In Search of Pittosporum Dallii

Judith and Graham Patterson, Takaka

DEEP in the mountains of North-west Nelson lies a lonely crescent-shaped glacial lake, around whose head rise the sheer walls of an amphitheatre-like ring of peaks, and into whose side protrudes the rounded ice-worn mass of a granite mountain. Near this lake grows *Pittosporum dallii*, a very rare tree, known until recently only from this immediate locality.

In 1951 four of us determined to seek out this species for ourselves. In Wellington's Otari Garden we had seen a specimen which was one of many collected by the late Mr. F. G. Gibbs, who told us the story of the original discovery as follows:

Although named after J. Dahl, an eccentric gentleman who lived in Collingwood, the first specimen was actually collected by Jack Flowers who ran sheep in the Boulder Lake region. The old geological map of the Collingwood district shows "Flowers' track to Snow's River", and Flowers' route by which he took his sheep from Puramahoi to Boulder Lake is still a well-marked, open track. Flowers found this strange shrub with its sweetly-scented white flowers, and brought a piece back to Dahl and asked him to send it away for identification. Dahl must have been an interesting character. Well-educated and with a library of excellent books on Natural History (he sold his copy of Buller's "Birds" to F. G. Gibbs when short of cash), he lived alone in a small hut in Collingwood. A local resident remembers seeing him with a huge collection of live tree-ferns on the wharf there; they were shipped to New York for planting at an exhibition. *Celmisia dallii* Buch., published in 1882, from the head of the Aorere River, *Carex dallii* Kirk, published in 1894, from the head of the Heaphy River, and *Celmisia parva* Kirk, 1895, also from the Heaphy, were all discoveries of Dahl's, so it was only natural for Flowers to bring his specimen to him. Dahl sent it to Cheeseman, who was engaged at that time (1905) in finishing off his "Manual of the N.Z. Flora". *Pittosporum dallii* was duly described in the appendix of this work when it was published in the following year.

We may not have Mr. Gibbs's story quite right in the finer details, since Cheeseman described only a fruiting specimen and stated "Flowers not seen" and "The flowers are quite unknown". Perhaps Jack Flowers first brought out a fruiting specimen, and on Dahl's request brought a flowering specimen later which may not have been in time to be described in the "Manual". The specimens in Cheeseman's herbarium (in the Auckland Museum) are as follows: (1) "J. Dall. Mountains near Collingwood." No date. A fruiting specimen. This is the one used by Cheeseman for his description

in the 1906 edition of the "Manual". (2) "Mountains near Collingwood. T.F.C." Apparently from Dahl. No date. A flowering specimen. Both labels are in Cheeseman's handwriting.

To continue Mr. Gibbs's story. Dahl refused to tell him where the pittosporum was to be found, but said that if he was prepared to go one day by packhorse and two days on foot he would find the place. Perhaps Dahl intended to go there with Gibbs, but it seems that he died before plans for the trip could be settled. However, Gibbs worked out from method and time of travel that Boulder Lake/Snow's River was the area. He was a great tramper at that time, and knew all this country very well. In 1913 he set out alone, following Flowers' track over Parapara Peak, across Slate River and down into Snow's River. He found the first specimen by its perfume on the slopes opposite Specimen Creek. There were plenty of seedlings and young plants under this tree (there were no deer in that country then), and he brought out many small plants. At Otari, Cawthron Institute, Duncan and Davies nurseries (New Plymouth), and also at Kew Gardens in England, are *Pittosporum dallii* trees originally collected by Mr. Gibbs. To his knowledge only one, which he gave to a Nelson gardener, has ever flowered.

