men were appointed a Committee: Dr. Jeffries Wyman, Dr. C. T. Jackson, Mr. T. T. Bouvé, Mr. E. Pickering, Dr. T. M. Brewer and Mr. S. H. Scudder.

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Section of Entomology. April 28, 1869.

Mr. Edward Burgess in the chair. Nine members present.

The following paper was read: —

REPORT UPON A COLLECTION OF DIURNAL LEPIDOPTERA MADE IN ALASKA BY THE SCIENTIFIC CORPS OF THE RUSSO-AMERICAN TELEGRAPH EXPEDITION UNDER THE DIRECTION OF LIEUT. W. H. DALL. BY SAMUEL H. SCUDDER.

The diurnal Lepidoptera mentioned below were obtained by Mr. Dall, during two successive summers, on different parts of the Yukon River, from Fort Yukon near the British Boundary to the mouth of the river. It is hardly probable that they embrace all the species occurring there, since half of the species are represented in this collection by only a single specimen.

The "Ramparts" mentioned below are cañons, commencing two hundred miles below Fort Yukon, where the river is narrow, deep and swift, running for one hundred and fifty miles between high mountains; neither birds nor many butterflies were found there. The "Mission" is situated a little above the broad southern bend which the river makes near its mouth.

In addition to the species enumerated here, Mr. Dall writes that he frequently saw *Lycænæ* so high in the air as to be difficult to catch, and which may not have been the species mentioned below. He also saw a single specimen of *Vanessa Antiopa* at Nulato, May 20 (?), but could not obtain it. One caught at the same place in July, was afterwards given him, but lost. He also thinks he saw the larva of the same species crawling on the snow on the banks of the Unalakleet River (flowing into Norton Sound), Nov. 26th, when the thermometer registered −15° Fahr.

The species of *Erebia*, *Pieris* and *Papilio*, always appeared in large

flights, never singly. Many of the specimens were brought to him by the Indians, which accounts for their poor condition.

**Erebia discoidalis** Kirby.

Five specimens taken just above the Ramparts, June 15th and 16th, a little above Nowikákat, June 5th, and at Nulato in the latter part of May.

**Erebia Mancinus** Doubl.

Five specimens taken at Nulato, May 20th, and at the lower end of the Ramparts, June 7th and 10th.

**Grapta gracilis** Gr. and Rob.

A single worn ♀ of this species was taken June 6th, on the Yukon River, fifty miles above Nowikákat; the ♀ has never been noticed before, but I have other specimens from Lake Winnipeg and New England; it resembles the ♀ of *G. Faunus* Edw., more than that of *G. C-argenteum*.

**Melitæa Helvia** nov. sp.

Upper surface blackish fulvous, covered with dull white and fulvous spots, mostly arranged in transverse rows. Primaries with a marginal row of roundish fulvous spots; next to it two curved rows of dull whitish spots, curved apically on the upper half and basally on the lower half of the wing; the spots of the inner of these two rows are larger, and those of the outer are smaller than those of the marginal row; a minute fulvous double spot just beyond the tip of the cell, and beyond this two short transverse bands of three spots each, the inner whitish, the outer of mixed fulvous and whitish spots; three spots in the cell,—the inner of mixed whitish and fulvous scales, the next fulvous, and the outer whitish bordered with fulvous; between the median and submedian two whitish spots. Secondaries with four rows of spots on the outer half of the wing, following each other in close succession; the outer marginal row is composed of fulvous spots, the next of whitish, the third of fulvous, and the inner of obscure whitish mixed with some fulvous spots; besides these two or three obscure fulvous and whitish spots in the cell; outer edge of both wings black, the fringe white, dark fuscous at base, interrupted with fuscous at the nervule tips. Beneath cinnamon brown, deeper in tint on the secondaries; primaries with a submarginal row of whitish lunules edged apically with black, and followed basally by a broad band of whitish spots, broken and obscure on the under half of the wing; markings of the cell obscurely repeated. Secondaries with a submarginal row of very large white lunules edged with black, and a

bent and somewhat irregular whitish band just beyond the middle, edged on both sides with black; within this four or five large whitish spots edged with black and irregularly disposed. Expanse of wings 1.5 in. It is closely allied to *M. Anicia* Doubl.

One specimen was taken June 15th, at the upper end of the Ramparts.

**Melitæa** sp.

One specimen, too much injured to be determined with accuracy, but perhaps belonging to *M. Palla* Boisd., was taken at Fort Yukon June 25th.

**Lycæna Lucia** Westw.

Four worn ♀ specimens seem to be referable to this species. Two of them were taken June 6th, fifty miles above Nowikákat, and one June 2d, at the mouth of the Melozikakat River.

**Pieris venosa** Scudd.

The specimens from Alaska on an average seem to be darker than those from California, and as in that country, the ♂ is apparently the more abundant sex. In passing down the valley of the lower Yukon, between the Mission and the sea, Mr. Dall saw no other species of butterfly. The species of Papilio and the other showier butterflies were confined to the more wooded portions of the river above.

Fifteen ♂, five ♀. Most of the specimens were taken at Nulato, but also farther down the river, between June 14th and June 30th.

