

Lichens from the Pruitt-Murray collection

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In a previous issue of *OMPHALINA* (vol. VIII, no. 1), we described how three boxes of unidentified lichen specimens came to the Agnes Marion Ayre Herbarium in St. John's, NL, who collected them, and why we were asked to identify the specimens fifty years later. Here we describe three psychrophilic (cold-loving) lichens commonly found in Northern North America. All three were found at the 2016 HV Foray. P-M collection photo L, in situ R.



Photo: Troy McMullin



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***Nephroma arcticum* (L.) Torss.**

Commonly known as arctic kidney lichen, *N. arcticum* is a large, relatively fast growing foliose lichen with a circumpolar arctic-boreal distribution, found on humus soils and bryophyte covered rocks in northern forests.¹ Thallus lobes can be very broad (up to 30mm wide), flattened or irregularly wrinkled without soredia or isidia. Transplant experiments have shown its ability to acclimate to environmental change.² Size and colour varies with altitude: at higher altitudes, it is smaller and yellowish-green,

while at lower altitudes it is larger and bright green. It is a tripartite lichen (made of 3 parts): fungal component, green algae (*Coccomyxa* sp.) and cyanobacteria (*Nostoc* sp.). The cyanobacteria are contained within cephalodia below the green algal layer, creating broad, flat grey bumps on the upper surface of the thallus. The lack of carbon-based secondary compounds in the cephalodia makes them appropriate food for slugs, and in turn, the green algae are protected against grazing.³



Photo: Maria Voitk

***Umbilicaria hyperborea* var. *hyperborea* (Ach.) Hoffm.**

Umbilicaria hyperborea is an umbilicate foliose lichen, attached to the substrate only at a central point. Its somewhat unorganized appearance and habitat preference bring about its common name, blistered rock tripe. It is often found on exposed horizontal siliceous rock surfaces, such as boulders or cliff outcrops. The thallus is medium

to dark brown with a slightly uneven to strongly verrucose upper surface. Apothecia are common, representing a key identifier due to the unique structure of complex ridges on slightly raised disks, growing either individually or adnate (several fused together). A cold-loving species, it has a fairly northern distribution throughout Europe, Asia and North America, or higher altitudes in warmer latitudes, like Mexico and Australia.



Photo: Michael Burzynski

***Tuckermannopsis americana* (Sprengel) Hale**

The genus *Tuckermannopsis* was introduced by Gyelink (1933) who distinguished it from *Nephromopsis* by the absence of pseudocyphellae on the lower surface. The upper surface of *Tuckermannopsis americana* is dark in colour, either brown, blackish, or olive-green. The lobes are short, with margins bearing long, slender cilia averaging 3-6 mm in length. When the thallus is broken, the white medulla can be seen, and glows whiteish-blue under ultraviolet light. It is commonly found growing on trees, especially conifers, in open lowland forests in Northern North America.

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References

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