

Additions to the Boreal Flora of the Northwest Territories with a Preliminary Vascular Flora of Scotty Creek

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We present the first survey of the vascular flora of Scotty Creek, a peatland-dominated watershed with discontinuous permafrost about 60 km south of Fort Simpson, Northwest Territories (NWT). Of the 140 vascular plant taxa found at Scotty Creek, two are additions to the boreal flora of NWT: *Arethusa bulbosa* (Dragon's-mouth, Orchidaceae) and *Carex pauciflora* (Few-flowered Sedge, Cyperaceae). The occurrence of *Arethusa bulbosa* extends the known range of this species 724 km to the northwest, making this purportedly eastern American plant almost pan-Canadian. Two other major range extensions (> 200 km) are reported for *Carex brunnescens* subsp. *sphaerostachya* (Round-spike Brownish Sedge) and *Platanthera dilatata* var. *dilatata* (Tall White Bog Orchid). Furthermore, 15 other rare NWT species are reported, including three species known from a single other locality in the NWT. The flora of Scotty Creek is dominated by circumpolar (55%) and widespread North American (34%) elements. Despite the absence of exposed alkaline rocks and the dominance of deep organic soil almost throughout Scotty Creek, a number of lime-indicator plants were found in lakes and minerotrophic wetlands.

Key Words: *Arethusa bulbosa*; Dragon's-mouth; *Carex pauciflora*; Few-flowered Sedge; *Carex brunnescens* subsp. *sphaerostachya*; Round-spike Brownish Sedge; *Platanthera dilatata* var. *dilatata*; Tall White Bog Orchid; Fort Simpson; floristics; range extension; rare plants; Scotty Creek; Northwest Territories

Nous présentons la première étude floristique de Scotty Creek, un bassin versant dominé par un paysage de tourbières et caractérisé par un pergélisol discontinu localisé à environ 60 km au sud de Fort Simpson, dans les Territoires du Nord-Ouest (TNO). Un total de 140 taxons de plantes vasculaires ont été trouvés, dont deux sont nouveaux pour la flore boréale des TNO : *Arethusa bulbosa* (arêthuse bulbeuse, Orchidaceae) et *Carex pauciflora* (carex pauciflore, Cyperaceae). La nouvelle occurrence pour *Arethusa bulbosa* est distante de 724 km au nord-ouest de la plus proche mention connue. Cette espèce, qui était autrefois considérée comme limitée à l'est de l'Amérique du Nord, se retrouve maintenant avec une distribution presque pan-canadienne. Deux autres extensions d'aire de plus de 200 km ont été établies pour *Carex brunnescens* subsp. *sphaerostachya* (carex à épis globulaires) et *Platanthera dilatata* var. *dilatata* (platanthère dilatée). De plus, quinze espèces rares sont mentionnées, dont trois ne sont connues que d'une autre localité dans les TNO. La flore de Scotty Creek est dominée par des espèces circumpolaires (55%) et nord-américaines (34%). Malgré l'absence de roches alcalines et la dominance d'un sol organique profond presque partout sur le territoire, plusieurs plantes indicatrices de conditions calcaires ont été trouvées, notamment dans les lacs et dans les tourbières minérotophes.

Mots clés: *Arethusa bulbosa*; arêthuse bulbeuse; *Carex pauciflora*; carex pauciflore; *Carex brunnescens* subsp. *sphaerostachya*; carex à épis globulaires; *Platanthera dilatata* var. *dilatata*; platanthère dilatée; Fort Simpson, floristique, Territoires du Nord-Ouest, extension d'aire, plantes rares, Scotty Creek

Introduction

As more attention is being paid to the impacts of economic development and climate change on the Canadian north, initiatives such as the Northwest Territories Biodiversity Action Plan (NWT Biodiversity Team 2005) are being undertaken to promote the protection of northern biodiversity and ecosystems. However, conservation of biological diversity depends on recognition of that diversity, which relies on primary taxonomic, floristic, and faunistic research (Expert Panel on Biodiversity Science 2010). Unfortunately,

basic knowledge of the taxonomy and distribution of the flora and fauna of the Canadian north remains incomplete, even for relatively well-known taxa, such as vascular plants. For example, in the 28 years following the publication of Porsild and Cody's (1980) vascular plant flora of continental Nunavut and Northwest Territories (NWT), at least 151 plant species, or an average of 5.4 species per year, have been reported as new to one or both of these territories (Catling *et al.* 2005, 2008). This highlights the continued importance of exploration and floristic and taxonomic research for biological con-

ervation, especially in the most remote areas of the Canadian north not accessible by car or boat.

This study documents the vascular flora of a remote area for which no exhaustive floristic survey has yet been published. Our botanical contribution aims to support ongoing environmental research at Scotty Creek by providing a list of vascular plants known to occur at, or in the larger vicinity of, the research camp. Furthermore, our survey provides some additions and new records to the boreal flora of the NWT, which may prove to be critical in the determination of conservation priorities and statuses.

Study Area

Scotty Creek (61.3°N, 121.3°W) is a hydrologically well-characterized 152-km² watershed with discontinuous permafrost about 60 km south of Fort Simpson, NWT, in the Mackenzie Plain subregion of the Taiga Plains ecoregion (NWT Protected Areas Strategy 2013). The area has a dry continental climate with long cold winters and short summers. The annual average temperature recorded between 1981 and 2010 at the Fort Simpson meteorological station is -4.8°C, while the average annual precipitation is 387.6 mm, with 48% from snowfall (Environment Canada 2014). The growing season, i.e., months during which average mini-

um daily temperature is above 0°C, lasts from May to September (Environment Canada 2014) and is characterized by up to 19.5 h of daylight (Kitto 1930).

For the past 15 years, research at Scotty Creek has focused primarily in the vicinity of a remote research camp (Quinton *et al.* 2009). The area surrounding the camp is generally flat and of low altitude (about 280 m above sea level). It was completely covered by the Laurentian ice sheet during the Last Glacial Maximum and up to 10 500–11 000 years ago (Duk-Rodkin and Lemmen 2000). Proglacial lakes have left compact clay deposits throughout most of the area (Hayashi *et al.* 2004), often covered by a thin silt-sand layer of presumed glaciofluvial origin (Duk-Rodkin 2011). These mineral deposits are now overlain by a peatland complex comprising mostly dry forested peat plateaus with permafrost (Figure 1), but also permafrost-free bogs, fens, and lakes, each with specific hydrological properties supporting different plant communities (Quinton *et al.* 2003). Peat thickness in the upper portion of Scotty Creek is up to 8 m (Hayashi *et al.* 2004). Two small lakes, First Lake and Goose Lake, are located close to the research camp. West of Goose Lake lies a small well-drained area covered by glacial and fluvioglacial deposits such as eskers, kame plains, and thin tills (Duk-Rodkin 2011).



FIGURE 1. Undergrowth on a typical semi-open peat plateau at Scotty Creek, Northwest Territories, summer 2013. Photo: Marie-Ève Garon-Labrecque.

Methods

Our floristic survey covered a 1.42 km² area of land and water, including a small lake (500 m × 500 m) known as First Lake and the southwestern section of a larger lake, Goose Lake, i.e., from approximately 61.292°N to 61.306°N, and 121.289°W to 121.310°W.

Specimens were collected in and around 102 quadrats placed randomly across the landscape and in various locations between the quadrats and the research camp. In addition, other sites were visited to cover species and habitats not found around and between the predetermined locations. At each site, sampling was conducted by meandering following apparent floristic and habitat variation until no new species or microhabitats were encountered, according to the recommendations of Goff *et al.* (1982) for efficient floristic surveys. The survey was conducted between 1 July 2013 and 11 August 2013, covering the greater part of the growing season. At least one voucher specimen of every species was deposited at the Marie-Victorin Herbarium, Université de Montréal (MT).

Identification keys used include Porsild and Cody (1980), the Flora of North America North of Mexico (Flora of North America Editorial Committee, eds. 1993+), Michigan Flora (Voss and Reznicek 2012), Faubert (2000), and Cayouette (2004). Herbarium specimens at the Marie-Victorin Herbarium (MT), Agriculture and Agri-Food Canada Collection of Vascular Plants (DAO), and the National Herbarium of Canada (CAN) were used to confirm some identifications. Taxonomy follows VASCAN, the Database of Vascular Plants of Canada (Brouillet *et al.* 2010+) except for the genus *Eriophorum* (Cyperaceae), for which names were taken from Cayouette (2004) with updated nomenclature from Väre (2007). Author abbreviations in taxonomic names follows the International Plant Names Index (2012). Herbarium abbreviations follow Index Herbariorum (Thiers 2014+). In the text, herbarium specimens that were examined are marked with an exclamation mark (!) after the herbarium acronym. Phytogeographic affinities of plant taxa were determined using distributional data in Porsild and Cody (1980), the Flora of North America North of Mexico (Flora of North America Editorial Committee 1993+), and Hultén's Circumpolar Plants (Hultén 1962, 1971).

We recognize the following floristic elements within the vascular flora of Scotty Creek: (1) circumpolar species with a distribution in Europe, Asia, North America, and sometimes also Greenland; (2) amphi-Beringian species with a distribution in eastern Asia and western North America; (3) East Asian–North American species with a distribution in eastern Asia and in western and/or eastern North America; (4) amphi-Atlantic species with a distribution in eastern North America and Europe; (5) widespread North American species with a distribution in both western and eastern North America; (6) western North American species with a distribution only in western North America; (7) eastern North

American species with a distribution only in eastern North America.

