sp.
Tapsea antarctica Cham. -A,X.
Korthalsella salicarioides Van. -B,E,Z. LWTemp, STA, ff.
K. Lindsayi Engl. -B. LWTemp, Wainui-o-mata V., r.

Balanophoraceae.

- Dactylanthus Taylori* Hook. f. -A,M -A,X.

Polygonaceae.

- Machlenbeckia australis* Meisn. -A,B,E,Z. LWTemp, ATA,
river, c.
M. Astoni Peirce -B. nr. C. Turakirae, r.
M. complexa grandiflora H. Chase. -A,B,Z. LWTemp, ATA, c.
M.e. trilobata Cheesem. -B. LWTemp, STA, r.
M.e. microphylla Cockayne. -B. LWTemp, STA, coastal cliffs c.

Aizoaceae.

- Mesembryanthemum australe* Sol. -B,Z. Cliffs at C. Turakirae, f.
Tetragonia trigyna Banks et Sol. -B,E. LWTemp, nr. C. Tura-
kirae, rr.

Portulacaceae

Claytonia australasica Hook. f.—B,C,E,P,W,Z. LWSubp. screes,
cc.

Montia fontana Linn.—E,Z. LWSubp, water, pp.

Caryophyllaceae.

Stellaria parviflora Banks et Sol.—B,P,Z. Temp. NTA, ETA,
STA, rr.

Colobanthus crassifolius Hook. f.—A,W,Z. LWSubsp. screes, f.

C. Muelleri T. Kirk.—B. Coastal cliffs, Cook Str, f.

Ranunculaceae.

Clematis indivisa Willd.—B,E,P,Z. WTemp, ATA, c.

C. hexasepala DC.—B,P. LWTemp, STA, r.

C. Colensoi rutacifolia Hook f.—B,E,Z. LWTemp, NTA, STA, rr.

C. foetida Raoul.—B,Z.—LWTemp, NTA, STA, f.

Ranunculus insignis Hook f.—B,E,K,M,P,W,Z. UCTemp, LW-
Subp, ATA, water, p.

R. Monroi Hook. f.—K—Bu!,A—Bu,W—Bu,M—Bu!,X. = ep-
harmone of *R. insignis*?

R. geraniifolius Hook. f.—K—Bu!—Arnold!,M—Bu!—Arn!,-
B,E,P,Z.

R.g. var. (deeply trilobed lvs.)—E,Z. LWSubp, herb, c.

R.g. var. (deeply several times trilobed).—E,Z. LWSubp, bog, c.

R. tenuicaulis Cheesem.—C,P,W—C,M—oo!,X?

R. hirtus Banks et Sol.—B,E,P,Z. CTemp, ATA, ff.

R. lappaceous Smith.—E,Z. UCTemp, LWSubp, Mt. Waingawa,
Mt. Arête, Park V., ff-e.

R. rivularis Banks et Sol.—A,B,Z. LWTemp, ATA, r.

Caltha novae-zealandiae Hook. f.—B,E,M—oo!,P,Z. LCSubp,
herb, bog, p.

Winteraceae.

Pseudowintera acillaris Dandy.—B,E,P,Z. WTemp, ATA, c-p.

P. colorata Dandy.—B,E,P,Z. LCTemp, ATA, pp.

Monimiaceae.

Hedycarya arborea Forst.—B,E,P,Z. WTemp, ATA, pp.

Laurelia novae-zealandiae A. Cunn.—B,E,P,Z. LWTemp, ff.

Lauraceae.

Beilschmiedia tawa Hook. f.—B,E,P,Z. WTemp, ATA, pp-dd.

Cruciferae.

Cardamine heterophylla O. E. Schultz.—E,P,Z. LWSubp, screes,
c.

C.h. var.—B,Z. LWTemp, ATA, ff.

Lepidium oleraceum acutidentatum T. Kirk.—B. Cliffs, C. Tura-
kirae, ff.

Droseraceae.

Drosera stenopetala Hook. f.—B,E,M—oo!,P,W,Z. UCTemp,
LWSubp, bog, cc.

D. arcturi Hook.—M—Colenso!—A!—Olson!,X.

D. spathulata Lab.—P(?),X.

D. binata Lab.—A,E. LWTemp, STA, r; Otaki G. (WTA), r.

D. auriculata Backh.—A,E. LWTemp, STA, in manuka, ff;
Otaki G. (WTA), r.

Crassulaceae.

- Tillaea moschata* DC.—B. LWTemp, Mt. Matthews (STA). r.
T. debilis Col.—A,X.

Saxifragaceae.

- Carpodetus serratus* Forst.—B,E,P,Z. LWTemp, ATA, c.

Pittosporaceae.

- Pittosporum tenuifolium* Banks et Sol.—B,E,P,Z. WTemp, ATA,
 rr, exc. STA, c.
P. Colensoi Hook. f.—E. WTemp, Ruamahanga upper basin. r.
P. rigidum Hook. f.—K—Arnold!—Tr!M—oo!,B,E,P,W,Z.
 CTemp, ATA, ff—cc.
P. cornifolium A. Cunn.—B,E,Z. LWTemp, ATA, f.
P. eugenioides A. Cunn.—A,B,E,Z. LWTemp, NTA, WTA, r;
 ETA, STA, ff.

Cunoniaceae.

- Weinmannia racemosa* Linn. f.—B,E,P,Z. WTemp, LCTemp,
 pp—dd.

Rosaceae.

- Rubus australis* Forst. f (not as in Cheeseman, 1925).—B,E,P,Z.
 LWTemp, ETA, STA, r.
R. cissoides A. Cunn. (not as in Cheeseman, 1925).—B,E,P,Z.
 WTemp, LCTemp, ATA ff.
R. schmidelioides A. Cunn. (not as in Cheeseman, 1925).—B,E,Z.
 LWTemp, ATA, r.
R. squarrosus Fritsch.—B,Z. Rocks at Manawatu G. and nr. C.
 Turakirae, r.
Geum parviflorum Sm.—B,E,P,W,Z. UCTemp, ATA, water, rr;
 LWSubp, scree, r.
Acaena novae-zealandiae T. Kirk.—P,X.
A. sanguisorbae Vahl.—B,E,P,Z. WTemp, ATA, river, pp.

Leguminosae.

- Carmichaelia australis* R. Br.—Z. 0–300 m., Mt. Wainui, c.
C. odorata Col.—B,E,P,W,Z. WTemp, ATA, gorges, pp.
C. flagelliformis Col.—B,E,P,Z. LWTemp, ATA, rocks, ff.
Edwardsia microphylla Salisb.—B,E,P,Z. LWTemp, NTA, STA,
 ff; ETA, rr; WTA, r.

Geraniaceae.

- Geranium microphyllum* Hook. f.—P,Z. UCTemp, ATA, r; Mt.
 Hector, 1500 m., r.

Oxalidaceae.

- Oxalis corniculata* Linn.—B,Z. LWTemp, STA, riverbed, ff.
 Probably introduced.
O. lactea Hook.—B,E,P,Z. LWSubp, water, c; WTemp, ETA,
 WTA, STA, riverbed, f.

Linaceae.

- Linum monogynum* Forst. f.—B,E,Z. Coastal cliffs, rr.

Rutaceae.

- Melicope ternata* Forst.—B,E,Z. 0–300 m., Mt. Wainui, c; nr. C.
 Turakirae, f.
M. simplex A. Cunn.—B,E,P,Z. LWTemp, ATA, rr; nr. Mana-
 watu G., Mt. Wainui, c.
M. simplex × *ternata*.—B.

Meliaceae.

Dysoxylum spectabile Hook. f.—B,E,P,Z. LWTemp, Western slopes of Mt. Wainui, pp.

Callitrichaceae.

Callitriche verna Linn.—Z. LWTemp, NTA, ff.

Coriariaceae.

Coriaria arborea Lindsay.—B,E,P,Z. LWTemp, ATA, c.

C. sarnentosa Forst. f.—B,Z. nr. *C. Turakirae*, r.

C. lurida, T. Kirk.—B,E,P,Z. UCTemp, ATA, screes, water, ff.

C. angustissima Hook. f.—A,M—A! = *C. lurida*?

Corynocarpaceae.

Corynocarpus laevigatus Forst.—B,E,Z. 0-50 m., Muku-muku basin, e.

Icacinaeae.

Pennantia corymbosa Forst.—B,E,P,Z. LWTemp, ATA, rr-f.

Sapindaceae.

Alectryon excelsum Gaertn.—B,E,P,Z. 0-50 m., NTA, STA, ff.

Dodonaea viscosa Jacq.—B,E,Z. c. 80 m., Manawatu G., Wairongomai R., Silverstream (STA), r.

Rhamnaceae.

Discaria toumatou Raoul.—E,Z. nr. *C. Turakirae*, r.

Elaeocarpaceae.

Elaeocarpus dentatus Vahl.—B,E,P,Z. WTemp, ATA, ff.

E. Hookerianus Raoul.—B,E,P,Z. WTemp, LCTemp, ATA, r.

E. dentatus × *Hookerianus*.—B,E.

Aristotelia serrata W. R. B. Oliver.—B,E,P,Z. WTemp, ATA, pp; LCTemp, ATA, f.

A. fruticosa Hook. f.—A,B,E,Z. CTemp, ATA, f.

A. fruticosa × *serrata*.—Z.

Malvaceae.

