

Fig. 8 The main Paleozoic rock belts of Northwest Nelson. Inset shows distribution of lower Paleozoic rocks in the South Island.

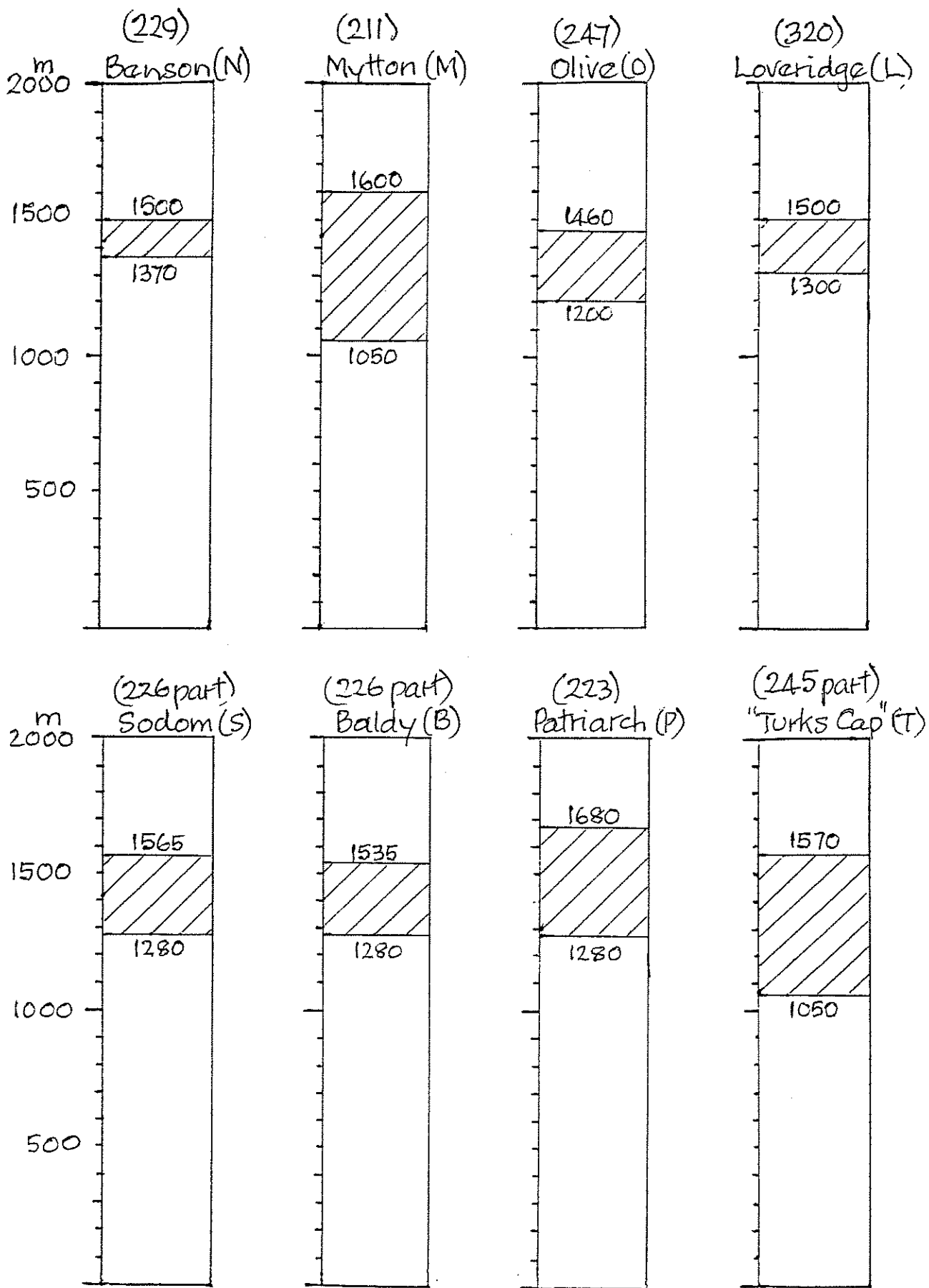
DISTRIBUTION OF INDURATED LIMESTONES (PT CENTRAL S.B.)

Areas surveyed:

- N - Benson area ("The Gendarme" - Cooper 1984, p.17) (Lockett Ra.)
- M - Mytton area (Mt Mytton, Peel Ra.)
- O - Olive area (Mt Olive, S Arthur Ra.)
- L - Loveridge area (Mt Loveridge, S Arthur Ra.)
- S - Sodom area (Mt Sodom, S Arthur Ra.)
- B - Baldy area (Mt Baldy, S Arthur Ra.)
- P - Patriarch area (Mt Patriarch, S Arthur Ra.)
- T - "Turks Cap" area ("Turks Cap" Ra.)
- C - Cobb area (Cobb V.)

GENERAL LOCATION AND GEOLOGY OF EACH AREA
 (Grid refs on Infomap 262-9 are for the centre of
 each area) (Geology from Ghidley 1980, Coleman 1981)

