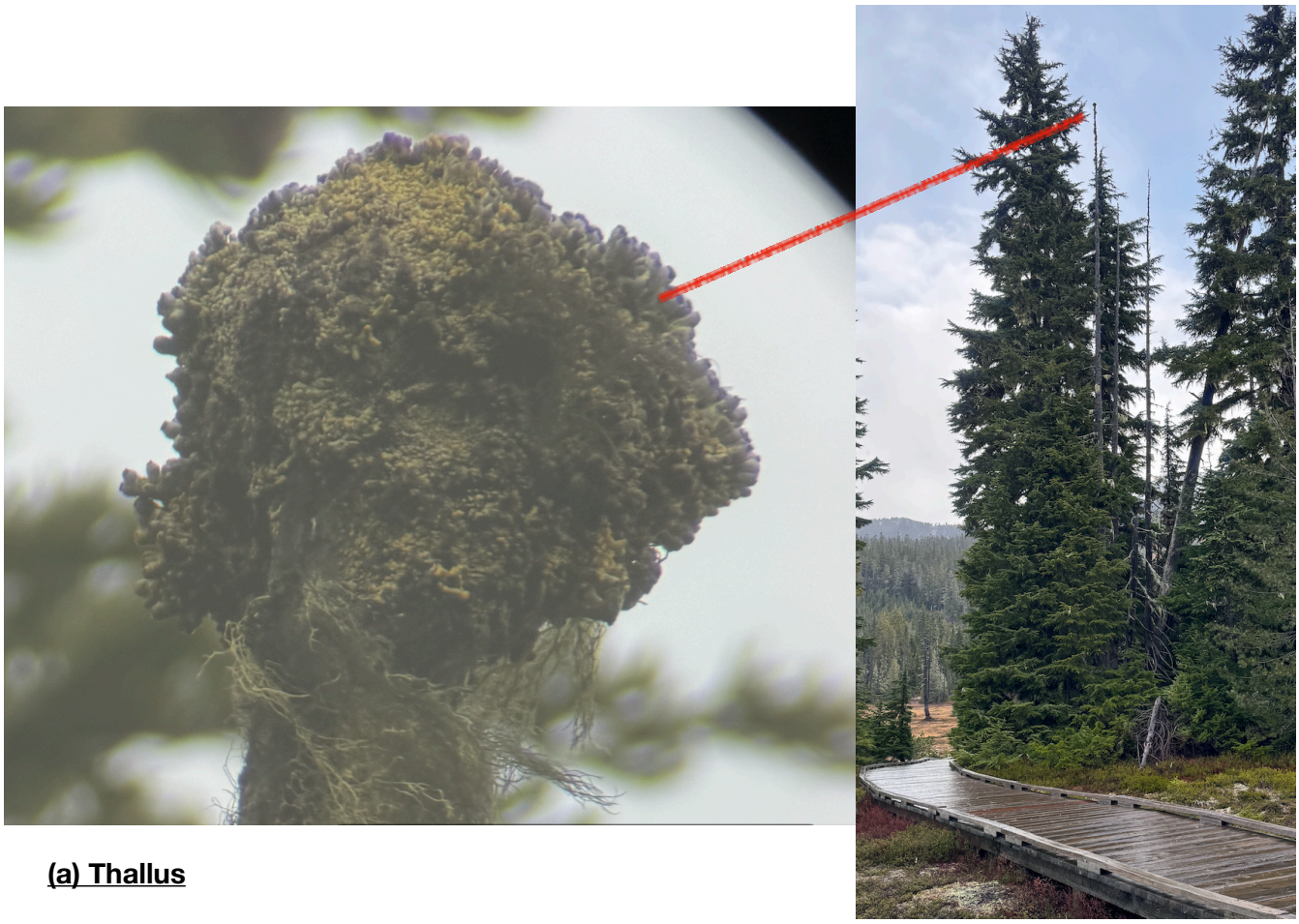
A Wonderful Oddity at Paradise Meadows: A species dependent on *Perisoreus canadensis pacificus?*



(a) Thallus

(b) Location

Figure 1: Federally-listed Endangered species *Acroscyphus sphaerophoroides* (“crab's eye lichen”) found in Paradise Meadows December 12 2026, right by the trail! Red arrow points to location at the top of the dead yellow cedar (*Callitropsis nootkatensis*).

It is always something to celebrate when a rare organism that one normally has to go into remote areas to see shows up in one’s backyard, literally “out your back door.”. It is even more surprising when it turns out that it is in a location that one has passed by hundreds if not thousands of times. Yet that is what happened December 12th 2025.

It is not clear why it has not been seen before, given the large number of naturalists and a fairly high density of would-be lichenologists who have walked by it regularly. It is in a prime location at a trail juncture which sees a very high volume of pedestrian traffic.