Plagianthus divaricatus Forst.—B. 0-150 m., nr. *C. Turakirae*, r.

P. betulinus A. Cunn.—A,B,E,Z. 0-150 m., NTA, STA, f.

P. betulinus × *divaricatus*.—B.

Hoheria sexstylosa Col.—B,E,P,Z.

H.s. var.—E,Z. WTemp, ATA, water, ff.

H.s. var.—E,Z. UWTemp, CTemp, ATA, water, c; Waiohine-iti V., pp.

Violaceae.

Viola filicaulis Hook. f.—B,E,P,Z. CTemp, ATA, c.

V. Cunninghamii Hook. f.—B. CTemp, Mt. Matthews (STA), r.

Meliclytus ramiflorus Forst.—B,E,P,Z. WTemp, ATA, cc-pp.

M. lanceolatus Hook. f.—B,E,P,W,Z. UWTemp, LCTemp, NTA, ETA, STA, rr-c.

M. micranthus Hook. f.—B. nr. Day's Bay (STA), r.

M. lanceolatus × *ramiflorus*.—B,Z.

Hymenanthera crassifolia Hook. f.—B,E. nr. *C. Turakirae*, f.

H. obovata T. Kirk.—B,E. nr. *C. Turakirae*, r.

Passifloraceae.

Tetrapathaea tetrandra Cheesem.—B,Z. c. 100 m., Manawatu G., Wairongomai basin, Mt. Wainui, f.

Thymelaeaceae.

- Pimelea longifolia* Banks et Sol.—A,B,E,W,Z. UCTemp, ATA, pp.
P. gnidia Willd.—P,M—P,W. = *P. longifolia*?; B,E,Z. UW-Temp, on ridges nr. Mt. Matthews (STA), rr.
Drapetes Dieffenbachii Hook.—B,E,P,Z. LWSubb, c.

Myrtaceae.

- Leptospermum scoparium* Forst.—B,E,P,Z. WTemp, NTA, ETA, STA, r—ff.
L. ericoides A. Rich.—B,Z. LWTemp, Manawatu G., Muku-muku R., rr.
Metrosideros scandens Druce.—B,E,P,Z. WTemp, ATA, cc.
M. umbellata Cav. (?) var.—B,E,Z. LWTemp, NTA, ETA, STA, r.
M. carminea W. R. B. Oliver (= *M. diffusa* Sm.).—Bu, K—Mantell IX.
M. diffusa (Forst.) W. R. B. Oliver.—B,E,P,Z. LWTemp, NTA, STA, ff.
M. Colensoi Hook. f.—A,Z. LWTemp, NTA, STA, r.
M. robusta A. Cunn.—B,E,P,Z. WTemp, NTA, WTA, p-d; ETA, STA, rr—ff.
M. perforata A. Rich.—B,E,P,Z. LWTemp, ATA, f; STA, c.
Myrtus bullata Sol.—B,E,P,Z. LWTemp, ATA, r—ff.
M. obcordata Hook. f.—A,B,E. LWTemp, STA, r.
M. bullata × *obcordata*.—B.
M. pedunculata Hook. f.—B,E,P,Z. UWTemp, LCTemp, ATA, c.
Eugenia maire A. Cunn.—A,B,E,Z. LWTemp, ATA, r.

Onagraceae.

- Epilobium pallidiflorum* Sd.—A,X.
E. Billardierianum Ser.—B. LWTemp, Muku-muku basin (STA), r.
E. erectum Petric.—B,P,Z. LWTemp, ATA, r.
E. junceum Soland.—B,P,Z. LWTemp, ATA, river, ff.
E. pubens A. Rich.—B,P,Z. WTemp, ATA, water, ff.
E. tenuipes Hook. f.—C,M—C,P,W—C,Z. Mangaterera R. (ETA), STA, r.
E. Hectori Haussk.—P?M—P!X.
E. alsinoides A. Cunn.—B,P,Z. WTemp, ATA, r.
E. Cockayneum Petric.—A,B,K,M—ool,W,Z. UCTemp, ATA, f.
E. chloraeifolium Haussk.—A,B,K—Arnold,W,Z. UCTemp, ATA, rr.
E. insulare Haussk.—B,P. C. 50 m., L. Pouni (STA), r.
E. rotundifolium Forst. f.—B,P,Z. LWTemp, ATA, f.
E. linnaeoides Hook. f.—B,E,K—Bu,M—Bu—P,P,W—Bu,Z. CTemp, ATA, rr.
E. nummularifolium R. Cunn.—B,Z. LWTemp, ATA, r.
E. pedunculare A. Cunn.—B,E,P,Z. CTemp, ATA, c.
E. macropus Hook.—M—Bu,Z. LWSubb, ff.
E. gracilipes T. Kirk.—P?—K,W—P,X.
E. microphyllum A. Rich.—B,K!M—K,W—K,Z. LWTemp, STA, f.

E. glabellum Forst. f.—B,E,K,P,Z. CTemp, LWSubp, ATA, water, cc.

Fuchsia excorticata Linn. f.—B,E,P,Z. WTemp, LCTemp, ATA, p.

F. perscandens Ckne.—B. c. 50 m., Muku-muku R., r.

Haloragidaceae.

Haloragis erecta Schindler.—B,Z. LWTemp, ATA, r.

H. depressa Walp.—Z. c. 200 m., Mangatainoka R., river.

Myriophyllum propinquum A. Cunn.—Z. LWTemp, ETA, STA, river flats, r.

Gunnera monoica albocarpa T. Kirk.—B,Z. WTemp, STA, c.

G. strigosa Col.—B,E,P,Z. WTemp, ATA, water, p.

Araliaceae.

Nothopanax simplex Seem.—B,E,P,Z. CTemp, ATA, f.

N. Edgerleyi Harms.—B,E,P,Z. WTemp, ATA, f.

N. anomalum Seem.—B,E,P,Z. UWTemp, ATA, r; Orongorongo R., Ruamahanga R., north of Mt. Marima, f.

N. Sinclairii Seem.—B,E,M—P,P,Z. LCTemp, ATA, c.

N. Colensoi Seem. (5-foliolate).—B,E,K,P,Z. CTemp, ATA, pp.

N.c. (3-foliolate).—E,Z. c. 1100 m., west slope of Mt. Jumbo, r.

N. arboreum Seem.—B,E,P,Z. WTemp, ATA, pp.

Schefflera digitata Forst.—B,E,P,Z. WTemp, ATA, pp.

Pseudopanax crassifolium C. Koch.—B,E,P,Z. WTemp, NTA, STA, f; ETA, WTA, r.

P. ferox T. Kirk.—B. nr. C. Turakirae, r.

Umbelliferae.

Hydrocotyle elongata A. Cunn.—B,P,Z. WTemp, ATA, rr.

H. dissecta Hook. f.—P,X.

H. americana Linn.—B. LWTemp, STA, rr.

H. novae-zealandiae D.C.—P,X.

H. moschata Forst. f.—B,Z. LWTemp, ATA, ff.

H. centella uniflora Nanefeldt.—B,Z. c. 500 m., Mt. Matthews (STA), r.

Schizeilema trifoliatum Domin.—B,M—P,Z. WTemp, ATA, river, rr; Mitre Flats, pp.

S. nitens Domin.—A?,X. = *S. trifoliatum*?

S. hydrocotyloides Domin.—M—To!,Z. LWSubp, screes, water, c; c. 900 m., Park V., f.

Oreomyrrhis undicola Endl.—B,E,P,Z. LWSubp, herb, cc; CTemp, water, f.

Aciphylla Colensoi conspicua T. Kirk.—B,E,P,Z. LWSubp, p.

A. squarrosa Forst.—B,E,P,Z. CTemp, ATA, water, ff.

A. Colensoi × *squarrosa*.—E.

A. intermedia Petrie.—A (1914),P (1912),M—oo!E,Z. LWSubp, rr.

A. Monroi Hook f.—P,W—P,X. = *A. intermedia*.

A. Lyallii Hook. f.—A?,X. = *A. intermedia*?

A. (undescribed sp.?).—Z. LWSubp, Mt. Mitre, Mt. Bannister, Mt. Waingawa, screes, ff.

Anisotome dissecta Cockayne.—Bu(*Ligusticum Lyallii*), K—Arnold!—Bu!,M—oo!,B,E,P,W,Z.—LWSubp, herb, p-d.

A. aromatica Hook. f.—B,E,P,Z. LWSubp, fell, screes, p.

Angelica montana Cockayne.—K,X.

Cornaceae.

- Griselinia lucida* Forst. f.—B,E,Z. LWTemp, ATA, f.
G. littoralis Raoul.—B,E,P,Z. WTemp, LCTemp, ATA, c-pp.

Ericaceae.

- Gaultheria antipoda* Forst. f.—B,E,P,Z. WTemp, NTA, WTA, r; ETA, STA, f-e.
G. depressa Hook. f.—B,E,P,Z. UCTemp, ATA, f.
G. rupestris R. Br.—B,E,P,Z. CTemp, ATA, scrub, c.
G. antipoda × *rupestris*.—B,E,Z.

Epacridaceae.

