

New Zealand Plants *and their* Collectors



TEXT AND PHOTOGRAPHS
BY WALT BUBELIS

The land on the Sea-Coast is high with steep cliffs, and back inland are very high mountains....the face of the Country is of a hilly surface and appears to be clothed with wood and Verdure.

—CAPTAIN COOK'S JOURNAL, 8TH OCTOBER 1769

The Washington Park Arboretum (WPA) has had examples of New Zealand flora for many decades, most of them integrated into the larger collection according to families. With the inception of the Pacific Connections Gardens in October, 2010, plants were grouped geographically (in this case, representative of all New Zealand, but with the upcoming New Zealand Forest focusing on the southwestern portion of the South Island). Coming in the spring of 2013, additional plants (over 10,000, mainly seed-collected in the wild and grown for the WPA) will be planted in seven areas representing ecozones of New Zealand. They are: Mountain Tussock, Mountain Beech, *Griselinia* Bush, Silver Beech, *Hebe* Heath, Snow Tussock and *Phormium* Fen.

As many of these plants are already in local gardens (with new introductions forthcoming) this article pays homage to some of the explorers of various backgrounds who collected them and brought them to the attention of the botanic world. Of necessity, this is a representative slice of the explorers, many of whom often combined very different careers with their botanical explorations, some of them dying in the effort. Current Arboretum plants are notated as WPA-1, forthcoming plants (to be introduced in Spring of

LEFT: *Raoulia subsericea*

INSET: *Nothofagus solandri* var *cliffortioides*



2013) as WPA-2. Note that the genus *Hebe* has been changed to *Veronica*; for the purpose of this article, the term *Hebe* will be utilized, as most gardeners are familiar with it, at least as a common name.

Plant collecting in New Zealand began in October 1769 with Captain James Cook's expedition, although the first European explorer to discover New Zealand was the Dutchman, Abel Janszoon Tasman, in 1642. On board Cook's ship were the botanist Joseph Banks and the naturalist Daniel Solander. Cook went to the Pacific with two sets of instructions: first, to study the transit of Venus and second (a secret) to search for the elusive "southern continent" (now known as Australia).

Tasman and Cook had been preceded in "discovering" New Zealand by the Polynesians, evidently around 1280; their descendants are known today as the Maori. Cook, who was the first European to circumnavigate and map the coast of New Zealand, anglicized Tasman's Nieuw Zeeland (after the Dutch province of Zeeland) to New Zealand.

Independently wealthy, Joseph Banks (later, Sir Joseph Banks; 1743-1820) brought along on Cook's ship, the Endeavour, a retinue of nine servants; four draughtsmen; artists, including Sydney Parkinson; and one of Linnaeus's students, Daniel Solander.

When Cook's party landed on what came to be called Poverty Bay on the North Island,

ABOVE: *Phormium colensoi*

the Maoris resisted them; skirmishes broke out on two later occasions, during which two Maoris were killed. Cook kept trying to find both a good harbor and receptive natives. After two weeks, he succeeded farther up the coast in Anaura Bay (which Cook called “Tegadoo”). Here, Banks and Solander began collecting plants. Including ones collected on other sites, the number eventually totaled 433 specimens.

Once back in England, they prepared to publish their results. At his own expense, Banks had 700 plates engraved on copper; Solander revised his manuscripts and arranged them systematically. But here progress on “Primitive Flora Novae Zealandiae” stalled for over two centuries; their second planned voyage with Cook was dropped due to Cook’s unwillingness to accommodate all of Banks’ scientific apparatus. And with Solander dying unexpectedly in 1782, Banks perhaps became pre-occupied with his duties at Kew, and as President of the Royal Society (later, the Royal Horticulture Society). It was not until recently that the British Museum picked up the work and issued it in manuscript form.

Banks and Solander did go on one more joint expedition, to Iceland, on Bank’s initiative after the second voyage to the Pacific was canceled. Solander was commemorated by Banks with *Nothofagus solanderi* (WPA -1) and *Olearia solandri*. As one of the southern beeches, this *Nothofagus*—or mountain beech—is an evergreen shrub or tree that grows to 60 feet and up to timberline in a shortened form. As with other members of this genus, the false beech name alludes to nuts resembling beech nuts that are produced, in this case, three per fruit capsule.

Even during the Napoleonic Wars, Britain and France competed with each other for naming rights of plants as well as in exploring distant lands. New Zealand continued to be a botanical destination from this point onward with visits by the British, the French and the Americans—all of the expeditions being government sponsored.

French explorers first landed in New Zealand in 1769, but this trip and an expedition in 1772

produced no botanical collections. An 1824 survey did include two naturalists—Lieutenant D’Urville and M. Lesson. Both collected specimens at that time, but it was in 1827, when they returned to New Zealand, that they began collecting in earnest. Their results were published in 1832, with Achille Richard (1794-1852), one of the foremost botanists of the day, being responsible for seeing it to press. One of the pampas grasses, *Cortaderia richardii* (WPA-1)—a small, elegant and well-behaved form of this genus—is named for Richard.

The French reappeared in 1840 with Etienne Fiacre Louis Raoul (1815-1852) on board both as a surgeon and as a botanist. He was the first botanist to explore the eastern side of the South Island, where he discovered many new plants. J.D. Hooker of Kew paid him recognition by naming the genera *Raoulia* and *Hebe* (*Veronica*) *raoulii* for him. *Raoulia* is seen in Pacific Northwest gardens; it is such a low, tight-growing groundcover that it feels rubbery to the fingers. We can also thank Raoul for discovering the broadleaf shrub/small tree *Grisilinia littoralis* (WPA-1 and 2).