This is a species at risk. It is considered endangered by human activities The federal Species at Risk Act, classifies endangered species as being either extirpated, endangered, threatened,

or a special concern. *Acroscyphus sphaerophoroides* is classed at the lowest classification: “special concern.” It is considered to be at risk from human activities, such as logging, landscape level drainage and recreation.

Until about three or four years ago the species was not known to be on Vancouver Island. Dan Tucker, who was a student with SWI from 2019 to 2020, discovered it in a wetland north of Sayward by accident. He discovered a fallen lichen mass on the ground, which turned out to be *Acroscyphus sphaerophoroides,* a lichen that was until then mainly associated with wetlands around Prince Rupert. It has since then been found fairly frequently around subalpine wetlands of Vancouver Island. It is now a regular denizen of Strathcona Provincial Park, possibly associated with the presence of resident *Perisoreus canadensis,* the Canada Jay.

The global distribution of this lichen is limited to coastal wetlands, mainly in Canada, with the exception of a single observation on the Olympic peninsula, as indicated in **Figure 2.** There is therefore a possible overlap with the distribution of coastal Canada jay populations (*Perisoreus canadensis pacificus)*, which some have argued may constitute an entirely distinct species of jay. This suggests that it could be a lichen species dependent on the presence of a coastal species or sub-species of Canada jay.[i]

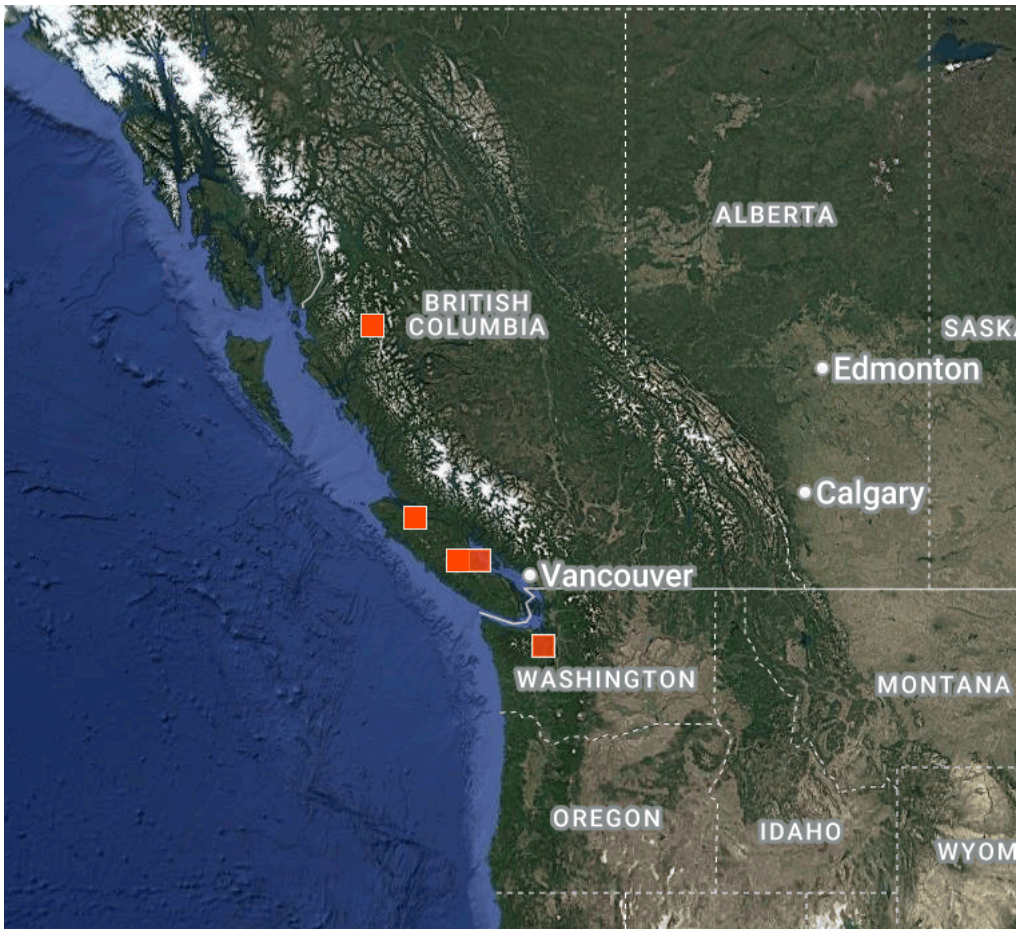


Figure 2: Distribution of *Acroscyphus sphaerophoroides (Ref. Inaturalist)*

Acroscyphus sphaerophoroides is an interesting lichen for a number of reasons. It is not clear how quickly it grows, but as Dan Tucker's find shows, its fate is directly tied to the longevity or duration of the dead snag on which it grows. Given that it develops on trunks sitting in water-saturated areas which are vulnerable to high winds and wet snow loadings, age is limited by climate extremes. This species of lichen is therefore vulnerable to climate extremes of wind and drought which are becoming more frequent as climate deregulation proceeds, as are coastal Canada jay populations

