Plant Life on Banks Peninsula

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Hinewai Reserve, Banks Peninsula

New Zealand

Cromwell, New Zealand
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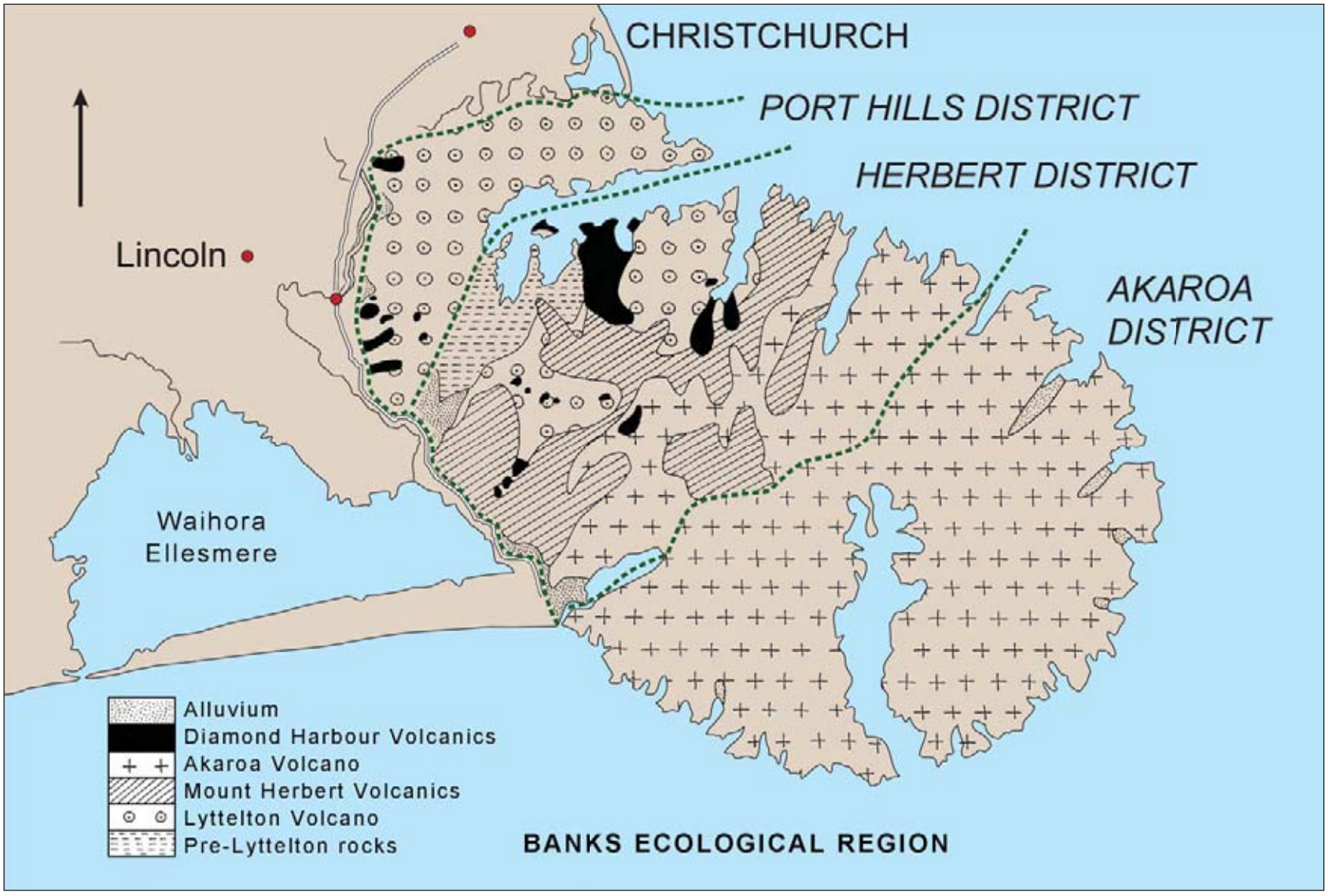


Figure 2.1 Simplified geological map of Banks Peninsula (after Weaver, Sewell and Dorsey 1985).