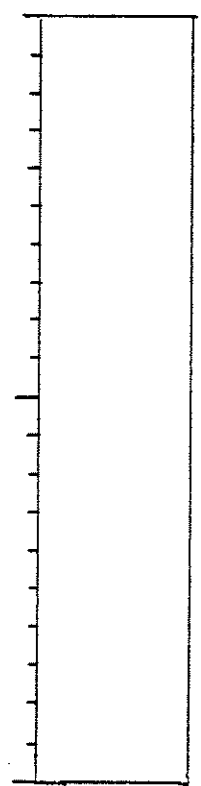
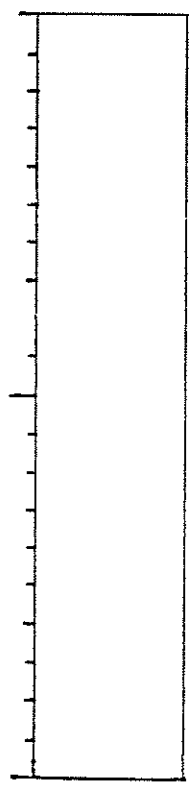
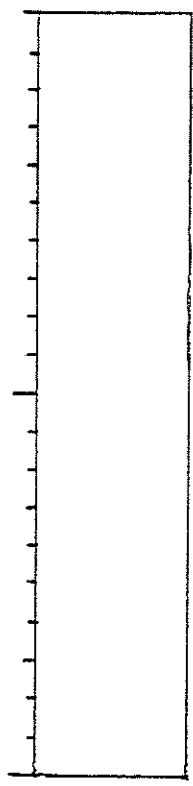
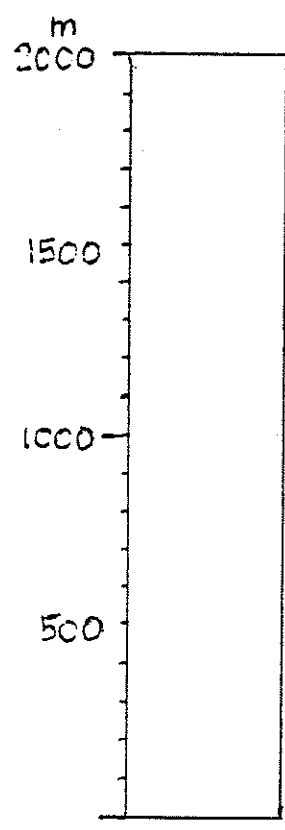
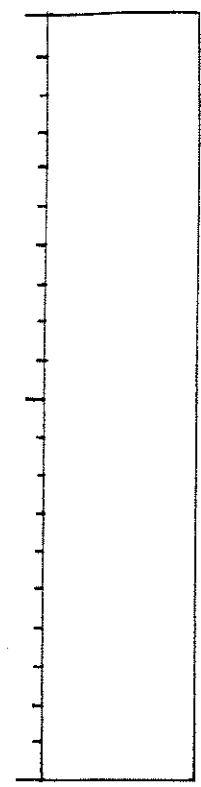
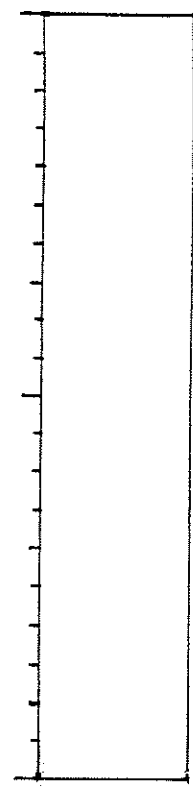
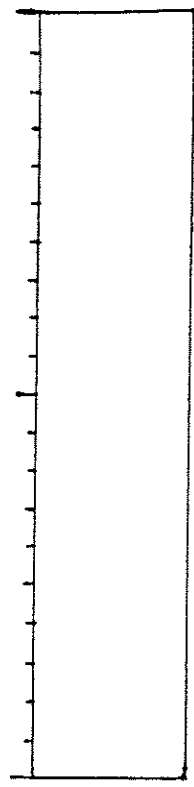
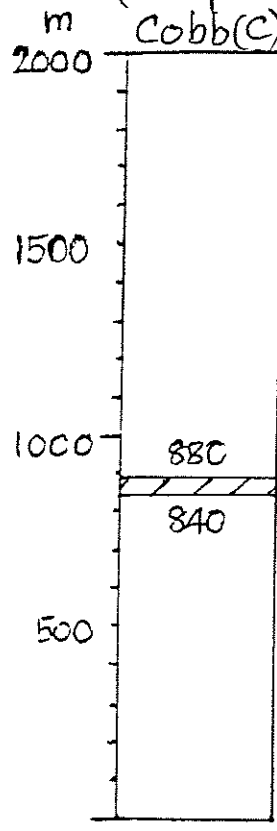
Area-Location	Geology	Grid ref.
	Paleozoic - Summit Limestone	
Banson area (N), Lockett Ra.	} indurated sandy limestone and muddy limestone	463015
Mytton area (M), Peel Ra.		475009
Olive area (O), S Arthur Ra.		470991
Loveridge area (L), S Arthur Ra.		479995
Sodom area (S), S Arthur Ra.		475983
Baldy area (B), S Arthur Ra.		473981
Patriarch area (P), S Arthur Ra.		469976
"Turks Cap" area (T), "Turks Cap" Ra.	468965	
Cobb area (C)	several isolated outcrops of indurated limestone	476010



ALTITUDINAL RANGE OVER WHICH PLANTS WERE RECORDED
IN EACH AREA

The numbers in brackets refer to lists of plants compiled for each area and filed at Landcare Research

(234 part)
Cobb(C)



Field work in the central indurated limestone mountains totalled 24 days*, mostly between 1970 and 1992. The separate areas were visited at the dates indicated below.

Benson (N)	1 day in March 1970 1 day in January 1980 1 day in March 1982
Mytton (M)	1 day in April 1969 1 day in January 1970 1 day in March 1981 1 day in April 1986 1 day in February 1988 1 day in March 1991
Olive (O)	1 day in March 1983
Loveridge (L)	2 days in February 1991
Sodom (S)	1 day in March 1982 1 day in February 1990
Baldy (B)	1 day in March 1982 1 day in February 1990
Patriarch (P)	1 day in January 1974 1 day in February 1982
"Turks Cap" (T)	3 days in January 1983 3 days in February 1989
Cobb (C)	many visits from 1968 onwards

*excluding many visits to Cobb area

The following participated in the field work: Edward Abraham, Ted Abraham, Ian Atkinson, John Bartlett, Elizabeth Brown, Bev Bruce, Len Bruce, Shannel Courtney, Helan Druce, Tony Druce, John Findlay, Elsie Gibbons,

Arnold Heine, Jan Heine, Roland Heine, Rodney Lew-
ington, Kevin Luff, Geoff Rogers, Darcia Sherratt, Neill
Simpson, Barry Sneddon, Peter Williams, and members
of Nelson and Wellington Botanical Societies.

