

NEW PLANT RECORDS FROM NORTHWESTERN MACKENZIE DISTRICT, N.W.T.*

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IN 1953, I first visited the Mackenzie River Delta. At that time accompanied by Mr. Robert L. Gutteridge, I spent the period August 12-16 in the immediate vicinity of Aklavik. From June 7 to August 20, 1957 Mr. Don Ferguson and I carried out a survey of the vegetation in the eastern part of the Mackenzie Delta and a large part of the Reindeer Grazing Preserve. Again from June 29 to August 2, 1963 I revisited the Reindeer Grazing Preserve. During these surveys many plant specimens were gathered. The mosses collected in 1957 have already been reported upon by W. C. Steere (1958). Among the vascular plants were a number of particular interest. These are recorded below.

The area under study was roughly that covered by the Port Brabant map sheet (Canada Department of Mines and Resources, National Topographic Series Sheets 107 SW and 107 SE). It lies between 68° and 70° N latitude, and 128° and 136° W longitude. A map of the region is shown in Figure 1. The exact co-ordinates of some of the more important collecting localities are:

Aklavik	68°13'N	135°00'W
Campbell Lake	68°14'N	133°28'W
Inuvik	68°18'N	133°40'W
Kidluit Bay	69°31'N	133°48'W
Reindeer Station	68°42'N	134°08'W
Toker Point	69°38'N	132°54'W
Tuktoyaktuk (Port Brabant)	69°27'N	133°02'W
Warren Point	69°44'N	132°30'W

In the paragraphs which follow, the abbreviations MRD (Mackenzie River Delta), AC (Arctic Coast between East Branch Mackenzie River and Anderson River) and ELB (Eskimo Lake Basin) have been used to conserve space. Collection numbers are those of the author unless otherwise stated. The specimens are preserved in the Phanerogamic Herbarium of the Canada Department of Agriculture, Ottawa (DAO).

EQUISETACEAE

Equisetum fluviatile L. ELB: among *Carex aquatilis* rooted in ooze of small bay, Eskimo Lakes, south end of westernmost lake at mouth of Sitidgi Creek, 68°41'N, 132°55'W, 10795.

Hooker (1829-40) recorded *E. fluviatile* "... to the shores of the Arctic Sea". In the Mackenzie River Delta this species forms extensive colonies on depositing silty river shores and strongly woven mats about the shores of small lakes in the delta islands at

least as far north as the Reindeer Station on the East Branch. It has not previously been recorded from the Eskimo Lake Basin. This collection, although sterile and somewhat smaller than collections from the vicinity of the Reindeer Station, seems best referred here.

LYCOPODIACEAE

Lycopodium annotinum L.

Specimens collected at Aklavik (7895) and in the vicinity of the Reindeer Station (9594, 10109 and 10435) have mostly spreading to

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FIGURE 1. Map of Reindeer Grazing Preserve (limits shown by heavy line) and Mackenzie River Delta.

reflexed leaves and hence are referred to var. *annotinum* even though the leaves are much shorter than or barely reach the lower limit of the 5.5 - 11.0 mm length ascribed to the variety by Fernald (1950). Specimens from the Eskimo Lake Basin (10529, 10638 and 10815) are referred to var. *pungens* (La Pylaie) Desv.

SELAGINELLACEAE

Selaginella sibirica (Milde) Hieron.

When Tryon (1955) wrote his monograph of the genus *Selaginella*, this species was known to him from Yukon and Alaska to Trans Baikal, Manchuria and Japan. Porsild (1943) had however already reported its presence on the steep west-facing Caribou

Hills on the east bank of the Mackenzie River, where I have also collected it, and at the south end of Richards Island. Porsild, in addition, stated that it had not previously been recorded from north of Lake Athabaska. Raup (1935) and Tryon (1955) however cited these Lake Athabaska specimens as *S. rupestris*, as are my specimens from Fort Fitzgerald, Alberta (Cody, 1956), the northwesterly known extent of that species.

PINACEAE

Larix laricina (Du Roi) K. Koch MRD: a few trees to 30 ft. in height and dbh 5 inches, near lakeshore, Campbell Lake, 10 miles southeast of Inuvik, 12738; ELB: in front of cabin, Anderson River Forks, W. E. Stevens s.n., 25 Aug. 1948 (DAO).

