ANNOTATED LIST OF INSECTS AND MITES COLLECTED ON BRAMBLES IN THE LOWER FRASER VALLEY, BRITISH COLUMBIA, 1951[1]

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A survey of insect and mites on brambles was made in 1951 as part of a long-term study of bramble fruit insects in the lower Fraser Valley. Host plants included both wild and cultivated species of *Rubus*. The common wild bramble in this area is the thimbleberry, *R. parviflorus* Nutt.; cultivated forms are limited mainly to raspberry, loganberry, and blackberry. Collections were made throughout the growing season.

Determinations were made by officers of the Division of Entomology, Ottawa, as follows: Coleoptera, Messrs. W. J. Brown and R. de Ruette; Diptera, Mr. J. F. McAlpine; Hemiptera, Dr. B. P. Beirne and Mr. L. A. Kelton. Acarina were determined by Dr H. H. J. Nesbitt, Carleton College, Ottawa, and Thysanoptera by Miss Kellie O'Neill, Bureau of Entomology and Plant Quarantine, Washington, D.C.

COLEOPTERA

Byturidae

1. **Byturus bakeri** Barber, western raspberry fruitworm.
   Adults taken on raspberry, loganberry, and thimbleberry, Abbotsford, Hatzic, late April to end of June, 1950, 1951.
   This is one of the more serious pests of bramble fruits in the Fraser Valley. Adults emerge in late April. Egg laying apparently begins about the middle of May, at which time the adult population is at its peak. Larvae reach maturity and leave the fruit in July and early August.

Coccinellidae

2. **Coccinella trifasciata subversa** Lec.
   Adults taken on raspberry, Huntingdon, 1951.
3. **Psyllobora** sp.
   Adults collected from loganberry and thimbleberry, Abbotsford, 1950, 1951.
4. **Stethorus punctillum** Ws.
   Adults collected from raspberry leaves heavily infested with mites, Lulu Island, 1950. This species was first reported in America by Brown (1950), who recorded it from Massachusetts and Ontario.

Curculionidae

5. **Brachyrhinus ovatus** (L), strawberry root weevil.
   Adults were found on raspberry, Huntingdon and Hatzic, June to August, 1950, 1951. This species is a serious pest of strawberries in the lower Fraser Valley, but observations have shown no large populations on raspberry, and no damage to the latter has been apparent.
   swarmed extensively in April and May,
6. **Brachyrhinus sulcatus** (F), black vine weevil.
   Adults collected from brambles, Huntingdon and Hatzic, June to August, 1950, 1951. This root weevil is also a serious pest of strawberries, but specimens have not been numerous on brambles, and no economic damage has been observed in the lower Fraser Valley.
7. **Rhynchites bicolor** (F), rose curculio.
   Adults taken on thimbleberry, Abbotsford and Mission, May, June, 1951. Buds of thimbleberry frequently show considerable damage from the feeding of this weevil, but no damage has occurred in cultivated bramble plantings.
8. **Sciopithes obscurus** Horn.
   Adults present on raspberry, Huntingdon and Hatzic, April to September, 1950, 1951. Very few specimens were found, and damage was not apparent.

Elateridae

9. **Agriotes ferrugineipennis** (Lec.).
   Adults taken on raspberry, Huntingdon, May, 1951.
10. **Ctenicera lobata caricina** (Germ.).
    Adult found on raspberry, Huntingdon, May, 1951.
11. **Ctenicera suckleyi suckleyi** (Lec.)
    Adults taken on raspberry, Clearbrook and Huntingdon, May, 1950, 1951.
12. **Limonius discoideus** (Lec.)
    Adults collected from raspberry, Clearbrook, May, 1950. This species was reported by Essig (1926) to be injurious to the buds and blossoms of fruit trees; no damage has been observed on brambles. Wireworm adults were fairly common on bramble foliage during April and May, but were not found later in the season.

Lampyridae

13. **Lucidota californica** (Mots.)
    Adults collected in small numbers from raspberry and thimbleberry, Huntingdon and Hatzic, April to October, 1950, 1951.

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Lathridiidae

14. **Melanophthalma** sp.
Adults common on raspberry, boysenberry, and thimbleberry, Yarrow, April, May, June, 1951.

Scarabaeidae

15. **Hoplia** sp.
One specimen collected from raspberry, Yarrow, May, 1951.

DIPTERA

Agromyzidae

16. **Agromyza (Liriomyza)** sp. **(A. pusilla** Mg. complex)
One specimen collected from raspberry, Huntingdon, 1951.

