

Ferns of Lasqueti & surrounding islands

By Ken Lertzman

Like most of the coastal temperate rainforest region, Lasqueti Island and surrounding islands are home to a diverse and abundant fern community.

What are Ferns?

Like flowering plants, ferns have roots, stems, and leaves, but unlike flowering plants, they don't produce flowers or seeds. Ferns have a complex life cycle, with a spore-producing form, known as the *sporophyte*, and a gamete-producing form, known as the *gametophyte*. The sporophyte is the familiar "fern" that we see when going about our daily lives and it has a full component of genetic material. The gametophyte is typically tiny and hard to find—a green, heart-shaped plant with only half the genetic component of the sporophyte. Though most of us only recognize and interact with the large sporophytes, the complete fern life cycle includes both these forms in sequence.

The spores produced by the sporophytes are carried in "*sori*"—roundish structures that are often visible on the undersides of the leaves. You can see the sori prominently on the underside of Sword Ferns in the summer on Lasqueti. Brush against them at the right time and clouds of spores will fill the air. Some ferns, like Deer Fern, carry the sori on specialized reproductive fronds rather than the regular vegetative fronds. When the spores are released, they need to land in a moist protected area where they can germinate and grow into gametophytes, eventually producing eggs and sperm, which join and grow into the more familiar sporophyte.



Like most other plants, fern roots are associated with mycorrhizal fungi, which aid in uptake of water and nutrients and protect against harmful fungi. Some fern gametophytes live belowground and have no chlorophyll, getting all or part of their nutrition as a subsidy from mycorrhizal fungi, making them *myco-heterotrophs*.

These plants can shift from

depending on the fungi for nutrition in the gametophyte stage to being independent *autotrophs*, living off their own photosynthesis in the sporophyte stage. These complex (and very cool) relationships spanning the gradient from parasitic to symbiotic partnerships are the topic of much current research.

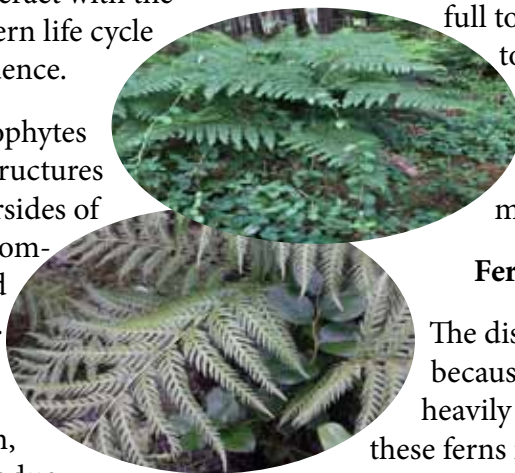
Mostly, ferns are not edible by people and they can be toxic. The young, curled shoots of Bracken, known as fiddleheads, are often eaten early in the spring before their

full toxicity develops. However, it is advisable to avoid eating them altogether. Some of our ferns were used by native peoples or packing food during pit cooking or storage and others were important medicinally.

Fern Species on Lasqueti Island

The distribution of ferns on Lasqueti is patchy because sheep can almost eliminate them from heavily browsed areas. While you can see many of these ferns in some parts of the island, in other areas, they are hard to find. In my neighbourhood around Good Road, even the Sword Ferns are heavily browsed. Look for ferns in areas with low grazing pressure or on protected sites—such as moist, north-facing cliff faces for Maiden-hair Ferns and on Bigleaf Maple for Licorice Ferns.

Photos—top: Sword Fern, below: Bracken Fern, bottom: Woodwardia, or Chain Fern, Lasqueti Island



I polled several knowledgeable individuals from different parts of the island and consulted the species list for Salish View to put together a list of known fern species on Lasqueti. If you are aware of other species that aren't on this list, please let us know. There are likely more species than this, as there are a number in the region which are rarely noticed, unless one is out looking for unusual ferns in unique habitats.