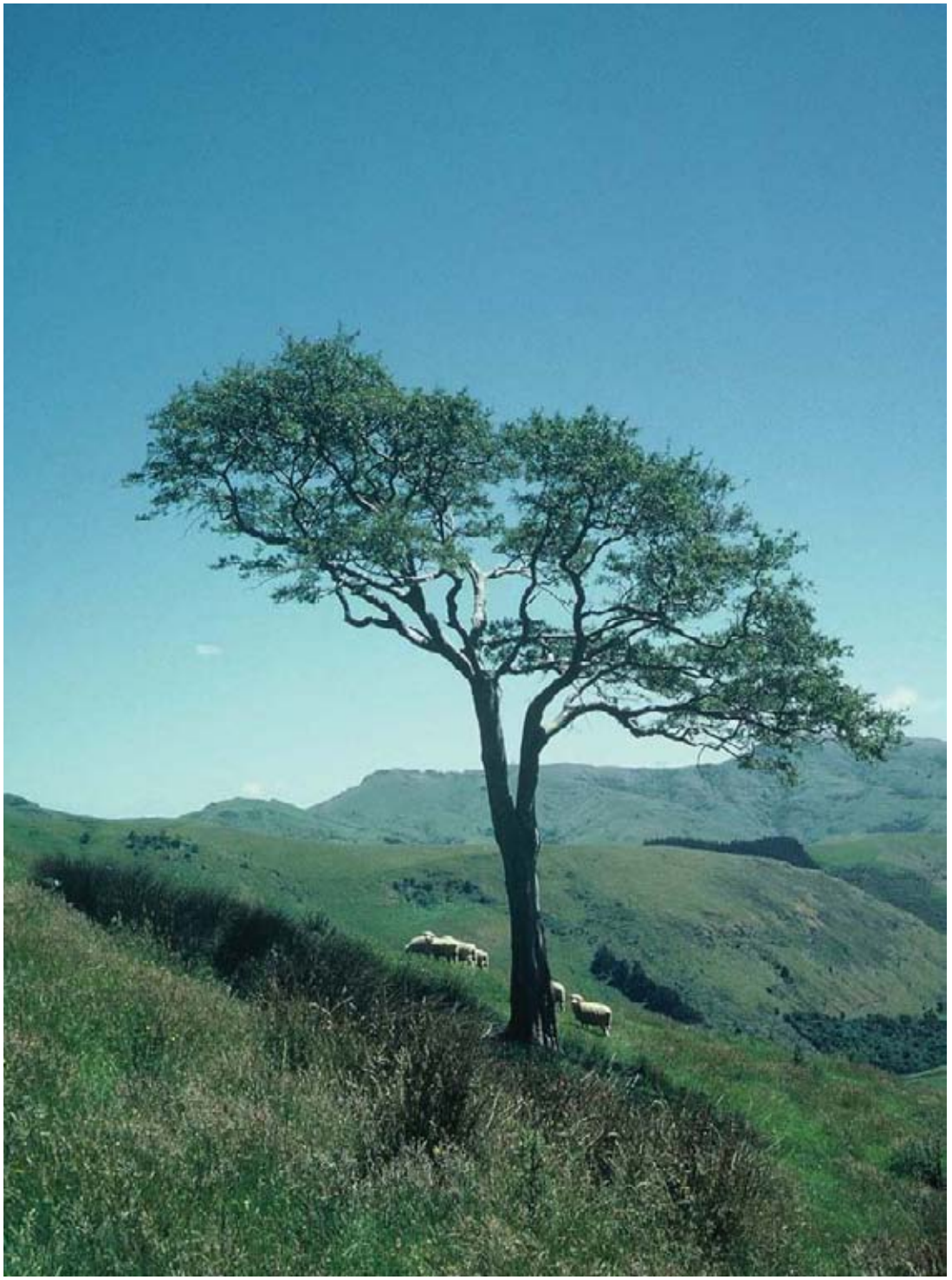
lava flows from the Mount Herbert centres. Towards the end of activity at Akaroa, trachyte was extruded through cracks in the cone, forming a radiating pattern of dykes and domes. Onawe Peninsula owes its existence to the erosion-resistant mass of plutonic rock at its tip, which presumably represents the remnants of a main lava conduit in the throat of the volcano.

