Length, 1·5 mm.

Locality: Bernard harbour, Dolphin and Union strait, Northwest Territories, August 16, 1915, in bed of river; same locality, July 10, 1916 (F. Johansen).

With this last lot there a number of larvæ of which I dissected the heads of two. In most respects these larvæ resemble the larva of *johannseni* Hart, but the anal respiratory gills are withdrawn in all the examples so that it is not possible to say what they are like structurally.

I have drawn some of the cephalic parts as a better index to their structure than a written description. One striking feature in the species is the very conspicuously darkened third antennal joint. In most species the antennæ are uniformly coloured. Structurally the larva is a true *Simulium* and very likely that of the last described pupa; both probably belong to *borealis* sp. n. For details of mandibles, labium, antennæ, and maxilla, see Pl. VII, figs. 7, 3, 2, and 1, respectively.

In all specimens of the pupæ of this species there are either fifteen or sixteen thoracic respiratory branches, usually with two or three much shorter than the others, and the arrangement differs noticeably from that in *rittatum* which always has the branches paired to near base and very regular in arrangement and length.

LEPTIDÆ.

There is one specimen of a species of *Ptiolina* in the collection. I have already described this species in a paper on the Diptera of Pribilof islands which is now in press.

Ptiolina arctica Malloch.

One male, Bernard harbour, Dolphin and Union strait, Northwest Territories, July 15, 1915 (F. Johansen).

EMPIDIDÆ.

This family is usually well represented in collections from northern latitudes and in the material before me there are over twenty specimens representing six species of the genus *Rhamphomyia*.

The larvæ of the species which I have found in Illinois are predaceous, and live in earth and decaying wood or leaves. Some species are aquatic in the larval and pupal stages. The imagines of the genera *Empis*, *Rhamphyomyia*, and *Hilara* are met with in swarms similar to those of Chironomidæ and Culicidæ, performing a rhythmical aerial up and down flight generally in the lee of a bush or tree, but some species, especially of *Hilara*, fly over water, notably close to the surface of pools in streams. The imagines of most species are predaceous, and in some cases the males capture the prey, fly past a swarm of females with it, inducing females to pursue them, and in the process of transference of the prey to the female copulation takes place.

Rhamphomyia Meigen.

This, the only genus of the family in the present collection, is represented by six species and twenty-two specimens. I have experienced so much trouble in attempting to identify species of this genus through the lack of synopses in the papers I have used that I have drawn up a key to those dealt with in this paper in the hope that subsequent students may find it useful in identifying collections from this region. With one exception I have failed to associate the species before me with any previously described, and even in the case of the