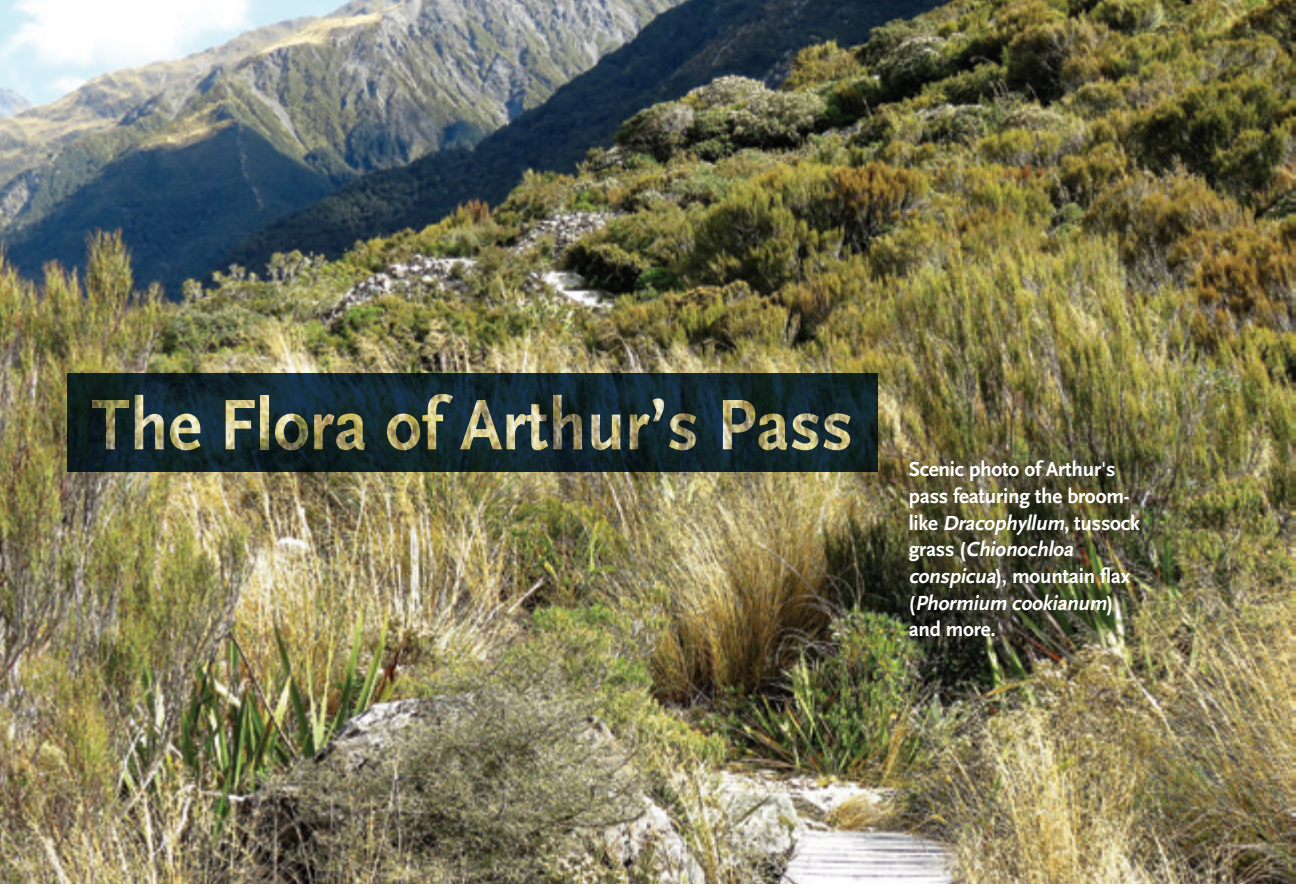


The Flora of Arthur's Pass

Scenic photo of Arthur's pass featuring the broom-like *Dracophyllum*, tussock grass (*Chionochloa conspicua*), mountain flax (*Phormium cookianum*) and more.

A Trip to See the **Arboretum's New Zealand Forest** In Situ

By Janine Anderson

For almost eight weeks in February and March of 2019, my husband Terry LeLievre and I traveled throughout New Zealand—from the northernmost point at Cape Reinga to the southernmost point at Bluff, then even farther south to Stewart Island. That's a distance of about 900 miles, and the variety of flora we encountered in between was remarkable.