Grisilinia is found not only in New Zealand but also in South America; it ranges from Chile to Argentina and southeast Brazil. *Grisilinia littoralis*, or *kapuka* in Maori, is a small-to medium-sized broadleaf evergreen growing up to 60 feet but more typically staying in the 15 to 25 foot range. It is a highly glossy-leaved plant previously classified in the dogwood family but now in its own family (Grisiliniaceae). It withstands salt spray in coastal settings. Various variegated cultivars can be found. The WPA features old specimens; new ones will be set in both the *Phormium* Fen and in the *Grisilinia* Bush gardens.

A name familiar to Pacific Northwesterners is Archibald Menzies, who appeared in New Zealand in 1791, serving onboard as surgeon during Captain Vancouver’s circumnavigation of the world. Earlier, in 1786, Banks had recommended Menzies to the Admiralty to act as surgeon on a three-year voyage to the Pacific



Griselinia littoralis 'Dixon's Cream'



Northwest, the Sandwich Islands (Hawaii) and China. Menzies collected plant specimens for Kew. He is remembered in such plants as our madrona (*Arbutus menziesii*); the Douglas fir (*Pseudotsuga menziesii*), which he documented on Vancouver Island in 1791 (with David Douglas introducing it into cultivation in 1827); and in the shrub, *Menziesia*, a member of the Ericaceae known as false azalea.

Americans visited both the Bay of Islands and the Auckland Islands as part of the American Exploring Expedition (“Ex Ex” for short; 1838-42), whose mission was to explore and map the Antarctic and islands of the South Pacific. Collecting was done by the several naturalists in the group and, once back in America, given over to Asa Gray of Harvard, the preeminent American botanist of the day. One publication on the phanerogams (plants that reproduce by means of seeds and not spores) resulted from this epic voyage.

The Ex Ex also explored the west coasts of South and North America, including the Columbia River up to modern-day Portland and Puget Sound. Many local landmarks bear names given by Charles Wilkes, the captain of the expedition, two examples being Eagle Harbor and Port Ludlow. Much of the Expedition’s collections of plants, animals and artifacts became the basis of the newly formed Smithsonian Institution and the U.S. Botanic Garden.

Following closely on the heels of the Ex-Ex was the Antarctic Expedition (1839-41) of Captain James Ross of England. He, too, was to collect plants, as well as explore and map the Antarctic continent. On both the Auckland Islands, and later the Bay of Islands, Joseph Dalton Hooker (1817-1911) made the most of the short time (less than a month at each site) spent there.

A turning point in botanical discovery was realized in 1841. Hooker met William Colenso

ABOVE: *Griselinia littoralis*

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at the Bay of Islands when Captain Ross returned to New Zealand. Located at the tip of the North Island, this bay was named by Captain Cook in 1769 and became a convenient anchorage thereafter. Hooker proceeded to explore with Colenso and gave him invaluable instruction on proper collecting procedures. Thereafter, further plant exploration was made almost entirely by the colonists themselves.

Colenso (1811-99) was an avid explorer and botanist, acknowledged as such by Hooker, who named a number of plants in recognition of him. The Church Missionary Society of London sent Colenso to the Bay of Islands to run a small printing press. Underfunded and ill-equipped, he showed great ingenuity in printing various Biblical tracts and prayer books in Maori. His rapid grasp of the Maori language aided him in travelling into remote areas.

Although he received some additional botanical training in 1838 from the Australian government botanist Allen Cunningham, Colenso's approach—at times stuffing specimens down his shirt front—was less than orthodox. An earlier visit by Charles Darwin on the *Beagle* in 1835, and contact in 1841 with Hooker, gave him further inspiration. After leaving printing, he was ordained as a deacon. As his parishes covered a huge territory, he continued to collect as he made his way through the mountains. He later entered politics, which was not his forte, as he displayed a lack of tact and an inability to listen and compromise. Three plants named by Hooker for Colenso are represented here: *Phormium colensoi* (WPA-1), *Poa colensoi* (WPA-2) and *Pseudopanax colensoi* (WPA-2).

Phormium colensoi (WPA-1), and its many hybrids and cultivars, is suitable for the smaller garden, since its stiff leaves reach just half the height of *P. tenax* (six feet vs. 15 feet). Known as mountain flax, it appears hardier than *P. tenax* at the Arboretum, having survived some recent severe winters without damage, whereas most of the *P. tenax* succumbed. Conditions for growing are full sun and moderately fertile and moisture-retentive soil that is also well-drained—

which is especially important in our wet winters. Like Hooker before him, Colenso made note of how the Maoris made use of the fiber for clothing, mats and rope.

The New Zealand fescue, *Poa colensoi* (WPA-2), should come to prove in the future as attractive as other blue-leaved fescues already found in Pacific Northwest gardens. This particular one is widespread in New Zealand, ranging from the lowlands to high-alpine areas often associated with *Celmisia viscosa* and *C. sessiliflora*, *Aciphylla hectori*, *Kelleria dieffenbachii*, *Luzula rufa*, *Anisotome flexuosa* and *Raoulia grandiflora*. I note with interest that it has become a dominant feature of the Eastern Divide of the South Island tussock community. (Before European settlement, the area was covered in forests some 700-900 years ago; fire destroyed this habitat, leading to the tussock community.)

Pseudopanax colensoi (WPA-2), or mountain ivy tree (*orihou* in Maori), is one of those fascinating plants that changes in appearance as it goes through its growth phases. These lancewoods typically have long, stiff, narrow juvenile leaves clocking a tall, non-branched stem up to 10 or more feet. In warmer climes, the adult form would appear with new foliage bearing three to seven leaflets. This species is to be found in the company of various tree ferns; the fruit, clusters of blackish berries, is said to be the favorite food of possums.

Part 2 of this article will appear in the Winter 2013 issue of the "Bulletin."

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