As Akaroa Volcano died out, the focus of activity curiously shifted back to the Lyttelton area; new eruptions of olivine-rich basalt and hawaiite (the Diamond Harbour Volcanics) poured from the eroded crater and flanks of the ancient Lyttelton Volcano. They were to be the last flickerings of volcanic fire in the region. Lavas flowed down valleys cut deeply into the much older rocks by millennia of flowing water. From a fissure near the top of Mount Herbert, lava spread down into the Lyttelton crater and across to Quail Island, forming the long, gentle, shallowly-incised slopes between the summit and Diamond Harbour. The youngest flows are 5.8 million years old.

Lower cool-temperate podocarp/hardwood forest on alluvial flats, chiefly mataī, with some kahikatea and lowland tōtara, above a mixed hardwood canopy with abundant tītoki. Prices Valley. July 1984. *HDW*.

Red beech (*Nothofagus fusca*) forest interior, Beech Terrace Track, Hinewai Reserve. Dec. 1989. *HDW*.

Red beech (*Nothofagus fusca*) forest, Hinewai Reserve, at the head of Otanerito Valley. This area of forest is a mosaic of old-growth beech, younger beech (left of centre), and kānuka (*Kunzea ericoides*) with scattered emergent beech. The light-coloured forest under Purple Peak (646 m) is *Fuchsia excorticata*, leafless in midwinter. July 2005. *HDW*.



Ribbonwood (*Plagianthus regius*), one of several browse-tolerant hardwood species which establish on grazed pasture to form park-like treeland. Above Port Levy. December 1984. *HDW*.

26 Pseudopanax crassifolius (Araliaceae) **lancewood**
false "cure-all" (=ginseng, a relative) horoeka
thick-leaved

Small tree up to about 10 m, with bushy rounded head on clean, erect trunk, often conspicuously grooved and fluted on younger adult trunks. Juveniles completely different-looking plants, with very long, narrow, downward-pointing, stiff, tough leaves evenly toothed, tapering to a narrow point, on erect, unbranched, slender stem. Adult leaves much more normal-looking, shorter and wider, but still tough and leathery, the margins toothed or smooth. Flowers small, greenish, in rounded clusters. Fruit (on separate female trees) small (about 4–5 mm diameter), rounded, leathery, turning almost black but with broad apical disc remaining green. FL: Jan–Feb. FR: March–June.

B.P. Common; forest and scrub; from sea level up to about 700 m. Native to: N, S, St.

On some juvenile plants, leaves are curiously marked with a neat pale blotch at the base of each tooth. The conspicuous midrib may be coloured red, brown, orange or yellow, contrasting with the dark green-brown blade.