INDIGENOUS PLANTS (383 SPECIES)

GYMNOSPERM TREES AND SHRUBS

- Lepidothamnus laxifolius (S, unc B, unc T) [Dacrydium laxifolium]
Phyllocladus alpinus ss. (unc B)
Podocarpus nivalis (S, B, unc T)

DICOTYLEDONOUS TREES AND SHRUBS

- Arctostaphylos traversii s.l. (incl. A. traversii var. australis) (unc S)
Aristotelia fruticosa var. (a) (N, M, L, S, B, P, T, C)
Brachyglottis adamsii (M, L) [Senecio adamsii]
B. bidwillii var. viridis (unc N, L, unc S, unc B, unc T) [Senecio bidwillii var. viridis]
B. grayi var. (a) (incl. B. laxifolia) (unc B, T) [Senecio laxifolius]
B. rotundifolia var. (a) (incl. B. buchananii and B. cockaynei) (unc T) [Senecio bennettii]
B. bidwillii x B. rotundifolia (unc T)
Cassinia vauvilliersii (L, unc S, P)
Coprosma atropurpurea (N, M, L, S, B, P, T) [C. petriei var. atropurpurea]
C. cheesemani (N, M, L, S, B, P, T)
C. ciliata ssp. ciliata (N, M, O, S, B, P, T, C)
C. depressa (N, M, O, L, S, B, P)
C. foetidissima (M)
C. perpusilla ssp. perpusilla (N, M, S, B, T) [C. pumila in part]
C. propinqua ssp. propinqua (N, M, S, B, P, T, C)
C. pseudocuneata ssp. (a) (M, unc S) (lvs narrower than in ssp. pseudocuneata)
C. rhamnoides s.l. (incl. C. polymorpha) (M, C)
C. rigida (C)
C. rugosa ssp. rugosa (M, C, L, unc S, unc B, P)

- C. serrulata (L, unc S, unc B, unc P, unc T)
- C. sp. (d) (M, C) (described as C. parviflora var. dumosa by Cheeseman 1906, non C. parviflora var. dumosa sensu Allan 1961; lf undersurface not minutely hairy as is usual in C. parviflora; dtypes usually unpigmented, occasionally purplish red) [C. parviflora in part]
- C. sp. (b) (unc S, unc B, P) [C. parviflora var. dumosa sensu Allan 1961]
- C. sp. (d) (unc S) (aff. C. pseudocuneata; low-growing shrubs with small thick arcuate lvs) [C. pseudocuneata in part]
- C. sp. (e) (unc M, unc S) (aff. C. colensoi; low-growing shrubs with trailing branches) [C. colensoi in part]
- C. sp. (h) (S, B, P, T) (prostrate shrubs; lvs plano-convex, linear; dtypes orange)
- C. cheesemani x C. ciliata (unc P)
- Cotiaria plumosa (L, unc S, T)
- C. sarmentosa (L, unc S, unc P)
- C. plumosa x C. sarmentosa (L)
- Cyathodes dealbata (S, unc B, unc P, T) [C. pumila]
- Dracophyllum longifolium var. (a) (incl. D. filifolium and D. oiveri) (M, S, B, P, T, C)
- D. traversii s.l. (incl. D. pyramidale) (S, B, P)
- D. uniflorum (N, O, S, B, P)
- Exocarpos bidwillii (M)
- Fuchsia excorticata (M)
- Gaultheria crassa (N, C, unc S)
- G. depressa s.s. (M, unc S, unc B, P)
- G. nobicola (unc N, unc M) [Pernettya nana in part]
- G. rupestris s.l. (incl. G. subcorymbosa) (unc S)
- G. sp. (a) (N, M, C, L, S, B, P, T) (described as G. depressa var. novae-zelandiae by Franklin 1962) [G. depressa in part]
- G. crassa x G. sp. (a) (unc N)
- Grisebinia littoralis (M, C)

Hebe albicans var. albicans (N, M, O, L)

H. canterburyensis (N, M, O, S, B, P, T)

H. ciliolata (L)

H. cockayneana var. (a) (N, M, L)

H. haastii var. (a) (M, L, S, B, P, T) (aff. var. humilis; see Moore 1961, p. 940)

H. macrantha var. brachyphylla (N, M, L, S, B)

H. odora s.s. (unc M)

H. salicifolia var. salicifolia (T, C)

H. tetragona var. (a) (incl. H. coarctata) (N, unc S)

H. topiaria (M, O, L, S, B, P, T, C)

H. varicosa (S)

H. sp. (j) (N, M, O, L) (multi-branched shrubs; lvs to 4 x 1 cm, elliptic-oblong, bright green, upper surface very glossy, margins very minutely serrate; margins of calyx lobes densely ciliate; corolla tube very short, = or < calyx; corolla lobes obtuse; capsule pubescent)

H. sp. (k) (S, B, P, T) (aff. H. glaucophylla)

H. albicans x H. sp. (j) (unc N, unc M, unc O, unc L)

Helichrysum intermedium var. (a) (N, M, O, L, S, B, P, T) [H. selago var. intermedium in part]

H. parvifolium (P) [H. microphyllum]

H. intermedium x Anaphalis sp. (a) (unc S)

Hoheria lyallii var. (a) (incl. H. glabrata) (unc N, M, B, P, C)

H. lyallii var. lyallii \Rightarrow var. (a) (T)

Leucopogon fraseri s.s. (N, M, O, L, S, B, P, T, C)

L. suaveolens (unc N, S, B, P, T) [Cyathodes colausci]

Melicytus sp. (a) (unc M, unc B, unc P, unc T) (prostrate hermaphrodite shrubs; branches up to 40 cm long, often rooting; lvs linear-oblong; fl white)

M. sp. (f) (N, M, O, L, S, B, P, T, C) (aff. M. alpinus; shrubs taller than in M. alpinus, up to 2.4 m; spiny shoots point in all directions with average branch angle of c. 70°, whereas in M. alpinus

they tend to point in one direction with an average branch angle of c. 50° ; lvs broader than in M. alpinus) [Hymenanthera alpina in part]

Myrsine divaricata ss. (M, S, B, C)

M. nummulata (N, O, S, unc B, P)

Nothofagus fusca (M)

N. menziesii (M, O, S, B, P, C)

N. solandri var. cliffortioides (M)

Olearia avicennifolia (unc N, M, P)

O. ilicifolia var. (a) (unc T) (lvs broader than in var. ilicifolia: laminae up to 3cm wide compared with 1.7cm, and length/breadth ratio 3.0-3.7 compared with 4.1-5.8)

O. lacunosa var. lacunosa (M, S, B, P, T)

O. nummulatifolia var. (a) (unc N, unc M, O, unc S, B, unc P, T) (lvs oval, rather than suborbiculate as in var. nummulatifolia)

