

Self-Guided Tour February/March 2015
The Legacy of a Plant Explorer: Archibald Menzies
Submitted by Vivien C, VanDusen Volunteer Guide

VanDusen Botanical Garden is celebrating its 40th Anniversary this year. Since its inception, we have invited the public to explore the Garden's 55 acres, which contain more than 7,500 taxa (unique species and varieties of plants) from around the world. VanDusen's mandate is to foster a greater understanding of the importance of plants in our daily lives, and as a living museum, it is a place where the world's plant biodiversity can be displayed and conserved for public education and research.

We often take our natural environment for granted and forget that many plants were once "discovered" and documented by intrepid explorers. One of those explorers was Archibald Menzies (1754-1842), who accompanied Captain George Vancouver aboard the Discovery on an expedition that included the west coasts of North and South America in 1792. Menzies was a Scottish surgeon who was hired on as the ship's "brewmaster" to keep the crew healthy and free of scurvy. But his main interest was botanizing and recording the natural history of the lands he visited. This tour will take you to some of the many plants he collected and recorded in his journals. Come and walk with Menzies. Perhaps you too, are seeing these plants for the first time.

As you enter the garden, turn right, head down the ramp, take the first left and immediately turn left again into the Woodland Garden to a lush patch of **1- salal (*Gaultheria shallon*)**. Branches of this evergreen shrub are popular for floral arrangements. Traditionally, the leaves were used by aboriginal peoples like bay leaves, to flavour fish soup. When chewed, the tough, leathery leaves could also suppress hunger or be used as a poultice for burns, insect bites and wounds. Salal berries, moreover, were a favourite staple and eaten fresh or dried in cake form or mixed with currants or elderberries for selling or trading. Today, the berries are made into jams, preserves and even wines. Menzies collected salal in September of 1792, while exploring Nootka Island and Tahsis Inlet. Salal seeds were brought back to Great Britain by another Scottish explorer, David Douglas (1798-1834), whose major work was exploring what is now Oregon.

Head towards the towering **2 - coast redwood (*Sequoia sempervirens*)** with spongy, reddish-brown bark. Menzies first saw the coast redwood when he visited Santa Cruz during his first expedition with Captain Colnett (1786-89). Unfortunately he was not able to collect seeds since he was there at the wrong time of year. Before the last glaciation, these trees covered most of the Northern hemisphere. Now they are found only within 30 miles from the Pacific coast in a fog belt from central California to southwestern Oregon. The world's tallest tree is a coast redwood, standing at 368 feet (112 m) tall. These trees typically reach maturity at 400-500 years old.

Follow the arrows to exit the Woodland Garden, turn right and continue along the path bordering Livingstone Lake until you come to a large, multi-trunked **3 - red alder (*Alnus rubra*)** on the shore. Menzies first encountered this tree in May, 1792, near the head of Discovery Bay, close to Port Townsend in Washington State. Alders can grow in soggy, disturbed habitats and in poor soils where other trees struggle. Red alder enriches poor soils through nitrogen-fixing bacteria that reside in tiny bumps on its roots. These bacteria convert atmospheric nitrogen into a form that plants can use. Alder wood is considered the best for smoking fish, especially salmon, and the bark was important to

aboriginal peoples for making medicines, including a treatment for tuberculosis. Red alder's common name refers to the tree's rich reddish-orange inner bark.

Walk to the end of the path and turn left at the bridge. Continue straight ahead to the next asphalt crossroads and turn left at the arrow. A little farther along on your right you will come to a mature **4 - western redcedar (*Thuja plicata*)**. Unlike the Lebanese cedars nearby, this is not a true cedar. It was named so because its useful, fragrant, decay-resistant wood was similar to that of true cedars. Menzies and Vancouver saw this tree near Port Discovery and Port Townsend, south of Vancouver Island, when they made their first landfall. Almost every part of the tree was used by coastal aboriginal peoples, who call it the "Tree of Life". It provided shelter, clothing, tools, transportation and medicines. Legend has it that you can absorb the strength of the tree by standing with your back against its trunk. Give it a try!

Walk straight ahead a little farther to the low rock wall and turn right following the path down to the lake and zigzag bridge. On your right is a **5 – monkey puzzle tree (*Araucaria araucana*)**, an exotic-looking, living fossil that Menzies encountered in Chile. He brought seeds back to Britain in his waistcoat pocket after they were served for dessert at a banquet in Valpariso. This temperate tree became a novelty garden plant during Edwardian and Victorian times in England. Ironically, the petrified remains (called jet) of once plentiful monkey puzzle trees were mined in England to create jewelry during this same period in history. The unusual, flat spiny evergreen leaves evolved to deter dinosaurs from eating them during a time when there was more CO₂ in the air and it was harder to survive cold winters. In North America, it grows best in the Pacific Northwest.