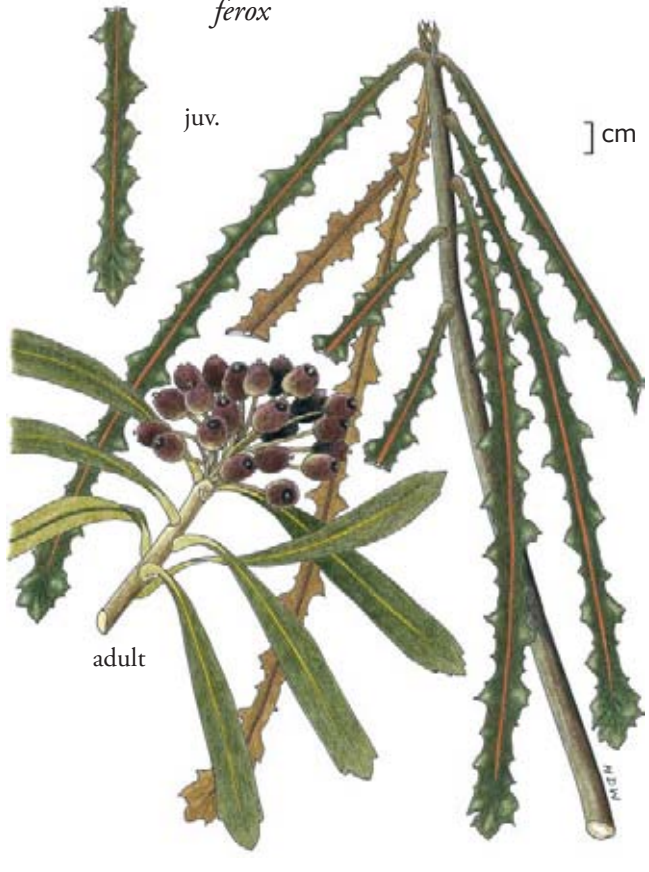
26 *Pseudopanax crassifolius*

+27 Pseudopanax ferox (Araliaceae) **fierce lancewood**
false "cure-all" (=ginseng, a relative)
fierce

Small tree similar to 26, up to about 5 m. Juvenile leaves differ from 26 in having much coarser, broad-based teeth along the margins, the larger teeth often hooked, usually alternating with much smaller teeth, and in having the leaf suddenly flaring into a broad, toothed, often mottled tip. Adult leaves much shorter and wider, margins toothed or smooth, tips often much blunter and broader than in lancewood, sometimes indented. Flowers small, greenish, in rounded clusters. Fruit (on separate female trees) much larger than in 26 (about 8–9 mm diameter), rounded, leathery, turning brown then almost black, without a broad pale apical disc. FL: Dec–Jan. FR: (Feb)—March–June.

B.P. Fairly common; drier forest and scrub, absent from the higher rainfall inland areas of the peninsula; from the coast to about 550 m. Native to: N, S.

27 *Pseudopanax ferox*



HYMENOPHYLLACEAE (HYMENOPHYLLUM AND TRICHOMANES) FILMY FERNS

Filmy fern fronds are beautifully thin, often only one cell thick, translucent when held up against the light, and although some can stand fairly dry conditions simply by curling up and waiting for rain, they grow best in humid forests. Forest clearance on Banks Peninsula since the mid 19th century has been hard on filmy ferns, and none could now be described as common here. Nevertheless, no fewer than 14 species are known to survive on the Peninsula. The two commonest ones are described below, and reference made to some others (see the checklist for a complete catalogue and see also 423).

Worldwide, the Hymenophyllaceae are a large family with more than 600 species. New Zealand has 27.

The crape ferns (see 114) also have very thin, translucent fronds, and young plants are easily mistaken for a *Hymenophyllum*, but they belong to a completely different family (the Osmundaceae).

121 Hymenophyllum multifidum (Hymenophyllaceae) **a filmy fern**
membranous leaf
much-divided

Fronds broadly triangular, small, on Banks Peninsula usually less than 10 cm long, divided into very narrow segments with finely toothed edges (hand lens), arising from slender creeping rhizomes and forming patches, curling up tightly in dry weather. Sori rather obvious if present, sticking up at right angles to the plane of the frond, with two indusial flaps joined for part of their length into a tube (hand lens), with the receptacle within often protruding like a bristle.

B.P. Uncommon; forest, scrub, shrubland and rocks, on the ground or perching on trees, logs or rock outcrops; noted between 400 and 850 m. Native to: N, S, Ch, Sol, St, A, C, Ant. (=*Meringium multifidum*.)

Four more species are similar. *Hymenophyllum bivalve* also has frond segments with toothed margins (hand lens) and is practically indistinguishable from *H. multifidum* if only sterile fronds are found, but on fertile fronds the sori are small and round and do not stand up from the frond. It is known from several upland forest sites, usually on damp forest floors, sometimes as a low epiphyte. *H. demissum* (121b) has completely hairless fronds with *smooth-edged frond segments* (hand lens), frond stalks that are not winged (i.e. without a narrow strip of frond lamina along either side), and small sori mostly *in pairs* at the segment tips. It is known from quite a few wetter forested sites on forest floors or on steep damp banks, or rarely as a low

121 *Hymenophyllum multifidum*

121b *Hymenophyllum demissum*

SOME COLOURFUL WAYSIDE WILDFLOWERS

Brightly coloured flowers growing wild on roadbanks, tracksides and pasture are sure to attract notice. They range in hue from yellow through orange, red and pink to purples and blues. Some of the brightest wildflowers are on shrubs and trees (see those chapters), but this chapter describes a selection of common herbaceous species. Nearly all of them are naturalised exotics, but a few are native; despite a common misconception not all native flowers are white or inconspicuous.