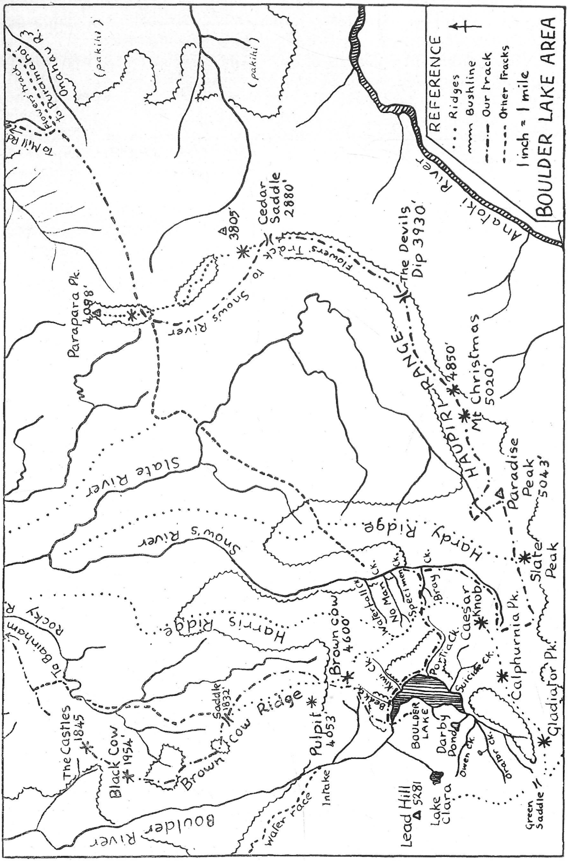
He also carried out a flowering branch and hawked it around the district on the handle-bars of his bicycle, asking settlers if they had seen it before, but no one knew it. Finally he called on Jack Flowers at Puramahoi, who knew it at once and told how he had sent some away years before and had never heard any more of it.

Mr. Gibbs sent one specimen to Cheeseman, which is in the latter's herbarium in the Auckland Museum; and there are two sheets of specimens at the Dominion Museum: (1) D. M. 2094: "Mts. behind Collingwood near Boulder Lake, 3500 ft., in subalpine *Nothofagus* forest. F. G. Gibbs 1912." (2) D.M. 2095 (Herbarium D. Petrie): "Snow's Valley c. 3000 ft. 'Has fragrant white flowers, F.G.G.' F. G. Gibbs early Jan., 1913."

Since those days several interested botanists have made expeditions to Boulder Lake, to see the rare tree for themselves. Most of them have reported a dozen or more old trees and many tiny seedlings, but no plants intermediate in age. My own experience with seedlings collected in the cotyledon stage throws some doubt on previous records, where these have not been checked by cultivation of the seedlings.

The following is a detailed account of our expedition of June, 1951, which may prove helpful and interesting to others who wish to go into this region.

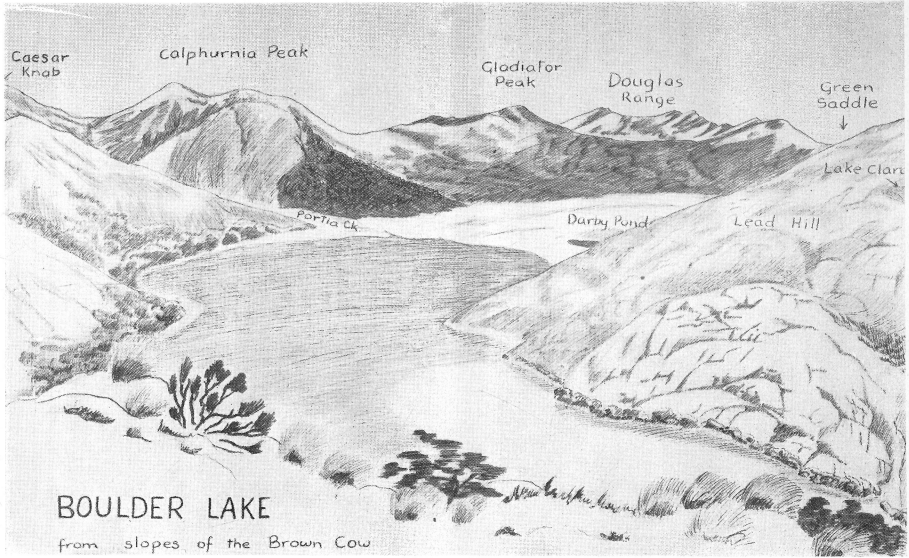
We started off from the swing bridge at Bainham which crosses the Aorere River. On a clear track we climbed through pakihi for about three hours until we reached the bush-line, then through beech forest for half an hour to reach a small clearing in which is a well-