**Anthocaris lanceolata** Boisd.

One greatly damaged specimen, apparently belonging to this species, was taken on the upper Yukon River.

**Colias interior** Scudd.

One ♂ taken at Fort Yukon June 25th.

**Papilio Turnus** Linn.

The specimens from Alaska are remarkably uniform in character, and, unless slightly smaller, differ in no respect from New England individuals; they hardly exhibit so much variation as one often finds among specimens in a limited district,—about the White Mountains of New Hampshire, for instance. In one specimen, however, (taken June 15th, at the upper end of the Ramparts), and in others to a less degree, all the submarginal lunules of the upper surface of the secondaries are distinctly orange-fulvous like the anal spot, instead of being colored like the centre of the wing.

Seventy-two specimens were brought home, all but one of which were collected in June, mostly on the 6th and 7th, but also on the

1st and 5th, and from the 13th to the 16th, inclusive; they were obtained on the upper Yukon River, all the way from Nulato, where they are rare, to Fort Yukon, where they are common, except in the Ramparts. One specimen was taken at Nulato May 12th.

**Papilio Aliaska** nov. sp.

This species is of the same size and facies as *P. Zolicaon* Boisd., but differs from it in the following points: the base of the upper surface of the primaries is powdered as far as the yellow band with greenish yellow, instead of being simply black; the transverse yellow band is much larger, and the space between this and the submarginal row of roundish spots is of nearly equal width across the whole wing, while in *P. Zolicaon* it broadens considerably in approaching the inner border; the anal spot of the hind wings is of an uniform deep fulvous color, bordered basally with blue, and on the opposite side outwardly with black, and inwardly with a yellow spot; while, in *P. Zolicaon*, the color is paler apically, very distinctly pupiled with black and bordered apically with black only; on the under surface of the wings the black is much less conspicuous than in the Californian species, and in particular there is a more or less distinct, large, yellow spot occupying the basal half of the cell of the primaries, which is wholly wanting in *P. Zolicaon*.

Sixteen specimens were obtained; most of them at Nulato, May 20th–24th, but others June 5th, 6th and 14th, at a short distance below the Ramparts, and also just above them.

Mr. W. H. Edwards sent me a specimen from the east coast of Hudson's Bay, so that this insect occurs over a wide extent of country.

**Parnassius Eversmannii** Ménétr.

The single specimen, taken June 15th, at the upper end of the Ramparts, does not altogether agree with the illustrations and descriptions given by Ménétries of his single individual from Kansk. In particular, the spots on the under surface of the secondaries differ from those of Ménétries' figure, as those of his representation of *P. Wosnesenskii* do, only the red is of a deep tint, as in the figure of *P. Eversmannii*—that is, the basal spot is not black, but of a bright red edged with black, and the spot at the inner angle is also not black, but bright red bordered with black.

This list of species, though short, is instructive, since it shows that the lepidopteran fauna of the Alaskan peninsula is not nearly so arctic in its character as might have been imagined. Three of the

twelve species occur abundantly in New England, three more extend nearly or quite as far south as the Great Lakes and the St. Lawrence, and two or three are found in California; three occur in, or are intimately allied to others inhabiting the Rocky Mountain region near our own parallel, and one of them has been previously described only from central Siberia. On the whole the fauna does not seem to be a distinctive one, but to unite in itself the characters of the elevated portions of the whole of boreal America, from ocean to ocean, and, in part, those of the neighboring portions of the Asiatic continent; the foundation, however, is formed of types characteristic of the great interior of the continent north of the United States. Judging by the specimens brought home, the three most abundant species are *Papilio Turnus*, *Pieris venosa* and *Papilio Alaska*; and it is a little remarkable that each of these species is characteristic of one of the three great divisions,—eastern, western and central boreal America.

Mr. S. H. Scudder presented the following notice of a new cave insect from New Zealand.

The long limbed Locustarian of the Mammoth Cave in Kentucky was described at about the same time by de Saussure and by myself as a species of Rhaphidophora; subsequently I showed that this insect was the type of a distinct genus, which I called Hadenœcus, and suggested that one of the cave-Locustarians of Europe, which I had never seen in nature, might belong to the same genus. Specimens of each species received since then have shown both that Rhaphidophora palpata (Sulz.) Charp., belongs to Hadenœcus, and that R. cavicola (Koll.) Fisch., belongs to the genus Ceuthophilus; therefore no true species of Rhaphidophora occurs either in Europe or America.

It gives me pleasure to announce an additional species of Hadenœcus from quite another quarter of the globe.

**Hadenœcus Edwardsii** nov. sp.

Body uniform brownish fuscous; front pale fuscous; palpi, tarsi and apical third of tibiæ pale; antennæ brownish fuscous. Length of pronotum 6 mm.; of thoracic nota together 11.5 mm.; of antennæ 120 mm.; of maxillary palpi 18.5 mm.; of fore tibiæ 23 mm.; of hind tibiæ 40 mm.

One imperfect specimen of this species, much the largest of the genus, was presented to me by my friend, Mr. Henry Edwards, who captured it himself in a limestone cave at Collingwood, Massacre