- Pentachondra pumila* R. Br.—B,E,P,Z. LWSubp, herb, fell, pp; UCTemp, f.
Cyathodes acerosa R. Br.—B,E,P,Z. WTemp, ETA, STA, c.
C. empetrifolia Hook. f.—B,E,P,Z. CTemp, ATA, bog, fl.
C. Colensoi Hook. f.—M—A!, W, X.
C. pumila Hook. f.—W, X.
Leucopogon fasciculatus A. Rich.—B,E,P,Z. WTemp, NTA, rr; ETA, STA, c.
L. Fraseri A. Cunn.—B, E. nr. *C. Turakirae*, r.
Dracophyllum longifolium R. Br.—M—Bu!P!, Oliver (1928), P, X. Oliver's specimen so labelled in the Dominion Museum is juvenile *D. Urvilleanum*.
D. Urvilleanum A. Rich.—B,E,M, Oliver (1928), P, W, Z. CTemp, ATA (UCTemp, ce-dd; LCTemp, rr-e).
D. U. montanum Cheesem.—M, X. = epharmane of *D. Urvilleanum*?
D. uniflorum Hook. f.—P, W, X. = epharmane of *D. rosmarinifolium*?
D. rosmarinifolium R. Br.—B, E, M—Bu!—P!, P, W, Z. LWSubp, pp.

Myrsinaceae.

- Suttonia salicina* Hook. f.—B,E,P,Z. WTemp, ATA, f; LCTemp, ATA, pp.
S. australis A. Rich.—B,E,P,Z. LWTemp, ATA, rr.
S. divaricata Hook. f.—B,E,P,Z. CTemp, ATA, cc.
S. nummularia Hook. f.—C, E, M—oo!, P, W, Z. LWSubp, f.

Oleaceae.

- Olea Cunninghamii* Hook. f.—A, B, E. WTemp, STA, r.
O. lanceolata Hook. f.—A, B, Z. LWTemp, ATA, rr.
O. montana Hook. f.—B, E, M—oo!, P, Z. WTemp, STA, r.

Loganiaceae.

- Geniostoma ligustrifolium* A. Cunn.—B, E, Z. WTemp, ATA, r-f.

Gentianaceae.

- Gentiana Grisebachii* Hook. f.—A, B, Bu, E, M—Bu!, W, Z. CTemp, ATA, c.
G. patula Cheesem.—M—P!—To!, P, W, X. = epharmane of *G. bellidifolia*?
G. bellidifolia Hook. f.—B, E, P, W, Z. CTemp, LWSubp, ATA, c.
G. pleurogynoides Griseb. as in Hooker, 1864.—Bu, X.
Liparophyllum Gunnii Hook. f.—B, E, M—P!—A!, P, W, Z. LC-Subp, bog, cc.

Apocynaceae.

Parsonsia heterophylla A. Cunn.—B,E,P,Z. WTemp, ATA, water, rr.

P. capsularis R. Br.—B,E,P,Z. LWTemp, ATA, water, r.

P. capsularis × *heterophylla*.—B,Z.

Convolvulaceae.

Calystegia tuguriorum R. Br.—B,Z. 0-80 m., nr. Manawatu G., Muku-muku R., f.

Dichondra repens Forst.—B,Z. c. 100 m., nr. C. Turakirae, r.

Boraginaceae.

Myosotis Forsteri Lehm.—B,E,Z. Temp, ATA, water, rr.

M. Astoni Cheesem.—A,M—To!—A!,W,X. (Mt. Holdsworth).

Solanaceae.

Solanum aviculare Forst. f.—A,B,E,Z. LWTemp, NTA, STA, rr.

Scrophulariaceae.

Jovellana repens Kranzl.—B,C,E,M—C—P(?),W,Z. WTemp, NTA, r; STA, f.

Mazus radicans Cheesem.—Bu,W—Colenso,X.

Hebe salicifolia Pennell.—B,E,P,Z. Temp, ATA, water, pp.
There are a number of distinct but interhybridising jordanons. The following is only an approximate summary.

H.s. Atkinsonii Cockayne.—B,E,Z. LWTemp, STA, f-c.

H.s. longiracemosa Cockayne.—Z. LWTemp, NTA, c.

H.s. angustissima Cockayne.—E,Z. WTemp, NTA, WTA, f-c.

H.s. stricta Hook. f.—E,Z. WTemp, ETA, c.

H.s. (?) paludosa Cockayne.—E,Z. CTemp, ATA, cc.

H.s. var.—E,Z. Manawatu G., Otaki G., rocks, c.

H. parviflora Ckn. et Allan.—B,E,Z. LWTemp, STA, f.

H. laevis Ckn. et Allan.—B,Bu,P,W,M—Bu!—P,Z. c. 1200 m., Mt. Dinnan, nr. Mt. Matthews, r.

H. evenosa Ckn. et Allan.—B,E,M—P!—A!,Z. CTemp, ATA, ff-cc.

H. buxifolia Ckn. et Allan.—B,E,M,P,W,Z. UCTemp, WTA, ETA, STA, f.

H. Astoni Ckn. et Allan.—B,Bu(*V. tetragona*),E,M,P,W,Z. LW-Subp, cc.

Veronica catarractae Forst. f.—A,B,E,M,P,W,Z.

V.c. lanceolata Hook. f.—B,E,Z. LWTemp, NTA, ETA, STA, water, c-p; WTA, r.

V.c. diffusa Hook. f.—B,E,Z. UWTemp, C Temp, ATA, rocks, c-p.

V. Lyallii Hook. f.—B,Z. LWTemp, Manawatu G., Muku-muku R., r.

Ourisia macrophylla Hook.—B,E,P,Z. CTemp, ATA, water, f.

O.m. var. (smaller than the preceding).—B,E,Z. CTemp, ETA, STA, water, f.

O. Colensoi Hook. f.—B,M—P!,P,W,Z. CTemp, STA, water, rr.

O. caespitosa Hook. f.—E,M—oo!,P,W,Z. LWSubp, r.

Euphrasia cuneata Forst. f.—B,E,P,Z. CTemp, ATA, scrub, p.

- E. revoluta* Hook. f.—B, E, M—Bu!—P!, P, W, Z. CWSubp, herb, f.
E. zealandica Wettst.—A, M—P—A!, W, X. = epharmane of *E. revoluta*?

Gesneriaceae.

- Rhabdothamnus Solandri* A. Cunn.—B, Z. LWTemp, NTA, STA, r.

Myoporaceae.

- Myoporum laetum* Forst. f.—B, E, Z. Manawatu G., west slopes of Mt. Wainui, cliffs along Cook Str., cc.

Plantaginaceae.

- Plantago Raoulli* Deene.—A, B, P, Z. WTemp, STA, r.
P. Brownii Rapin.—A, B, E, M—oo!, W—Bu, Z. LWSubp, cc.
P. lanigera Hook. f.—E, Z. LWSubp, Mt. Arête and surrounding peaks, f.
P. Brownii × *lanigera*.—Z.
P. uniflora Hook. f.—E, M—oo!P, W, Z. LWSubp, bog, ff.

Rubiaceae.

- Coprosma australis* Robinson.—B, E, O, P, Z. WTemp, LCTemp, ATA, cc.
C. lucida Forst. f.—B, E, O, P, Z. WTemp, LCTemp, ATA, ff.
C. retusa Hook. f.—B, E, O, Z. Coastal cliffs. Cook Str. and Mt. Wainui.
C. robusta Raoul.—B, E, P, Z. WTemp, ATA, rr-ff.
C. tenuifolia Cheesem.—Z. WTemp, nr. Manawatu G., upper Ruamahanga basin (NTA), r.
C. rotundifolia A. Cunn.—B, E, O, Z. LWTemp, NTA, STA, ff.
C. areolata Cheesem.—B, E, Z. 0-50 m., nr. Cook Str., r.
C. tenuicaulis Hook. f.—B, E, Z. LWTemp, STA, f.
C. rhamnoides A. Cunn.—B, E, O, P, Z. WTemp, NTA, ETA, STA, rr-cc; WTA, r.
C. parviflora Hook. f.—A, B, E, O, Z. CTemp, ATA, cc.
C.p. (recurving branches).—E, Z. ETA., f., Mt. Waiopahu.
C.p. (fruit crimson).—Z. NTA, c.
C.p. (fruit white).—B, E, Z. ATA, f-cc.
C.p. (fruit yellow).—B, Z. STA, rr.
 × *C. Buchananii* T. Kirk.—B. nr. C. Turakirae, r.
C. crassifolia Col.—B. nr. C. Turakirae, r.
C. rigida Cheesem.—B. c. 50 m., Mt. Matthews, r.
C. rubra Petrie.—A, B, M—A!, W—P. LWTemp, ETA, STA, r.
C. brunnea Cockayne.—Z. c. 210 m., Mangatainoka, river, r.
C. rugosa Cheesem.—B, E, Z. CTemp, Park V., Mt. Dennen, nr. Mt. Matthews, Ruamahanga basin, r.
C. propinqua A. Cunn.—B, E, Z. LWTemp, nr. Cook Str., r.
C. propinqua × *robusta*.—B.
C. foetidissima Forst.—B, E, O, P, Z. CTemp, ATA, pp.
C. Colensoi Hook. f.—B, E, K—Budden!, M, O, P, W, Z. CTemp, ATA, pp.
C. Banksii Petrie.—B, E, M—Bu—P!, O, P, Z. WTemp, ETA, pp; NTA, STA, rr.
C. Colensoi × *Banksii*.—A (1927), O, Z. These are really two of the series of distinct varieties of the same species.