The Stevens specimen was taken at the junction of the Carnwath and Anderson Rivers in the southeastern section of the Reindeer Grazing Preserve (68°25'N, 128°48'W) and is the northernmost collection yet recorded for the species. According to Stevens, in conversation, the trees, which grew to a height of about 5 ft. were not common. Small trees are found occasionally in black spruce muskeg north to Inuvik in the area adjacent to the East Branch Mackenzie River. Also, between Hyndman Lake to the east, and the Anderson River, trees to 40 ft. in height were observed (from the air) in open stands of *Picea*. The northern limit of *Larix* is south of that of both *Picea glauca* and *P. mariana*.

POTAMOGETONACEAE

Potamogeton vaginatus Turcz. MRD: very common rooted in muck in 3 to 4 ft. water of small lake, Williams Island opposite Reindeer Station, 10887; ELB: shallow water one to two ft. deep by lake shore, Crossley Lakes, 68°35'N, 129°30'W, 13116. Not previously recorded from north of Great Bear Lake some 300 miles to the southeast (Raup, 1947).

Potamogeton friesii Rupr. MRD: in 12 inches water, 68°42'N, 134°07'W [near Reindeer Station] I. McT. Cowan, 38 (DAO); ELB: common in 2 ft. water in embayment cut off by sand spit at mouth of creek just north of Standley Creek, west side of westernmost lake, 68°48'N, 133°24'W, 10692.

This is a northwestward extension of the known range of some 300 miles from Norman Wells (Cody, 1960) and Great Bear Lake (Raup, 1947). Our specimens are all in sterile condition.

Potamogeton gramineus L. MRD: occasional patches rooted in muck in 3 to 4 ft. water of small lake, Williams Island, opposite Reindeer Station, 10888; 30 miles S of Aklavik, W. E. Stevens, s.n., 20 July 1948 (DAO).

This is a range extension of some 300 miles northwest from Norman Wells (Cody, 1960) and Great Bear Lake, (Raup, 1947).

Potamogeton richardsonii (A. Benn.) Rydb. MRD: occasional, rooted in muck in 3 to 4 ft. water of small lake, Williams Island, opposite Reindeer Station, 10886; ELB: shallow water 1 to 2 ft. deep by lakeshore, Crossley Lakes, 68°35'N, 129°30'W, 13117A.

These collections represent a northwestward extension of range of some 300 miles from Norman Wells (Cody, 1960) and Great Bear Lake (Raup, 1936).

GRAMINEAE

Poa lanata Scribn & Merr. MRD: Sandy hilltop, Old Army Camp, East Channel Mackenzie River, 69°17'N, 133°54'W, 10368.

Our specimen, which has the sides of the lemma quite lanate-pubescent, keys out readily in Hultén's Flora of Alaska and Yukon. Porsild (1951) collected *P. lanata* at a number of stations along the Canol Road in the Yukon Territory, but it has not previously been recorded for Mackenzie District.

Agropyron trachycaulum (Link) Malte ex H. F. Lewis MRD: moist gravel in waste area, Inuvik, 13159.

Presumably introduced in this situation; otherwise known only as far north as Norman Wells (Cody, 1960). The specimens cited by Porsild (1943) under *A. trachycaulum* must be referred to *A. sericeum* (see note under that species).

Agropyron sericeum Hitch., *A. trachycaulum sensu* Porsild (1943) MRD: open site, dry, top of high bank above river, Aklavik area, W. E. Stevens, 5 (DAO);

forming clumps, rare in disturbed ground around buildings, Reindeer Station, 10144; common in clumps in disturbed areas throughout the settlement, Reindeer Station, 10968, 13084; occasional in wet silt on low bank of alluvial island opposite Reindeer Station, Williams Island, 10383, 10384; silty lake bank, Campbell Lake, 12648; ELB: river bank, Anderson River, 69°16'N, 128°15'W, 12620.

Porsild (1943) states that the specimens he cites from Mackenzie River Delta and Great Bear Lake have pubescent lemmas. This would place them with *A. sericeum* rather than *A. trachycaulum*. (Hooker (1829-40) described this plant as *Triticum* (*Agropyrum*) *repens* L. ♂ *subvillosum*, the type coming from Fort Norman on the Mackenzie River. In Mackenzie District *A. sericeum* is known from along the Liard River (Cody, 1963), along the Mackenzie River from Fort Simpson to near the Arctic Coast, along the Anderson River and around Great Bear Lake (Cody, 1960, 1961; Porsild, 1943).

Agropyron alaskanum Scribn. & Merr. var. *alaskanum* MRD: shallow soil in crevice of limestone talus slope, rare, Campbell Lake, 12681, 12717; ELB: scattered in moist sand of sand spit, Eskimo Lakes (west side of westernmost lake), 10728; in humus in dog yards in cabin clearing, Crossley Lakes, 68°35'N, 129°30'W, 13108; AC: rare in humus over sandy gravel by bay, Tuktoyaktuk, 10902; in fertilized area around ground squirrel burrows, Cape Dahlousie, 70°13'N, 129°40'W, 13135.

