

Hypogymnia pulverata—a new North American population, discovered in Labrador, Canada

During Foray Newfoundland and Labrador's 2016 annual foray in the Happy Valley-Goose Bay region of Labrador, a rare lichen in North America was

discovered, *Hypogymnia pulverata* (Nyl. ex Cromb.) Elix (title banner & Figure 1). It was reported for the first time on the continent from a single collection on the northeastern shore of Hudson Bay in northern Québec,¹ a single specimen was then collected in Oregon,² a large population was found next in Alaska,³ and it was most recently reported from the Chic-Choc Mountains in eastern Québec.⁴ The collections reported here represent the easternmost known population in North America and extend its range approximately 650 km northeast of the Chic-Choc Mountains (Fig. 2).

Hypogymnia pulverata was collected at three sites (North West River, Mud Lake, and Birch Brook Nordic Ski Club) during the foray (see Specimens Examined, below, for site details). The North West River and Mud Lake sites were the furthest apart at approximately 26 km. At the North West River site, 15 thalli were observed along a ~120 metre transect, at the Mud Lake site one thallus was located on a ~100 metre transect, and at the Birch Brook Nordic Ski Club site 10 thalli were observed

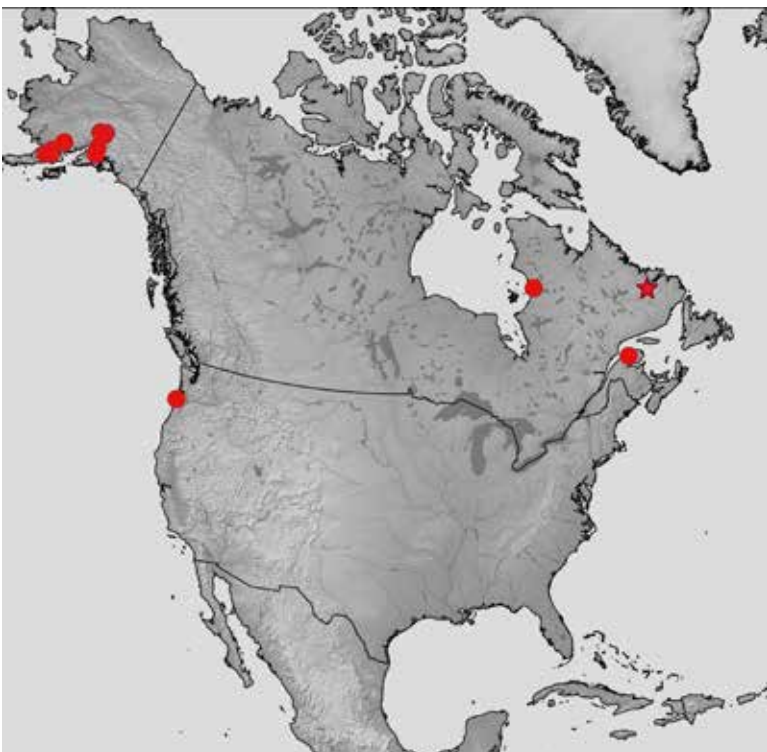


Figure 2. The North American distribution of *Hypogymnia pulverata*. The new Labrador population is indicated by a star.



Figure 1. *Hypogymnia pulverata* at the North West River site in Labrador, McMullin #17108 (CANL).
Title banner. *Hypogymnia pulverata* at the Birch Brook Nordic Ski Club site in Labrador, McMullin #17147 (CANL).
 Scale bar = 1.9 cm.

over a ~150 metre transect. All sites had similar habitats (Figure 3)—humid conifer forests dominated by balsam fir (*Abies balsamea*) and spruce (*Picea* spp.). Thalli were usually on the dead branches of live trees and rarely on the trunks. All of the populations in North America are coastal except the population reported here. These sites, however, are in close proximity to Lake Melville, which is a large body of water (3,069 km²) and may produce a coastal environment similar to proximity to an ocean.

Labrador specimens were chemically consistent with most North American populations: a positive medullary reaction to an alcohol solution of paraphenylenediamine (turning red). Only the Oregon population had a negative reaction. Populations globally have been found with and without the chemicals that cause this reaction (physodalic and protocetraric acid).⁵ *Hypogymnia pulverata* is widely

dispersed globally in Australasia, China, eastern Russia, Japan, and South America.⁶⁻⁸ Of the 38 *Hypogymnia* species known from North America, it is the only one with a solid medulla, laminal soredia, and a lower surface that is not pitted.^{4,9}

The specimens reported here are the first records of *H. pulverata* in the province of Newfoundland and Labrador. They contribute to a growing understanding of its distribution in North America.⁴ Though the distribution of *H. pulverata* remains notably scattered, these records help to narrow the gap between some populations.

Specimens Examined

CANADA. NEWFOUNDLAND AND LABRADOR. Division 10. North West River, Labrador Heritage Museum, Labrador Interpretation Trail, 53.534989°N, 60.148467°W, humid conifer forest, tree cover dominated by *Abies balsamea* and *Picea mariana* (black spruce), ground cover dominated by *Pleurozium schreberi*



Figure 3. Typical habitat of *Hypogymnia pulverata* at all of the Labrador sites reported here. Image is of the North West River site.

(Schreber's big red stem feathermoss), 6-Sept-2016, corticolous on *A. balsamea*, ~80 m north of the parking lot, McMullin 17108 (CANL), corticolous on *P. mariana*, ~25 m north of the parking lot, McMullin 17106 (CANL), corticolous on *P. mariana*, ~10 m north of the parking lot, McMullin 17107 (CANL); Birch Brook Nordic Ski Club, along the North West River Road at Gosling Lake, on Robin's Route Trail, 53.433632°N, 60.380856°W, humid conifer forest dominated by *A. balsamea* and *P. mariana*, 10-Sept-2016, corticolous on *P. mariana*, ~75 m northwest of the lodge, McMullin 17147 (CANL); Mud Lake, 53.307478°N, 60.172758°W, humid mixed-wood conifer forest, 08-Sept-2016, corticolous on *P. mariana*, ~10 m west of the waterway between Mud Lake and the Churchill River, McMullin 17089 (CANL).

References

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