- C. Colensoi* × *foetidissima*.—Allan (1927), O, X.
C. Banksii × *foetidissima*.—Allan (1927), O, X.
C. pseudocuneata W. R. B. Oliver.—B, E, O, P, W, Z. CTemp, ATA, pp.
C. microcarpa Hook. f.—A, B, E, M—P, O, W, Z. LWTemp, ETA, STA, rr.
C. depressa Col.—B, E, M—P, O, P, W, Z. UCTemp, ATA, f.
C. repens Hook. f.—B, E, O, P, W, Z. LWSubb, herb, bog, pp.
Nertera depressa Banks et Sol.—P, Z. CTemp, ATA, f.
N. dichondraefolia Hook. f.—B, P, Z. WTemp, ATA, rr.
N. setulosa Hook. f.—B, Z. CTemp, ATA, rr-c.
Galium umbrosum Sol.—B. WTemp, STA, r.

Caprifoliaceae.

- Alseuosmia macrophylla* A. Cunn (?).—B, E, P, W—P, Z. WTemp, LCTemp, ATA, f-c.

Campanulaceae.

- Pratia angulata* Hook. f.—B, E, P, Z. WTemp, ATA, river, c.
P. perpusilla Hook. f.—Z. Low rocks, Manawatu Gorge, r.
Wahlenbergia gracilis Schrad.—A, B, E, Z. WTemp, ATA, water, r.
W. albomarginata Hook.—E, Z. LWSubb, ETA, r.

Stylidiaceae.

- Donatia novae-zealandiae* Hook. f.—A, B, M—To!, W—To!. LW-Subp, Field Pk., r.
Phyllachne Colensoi Berggr.—B, Bu, E, P, Z. LWSubb, fell, p.
Forstera Bidwillii Hook. f.—E, P (?), Z. UCTemp, LWSubb, ATA, bog, c.
F. tenella Hook. f.—P, X.

Compositae.

- Lagenophora pumila* Cheesem.—A, B, E, Z. WTemp, cleared forest, c.
L. petiolata Hook. f.—B, E, K, P, Z. WTemp, cleared forest, c.
Brachycome Sinclairii Hook. f.—E, K, Z. c. 900 m., Waiohine-iti V., rr.
Olearia Colensoi Hook. f.—B, Bu, E, K, M, P, W, Z. CTemp, ATA, pp-dd, LWSubb, water, f. There are two jordanous: one with purple flowers, the other with yellow.
O. arborescens Cockayne et R. M. Laing.—B, E, P, Z. CTemp, ATA, ce.
O. ilicifolia Hook. f.—Bu, E, Z. CTemp, ATA, rr.
O. rani Druce.—B, E, Z. WTemp, ATA, f-c.
O. r. var. (lvs. orbicular).—Z. LWTemp, Mt. Wainui, f.
O. lacunosa Hook. f.—B, Bu, E, K, M, oo!, P, W, Z. UCTemp, ce.
O. arborescens × *lacunosa*.—B, Bu, E, P, Z.
O. paniculata Cheesem.—B, E, Z. LWTemp, STA, r-f.
O. virgata Hook. f.—E, Z. LWTemp, NTA, r.
O. Solandri Hook. f.—B, E, Z. LWTemp, STA, r.
Celmisia densiflora Hook. f.—Bu, K—Bu, X.
C. incana Hook. f.—K, M—Bu, W—Bu, X.
C. hieracifolia Hook. f.—A, B, E, C (?), M—A!—P, Z. LWSubb, herb, ce.

- C.h. oblonga* T. Kirk.—B,E,Z. LWSubp, fell, bog, south of Mt. Hector, c.
C. spectabilis Hook. f.—B,E,P,W,Z. LWSubp, herb, pp-d.
C. coriacea Hook. f.—K—Bu,M—Bu,W—Bu,X.
C. gracilentia Hook. f.—A,B,E,Z. UCTemp, Mt. Kaipororo, Mt. Oriwa Lake-Hollow, p; ETA, r.
C. graminifolia Hook. f.—M—To!,X. = *C. gracilentia*?
C. hectori Hook. f.—Bu,K—Budden!,M—K,W—Budden,X.
Vittadinia australis A. Rich.—B,E,Z. WTemp, STA, f.
Gnaphalium Lyallii Hook. f.—B,K!,M—K,W—K,Z. WTemp, STA, rr.
G. trinerve Forst. F.—E,K!,M—K!,W—K,Z. c. 900 m., Park R., c.
G. keriense A. Cunn.—B,E,P,Z. WTemp, ATA, water, cc.
G. keriense × *Helichrysum bellidioides*.—B,Z.
G. subrigidum Col.—Z. LWTemp, NTA, calcareous mudstones, r.
G. Traversii Hook. f.—A,B,E,M—oo!,P,W,Z. CTemp, ATA, f.
G. luteo-album Linn.—A,B,E,Z. WTemp, water, rr.
G. japonicum Thunb.—Z. WTemp, ATA, river, r.
G. collinum Lab.—B,Z. WTemp, ATA, river, rr.
Raoulia rubra Buch.—B,E,Bu(1882),K,M—Bu!,P,W,Z. LW-Subp, fell, rocks, pp-dd.
R. mammillaris Hook. f.—Bu,X. = *R. rubra*.
R. Loganii Cheesem.—A,B,Bu(1882),E,M—oo!,P,W,Z. LW-Subp, r.
R. grandiflora Hook. f.—B,E,P,W,Z. LWSubp, fell, cc.
R.g. fasciculata Cheesem.—Bu(1877),M—Tr!,K—Tr!,W—Tr!,X.
R. glabra Hook. f.—A,B,E,K,M—Bu—A!,W,Z. WTemp, STA, rr.
R. australis Hook. f.—B,E,Z. nr. Cook St., screes, p.
R. tenuicaulis Hook. f.—B,E,Z. WTemp, ATA, river, c.
R.t. pusilla T. Kirk.—B,E,K,Z. WTemp, ATA, river, p.
Leucogenes leontopodium Beauverd.—B,E,K,Budden!—To!,M,P,W,Z. LWSubp, herb, pp.
Helichrysum bellidioides Willd.—A,B,E,P,Z. CTemp, water, c; LWSubp, herb, f.
H. filicaule Hook. f.—B,P,Z. WTemp, ATA, open pl., r.
H. glomeratum Benth. et Hook. f.—A,B,E,Z. NTA, ETA, STA, f-c.
Cassinia leptophylla R. Br.—B,E,Z. WTemp, ETA, STA, f. Possibly introduced.
C. Vauvilliersii Hook. f.—B,E,Z. LWSubp, ETA, rr; east slope of Mt. Waingawa, c. 800 m.
Craspedia uniflora Forst. f.—A,B,E,Z. WTemp, ETA, STA, r-rr.
Cotula pyrethrifolia Hook. f.—B,M—A!—P!,P,Z. LWSubp, water, rr.
C. squalida Hook. f.—B,Z. LWTemp, ATA, river, r.
Abrotanella pusilla Hook. f.—B,E,M—oo!,P,W,Z. LWSubp, bog, cc.
Erechtites prenanthoides DC.—A,B,Z. WTemp, ATA, rr.
E. arguta DC.—A,Z. LWTemp, NTA, ETA, r. Introduced?
E. scaberula Hook. f.—B. LWTemp, nr. Mt. Matthews (STA), r.

- E. quadridentata* DC.—Z. c. 80 m., Manawatu G., rocks, r.
Brachyglottis repanda Forst.—B,E,P,Z. WTemp, ATA, water, pp.
Senecio lagopus Raoul.—B,E,P,Z. LWSubp, water, cc.
S. lautus Forst. f.—E. c. 400 m., Cross Ck. and Tapokopoko Ck., STA, r. Probably introduced.
S. Solandri Allan (1935).—B,E,P,Z. CTemp, ATA, water, cc.
S. Kirkii Hook. f.—B,E,P,Z. WTemp, ATA, c; WTA, pp; LCTemp, f.
S. Greyi Hook. f.—B,E,Z. LWTemp, Muku-muku basin (STA), p.
S. Adamsii Cheesem.—M—To!,W,X. c. 1200 m., Mt. Holdsworth, only one specimen reported.
S. elaeagnifolius Hook. f.—B,E,P,Z. CTemp, ATA, c—pp.
S. e. var.—B,E,Z. CTemp, Mt. Matthews and nearby peaks, pp.
S. Bidwillii Hook f.—B,Bu,E,K—oo,P,Z. LWSubp, cc.

BRYOPHYTA—MUSCI.

V. D. ZOTOV and G. O. K. SAINSBURY.

Unlike higher plants, mosses do not lend themselves readily to field identification on account of their small size. Since microscopic examination is necessary in the majority of cases, listing of species directly in the field as one traverses the country is practically impossible. Further, more rare and more minute species are easily missed unless a careful search is made for them. Considering the extent of the country covered and the nature of the species, it will be seen that the list must necessarily be somewhat incomplete and the information on the distribution rather meagre. It might be stated, however, that a number of representative localities in each area as determined for the higher plants was thoroughly examined. In all cases where only a few specimens were collected numbers are given in the list referring to the specimens deposited in the herbarium of the Plant Research Bureau. The arrangement of families is that of Dixon (Verdoorn, 1932), while that of genera and species is alphabetical.

Sphagnaceae.