Results and Discussion

Through this survey, 140 vascular plant species were identified in our study area, with two species and one subspecies new for the NWT. Nine territorially “sensitive” species and three species that “may be at risk” according to the Working Group on General Status of NWT Species (2011) are reported, but none has a conservation status at the national or global level (Government of Canada 2013; IUCN 2013; Natureserve 2015). This high proportion of territorially rare species might reflect the fact that Scotty Creek is relatively close to the provincial borders with British Columbia and Alberta, where species near the northern edge of their range are expected to be more common.

Phytogeographically, Scotty Creek is dominated by circumpolar vascular plants species (55%), with a significant proportion of widespread North American taxa (34%) and a few American–East Asian taxa (5%). Two taxa, *Arethusa bulbosa* L. and *Carex brunnescens* subsp. *sphaerostachya* (Tuck.) Kalela, have predominantly eastern American distributions (Toivonen 2002; Sheviak and Catling 2003). It is interesting that no species of fern was found, and there were only three grass (Poaceae) and two Asteraceae species.

The study area is dominated by semi-shaded peat plateaus (40%), partly treed channel fens and swamps (25%), collapse bogs (25%), and lakes (10%) (Chasmer *et al.* 2014). Swamps and marshes are mostly limited to the immediate surroundings of First Lake and Goose Lake. Peat plateaus are dominated by semi-shaded to open *Picea mariana* (Mill.) Britton, Sterns & Poggenb. (Black Spruce) forest growing on dry peat underlain by permafrost (Figure 1). Trees are stunted to a height of about 5 m, and their dead lower branches are covered with epiphytic lichens (e.g., *Usnea* spp., *Bryoria* spp.). *Rhododendron groenlandicum* (Oeder) Kron & Judd (Common Labrador Tea) and other ericaceous shrubs are common in the understory. The ground is entirely covered by lichens and bryophytes, such as *Cladonia stygia* (Fr.) Ruoss, *Cladonia mitis* Sandst., *Sphagnum fuscum* (Schimp.) H. Klinggr., *Sphagnum capillifolium* (Ehrh.) Hedw., *Stereocaulon* spp., and *Imadophila ericetorum* (L.) Zahlbr. Sandy hills are less common in the area. They are characterized by dense, tall (up to about 10–15 m) *Pinus banksiana* Lamb. (Jack Pine) and *Picea mariana* growing on a sandy substrate covered by lichens. Fens are dominated by herbaceous species with scattered *Larix laricina* (Du Roi) K. Koch (Tamarack) and *Betula glandulosa* Michx. (Glandular Birch) on wet peat. They are generally open with an abundance of *Triglochin maritima* L. (Seaside Arrowgrass) and *Menyanthes trifoliata* L. (Bog Buckbean), or sometimes densely covered by Cyperaceae species (*Trichophorum alpinum* (L.) Pers., *Eriophorum* spp., and *Carex* spp.). The ground cover is dominated by

Tomenthypnum nitens (Hedw.) Loeske, *Aulacomnium palustre* (Hedw.) Shwägr., and various pleurocarp mosses. Bogs are species poor, with a dominance of ericaceous shrubs such as *Chamaedaphne calyculata* (L.) Moench (Leatherleaf), *Andromeda polifolia* L. (Bog Rosemary), and *Vaccinium oxycoccos* L. (Small Cranberry). *Scheuchzeria palustris* L. (Marsh Scheuchzeria), *Vaccinium oxycoccos*, and *Maianthemum trifolium* (L.) Sloboda (Three-leaved False Solomon's Seal) are also common, with a dominance of *Sphagnum balticum* (Russow) C.E.O. Jensen and *S. magellanicum* Brid. Bog ponds are infrequent, but wet depressions are often encountered where setting foot causes water resurgence from the peat and where *Scheuchzeria palustris* and *Maianthemum trifolium* are often abundant. Swamps near the edge of standing water are dominated by *Myrica gale* L. (Sweet Gale) or *Betula glandulosa*, with *Menyanthes trifoliata* and *Typha latifolia* L. (Broad-leaved Cattail) as common associates. Marshes are dominated by *Typha latifolia* and *Menyanthes trifoliata*, with a high abundance of *Comarum palustre* L. (Marsh Cinquefoil), *Calla palustris* L. (Wild Calla), and *Utricularia intermedia* Hayne (Flat-leaved Bladderwort). The two major lakes are covered with *Nuphar variegata* Engelmann ex Durand (Variegated Pond-lily) associated with many *Potamogeton* species (pondweeds).

***Arethusa bulbosa*, new to and widely disjunct in the NWT**

Arethusa bulbosa (Dragon's-mouth, Orchidaceae) is reported as new to the NWT. The combination of a single, bright pink resupinate flower with the two lateral petals forming a hood over the white/yellow-mottled labellum (Figure 2), the absence of leaves during flowering, and its boggy habitat make this species unlikely to be confused with other native NWT orchids. At Scotty Creek, it was collected in full bloom in early July in a rich wet fen (see the annotated species list for more details). The main part of its range, where it is considered more common, is in northeastern North America, from Manitoba to Newfoundland, and down to northern West Virginia, with a disjunction in South Carolina in the United States (Sheviak and Catling 2003). The closest confirmed population of *A. bulbosa* occurs as a disjunction from the main range, in northwestern Saskatchewan (Harms 23985, SASK!; Argus 1962). The Scotty Creek population thus extends the known range of the species 724 km to the northeast. This new locality also makes the distribution of *A. bulbosa* almost pan-Canadian, as Scotty Creek is only about 100 km from the eastern edge of the Rocky Mountains. It appears unlikely that the species is a recent introduction at Scotty Creek, because the population was in an apparently undisturbed, natural habitat typical of the fens and lags (wet transitional regions at the edge of ombrotrophic bogs) where it is found in the eastern part of its range (Sheviak and Catling 2003; Moisan and Pellerin



FIGURE 2. Flower of *Arethusa bulbosa* L. (Dragon's-mouth, Orchidaceae) at Gracefield, Quebec, summer 2013. Photo: Marie-Ève Garon-Labrecque.

2013), and no introduced species were seen in its proximity.

Arethusa bulbosa is not known to occur in Alberta; it is considered "critically imperilled" (S1) in Saskatchewan (Saskatchewan Conservation Data Centre 2014) and "imperilled" (S2) in Manitoba (Manitoba Conservation Data Centre 2014). In 2013, a single flowering stem was found at Scotty Creek, but it was also reported and collected in 2012 (*Fafard 111*, WLU!). Elsewhere in its range, the number of flowering individuals is known to vary greatly from one year to the next, and populations apparently do not flower every year (Moisan 2011), which makes estimation of the actual size of the population challenging. Although this is the only known occurrence in the NWT, focused surveys in rich fens and lags in southern NWT should uncover other populations. In addition, potential threats to the habitat and population are limited because of the remoteness of the site at Scotty Creek. However, the apparently restricted range and population size of *A. bulbosa* in the NWT and the presence of a major disjunction suggest that it should be given the highest ranking ("may be at risk") in the territorial conservation status list (Working Group on General Status of NWT Species 2011).

***Carex pauciflora*, new to the NWT**

Carex pauciflora Lightf. (Few-flowered Sedge, Cyperaceae) is reported as new to the NWT. It is morphologically similar to *Carex microglochis* Wahlenb.,

from which it is readily distinguished by its isolated culms on long rhizomes, its perigynium without a long rhachilla protruding from the perigynium (Figure 3), its pale-brown basal leaf sheaths, and the fact that it grows in the peat of lowland bogs (Cochrane 2002). Its distribution spans the Boreal Forest ecozone of North America and northern Europe, and it is known in all Canadian provinces and the Yukon Territory. Its occurrence at Scotty Creek fills an obvious gap in its known distribution.

Carex pauciflora is considered “secure” (S5) in British Columbia (B.C. Conservation Data Centre 2013) and Alberta (Alberta Environment and Sustainable Resource Development 2014). At least three distinct populations were found at Scotty Creek, the largest with about 1000 fruiting culms and the smallest with about 20 (potentially all from a single clone). Threats to habitat and populations are probably limited at Scotty Creek, and it is quite likely that further exploration of similar sites in southern boreal NWT or careful review of herbarium collections will result in the identification of additional populations. However, the fact that a single locality is currently known for *C. pauciflora* in the NWT suggests that it should be given the highest ranking (“may be at risk”) in the territorial conservation status list (Working Group on General Status of NWT Species 2011), at least until its distribution and abundance in the NWT are better known.

***Rumex britannica*, a rare species at the northwestern edge of its range in the NWT**

Rumex britannica L. (Greater Water Dock, Polygonaceae) was found in a fen adjacent to Goose Lake, dominated by *Equisetum fluviatile* L. (Water Horsetail), *Cicuta virosa* L. (Northern Water-hemlock), and *Scutellaria galericulata* var. *pubescens* Benth. It can easily be distinguished from the other *Rumex* species in the NWT by its basal rosette of leaves with a generally cordate base and more-or-less crispate margins, as well as its hermaphroditic flowers with the inner tepals entire and with distinct tubercles at maturity (Mosyakin 2005). The morphologically similar Eurasian *Rumex crispus* L. differs by having one tubercle distinctly larger than the other two on its inner tepals (all the same size in *R. britannica*), the tubercles aligned with or bulging below the base of the tepals (tubercles clearly above the base of the tepals in *R. britannica*), a distinct swollen joint on the flower pedicels (absent in *R. britannica*), and often more distinctly crispate leaves (Voss and Reznicek 2012). *Rumex crispus* has recently been reported as introduced in the vicinity of Yellowknife, but no vouchers were deposited in public herbaria and the record thus remains unconfirmed (Catling 2005a).