Our specimens all have more or less pubescent nodes and hence must be referred here. Nos. 12681 and 12717 however have the awn of the lemma longer than the body of the lemma which according to the key in Hultén (1941-52) would place them with *A. subsecundum*, which they are not. Previously recorded from Mackenzie District only from along the Liard River, Indin Lake and Port Radium on Great Bear Lake (Cody, 1963).

Elymus innovatus Beal ELB: steep eroding middle slope of 500 ft. hills, Anderson River, 69°16'N, 128°15'W, 12593.

This is an eastward extension of range from the Caribou Hills on the East Branch of the Mackenzie River where it occurs in a similar situation.

Hordeum jubatum L. MRD: moist clay near river, Aklavik, 7916; moist gravel in

waste area, rare, Inuvik, 13163; waste ground by buildings, Inuvik, 13158.

This is a range extension of some 300 miles northwest from Norman Wells (Cody, 1960); it is likely introduced at these localities.

Calamagrostis inexpansa A. Gray AC: occasional in sod over sandy gravel by bay, Tuktoyaktuk, 10915.

This is a northwestward extension of range of some 350 miles from near Norman Wells (Cody, 1960).

Agrostis scabra Willd. MRD: moist gravel in waste area, Inuvik, 13160.

This species has not previously been recorded from north of Norman Wells (Cody, 1960); it is presumably introduced at Inuvik.

Hierochloa odorata (L.) Wahl. ELB: river bank, Anderson River, 69°16'N, 128°15'W, 12625.

The map in Porsild (1957) indicates that in the northern part of its range this species has been collected in the Yukon at about 67°N latitude, about the western part of Great Bear Lake and at one disjunct locality on western Victoria Island in the western Arctic Archipelago. The species was rare at the Anderson River site and was not noted elsewhere in the region.

CYPERACEAE

Eleocharis acicularis (L.) R. & S. ELB: rare, in moss in partial shade at water's edge, south end of westernmost lake at mouth of Sitidgi Creek, 10745; sterile among moss in 4 inches water in embayments cut off by sand spits at mouth of creek just north of Stanley Creek, west side of westernmost lake, 10695.

Porsild (1943) noted this species as common in the Mackenzie River Delta and reported its occurrence at Kittigazuit on the Arctic Coast, but it has not previously been recorded from the Eskimo Lake Basin.

Carex bonanzensis Britton ELB: rare in sandy gravel of sand spit, south end of westernmost lake at mouth of Sitidgi Creek, 10744; rare on low lake bank, outlet of Sitidgi Lake, 10810.

Previously recorded from the East Branch of the Mackenzie River (Porsild, 1943), the range is now extended east into the Eskimo Lake Basin.

Carex aurea Nutt. MRD: among *Equisetum arvense* and *Hedysarum alpinum* in partial shade on bank of small creek, Williams Island, opposite Reindeer Station, 10890.

This is a range extension of some 300 miles northwestward from Norman Wells (Cody, 1960).

JUNCACEAE

Juncus albens (Lge.) Fern. AC: rare in wet spot on tundra with sedges and grasses, Toker Pt., 10332B.

This collection helps complete our knowledge of the distribution of this species. The map in Porsild (1957) indicates that the nearest collections are from Banks and Victoria Islands, around Great Bear Lake, along the Canol Road through the Mackenzie Mountains and in Alaska. It was growing with *J. biglumis* at Toker Pt.

Luzula ? multiflora (Retz.) Lej. ELB: in moss on open scrubby tundra, Kugaluk River, 69°07'N, 130°52'W, 12570.

This specimen which has the inflorescence leafy-bracted seems best referred to the *L. multiflora* complex although the nearest collections previously known are from Macmillan River in the Yukon Territory (Porsild, 1951) and the Horn Plateau in southeastern Mackenzie District.

ORCHIDACEAE

Cypripedium passerinum Richards. MRD: rare in open *Salix*, *Picea glauca* bush with *Arcostaphylos rubra*, *Hedysarum alpinum* etc. on silt of low ground by river, East Channel Mackenzie River, 3 miles northwest of Reindeer Station, 10090.

This is a northwestward extension of range of some 300 miles from Norman Wells (Cody, 1960).

Cypripedium guttatum Sw. MRD: rare in shallow soil on limestone talus slope, Campbell Lake, 12725.