BOULDER LAKE AREA
REFERENCE
Ridges
Bushline
Our track
Other Tracks
1 inch = 1 mile
Anatoki River
To Mill Rd
Flowers Track
to Puramahoi
Onahau R.
(pakihi)
(pakihi)
Parapara Pk. 4098'
3805'
Cedar Saddle 2880'
Flowers Track to Snows River
The Devils Dip 3930'
HAUPIRI RANGE
4850'
Mt Christmas 5020'
Paradise Peak 5043'
Slate River
Snow's River
Hardy Ridge
Slate Peak
Harris Ridge
Rocky R.
To Bainham
The Castles 1845
Black Cow 1954'
Saddle 1832'
Brown Cow Ridge
Pulpit 4053'
Brown Cow 4600'
Waterfall Ck.
No Man Ck.
Specimen Ck.
Bray Ck.
Caesar Knob
Calphurnia Pk.
Kiwi Ck.
Beak Ck.
Portiack Ck.
Suicide Ck.
BOULDER LAKE
Darby Pond
Owen Ck.
Gladiator Pk.
Intake
Water race
Boulder River
Lead Hill 5281
Lake Clara
Green Saddle

made sod hut with thatched roof. Species noted in the pakihi: *Gleichenia circinata* as the main ground-cover, the sedge *Cladium teretifolium* forming bright green patches, *Epacris pauciflora* with showy spikes in full flower (this species flowers abundantly most of the year); then, hugging the ground below these taller plants, the grass-lily *Herpolirion novae-zealandiae, Drosera spathulata, Haloragis micrantha, Oreostylidium subulatum* with glandular-pubescent seed capsules, and two or three forms of *Celmisia graminifolia. Quintinia acutifolia* grows abundantly in the forest and layers itself freely, but one rarely finds seedling plants.

Early next morning the Bainham schoolmaster and a friend arrived at the hut to guide us through "the Castles", a treacherous piece of forested limestone country. We took the track which climbs back to the ridge, going through bush, then across a "70 acre" clearing, then through a little more bush into a very small open place. Here the obvious track leads left down to the Rocky River, but we took the concealed track to the right and, following our guides, made our way through the tricky part of the forest with narrow deep ravines and a maze of likely-looking tracks. We were out into open pakihi by 9 a.m., when our guides left us and turned back. Ahead of us stretched the long Brown Cow Ridge. We watched a fern-bird in the manuka for a while; it hopped about inside the bushes, never coming into the open. We dived into forest again and had an arduous scramble, sidling on the left of the Pulpit with snow and fallen trees obscuring the track and making progress slow and difficult. Finally at 3 p.m. we reached open country near the summit of the Brown Cow, where for a short time we had a good view of snowy peaks all around and the Golden Bay Coastline below. We were to have sidled round the Brown Cow Peak at a small knob just below the summit, and thence followed a clear ridge down to the lake, but we chose the wrong knob in the rapidly developing mist and found that we had to crawl across a rocky snow-covered face. The mist was dense by the time we came around into Boulder Lake basin and we could not see the lake or get our bearings, so finally camped on the slope in a patch of stunted forest as darkness overtook us.