Rumex britannica was known in the NWT from a single specimen collected in 1971 near Buffalo Lake (60.133°N, 115.883°W), about 15 km north of the border with Alberta (*Ducruc 194-1*, QFA, DAO! [fragments and picture]). Porsild and Cody (1980) comment that the species “barely [enters] the district of Macken-



FIGURE 3. Dense colony of *Carex pauciflora* Lightf. (Few-flowered Sedge, Cyperaceae) at Scotty Creek, Northwest Territories, summer 2013. Photo: Marie-Ève Garon-Labrecque.

zie between Ft. Smith and Hay River,” the species being there at the northwesternmost edge of its range in North America (Mosyakin 2005). Examination of all *Rumex* specimens collected in the NWT in CAN, DAO, and MT revealed another specimen of *Rumex britannica*, which was collected from Dogface Lake (about 60.283°N, 119.083°W) in 1983 and originally identified as *Rumex occidentalis* S. Watson (*Moore 3*, MT!). Thus, the Scotty Creek population extends the known range of *Rumex britannica* about 160 km to the northwest from Dogface Lake.

Rare taxa and minor range extensions

Carex brunnescens subsp. *sphaerostachya* (Round-spike Brownish Sedge, Cyperaceae) was collected in a wet open depression of a *Betula* thicket at Scotty Creek. Although the species is found throughout northern North America and Eurasia, subspecies *sphaerostachya* is considered to be restricted to Europe and eastern North America east of Saskatchewan (Toivonen 2002). The collection at Scotty Creek, therefore, confirms the presence of this subspecies in the NWT and also appears to be a significant extension to the northwest of the known range of the subspecies. However, Toivonen (2002) also indicates that intergradation with the widespread *C. brunnescens* (Pers.) Poir. subsp. *brunnescens* (Brownish Sedge) in the west makes it hard

to draw a clear boundary on the distribution of *C. brunnescens* subsp. *sphaerostachya*. Although some rare specimens appear to combine the characteristics of the two subspecies, specimens of subspecies *sphaerostachya* are generally distinct by the absence of papillae on the abaxial surface of the narrow leaves, which are generally less than 1.7 mm in width, and by the wide separation of the two distal-most spikes of the inflorescence exposing the male portion of the clavate terminal spike (Cayouette in prep.). In contrast, subspecies *brunnescens* has abundant papillae on the wide leaves (1.4–2.5 mm wide) and congested distal spikes hiding the male portion of the terminal spike. The two subspecies also differ in ecology: subspecies *brunnescens* is normally found in drier habitats in the open, whereas subspecies *sphaerostachya* apparently prefers wetter, closed habitats (Cayouette in prep.). These differences might indicate that the variation is eco-phenotypic in nature, and *C. brunnescens* is in need of a thorough, worldwide taxonomic revision (Toivonen 2002; Cayouette in prep.). Nevertheless, these characters separate the species into two groups with very few intermediates in the eastern part of the species' range, and they also appear to work well on the majority of western Canadian specimens examined, including the Scotty Creek collections. MT and CAN herbarium specimens from as far west as Alberta and the NWT could be unambiguously assigned to *C. brunnescens* subsp. *sphaerostachya* based on the above characters. More study is needed to determine the precise distribution of the two subspecies in the northwest and whether subspecies *sphaerostachya* might represent a rare taxon in the flora of the NWT.

Carex heleonastes L. f. (Hudson Bay Sedge, Cyperaceae) was collected in a fen at Scotty Creek. It has apparently not been collected in the NWT since 1977 (Cairns 1336, DAO [specimen not found]; Environment and Natural Resources 2014) and is considered "sensitive" (Working Group on General Status of NWT Species 2011). *C. heleonastes* has a (quasi-) circumpolar distribution, but it is rare or sporadic throughout North America, where it tends to occur in open calcareous wetlands such as fens (Shackelford 2004).

Carex livida (Wahlenb.) Willd. (Livid Sedge, Cyperaceae) was seen in a rich fen at Scotty Creek. This is the fifth specimen known from the NWT, filling a gap between the populations at Heart Lake (Talbot 2305, ALTA!), on Ebutt Hills, 70 km northwest of Fort Simpson (Reid 1344, ALTA!), and in Nahanni National Park (Bennett 2013; Environment and Natural Resources 2014). *C. livida* is a (quasi-)circumpolar entity that is distributed from beyond the tree line south to Panama in America, but is more or less rare and sporadic throughout its range (Rothrock and Reznicek 2002).

Epilobium leptophyllum Raf. (Bog Willowherb, Onagraceae) was seen in many wet bogs and marshes at Scotty Creek. It is considered "sensitive" and relatively rare in the NWT (Working Group on General Status of

NWT Species 2011), but appears locally common in the boreal plains south of Fort Simpson and west of Great Slave Lake where it was collected at many localities (Cody *et al.* 2003; Environment and Natural Resources 2014).

Juncus stygius subsp. *americanus* (Bucheneau) Hultén (American Moor Rush, Juncaceae) was collected for the fifth time in the NWT in a rich bog of Scotty Creek. It lies only about 30 km southwest of another known locality (*Kershaw s.n.*, 3-VIII-2002, DAO!; Cody and Reading 2005). It is considered "sensitive" in the NWT (Working Group on General Status of NWT Species 2011), although its distribution is broad: from 60.7°N to beyond the tree limit at 69.2°N in the Mackenzie River Valley (Environment and Natural Resources 2014). More sampling in the wet bogs, fens, and marshes where it dwells is needed in the NWT.

Lycopus uniflorus Michx. (Northern Water-horehound, Lamiaceae) was collected on the shore of Goose Lake in an *Equisetum fluviatile*-dominated marsh. It is relatively rare in the NWT and has not been assessed by the Working Group on General Status of NWT Species (2011). *L. uniflorus* has been collected in a few sites in the southern boreal plain south of Great Slave Lake from 110°W to 123°W, as well as along the Mackenzie up to 66°N (Environment and Natural Resources 2014). The Scotty Creek population, therefore, lies approximately in the centre of its known range in the NWT.

Malaxis monophyllos var. *brachypoda* (A. Gray) F. Morris & E. A. Eames (North American White Adder's-mouth, Orchidaceae) was collected for the second time in the NWT in a rich riparian fen along the shore of First Lake (Figure 4). The population at Scotty Creek fills the gap between the closest record at Liard Hotsprings in northern British Columbia (59.4°N, 126.083°W) and the only other record in the NWT, in a swampy area around Yellowknife (Cody and Johnston 2003). The species is ranked as "may be at risk" in the NWT (Working Group on General Status of NWT Species 2011).

Najas flexilis (Willd.) Rostk. & Schmidt (Slender Naiad, Hydrocharitaceae) was found in shallow water near the shore of First Lake. This is the second locality for the species in the NWT; the other is an unnamed lake about 210 km to the north along the Mackenzie River (62.98°N, 123.18°W; *Kershaw 14*, DAO!; Cody and Reading 2005). The Scotty Creek specimen fills the gap between the other NWT locality and the closest records in southern Yukon (60.11°N, 128.80°W; Cody *et al.* 2005) and northern Alberta (about 59.5°N, 113.2°W; Moss 1983). It is considered "sensitive" in the NWT (Working Group on General Status of NWT Species 2011), but a higher ranking should be considered given the limited number of specimens and restricted range of the species in the NWT and adjacent Yukon.

Neottia cordata (L.) Rich. (Heart-leaved Twayblade, Orchidaceae) was collected in a rich peat plateau shaded by tall black spruce trees (Figure 5). The Scotty



FIGURE 4. Fresh specimen of *Malaxis monophyllos* var. *brachypoda* (A. Gray) F. Morris & E. A. Eames (North American White Adder's-mouth, Orchidaceae), collected at Scotty Creek, Northwest Territories, summer 2013. Photo: Marie-Ève Garon-Labrecque.

Creek population extends the known range of this species about 320 km to the east, and this is also the only known site for this species outside the Mackenzie Mountains in the NWT. The closest localities are in the

Hole-in-the-Wall Lake area, Nahanni National Park (61.8°N, 127.3°W), where the species was collected by Talbot in 1976 (*Talbot 6011-2 & 6184-X*, DAO!) and by Line in 2000 (*Line 2000-356*, DAO!; Environment and



FIGURE 5. Inflorescence of *Neottia cordata* (L.) Rich. (Heart-leaved Twayblade, Orchidaceae) at Scotty Creek, Northwest Territories, summer 2013. Photo: Marie-Ève Garon-Labrecque.

Natural Resources 2014). The only other known report in the NWT is more than 50 years old and 200 km north in the Mackenzie Mountains, about 63.7°N, 127.6°W

(Jeffrey 422, DAO!; Environment and Natural Resources 2014). *N. cordata* is considered “sensitive” in

the NWT (Working Group on General Status of NWT Species 2011).

Nymphaea tetragona Georgi (Pygmy Water-lily, Nymphaeaceae) was collected in Goose Lake. It is known in the NWT from a few other lakes and ponds from Fort Smith to Yellowknife and south, the closest collection being only about 40 km north of Scotty Creek (Catling 2005b). It is considered “sensitive” in the NWT (Working Group on General Status of NWT Species 2011).

Pedicularis parviflora Sm. (Small-flowered Lousewort, Orobanchaceae) was seen in several rich fens and wet bogs at Scotty Creek. It is ranked as “sensitive” in the NWT (Working Group on General Status of NWT Species 2011) and has been collected mainly in the southern boreal plains of the NWT, although it is found to at least 65°N (Environment and Natural Resources 2014).