Table 1. Known ferns of Lasqueti and surrounding islands

| Common Name | Scientific Name |
|----------------------------|----------------------------------|
| Bracken | <i>Pteridium aquilinum</i> |
| Common Horsetail | <i>Equisetum arvense</i> |
| Deer Fern | <i>Blechnum spicant</i> |
| Giant Chain Fern | <i>Woodwardia fimbriata</i> |
| Goldback Fern | <i>Pityrogramma triangularis</i> |
| Lady Fern | <i>Athyrium filix-femina</i> |
| Licorice Fern | <i>Polypodium glycyrrhiza</i> |
| Maidenhair Spleenwort | <i>Asplenium trichomanes</i> |
| Parsely Fern | <i>Cryptogramma crispera</i> |
| Spiny (or Spreading) | |
| Wood Fern (or Shield Fern) | <i>Dryopteris expansa</i> |
| Sword Fern | <i>Polystichum munitum</i> |
| | <i>Adiantum aleuticum</i> |
| Western Maidenhair Fern | (formerly <i>pedatum</i>) |



Photos—top left: Maidenhair Spleenwort
top right: reproductive shoot on young Deer Fern
centre: Sword Fern “fiddlehead,” Deer Fern
lower left: Maidenhair Fern, lower right: sori on the underside of
Sword Fern Photos by Ken Lertzman and S. Harrington

Sword Fern is probably the most common fern on Lasqueti. An abundant understory of waist-high *Sword Fern* is a good indicator of rich, mesic (not too wet, not too dry) sites in coastal Douglas-fir forests. Its large leaves were used by native peoples as a lining in pit ovens, food storage boxes and drying racks. Its roasted rhizomes were a famine food for many Indigenous groups on the coast.

Bracken Fern is the world's most widespread fern. Its appearance is distinct from many ferns on the island in that it rises from a single stem, with the fronds spreading out laterally from that stem above the ground. It is often found on drier sites and its deep rhizomes are protected from fires, so it is often abundant on burned areas. On Lasqueti, large patches of bracken are often associated with old homesteads. Its fronds were used by many Indigenous peoples as a food source and to line cooking pits. Despite this, it is *not* recommended to eat it.

Licorice Fern is commonly found growing as an epiphyte on the trunks and branches of trees, especially Bigleaf Maple. Many stems can emerge from the hairy rhizomes that creep along in the moss mat that accumulates on maple bark. The rhizomes have a distinct licorice-like flavour and were chewed for their flavour and as a cold medicine by many Indigenous groups on the coast.

Maidenhair Ferns are my personal favourite for their delicate, geometric beauty, with fine, pale leaflets and black stems. They are restricted to moist and shady, but well-drained sites, such as stream banks, cliff sides, in the spray zone of waterfalls, and the like. They were used medicinally by several Indigenous groups.

The *Giant Chain Fern*—*Woodwardia* is the celebrity fern of Lasqueti. Famous botanists have travelled to the island just to see it here. While it is more common in the Redwood region of Northern California, we are at the northern limit of its range here. It is Blue listed (a species of special concern) by the BC Conservation Data Centre. It is a large, beautiful fern of shady, wet forests and streambanks.

For more information on the taxonomy, ecology, structure, and reproduction of ferns, see <https://www.fs.fed.us/wildflowers/beauty/ferns/what.shtml> or the book *Plants of Coastal British Columbia*, by Jim Pojar and Andy MacKinnon.

Native and Invasive Plants



Saskatoon, Photo G. Scott

Saskatoon (*Amelanchier alnifolia*)

Also called June Berry, Service Berry or by the Haida “sweet berry,” the name Saskatoon comes from the Cree name of the berry *misâskwatômina*. The city of Saskatoon is named after it.

For a prairie girl like me the name brings memories of hot summer days picking pails of the berries to make pies and jam, but you’d have a hard time doing that on Lasqueti. C.P. Lyons says in *Trees, Shrubs and Flowers to Know in British Columbia and Washington* that they are sparse on Vancouver Island, and I think that they are even sparser here on Lasqueti, probably because they are a favourite browsing plant for ungulates, e.g. sheep and deer. But they are here, often on the bluffs or places not accessible to animals and on the smaller islands. In spring they are covered with showy, fragrant, white, five-petalled flowers followed by purple to nearly black sweet tasting berries. The berries, of course, are a favourite of birds. So if you are thinking of berry picking I’d suggest sticking to Salmonberry, Salal and Huckleberry, but enjoy a Saskatoon when you find one. —Sheila Ray



Bur Chervil—a low growing invasive

Bur Chervil, or Bur Parsley *Anthriscus caucalis* is a low growing invasive that is now common on Lasqueti and surrounding islands. It’s growing in Squitty Bay park and in many other areas on the island. It is a BC regulated noxious weed, which means it has considerable impacts to agriculture. Normally growing on sandy, moist soils in disturbed areas, I’ve seen it where the sheep trails exist. See photo right. It does compete with native species, and the plant can be pulled in moist conditions, or the seed pods cut back.