- Sphagnum irritans* Warnst.—UCTemp, LWSubp, ATA.
S. Kirkii Warnst.—7138, Orongorongo R., c. 600 m.
S. linguaefolium Warnst.—7447, 7450, Mt. Hector, c. 1400 m.
S. otagoense Warnst.—Mt. Omega, c. 1100 m. (reported by L. B. Moore).
S. subbicolor Hampe.—6614, Mt. Oriwa, c. 900 m.

Andreaeaceae.

- Andreaea acuminata* Mitt.—7384, Mt. Hector, c. 1400 m.
A. nitida H. f. and W.—7668, 7651, Mt. Hector, c. 1400 m.
A. rupestris Hedw.—6669, Te Matawai Hut, also Field Hut, c. 900 m.; LWSubp.
A. subulata Harv.—7425, Mt. Hector, c. 1300 m.

Calomniaceae.

- Calomnium laetum* H. f. and W.—6858, Tiritea R., c. 400 m.

Dawsoniaceae.

- Dawsonia superba* Grev.—WTemp, ATA.

Polytrichaceae.

- Catharinaca Muelleri* Hampe and C. M.—9160, 9161, Ruamahanga R., c. 320 m.
Oligotrichum tenuirostre (Hook.) Jaeg.—LCTemp, ATA.
Psilopilum australe (H. f. and W.) Jaeg.—7392, nr. Field Hut, c. 1000 m.
P. Belli Broth.—6749, Mt. Hector, c. 1400 m. (coll. L. B. Moore).
P. crispulum (H. f. and W.) Jaeg.—LCTemp, ATA.
Pogonatum subulatum (Menz.) Brid.—4769, Tiritea R., c. 110 m.
Polytrichum commune Hedw.—6622, Mt. Oriwa, c. 900 m.
P. formosum Hedw.—nr. Alpha Hut, c. 1100 m. (reported by L. B. Moore).
P. juniperinum Willd.—WTemp, ATA.
Polytrichadelphus magellanicus Mitt.—Temp, ATA.

Fissidentaceae.

- Fissidens adiantoides* Hedw.—7593, nr. Field Hut, c. 850 m.
F. asplenioides (Sw.) Hedw.—LWTemp, ATA; 7593, Field Hut, c. 900 m.
F. campyloneurus C. M. and Beek.—6854, Tiritea R., c. 400 m.
F. dealbatus H. f. and W.—6869, etc., Tiritea R., c. 400 m.; 7536, nr. Field Hut, c. 850 m.
F. leptocladus C. M. and Rodway.—Manawatu Gorge, c. 150 m.
F. oblongifolius H. f. and W.—LWTemp, NTA.
F. pallidus H. f. and W.—7538, nr. Field Hut, c. 750 m.
F. rigidulus H. f. and W.—Temp, ATA.

Grimmiaceae.

- Grimmia apocarpa* Hedw.—7641, nr. Mt. Hector, c. 1200 m.; 7199, Wairongomai R., c. 500 m.
Rhacomitrium crispulum (H. f. and W.) H. f. and W.—UWTemp to LWSubb, ATA.
R. lanuginosum (Hedw.) Brid.—CTemp, LWSubb, ATA.
R. ptychophyllum Mitt.—7445, Mt. Hector, c. 1500 m.

Dicranaceae.

- Blindia magellanica* Sch. and C. M.—7437, Mt. Hector, c. 1300 m.
B. tenuifolia (H. f. and W.) Mitt.—7431, 7435, Mt. Hector, c. 1300 m.
Campylopodium euphorocladium (C. M.) Besch.—7395, 7435, nr. Field Hut, c. 1000 m.
Campylopus appressifolius Mitt.—6676, Te Matawai Hut, c. 900 m.
C. arboricola Card. and Dixon.—UWTemp, LCTemp, NTA, WTA.
C. clavatus (R. Br.) H. f. and W.—UCTemp, LWSubb, WTA.
C. introflexus (Hedw.) Mitt.—WTemp, LCTemp, ATA.
C. torquatus Mitt.—LWTemp, NTA.
Ceratodon purpureus Brid.—Temp, LWSubb, ATA.
Dicranella sp.—7645, nr. Mt. Hector, c. 1300 m.
Dicranoloma Billardieri (Schwaegr.) Par.—Temp, ATA.
D. cylindropyxis (C. M.) Dixon.—Temp, ATA.
D. Menziesii (H. f. and W.) Par.—WTemp, LCTemp, ATA.
D. rigidum (H. f. and W.) Par.—WTemp, ATA.
D. plurisetum (C. M.) Dixon.—CTemp, ATA.

- D. pungens* (H. f. and W.) Par.—UWTemp to LWSubp, ATA.
D. robustum (H. f. and W.) Par.—UWTemp to LWSubp, ATA.
Distichium capillaceum (Sw.) Bry. eur.—nr. Mt. Hector, c. 1300 m. (reported by L. B. Moore).
Ditrichum elongatum (H. f. and W.) Mitt.—6960, Mt. Marima, c. 400 m.
D. flexifolium (Hook.) Hampe.—UWTemp, CTemp, NTA, WTA.
Holomitrium perichaetiale (Hook.) Brid.—9176, Ohau R., c. 200 m.

Dicnemonaceae.

- Mesotus celatus* Mitt.—7113, Mt. Mitre, c. 1200 m.
Dicnemon calycinum (Hook.) Schwaegr.—WTemp, ATA.
D. semicryptum C.M.—6897, Te Matawai Hut, c. 900 m.; 7627, 7635, Field Hut, c. 850 m.

Leucobryaceae.

- Leucobryum candidum* (Brid.) H. f. and W.—WTemp, LCTemp, ATA.

Pottiaceae.

- Calyptopogon unioides* (Schwaegr.) Broth.—7185, Wairongomai R., c. 200 m.
Tortella calycina (Schwaegr.) Dixon.—9134, Akatarawa Saddle, c. 400 m.
Tortula princeps De Nots.—9145, Ohau-iti R., c. 300 m.
T. rubra Mitt.—nr. Mt. Hector, c. 1400 m. (reported by L. B. Moore).
Tridontium tasmanicum Hook.—WTemp, ATA; Mt. Hector, c. 1300 m.
Weisia viridula Hedw.—7051, Manawatu Gorge.

Orthotrichaceae.

- Macromitrium eucalyptorum* Hampe and C. M.—7201, 7220, Wairongomai R., c. 200 m.
M. gracile (Hook.) Schwaegr.—LWTemp, ATA.
M. longpipes (Hook.) Schwaegr.—WTemp, LCTemp, ATA.
M. prorepens (Hook.) Schwaegr.—7207, Ohau-iti R., c. 300 m.; 9152, Ruamahanga R., c. 320 m.
M. Pusillum Mitt.—7195, Wairongomai R., c. 200 m.
M. retusum H. f. and W.—UWTemp, NTA.
M. Weymouthii Broth.—9154, Ruamahanga R., c. 320 m.
Orthotrichum tasmanicum H. f. and W.—6666, Te Matawai, c. 900 m.
Schlotheimia Brownii Brid.—7276, Ohau-iti R., c. 300 m.
Ulota breviseta Malta.—9155, Ruamahanga R., c. 320 m.
U. laticiliata Malta.—7609, Field Hut, c. 850 m.
Zygodon intermedius B. and S.—6912, 6977, Mt. Marima, c. 400 m.

Splachnaceae.

- Tayloria purpureascens* (H. f. and W.) Broth.—7264, nr. Field Hut, c. 950 m.

Bryaceae.

- Bryum blandum* H. f. and W.—7422, etc. LWSubp.
B. chrysoneuron C. M.—UWTemp, LCTemp, ATA.
B. truncorum Brid.—WTemp, LCTemp, ATA.
Webera nutans Hedw.—7398, 7626, nr. Field Hut, c. 950 m.
W. tenuifolia (H. f. and W.) Jaeg.—17147, Manawatu Gorge,
 c. 150 m.

Leptostomaceae.

- Leptostomum inclinans* R. Br.—UWTemp, CTemp, ETA, STA.
L. macrocarpum (Hedw.) R. Br.—6915, Mt. Marima, c. 200 m.;
 Wairongomai R., c. 50 m.

Mniaceae.

- Mnium rostratum* Swaegr.—WTemp, STA.

Rhizogoniaceae.

- Cryptopodium bartramiioides* (Hook.) Brid.—Temp, NTA, WTA.
Rhizogonium bifarium (Hook.) Schimp.—WTemp, LCTemp,
 ATA.
R. distichum (Sw.) Brid.—WTemp, LCTemp, ATA.
R. mnioides (Hook.) Schimp.—9125, Ruamahanga R., c. 320 m.;
 Akatarawa Saddle, c. 400 m.

Bartramiaceae.

- Bartramia papillata* H. f. and W.—LWSubp.
Breutelia elongata (H. f. and W.) Mitt.—LWSubp.
B. pendula (Hook.) Mitt.—UCTemp, LWSubp, ATA.
Conostomum australe Sw.—7427, Mt. Hector; Mt. Mitre; c. 1500
 m.
C. pusillum H. f. and W.—LWSubp.
Philonotis australis (Mitt.) Jaeg.—Manawatu Gorge; Akatarawa
 Saddle; 7646, nr. Mt. Hector, c. 1300 m.
P. tennis (Tayl.) Jaeg.—Manawatu G., Akatarawa Saddle; 7436,
 Mt. Hector, c. 1300 m.

Hypnodendraceae.