One particularly gaudy assemblage of naturalised exotics is found on coastal cliffs and on steep, dry hillsides near the sea, especially close to Christchurch. These are mostly succulents from Mediterranean-type climates, and have a chapter of their own (see page 211).

YELLOW FLOWERS

229 *Hypochaeris radicata (Asteraceae, also known as Compositae)
Greek name for similar plants **catsear**
long-rooted flatweed

More or less flat, perennial rosettes of dull green, roughly hairy leaves. Flower heads golden yellow, like dandelions, on sparingly branched stalks bearing tiny bracts, not leaves (the stalks often deformed by swellings caused by a parasitic wasp). Seed heads fluffy for wind dispersal. FL: Nov–Feb–(May). FR: Dec–March–(May).

B.P. Abundant; pasture, open shrubland, roadsides, tracksides, disturbed open ground and lawns; sea level up to the highest tops (over 840 m). Native to: Europe and North Africa.

Smooth catsear (**Hypochaeris glabra*, 229b) is common on Banks Peninsula, although much less so than catsear and mostly in drier, thinner, patchier pasture below 500 m (sometimes higher, to around 670 m). It is abundant on Kaitorete, and much commoner there than **H. radicata*. Smooth catsear is a smaller, annual (rarely perennial) plant with shiny, almost hairless leaves and much smaller flower heads that open only in full sunshine.

230 *Crepis capillaris (Asteraceae, also known as Compositae)
a boot (reference unclear) **hawksbeard**
very slender

Erect, almost hairless, annual or biennial herb, variably sized depending on conditions, from 10 to 100 cm tall. Stems branched, bearing leaves. Flower heads yellow, like small dandelions, often rather numerous. Seed heads fluffy for wind dispersal. Achenes without beaks. FL: Any time of year, but mostly Oct–March. FR: Mostly Jan–March.

B.P. Abundant; pasture, shrubland, roadsides, tracksides, disturbed open ground, gardens, lawns; from sea level up to above 800 m. Native to: Europe.

Beaked hawksbeard (**Crepis vesicaria*) is a stouter, stiffly erect, much hairier plant with thicker-textured leaves, and larger, beaked achenes. It is much less abundant than **C. capillaris* on Banks Peninsula, but is locally common on roadsides and disturbed ground.

264 *Cotyledon orbiculata (Crassulaceae) **pig's ear**
cup-shaped
round

Succulent perennial, like a small shrub with short, thick, often branched stem, and round, thick, fleshy leaves more or less whitened with a waxy bloom; leaf edges usually reddish purple. Flowers orange-red, flask-shaped, crisply fleshy, held aloft and nodding on purplish stems (usually also whitened like the leaves with a waxy bloom) up to 50 cm tall; stamens yellow. Seeds small, in dry pouches 2–3 cm long, splitting along one side. FL: Nov–March–(June). FR: (March–April).

