

European student to critically study the existing types and compare the authenticated Palaearctic species with a great series from America and elsewhere. If this is done it may be that the correct synonymy can be determined. It is scarcely possible for an American worker to attempt the problem, at least under present European conditions, chiefly because of the impossibility of studying the types of the European species still existent and the added difficulty of obtaining authentically named specimens of the European species, the European specialists, apparently, being as much in doubt concerning the true status of the group as are the American workers.

Until a very recent date the genus *Trichocera*, together with the related genus *Ischnothrix* Bigot, from Cape Horn, was included as a member of the Tipulid tribe, Limnophilini. A critical study of the immature stages by Johannsen, Keilin, de Meijere, & Koch, and others has shown the utter impossibility of such an assignment and it seems better to give it subfamily rank in the family Rhyphidae.

Trichocera sp.

The present collection included three specimens of *Trichocera* sp., from Bernard Harbour, Northwest Territories, June 18, 1915, collected by F. Johannsen; two males, Nos. 1301 and 1302 and a female, No. 1300 D.

IMMATURE STAGES.

The present collection of Canadian Arctic crane-flies included a surprising amount of life-history material. This was of very great interest since our knowledge of the younger stages of any Arctic crane-flies is almost negligible. Unfortunately, very little of the material had been reared and consequently the placing of the species has been attended with considerable doubt and difficulty. As a rule it scarcely pays to describe or figure undetermined larvae or pupae unless they show conspicuous points of difference in their structure, have a peculiar habitat, or else, as in the present case, come from a region where practically nothing is known concerning the early stages. These Arctic crane-flies, especially of the Tipuline group, are sometimes as beautifully patterned in the larva as they are dull and obscure in the adult. The biological data that were supplied by the collector are incorporated with each species concerned.

HEXATOMINI.

In another paper, not yet published, I have endeavoured to correlate the present classification of crane-flies, based entirely on a study of the adult flies, with a critical survey of all the immature stages that I could obtain. Among other things this study seems to indicate that the tribe Hexatomini is not as clearly set off from the related groups as a study of the adults alone would imply. Several of the groups that have hitherto been considered subordinate groups of the genus *Limnophila*, such as *Utomorpha*, *Lasionastix*, *Dicranophragma*, *Poecilostola*, etc., all seem now to be more properly referable to the Hexatomini, or at least closely allied to *Eriocera*, *Penthoptere*, etc. The present species has not been reared and its true affinities must be left in doubt, but I believe that the reference given below will be not entirely erroneous.

Poecilostola supposition.

This is a small group of flies including seven or eight species of the Palaearctic region with representatives occurring in Japan. Although no adults of this group of flies or, indeed, any of its relatives have yet been taken in the Canadian Arctic I feel very little hesitation in referring the present larva to the neighbourhood of this genus. It may belong to the subgenus *Phylidorea* Bigot of the genus *Limnophila* Macquart.