After crossing the bridge, walk up the path on your left, turn right and enter the grotto. Follow the arrows through the Heather Garden, step over the bridge of large boulders and enter the grove of towering **6 – Douglas-firs (*Pseudotsuga menziesii*)**. This tree's common and botanical names honour both David Douglas, the Scottish botanist who introduced it into cultivation, and Menzies, who first documented the species. Like redcedar, its name is misleading, since it is not a true fir. This grove is about 100 years old, relatively young compared to the 500 to 1000-year-old giants found in old growth Douglas-fir stands on Vancouver Island and Washington State. Douglas-firs are not usually considered garden plants here but valuable coastal lumber and timber trees because of their weight-bearing capability. Menzies collected specimens of both Douglas-fir and redcedar from Birch Bay, Whidbey and San Juan islands in June, 1792.

As you leave the grove, pass the sculpture and keep left following the curve of grass between the garden beds. At the paved path, turn right and walk to the next junction. On your left you will see a wonderful buttressed western redcedar (*Thuja plicata*) at the corner. Straight ahead is a bed underplanted with **7 – Oregon grape (*Mahonia species*)**. Menzies collected samples of *Mahonia* in September, 1792 while exploring Nootka Island and Tahsis Inlet. Tall Oregon grape (*Mahonia aquifolium*) and dull Oregon grape (*Mahonia nervosa*) became popular plants in late-Victorian and Edwardian suburban English gardens but didn't really find their way into gardens here until after 1960. Aboriginal peoples ate the tart bluish-purple berries fresh or mixed with sweeter fruit, like salal berries. Shredded bark was used to create a vivid yellow dye used in basket making. Today, the berries are used to make jellies and wines.

Towering above you is a **8 – western hemlock (*Tsuga heterophylla*)** with its slightly drooping leader;

Menzies collected western hemlock specimens in Desolation Sound and Menzies Bay in 1792. Western hemlocks are the most shade-tolerant and have the densest canopy of any tree on the Pacific coast, which is why you see their seedlings thriving in dark, shady forest understories. Different parts of the tree were used by aboriginal peoples for making tanning agents, dyes, cosmetics, paints, carvings, bowls, implements, bedding, medicine, tea, and food, to name but a few. Menzies used this tree to produce a brew from the needles with the requisite amount of ascorbic acid to prevent scurvy. The original recipe for spruce beer was made of white spruce (*Picea glauca*) and Weymouth pine (*Pinus strobus*), which the brewers on board couldn't locate, hence Menzies's suggested substitution. Whatever the recipe, not one crewman was lost to scurvy during Captain George Vancouver's fifty-seven month expedition.

Now retrace your steps down the paved path, past the cedar and look for a **9 – white spruce (*Picea glauca*)**. Now head back to the Plaza to see some final examples of Menzies's discoveries. Pass the Heather Garden to the crossroads ahead and turn left at the Perennial Garden. Follow the paved pathway and go through the rock archway that leads to the Formal Rose Garden. Turn left, go down the stairs and turn left again. Walk to the end of the pathway and turn right. Keep on this path until you come to the green jade water fountain.

Cross the wooden bridge over the stream bed. On your left is a **12 – Nootka cypress (*Xanthocyparis nootkatensis*, formerly *Chamaecyparis nootkatensis*)**. Menzies collected specimens of this tree while visiting Nootka Island and Tahsis Inlet in September, 1792. Nootka cypress, also known as yellow-cedar and Alaska cedar, are among the oldest trees in our region, living from 1000 to 1500 years old. Nootka cypress is distinguished from western redcedar by its inner bark, which is yellowish and smells like raw potatoes when exposed, and by its cones which have club-shaped scales in comparison to the flat, overlapping cone scales of western redcedar. Aboriginal peoples made implements, paddles, bows, pendants, chests, dishes, fishing net sticks, tea, contraceptives and masks from various parts of Nootka cypress.

To finish off your tour, explore **13 – the mounded garden bed** opposite the Nootka cypress. This is part of the Cascadia Garden, featuring plants native to the Pacific Northwest and this particular bed is home to plants representing the endangered Garry oak ecosystems of southwestern BC. Imagine yourself as Menzies, one of the first non-aboriginal people to see and study these plants. In four months of botanizing in the Pacific Northwest, Menzies collected more than 250 terrestrial plant species. We continue to enjoy so many of the plants he documented in VanDusen's living collections. May we celebrate his adventurous spirit as VanDusen turns 40 this year!