Platanthera dilatata (Pursh) Lindl. ex L. C. Beck var. *dilatata* (Tall White Bog Orchid, Orchidaceae) was collected in an open marshy fen at Scotty Creek. It is ranked as “may be at risk” (Working Group on General Status of NWT Species 2011); the only other known locations for the species in the NWT are in Nahanni National Park (*Talbot s.n.*, 6-VII-1976, DAO!; *Scotter 24227*, DAO!) and Tungsten (*Spicer 1501*, DAO!), both in the Mackenzie Mountains (Environment and Natural Resources 2014). The Scotty Creek collection constitutes a small range extension (about 320 km) to the east of the western portion of the range of this Cordilleran–Eastern American disjunct species, which is known only along the Pacific Coast Ranges and the Rocky Mountains in the west and from Newfoundland to central Manitoba south to Indiana in the east, with no records known in Nunavut and Saskatchewan (Sheviak 2003). Scotty Creek is, therefore, probably near the northeastern limit of the species’ range in western North America.

Potamogeton natans L. (Floating Pondweed, Potamogetonaceae) was collected in the water close to the shore of First Lake. It is ranked “sensitive” in the NWT (Working Group on General Status of NWT Species, 2011) and is known from around Yellowknife west to the Nahanni National Park in the NWT (Environment and Natural Resources 2014).

Rhynchospora alba (L.) Vahl (White Beakrush, Cyperaceae) was collected for the third time in the NWT in a wet fen at Scotty Creek. The closest report of the species is only about 80 km to the north, north of Fort Simpson (62°N, 121.5°W; *Kershaw 20*, DAO!; Cody and Reading 2005). The only other specimen known in the NWT is about 245 km to the west, in a wet fen around Mile 92 of Mackenzie Highway (*Talbot 3701*, DAO!; Environment and Natural Resources 2014). Because of its apparent rarity, it is ranked “may be at risk” in the NWT (Working Group on General Status of NWT Species 2011), but further exploration

of rich fens and bogs in the southern NWT should uncover other populations.

Utricularia minor L. (Lesser Bladderwort, Lentibulariaceae) was seen in lakes and small bog depressions at Scotty Creek. It is ranked “sensitive” in the NWT (Working Group on General Status of NWT Species 2011) and has been collected mainly around Yellowknife and in Nahanni National Park (Bennett 2013), but also once at the apex of McTavish Arm, Great Bear Lake (66.5°N; Environment and Natural Resources 2014).

Lime-indicator species

A total of 48 taxa (34%) found at Scotty Creek are reported in the literature as indicators of alkaline or mineral-rich soil or water (Table 1). The presence of many calciphiles (lime-loving plants) in this peatland-dominated landscape may be explained by the presence of a significant amount of calcium and magnesium in the water of the lakes and downstream fens and marshes of Scotty Creek (Hayashi *et al.* 2004). Although the site is almost uniformly covered by organic deposits up to 8 m deep, a small till/glacio-fluvial complex east of Goose Lake (Duk-Rodkin 2011) might include larger alkaline rocks which could be partly responsible for the presence of alkaline minerals in the surface water. However, a potentially more important source of alkaline minerals is the deeply buried glacio-lacustrine clay layer found almost throughout the site. This mineral layer is highly reactive to hydrochloric acid (M.-E. G.-L., personal observation), which indicates accumulation of carbonates, a phenomenon that has been documented in other deep glacio-lacustrine sediments of the Taiga Plain (Macdonald 1987a). The source of these carbonates is not known with certainty, but the region is underlain by a limestone-rich Devonian sedimentary bedrock (Geological Survey of Canada 1957) and the carbonates might have been deposited early during the last deglaciation by the inflow of calcium-rich waters draining from calcareous glacial deposits (MacDonald 1987b). Hayashi *et al.* (2004) have shown that the deeply buried clay of Scotty Creek contains mineral-rich groundwater that very slowly discharges into the peat and surface waters.

Beavers appear to play a certain role in the growth of lime indicators at Scotty Creek. For instance, calcicolous plants such as *Malaxis monophyllos* var. *brachypoda*, *Pedicularis parviflora*, and *Carex chordorrhiza* Ehrh. ex L. f. (Creeping Sedge) were all found in beaver feeding and nesting areas. In addition, peaks in the richness of calcicolous plants near lake shores could often be correlated with beaver activity. This is probably due to the fact that beavers dig channels to transport their food (Link 2004) and, doing so, they might transport some of the buried minerals near the ground surface, thus potentially enriching the soil available to plant roots. The effect of beaver activity on plants could also be seen in the presence of indicators of disturbed mineral soil, such as *Chamerion angustifolium*

TABLE 1. Calciphiles collected at Scotty Creek. A taxon is considered "calciphile" when reported: **1**, on calcareous, alkaline, rich or mineral substrate in continental Nunavut and Northwest Territories (Porsild and Cody 1980); **2**, mostly found in lakes with at least 48.9 mg HCO₃⁻/L in New England (Hellquist 1980); **3**, typical of extreme-rich fens in Alberta (Vitt and Chee 1990); **4**, prominent or common only on basic substrates in Northwest Territories (Timoney *et al.* 1993); **5**, preferring minerotrophic peatlands in Quebec (Garneau 2001); **6**, preferring rich fens in Canada (Gignac *et al.* 2004); **7**, calcicolous or calciphilous in northern Quebec (Dignard 2007); **8**, having an affinity for calcareous substrates in northern Quebec (Dignard 2011).

Taxon	References	Taxon	References
<i>Alnus incana</i> subsp. <i>tenuifolia</i>	5	<i>Eriophorum viridicarinatum</i>	1,5
<i>Andromeda polifolia</i>	5	<i>Galearis rotundifolia</i>	1,5
<i>Arctous rubra</i>	7	<i>Galium labradoricum</i>	5
<i>Calamagrostis canadensis</i> var. <i>canadensis</i>	5	<i>Juncus stygius</i> subsp. <i>americanus</i>	5
<i>Calamagrostis stricta</i> subsp. <i>inexpensa</i>	7	<i>Larix laricina</i>	1
<i>Carex aquatilis</i> var. <i>aquatilis</i>	5,6	<i>Maianthemum trifolium</i>	5
<i>Carex canescens</i> subsp. <i>canescens</i>	5	<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	1
<i>Carex capillaris</i> subsp. <i>capillaris</i>	1,3,7,8	<i>Menyanthes trifoliata</i>	5
<i>Carex chordorrhiza</i>	5,6,7	<i>Myrica gale</i>	5
<i>Carex diandra</i>	5,6	<i>Parnassia palustris</i>	1,3
<i>Carex disperma</i>	6	<i>Pinguicula villosa</i>	5
<i>Carex gynocrates</i>	1,5,7,8	<i>Potamogeton praelongus</i>	2
<i>Carex leptalea</i>	1,5,6	<i>Potamogeton richardsonii</i>	2
<i>Carex livida</i>	1,5,7	<i>Rhynchospora alba</i>	1
<i>Carex magellanica</i> subsp. <i>irrigua</i>	1,5	<i>Rubus arcticus</i> subsp. <i>acaulis</i>	5
<i>Carex rostrata</i>	5	<i>Salix pedicellaris</i>	5
<i>Carex tenuiflora</i>	1,5,6	<i>Shepherdia canadensis</i>	1
<i>Carex vaginata</i>	1,4,5,6,7,8	<i>Triantha glutinosa</i>	1,3
<i>Comarum palustre</i>	5	<i>Trichophorum alpinum</i>	1,3,5,6
<i>Coptidium lapponicum</i>	5	<i>Trichophorum cespitosum</i>	1,3
<i>Dasiphora fruticosa</i>	4,5	<i>Triglochin maritima</i>	1,5
<i>Drosera anglica</i>	1,3,5	<i>Utricularia intermedia</i>	5
<i>Eriophorum angustifolium</i> subsp. <i>angustifolium</i>	4,5	<i>Utricularia minor</i>	5
<i>Eriophorum gracile</i> subsp. <i>gracile</i>	5,6	<i>Urtica dioica</i> subsp. <i>gracilis</i>	1

(L.) Holub subsp. *angustifolium* (Fireweed), *Potentilla norvegica* L. (Rough Cinquefoil), and *Urtica dioica* subsp. *gracilis* (Aiton) Selander (Slender Stinging Nettle) on top of and around beaver lodges (Porsild and Cody 1980; Carey 1995).

Annotated species list

The geographic coordinates of only one representative specimen of each species are given when more than one has been collected. A general description of the habitat is given when a species was found in many different localities at Scotty Creek. Specimen citations comprise only the first collector's name, collection number, and herbarium acronym.

Lycophytes

LYCOPODIACEAE

Diphasiastrum complanatum (L.) Holub — Fafard 22 (WLU), Garon-Labrecque 13-087 (MT). SCOTTY CREEK, NWT, 61.301°N, 121.310°W. With *Cladonia* spp. in a wet depression of a shrubby birch stand. Circumpolar.

Lycopodium annotinum L. — Garon-Labrecque 13-019 (MT). SCOTTY CREEK, NWT, 61.301°N, 121.310°W. Peat plateau dominated by *Picea mariana* and *Cladonia* spp. Circumpolar.

Monilophytes

EQUISETACEAE

Equisetum arvense L. — Garon-Labrecque 13-082 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.293°W. Peat plateau with tall *Picea mariana*, *Orthilia secunda* on the ground, and dense cover of *Hylocomium splendens* and *Pleurozium schreberi*. Circumpolar.

Equisetum fluviatile L. — Garon-Labrecque 13-041 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.296°W. Dominant on the shore of Goose Lake, with *Lycopodium uniflorum*. Circumpolar.

Equisetum scirpoides Michx. — Garon-Labrecque 13-032 (MT). SCOTTY CREEK, NWT, 61.298°N, 121.299°W. Peat plateau in partial shade under *Picea mariana*, with *Rhododendron groenlandicum*. Circumpolar.