One of our most anticipated stops was at Arthur's Pass National Park, in the Canterbury region of New Zealand's South Island. Arthur's Pass was the inspiration for the very first eco-geographic garden in Washington Park Arboretum—the New Zealand High Country Exhibit, created in 1993. This small but dramatic garden was integrated into the larger New Zealand Forest in 2013, and Terry and I were excited to see the "real deal" for ourselves.

Arthur's Pass National Park

Arthur's Pass is a mountain pass in the northern part of the Southern Alps, which run almost the entire length of New Zealand's South Island. It sits within Arthur's Pass National Park, a 700-square-mile protected area of mostly rugged, mountainous terrain. While the tallest peak in the Southern Alps (Mount Cook) is more than 12,000 feet in elevation, Arthur's Pass tops out at around 2500 feet. The drive from the city of Christchurch on the east coast to Arthur's Pass takes about two hours, and magnificent vistas soon come into view as you travel west.

Similar to the Cascade Mountains in Washington State, the Southern Alps have a wetter western side and a drier eastern side. Arthur's Pass summit receives about 160 inches of rain annually, while annual rainfall just nine miles to the east is less than half that amount.

Phyllocladus alpinus (center)

The landscape and flora reflect the differences in climate and elevation. The wetter western mountain slopes support dense rainforest, while the drier eastern slopes are blanketed in forests of southern beech (*Nothofagus*). Tussock grassland and other alpine vegetation are found in between.

On our sunny afternoon arrival at Arthur's Pass, we opted to explore the Dobson Nature Walk at the pass summit. The next day, we spent the morning "tramping" (the Kiwi word for hiking) through beech forest on the Bealey Spur Track, after which the skies opened and it rained nonstop, including all the following day during our drive to the west coast.

Dobson Nature Walk

The Dobson Nature Walk features a variety of alpine herbs, tussocks and shrubs in an open, rocky landscape with beautiful views of the surrounding mountains. Flowers bloom from November to February. Some blossoms lingered during our late summer visit on March 12, but peak bloom was over. However, the expansive views—and the grasses, shimmering in the late afternoon light—compensated for the dearth of flowers.

Terry and I were amazed at how well the Arboretum's New Zealand Forest captures the look and feel of this landscape. Though most of our two-acre forest garden in Seattle is modeled on plant communities found in the mid- to high-elevation zones of the Otago Region, directly south of the Canterbury Region, these two areas are evidently quite similar (with climates roughly matching ours in the Pacific Northwest).

Olearia illicifolia

Plumed tussock grass (*Chionochloa conspicua*), a featured plant in the Arboretum garden, was a dominant species and did sport nice, feathery flower heads. Other grass-like genera in abundance—and also well-represented in the Arboretum display—were spiky *Cordyline*, New Zealand flax (*Phormium*) and *Astelia*.

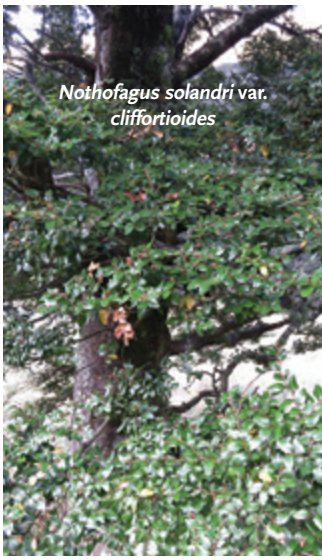
Celery pine (*Phyllocladus alpinus*) was a common shrub. I had become familiar with this odd-looking conifer and its celery leaf-like foliage in the Arboretum, and it was a thrill to be able to identify it in the wild. Daisy-flowering shrubs, such as the endemic mountain-holly (*Olearia illicifolia*), with its serrated gray-green foliage, also abound (four specimens of this species, which the Maori call *hakekeke*, grow in the New Zealand Forest).

Boxleaf hebe *(Veronica odora)*

And, of course, there were lots of hebes (*Veronica*). With over 130 species, hebe is the largest group of native plants in New Zealand. Several species, including *Veronica subalpina* and boxleaf hebe (*V. odora*), dotted the landscape in the subalpine zone of Arthur's Pass. Both of these evergreen shrubs are also very prominent in the Arboretum collection. The former produces dramatic spikes of white flowers in summer, while the latter has lovely, shiny ovate leaves on yellow-green stems.

Author tramping along the Bealey Spur Track. The plant palette is more diverse where the forest opens onto the ridgeline. (Photo by Terry LeLievre)

Pseudopanax crassifolius



Nothofagus solandri var. *cliffortioides*

Celmisia semicordata

Other interesting shrubs not featured in the Seattle garden included the abundant, broom-like *Dracophyllum subulatum*, the dark-purple-berried *Pseudopanax colensoi*, and the leathery-leaved *Brachyglottis rotundifolia*. (Other species of *Pseudopanax* and *Brachyglottis* are planted in the New Zealand Forest.)