This northwestern species is apparently quite rare in Mackenzie District. Hooker (1829-40) reported it as follows: "Two specimens only, with withered flowers, were gathered by Dr. Richardson at Fort Franklin, on the Mackenzie River . . .". Raup (1947) cites eight collections from Great Slave Lake, the Mackenzie Mountains and along the Mackenzie River as far north as Fort Norman. Porsild (1951) reported the occurrence

of *C. guttatum* along the Yukon River, the Alaska-Yukon boundary at 65°58'N and 67°00'N in the Peel River Basin. Our collection is from some 300 miles northwest of Norman Wells from where I have seen a specimen (Hutton, 4 (DAO)) and 160 miles northeast of the Peel River station. It is the northernmost station yet recorded on this continent.

SALICACEAE

Populus balsamifera L. MRD: scattered on higher ground among *Salix* in alluvial soil on islands, Williams Island, opposite Reindeer Station, 10037; small grove of trees in protected spot in valley at base of hills, east bank of East Channel Mackenzie River, 68°55'N, 134°33'W, 9802; ELB: on gravel spit, west side of westernmost Eskimo Lake, 68°45'N, 133°19'W, 10735; near base of steep eroding bank, Portage Point, east side of westernmost Eskimo Lake, 68°46'N, 133°16'W, 10823; additional collections from east of Anderson River: 16 miles southeast of the mouth of Hornaday River, on a creek flowing into it, *Ross Mackay s.n.*, Aug. 8, 1951 (DAO); west of the tree limit on the Horton River by about 15 miles, 67°42'N, 123°00'W, *Ross Mackay s.n.*, 1951 (DAO); along Brock River approx. 8 miles directly east of its mouth, *Ross Mackay s.n.*, 25 July 1951 (DAO).

Preble (1908) recorded this species as "lower Mackenzie and Peel rivers". On the Mackenzie River Delta islands opposite Reindeer Station, small groves of trees measuring up to 15 ft. in height with dbh 2½ inches were found on higher ground. Collection No. 9802 was from the first popular stand noted when travelling south on the East Branch of the Mackenzie River; these trees measured 12 ft. in height with dbh 1½ inches. In the Eskimo Lake Basin *P. balsamifera* was noted only twice, and that on the westernmost lake: No. 10735 was from a grove of trees 2 to 25 ft. in height and No. 10823 from a group of trees to 8 ft. in height. It is of interest to note that east of the Anderson River *P. balsamifera* extends further north than *Picea*, the tree which is usually taken as the indicator of treeline. Dr. Mackay did not give the height of the trees from which his specimens were taken.

Salix farrae Ball ssp. *walpolei* Cov. & Ball.

Hultén (1941-52) in his *Flora of Alaska* and Yukon cites specimens of this entity

from Alaska Range District, Central Yukon River District and Bering Strait District, all in Alaska, and states in his text "Except from the above stations only known to me from Mackenzie Delta E. branch (Porsild 6973, sub. *S. Mackenzieana*)". Porsild (1951) made no mention of *S. farrae* ssp. *walpolei* in the intervening terrain. In the Mackenzie River Delta *S. farrae* ssp. *walpolei* occurs sporadically on alluvial soil on levees and flood plains above normal high water level. Specimens in the Department of Agriculture Herbarium (DAO) are from Aklavik, 9674; Tihtaluh Channel, west side of delta, R. Mackay 19; East Channel: near Pete's Creek, 10356; Williams Island, 10036, 10389; 3 miles northwest of Reindeer Station, 10094; and Reindeer Station, 12633.

MYRICACEAE

Myrica gale L. ELB: shrub to 15 inches, rare on shore of small inland lake, 500 Lake, 10501.

Porsild (1943) reported *M. gale* as rare at Campbell Lake on the east side of the Mackenzie River Delta. Our collection extends the known range eastward into the Eskimo Lake Basin.

CHENOPODIACEAE

Atriplex gmelinii C. A. Mey. AC: rare along gravel beach, Schooner Landing, mouth of Anderson River, 69°43'N, 138°58'W, 10954.

Not previously recorded from east of Kotzebue Sound in Alaska (Hultén, 1941-52); new to the flora of Mackenzie District. Our specimens are quite reduced in stature (1.0-8.0 cm), the stems are both branched and unbranched, stems and bracts are reddish and the leaves dark blackish green.

POLYGONACEAE

Rumex pallidus Bigel. AC: rare on gravel Beach, mouth of Anderson River, 10950.

This is an eastward extension of range of some 125 miles from Kittigazuit (Porsild, 1943).