Equisetum sylvaticum L. — Garon-Labrecque 13-083 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.293°W. Peat plateau, with tall *Picea mariana*, *Orthilia secunda* and feathermosses. Circumpolar.

Gymnosperms

CUPRESSACEAE

Juniperus communis var. *depressa* Pursh — Garon-Labrecque 13-222 (MT). SCOTTY CREEK, NWT, 61.298°N, 121.299°W. Sandy hill with *Picea mariana*, *Pinus banksiana*, *Geocaulon lividum*, *Rosa acicularis*, and *Cladonia* spp. Widespread North American.

PINACEAE

- Larix laricina* (Du Roi) K. Koch — Garon-Labrecque 13-103 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.293°W. Sandy hill with *Picea mariana*, *Pinus banksiana*, *Geocaulon lividum*, *Rosa acicularis*, and *Cladonia* spp. Widespread North American.
- Picea glauca* (Moench) Voss — Garon-Labrecque 13-197 (MT). SCOTTY CREEK, NWT, 61.312°N, 121.290°W. Peat plateau dominated by *Picea mariana*, *Rhododendron groenlandicum*, and *Hylocomium splendens*. Widespread North American.
- Picea mariana* (Mill.) Britton, Sterns & Poggenb. — Garon-Labrecque 13-005 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.306°W. Peat plateau with *Rhododendron groenlandicum*, *Rubus chamaemorus*, and *Cladonia* spp. Widespread North American.
- Pinus banksiana* Lamb. — Garon-Labrecque 13-201 (MT). SCOTTY CREEK, NWT, 61.297°N, 121.303°W. Peat plateau with *Rubus chamaemorus* and *Carex* spp. Widespread North American.
- NYMFAEACEAE
- Nuphar variegata* Durand — Garon-Labrecque 13-094 (MT). SCOTTY CREEK, NWT, 61.292°N, 121.288°W. Shallow, dark water near the shore of Goose Lake, pH near neutral. Widespread North American.
- Nymphaea tetragona* Georgi — Garon-Labrecque 13-065 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.297°W. Shallow, dark water near the shore of Goose Lake, pH near neutral. Circumpolar.
- Monocots
- CYPERACEAE
- Carex aquatilis* Wahlenb. var. *aquatilis* — Garon-Labrecque 13-073, 13-075, 13-134, 13-135 (MT). SCOTTY CREEK, NWT, 61.304°N, 121.303°W. In various habitats, mostly in wet open areas forming colonies, very common. Circumpolar.
- Carex aurea* Nutt. — Garon-Labrecque 13-104 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.296°W. Edge of *Sphagnum* hummock, in a semi-closed fen under *Larix laricina*. Widespread North American.
- Carex brunnescens* subsp. *sphaerostachya* (Tuck.) Kalela — Garon-Labrecque 13-088 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.301°W. Wet depression, in the opening of a *Betula glandulosa* thicket with lycopods and *Cladonia* spp. Eastern North American.
- Carex canescens* L. subsp. *canescens* — Garon-Labrecque 13-053, 13-132 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Marshy fens with *Carex aquatilis* var. *aquatilis* and other sedges, often with *Utricularia intermedia*. Circumpolar.
- Carex capillaris* L. subsp. *capillaris* — Garon-Labrecque 13-107 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.290°W. Peat plateaus with *Picea mariana*, *Vaccinium vitis-idaea*, *Vaccinium oxycoccos*, and *Sphagnum* spp. Circumpolar.
- Carex chordorrhiza* Ehrh. ex L. f. — Fafard 6 (WLU), Garon-Labrecque 13-020, 13-086, 13-133 (MT). SCOTTY CREEK, NWT, 61.304°N, 121.303°W. Fens and bogs, running on *Sphagnum*, with other *Carex* spp. Circumpolar.
- Carex diandra* Schrank — Fafard 33 (WLU), Garon-Labrecque 13-072 (MT). SCOTTY CREEK, NWT, 61.304°N, 121.303°W. Edge of *Sphagnum* hummock, in a rich open bog with *Drosera anglica*, *Sarracenia purpurea*, *Larix laricina*, and *Carex magellanica* subsp. *irrigua*. Circumpolar.
- Carex disperma* Dewey — Garon-Labrecque 13-102, 13-124, 13-125, 13-157 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.290°W. Open bogs, top and edge of *Sphagnum* hummocks. Circumpolar.
- Carex gynocrates* Wormsk. ex Drejer — Garon-Labrecque 13-092, 13-093, 13-108A, 13-122 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.290°W. Peat plateaus; shade species found under *Picea mariana*, often with *Pleurozium schreberi*. Circumpolar.
- Carex heleonastes* L. f. — Garon-Labrecque 13-076 (MT). SCOTTY CREEK, NWT, 61.306°N, 121.295°W. Fen, intermixed in a *Carex aquatilis* var. *aquatilis* stand, with *Drosera rotundifolia*, *Maianthemum trifolium*, *Larix laricina*, and *Platanthera dilatata* var. *dilatata*. Circumpolar.
- Carex leptalea* Wahlenb. — Garon-Labrecque 13-051, 13-108B, 13-195 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.290°W. Mostly in open areas associated with various species, such as *Rhododendron groenlandicum*, *Vaccinium vitis-idaea*, *Vaccinium oxycoccos*, and *Geocaulon lividum*. Widespread North American.
- Carex limosa* L. — Garon-Labrecque 13-022 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Marshy areas with *Menyanthes trifoliata*, *Calla palustris*, and *Betula glandulosa*. Circumpolar.
- Carex livida* (Wahlenb.) Willd. — Garon-Labrecque 13-181 (MT). SCOTTY CREEK, NWT, 61.301°N, 121.296°W. Open *Sphagnum* fen with *Carex limosa*, *Maianthemum trifolium*, and *Sarracenia purpurea*. Circumpolar.
- Carex magellanica* subsp. *irrigua* (Wahlenb.) Hiitonon — Garon-Labrecque 13-021, 13-023, 13-136 (MT). SCOTTY CREEK, NWT, 61.306°N, 121.293°W. Bogs and fens, with *Eriophorum* spp., *Maianthemum trifolium*, *Chamaedaphne calyculata*, and *Menyanthes trifoliata*. Circumpolar.
- Carex pauciflora* Lightf. — Garon-Labrecque 13-172, 13-200, 13-300 (MT). SCOTTY CREEK, NWT, 61.302°N, 121.305°W. Rich *Sphagnum* bogs with *Sarracenia purpurea*, *Larix laricina*, *Drosera anglica*, and *Triantha glutinosa*. Circumpolar.
- Carex rostrata* Stokes — Fafard 38 (WLU), Garon-Labrecque 13-044, 13-061, 13-155, 13-170 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Margins of lakes and fens, often with other sedges, *Men-*

- yanthes trifoliata*, *Maianthemum trifolium*, *Calla palustris*, and *Typha latifolia*. Circumpolar.
- Carex tenuiflora* Wahlenb. — Garon-Labrecque 13-080, 13-085, 13-089, 13-158 (MT). SCOTTY CREEK, NWT, 61.300°N, 121.299°W. Open fens with *Menyanthes trifoliata*, *Carex* spp., *Comarum palustre*, and *Maianthemum trifolium*. Circumpolar.
- Carex vaginata* Tausch — Garon-Labrecque 13-091, 13-105, 13-115 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.290°W. Uncommon on peat plateaus under partial shade with *Picea mariana*, *Equisetum scirpoides*, *Larix laricina*, *Rhododendron groenlandicum*, *Equisetum sylvaticum*, *Vaccinium vitis-idaea*, *Vaccinium oxycoccos*, and *Pleurozium schreberi*. Circumpolar.
- Eriophorum angustifolium* Honck. subsp. *angustifolium* — Garon-Labrecque 13-114 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.289°W. Peat plateau with *Picea mariana*, *Vaccinium vitis-idaea*, and *Vaccinium oxycoccos*. Circumpolar.
- Eriophorum gracile* W. D. J. Koch ex A. Roth subsp. *gracile* — Garon-Labrecque 13-161 (MT). SCOTTY CREEK, NWT, 61.302°N, 121.304°W. Open *Sphagnum* bog with *Rhododendron groenlandicum* and *Rubus chamaemorus*. Circumpolar.
- Eriophorum russeolum* subsp. *albidum* (F. Nyl.) Väre — Garon-Labrecque 13-010A, 13-010B, 13-012, 13-131, 13-154 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.304°W. Open bogs, very common species growing with *Sarracenia purpurea*, *Larix laricina*, *Drosera rotundifolia*, *Drosera anglica*, *Maianthemum trifolium*, *Carex* spp., *Scheuchzeria palustris*, *Andromeda polifolia*, and *Chamaedaphne calyculata*. Circumpolar.
- Eriophorum vaginatum* L. subsp. *vaginatum* — Fafard 19 (WLU), Garon-Labrecque 13-042, 13-160 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.296°W. Open fens and bogs, with *Equisetum fluviatile*, *Lycopus uniflorus*, *Rhododendron groenlandicum*, and *Rubus chamaemorus*. Circumpolar.
- Eriophorum viridicarinatum* (Engelm.) Fernald — Fafard 8 (WLU), Garon-Labrecque 13-038 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.296°W. Rich fen with *Larix laricina*, *Arethusa bulbosa*, *Triglochin maritima*, *Pedicularis parviflora*, and *Platanthera aquilonis*. Widespread North American.
- Rhynchospora alba* (L.) Vahl — Garon-Labrecque 13-141 (MT). SCOTTY CREEK, NWT, 61.300°N, 121.302°W. Rich wet fen with *Drosera anglica*, *Sarracenia purpurea*, *Larix laricina*, and *Carex magellanica* subsp. *irrigua*. Circumpolar.
- Schoenoplectus acutus* (Muhl. ex Bigelow) Á. Löve & D. Löve — Garon-Labrecque 13-066, 13-184 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.297°W. Sandy soil mixed with dark organic matter in the littoral zone of Goose Lake, water pH near neutral, with *Nymphaea tetragona* and *Potamogeton* spp. Widespread North American.

