

red spider (*T. bimaculatus*) passes the winter at a depth of  $1\frac{1}{4}$  to 2 inches in the soil. In a very interesting manner he describes the migration of this species from the tree to the soil. His observations are remarkably convincing. The brown mite (*B. pratensis*) is closely associated with *T. bimaculatus*, but in the case of the former, webs are usually absent. The injury from this mite takes place early. Weldon states that *B. pratensis* winters over in the egg stage, the winter eggs being deposited on the trees before August 1st in Colorado.

The problem of mite-control is a difficult one, but good work has been done by many stations with satisfactory results. They can usually be controlled by the summer application of flowers of sulphur alone, powdered lime and flowers of sulphur, or lime-sulphur spray. Weldon found that summer spraying with lime-sulphur was remarkably effective against red spider (*T. bimaculatus*), while for brown mite (*Bryobia pratensis*), which winters over in the egg stage, a dormant spray of lime-sulphur early in the spring gave much better results. With this dormant spray he states that the mites die a short time after hatching from the eggs.

#### OBSERVATIONS MADE LAST OCTOBER.

The writer last season had a great deal to do with nursery-stock inspection in different parts of the Province. In one of the nurseries curious disfigurements or incrustations of the bark were observed on Northern Spies. Freehand sections were made of the affected parts, and on examination a large number of mites of the genus *Eriophyes* were found. The matter was referred to the Dominion Entomologist for his report. He corroborated my statement that a species of *Eriophyes* was present under the incrustations, but suggested that from the way in which they were found they were probably wintering over in these rough places on the bark and not causing any harm. On the bark of the same trees, egg-blisters of the apple-leaf hopper (*Empoasca mali*) were also found, and it appears that these disfigurements and incrustations are due to the breaking of the egg-blisters when the young hoppers emerge. If mites were present on the leaves in the summer, they would easily crawl to these hiding-places in the bark on the approach of cold weather in the fall. The writer also took the matter up with Mr. Brittain, former Plant Pathologist of the Province, to find out his experience, if any, with this occurrence. He stated that several examinations of affected trees had been made by him during the summer and no trace of mites had he found. Now, however, he had no difficulty in isolating them from the trees sent him, and expressed the belief that they were of the same species as the one associated with "silver-leaf," to which reference has already been made. The problem is an interesting one, for if the mite in question is responsible for some of the silver-leaf appearance in nurseries and it winters over in the places referred to, the life-history will be complete, and a means of control, by spraying with lime-sulphur when the leaves are appearing, suggests itself. Observations of the summer habits of the mite on the leaves have been made by Mr. Brittain, and a further batch of trees with bark incrustations have been sent him, so that he may study and compare the characters of both more thoroughly and be able to state definitely whether or not the mite found under the incrustations is the same species as that working on the leaves during the summer. It may be of interest to note that the disfigurements on Northern Spy, I am informed, are of common occurrence all over the Province.

It is my regret that I shall not be in the Province next summer to investigate this problem more thoroughly, as no doubt some more light on the subject is greatly needed. It is to be hoped, however, that it will be taken up by some student in entomology.

#### RESOLUTIONS.

Moved by Mr. Taylor, Kelowna, "That this Society, owing to representation having been made at their annual meeting in January, 1914, by fruit-growers from the Okanagan District, in relation to the possibility of the 'carrying-over' of fire-blight (*Bacillus amylovorus*) by bees in their hives during winter, and thus spreading

the disease in the spring to orchard trees, respectfully request the Government to instruct an investigation into the matter to confirm or refute the suppositions of the growers."

Seconded by Mr. Hugh, Victoria. Carried.

Moved by Mr. Lyne, Vancouver, "That this Society respectfully urge the Provincial Government to appoint, as soon as possible, a capable Entomologist, to pursue the labours relating to entomology in the Province of British Columbia so ably begun by Mr. W. H. Brittain, in his capacity as Provincial Entomologist and Plant Pathologist. And, further, that in the opinion of this Society it is advisable that these two positions of Entomologist and Plant Pathologist be separated, a separate official being delegated to each Department."

Seconded by Mr. Taylor, Kelowna. Carried.

Moved by Mr. Day, Duncan, "That the cordial thanks of this Society be sent to the Honourable Price Ellison, Minister of Agriculture for the Province of British Columbia, for the valuable and opportune assistance given to the Society by obtaining a grant of money and by authorizing the printing of reports; and at the same time to express the Society's appreciation of his personal interest in the objects of the Society."

Seconded by Mr. Treherne, Agassiz. Carried.