Polygonum aviculare L. s.l. MRD: common in trodden areas around settlement, Reindeer Station, 10960.

Probably introduced; not previously recorded from north of Norman Wells (Cody, 1960).

Polygonum bistorta L. ssp. *plumosa* (Small) Hultén, *P. bistorta sensu* Macoun & Holm (1921) ELB: localized in deep mossy hummocks on slope, island on east side of second lake from west, 68°56'N, 132°56'W, 10548.

Hultén (1941-52) reported ssp. *plumosa* as ". . . N. Mackenzie District". This is presumably based on the Stringer specimen from Mackenzie River Delta cited by Macoun & Holm (1921). Our Eskimo Lake Basin station is thus the easternmost yet recorded for this species in Mackenzie District.

Polygonum alaskamum (Small) Wight var. *glabrescens* Hultén, *P. alpinum* var. *lappathifolium sensu* Raup (1947) and Porsild (1943) ELB: low eroding lake bank near mouth of Shelter Creek, west side of westernmost lake, 68°42'N, 133°04'W, 10822.

Noted only once in the Eskimo Lake Basin, the easternmost known station; Porsild (1943) recorded this plant as common in the ravines on the East Branch of the Mackenzie River; about the Reindeer Station it has become quite weed-like; all the Mackenzie Delta specimens examined belong to var. *glabrescens*.

PORTULACACEAE

Montia lamprosperma Cham. ELB: in moss in 1 to 3 inches water along shore of small bay off lake, northwest shore of second lake from west, 68°54'N, 133°14'W, 10660.

Not previously recorded from the mainland area between Shingle Point, Yukon Territory and Chesterfield Inlet on Hudson Bay but known from one locality on Victoria Island (Porsild, 1955); new to Mackenzie District. Porsild suggests that this species might have been accidentally distributed by the Eskimo at Chesterfield Inlet, Victoria Island and Shingle Point. This would certainly not seem to be the case in the Eskimo Lake Basin, which is remote from any Eskimo habitation.

CARYOPHYLLACEAE

Stellaria media (L.) Cyrill MRD: waste moist ground along street, Aklavik, 7886; localized in dog yards, Reindeer Station, 13079.

Introduced; not previously recorded from north of Norman Wells (Cody, 1960).

Cerastium arvense L. MRD: scattered on steep sand and gravel slope, Caribou Hills about 15 miles northwest of Reindeer Station.

Porsild (1943) recorded *C. arvense* from Campbell Lake and Great Bear Lake as new to the Northwest Territories. Our collection extends the known range of this species slightly to the northwest.

Arenaria physodes Fisch. in DC., *Merckia physodes* (Ser.) Cham. & Schlecht., *Wilhelmsia physodes* (Ser.) McNeill MRD: heavy soil, recently flooded lake-side 30 miles S of Aklavik, *W. E. Stevens, s.n.*, 15 July 1948 (DAO); moist sand among stones at back of beach, Summer Island northeast of Richards Island, 69°35'N, 133°55', 13053; AC: rare along gravel beach, Schooner Landing, mouth of Anderson River, 69°43'N, 138°58'W, 10955; additional collection from east of Anderson River: south end of Darnley Bay east of mouth of Hornaday R., *Ross Mackay, s.n.*, 1951 (DAO).

Previously known from Mackenzie District only from a Stringer specimen collected at Mackenzie River Delta (Macoun & Holm, 1921). It is interesting to note that in the eastern part of its range in Alaska and the Yukon Territory this species is known only from the interior; Porsild (1939) however stated that *A. physodes* occurs in the salt marshes along the Bering Sea coast. It is strange then that there are no coastal collections from that part of Alaska and Yukon Territory between Bering Sea and the Mackenzie District sites. The Mackay specimen from Darnley Bay some 275 miles east of the Mackenzie River Delta is the easternmost yet recorded.

Arenaria lateriflora L. ELB: under *Salix* at back of beach, Crossley Lakes, 68°35'N, 129°30'W, 13112.

Hultén (1941-52) recorded this plant *sub Moebria lateriflora* "... over lower Mackenzie R. ...". The only other published indication of its occurrence in our area is in the map in Raup (1947). I have also collected *A. lateriflora* in silt along the banks of the East Branch and on the lower slopes of the Caribou Hills at the Reindeer Station.

Arenaria dawsonensis Britton MRD: shallow soil in crevice of limestone talus slope,

Campbell Lake, 10 miles southeast of Inuvik, 12671.