- Hypnodendron arcuatum* (Hedw.) Mitt.—WTemp, LCTemp,
 WTA, STA.
Mniodendron comatum (C. M.) Lind.—7257, Ohau-iti R., c. 300
 m.; 7126, Orongorongo R., c. 600 m.
Sciadocladus Menziesii (Hook.) Lindb.—UWTemp, LCTemp,
 ATA.

Rhacopilaceae.

- Rhacopilum strumiferum* C.M.—LWTemp, ATA.

Cryphaeaceae.

- Cryphaea dilatata* H. f. and W.—6959, Mt. Marima, c. 200 m.;
 Akatarawa Saddle, c. 300 m.
C. tasmanica Mitt.—7289, Ohau-iti R., c. 400 m.; 9129, Ruama-
 hanga R., c. 400 m.

Hedwigiaceae.

- Rhacocarpus australis* (Hampe.) Par.—UCTemp, LWSubp, ATA.

Ptychomniaceae.

Cladomnion ericoides (Hook.) H. f. and W.—WTemp, LCTemp, ATA.

Glypothercium alare Dix and Sainsb.—7526, nr. Field Hut, c. 850 m.

Ptychomnion aciculare (Brid.) Mitt.—Temp, LWSubp, ATA.

Cyrtopodaceae.

Cyrtopus setosus (Hedw.) Hook. f.—UWTemp, ATA.

Pterobryaceae.

Trachyloma planifolium (Hedw.) Brid.—UWTemp, ATA.

Meteoriaceae.

Papillaria amblyacis (C. M.) Jaeg.—7272, Ohau-iti R., c. 300 m.

P. crocea (Hampe.) Jaeg.—WTemp, NTA, STA.

P. filipendula (H. f. and W.) Jaeg.—7237, Wairongomai R., c. 100 m.

P. flavo-limbata (C. M. and Hampe.) Jaeg.—WTemp, LCTemp, ATA.

P. flexicaulis (Tayl.) Jaeg.—9230, Tokomaru R., c. 100 m.; LW Temp, STA.

Weymouthia cochlearifolia (Schwaegr.) Dix.—LCTemp, ATA.

W.c. Billardieri (Hampe.) Dixon.—UWTemp, LCTemp, ATA.

W.c.f. flagellifera.—WTemp, ATA.

W. mollis (Hedw.) Broth.—WTemp, LCTemp, ATA.

Phyllogoniaceae.

Orthorrhynchium elegans (H. f. and W.) Reichdt.—7106, Ohau-iti R., c. 300 m.

Neckeraceae.

Homalia falcifolia (H. f. and W.) H. f. and W.—WTemp, NTA.

H. pulchella H. f. and W.—WTemp, NTA.

Neckera hymenodonta C.M.—7242, Wairongomai R., c. 200 m.

Porotrichum oblongifolium (H. f. and W.) Broth.—6878, Tiritea R., c. 400 m.

Thamnum latifolium (Bry. jav.) Par.—7454, 7462, Field Hut, c. 850 m.

T. pandum (H. f. and W.) Jaeg.—6898, Tiritea R., c. 150 m.; 7577, nr. Field Hut, c. 850 m.

Echinodiaceae.

Echinodium hispidum (H. f. and W.) Jaeg.—WTemp, ATA.

Lembophyllaceae.

Acrocladium auriculatum (Mont.) Mitt.—Temp, ATA.

Camptochaete angustata (Mitt.) Jaeg.—6899, Tiritea R., c. 150 m.; 7234, Wairongomai R., c. 150 m.

C. arbuscula (Hook.) Jaeg.—UWTemp, LCTemp, NTA; 7460, 7532, nr. Field Hut, c. 850 m.

C.a. deflexa (Wils.) Dix.—7258, Ohau-iti R., c. 300 m.

C. gracilis (H. f. and W.) Par.—WTemp, ATA; nr. Mt. Hector, c. 1400 m.

C. ramulosa (Mitt.) Jaeg.—7189, 7233, Wairongomai R., c. 50 m.; 9123, Ruamahanga R., c. 320 m.

Lembophyllum clandestinum (H. f. and W.) Lindb.—WTemp, LCTemp, ATA.

Hookeriaceae.

- Bellia nervosa* (H. f. and W.) Broth.—6976, Mt. Marima, c. 200 m.; 7548, etc., nr. Field Hut, c. 850 m.
Daltonia novae-zelandiae Mitt.—9155d, Ruamahanga R., c. 320 m.
Distichophyllum amblyophyllum (H. f. and W.) Mitt.—LCTemp, ATA.
D. microcarpum (Hedw.) Mitt.—6822, Tiritea R., c. 400 m.
D. puchellum (H. f. and W.) Mitt.—WTemp, LCTemp, NTA, WTA.
D. rotundifolium (H. f. and W.) Broth.—6929, 6973, Mt. Marima, c. 200 m.; 7543, nr. Field Hut, c. 850 m.
Eriopus cristatus (Hedw.) Jaeg.—6867, Tiritea R., c. 400 m.; 7553, 7557, nr. Field Hut, c. 850 m.
E. flexicollis (Mitt.) Jaeg.—7593, nr. Field Hut, c. 850 m.
Pterygophyllum dentatum (H. f. and W.) Mitt.—WTemp, ATA.
P.d. robustum (H. f. and W.) Dixon.—WTemp, ATA.
P. quadrifarium (Hook.) Brid.—UWTemp, LCTemp, ATA.

Hypopterygiaceae.

- Catharomnion ciliatum* (Hedw.) H. f. and W.—LWTemp, NTA.
Cyathophorum bulbosum (Hedw.) C. M.—WTemp, LCTemp, ATA.
Hypopterygium concinnum (Hook.) Brid.—WTemp, ATA.
H. filiculaeforme (Hedw.) Brid.—WTemp, NTA.
H. novae-seelandiae C. M.—UWTemp, LCTemp, ATA.
H. setigerum (P. Beauv.) H. f. and W.—WTemp, ATA.

Thuidiaceae.

- Thuidium furfurosum* (H. f. and W.) Jaeg.—WTemp, ATA.
T. laeviusculum (Mitt.) Jaeg.—WTemp, ATA.

Amblystegiaceae.

- Campylium relaxum* (H. f. and W.) Broth.—7642, nr. Mt. Hector, c. 1300 m.
Drepanocladus fluitans (Hedw.) Warnst.—LWSubp.

Brachytheciaceae.

- Brachythecium paradoxum* (H. f. and W.) Jaeg.—7419, Mt. Hector, c. 1400 m.
P. plumosum (Hedw.) Bry. eur.—WTemp, ATA.
B. rutabulum (Hedw.) Bry. eur.—7249, Wairongomai R., c. 100 m.
Eriodon cylindritheca (Dixon).—9137, Akatarawa Saddle, c. 400 m.
Eurhynchium asperipes (Mitt.) Dixon.—7563, etc., nr. Field Hut, c. 850 m.
E. muriculatum (H. f. and W.) Jaeg.—6972, Mt. Marima, c. 400 m.; 6945, Mt. Mitre, c. 750 m.

Sematophyllaceae.

- Acanthocladium catenatum* (Brid.) Mitt.—WTemp, LCTemp, ATA.
Sematophyllum amoenum (Hedw.) Dixon.—UWTemp, LCTemp, ATA.
S. contiguum (H. f. and W.) Dixon.—7230, Wairongomai R., c. 100 m.
S. tenuirostre (Hook.) Dixon.—7156, Orongorongo R., c. 600 m.; 7280, Akatarawa Saddle, c. 400 m.; 9124, Ruamahanga R., c. 320 m.

Hypnaceae.

- Hypnum chrysogaster* C. M.—CTemp, ATA.
H. cupressiforme Hedw.—WTemp, ATA; 7444, Mt. Hector, c. 1400 m.

Hylocomniaceae.

- Hylocomnium splendens* (Hedw.) Bry. eur.—7430, Mt. Hector, c. 1400 m.

BRYOPHYTA—HEPATICAE.

V. D. ZOTOV and E. A. HOBGSON.

As in the cases of mosses, collections of liverworts were made in representative localities. Judging from the fact that a large number of species were collected only once or twice, it would appear that the present list must be by no means exhaustive. It must also be borne in mind that the present knowledge of the New Zealand hepatics is very imperfect, so that errors in identification are likely to have crept in. To facilitate future work, numbers are given of all specimens except of those species well represented in the collection, which is deposited in the herbarium of the Plant Research Bureau, Palmerston North.

The families in the list are arranged according to the system adopted by Verdoorn (1932).

Epigonanthaceae.

- Acrobolbus lophocoloides* Mitt.—9209, Akatarawa Sad., c. 400 m.
Anastrophyllum schismoides (Mont.)—6642, 6663, Te Matawai, c. 900 m.
Chandonthus squarrosus (Hook.)—7174, Orongorongo R., c. 600 m.
Chiloscyphus oculatus Mitt.—9218, Akatarawa Saddle, c. 400 m.
C. allodonta (H. f. and T.) comb. nov.—9251, Ruamahanga R.; 9175, Ohau-iti R.; 9276, Akatarawa Saddle, all c. 300 m.
C. bidentatus St.—6664, Te Matawai, c. 900 m.
C. Billardieri Nees.—6660, Te Matawai, c. 900 m.
C. ciliatus St.—7677, nr. Kinic Hut, c. 1260 m.; 7170, Orongorongo R., c. 600 m.; 6660, Te Matawai, c. 900 m.
C. coalitus Nees.—7281, Ohau-iti R., c. 300 m.
C. Colensoi Mitt.—7295, Ohau-iti R., c. 300 m.
C. cuneistepulus ?—7483, 7534, 7545, 9180, 9174, UWTemp, ATA.