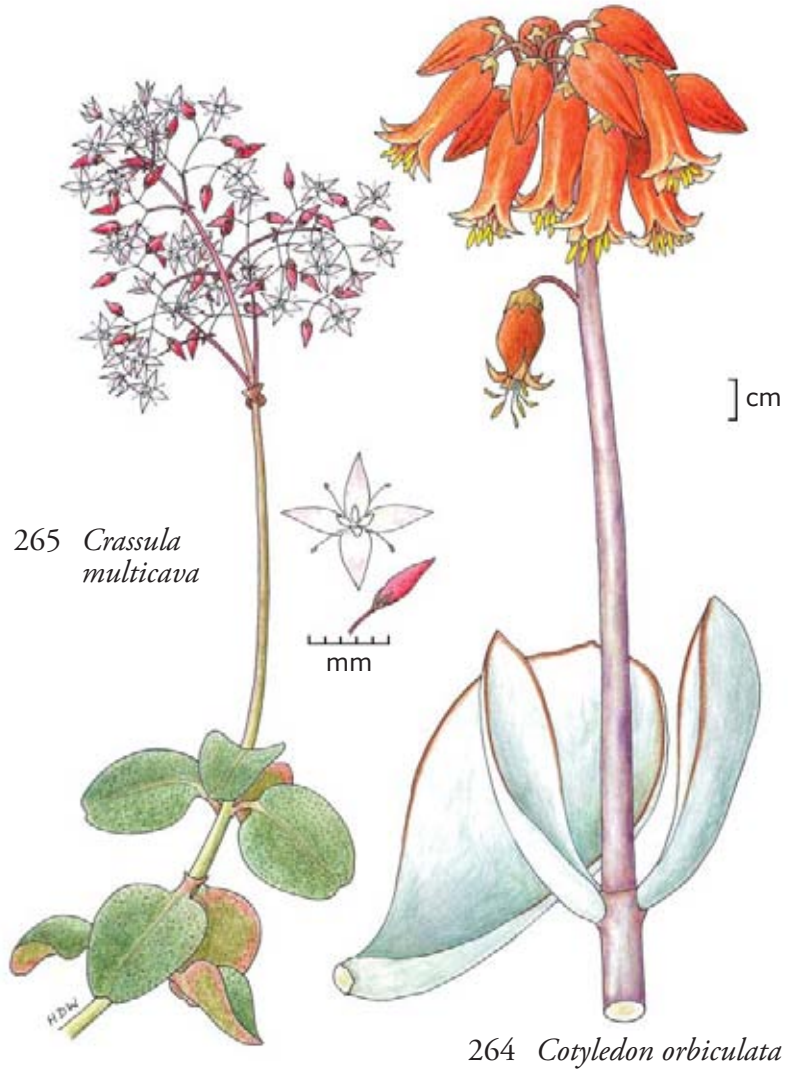
Pig's ear (*Cotyledon orbiculata*), naturalised on the rocky coastline of Port Levy. Late December 1984. *HDW*.

B.P. Locally common and spreading, especially at the eastern end of the Port Hills and around Lyttelton Harbour, but also along northern coasts eastwards to Le Bons Bay and along the south side of the Peninsula near Ellesmere and Kaitorete; mostly coastal dry slopes, rocky ground, banks, rock outcrops and cliffs, occasionally up to about 400 m. Native to: South Africa.

Some plants are greener than usual, having less of the waxy white bloom. Rarely plants are found with much narrower, oblong leaves, looking like a distinct species, but they appear to be just a variant within the round-leaved populations.

265 *Crassula multicava (Crassulaceae) **fairy crassula**
rather thick pitted crassula
many-pitted

Sprawling, hairless, perennial herb, rooting at nodes. Leaves flat, rounded to almost square, about 4 cm across, shortly stalked, thinly fleshy, green or grey-green, often flushed with red, especially towards edges, dotted all over with numerous whitish or reddish glandular spots. Flowers in a loose cluster, each star-like with 4 or 5 triangular petals, about 1 cm across, pink or red in bud, pale pink when open. Seeds not usually produced in New Zealand, but flowers often replaced by small plantlets in branch axils of the flower cluster, capable of growing into new plants. FL: (Aug)–Sept–(Feb).



264 *Cotyledon orbiculata*

B.P. Locally common, mostly at the eastern end of the Port Hills and around Lyttelton Harbour; coastal cliffs, rocky banks and walls, sometimes partially shaded by coastal scrub. Native to: South Africa.

Other *Crassula* species occurring in similar habitats are **C. tetragona* with narrow, peg-like, upturned leaves and tiny, fragrant, white flowers, and **C. coccinea* with flat, green, crowded, 4-ranked leaves and showy, red, shortly tubular flowers crowded into flattish clusters at the ends of the leafy shoots.