O. virgata var. implicita s.l. (incl. O. virgata var. divaricata and O. virgata var. laxiflora) (unc M)

Pantachondra pumila (S, B, P)

Pimelea oreophila (N, M, C, L, S, B, P, T) [P. pseudolyallii in part]

P. prostrata (S)

P. sp. (b) (unc C) (aff. P. sericeovillosa, but plants spreading, not cushion-forming; lvs villos on adaxial surface)

Pittosporum anomalum (N, M, unc S, unc B, P)

P. rigidum var. (a) (incl. P. crassicaule) (M)

P. tenuifolium (unc M)

Pseudopanax anomalus (M) [Neopanax anomalum]

P. simplex s.l. (incl. P. s. var. sinclairii) (M, unc S) [Neopanax simplex]

P. sp. (a) (unc N, O, unc S, unc B) (described as P. colensoi var. ternatus by Wardle 1968) [Neopanax colensoi in part]

Traversia baccharoides (unc N, M, B, P, T, C)

Urtica ferox (unc N, M)

DICOTYLEDONOUS LIANES AND RELATED TRAILING PLANTS

Clematis forsteri (M, unc B, T, C) [C. australis, C. forsteri, C. hookeriana,
and C. petrici]

C. quadribracteolata (unc C)

Muehlenbeckia australis (M, C)

M. axillaris (N, M, S, B, P, T)

M. australis X M. axillaris (unc M, B)

Rubus cissoides var. (a) (M) ("form c" of Allan 1961; fls
broader than in var. cissoides)

R. schmidelioides var. schmidelioides (M, C)

LYCOPODS

Lycopodium australicum (unc S, unc B, P, T)

L. fastigiatum (N, M, S, B, unc P)

L. scariosum (unc S)

FERNS

Asplenium flabellifolium agg. (M)

A. flaccidum (M, C)

A. lyallii (N, M, L, unc B, C)

A. sp. (a) (N, M, unc B, C) (A. trichomanes agg.)

Blechnum fluviatile agg. (M, S)

B. penna-matina (N, M, O, L, S, B, P, T)

B. procerum (M, unc S)

B. sp. (b) (S, B, T) (mountain sp.; lower pinnae not reduced
in length; "The Dunedin-Cass Variety" of Crookes 1963)

[B. sp. 3]

Cystopteris tasmanica (N, M, O, L, S, B, P, T, C)

Grammitis billardierei (M)

G. givenii (unc M)

G. magellanica ssp. nottofageti (M, unc S)

G. patagonica (M, O, L, S, B, unc P, T)

G. poeppigiana (unc N, L, S, B, unc P, T)

H. villosum (S, C)

Hypolepis millefolium (M, O, S, B, P, T, C)

Leptopteris superba (unc S)

Ophioglossum coriaceum agg. (unc N, unc M, L, unc S, unc B, unc P, C)

Phymatosorus pustulatus (M) [P. diversifolius]

Polystichum cystostegia (unc B)

P. vestitum (N, M, O, L, S, B, P, T, C)

MONOCOTYLEDONOUS HERBS

ORCHIDS

Caladenia lyallii (unc S)

Chiloglottis cornuta (unc S, P)

Corybas maeranthus (O, unc S, unc B, unc P, T)

C. trilobus s.s. (M, S)

C. sp. (b) (unc M?) (aff. C. trilobus)

Microtis oligantha (unc S)

Prasophyllum colensoi (S, B, P, T)

Pterostylis oliveri (C)

P. venosa (unc B, unc P)

P. sp. (a) (unc S, P) (aff. P. cyenocephala)

GRASSES

Agrostis dyeri ss. / A. sp. (b) (N, O, S, B, P, T)

A. dyeri (N, O, S, B, T)

A. sp. (b) (S, B) (aff. A. dyeri but panicle not contracted) [A. dyeri in part]

A. personata (unc N, O, S, unc B, P) [A. parviflora]

Chionochloa australis (unc N, unc M, S, B, P) [Danthonia australis]

C. conspicua ssp. conspicua (M, S, B, P, T, C) [Danthonia cunninghamii]

C. oreophila (unc M) [Danthonia oreophila]

C. pallens ssp. pallens (N, M, C, L, S, B, P, T) [Danthonia raoulii in part]

C. rubra ssp. occulta (M) [Danthonia raoulii in part]

C. sp. (a) (N, unc M, C, L, S, B, P, T) (C. flavescens auct. South Island, non C. flavescens Zotov; lf blade green on abaxial surface, glaucous on adaxial surface, wide, strap-like, without midrib, or with faint midrib on abaxial surface only) [Danthonia raoulii var. flavescens in part]

C. australis X C. pallens (unc P)

Deschampsia tenella (M, O, S, unc B, P)

Deyeuxia aucklandica (N) [D. setifolia]

Elymus enysii (B, T) [Agropyron aristatum]

E. harduroides (M) [Asperella gracilis]

E. sp. (a) (N, M, O, L, S, B, P, T) (aff. E. rectisetus, plants usually glaucous; lf blade usually flat, up to 5mm wide; awns 4-6cm long) var. (a) (culms erect or ascending) [Agropyron scabrum in part]

E. enysii X E. sp. (a) (unc T)

Festuca sp. (a) (unc N, M) (slender, tufted, green or glaucous-green plants with setaceous lvs) [F. rubra in part]

F. sp. (b) (N, M, O, L, S, B, P, T) (aff. F. matthewsii; plants tufted but not tussock-forming)

Hierochloa novae-zelandiae (unc N, M, S, unc B, P, T) [H. fraseri in part]

Koeleria cheesemani (L) [Trisetum cheesemani]

K. sp. (undetermined) (P, T)

Lachnagrostis lyallii s.s. (incl. L. filiformis var. semiglabra) (N, M, C, L, S, B, P, T) [Deyeuxia forsteri var. semiglabra]

Microlaena colensoi s.s. (unc N, M, L, S, unc B, P, T) [Ehrharta colensoi]

Poa breviglumis (N, M, O, S, B, P) [P. imbecilla var. breviglumis]