Trichophorum alpinum (L.) Pers. — Garon-Labrecque 13-036, 13-081, 13-130, 13-153 (MT). SCOTTY CREEK, NWT, 61.303°N, 121.279°W. Rich open bogs with *Drosera anglica*, *Drosera rotundifolia*, *Sarracenia purpurea*, *Larix laricina*, *Maianthemum trifolium*, *Carex magellanica* subsp. *irrigua*, and sometimes with *Trichophorum cespitosum*. Circumpolar.

Trichophorum cespitosum (L.) Hartm. — Garon-Labrecque 13-129, 13-143 (MT). SCOTTY CREEK, NWT, 61.301°N, 121.293°W. Uncommon in rich bogs with *Sarracenia purpurea*, *Larix laricina*, *Trichophorum alpinum*, *Drosera anglica*, and *Carex magellanica* subsp. *irrigua*. Circumpolar.

JUNCACEAE

Juncus stygius subsp. *americanus* (Buchenau) Hultén — Garon-Labrecque 13-039 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.296°W. Rich bog with *Larix laricina*, *Arethusa bulbosa*, *Triglochin maritima*, *Pedicularis parviflora*, and *Platanthera aquilonis*. Widespread North American.

JUNCAGINACEAE

Triglochin maritima L. — Garon-Labrecque 13-029 (MT). SCOTTY CREEK, NWT, 61.304°N, 121.303°W. Open marshy area with *Menyanthes trifoliata*, *Larix laricina*, and *Sphagnum* spp. Circumpolar.

ORCHIDACEAE

Arethusa bulbosa L. — Fafard 111 (WLU), Garon-Labrecque 13-034 (MT). SCOTTY CREEK, NWT, 61.303°N, 121.279°W. Rich fen with *Larix laricina*, *Drosera anglica*, *Triantha glutinosa*, *Triglochin maritima*, *Pedicularis parviflora*, and *Platanthera aquilonis*. Eastern North American.

Galearis rotundifolia (Banks ex Pursh) R.M. Bateman — Garon-Labrecque 13-120 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.288°W. Peat plateau, in moss under *Picea mariana*, with *Pyrola asarifolia* subsp. *asarifolia*. Eastern North American.

Goodyera repens (L.) R. Br. — Garon-Labrecque 13-202 (MT). SCOTTY CREEK, NWT, 61.297°N, 121.303°W. Sandy hill with tall *Pinus banksiana*, *Equisetum scirpoides*, *Cornus canadensis*, and *Alnus viridis* subsp. *crispa*. Widespread North American.

Malaxis monophyllos var. *brachypoda* (A. Gray) F. Morris & E. A. Eames — Garon-Labrecque 13-140 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Shore of First Lake near a beaver lodge. Rich fen, in the shade of *Menyanthes trifoliata*, with peat and moss, *Pedicularis parviflora*, and *Comarum palustre*. Widespread North American.

Neottia cordata (L.) Rich. — Garon-Labrecque 13-148 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.292°W. Peat plateau dominated by *Picea mariana* and *Pleurozium schreberi*, with *Equisetum scirpoides*, *Larix laricina*, *Rhododendron groenlandicum*, and *Equisetum sylvaticum*. Circumpolar.

- Platanthera aquilonis* Sheviak — Garon-Labrecque 13-033, 13-106 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.290°W. Found in a variety of rich wet habitats. Widespread North American.
- Platanthera dilatata* (Pursh) Lindl. ex L. C. Beck var. *dilatata* — Garon-Labrecque 13-223 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Open fen, at the base of a *Sphagnum* hummock with *Maianthemum trifolium*, *Carex limosa*, and *C. aquatilis* var. *aquatilis*. Widespread North American.
- Spiranthes romanzoffiana* Cham. — Garon-Labrecque 13-049, 13-142, 13-224 (MT). SCOTTY CREEK, NWT, 61.316°N, 121.300°W. Generally in rich bogs with *Scheuchzeria palustris*, *Drosera anglica*, and *Sarracenia purpurea*. Widespread North American.
- POACEAE
- Arctagrostis latifolia* subsp. *arundinacea* (Trin.) Tzvelev — Garon-Labrecque 13-193, 13-194 (MT). SCOTTY CREEK, NWT, 61.312°N, 121.292°W. Opening of a forest, dominated by *Picea mariana*, *Petasites frigidus* var. *sagittatus*, *Rhododendron groenlandicum*, *Hylocomium splendens*, and *Equisetum sylvaticum*. Amphi-Beringian.
- Calamagrostis canadensis* (Michx.) P. Beauv. var. *canadensis* — Garon-Labrecque 13-026 (MT). SCOTTY CREEK, NWT, 61.307°N, 121.302°W. Margin of a bog and a peat plateau, semi-shaded, with *Rhododendron groenlandicum* and *Betula glandulosa*. Circumpolar.
- Calamagrostis stricta* subsp. *inexpensa* (A. Gray) C. W. Greene — Garon-Labrecque 13-025 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.301°W. Opening of *Betula glandulosa* stand. Widespread North American.
- POTAMOGETONACEAE
- Potamogeton alpinus* Balb. — Garon-Labrecque 13-057 (MT). SCOTTY CREEK, NWT, 61.307°N, 121.307°W. Water of a marsh, under the shade of *Sparganium natans*, *Menyanthes trifoliata*, and *Lysimachia thyrsoiflora*. Circumpolar.
- Potamogeton* cf. *pusillus* subsp. *tenuissimus* (Mert. & W. D. J. Koch) R. R. Haynes & Hellq. — Garon-Labrecque 13-067, 13-099, 13-162 (MT). SCOTTY CREEK, NWT, 61.307°N, 121.307°W. Shallow water of First Lake, with *Utricularia vulgaris* and *Nuphar variegata*. Circumpolar. No flowering individual was encountered and the sterile specimens could not be identified with certainty. It could also correspond to *Potamogeton obtusifolius* Mert. & W. D. J. Koch.
- Potamogeton gramineus* L. — Garon-Labrecque 13-077, 13-079 (MT). SCOTTY CREEK, NWT, 61.297°N, 121.298°W. Dark water of the littoral zone of Goose Lake, with *Schoenoplectus acutus*, pH near neutral. Circumpolar.
- Potamogeton natans* L. — Garon-Labrecque 13-186 (MT). SCOTTY CREEK, NWT, 61.304°N, 121.305°W. Shallow water of First Lake, pH near neutral. Circumpolar.
- Potamogeton praelongus* Wulfen. — Garon-Labrecque 13-095, 13-096 (MT). SCOTTY CREEK, NWT, 61.294°N, 121.301°W. Dark, shallow water of Goose Lake, pH near neutral. Circumpolar.
- Potamogeton richardsonii* (A. Benn.) Rydb. — Garon-Labrecque 13-098, 13-175, 13-185 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.292°W. Dark, shallow water of Goose Lake, pH near neutral. Widespread North American.
- TOFIELDIACEAE
- Triantha glutinosa* (Michx.) Baker — Garon-Labrecque 13-035, 13-209 (MT). SCOTTY CREEK, NWT, 61.303°N, 121.279°W. Rich fens and bogs with *Sarracenia purpurea* and *Drosera anglica*. Circumpolar.
- EUDICOTS
- ADOXACEAE
- Viburnum edule* (Michx.) Raf. — Garon-Labrecque 13-159 (MT). SCOTTY CREEK, NWT, 61.298°N, 121.297°W. Under *Picea mariana* stand near Goose Lake shore, with *Alnus incana* subsp. *tenuifolia*. Widespread North American.
- APIACEAE
- Cicuta bulbifera* L. — Garon-Labrecque 13-069 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.298°W. In an *Equisetum fluviatile* marsh on Goose Lake. Widespread North American.
- Cicuta virosa* L. — Garon-Labrecque 13-126 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.297°W. Fen, under the shade of *Menyanthes trifoliata*. Circumpolar.
- ARACEAE
- Calla palustris* L. — Garon-Labrecque 13-187, 13-188 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.310°W. Marshy fen with *Menyanthes trifoliata*, *Carex rostrata*, *Carex limosa*, and *Carex magellanica* subsp. *irrigua*. Circumpolar.
- ASPARAGACEAE
- Maianthemum trifolium* (L.) Sloboda — Garon-Labrecque 13-006 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.304°W. Bog with *Picea mariana*, *Andromeda polifolia*, *Chamaedaphne calyculata*, *Drosera rotundifolia*, and *Carex* spp. East Asian–North American.
- ASTERACEAE
- Erigeron elatus* (Hook.) Greene — Garon-Labrecque 13-113 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.290°W. On top of a dry *Sphagnum* hummock with *Larix laricina* and *Picea mariana*. Widespread North American.
- Petasites frigidus* (L.) Fr. var. *frigidus* — Garon-Labrecque 13-116 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.289°W. Peat plateau with *Picea mariana*, *Sphagnum* spp., *Vaccinium vitis-idaea*, and *Vaccinium oxycoccus*. Circumpolar.
- Petasites frigidus* var. *sagittatus* (Pursh) Cherniawsky — Garon-Labrecque 13-156 (MT). SCOTTY CREEK,

NWT, 61.310°N, 121.293°W. Open wet bog with *Salix* spp. and *Chamaedaphne calyculata*. Widespread North American.