The next morning dawned clear, and the lake below us reflected the pink sunlit peaks like a mirror. Darby Pond is a little tarn in a flat at the head of the lake, and Lake Clara is in a small corrie high above on Lead Hill. Boulder Lake drains at its north-western tip by way of a small stream which winds across flat ground for about 200 yards before falling abruptly in a series of waterfalls into a step-like succession of small basins of black polished rock. Finally it runs along a young valley far below the lake level, and becomes the Bouder River. The long thread-like outlet stream of Lake Clara, named Amphitheatre Creek, joins the main stream at the base of the waterfalls. Crossing the upper stream is a rock dam built by gold


Caesar Knab
Calphurnia Peak
Gladiator Peak
Douglas Range
Green Saddle
Lake Clar
Portia Ck
Darby Pond
Lead Hill
BOULDER LAKE
from slopes of the Brown Cow

prospectors in the early days, but blasted open later by graziers who wanted to make use of the grassy flat at the southern end of the lake and the narrow strip of beach around the eastern margin, both of which would have been inundated by the raised water-level. The dam was to provide additional water for a water-race laboriously cut around the low flanks of Lead Hill, the intake of which is about a mile down the Boulder River. The steep, almost sheer slopes of the semicircular ridge which borders the eastern and southern margins of the lake, are clothed with low scrubby forest to about half their height. At our first camp, at the top margin of this forest on the Brown Cow slopes, we noted the following species: mountain beech (*Nothofagus cliffortioides*), silver beech (*N. menziesii*), *Pseudowintera traversii, Cassinia vauvilliersii, Quintinia acutifolia, Pseudopanax lineare, Dracophyllum traversii, D. pubescens, Myrsine divaricata, M. salicina, Sticherus cunninghamii,* and small flat rosettes of shiny green leaves belonging to *Gentiana spenceri.* Higher up in the herbfield we found *Drapetes laxa, Gentiana vernicosa, Celmisia allanii, C. dallii, C. hieracifolia* var. *oblonga, C. spectabilis* var. *angustifolia,* and *C. traversii.* Down at the lake level, on a clay bank bordering the outlet stream, we found a different set of species: *Lycopodium australianum, Drapetes laxa, Epilobium pernitens, Anisotome* sp. (similar to *A. haastii*), *A. aromatica, Plantago* (two forms of the *"P. brownii"* complex), *Nertera granadensis, Forstera bidwillii,* and *Celmisia monroi,* a rather large species recognized by the leaden-coloured upper surface of its thick leaves.

The western shore, where the granite mass of Lead Hill bulges into the lake, is altogether different in character. There we climbed over bare rounded faces, smoothed and scared by glacial movement where the only vegetation is a little moss in the cracks. It seems that the edge of the ice-mass moved over and round the steep knoll nearest the lake-basin, making a small valley-like hollow between it and the main bulk of the mountain. The floor of this hollow contains a small stream and a high herbaceous vegetation, including all the species given in the last list above, together with *Celmisia laricifolia, C. parva* (a new record), and a small green-leaved species of *Drosera* which, though in some ways similar to *D. stenopetala,* may prove distinct. I am indebted to Mr. K. H. Marshall for flowering specimens collected in January, 1955, from higher up Lead Hill, where it grows in association with *D. arcturi.* The flowers are solitary, 15 mm. diameter, with rounded petals and 5 multifid styles, thus differing from *D. stenopetala* (Cheeseman's description). The older leaves are petiolate and similar to those of *D. stenopetala,* but the central younger leaves are broadly oblong with a sirrular disc of glandular hairs at the tip.

Our second camp was in the delta of Portia Creek. The next day we climbed over Brown Cow ridge by way of Portia Creek, and

followed Bray Creek down the other side to Snow's River. Downstream a short distance we located Specimen Creek and counted there eight *Pittosporum dallii* trees, all about the same age with trunks about 6 inches diameter and spreading tops about 10 feet high. The trees are spaced at intervals along the rocky forested creek, and we had to scramble to find them, so may have missed some. There was an abundance of ripe seed on one tree, but the two kinds of small seedlings we collected on the mossy bank beneath it proved, on cultivation, not to be those of *Pittosporum dallii*. We found no young plants or saplings at all, and concluded that the ground beneath the trees was too heavily shaded. The light forest consists of *Nothopanax simplex, Pseudopanax lineare, Gaultheria rupestris, Myrsine divaricata, Hebe salicifolia* and other species, besides *Pittosporum dallii*. Mr. R. H. Simpson of Takaka told us he found two young *Pittosporum dallii* about 12 inches high on the opposite side of Snow's Valley in open tussock land, and from our later discoveries it appears that this species definitely prefers an open well-drained position in its early stages. We had no time to explore Waterfall Creek, and came right down Bray Creek without encountering any more *Pittosporum dallii*. On the open face of the ridge we collected