P. celsa (M, unc S, unc B, unc P) [P. kirkii in part]

P. cita ssp. cita (M, O, L, B, T) [P. caespitosa]

P. colensoi (N, M, O, S, B, P, T)

P. dipsacea (T) [P. cheesemani and P. dipsacea]

P. imbecilla (M, unc B, T, C)

P. kirkii (unc S, P, T)

P. maia (S, P)

P. novae-zelandiae s.s. (P)

P. subvestita (L, S, B, P, T) [P. novae-zelandiae var. subvestita]

Rytidosperma gracile (M, unc S, P) [Danthonia semiannularis in part]

R. nigricans (S, unc B) [Danthonia semiannularis var. nigricans]

R. setifolium (N, M, O, L, S, B, P, T) [Danthonia semiannularis var. setifolia]

Trisetum youngii (unc N, M, unc S, unc B, P)

T. sp. (a) (N, M, O, S, B, P, T) (plants slender; lf sheath glabrous or nearly so; lf blade flat, up to 2.5 mm wide, margins smooth, usually with a few hairs near ligule) [T. antarcticum in part]

T. sp. (b) (N, unc M, L, S, unc B, P, T) (described as T. antarcticum ssp. tenellum by Petrie 1912) [T. antarcticum var. tenellum]

T. sp. (c) (M, unc S, P, T) (aff. T. antarcticum; plants robust; lf sheath glabrous at least in upper part; lf blade flat, up to 7 mm wide; margins scabrid, usually with some hairs near ligule) [T. antarcticum in part]

T. (suspected hybrids) (N, P)

SEDGES

Carex acicularis s.l. (incl. C. allanii) (O, S, B, P, T)

C. comans (N, B)

C. alysi (unc N, unc B, unc P, unc T)

C. libeta (O, unc S)

C. pyrenaica var. cephalotes (unc M, unc B)

C. sinclairii (M)

C. trachycarpa (M, unc P, T)

C. wakatipu s.s. (N, M, O, L, S, B, P)

C. sp. (a) (M, unc B) (aff. C. testacea but lvs broader, usually reddish, and utricle margins not scabrid)

C. sp. (b) (O, unc B) (tufts up to 30cm tall; lvs channelled, green to brownish green, usually recurved; spikes 3-5, approximate in small plants, slightly spaced in larger ones; utricles faintly nerved, narrowed gradually to a shallowly bifid beak; stigmas 3)

C. sp. (c) (unc M, S, B, P) (tufts up to 30cm tall in open, occasionally up to 90cm in partial shade; lvs channelled, green, stiff, erect; spikes 3-6, approximate in small plants, distant in large ones; utricles nerved, narrowed abruptly to a shortly bifid beak; stigmas 3)

C. (d) (M, T) (aff. C. coriacea but lvs slender, bright green, not becoming stiff and yellow-green in exposed sites; utricles similar to those of C. coriacea, faintly to obscurely nerved; beak minute or absent) [C. geminata in part]

C. sp. (f) (S, B, T) (aff. C. wakatipu but spikes not closely packed except in small plants; utricles dark brown to black)

Carpha alpina s.s. (unc N, S, B)

Isoplepis aucklandica (N) [Scirpus aucklandicus]

- Orzobolus impar (S)
O. pectinatus (S, B, unc P)
O. strictus (unc S, unc B)
Schoenus pauciflorus s.s. (N, M, O, L, S, B, P, T)
U. caespitosa (O, S)
U. clavata (M, O, P, C)
U. divaricata (N, M, O, L, S, B, P, T)
U. drucei (unc M)
U. filiformis (M, S)
U. fuscovaginata var. (a) (N, M, O, L, S, B, P) (plants glaucous)
U. involuta (S, unc B, P, T)
U. longifructus (unc T)
U. nervosa s.s. (unc S, unc B)
U. tubra (M)
U. rupestris s.l. (incl. U. angustifolia) (unc S)
U. silvestris s.l. (incl. U. affinis) (M)
U. uncinata (unc S)
U. sp. (b) (N, M, B, P) (U. affinis sensu Hamlin 1959, non U. riparia
var. affinis Clarke; see Nooteboom 1978)
U. sp. (undetermined) (O)

RUSHES AND ALLIED PLANTS

- Juncus novae-zelandiae (unc N, unc S, T)
Luzula migrata (N, M, O, L, S, unc B, P, T) [L. banksiana var. migrata]
L. picta s.s. (N, unc S)
L. subclavata (O, T) [L. picta var. pallida]
L. sp. (a) (M, S, unc B, C) [L. picta var. limosa]
L. sp. (b) (N, M) [L. chinata var. petricana]
Marsippospermum gracile (M, L)

MONOCOTYLEDONOUS HERBS OTHER THAN ORCHIDS, GRASSES, SEDGES, RUSHES AND ALLIED PLANTS

- Anthropodium candidum (M, unc S)

Astelia graminea (S, B, P, T)

A. linearis s.l. (incl. A. linearis var. novae-zelandiae) (S, unc B)

A. nervosa s.s. (unc N, M, O, L, S, B, P, T)

A. nivicola s.s. (unc S, unc B, unc P, T)

A. petriei (S, B, unc P, T)

A. skottsbergii (S, T)

A. sp. (a) (M, unc S) [A. nivicola var. moriceae]

A. sp. (b) (M, P) (aff. A. nervosa but lvs broader and not conspicuously white adaxially) [A. nervosa in part]

Bulbinella hookeri (M, B, P, C)

Libertia ixioides (unc S)

L. peregrinans (unc S)

Phormium cookianum (N, M, O, L, S, B, P)

DICOTYLEDONOUS HERBS

COMPOSITES

Abrotanella linearis s.s. (M, O, S, B)

Anaphalis sp. (a) (N, M, O, L, S, B, P, T) [Helichrysum bellidioides s.s.]

