

A BIOLOGICAL SURVEY OF THE PRIBILOF ISLANDS, ALASKA.

Part II. INSECTS, ARACHNIDS, AND CHILOPODS OF THE PRIBILOF ISLANDS, ALASKA.

INTRODUCTION.

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The bulk of the material upon which the present report is based was collected by Alvin G. and Elsie G. Whitney from October, 1912, to July, 1914, and by G. Dallas Hanna in 1914, 1915, 1916, and 1917. The collectors were employed on the Pribilof Islands during these years by the U. S. Bureau of Fisheries and thanks are due the Chief of that Bureau for turning over their collections of invertebrates to the Biological Survey. It has been of great assistance to have this material for working up simultaneously with the examination of the bird stomachs, reported on in earlier pages, which also for the most part were donated by the Bureau of Fisheries. Material of both classes from this source was supplemented by collections made by Edward A. Preble, of the Biological Survey, in 1914. The Whitneys and Hanna used a system of lot numbers for their collections of invertebrates, and these numbers have in all cases been placed on the specimen labels. Data for lot numbers applying to more than single specimens are reproduced on pages 132 to 138, as they may be useful in future when these collections are distributed. All type specimens mentioned in the following reports as well as the bulk of the remaining material will be deposited in the U. S. National Museum.

Previous general treatises upon the insects and arachnids of the Pribilof Islands are three in number. The first of these is the List of Insects Hitherto Known from the Pribilof Islands, which appeared in the report on The Fur Seals and Fur-seal Islands of the North Pacific Ocean, Part III, pages 547-554, 1899; prepared by E. A. Schwarz, with the assistance in a few groups of M. L. Linell, W. H. Ashmead, D. W. Coquillett, and Herbert Osborn. The second report was contained in several of the Papers from the Harriman Alaska Expedition, mostly published in the Proceedings

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DIPTERA.

(Except TIPULIDAE, RHYPHIDAE, and CALLIPHORIDAE.)

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(Plates XII-XV.)

The present collection contains a very large number of specimens but is not particularly rich in species. Moreover, there is nothing very remarkable in the material, the only genus that has not previously been recorded from Alaska being *Smittia*, a genus of Chironomidae described from the Arctic regions of Europe (Spitzbergen).

I have taken the opportunity of indicating in the introductory notes to each family what the known larval habits of the species are, considering that this information may have a certain value in a list of this nature even though it does not refer directly to the species in the list.

The arrangement is that of the Aldrich Catalogue, but there are several changes in generic names.

Suborder Orthorrhapha.

DIVISION NEMATOCERA.

Family CHIRONOMIDAE.

The larvae of most of the members of this family are aquatic in habit and those in the present collection are representatives of that section, belonging entirely to the subfamily Chironominae, though it is not improbable that some of them may be terrestrial as is the case with *Camptocladius byssinus* and some others. All of them except *Smittia* may be located generically by the use of the keys in my paper on Illinois Chironomidae subsequently cited. I have made figures of the male genitalia of the species described herein to prevent any misconceptions by future workers on the group as to their identity.

Genus *Chironomus* Meigen.

There is a striking similarity in the species of *Chironomus* in the collection. All are black, have the basal joint of the fore tarsi very little longer than the fore tibiae, and the males of all have the fore tarsi with long, soft hairs. Fortunately, the hypopygia of the males present in their structure good characters for differentiation of the species.

Family DROSOPHILIDAE.

The known larvae of the species of this family feed upon decaying vegetable matter, exuding sap of trees, in fermenting liquids, and rarely in leaves of living plants.

There is a single species in the present collection.

Genus *Drosophila* Fallen.*Drosophila graminum* Fallen.

Drosophila graminum Fallen, Geomyzides, p. 8, 1823.

A female of this species taken on St. Paul Island, August 16, 1915 (G. D. Hanna), has the thoracic stripes well defined and in every respect agrees with the dark forms occurring in the United States.

Family AGROMYZIDAE.

There is but a single species of this family in the collection. It belongs to the genus *Phytomyza*, the species of which are, so far as known, phytophagous in the larval stage, usually mining in the leaves of various plants, or living in the froth of Cercopidae.

Phytomyza obscurella Fallen.

Phytomyza obscurella Fallen, Phytomyzides, 4, 1823.

I have considerable doubt about the identity of this species. Melander has had an opportunity of comparing Alaskan and European examples of this species and considers the forms *ilicicola* Loew and *nigra* Meigen as varieties of *obscurella*, listing both as occurring in Alaska. The recorded food plants of the varieties suggest confusion of species—*ilicicola* on holly, *obscurella* on honeysuckle and elder, and *nigra* on *Primula veris* and *Heracleum sphondylium*. In view of the facts that I have no European examples of *obscurella* for comparison and that I have no record of the food plant of the Alaskan species and have not had opportunity to compare the larvae and pupae of the different forms, I leave the matter as it is, merely calling attention to the element of doubt in the matter of the recorded occurrence of *obscurella* in Alaska and the sinking of *ilicicola* and *nigra*, as varieties of *obscurella*.

There are 7 examples that I place under this species name provisionally. The data are as follows:

St. George Island.

3 specimens, June 16, 1914 (lot 32, G. D. Hanna).

4 specimens, August 16, 1915 (G. D. Hanna).