Boulder Lake, looking north-west from Portia Creek. The lower knoll of Lead Hill is seen in the centre.

the following species: *Exocarpus bidwillii, Drapetes dieffenbachii, D. laxa, Gaultheria antipoda, G. depressa, Dracophyllum traversii, D. pubescens, Cyathodes empetrifolia, Plantago* spp. (*"brownii"* complex), *Gentiana vernicosa, Celmisia hierocifolia* var. *oblonga,* and *C. petriei.*

The next day we set off up Portia Creek again, along the Brown Cow ridge, and diagonally down into Snow's Valley where we travelled upstream on a well-blazed track through patches of forest and snow-grass to the head of Snow's River, and crossing its drainage basin, came out on to the Haupiri Ridge. We followed this Ridge, avoiding Slate River Peak by crossing Hardy Ridge at its junction, where the rock is serpentine, greenish with much twisted laminations. Elsewhere on the Haupiri Ridge the rock is mainly dark and shaly, with odd outcrops of granite in blocky masses forming some of the peaks. By late afternoon we had climbed Mt. Paradise and were aiming for a forested dip in the ridge to make camp, but snow made the going hard so instead we made a sidelong descent to a small patch of bush in the bottom of the Slate River basin, and camped there. There was a huge slab of granite nearby, fallen from the face of the Hardy Ridge far above. It proved a habitat for many interesting plants—*Lycopodium varium, Cheesemania gibbsii, Epilobium* spp., *Aciphylla polita, Schizeilema roughii, Gentiana corymbifera, Wahlenbergia albomarginata, Senecio cassinioides, Traversia baccharoides, Celmisia allanii* and *C. hieracifolia* var. *oblonga.* Frank, scrambling over the rocks to reach this slab, hauled himself out of a jumbled mass of granite blocks by means of a solitary tree which turned out to be *Pittosporum dallii.* That excitement over, we started the long climb back to the previous evening's level on the Haupiri Ridge. On the way up we noticed *Celmisia traversii* and *C. spectabilis* var. *angustifolia* and a few very beautiful specimens that we took to be hybrids between them. The main plants of the ridge are low dense bushes of reddish *Dracophyllum uniflorum. D. traversii* on the ridge top grows only two feet high, but down the forested southern slopes it is taller and more branched. We saw also tiny bushes of *Nothopanax colensoi* var. *montana* in deep crevices, *Hebe macrantha, Olearia colensoi, Raoulia rubra, Celmisia novae-zealandiae, Senecio adamsii,* and *Traversia baccharoides.* The amazing saw-tooth profile of the neighbouring Anatiki Range lay to our right, behind us the mighty bulk of Snowden, and beyond both range after range stretched into the far distance.

After topping Mt. Christmas we dropped in a long series of dips and minor rises to the Devil's Dip, a deep cleft across the range, easily negotiated by reason of a broad, clear sheep-track. A tiny gentian collected from finely-broken rock above the Devil's Dip remains unidentified and may prove to be a new species (specimen B.D. 75668). A long pull through scrubby forest up the other side

brought us to an open summit where we made our final camp amid dracophyllum scrub and low stunted beech, with enough snow to add charm and chill to the scene. We could see the Takaka Valley below, and across Golden Bay far out to sea. By the clear light of early morning we saw Egmont's faint outline beneath a bank of cloud on the ocean horizon.