Brachyglottis lagopus var. (a) / B. sp. (a) (N, M, O, S, B, P, T)

B. lagopus var. (a) (P, T) (cottony hairs on both surfaces of lf, dense at first, but becoming sparse; the undersurface, though with more tomentum than the upper, at no stage appears white, and may end up almost glabrous) [Senecio lagopus]

B. sp. (a) (T) (included in B. bellidioides, as var. crassa, by Nordenstam 1978) [Senecio bellidioides in part]

Brachyscome radicata (unc S, T)

B. sindairii s.s. (S, B, P)

Celmisia bellidioides (T)

C. dallii (L, S, unc B, T)

C. gibbsii (N)

C. incana s.l. (incl. C. discolor) (M, S, unc B)

C. laticifolia (N, S, unc B)

C. montoi ssp. (a) / ssp. (b) (N, M, O, L, S, B, P, T)

C. montoi ssp. (a) (P, T) [C. coriacea var. semicordata]

C. montoi ssp. (b) (N) (described as C. coriacea var. lanceifolia
by Cheeseman 1925)

C. patriei (S, B, P, T)

C. sinclairii s.l. (incl. C. allanii and C. durietzii) (N, L, T)

C. spectabilis ssp. spectabilis (S, unc B, P)

C. traversii (N, M, unc B, unc P)

C. sp. (a) (aff. C. gracilentia; plants tufted; lvs linear to linear-lanceolate, up to 45 x 1.2 cm) ssp. (a) (unc P) (upper surface and margins of lf thinly covered in tomentum; lower surface densely covered) [C. gracilentia in part]

Craspedia sp. (a) (M, S, B, P, T) (summer-green plants in wet and dry flushes; lvs white or greenish white; both surfaces densely clad in cottony hairs that mat together to form a felt closely appressed to the lf surface; beneath the felt both surfaces are densely clad in minute glandular hairs; fls white) [C. lanata var. elongata]

C. sp. (b) (N, M, S, B, P, T) (summer-green plants, usually on limestone cliffs or in calcareous soils; lvs green, elliptic-spathulate; both surfaces densely clad in short glandular hairs; midrib with or without long multicellular non-glandular hairs; lf margins ± faintly white with cottony hairs; fls white)

C. sp. (c) (N, M, O, B) (summer-green plants in moist herbfields and tussock-lands; lvs green, lamina narrowing gradually to long petiole; both surfaces clad in long multicellular non-glandular hairs, with or without cottony tips, overtopping short glandular hairs; margins faintly to distinctly white with cottony hairs; fls white)

- Dolichoglottis lyallii (T) [Senecio lyallii]
D. scorzoneroides (unc N) [Senecio scorzoneroides]
Gnaphalium audax (unc L, S, T) [G. collinum in part]
G. mackayi s.s. (M, unc S, unc B, P) [G. traversii in part]
G. ruahinicum (N, M, S, B, P, T) [G. collinum in part]
Helichthysum filicaule (c)
Lagenifera cuneata (L)
L. petiolata (M, unc L) [L. pumila var. multidentata]
L. pinnatifida (unc P)
L. strangulata (M, S, C) [L. petiolata]
Leptinella pyrethrifolia agg. (N, O, L, P, T) [Cotula pyrethrifolia]
L. sp. (b) (N, M, O, S, B, T, C) (included in L. squalida, as ssp. mediana, by Lloyd and Webb, 1987) [Cotula squalida in part]
Microsetis scapigera (N, M, L, S, B, P, T)
Pseudognaphalium sp. (b) (N, M, O, unc S, unc B, P) (aff. P. luteoalbum; lvs mostly oblong-spathulate to narrowly oblong, rounded) [Gnaphalium luteoalbum in part]
Raoulia apicinigra s.s. (L, P, T) [R. hookeri var. apicinigra in part]
R. glabra (N, S, B, P, T)
R. grandiflora var. grandiflora (S)
Senecio glaucophyllus ssp. glaucophyllus (N, M, O, L, S, B, P, T)
S. waitauensis (N, M, O, L, S, B, P, T) [Erechtites waitauensis]
Taraxacum magellanicum (N, M, O, S, B, P, T)

DICOTYLEDONOUS HERBS OTHER THAN COMPOSITES

Acaena anserinifolia (M, unc S, B, T, C) [A. anserinifolia, A. pusilla,
A. pusilla var. suprasericascens, and A. viridior]

A. fissistipula (M, L, T)

A. profundeincisa (N, M, O, L, S, B, P, T) [A. anserinifolia var.
sericeinitens and A. anserinifolia var. paucidens]

Aciphylla anomala (M, L, T)

A. colensoi var. colensoi (unc N, T)

A. ferox (O, L, S, B, P, T)

A. glaucescens s.s. (T)

A. polita var. (a) (N) (If segments coarser than in var. polita
and stipules mostly simple; see Dawson and Le Comte, 1978)

A. sp. (c) (N, M) (aff. A. glaucescens but pinnae very rigid)

A. colensoi X A. glaucescens (unc T)

Anemone tenuicaulis (B, unc P, T)

Anisotome aromatica (N, M, O, S, B, P, T) [A. aromatica vars.
aromatica, flabellifolia, incisa, majei, obtusata, & pinnatisecta]

A. deltoidea (N, S)

A. filifolia (M, unc S, unc B, unc P, T)

A. haastii (O, unc S)

A. pilifera (N, M, O, L, S, B, P)

Cardamine sp. (a) (M) (aff. C. corymbosa; plants slender;
fls petalous or apetalous - petalous 4-6 mm diam.) [C.
corymbosa in part]

C. sp. (b) (M, O, L, S, P) (C. debilis agg.; "Long Style" of Pritchard
1957)

C. sp. (c) (N, M, B) (C. debilis agg.; "Narrow Petal" of Pritchard
1957)

C. sp. (d) (M) (C. debilis agg.; "Glossy Leaf" of Pritchard
1957)

C. sp. (e) (T) ("Tussock Race" of Pritchard 1957)

C. sp. (f) (N, M, O, L, S, B, P, T) (lvs mostly simple, occasionally
with up to two pairs of pinnules; blades ± reniform)