Moved by Mr. Robinson, Victoria, "Whereas from official reports of recent date 'foul-brood' among bees has made its initial entry into the Province of British Columbia; and whereas the Province has in the past, and is at the present date, practically free from this bee-disease, through the timely destruction of all infected colonies known to exist in the Province; and whereas in the interests of the bee-keeping industry it is of the utmost importance that this clean bill of health be most carefully maintained as a Provincial asset: It is hereby *Resolved*, That this the Entomological Society of British Columbia, in annual convention assembled, do petition the Honourable the Minister of Agriculture to so amend the 'Foul Brood Bees Act' that live bees and bee fixtures that have been used (queen bees and their escorts excepted) be barred absolutely from entry into the Province under any pretext whatsoever, as the section of the present Act pertaining to the quarantining of bees for ninety days is open to question as a satisfactory safeguard to the Province, for the following reasons: First, bees cannot be confined to their hives for ninety days without suffering death from worry or starvation. Second, from the nature of the bees flying from one to four miles from their home, thereby visiting the bees in British Columbia, and British Columbia bees, in their turn, visiting the hives of the bees held in quarantine at the boundary-line, and by so doing, as the exchange of honey, which may contain the germs of the disease, takes place, 'foul-brood' may be spread around."

Seconded by Mr. Cunningham, Vancouver. Carried.

Moved by Mr. Treherne, Agassiz, "That this Society respectfully and earnestly request the Provincial Government to grant the Society the annual sum of \$250 and to make provision for the publications of their reports."

Seconded by Mr. Blackmore, Victoria. Carried.

"That whereas it has come to the knowledge of this Society, the Entomological Society of British Columbia, that certain collections of insects, composed of insects gathered for the most part from British Columbia in the past, have been sold out of the Province to foreigners, or presented to collectors in other parts of the Dominion of Canada; and whereas, in the opinion of this Society, it is of the utmost importance that representative collection of British Columbia insects be obtained and built up for the benefit of British Columbia collectors and for the students of the University of British Columbia: Be it therefore *Resolved*, That this Society respectfully urge all its members to notify the Executive of the Society when collections of insects relating to the Province come on to the market for sale. And, further, owing to the financial state of the Society at the present time, that the Provincial Government be notified as to the above, and be respectfully requested

to assist in procuring the above insects should they be in good order and representative of the Province."

Recommended and passed by the Advisory Board.

#### ELECTION OF OFFICERS.

The following officers were elected for the year 1914:—

Honorary President—E. Baynes Reed, Meteorological Office, Victoria.

President—G. O. Day, F.E.S., Duncan.

First Vice-President—Lionel E. Taylor, F.Z.S., M.B.O.U., Kelowna.

Second Vice-President—E. H. Blackmore, Victoria.

Secretary-Treasurer—R. C. Treherne, B.S.A., Agassiz.

Assistant Secretary—(Not appointed.)

Advisory Board—G. O. Day, L. E. Taylor, E. H. Blackmore, R. C. Treherne, Tom Wilson, W. H. Lyne, A. H. Bush.

#### NOTICE.

To become a member of this Society "the annual fee is \$1, on payment of which, and on approval of three-fourths of the members present at the regular annual meeting, the individual becomes a duly accredited member." Prospective members are advised to send in their names to the Secretary at any time they wish during the year, accompanied by \$1, for which they will receive all back reports of the Society as are available for distribution up to that time, and their names will be brought forward at the regular annual meetings in January of each year.

Members will receive the monthly issues of the *Canadian Entomologist*, the annual reports of the Ontario Entomological Society, various publications of the Dominion Division of Entomology, and the reports of the British Columbia Entomological Society, as well as receive assistance by all and every member in the identification or control of insects.

#### ERRATA.

(At the request of the Secretary, the following corrections in Bulletin No. 3, N.S., in the Proceedings of the British Columbia Entomological Society, were noted by Mr. Arthur Gibson, Chief Assistant Entomologist, Dominion Division of Entomology, January, 1914.)

On page 37—*Paragrotis ochrogaster* is now *Euxoa ochrogaster*. Zebra caterpillar (*Mamestra canadensis*). This should be *Mamestra picta*. *M. canadensis* is not an economic species; in fact, it is a rare moth. We have no record of it occurring in British Columbia. It was described from New Brunswick. *Nephelades* should be *Nepheloides minians*. *Noctua claudectina* should be *N. clandestina*. *Carneades scandiens* should be *Euxoa scandiens*. *Posograti velusta* should be *Porosagrotis vetusta*. *Feltia subgothica*, the dingy cutworm, should be now referred to as *Feltia ducens*.

Page 42, line 34—*D. obesics* should be *D. obesus*.

#### LIST OF MEMBERS.

Honorary member—E. Baynes Reed, Meteorological Office, Victoria.

Abbott, Reg. C., Mission City, B.C.

Abbs, A. W., 2125 Thirteenth Avenue West, Vancouver.

Abriel, Thos., Nakusp.

Anderson, J. R., Union Club, Victoria.

Anderson, E. M., Provincial Museum, Victoria.

Angus, M., Peachland, B.C.

Bain, T. R., North Vancouver, B.C.

Barnhill, Earl, Kelowna.

Banks, W. W., Salmon Arm.

Blackmore, E. H., Post-office, Victoria.