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VASCULAR PLANTS FROM DIANA BAY, HUDSON STRAIT

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HARLES DARWIN once said "A traveller should be a botanist, for in all views plants form the chief embellishment". To be sure, those of us who know the Arctic regions would demand some modification of this great and sweeping statement; but even here plants are more in evidence than is popularly supposed, and far more numerous and important. Thus there are several hundred species of flowering plants growing north of the Arctic Circle, and several thousand species of cryptogams; and if it were not for these plants there would be no whales, fish and seals in the sea, and no caribou, foxes or even mosquitos on land.

The study of these plants, even over a limited area, is naturally a very large and intricate one, whose elucidation is a considerable undertaking. The writer has for some years been particularly interested in the Botany of the Eastern Arctic regions of Canada.

Here an arctic climate and its attendant vegetation extend far to the south of the Arctic Circle, embracing the whole of the Hudson Strait and northern Hudson Bay regions, and constituting altogether an enormous area. Much of this remains unexplored, at least botanically, and in the preparation of his detailed reports which will shortly be going to press the writer has been helped a great deal by having collections of plants sent in by travellers and others from such points as he has been unable to visit personally. Altogether the response to earlier appeals has been most gratifying and has already resulted in a number of hitherto unknown areas being "put on the map" of world flora and vegetation; a traveller should indeed be a botanist!

Among the many pleasant and profitable contacts which the writer has made during his work in the Canadian Eastern Arctic, one affords the chief matter for the present

communication; in the summer of 1934, while a passenger with the Eastern Arctic Patrol, it was his good fortune to meet Mr. S. C. Knapp in Baffin Island. Mr. Knapp is a stalwart of the Hudson's Bay Company and was then stationed at River Clyde, where he had made a small collection of plants. Subsequently he made a larger one which added two species to the known flora of the region. Then, in July and August, 1936, Mr. Knapp and the writer again found themselves together, northward bound on the R.M.S. *Nascopie*. Discussions and advice about collecting followed, and when he went ashore to manage the new Hudson's Bay Company trading post at Diana Bay, lat. 61° N. long. 70° W. on the south shore of Hudson Strait, Mr. Knapp enthusiastically expressed the intention of spending every moment of his spare time collecting and studying the plants of the region.

The result was that an excellent collection, preserved in the usual simple manner by drying between sheets of paper, reached the writer by some unknown route at Cambridge, Massachusetts, in December of the same year. It comprised several hundred specimens representing 66 species.

Diana Bay was also visited in 1936 by the Geodetic Survey section of the Eastern Arctic Patrol of that year, viz. Mr. C. H. Ney, B.Sc., and his assistant Joe Courtright, who made a smaller but also valuable collection of plants for the present writer.

These collections are important not because they contain any very startling material but because they are the only ones of any appreciable size that have ever been made in this particular district; they are valuable because of the new records they afford, which are summarised in the list given below. Apart from its paucity in grasses, sedges and some other of the smaller or more insignificant types (which

should always be collected in abundance) the list seems to give a fair representation of the commoner elements in the flora of the district. In it, K indicates that the species was collected by Mr. Knapp, N by Messrs. Ney and Court-right. The order and nomenclature are based on Professor Fernald's revision of Gray's *Manual* and are essentially those to be found in the Gray Herbarium of Harvard University — with certain modifications which seem desirable in view of the present writer's forthcoming flora of the Canadian Eastern Arctic. Since the exact date of collection is rarely available it would seem superfluous to add notes on the state of each species with regard to flowering and fruiting; suffice it to say that the majority give indications of carrying out these processes quite normally, and in some cases had already shed ripe seeds before the end of August. This is in marked contrast with the situation farther north, where a large proportion of the species ripen fruit only in exceptionally favourable years, and in not a few instances appear to rely wholly on vegetative means of reproduction.

The only botanical observations or collections of any extent that have been made at all near Diana Bay, viz. in the central part of the Hudson Strait region, come (1) from Wakeham and Stupart Bays which lie in the Cape Wales district about 80 miles to the east (see *Trans. Roy. Soc. Canada* 1887), (2) from various points on the south coast of Baffin Island and (3) from Akpatok Island which lies far out in Ungava Bay (see *Journal of Botany* 1934 and *Journal of Ecology* 1934 and 1935). The vast majority of the 74 species recorded below from Diana Bay occur also at Wakeham Bay and on Baffin Island, but several appear to be absent from Akpatok Island. Nearly all are arctic-alpines of circumpolar distribution but a few are of restricted range; most interesting of these is *Carex Williamsii* which was hitherto not known east of the west coast of Hudson Bay, and whose range is thus extended nearly 800 miles to the east.

