

THE TREE-HOPPERS OF BRITISH COLUMBIA

By W. Downes

The present account embodies the results of collections made by the writer during the years 1917 and 1918, principally in the neighbourhood of Victoria and a few specimens taken in the Fall of 1918 at Vernon, but as the area covered has been so restricted, this report cannot be considered as other than a preliminary outline, but it may serve as an indication of the extent of our Membracid fauna.

The number of species taken has been disappointingly few, only five having so far been found, but possibly this number may be added to when opportunity occurs to collect further afield, particularly along the southern boundary of the Province and especially in that region south of Okanagan Lake, where a streak of the Upper Austral Zone crosses the International boundary.

The Pacific Coast is, compared with the East, not by any means rich in Membracid species, only thirty-five being recorded from California, while in New York State seventy-six species are recorded and over sixty in New Jersey. In an account of the Membracidae of Nova Scotia by Prof. Brittain (N.S. Ent. Soc. Proc. No. 3) thirteen species are described, while Ontario is credited in Van Duzee's recent list with thirty-six.

The Membracidae are primarily a tropical and sub-tropical family and their stronghold is South America, where they are abundantly represented. Perhaps their scarcity on the Pacific Slope may be explained in part by the presence of geographical barriers in ancient times. The Palearctic region is very poorly represented, there being only two or three genera on the entire continent of Europe. Only two species are known in Great Britain and two in Russia. The further north the fewer the species, consequently it will be in the southern portion of our territory that we must look for fresh accessions to our list.

Ceresa basalis, Walk. This is the commonest Membracid found in British Columbia. The usual colour is pale green, fading to a greenish yellow when dried, or occasionally live adults are seen which are yellow. Length of males 7 m.m. Length of females 8 m.m. The pronotum is furnished with two short lateral horns which are usually tipped with red. The pronotum is densely punctate and bears numerous short hairs. The ventral surface in the males is nearly always black, the black colour often extending to the head and dorsal surface, so that the whole insect has a dingy appearance, but in the females the black colour is confined to the ventral surface of the abdomen, and many females are entirely free from black. Usually this species has been swept from willow bushes, but I have found it also on Goldenrod and several herbaceous plants.

Stictocephala pacifica, Van. D. This species is fairly common at Victoria, but I have not yet taken it in the Interior. It is about equal

in size with the foregoing and may easily be distinguished by the absence of the pronotal horns. The colour is also a more decided green. The males are smaller than the females and the ventral surface of the abdomen of the male is black, the females being entirely green. The most decided specific character is the outline of the terminal abdominal segment, which is deeply notched to receive the styles of the ovipositor. So far I have only taken *Stictocephala pacifica* on willow.

Platycotis quadrivittata (Say.) is common on oaks in the neighbourhood of Victoria. In general appearance the species is greenish brown above, dotted with red. The pronotum is densely punctate, smooth, and bears a short pronotal horn projecting slightly forward and two short lateral horns. The length of the pronotal horn varies greatly and both it and the lateral horns may be absent. The amount of red on the pronotum and costal margins of the tegmina varies greatly and is more usually present in the females than the males, which are darker and frequently blotched with black. A beautiful form which is occasionally taken has the ground colour a dull greenish white with the edges of the pronotum bordered with red, and two parallel red stripes one on each side of the median carina. It would seem that the name *quadrivittata* would be more applicable to this variety than the commoner type. Length 10 m.m. Adults of this species have been taken early in the Spring, so it is probable that it winters over in the adult form.

Glossonotus univittatus, Harr. Very few of this species have been taken and it does not appear to be anywhere very common. It has been only taken on willow (*Salix scouleriana*). Two or three specimens have been obtained near Victoria and a dead one was taken from a spider's web at Vancouver. It will easily be known by the pronotum being raised into a prominent hump and by the broad white stripe extending nearly to the tip of the pronotum. Nothing is known of the life-history. Length 9.5 m.m.

Campylenchia latipes, Say. One specimen only has been taken. This one was swept from willow at Swan Lake near Vernon. It is usually a grass-inhabiting species and common in the east on alfalfa and sweet clover, and its occurrence on willow may have been accidental, as it was on the edge of an alfalfa field. It will easily be recognized by the forward-projecting pronotal horn which is deeply keeled and bears two lateral ridges. Colour cinnamon brown, pronotum densely punctate and hairy. Length 6 m.m.

ADDITIONAL NOTES (Dec., 1920):

Since the above was written I have been able to record another species for British Columbia. This is *Ceresa bubalus* Fabr. It was taken at Agassiz on Aug. 29th, 1920. Its occurrence was not unexpected, since it is a common species in most parts of North America and has

been recorded from California, and its range might be expected to extend northwards. It is easily distinguished from **Ceresa basalis**, which it resembles in form, by its larger size and longer lateral horns. Its length is 9 m.m., colour bright green, fading in cabinet specimens to dull yellow.

Ceresa bubalus is of considerable economic importance where it is abundant, on account of the injuries done to young orchard trees and nursery stock by the female when ovipositing. The eggs are inserted in a slit in the bark and the scars thus caused enlarge with the growth of the tree, forming dead areas of bark which are a starting point for fungous growths and boring insects. **Ceresa basalis** oviposits in a similar way but the wounds heal over and are not so serious.

Glossonotus univittatus. Further examples of this species have been taken, two by me at Enderby on Aug. 22nd, and one by Mr. Buckell at Chilcotin on July 23rd. The Okanagan specimens were taken on willow, and I found it, as elsewhere, very scarce.

Stictocephala pacifica. A few specimens have been received from Vernon (July 29th, M. H. R.), thus extending the known range of this species to the Interior of British Columbia.

Campylenchia latipes. On Aug. 16th I took a number of these at Penticton on Goldenrod. They were in little parties of four or five and were attended by ants who were evidently herding them, as they do with other species of Membracidae elsewhere. So long as the ants were undisturbed the tree-hoppers made no attempt to move away, but whenever the ants were driven off the tree-hoppers seemed to take fright and decamped in all directions.

CORRECTIONS TO PROCEEDINGS No. 12

Page 13, line 34, for **astulatus** read **ustulatus**.

Page 15, line 19, for **Eucanthus** read **Evacanthus**.

Page 16, line 13, for **commisuralis** read **commissuralis**.