- C. decipiens* Gottsche.—6672, Te Matawai, c. 900 m., 9232, Mt. Pukematawai, c. 1200 m.
C. cchinellus Mitt.—7490, nr. Field Hut, c. 850 m.
C. fissistipus H. f. and T.—6983, Mt. Tarakamuku, c. 500 m.; 9215, Akatarawa Saddle, c. 400 m.
*C. involucratu*s Col.—9173, Ohau-iti R., c. 300 m.
C. odoratus Mitt.—7281, Ohau-iti R., c. 300 m.
C.—7414, 7403, 7678, 7689, Mt. Hector, c. 1500 m.
C.—9220, Akatarawa Saddle, c. 400 m.
C.—9209, Akatarawa Saddle, c. 400 m.
C. physanthus Mitt.—4775, Tiritea R., c. 100 m.
C.—7681, nr. Kime Hut, c. 1350 m.
C.—7181, Wairongomai R., c. 50 m.
Cuspidatula monodon (H. f. and T.) St.—6932, Mt. Marima, c. 400 m.; 7305, Ohau-iti R., c. 300 m.; 7465, nr. Field Hut, c. 850 m.
Geocalyx novae-zealandiae Herz.—7285, Ohau-iti R., c. 300 m.
Haplozia rotata H. f. and T.—4759, Tiritea R., c. 100 m.
H.—7498, Mt. Hector, c. 1400 m.
Jamesoniella colorata (Lehm.)?—7661, nr. Kime Hut, c. 1350 m.
J. Kirkii St.—9245, Ruamahanga V., c. 120 m.
J. oclusa (Tayl.).—7410, Mt. Hector, c. 1400 m.
J. Sonderi.—7418, Mt. Hector, c. 1400 m.; 9256, Ruamahanga R., c. 320 m.
J.—7495, Mt. Hector, c. 1400 m.
Lophocolea crassiretis Herz.—6644, Te Matawai, c. 900 m.
L. decurva Mitt.—7095, 7096, Ohau-iti R., c. 300 m.; 7168, Orongorongo R., c. 600 m.
L. erectifolia St.—7285, Ohau-iti R., c. 300 m.
L. heterophylloides Nees.—WTemp, NTA; 7226, Wairongomai R., c. 50 m.
L. lenta H. f. and T.—6940, Mt. Marima, c. 400 m.
L. muricata Nees.—6668, 6686, Te Matawai, c. 900 m.
L. planiuscula H. f. and T.—4836, Mt. Bannister, c. 1450 m.
L. unduliflora Gottsche.—9170, Ruamahanga V., c. 320 m.
L. Zotovii Herz.—7499, Mt. Hector, c. 1400 m.
L.—7685, nr. Kime Hut, c. 1350 m.
L.—6699, Manawatu Gorge, c. 100 m.
Plagiochila annotina Lindb.—6814, Ohau R., c. 250 m.; 6658, Te Matawai, c. 900 m.
P. arbuscula L. et L.—WTemp, NTA, STA.
P. Beckettiana St.—7640, nr. Kime Hut, c. 1350 m.
P. conjugata Lindb.—7308, Ohau-iti R., c. 300 m.; 9221, Akatarawa Saddle, c. 400 m.
P. deltoidea Lindb.—6825, Tiritea R., c. 300 m.
P. fasciculata Lindb.—WTemp, NTA; 9279, Akatarawa Saddle, c. 400 m.
P. fruticella H. f. and T.—9211, 9208, Akatarawa Saddle, c. 400 m.; 7168, Orongorongo R., c. 600 m.; 7280, Ohau-iti R., c. 300 m.
P. gigantea Lindb.—WTemp, NTA; 9213, Akatarawa Saddle.

- P. Helmsii* St.?—6690, Te Matawai, c. 900 m.; 9241, Ruamahanga V., c. 320 m.; 7176, Orongorongo R., c. 600 m.
P. Howcana St.—6658, Te Matawai, c. 900 m.; 7456, nr. Field Hut, c. 850 m.
P. Kirkii St.—6717, Mt. Arawaru, c. 600 m.
P. Lyallii Mitt.—WTemp, NTA, STA; 7664, nr. Kime Hut, c. 1350 m.
P. microdictyum Mitt.—7155, Orongorongo R., c. 600 m.
P. multidentata St.—4805, Manawatu Gorge, c. 150 m.
P. ramosissima Lindb.—6653, Te Matawai, c. 900 m.
P. Stephensoniana Mitt.—9247, Ruamahanga R., c. 320 m.; 7579, nr. Field Hut, c. 850 m.; 9214, Akatarawa Saddle, c. 400 m.
P.—9255, 9250, Ruamahanga R., c. 320 m.; 7663, nr. Kime Hut, c. 1350 m.
Saccogyne australis Mitt.—9219, Akatarawa Saddle, c. 400 m.; 9172, Ohau-iti R.; 1714, Ruamahanga R., c. 320 m.
Tylinanthus flaccidus Berggr.?—7133, Orongorongo R., c. 600 m.
T. succatus Mitt.—UWTemp, LCTemp, ATA.
T.—9263, Ruamahanga R., c. 320 m.

Schistochilaceae.

- Balanioopsis converiusculis* Berggr.—9207, Akatarawa Saddle, c. 400 m.
B. diplophyllum (Mitt.).—6893, Tiritea R., c. 300 m.; 7103, Ohau-iti R., c. 300 m.; 7487, nr. Field Hut, c. 850 m.
Schistochila appendiculata (Nees).—WTemp, NTA.
S. Balfouriana (H. f. and T.).—9182, Akatarawa Saddle, c. 400 m.
S. ciliata Mitt.—6674, Te Matawai, c. 900 m.; 9235, Ruamahanga R., c. 320 m.
S. glaucescens Nees.—WTemp, NTA, STA.
S. muricata Herz. et Hodg.—7489, nr. Field Hut, c. 850 m.
S. nobilis Nees.—UWTemp, LCTemp, ATA.
S. repleta (H. f. and T.).—7265, 7291, Ohau-iti R., c. 300 m.
S. splachnophylla (H. f. and T.).—7405, nr. Mt. Hector.
S. unguicularis (H. f. and T.).—6970, Mt. Marima, c. 400 m.

Cephalozellaceae.

- Cephalozella exiliflora* (Tayl.)?—6938, Mt. Marima, c. 400 m.

Trigonanthaceae.

- Acromastigium inosostomum* (L. and L.) Evans.—6648, Te Matawai, c. 900 m.
A. Colensoanum (Mitt.) Ev.—7294, Ohau-iti R., c. 300 m.
Bazzania adneca (L. and L.).—UWTemp, LCTemp, ATA.
B. fissistipa St.—7561, nr. Field Hut, c. 850 m.
B. monilinerve (Nees).—9271, Ruamahanga R., c. 320 m.
B. novae-zealandiae Mitt.—UWTemp, LCTemp, ATA.
B. Tayloriana Mitt.—7084, Ohau R., c. 250 m.; 9217, 9218, Akatarawa Saddle, c. 400 m.
B.—6628, Oriwa Lake-Hollow, c. 900 m.
Cephalozia multicuspidata (H. f. and T.)?—7491, 7492, 7493, Mt. Hector, c. 1450 m.

- Lembidium ventrosium* St.?—7364, 7533, 7606, nr. Field Hut, c. 850 m.
L.—7648, nr. Kime Hut, c. 1350 m.
Lepidozia novae-zelandiae St.—7279, 7297, Ohau-iti R., c. 300 m.
L. capilligera Lindb.—UWTemp, LCTemp, WTA.
L. centipes Tayl.—9252, Ruamahanga R., c. 320 m., 7619, nr. Field Hut, c. 850 m.
L. Lindenbergii Gottsche.—WTemp, NTA, STA.
L. praenitens L. et L.—UWTemp, LCTemp, ATA.
L. spinosissima.—7081, 7299, Ohau-iti R., c. 300 m., 9298, Akatarawa Saddle, c. 400 m.
L. ulothrix Labg.—6659, Te Matawai, c. 900 m.
L. compacta.—7089, Ohau-iti R., c. 300 m.
L.—6685, Te Matawai, c. 900 m.
L.—6938, Mt. Marima, c. 400 m.
L.—6701, Mt. Arawaru, c. 600 m.
L.—9289, Akatarawa Saddle, c. 400 m.
L.—9265, Akatarawa Saddle, c. 400 m.
L.—7275, Ohau-iti, c. 300 m.
L.—6619, Oriwa Lake-Hollow, c. 900 m.; 9290, Akatarawa Saddle, c. 400 m.; 9268, 9275, Ruamahanga R., c. 320 m.
L. carcarata var. *minor*.—7397, Mt. Dinnan, c. 1050 m.; 7415, Mt. Hector, c. 1400 m.
L.—6625, 6629, Oriwa Lake-Hollow, c. 900 m.; 7089, Ohau-iti, c. 300 m.; 9269, Ruamahanga R., c. 320 m.
L.—6685, Te Matawai, c. 900 m.
L.—7404, Mt. Hector, c. 1400 m.
Marsupidium albrevisatum H. f. and T.?—6698, Manawatu Gorge, c. 150 m.
M. Knightii Mitt.—6816, Tiritea R., c. 300 m.; 7597, nr. Field Hut, c. 850 m.
Psiloclada clandestina Mitt.—9263, Ruamahanga R., c. 320 m.
Zoopsis argentea H. f. and T.—6841, Tiritea R., c. 300 m.
Z. foliosa Herz. and Hodg.—9178, 9297, Akatarawa Saddle, c. 400 m.
Z. Leitgebiana C. and P.—7537, nr. Field Hut, c. 850 m.; 6620, Oriwa Lake-Hollow, c. 900 m.
Z. setulosa Leitgeb.?—9299, Akatarawa Saddle, c. 400 m.
Z.—7619, nr. Field Hut, c. 850 m.