With regard to the general country at the head of Diana Bay where the collections were made, Mr. Ney reports that broken rocky slopes about 200 feet high rise up right from the water's edge in most places, and that these rocks are igneous and darker than at most other points he has visited. Concerning the hinterland Mr. Knapp writes that growth is generally very stunted, even the willows in the most sheltered valleys rarely rising more than

a foot above the surface of the ground, and... "of all the many hundreds of miles I have travelled in the Arctic, I have not yet met the place so rich in lichen as this. The meadows stretch for acres uninterrupted by rock, and clothed with deep rich lichen with the usual grass growing up between. There is mile upon mile of them — dry, rich sandy soil clothed with moss and lichen. The richness and abundance of the lichen more than the moss is simply wonderful; a reindeer herd would go for years here without want".

POLYPODIACEAE

- K *Cystopteris fragilis* (L.) Bernh.
K *Dryopteris fragrans* (L.) Schott.

EQUISETACEAE

- K N *Equisetum arvense* L.

LYCOPODIACEAE

- K *Lycopodium Selago* L.

GRAMINEAE

- K N *Hierockloe alpina* (Sw.) Roem. & Schult.
K N *Arctagrostis latifolia* (R. Br.) Griseb.
K N *Calamagrostis canadensis* (Michx.) Nutt. var. *scabra* (Presl) Hitchcock
K N *Trisetum spicatum* (L.) Richt. var. *Maidenii* (Gand.) Fernald
K N *Poa arctica* R. Br.
K *Poa pratensis* L., s.l.
N *Festuca brachyphylla* Schultes
K *Elymus arenarius* L. var. *villosus* E. Meyer.

CYPERACEAE

- K N *Eriophorum angustifolium* Roth.
K N *Carex scirpoidea* Michx., s.l.
N *Carex Williamsii* Britton
N *Carex misandra* R. Br.¹
K *Carex rariflora* (Wahlenb.) Sm.
K N "*Carex concolor* R. Br."²
K N *Carex membranacea* Hook.

JUNCACEAE

- K N *Luzula confusa* Lindeb.

SALICACEAE

- N *Salix herbacea* L.
K N *Salix arctica* R. Br., s.l.
K *Salix arctophila* Cock.

1. One of the specimens is badly infected with *Ustilago Caricis*.

2. This is *Carex rigida* Good. (1794, non Schrank 1789) but unfortunately the type specimen of Robert Brown's *C. Concolor* belongs instead to *C. aquatilis* var. *stans* and so yet another name will have to be found for our plant. The problem will shortly be dealt with by Mr. A. J. Wilmott of the British Museum, in a paper entitled "Notes on Arctic Plants".

POLYGONACEAE

- K N *Oxyria digyna* (L.) Hill
K N *Polygonum viviparum* L.

CARYOPHYLLACEAE

- K N *Silene acaulis* L. var. *exscapa* (All.) DC.
K *Lychnis furcata* (Raf.) Fernald
K N *Lychnis apetala* L.
K N *Cerastium alpinum* L.
K N *Stellaria longipes* Goldie

RANUNCULACEAE

- K *Ranunculus nivalis* L.
K *Ranunculus pedatifidus* Sm. var. *leiocarpus* (Trautv.) Fernald

PAPAVERACEAE

- K N *Papaver radicum* Rottb.

CRUCIFERAE

- K *Cochlearia officinalis* L. var. *groenlandica* (L.) Gelert
K N *Eutrema Edwardsii* R. Br.
K *Cardamine pratensis* L. var. *angustifolia* Hook.
N *Draba fladnizensis* Wulfen
K *Draba glabella* Pursh

SAXIFRAGACEAE

- K N *Saxifraga cernua* L.
K *Saxifraga cespitosa* L. f. *uniflora* (R. Br.) Engler
K *Saxifraga stellaris* L. var. *comosa* Retz.
K *Saxifraga nivalis* L.
K *Saxifraga tricuspidata* Rottb.
K *Saxifraga Hirculus* L.
N *Saxifraga oppositifolia* L.
K *Parnassia Kotzebuei* Cham. & Schlecht.

ROSACEAE

- K *Rubus Chamaemorus* L.
K *Potentilla Crantzii* (Cr.) Beck
K N *Potentilla emarginata* Pursh
K N *Dryas integrifolia* M. Vahl

LEGUMINOSAE

- K N *Astragalus alpinus* L.
K *Oxytropis terrae-novae* Fernald

ONAGRACEAE

- K *Epilobium angustifolium* L. var. *intermedium* (Wormskj.) Fernald
K N *Epilobium latifolium* L.

PYROLACEAE

- K N *Pyrola grandiflora* Radius

ERICACEAE

- K N *Ledum palustre* L. var. *decumbens* Ait.
K N *Cassiope tetragona* (L.) D. Don³
K N *Arctostaphylos alpina* (L.) Spreng.
K N *Vaccinium uliginosum* L. var. *alpinum* Bigel.
N *Vaccinium Vitis-Idaea* L. var. *minus* Loddiges

DIAPENSIACEAE

- K *Diapensia lapponica* L.