- C. sp. (i) (N, M, O) ("Scree Race" of Pritchard 1957)
C. sp. (j) (unc T, C) ("Slender var." of Allan 1961)
C. sp. (undetermined) (M, L, T) (C. debilis agg.)
Cheesemania latisiliqua s.l. (incl. C. gibbsii) (N, M, L, S, B, P, T)
Colobanthus affinis (N, M, O, L, unc S, B, P, T)
Capetalus apetalus s.l. (incl. C. apetalus var. alpinus) (N)
C. canaliculatus s.s. (N, M, O, L, S, B, P)
C. squarrosus (B, P, T) [C. canaliculatus in part]
C. strictus (N, L, P, T)
C. wallii s.l. (incl. C. masoniae) (unc S, unc B, P, T)
C. sp. (b) (N, M, O, unc S, unc B, P) (lvs & sepals strongly aciculate; lvs unbordered; sepals 5, broader than lvs, without a thickened midrib)
C. canaliculatus X C. wallii (unc S)
C. wallii X C. sp. (b) (unc P)
Epilobium brunnescens s.s. (N, unc M, S, B, P, T) [E. pedunculare var. brunnescens]
E. chlorifolium (N, M, O, L, S, B, P)
E. cockayneanum (N, M, O, S, B, P)
E. elegans (unc N, unc S)
E. glabellum s.s. (M, L, S, B, P) [E. erubescens and E. glabellum]
E. gracilipes (N, M, O, L, S, B, P, T) [E. gracilipes and E. gracilipes var. concinnum]
E. linnaeoides (M)
E. margaritiae (unc B)
E. matthewsii (L)
E. natteroides (T) [E. pedunculare var. viride]
E. pernitans (unc S)
E. pubens (N, L, unc B, unc P, C) [E. pubens and E. pubens var. strictum]
E. vernicosum (N, M, S, B, P, T)
E. sp. (d) (N, M, O, L, S, B, P, T) (included in E. brunnescens, as ssp. minutiflorum, by Raven and Engelman, 1971) [E. pedunculare

var. minutiflorum]

E. glabellum X E. vernicosum (M)

Euphrasia cheesemani (M, O, L, B)

E. townsonii s.s. (S, unc B)

E. zelandica agg. (unc S, unc B, P, T)

E. sp. (a) (M, O, S, unc B, P, T) (aff. E. laingii) [E. laingii in part]

E. sp. (m) (B) (aff. E. petrici; calyx with glandular hairs; corolla pure white; lobes orientated to form a flat surface)

Forstera mackayi (unc N, S, T)

F. sedifolia s.s. (unc N, unc T)

F. tenella (unc N, unc M, O, S, B, P)

Galium perpusillum s.s. (N, M, O, S, B, P, T)

G. trilobum (T) [G. tenuicaule]

Gentiana bellidifolia (unc N, O, L, S, B, P, T)

G. filipes (N, M, O, L, S, unc B, P, unc T)

G. gracilifolia s.l. (incl. G. vernicesa) (S, B)

G. sp. (f) (C) (aff. G. montana, but usually biennial, rarely perennial, and multi-branched from base)

G. sp. (g) (M, L, S, unc B, P, T) (aff. G. eorymbifera, but stems usually multi-branched)

Geranium sessiliflorum var. novae-zelandiae (N, unc M, P, T)

G. sp. (e) (N, M, O, L, S, B, P, T, C) (aff. G. microphyllum) [G. microphyllum in part]

Geum laiospermum (M, unc B, unc P, C)

G. sp. (a) (N, M, O, L, S, B, unc P, T) (G. parviflorum agg.; stock short; terminal lft about as long as broad; fls up to 13 mm diam.) [G. parviflorum in part]

Gingidia decipiens (N, M, O, L, S, B, P, T) [Angelica decipiens]

G. montana (O, L, unc B, P, T) [Angelica montana]

G. decipiens X G. montana (unc L)

Gonocarpus aggregatus (M, C) [Haloragis depressa]

- Hydrocotyle elongata (unc T)
H. heteromeria (M, T) [H. americana var. heteromeria]
H. microphylla (N, M, B, P)
H. moschata (N, unc B, unc P)
H. sulcata (M) [H. tripartita in part]
H. sp. (a) var. (a) (M, O, S, B, P, T) [H. novae-zeelandiae var. montana]
Kellera dioffenbachii (unc S, unc B) [Drapetes dioffenbachii]
K. laxa (S, unc B, P, C) [Drapetes laxus]
K. multiflora (unc N, M, S, B, P) [Drapetes multiflorus]
Mantha cunninghamii (unc N, M, B, T, C)
Montia fontana s.s. (M, T)
Myosotis brockiei (unc N, unc B)
M. eoncinna (unc T)
M. forsteri (M)
M. macrantha (N, M, S, B, unc P, T)
M. sp. (b) (M, O, unc L, unc S, P, C) (M. australis egg; fls small, white)
M. sp. (c) (L, S, B, P) [M. pygmaea var. drucei]
M. sp. (e) (T) (M. australis egg; fls yellow)
Neopaxia sp. (b) (M, T) (described as Claytonia calycina by Colenso 1896) [Claytonia australasica in part]
Nerteta ciliata (S, B, P)
N. sp. (a) (M, S, C) (aff. N. dichondrifolia but hairs present on both surfaces of lf, straight, not hooked) [N. dichondrifolia in part]
Notothlaspi sp. (b) (M, S, B, P, T) (N. australe auct., non Thlaspi australe Hook. f.) [N. australe]
Oreomyrrhis colensoi s.s. (incl. O. colensoi var. hispida and O. colensoi var. multifida) (N, M, O, L, S, B, P, T)
O. sp. (d) (N, M, S, B, P, T, C) (aff. O. ramosa) [O. ramosa in part]
Oreoporanthera alpina (B) [Poranthera alpina]
Ourisia caespitosa ssp. caespitosa (T)
O. lactea ssp. lactea (N, M, O, L, S, B, P, T)
O. simpsonii (L) [O. sessilifolia var. simpsonii]

Oxalis exilis (unc B, unc P) [O. corniculata var. ciliifera and
O. corniculata var. microphylla]

O. magellanica (N, M, O, S, B, P, T, C) [O. lactea]

Parahabe dactora (unc N, T)

P. linifolia ssp. linifolia (O, B, P, T)

P. lyallii (unc N, O, L, B, T)

Phyllachna clavigera s.l. (incl. P. colensoi) (S, B)

Plantago lanigera / P. novae-zealandiae (unc N, M, S, unc B, T)

P. raoulii (M, O, S, B, P, T)

Pratia angulata (N, M, O, S, B, P, T)

Psychrophila novae-zealandiae (N, unc M, S, unc B) [Caltha novae-zealandiae]

Ranunculus affos (N, M, unc B, P, T, C) [R. hirtus in part]