A GUIDE TO BANKS PENINSULA'S ENDEMIC PLANTS

(see also *Hebe strictissima,* 66, *Tmesipteris horomaka*, 124c, and *Festuca actae,* 161)

405 Celmisia mackaui (Asteraceae, also known as Compositae)
after Celmis, mythological priest **Akaroa daisy**
after Mackau, French admiral

Tufted, virtually hairless herb with arching and drooping sword-shaped leaves, the single tufts proliferating to form clumps or spreading colonies. Rhizomes of older plants shortly creeping or sprawling just above or just below ground surface, clad in brown remains of old leaf bases, with the living leaves clustered at tips. Leaves soft, often around 50 cm long and 5 or 6 cm across at widest part, gradually narrowing to usually pink-purple leaf stalk, blue-green on upper surface of leaf-blade, paler whitish green on lower surface, but lacking the white felted covering of most other *Celmisia* species. Flower heads handsome daisies 5 or 6 cm across on often purple stalks around 30–60 cm tall; ray florets white, often flushed with pink-purple as they age; disc florets orange-yellow darkening to purple-brown with age. Seed heads hemispherical, pale fawn-brown, fluffy for wind dispersal; "seeds" (achenes) dark brown when ripe. FL: (Dec)–Jan–March–(May). FR: Feb–June.

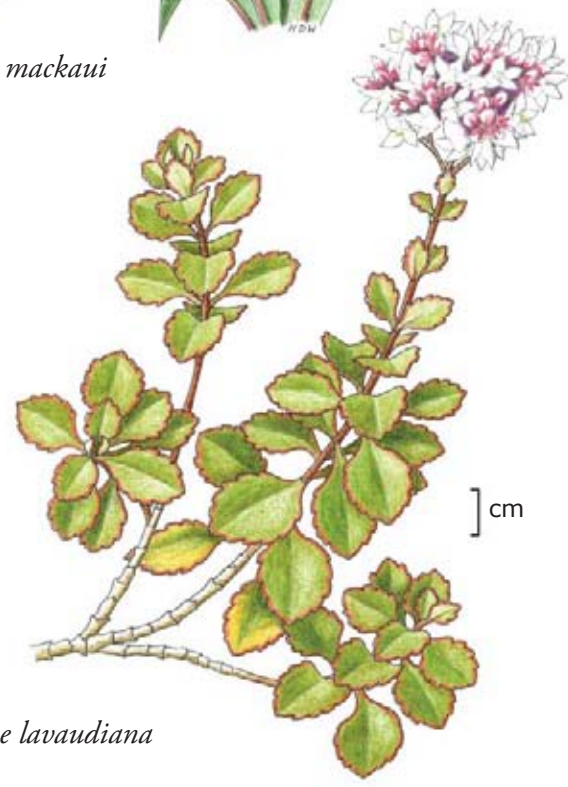
B.P. Local, uncommon, southeast Banks Peninsula east of Akaroa Harbour and south of Takamatua (Fig. 29.32); coastal to subalpine damp to wet cliffs, banks, rock outcrops, waterfalls and snow tussock shrubland, usually on very steep ground out of reach of grazing animals. Native to: S (southeast corner of Banks Peninsula only).

406 Heliohebe lavaudiana (Plantaginaceae, traditionally placed in Scrophulariaceae) **Banks Peninsula sun hebe**
sun hebe
after Lavaud, French ship captain

Short, often sprawling subshrub with ascending leafy shoots, about 5 to 25 cm tall. Leaves rounded, usually 1–2 cm across, flat, leathery, brown-green to dark green on upper surface, often with red margins, hardly glossy, paler green on lower surface; margins with small blunt teeth. Flowers in stalked, neat clusters often 3 or 4 cm across, pink in bud, white when open, each flower around 1 cm across when wide open, 4-petalled. Capsules dark brown, each only a few millimetres across, splitting halfway or more to base to release a few small seeds. FL: Oct–Nov. FR: Jan–Feb.

B.P. Common, somewhat local; rock outcrops, cliffs and rocky banks; mostly above 400 m, but less commonly down to near sea level. Native to: S (Banks Peninsula only). (=*Veronica lavaudiana*.)

405 *Celmisia mackaui*



406 *Heliohebe lavaudiana*