This is an extension of range of some 300 miles northwestward from Norman Wells. Porsild (1943) has collected it from Dease Arm and McTavish Arm of Great Bear Lake.

RANUNCULACEAE

Anemone drummondii Wats. MRD: rare on steep sand and gravel slope, Caribou Hills, East Channel Mackenzie River about 15 miles northwest of Reindeer Station, 9707; shallow soil in crevice of limestone talus slope, Campbell Lake 10 miles southeast of Inuvik, 12684, 12685, 12686.

With these collections the range of yet another cordillerian species is extended east of the Mackenzie River; the nearest collection is from King Point on the Arctic coast of Yukon Territory some 100 miles to the west; new to the flora of Mackenzie District. This species also occurs in high mountains as far south as Idaho and northern California where the type was collected.

Ranunculus flammula L., *R. reptans* L. MRD: lake bank in clay soil 30 miles S of Aklavik, *W. E. Stevens, s.n.*, 15 July 1948 (DAO). Although Hooker (1829-40) recorded *R. flammula* "Canada to lat. 69°", Raup (1947) saw no specimens from north of Lake Grant between Great Slave and Great Bear lakes. The northward range to near the Arctic Coast as given by Hooker is now substantiated.

Ranunculus sceleratus L. var. *multifidus* Nutt. MRD: one lush clump in water rooted in silt in roadside ditch, Aklavik, 12748.

For many years the only record of this species from north of Great Slave Lake was the vague report in Hooker (1829-40) "... from Canada to latitude 67°". in *Plants of the vicinity of Norman Wells* (Cody, 1960) I extended the range to the northwest some 425 miles from Great Slave Lake. The range is now extended a further 300 miles to the northwest of Norman Wells which is at 65°17'N latitude. It may however be introduced at Aklavik.

CRUCIFERAE

Capsella bursa-pastoris (L.) Medic MRD: waste ground of disturbed river bank, Inuvik, 12550.

Introduced; not previously recorded from north of Norman Wells (Cody, 1960) but known from most settlements in south-western Mackenzie District.

Erysimum cheiranthoides L. ELB: river bank, Anderson River, 69°16'N, 128°15'W, 12622; in humus in cabin clearing, Crossley Lakes, 68°35'N, 129°30'W, 13105.

Hooker (1829-40) recorded this species "... to latitude 67° on the Mackenzie", but otherwise unknown north of Norman Wells (Cody, 1960).

Arabidopsis mollis (Hook.) O. E. Schulz, *Arabis hookeri* Lange ELB: steep sand and gravel bank, east side of westernmost lake, 68°46'N, 133°16'W, 10834, 10857.

Not previously recorded from the Eskimo Lake Basin.

Arabis divaricarpa A. Nels. MRD: rare on steep eroding middle and upper slopes of Caribou Hills, Reindeer Station, 9805, 10422; AC: rare on grassy bank back from Stanley Creek, west side of westernmost lake, 68°46'N, 133°24'W, 10865.

Our specimens are small in stature and have relatively few flowers so might be referred to var. *dacotica* (Greene) Boivin. Typical *A. divaricarpa* has been recorded by Raup (1947) from Fort Simpson some 600 miles to the southeast, where I have also collected it. The species apparently has not been collected in the intervening area but Raup (1936) does mention a Mackenzie River specimen without specific locality data, collected by Miss E. Taylor.

CRASSULACEAE

Sedum rosea (L.) Scop. ssp. *integrifolium* (Raf.) Hult.

There is one specimen, *Dutilly 18048* (DAO) labelled Aklavik. It seems rather doubtful if this plant would occur on the delta alluvium around Aklavik. Hultén (1941-52) gives the distribution of ssp. *integrifolium* as "... America: from Alaska, Yukon, Mackenzie district (Pillage Pt.) W. Alberta ...". Thus far I have been unable to locate Pillage Pt. in Mackenzie District.

ROSACEAE

Spiraea beauverdiana Schneider ELB: steep banks and occasionally on low

Betula glandulosa flats, Anderson River, 69°16'N, 128°15'W, 12589.

Porsild (1943) discussed the occurrence of *S. beauverdiana* in the Mackenzie River Delta and gave the easternmost limit as the second lake in the Eskimo Lake Basin. Our collection extends the known range eastward about 100 miles.

Potentilla norvegica L. ELB: localized in moist sand of sand spit, south end of westernmost lake at mouth of Sitidgi Creek, 68°41'N, 132°55'W, 10749.