Ptilidiaceae.

- Blepharostoma palmatum* (Labg.).—7496, 7497, Mt. Hector, c. 1400 m.
Herberta alpina St.—6643, 6667, Te Matawai, c. 900 m.
Isotachis sp. (cf. *I. flavicans* of Chile).—7407, Mt. Hector, c. 1400 m.
I. humectata (Tayl.) f. *calcarata*.—7401, 7409, etc., Mt. Hector, c. 1400 m.
I. Lyallii Mitt.—UWTemp, LCTemp, WTA.
I. montana Col.—LCTemp, WTA.
I. montana f. *subdentata*.—7649, nr. Kime Hut, c. 1350 m.
Lepicolea scolopendra Nees.—UWTemp, LCTemp, ATA.
Lepidolaena clavigera Gottsche.—WTemp, NTA, STA.

- L. magellanica* (Gottsche).—9231, Pukematawai, c. 1450 m.
L. Menziesii (Gottsche).—4815, Ohau R., c. 250 m.
L. paepebrifolia (Gottsche).—9265, Ruamahanga V., c. 320 m.
L. Taylori (Gottsche).—WTemp, NTA; 9281, Akatarawa Saddle,
 400 m.
Mastigophora flagellifera Nees.—WTemp, NTA, STA.
Trichocolea australis St.—UWTemp, LCTemp, ATA.
T. australis f.—7657, 7659, nr. Kime Hut, c. 1350 m.
T. australis f.—9274, Ruamahanga V., c. 320 m.
T. australis f.—6879, Tiritea R., c. 300 m.
T. lanata Nees.—6875, Tiritea R., c. 150 m.; 7263, Ohau-iti R.,
 c. 300 m.; Ruamahanga R.

Goebeliellaceae.

- Goebeliella cornigera* (Mitt.) St.—CTemp, LWSup, ATA.

Radulaceae.

- Radula buccinifera* H. f. and T.—6889, Tiritea R., c. 300 m.;
 6979, Mt. Marima, c. 400 m.
R. grandis St.—6889, Tiritea R., c. 300 m.; 9118, Akatarawa
 Saddle, c. 400 m.
R. levieri St.—4811, 4773, Tiritea R., c. 200 m.; nr. Field Hut,
 c. 850 m.; 9169, Akatarawa Saddle, c. 400 m.
R. uvifera H. f. and T.?—7228, Wairongomai R., c. 50 m.

Porrellaceae.

- Madotheca Stangeri* Gottsche.—WTemp, LCTemp, ATA.

Lejeuniaceae.

- Archilejeunia olivacea* H. f. and T.—7307, Ohau-iti R., c. 300 m.
Eulejeunia Kirkii St.—7527, nr. Field Hut, c. 850 m.
E. nudipes H. f. and T.—17099, Tiritea R., c. 300 m.
Harpalejeunia Colensoi St.—9189, Akatarawa Saddle, c. 400 m.
 “*Lejeunia*.”—6722, Mt. Arawaru, c. 600 m.
 “*L.*”—7406, Mt. Hector, c. 1400 m.
Physocolea laevigata (Mitt.).—6812, Tiritea R., c. 300 m.; 6650,
 Te Matawai, c. 900 m.
Strepsilejeunia Curnowii St.?—6979, Mt. Marima, c. 400 m.
Thysananthus unguiformis (H. f. and T.)—7303, 7097, Ohau-iti
 R., c. 300 m.; 9179, 9300, Akatarawa Saddle, c. 400 m.

Frullaniaceae.

- Frullania deplanata* Mitt.—7453, nr. Field Hut, c. 850 m.
F. pycnantha H. f. and T.—7142, 7178, 7180, Orongorongo R.,
 c. 400 m.
F. rostellata Mitt.—7042, Ohau-iti R., c. 300 m.
F. spinifera H. f. and T.—7223, 7235, Wairongomai R., c. 50 m.;
 7041, 7025, Ohau-iti R., c. 300 m.
F.—7236, 7240, Wairongomai R., c. 50 m.
F.—6974, Mt. Marima, c. 400 m.

Treubiaceae.

- Treubia insignis* Goebel.—7284, Ohau-iti, c. 300 m.

Haplolaenaceae.

- Calycularia Cockaynei* (Goeb.) St.—7674, Kime Hut, c. 1380 m.

Monocleaceae.

- Monoclea Forsteri* Hook.—WTemp, ATA.

Dilaenaceae.

- Pallavicinia connivens* (Col.) St.—7607, nr. Field Hut, c. 850 m.
P. xiphioides (Tayl.)—7565, nr. Field Hut, c. 800 m.
P. sp. nov.—9197, Akatarawa Saddle, c. 400 m.
Symphyyogyna hymenophyllum Mont.—WTemp, CTemp, ATA.
S. obovata Tayl?—9191, Akatarawa Saddle, c. 400 m.
S. subsimplex.—4767, Tiritea R., c. 150 m.

Metzgeriaceae.

- Hymenophyllum flabellatum* (Mont.) St.—UWTemp, CTemp, ATA.
H. leptodon (H. f. and T.) St.—WTemp, LCTemp, ATA.
H. phyllanthus (Hook.) St.—UWTemp, LCTemp, ATA.
Metzgeria Colensoi St.?—6706, Mt. Arawaru, c. 600 m.
M. decipiens (Massal) Schiff. and Gottsche.—6926, Mt. Marima, c. 400 m.
M. hamata Lindb.—6924, 6980, Mt. Marima, c. 400 m.; 7479, 7555, nr. Field Hut, c. 850 m.; 7680, 7684, nr. Kime Hut, c. 1350 m.
M. nitida Mitt.—7184, Wairongomai R., c. 50 m.
M.—7688, nr. Kime Hut, c. 1350 m.
M.—7481, nr. Kime Hut, c. 1350 m.
M.—7225, Wairongomai R., c. 50 m.

Aneuraceae.

- Riccardia alterniloba* (H. f. and T.)—WTemp, NTA, STA.
R. bipinnatifida Col.—6984, nr. Manawatu G., c. 200 m.
R. eriocaula (Hook.)—UWTemp, LCTemp, ATA.
R. marginata (Col.)?—6963, Mt. Marima, c. 400 m.
R. micropinna (St.)—9204, 9205, Akatarawa Saddle, c. 400 m.
R. perpusilla (Col.)?—7477, nr. Field Hut, c. 850 m.
R. Polymorpha (Col.)?—Temp, ATA; 7413, Mt. Hector c. 1400 m.
R.—6662, Te Matawai, c. 900 m.
R.—7616, nr. Field Hut, c. 850 m.
R.—6784, nr. Manawatu G., c. 200 m.; 7402, 7417, Mt. Hector, c. 1400 m.
R.—7411, 7416, Mt. Hector, c. 1400 m.
R.—9234, Pukematawai, c. 1450 m.
R.—7474, nr. Field Hut, c. 850 m.
R.—7365, nr. Field Hut, c. 850 m.
R.—6645, Te Matawai, c. 900 m.
R.—7484, nr. Field Hut, c. 850 m.
R.—9233, Pukematawai, c. 1450 m.
R.—6665, Te Matawai, c. 900 m.

Marchantiaceae.

- Lunaria cruciata*.—4845, 7053, Manawatu G., c. 100 m.
Marchantia foliacea Mitt.—WTemp, LCTemp, ATA.
M. tabularis Nees.—WTemp, NTA; 7587, nr. Field Hut, c. 850 m.
M. sp. nov.—7485, nr. Field Hut, c. 850 m.

Operculatae.

- Asterella tenera* (Mitt.)—7282, Ohau-iti R., c. 300 m.

Anthocerotaceae.

- Anthoceros coriaccus*?—17145, Manawatu G., 100 m.

ANALYSIS OF THE DISTRIBUTION OF HEPATICAE.

		No. of genera												Total		
Belts	Areas	WTA	NTA	ETA	STA	Total	WTA	NTA	ETA	STA	Total	WTA	NTA	ETA	STA	Total
		12	2	1	8	1	4	6	1	1	1	1	1	1	1	1
		Warm Subpolar												37		
		Cold Temperate												47		
		Warm Temperate												19		
		Grand Total												198		
		Epidendrumaceae												19		
		Schistoclethraceae												94		
		Cephaelozellaceae												21		
		Ptilothraceae												68		
		Goebeliaceae												131		
		Rudolphiaceae												198		
		Porrellaceae														
		Loganiaceae														
		Frullaniaceae														
		Trebliaceae														
		Haploneuraceae														
		Monoclethaceae														
		Ptilaneaceae														
		Mezgeriaceae														
		Aneuraceae														
		Marchantiaceae														
		Operculariaceae														
		Anthocerotaceae														
		"Aplousia"														
		"Schizma"														

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