R. foliosus (N, unc S, T) [R. foliosus, R. inisetus, and R. perrectus]

R. insignis (N, M, O, L, S, B, P, T) [R. insignis, R. lobulatus, and
R. monroi]

R. membranifolius (M, unc S, unc B, T) [R. hirtus in part]

R. mitus (M, O, L, S, B) [R. hirtus in part]

R. reflexus (C) [R. hirtus in part]

R. verticillatus (N, M, S, unc B, P, T) [R. clivalis]

R. sp. (c) (N, M, P, T, C) (described as R. lappaceus var. macro-
phyllus by Kirk 1899) [R. lappaceus in part]

R. sp. (undetermined) (M)

Schizaelema colensoi (C)

S. roughii (unc T)

S. trifoliolatum (M)

S. sp. (a) (L, S, B, T) (described as S. haastii ssp. cyanopetalum
by Domin 1908) [S. haastii var. cyanopetalum]

Scleranthus brockiei (unc N, O, L, S, unc B, P, T)

S. uniflorus (M, L, unc B, P)

Stellaria decipiens s.l. (incl. S. parviflora) (M, O, L, S, unc B, C)

S. gracilentia (unc N, P)

Urtica incisa (N, M, O, S, B, P, T, C)

Viola cunninghamii (N, M, S, B, P, C)

V. filicaulis (M)

V. lyallii (unc N, M, O, B, P, T)

Wahlenbergia albomarginata var. albomarginata s.l. (ind.)

W. brockiei and W. pygmaea var. laxa (N, M, O, L, S, B, P, T)

No. of indigenous species listed for each area:

Benson (N) : 152

Mytton (M) : 221

Olive (O) : 105 (area not fully investigated)

Loveridge (L) : 101

Sodom (S) : 225

Baldy (B) : 212

Patriarch (P) : 187

"Turks Cap" (T) : 175

Cobb (C) : 58

ADVENTIVE PLANTS (c. 35 SPECIES)

MONOCOTYLEDONOUS HERBS

GRASSES

Agrostis capillaris (M, B, unc S)

Anthoxanthum odoratum (M, L)

Dactylis glomerata (M, L, B, T)

Festuca arundinacea s.l. (T)

F. nigrescens (M, L, T)

Holcus lanatus (M)

Poa annua (B, unc S)

P. pratensis (M, L, B, T)

SEDGES

Carex ovalis (M, B)

RUSHES

Juncus articulatus (M)

J. conglomeratus / J. effusus (M, B, unc S, T)

J. conglomeratus (unc S)

J. effusus (M, B)

DICOTYLEDONOUS HERBS

COMPOSITES

Achillea millefolium (M)

Cirsium arvense (B, T)

C. vulgare (B, T)

Hieracium lepidulum (L, T)

H. pilosella (L, unc B, unc S, T)

H. prealtum (T)

H. sp. (undetermined) (L, unc B, unc S)

Hypochaeris radicata (M, L, B, S, T)

Leucanthemum vulgare (unc M)

Mycalis muralis (M, L, B, S, T)

Senecio jacobaea (M, unc B, T)

Taraxacum officinale s.l. (L, unc B, T)

DICOTYLEDONOUS HERBS OTHER THAN COMPOSITES

Arenaria serpyllifolia (M)

Cerastium fontanum ssp. vulgare (M, L, B, S, T)

Digitalis purpurea (B)

Linum catharticum (S, T)

Myosotis laxa ssp. caespitosa (M)

Plantainella vulgaris (M, L)

Rumex acetosella (M)
Sagina procumbens (B, unc S, T)
Stellaria media (B)
Trifolium repens (M, L, B, S, T)
Veronica arvensis (L, B, T)
V. serpyllifolia (T)
V. sp. (undetermined) (M)

No. of adventive species listed for each area:

Benson (N) : (adventive spp. were not listed)
Mytton (M) : 21
Olive (O) : (adventive spp. were not listed)
Loveridge (L) : 14
Sodom (S) : 11
Baldy (B) : 20
Patriarch (P) : (adventive spp. were not listed)
"Turks Cap" (T) : 20
Cobb (C) : (adventive spp. were not listed)

RECORDS NOT ACCEPTED

Cassinia leptophylla (Williams 1993)
Helichrysum coralloides x H. parvifolium (Simpson 1969, as
H. selago)
Chionochoila flavescens (Williams 1993)
Festuca matthewsii (Williams 1993)
Euphrasia laingii (Williams 1993)
Geranium microphyllum (Williams 1993)

APPENDIX: VOUCHER SPECIMENS FOR UNNAMED TAXA

Aristotelia fruticosa var. (a)

Coprosma pseudocuneata ssp. (a)

C. sp. (b)

C. sp. (d)

C. sp. (h)

Hebe cockayneana var. (d)

H. haastii var. (a)

H. sp. (j)

H. sp. (r)

Helichrysum intermedium var. (a)

Meliccytus sp. (a)

M. sp. (f)

Olearia ilicifolia var. (a)

O. nummulariifolia var. (a)

Pimelea sp. (b)

Rubus cissoides var. (a)

Asplenium sp. (a)

Blechnum sp. (b)

Pterostylis sp. (a)

Agrostis sp. (b)

Chionochoa sp. (a)

Elymus sp. (a)

Festuca sp. (a)

F. sp. (b)

Trisetum sp. (a)

Carex sp. (a)

C. sp. (b)

C. sp. (c)

C. sp. (d)

C. sp. (f)

Uncinia sp. (b)
Astelia sp. (b)
Celmisia sp. (a) ssp. (a)
C. sp. (b)
Craspedia

x

close
up.

Apl. var. (a)

Pseudognaphalium sp. (b)
Aciphylla sp. (c)
Cardamine sp. (a)
C. sp. (b)
C. sp. (c)
C. sp. (d)
C. sp. (e)
C. sp. (f)
C. sp. (i)
C. sp. (j)
C. sp. (undetermined)
Colobanthus sp. (b)
Euphrasia sp. (e)
Gentiana sp. (f)
G. sp. (g)
Geranium sp. (c)
Gaum sp. (a)
Myosotis sp. (b)
M. sp. (e)
Nertera sp. (a)
Notolhaspi sp. (b)
Oreomyrrhis sp. (d)
Ranunculus sp. (undetermined)

* voucher not from indurated limestone areas but from elsewhere in NW Nelson mountains