Hooker (1829-40) recorded this species "Throughout Canada; as far north as the Bear Lake". The map in Raup (1947) shows several collections from the Mackenzie River Delta, where I have also collected it, and from Fort Good Hope on the Mackenzie River. The only other far northern record is that of Cody (1960) from Norman Wells.

Potentilla anserina L. s.l. MRD: moist silt by river, Aklavik, 7920; in silt of river bank above high water level, Reindeer Station, 10378.

As at Norman Wells our specimens belong to that phase of the *Potentilla anserina* complex which Hultén has called *P. yukonensis*. These collections form an extension of the known range of some 300 miles northward from Norman Wells (Cody, 1960).

Potentilla palustris (L.) Scop MRD: waste moist ground along street, Aklavik, 7887; common in wet ground around pond on lowland near river in partial shade of *Salix*, *Alnus crispa* and *Picea glauca*, Reindeer Station, 10395; ELB: along moist shoreline and extending into shallow water of small inland lake, 500 Lake, 68°57'N, 132°34'W, 10502; occasional in moist moss of streamlet, Moose Lake, 69°06'N, 130°37'W, 10133; occasional among *Carex aquatilis* in wet sand at water's edge in protected bay of lake, northwest side of second lake from west, 68°54'N, 133°14'W, 10627; occasional along gravel strand shoreline of island on east side of second lake from west, 68°56'N, 132°56'W, 10545; common among sedge by small pond at lake level, east shore of westernmost lake, 68°47'N, 133°11'W, 10469; rooted in sand among sedges at water's edge at mouth of small creek just north of Stanley Creek, 68°48'N, 133°24'W, 10711; rare among *Carex aquatilis*

along bay shore, south end of westernmost lake at mouth of Sitidgi Creek, 68°41'N, 132°55'W, 10762; AC: common but sterile among sedges and grasses at end of small inland lake, Toker Point, 69°38'N, 132°54'W, 10343.

This species was recorded by Hooker (1829-40) "... as far north as Bear Lake". Raup (1947) confirmed the Bear Lake citation by recording a specimen collected by J. M. Bell. The northernmost known locality along the Mackenzie River was Norman Wells (Cody, 1960). The present collections indicate that *P. palustris* is fairly common in suitable habitats even as far north as Toker Point on the Arctic Coast. This latter collection represents a range extension of some 350 miles northwest from Norman Wells.

LEGUMINOSAE

Astragalus richardsonii Sheldon, *A. vaginatus* Richards. non Pallas, *A. aboriginorum sensu* A. A. incl. Cody (1954) MRD: rare in sand at top of bank overlooking small lake, Kidluit Bay, northeast side of Richards Island, 10190; common in sandy soil at south end of island 'Gull Island' in Kidluit Bay, 9982; additional collection from east of Anderson River: about 15 miles west of Horton River and from 15-20 miles from the barren grounds, 67°42'N, 123°00'W, Ross Mackay, s.n., July 1951.

Porsild (1955) clearly demonstrated that this Arctic Canadian species which has long been erroneously referred to *A. aboriginorum* should correctly be called *A. richardsonii* Sheldon. Later he (Porsild, 1957) published a map of the distribution of this species as known to him. The specimens cited here extend the known range westward to the Mackenzie River Delta, a distance of some 275 miles from the nearest known locality on Banks Island.

Hedysarum alpinum L. appg. var. *grandiflorum* Rollins MRD: scattered on steep sand bank overlooking river, Old Army Camp, East Channel Mackenzie River, 69°17'N, 133°54'W, 9774; south-facing sandy slope, south side Summer Island, northeast of Richards Island, 69°31'N, 133°48'W, 10008.

Our specimens measure in height from 1.5 to 2.6 dm, the inflorescence is less elongate than specimens from the Mackenzie Valley, and the somewhat darker flowers measure from 1.5 to 1.7 cm. Hultén (1941-52) has referred a coastal Yukon Territory specimen as well as a number of Alaskan collections to var. *grandiflorum*. This is, however, far beyond the range outlined by Rollins (1955).

Lathyrus japonicus Willd. var. *japonicus* MRD: rare on steep sand and gravel bank, Caribou Hills, East Channel Mackenzie River about 15 miles northwest of Reindeer Station 9695.

Our specimen is glabrous or nearly so and hence should be referred to var. *japonicus*; pubescent specimens from Coppermine, Bathurst Inlet and other points along the Arctic Coast of Mackenzie District have been referred to var. *aleuticus* (Greene) Fern.