BETULACEAE

Alnus incana subsp. *tenuifolia* (Nutt.) Breitung — Garon-Labrecque 13-220 (MT). SCOTTY CREEK, NWT, 61.298°N, 121.297°W. Open sandy area close to Goose Lake. Widespread North American.

Alnus viridis subsp. *crispa* (Aiton) Turill — Garon-Labrecque 13-117, 13-199 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.288°W. Dry peat plateaus and sandy hills under shade. East Asian–North American.

Betula glandulosa Michx. — Garon-Labrecque 13-024, 13-165, 13-177, 13-178, 13-179, 13-210 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.288°W. Ubiquitous on the site in shrubby areas. Widespread North American.

Betula neolaskana Sarg. — Garon-Labrecque 13-064, 13-118, 13-221 (MT). SCOTTY CREEK, NWT, 61.302°N, 121.305°W. Frequent on peat plateaus. Western American.

CAPRIFOLIACEAE

Linnaea borealis L. — Garon-Labrecque 13-203 (MT). SCOTTY CREEK, NWT, 61.303°N, 121.297°W. Sandy hill with tall *Pinus banksiana*, *Equisetum scirpoides*, *Cornus canadensis*, and *Alnus viridis* subsp. *crispa*. Circumpolar.

CARYOPHYLLACEAE

Stellaria borealis Bigelow subsp. *borealis* — Garon-Labrecque 13-214 (MT). SCOTTY CREEK, NWT, 61.303°N, 121.297°W. On *Sphagnum* hummock under the shade of *Picea mariana* and *Larix laricina*, with *Rhododendron groenlandicum*, *Vaccinium uliginosum*, and *Chamaedaphne calyculata*. Circumpolar.

Stellaria longipes Goldie subsp. *longipes* — Garon-Labrecque 13-046 (MT). SCOTTY CREEK, NWT, 61.303°N, 121.297°W. In an open wet marshy fen with *Carex rostrata* and *Menyanthes trifoliata*. Circumpolar.

CELASTRACEAE

Parnassia palustris L. — Garon-Labrecque 13-119, 13-168, 13-189 (MT). SCOTTY CREEK, NWT, 61.297°N, 121.297°W. Rich open peat plateaus with *Larix laricina*, *Sphagnum* spp., and *Rubus chamaemorus*. Widespread North American.

CORNACEAE

Cornus canadensis L. — Garon-Labrecque 13-204 (MT). SCOTTY CREEK, NWT, 61.297°N, 121.303°W. Sandy hill with *Pinus banksiana*, *Equisetum scirpoides*, and *Alnus viridis* subsp. *crispa*. Widespread North American.

Cornus stolonifera Michx. — Garon-Labrecque 13-070, 13-071 (MT). SCOTTY CREEK, NWT, 61.297°N, 121.298°W. Shore of Goose Lake, with *Picea mariana*, *Schoenoplectus acutus*, and *Myrica gale*. Widespread North American.

DROSERACEAE

Drosera anglica Huds. — Fafard 39 (WLU), Garon-Labrecque 13-037 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.296°W. Rich fen with *Larix laricina*, *Arethusa bulbosa*, *Triglochin maritima*, *Pedicularis parviflora*, and *Platanthera aquilonis*. Circumpolar.

Drosera rotundifolia L. — Garon-Labrecque 13-011 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.304°W. Ubiquitous on the site. Circumpolar.

ELEAGNACEAE

Shepherdia canadensis (L.) Nutt. — Garon-Labrecque 13-138 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.292°W. Rich wooded areas dominated by *Picea mariana* and *Pleurozium schreberi*, with *Equisetum scirpoides*, *Larix laricina*, *Rhododendron groenlandicum*, and *Equisetum sylvaticum*. Widespread North American.

ERICACEAE

Andromeda polifolia L. — Garon-Labrecque 13-007 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.304°W. Bog with *Picea mariana*, *Chamaedaphne calyculata*, *Maianthemum trifolium*, *Drosera rotundifolia*, and *Carex* spp. Circumpolar.

Arctous rubra (Rehder & E. H. Wilson) Nakai — Garon-Labrecque 13-137 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.292°W. On peat plateau under the shade of *Picea mariana*, with *Equisetum scirpoides*, *Larix laricina*, *Rhododendron groenlandicum*, *Equisetum sylvaticum*, and *Pleurozium schreberi*. East Asian–North American.

Chamaedaphne calyculata (L.) Moench — Garon-Labrecque 13-062 (MT). SCOTTY CREEK, NWT, 61.312°N, 121.306°W. Open bogs with other ericaceous species and *Eriophorum* spp. Circumpolar.

Empetrum nigrum subsp. *hermaphroditum* (Hagerup) Böcher — Garon-Labrecque 13-145 (MT). SCOTTY CREEK, NWT, 61.306°N, 121.291°W. Peat plateau, under *Picea mariana*, with *Rubus chamaemorus*. Circumpolar.

Kalmia microphylla (Hook.) Ebinger var. *microphylla* — Garon-Labrecque 13-002 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.304°W. Bog with *Picea mariana*, *Andromeda polifolia*, *Chamaedaphne calyculata*, *Maianthemum trifolium*, *Drosera rotundifolia*, and *Carex* spp. Widespread North American.

Moneses uniflora (L.) A. Gray — Garon-Labrecque 13-058 (MT). SCOTTY CREEK, NWT, 61.3099°N, 121.2931°W. Transition zone between fen and peat plateau, dominated by *Picea mariana*, *Larix laricina*, *Salix* spp., and *Sphagnum* spp. Circumpolar.

Orthilia secunda (L.) House — Garon-Labrecque 13-084 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.293°W. Peat plateau under tall *Picea mariana*. Circumpolar.

Pyrola asarifolia Michx. subsp. *asarifolia* — Garon-Labrecque 13-121 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.288°W. Peat plateau, in the shade of

Picea mariana with *Galearis rotundifolia*. East Asian–North American.

Pyrola chlorantha Sw. — Garon-Labrecque 13-176 (MT). SCOTTY CREEK, NWT, 61.298°N, 121.296°W. Near Goose Lake shore under the shade of *Picea mariana*, with *Equisetum scirpoides* and *Ribes hudsonianum*. Circumpolar.

Rhododendron groenlandicum (Oeder) Kron & Judd — Garon-Labrecque 13-128 (MT). SCOTTY CREEK, NWT, 61.301°N, 121.293°W. On peat plateaus, very common and abundant. Widespread North American.

Rhododendron tomentosum Harmaja — Garon-Labrecque 13-030 (MT). SCOTTY CREEK, NWT, 61.303°N, 121.299°W. Peat plateau, with *Picea mariana* and *Rhododendron groenlandicum*. East Asian–North American.

Vaccinium oxycoccos L. — Garon-Labrecque 13-003 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.305°W. Peat plateau dominated by *Rhododendron groenlandicum* and *Picea mariana*, with *Rubus chamaemorus*, *Vaccinium vitis-idaea*, and *Cladonia* spp. Circumpolar.

Vaccinium uliginosum L. — Garon-Labrecque 13-027 (MT). SCOTTY CREEK, NWT, 61.307°N, 121.302°W. Peat plateau dominated by *Picea mariana* and *Cladonia* spp. Circumpolar.

Vaccinium vitis-idaea L. — Garon-Labrecque 13-001 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.304°W. Bog with *Picea mariana*, *Andromeda polifolia*, *Chamaedaphne calyculata*, *Maianthemum trifolium*, *Drosera rotundifolia*, and *Carex* spp. Circumpolar.

GROSSULARIACEAE

Ribes cf. *glandulosum* Grauer — Garon-Labrecque 13-217 (MT). SCOTTY CREEK, NWT, 61.309°N, 121.292°W. On a peat plateau with *Picea mariana*, *Geocaulon lividum*, and *Rhododendron groenlandicum*. Widespread North American. A single young, immature specimen was collected. It lacks the abundant glandless white trichomes normally present on the abaxial leaf surfaces of *Ribes glandulosum* and might also be referable to a bristleless form of *Ribes lacustre*.

Ribes hudsonianum Richardson var. *hudsonianum* — Garon-Labrecque 13-146 (MT). SCOTTY CREEK, NWT, 61.307°N, 121.287°W. Peat plateau, half-shaded under *Picea mariana*. Widespread North American.

HALORAGACEAE

Mriophyllum verticillatum L. — Garon-Labrecque 13-050 (MT). SCOTTY CREEK, NWT, 61.307°N, 121.308°W. Shallow water near the shore of First Lake. Circumpolar.

HYDROCHARITACEAE

Najas flexilis (Willd.) Rostk. & Schmidt — Garon-Labrecque 13-016 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Shallow water near

the shore of First Lake, anchored in thick layer of organic matter. Amphi-Atlantic.

LAMIACEAE

Lycopus uniflorus Michx. — Garon-Labrecque 13-040 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.296°W. Shore of Goose Lake, in an *Equisetum fluviatile* stand. East Asian–North American.

Scutellaria galericulata var. *pubescens* Benth. — Garon-Labrecque 13-013, 13-048 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Open marshy places near the shore of First Lake, often with *Carex rostrata*, *Calla palustris*, and *Menyanthes trifoliata*. Widespread North American.

LENTIBULARIACEAE

Pinguicula villosa L. — Garon-Labrecque 13-063 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Common on top of *Sphagnum* hummocks and peat plateaus under *Picea mariana*. Circumpolar.

Utricularia intermedia Hayne — Garon-Labrecque 13-014, 13-068, 13-163, 13-183 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Found in shallow water of lakes but also in open marshes under *Menyanthes trifoliata*. Circumpolar.

Utricularia minor L. — Garon-Labrecque 13-078 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Shallow water of lakes and wet bog depressions. Circumpolar.