PLUMBAGINACEAE

- K *Armeria labradorica* Wallr. f. *pubiscapa* (Blake) Malte

BORAGINACEAE

- K *Mertensia maritima* (L.) S. F. Gray var. *tenella* Th. Fries

SCROPHULARIACEAE

- K N *Pedicularis lapponica* L.
K *Pedicularis lanata* Cham. & Schlecht
K *Pedicularis hirsuta* L.
K N *Pedicularis flammea* L.

CAMPANULACEAE

- N *Campanula uniflora* L.
N *Campanula rotundifolia* L.

COMPOSITAE

- K *Erigeron unalaschkensis* (DC.) Vierhapper
K *Antennaria angustata* Greene
K *Antennaria canescens* (Lange) Malte
K *Arnica alpina* (L.) Olin, s.l.
K N *Taraxacum lacerum* Greene

The following additional 9 species of vascular plants are mentioned by Mr. S. C. Knapp in a letter dated 20th September, 1937, as occurring at Diana Bay, Hudson Strait. Although no specimens are available for purposes of verification, the species are all known from places not far distant; there being thus no reasons for doubting the correctness of the determinations it seems safe to add them to the above list.

SALICACEAE

- Salix calcicola* Fernald & Wiegand
Salix cordifolia Pursh

CRUCIFERAE

- Arabis alpina* L.
Draba alpina L.

3. Frequently infected with *Exobasidium Vaccinii*.

CRASSULACEAE

Sedum roseum (L.) Scop

ERICACEAE

Loiseleuria procumbens (L.) Desv.*Rhododendron lapponicum* (L.) Wahlenb.

SCROPHULARIACEAE

Bartsia alpina L.

COMPOSITAE

Matricaria inodora L. var. *nana* (Hook.)
Torr. & Gray.

NICHOLAS POLUNIN.

Oxford, 11th October, 1937

THE SPIDERS OF MER BLEUE, NEAR OTTAWABy **T.B. KURATA***Royal Ontario Museum of Zoology*

THROUGH the kindness of Dr. E. M. Walker, I was able to collect spiders at Mer Bleue on June 2 and 3, 1931. Mer Bleue is an extensive peat bog situated roughly ten miles east of Ottawa, on the Russell Road. It lies in Gloucester Township, Carleton County, and has an area of roughly ten square miles.

The collection made at this locality consisted of nearly 600 individuals, representing 60 species. The following are new to the list of Ontario spiders:

Dictyna cruciata Em.*D. phylax* Gertsch and Ivie*D. rubra* Em.*Linyphia nearctica* Banks

The following list is arranged according to Dr. Alexander Petrunkevitch's synoptic catalogue (Bull. Amer. Mus. Nat. Hist. Vol. 29, 1911).

I am very grateful to Dr. S. C. Bishop of the University of Rochester and Professor Wilton Ivie of the University of Utah, who identified some of my collection.

A more intensive search would no doubt yield additional species, particularly those of very small size.

DRASSIDAE

Herpyllus ecclesiasticus Hentz*Gnaphosa gigantia* Keyserling

AGELENIDAE

Cryphaea montana Emerton*Hahnina cinerea* Emerton

THERIDIIDAE

Pedanostethus riparius Keyserling*Theridion differens* Emerton*Theridion frondeum* Hentz*Theridion murarium* Emerton*Theridion spirale* Emerton

LINYPHIIDAE

Bathypantes nigrinus (Westering)*Ceratinopsis nigricaps* Emerton*Ceratinopsis nigripalpis* Emerton*Ceratinopsis interpres* (Cambridge)*Erigone longipalpis* Sundval*Grannomota pictilis* (Cambridge)*Hypoma trilobata* (Banks)*Hypselistes florens* (Cambridge)*Linyphia communis* Hentz*L. marginata* C. Koch*L. nearctica* Banks*L. pusilla* Sundval*Oedothorax plumosus* (Emerton)*O. trilobatus* (Emerton)

DICTYNIDAE

Amaurobius borealis Emerton*Dictyna brevitaris* Emerton*D. cruciata* Emerton*D. foliacea* (Hentz)*D. frondea* Emerton*D. minuta* Emerton*D. phylax* Gertsch & Ivie*D. rubra* Emerton*D. sublata* (Hentz)*D. volucris* Keyserling

ARGIOPIDAE

Araneus cucurbitinus Clerck*A. benjaminus* (Walckenaer)*Mangora placida* (Hentz)*Tetragnatha laboriosa* Hentz

MIMETIDAE

Mimetus interfector Hentz

THOMISIDAE

Misumena vatia (Clerck)*Philodromus aureolus* (Clerck)*P. lineatus* Emerton*P. pernix* Blackwall*P. rufus* Walckenaer



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