—Sheila Harrington



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Lasqueti's T'laamin name is Xwe'etay, described by elders as "a strong wood, a wood they used to make wedges." The word "Xweth" is wedge. They named it because of the abundance of iron wood/ yew trees.

Protecting Jedediah—25 years!

by Doug Hopwood

Mary and Al Palmer, the owners of Jedediah Island, had known for a long time they wanted Jedediah to become a park when it came time for them to move off the island. After unsuccessful talks with Parks Canada, they negotiated a sale/purchase option with the Nature Conservancy of Canada (NCC). A few days before the option was due to expire, the Director of NCC phoned Chris Ferris (who was Islands Trustee at that time along with Janice McMillan) and told her, “We don’t have the money; the purchase won’t go through.”

Chris shared that news with a dozen or so Lasquetians, who developed a two-pronged strategy to save Jedediah from development. Calling ourselves the Friends of Jedediah, we would raise as much money as we could through donations—and lobby the BC government to make up the rest. This formula had been successful in buying Squitty Bay a few years earlier, but the numbers for Jedediah were much bigger. As I recall, Squitty Bay cost over \$100,000, whereas Jedediah had a market value around ten million. The Palmers had left Jedediah by this time and were eager to get on with their lives, but they agreed to keep the island off the market while the Friends set about fundraising.

We set ourselves a target of \$250,000. We had no reason to imagine we could raise anything like that amount, but it sounded good. We thought if we came up with that much, the provincial government and other funders might do the rest. Luckily, the NDP had recently been elected on a campaign that included doing more for conservation. Chris and I had hosted Leonard Krog, our local MLA, at our house when he visited Lasqueti during the election campaign, so we had no trouble getting his ear. He undertook to pitch the Jedediah acquisition to his government colleagues, but he emphasized the need for privately raised money to make up a good



View of Palmer's house and Home Bay from the widely used campsite area. Photo S. Harrington

portion of the purchase.

Around this time, Mountain Equipment Co-op (MEC) started their program of supporting conservation projects. We wrote a short proposal requesting \$10,000, and were invited to present our case to the MEC board. A few weeks later, Sarah Golling, the Chair of the MEC

Board, called to say they were giving us a hundred thousand! Suddenly, a quarter million went from a hopeless fantasy to a realistic goal.

That summer, Chris and I were invited to the book launch for Pojar and MacKinnon's *Plants of Coastal BC*, on a boat in Victoria harbour. Chris struck up a conversation with a woman and told her about the Jedediah campaign. The woman called to her husband, “Oh, Jake, this lady needs to talk with you!” The husband turned out to be Jake Masselink, the Deputy Minister of Environment. He told Chris, “Oh, yes, we know Jedediah has great conservation value. But it’s a matter of politics. You have to give it profile.”



View from Mt. Gibraltar, easily hiked to from both the south end and the centre meadow. Photo S. Harrington



View of Sunset Cove on the west side of Jedediah, Photo S. Harrington

We didn't have a budget for broad-scale advertising or mail-outs, so our strategy was to get the media to do the job for us. Chris and I had met Ian Gill at a forestry conference a few years earlier, and he brought a film crew to Jedediah and made a short feature that

ran on CBC television. Articles in the Vancouver Sun and other papers soon followed. To our surprise, donations started coming in, for amounts from ten to a few hundred dollars, from as far away as Dallas or Dusseldorf, sent by people who wanted to be part of saving Jedediah Island.

It was a lot of fun writing our press releases, and hard not to indulge in a bit of purple prose, spinning a romantic story of *"a pristine jewel of an island, clothed in dark Douglas-fir, where sun-dappled azure waters lap serenely on the white shell beaches of mysterious hidden coves, etc."* Al Palmer and I were invited to be interviewed on CBC radio, and by happy chance that program was heard by Bruce Culver, the brother of Dan Culver, a mountaineer who had died while climbing K2, leaving \$1.1 million in his estate to protect a significant piece of land in BC. The Culver family chose Jedediah as the perfect home for Dan's legacy.