Additionally, it has long been taken to be associated with raptors. The question has always been: Why does it grow at the very top of dead yellow cedar (*Callitropsis nootkatensis)* trunks? And how does it get there? The untested general assumption has been that *Acroscyphus sphaerophoroides* develops at the top of the spire on which a raptor such as a Merlin (*Falco columbarius)* roosts overlooking a wetland in search of dragonflies or other large insects. The raptor would have deposited nitrogen and fungal spores or other lichen reproductive structures from which the lichen develops. One problem is that Paradise Meadows has the odd visiting raptor, but it does not seem to have long-term residents. I know of no direct observations to confirm this theory.

Since *Acroscyphus sphaerophoroides* locations are normally remote, there seems to be no actual record of bird observations associated with this lichen species. However, in this case we have regular observations of birds species found at Paradise Meadows using the particular group of trees where this specimen is found. In summer one can frequently observe *Perisoreus canadensis pacificus* perching on this group of trees. It is by no means the only bird to perche on these spires, resident dark-eyed juncos (*Junco hyemalis*), winter wrens (*Troglodytes hiemalis*), robins (*Turdus migratorius*), and Steller's jays (*Cyanocitta stelleri)* have all been observed perching, but Canada jays appear to be the most frequent perchers on these spires. Of these birds *Perisoreus canadensis pacificus* may be the best candidate, because it appears to scavenge around, and possibly ingest, fungi and myxomycetes. This does, raise interesting *speculative* questions which are worth considering and possibly investigating.

How did this specimen get to be in this location? If there is a relationship between *Perisoreus canadensis pacificus* and *Acroscyphus sphaerophoroides,* that may answer other questions of local and geographic dispersion and distribution. This lichen is rare because in its known locations there are usually only one or two thalli per wetland. The species range is restricted to the northern Pacific coast and its climate, as is the coastal sub-species of the Canada Jay. It is unique to BC's central coast ecosystems, and the Olympic peninsula.

That is further limited by the availability of suitable substrate (the top of a dead yellow cedars) , as well as by the presence or absence of wetlands, and also possibly by the presence or absence of a dispersant such as *Perisoreus canadensis.* Forbidden Plateau which has a large network of subalpine fens, is home to a relatively high proportion of observed *Acroscyphus sphaerophoroides .* We can map known distributions of this lichen by mapping the wetlands they inhabit. There are known nearby specimens in the fens of McKenzie, Divers and Rossiter lakes. If its reproductive structures are carried by *Perisoreus canadensis* then distribution should overlap with the territories of *Perisoreus canadensis pacificus* some of which have been mapped by Dan Strickland. It may also suggest that regional distribution is limited by the distance from nesting territories that *Perisoreus canadensis* travel.

The location of this lichen at Paradise Meadows provides a unique research opportunity. Having a specimen at hand, in our back yard, may allow us to carry out regular direct

observations to answer some gaps in our knowledge of this lichen's growth cycle, lifespan and faunal associations.

The extraordinary thing however, is that Paradise Meadows sees a large number of people every year. The number of visitors grows by the year. The BC Park counter suggests that about 37,500 people visit Paradise Meadows between July and September of each year. That does not include the number of skiers and snowshoers who come to Mt Washington for fall and winter recreation. The cumulative annual number of visitors year-round at this specimen's location who walk or ski within less than 10 metres of this sensitive species every year may be around 80,000 people! In keeping with SARA's classification system *Acroscyphus sphaerophoroides* is known to be "a species sensitive to human activities."

Paradise Meadows is often treated as a sacrifice zone to tourism and dog walking. Notwithstanding this intense use, it annually yields up its complement of yet unregistered rare and endangered species for those who care to look, and care to care for sensitive environments by respecting park regulations.

Credit is due. The discovery of this location shows that BC Park regulations are working to meet conservation objectives. This aspect of conservation is easy and comes at no cost to the public. The simple observation of park regulations promotes good stewardship and protects endangered species for the enjoyment of future generations. Recreation and conservation can only co-exist if conservation values constrain recreation. It is a small price to pay. At a time of biodiversity and climate crisis when BC Parks appear in satellite photos as islands in a a sea of clearcuts, public use of the parks must be guided by a conservation ethos if we are to preserve our unique endangered species.

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[i] https://www.birdforum.net/opus/Canada_Jay#Distribution