HIPPURIDACEAE

Hippuris vulgaris L. MRD: in muck and shallow water around small lake, Aklavik, 7909; ELB: in 1 foot water, a few small patches in embayments cut off by sand spits at mouth of Stanley Creek, west side of westernmost lake, 68°48'N, 133°24'W, 10694; rare in 8 inches water of small bay rooted in muck, south end of westernmost lake at mouth of Sitidgi Creek, 68°41'N, 132°55'W, 10793; rooted in muck in 1 foot water of small bay off lake, northwest shore of second lake from west, 68°54'N, 133°14'W, 10659; occasional in muck in 5 inches water of small bay, island at east end of second lake from west, 68°57'N, 132°54'W, 10582; AC: common in 6-15 inches water in small lake behind sand dunes, Toker Point, 10309; in shallow water, 1-6 inches, rooted in sandy ground at edge of small lake half a mile back of seashore, Warren Pt., 10203.

Hooker (1829-40) recorded this species only to 60° latitude. Recently the species was reported (Cody 1960) from Norman Wells at latitude 65°17'N. The present collections represent an extension of some 350 miles to the Arctic Coast.

Hippuris tetraphylla L. f. MRD: in shallow water rooted in muck bordering several small ponds near shore, Kidluit Bay, northeast side of Richards Island,

10160; AC: in shallow water among grasses and sedges at edge of small lake back of sea shore, Tuktoyaktuk, 9898.

Previously known along the arctic coast of Yukon Territory at Shingle Pt. (Porsild, 1943); new to the flora of Mackenzie District.

PYROLACEAE

Pyrola virens Schweigg. MRD: moist moss slope among *Picea mariana*, rare, Campbell Lake 10 miles southeast of Inuvik, 12661.

Not previously recorded from north of Sans Sault Rapids on the Mackenzie River (Raup, 1947) some 200 miles to the south-east.

ERICACEAE

Arctostaphylos uva-ursi (L.) Spreng. MRD: Prostrate shrub rooted in shallow soil on stoney slope by lake near airstrip, Inuvik, 9837; prostrate shrub forming extensive patches near top of steep sand and gravel slope, Caribou Hills, about 15 miles northwest of Reindeer Station, 9718; ELB: prostrate on grassy bank back from Stanley Creek, west side of westernmost lake, 68°46'N, 133°24'W, 10869.

Although reported by Preble (1908) "... throughout the territory covered by our observations, and ... also into the Barren Grounds", the northernmost locality with accurate data previously recorded was Norman Wells (Cody, 1960).

PRIMULACEAE

Primula borealis Duby forma **albiflora** forma nova, a forma typica differt corollis albis AC: elevation 2 ft., Oil Drum Island, Anderson River Delta, 69° 42' N, 129° 00' W, T. W. Barry, 290 (DAO, type).

This white-flowered form was found growing with the typical lilac-coloured at this locality.

SCROPHULARIACEAE

PRIMULACEAE

Primula borealis Duby forma **albiflora** forma nvo, a forma typica differt corollis albis AC: elevation 2 ft., Oil Drum Island,

Anderson River Delta, 69°42'N, 129°00'W, T. W. Barry, 290 (DAO, type).

This white-flowered form was found growing with the typical lilac-coloured at this locality.

Pedicularis lanata Cham. & Schl. f. *alba* Cody MRD: one plant growing with the typical form on hummocky tundra, top of Caribou Hills behind Reindeer Station, 9817.

Not previously recorded from Mackenzie District, but certainly to be expected to occur sporadically anywhere the typical form might be found.

COMPOSITAE

Erigeron angulosus Gaudin var. *kamtschaticus* (DC.) Hara, *E. acris* L. var. *asteroides* (Andrz.) DC. MRD: disturbed ground along road, Aklavik, 7922; ELB: rare in moist sand of sand spit, west side of westernmost lake, 68°46'N, 133°24'W, 10718.

Not previously recorded from north of Norman Wells (Cody, 1960) and Great Bear Lake (Raup, 1947), and thus a range extension of some 300 miles to the northwest.

Antennaria isolepis Greene MRD: shallow soil in crevice of limestone talus slope, Campbell Lake 10 miles southeast of Inuvik, 12688.

The map in Porsild (1950) shows the nearest known collections as from about Great Bear Lake and along the Canol Road in the Mackenzie Mountains. Our collection is thus a northward extension of range of some 300 miles.

Matricaria matricarioides (Less.) Porter MRD: a single plant by roadside, Aklavik, 7900.

Introduced; not previously recorded from north of Norman Wells (Cody, 1960); although this may be only a casual introduction at this time, it seems inevitable from the manner in which *M. matricarioides* has spread around other Mackenzie Valley settlements, that it will soon become well established here.

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