Utricularia vulgaris L. — Garon-Labrecque 13-015, 13-017 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Floating in shallow water of lakes. Circumpolar.

MENYANTHACEAE

Menyanthes trifoliata L. — Garon-Labrecque 13-009 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.304°W. Ubiquitous in wet open habitats. Circumpolar.

MYRICACEAE

Myrica gale L. — Garon-Labrecque 13-127 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.292°W. Shore of Goose Lake with *Salix* spp. and *Alnus incana* subsp. *tenuifolia*. Circumpolar.

ONAGRACEAE

Chamerion angustifolium (L.) Holub subsp. *angustifolium* — Garon-Labrecque 13-110, 13-152 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.290°W. Open dry areas near beaver huts. Circumpolar.

Epilobium leptophyllum Raf. — Garon-Labrecque 13-045, 13-173, 13-180 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Wet bogs and marshes. Widespread North American.

OROBANCHACEAE

Pedicularis labradorica Wirsing — Fafard 21 (WLU), Garon-Labrecque 13-123, 13-144 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.288°W. Rich peat plateaus dominated by *Picea mariana* and *Pleurozium schreberi*, with *Equisetum scirpoides*, *Larix lar-*

icina, *Rhododendron groenlandicum*, and *Equisetum sylvaticum*. Circumpolar.

Pedicularis parviflora Smith — Garon-Labrecque 13-028, 13-208 (MT). SCOTTY CREEK, NWT, 61.301°N, 121.293°W. In fens and rich marshy bogs. Widespread North American.

POLYGONACEAE

Persicaria lapathifolia (L.) Delarbre — Garon-Labrecque 13-174 (MT). SCOTTY CREEK, NWT, 61.304°N, 121.294°W. In well-drained organic soil on the shore of Goose Lake, in full sun, with *Calamagrostis canadensis* var. *canadensis*, *Betula glandulosa*, and *Rumex britannica*. Circumpolar.

Rumex britannica L. — Garon-Labrecque 13-171 (MT). SCOTTY CREEK, NWT, 61.299°N, 121.296°W. Marsh on the shore of Goose Lake, dominated by *Equisetum fluviatile*, *Cicuta virosa*, and *Scutellaria galericulata* var. *pubescens*. Widespread North American.

PRIMULACEAE

Lysimachia thyrsiflora L. — Garon-Labrecque 13-052 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Fen with *Sphagnum* spp., *Comarum palustre*, *Carex aquatilis* var. *aquatilis*, *Carex magellanica* subsp. *irrigua*, and *Carex limosa*. Circumpolar.

RANUNCULACEAE

Coptidium lapponicum (L.) Gand. ex Rydb. — Garon-Labrecque 13-213 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.290°W. Wet mossy depression under the shade of a tall *Picea mariana* stand, with *Larix laricina*, *Rhododendron groenlandicum*, *Vaccinium uliginosum*, and *Chamaedaphne calyculata*. Circumpolar.

ROSACEAE

Comarum palustre L. — Garon-Labrecque 13-055 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Common in marshes with *Carex aquatilis* var. *aquatilis*, *Carex rostrata*, and *Calla palustris*. Circumpolar.

Dasiphora fruticosa (L.) Rydb. — Garon-Labrecque 13-112 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.288°W. Opening in a forested peat plateau with *Picea mariana*, *Larix laricina*, *Vaccinium uliginosum*, and *Sphagnum* spp. Circumpolar.

Potentilla norvegica L. — Garon-Labrecque 13-150 (MT). SCOTTY CREEK, NWT, 61.302°N, 121.305°W. Growing on top of a beaver lodge with *Chamerion angustifolium* subsp. *angustifolium* and *Urtica dioica* subsp. *gracilis* on First Lake shore. Circumpolar.

Rosa acicularis Lindl. — Garon-Labrecque 13-207 (MT). SCOTTY CREEK, NWT, 61.298°N, 121.299°W. Semi-open area in *Picea mariana* and *Pinus banksiana* stand, with *Juniperus communis* var. *depressa* and *Cornus canadensis*. Circumpolar.

Rubus arcticus subsp. *acaulis* (Michx.) Focke — Garon-Labrecque 13-090, 13-109 (MT). SCOTTY CREEK, NWT, 61.310°N, 121.290°W. Peat plateaus

with *Picea mariana*, *Vaccinium vitis-idaea*, *Vaccinium oxycoccos*, and *Sphagnum* spp. Widespread North American.

Rubus chamaemorus L. — Garon-Labrecque 13-004, 13-211 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.305°W. Very common on peat plateaus and in bogs. Circumpolar.

RUBIACEAE

Galium labradoricum (Wiegand) Wiegand — Garon-Labrecque 13-054 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Marsh, straggling on *Comarum palustre* and *Menyanthes trifoliata*. Widespread North American.

Galium trifidum L. — Garon-Labrecque 13-047 (MT). SCOTTY CREEK, NWT, 61.298°N, 121.299°W. Open fen dominated by *Carex rostrata* and *Menyanthes trifoliata*. Circumpolar.

SALICACEAE

Populus balsamifera L. — Garon-Labrecque 13-225 (MT). SCOTTY CREEK, NWT, 61.306°N, 121.295°W. Open area at the transition between a peat plateau and a fen. Widespread North American.

Populus tremuloides Michx. — Garon-Labrecque 13-167, 13-205 (MT). SCOTTY CREEK, NWT, 61.297°N, 121.303°W. Peat plateaus and sandy hills. Widespread North American.

Salix arbusculoides Andersson — Garon-Labrecque 13-169 (MT). SCOTTY CREEK, NWT, 61.300°N, 121.304°W. Open dry area with *Salix* spp., *Populus balsamifera*, and *P. tremuloides*. West American.

Salix bebbiana Sarg. — Garon-Labrecque 13-206, 13-219 (MT). SCOTTY CREEK, NWT, 61.311°N, 121.286°W. On peat plateaus, opening in a *Picea mariana* stand, with *Larix laricina*, *Rhododendron groenlandicum*, and *Chamaedaphne calyculata*. Widespread North American.

Salix discolor Muhl. — Garon-Labrecque 13-218 (MT). SCOTTY CREEK, NWT, 61.298°N, 121.297°W. Sandy hill near Goose Lake shore, opening in a *Picea mariana* stand, with *Salix* spp., *Vaccinium uliginosum*, and *Myrica gale*. Widespread North American.

Salix glauca var. *acutifolia* (Hook.) C. K. Schneid. — Garon-Labrecque 13-166 (MT). SCOTTY CREEK, NWT, 61.300°N, 121.304°W. Open transitional area between bog and peat plateau, with *Betula glandulosa* and *Populus tremuloides*. Widespread North American.

Salix lasiandra Benth. — Garon-Labrecque 13-190 (MT). SCOTTY CREEK, NWT, 61.312°N, 121.292°W. Open wet area with *Larix laricina*, *Picea mariana*, *Betula glandulosa*, *Chamaedaphne calyculata*, and *Equisetum*. West American.

Salix myrtilifolia Andersson — Garon-Labrecque 13-147, 13-196, 13-215 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.298°W. Rich wet semi-open areas in *Picea mariana* stands on peat plateaus, with

Rhododendron groenlandicum and other shrubs. Widespread North American.
Salix pedicellaris Pursh — Garon-Labrecque 13-100, 13-101, 13-149 (MT). SCOTTY CREEK, NWT, 61.300°N, 121.304°W. Very common in wet and open areas with *Carex* spp. Widespread North American.

SANTALACEAE

Geocaulon lividum (Richardson) Fernald — Garon-Labrecque 13-031 (MT). SCOTTY CREEK, NWT, 61.303°N, 121.299°W. Peat plateaus with many species of *Cladonia* spp., *Picea mariana*, and *Rhododendron groenlandicum*. Widespread North American.

SARRACENIACEAE

Sarracenia purpurea L. — Garon-Labrecque 13-074 (MT). SCOTTY CREEK, NWT, 61.300°N, 121.302°W. Common in fens and rich bogs. Widespread North American.

SAXIFRAGACEAE

Mitella nuda L. — Garon-Labrecque 13-111, 13-191 (MT). SCOTTY CREEK, NWT, 61.312°N, 121.292°W. Rich shady peat plateaus. East Asian–North American.

SCHEUCHZERIAACEAE

Scheuchzeria palustris L. — Garon-Labrecque 13-008 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.304°W. Bog with *Picea mariana*, *Andromeda polifolia*, *Chamaedaphne calyculata*, *Maianthemum trifolium*, *Drosera rotundifolia*, and *Carex* spp. Circumpolar.

TYPHACEAE

Sparganium angustifolium Michx. — Garon-Labrecque 13-059 (MT). SCOTTY CREEK, NWT, 61.293°N, 121.293°W. Shallow, dark water of Goose Lake, anchored in deep organic layer, pH near neutral. Circumpolar.

Sparganium natans L. — Garon-Labrecque 13-056, 13-182 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Marshes with *Myrica gale*, *Typha latifolia*, *Calla palustris*, *Menyanthes trifoliata*, and *Carex aquatilis* var. *aquatilis*. Circumpolar.

Typha latifolia L. — Garon-Labrecque 13-060 (MT). SCOTTY CREEK, NWT, 61.293°N, 121.307°W. Common in swamps and along the shores of lakes, often with *Myrica gale*. Circumpolar.

URTICACEAE

Urtica dioica subsp. *gracilis* (Aiton) Selander — Garon-Labrecque 13-139, 13-151 (MT). SCOTTY CREEK, NWT, 61.308°N, 121.307°W. Open area on a beaver lodge with *Chamerion angustifolium* subsp. *angustifolium*. Widespread North American.

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