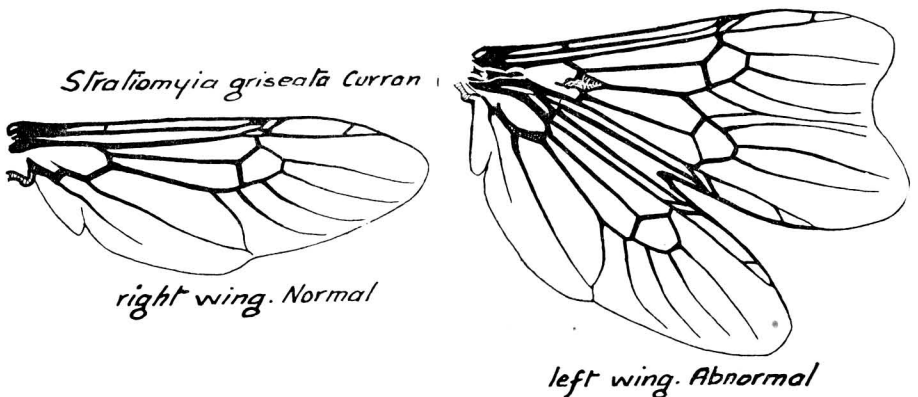


### A TRIPLE STRATIOMYID WING

by G. J. Spencer  
University of British Columbia, Vancouver

On the hills around Kamloops, just below the timber line, which is here only about 3,100 feet to 3,400 feet, stretches a belt of the Range Sunflower, *Balsamorhiza sagittata* Nuttall. On gentle slopes, this belt is sometimes one half mile wide and thins out near and below the 2,700 foot elevation. The early part of summer 1937 produced unusually luxurious vegetation in this belt, the *Balsamorhiza* especially making a brilliant show.



During the last week in May and the first week in June, large numbers of insects hid for the night under the broad sunflower leaves, chiefly Chironomids, and the big soldier fly *Stratiomyia griseata* Curran. This fly is fast enough on the wing in bright sunlight, is seldom seen and is hard to catch, but at dusk it can be picked off sunflower leaves by hand and I collected a few dozen including one which had seemingly a deformed left wing. On examination, this wing proved to be a triple affair consisting of two nearly complete wings facing each other and fused on the anal margin, and a complete third wing caudad to the first part, fused half way up the costal margin and bent partly ventrad of the first portion. (as per sketch).

It is difficult to make out the details of the pleural sclerites supporting this abnormality without clearing the body wall in caustic, thus destroying the fly, but the basal portions of all the veins are so complete that I suspect the sclerites also are at least partially triplicate.

For the moment I am interested in the forces that produced this peculiarity—was it a result of injury to the wing bud or a triplication of the genes controlling the wing? We have only the work done on *Drosophila melanogaster* to guide us in this search and in this insect the inheritance of over 500 distinct characters has been traced to genes which are inherited according to the Mendelian principle of segregation. The nearest approach to anything like this freak wing, that I can find in *Drosophila* is in the second of the four character groups where the last gene of the II<sup>nd</sup> Chromosome, 107.5, is responsible for the

"balloon" or greatly expanded wing. It is also conceivable that the characters 58.7 and 59.5 of the IIIrd Chromosome yielding the "bi-thorax" may have developed into a tri-thorax and yielded a triple wing. But why on one side only? Except for these two points, I can find no gene that is responsible for a replication of features; all the others produce a change of some sort, morphologically, or only a color change.

#### Acknowledgement

I am indebted to Dr. G. E. Shewell of the Division of Entomology, Ottawa, for giving me the specific name of this fly.

It is of interest to note that up to the time of my sending specimens for identification, the only ones in the National Collection were the type and paratype; in the summer of 1937 thousands of these flies occurred on the Kamloops hills. The summer of 1938 was very dry. *Balsamorhiza* had dried up by the time I arrived and the flies were entirely absent.

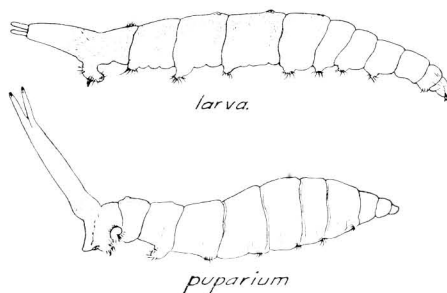
### A NOTE ON BRINE FLIES IN BRITISH COLUMBIA (Ephydriidae: Diptera)

by Ivor J. Ward

Science Service, Dominion Department of Agriculture

In various parts of the area north of Clinton, B.C., such as east of 100-Mile House on the Cariboo Road and westwards along the Chasm-Jesmond road, occur several so-called soda lakes whose white crystalline shores are conspicuous as far as they can be seen. In several instances the deposits from these lakes have been harvested as commercial ventures and the remains of loading machinery and wharves may still be seen, heavily encrusted with white crystals.

#### *Ephydra hians* Say



One such lake occurs along the road leading from past Carr's Ranch towards Canoe Creek. The lake is apparently subject to considerable fluctuations in level over periods of years because it was once very low and encircled by trees, then some ten feet higher, and the salt killed the trees; at present it is low again and dead trunks stick out from the edges of the alkali like sentinels, heavily encrusted with white crystals.

Passing by this lake on August 25th, 1937, in company with Mr. J. K. Jacob, who was collecting Diptera at the moment, we noticed that