

The Lepidoptera collected by the Canadian Arctic Expedition, 1913-18.

(With notes on other species collected in Arctic America.)

By ARTHUR GIBSON,

Entomological Branch, Department of Agriculture, Ottawa

The collection of lepidoptera made by members of the Southern Party of the Canadian Arctic Expedition during the years 1913 to 1916, is composed largely of butterflies. The material was collected chiefly by Mr. Frits Johansen, although a number of specimens were taken by Mr. D. Jenness and Mr. J. J. O'Neill, other members of the expedition. The localities where the lepidoptera were collected are in some instances the same as those visited by Mr. David T. Hanbury, whose collections were reported upon by Elwes and Hampson¹. A small number of specimens of the families Pyralidae, Pterophoridae, and Tortricidae were brought back, but these are in such poor condition that it is impossible to determine them. In addition to the collection made by the Southern Party, I have also examined a small collection brought back by the Northern Party made on Victoria island and Melville island.

In the National Collection of Insects at Ottawa there are a number of species which were collected in Arctic regions by officials of the Geological Survey of Canada and which were not obtained by members of the Canadian Arctic Expedition. It has been therefore advisable to include the records of such captures in this report.

In the spring of 1917, I had an opportunity of studying portions of the Barnes' collection of lepidoptera, at Decatur, Ill., which is undoubtedly one of the most complete collections of North American lepidoptera in existence. On this occasion I compared some doubtful material with specimens in the collection. I received many favours while in Decatur, not only from Dr. Barnes himself but from Dr. J. McDunnough. To both of these gentlemen I am much indebted. A few other specialists were consulted with regard to doubtful species and such assistance as was received is acknowledged in the text.

In the following pages nine species are described as new, in addition to which two new varieties are recognized. The majority of these new species and new varieties were collected by members of the Canadian Arctic Expedition.

The photographs from which Plates I to III, inclusive, were made were taken by Mr. A. E. Kellett, Artist Assistant, Entomological Branch, Department of Agriculture, Ottawa.

The arrangement of the species follows Barnes and McDunnough's recently issued Check List of the Lepidoptera of Boreal America.

FAMILY PAPILIONIDAE

Genus *Papilio* L.

Papilio machaon allaska Scudd.

Papilio machaon var. *aliaska* Scudd.: Proc. Bost. Soc. Nat. Hist., XII, 407, 1869.

No specimens of this butterfly were met with by members of the Canadian Arctic Expedition. In the National Collection of Insects at Ottawa there are specimens from: Valley of Mayo river, Yukon Territory, July, 1904 (J. Keele); Gravel river, near Twitya river, Northwest Territories, June 28, 1908 (J. Keele); three miles below summit of Chilkoot pass, July 15, 1886 (McDongall); between latitudes 67° 25' and 66° 30', long. 141°, June 12-27, 1912 (D. D. Cairnes).

Mr. Keele reported that this butterfly was quite common along the shores of Mayo lake and valley of Mayo river, Yukon, during July and August, 1904.

¹ Trans. Ent. Soc. Lond., 1903, part III (Oct.).