We were on our way again at 8.30 a.m., following the ridge, first down through manuka to a forested saddle, then up through more manuka and down again to Cedar Saddle at 10 a.m. Here we left the track to find a water-hole downhill to the left. It was cold in the saddle and we soon started on again, sidling through beech forest across a broad hill-face to the left of the ridge. Big trees of *Coprosma linearifolia* were frequent. At 1 p.m. we thankfully reached the lower peak of Parapara, from which a long spur runs steeply down to Puramahoi. This was the most tiring part of the day and it was dark by the time we reached the new mill road at the foot of the spur.

In December of the same year, Graham went to the Cobb Ridge in search of *Pittosporum patulum*, of which he found several small trees in full flower. To his astonishment he also found two large *Pittosporum dallii* trees, one in forest beside the road that runs along the ridge to the quarry, the other at the edge of the wide, bulldozed clearing where the concrete-mixing plant stands, hard up against a workman's hut. The former tree, about 16 feet high with a trunk 6 inches in diameter, is out of harm's way at present; but greatly to our regret, on a more recent visit to the Cobb Ridge we found the bulldozed area widened, the hut gone, and the second tree upturned over the bank with its roots in the air. It was a well-shaped tree 10 feet high, with the typical flat-topped head of leafy branches on a smooth bare trunk. As compensation for this loss, however, we were delighted to discover a considerable number of young bushes between 6 and 24 inches in height growing in the clay banks cut by the bulldozer on either side of the road, between the power house and the summit of the Cobb Ridge. Our conjecture is that they have grown from seed since the road was opened up (1940-41), and that the seed may have been lying dormant for some years, waiting for sufficiently open conditions. Much searching in the forest on either side of the road has not revealed any specimens other than those hanging precariously, and in danger of further bulldozing, on the clay banks of the road. To date none of us have managed to visit the Cobb Ridge at the precise time when *Pittosporum dallii* flowers, though we have found seed on the biggest tree.

While fossicking among unidentified miscellaneous specimens in the Dominion Museum herbarium, not long after my return from

Boulder Lake, I came across a leafy branch which I recognized as *Pittosporum dallii.* The label enclosed with the specimen reads: "Pelorus Sound in bush. Landall, April 1941". This highly interesting locality-record would be well worth checking on, to be sure that the label really does belong to this specimen. Can readers trace the collector "Landall"?

Finally, I was recently told of a verbal report from people who live near Motupiko. On seeing one of Duncan and Davies specimens in a Takaka garden they remarked: "That grows on the hills at Korere. We call it the native rhododendron." This locality also should be checked on by an interested person who knows the species.

(*Note*: Specimens of the species listed in the course of this article are in the herbarium of the Botany Division, D.S.I.R.)

N.Z. Plants Cultivated Overseas

Portugal: "There are many New Zealand species cultivated in Portugal and all of them grow here very well. As examples I can give: *Dicksonia antarctica, D. squarrosa, Cyathea dealbata, C. medullaris, Phyllocladus trichomanoides, Podocarpus hallii, P. totara, Dacrydium cupressinum, Rhopalostylis sapida, Phormium tenax, Cordyline australis, Pittosporum huttonianum, P. crassifolium, P. microcarpum, P. tenuifolium, Clianthus puniceus, Entelia arborescens, Leptospermum scoparium, Metrosideros robusta, M. tomentosa, Griselinia lucida, Corynocarpus laevigata, Libertia ixioides,* etc." (Prof. Joao do Amaral Franco, Lisbon, in a letter to the Dominion Museum).

California: "More than half the total number of trees and shrubs in Golden Gate Park, San Francisco, are of Australian or of New Zealand origin. The six best shrub genera for seaside planting in temperate climes are *Pittosporum, Myoporum, Leptospermum, Acacia, Coprosma,* and *Hebe.* Between 1925 and 1935 Golden Gate Park grew 125 species *Eucalyptus,* 65 of *Hebe,* 35 of *Olearia* ..... . Others from the same region include tree-ferns, *Eugenia, Griselinia,* and *Hoheria."* (Abstract of article by Roy Hudson).