There is a story about the day that Moe Sihota, BC's Minister of Environment at the time, met with the Palmers. While they were talking, the phone rang. Mary listened for a minute, and then put her hand over the receiver.

"It's Bill Gates," she said. "Offering \$10 million. What should I tell him?"

"Tell him, no, thanks," Sihota urged her. "We'll come up with something."

One of my fondest memories is a benefit dinner from the early days of the campaign. On a stormy night of wet blowing snow, the Teapot House was filled to capacity for a potluck banquet followed by an auction that raised over seven thousand dollars. That seed money from a roomful of Lasquetians grew into the \$4.2 million purchase of Jedediah Island for a Provincial Park.

The following year, the Friends of Jedediah were selected to receive the BC Minister's Environmental Award. Sheila Ray and I attended the ceremony at Government House on behalf of the group, but the honour of that award belongs to the whole Lasqueti community who came together with energy and imagination to keep beautiful Jedediah Island open to the public and preserved in its natural state.

Thanks to so many people, Jedediah Island Marine Park is Protected

Established—September 15, 1995

Park Size: 603 hectares

(293 ha upland 310 ha foreshore)

Mary Palmer being a goofball at one of Bill Cox's parties on the south end of Texada. She did love a party, and always grew masses of beautiful flowers.

The flowers here are all stuck into a cedar bark hat I made for her. 1985 (Rosalind Hildred)



1977 summer, Jedediah,

Mary Palmer, Rosalind Hildred, Caroline Mattice (Mary's granddaughter) with Todd & Aaron Hildred

Al's forte was the vegetable garden. They shared the greenhouse and were constantly bickering over how to water it—according to Al, Mary consistently over watered. We were shucking peas for canning in the photo. Every year was a contest to see who would get the first tomato of the season. I had to work at it to beat him, which I think I only did once. The two of them would come to Lasqueti to judge the veggies at the fall fair. *Rosalind Hildred*



Seen In Passing



Photos left to right: Gretje Lohmann points out fenced Douglas-fir rising above sheep's hungry mandibles. Mt. Trematon, D. Grinell Rough-Skinned Newt, seen on Good Road recently, Photo Ken Lertzman Yellow spotted or cyanide millipede, mating. These leaf-eating creatures process Douglas-fir needles into soil. S. Harrington

Salish Sea

Nearshore Habitat Recovery Project

SeaChange Marine Conservation Society from Saanich Peninsula, home of the WSÁNEĆ people, delivers education programs to local and international schools, maps marine nearshore habitat and restores riparian and marine ecosystems.

"Our passion for marine conservation and restoration spills across the Salish Sea where we work with community groups and First Nations to map, monitor and restore eelgrass habitat. We work with researchers and graduate students and strive to find the best conditions for restored eelgrass meadows to thrive."

Cleanup and Planting on Lasqueti Island

The SeaChange dive team worked the week of May 25 to clean up debris impacting eelgrass habitat in three bays around the island. Poor Man's Rock operator Peter Lironi estimated the load, heaped up nearly to his wheelhouse window, to be 4 - 4.5 tons of debris. The debris filled a 40 cubic yard bin once it was transferred at French Creek Harbour.

Existing eelgrass habitat around Scotty Bay was extended 13 x 5 meters by planting 930 shoots one day. To help prepare the shoots, four sailors put the island on their cruise route. Applicable safety protocols for avoiding COVID-19 were observed throughout the week. Funding was provided by Dept. of Fisheries and Oceans Canada, under the Coastal Restoration Fund.



Photos by SeaChange: crab on eelgrass barge "Collective Effort" and crew picking up debris, day 1 False Bay



Lasqueti Island Nature Conservancy

Annual General Meeting: August 16, Squitty Bay

Board of Directors: Sheila Ray, Wendy Schneible, Gordon Scott, Sheila Harrington, Barb Brooks, Hilary Duinker, Jordan Barton, Aigul Kukolj, Ken Lertzman

We welcome photos for the Seen in Passing section in our newsletter and for the LINC digests. Editor: Sheila Harrington

Contact us: linc@lasqueti.ca 250-333-8754 lasqueti.ca/linc or www.facebook.com/LINCBC

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