Perennials included the lovely mountain daisy (*Celmisia semicordata*), which produces big, thick clumps of silvery, sword-shaped leaves and large, white, yellow-centered daisy flowers. (The flowers had already gone to seed, but the fluffy, round seed heads were attractive in their own right.) The plant is difficult to grow in cultivation, and although it was in the Arboretum's original New Zealand collection, it apparently did not thrive.

Bealey Spur Track

Ten miles east of the Dobson Nature Walk, the Bealey Spur Track offered a stark contrast in landscape and flora. To reach the trailhead, we ascended through a neighborhood dotted with cottages and opportunistic plants that thrive in disturbed areas.

Parts of the hills in this drier area were shrouded in mountain beech (*Nothofagus solandri* var. *cliffortioides*), or *tawhai rauriki* in Mauri, the predominant tree in the eastern valleys of Arthur's Pass. It formed a near monoculture, excluding most other trees. Red beech (*Nothofagus fusca*, or *tawhai raunui*) and silver beech (*N. menziesii*, or *tawhai*) are found several miles west of the summit, where rainfall is heavier.

All three southern beech species are elegant trees with handsome, delicate, evergreen foliage. And they can all be seen in the Arboretum display, though only a few (three mature mountain beeches that were transplanted from the High Country Exhibit in late 2013) are tree-sized. I look forward to watching the other young specimens mature and eventually create two

small forest groves within the larger mosaic of alpine, heath and fen plantings.

One plant growing in the understory of the Bealey Spur Track that really caught my eye was lancewood, *Pseudopanax crassifolius*. The adult tree gets up to about 45 feet and has a standard, rounded crown with short, leathery leaves. But the juvenile form, which can persist for up to 20 years, is dramatically different, with stiff, narrow, sharply toothed purple leaves—up to a meter long and radiating down from a narrow trunk. One theory suggests that the plant evolved this juvenile form to protect itself from the browsing of the moa, a large, flightless endemic bird that is now extinct. This tree is not in the Arboretum collection, but I really wish it were!

Evoking a Distant Landscape

Having witnessed the "real deal" for myself, I can confidently say that the New Zealand Forest in the Arboretum does a wonderful job evoking the upland communities on the eastern side of the Southern Alps—not just the colors and textures of the plant palette, but the larger, regional landscape as well.

The New Zealand Forest is still evolving. As the shrubs and trees in the garden grow and knit together, the drama will increase as well. Arthur's Pass is almost 7500 miles southwest of the Arboretum, and visiting the area is a privilege not everyone will have the opportunity to enjoy. Strolling through the Arboretum's New Zealand Forest is the next best thing to being there.

Janine Anderson, CPH, is an award-winning Pacific Northwest-based landscape designer (www.northbeachlandscapes.com), garden writer, speaker and member of the "Bulletin" editorial board.

Acknowledgments

I am grateful to Sean Hogan of Cistus Nursery (www.cistus.com) for assistance with plant identification. Sean's Portland-area nursery grew the plants for the New Zealand Forest, using seed he and his employees wild-collected on the South Island.

DEVELOPING THE NEW ZEALAND COLLECTION

Tussock grasses on the Pisa Flats. (Photo by Kyra Matin)

In February 2019, temporary gardener at the Arboretum Kyra Matin traveled to New Zealand as part of her Masters of Environmental Horticulture thesis project at the UW School of Environmental and Forest Sciences. There, she completed a horticultural internship at the Dunedin Botanic Garden and collected wild, native plant seed for the Arboretum's New Zealand Forest.

She collected in the Central Otago and Queenstown Lakes districts (both part of the larger Otago Region), west of Dunedin, and sent back 10,000 seeds from more than 30 different plant species. Some of these seeds have been propagated at Far Reaches Farm, Port Townsend, in preparation for planting in the Arboretum.

Kyra's thesis, completed in August, is a detailed resource for the development of the New Zealand Forest collection. Through her on-site research, she was able to make recommendations on new plants to add to the garden; specific methods for collecting, cleaning, and storing seeds of New Zealand flora; and future sourcing of seed.

"It also provides detailed information about traditional Maori uses of plants," says Kyra, "and highlights the opportunity we have to use the New Zealand Forest as a place for sharing indigenous cultural information." Thanks Kyra!

—Niall Dunne