Anthomyidae

17. **Pegomyie rubivora** (Coq.), raspberry cane maggot.
Larvae collected from blackberry, Huntingdon, June, 1950.
This species has caused only slight damage to commercial plantations in the lower Fraser Valley.

Bibionidae

18. **Bibio** sp., ? **nervosus** Loew
Adults collected from brambles throughout the lower Fraser Valley, April, May, 1950, 1951. These flies and were found resting on a wide range of plants.

Chloropidae

19. **Thaumatomyia glabra** (Meig.)
Adults common on raspberry, loganberry, and thimbleberry, Abbotsford and Mission, April to September, 1950, 1951.
The larva was reported by Smith *et al.* (1943) to be predacious on aphids, especially those feeding below ground.

20. **Thaumatomyia grata** (Loew)
One adult collected from raspberry, Huntingdon, August, 1951.

Lauxaniidae

21. **Minnettia lupulina** (Fab.)
Adults collected from raspberry and thimbleberry, Huntingdon, June to September, 1951.

Opomyzidae

22. **Opomyza combinata** L.
One adult found on raspberry, Abbotsford, September, 1950.

Trupaneidae

23. **Terellia florescentiae** (L.)
Adults collected from raspberry, Huntingdon, August, 1951. The larva of this fly lives in the heads of Canada thistle.

HEMIPTERA

Anthocoridae

24. **Orius insidiosus** (Say)
One specimen found on raspberry, Huntingdon, August, 1951.

25. **Orius minutus** (L.)
Adults collected from raspberry and loganberry, Lulu Island, Huntingdon, 1951. Both these species ...of **Orius** are predacious on mites, thrips, leafhoppers, and other small insects. Collections on brambles during 1951 showed **O. minutus** to be the more common species. Adults were present in small numbers throughout the growing season.

Miridae

26. **Campylomma verbasci** (Meyer)
One specimen collected from loganberry, Lulu Island, September, 1951.

27. **Lygus** sp., ? **shulli** Knight
Adults common on brambles, Abbotsford, Hatzic, Lulu Island, April to September, 1950, 1951.

28. **Plagiognathus chrysanthemi** (Wolff)
Adults collected from raspberry, Huntingdon, August, 1951.

Nabidae

29. **Nabis ferus** (L.)
Adults collected from raspberry, loganberry, and thimbleberry, Hatzic, Lulu Island, September and October, 1951. Populations of this predator were not large. Specimens were collected on hosts having a considerable population of leafhoppers.

Pentatomidae

30. **Cosmopepla bimaculata** (Thos.)
Adults collected from raspberry, loganberry, and thimbleberry, Abbotsford, Hatzic, 1951. Specimens were common from May to September. Nymphs were occasionally observed clustered on loganberries in July, apparently feeding on the developing fruit.

HOMOPTERA

Aphididae

31. **Amphorophora rubi** (Kltb.)
Specimens collected from raspberry, Burnaby, July, 1949. Populations of this aphid were low on brambles, and no damage was apparent.

Cicadellidae

32. **Colladonus montanus** (Van D.)
Adults collected from raspberry and loganberry, Lulu Island and Huntingdon, August, September, 1951. Specimens were not numerous, and were found mainly on the lower parts of the bushes and weeds in the row.

33. **Dikraneura absenta** DeL. & C.
Adults collected from loganberry, Abbotsford, September, 1950.

34. **Macrosteles fascifrons** (Stal) complex (**divisa** auctt.)
Adults collected from raspberry, Huntingdon, August, 1951.

Typhlocybidae

35. **Typhlocyba rosae** (L.) rose leafhopper.
Adults collected from raspberry, loganberry, and blackberry throughout the lower Fraser Valley, 1950, 1951. These were the most common leafhoppers on brambles. There are two generations a year; adults of the first generation mature in June, those of the second generation in August. Adults were collected as late as November on loganberries where the trailing canes and dense foliage provided shelter.

HYMENOPTERA

Tenthredinidae

36. **Monophadnoides geniculatus** (Htg.), raspberry sawfly.
Second-generation larvae collected from raspberry, loganberry, thimbleberry, September, October, 1951. Slight damage by this species occurred on brambles in the spring.

LEPIDOPTERA

Aegeriidae

37. **Bembecia marginata** (Harr.), raspberry root borer.
Eggs found on raspberry and thimbleberry, August, September, October, 1950, 1951. This species is one of the more injurious pests of brambles in the lower Fraser Valley. Egg hatching began in mid-September in 1951 and was about 50 per cent. complete by the end of the month, but in 1952 hatching did not begin till the end of September. Approximately 15 per cent. of the eggs were parasitized in 1952.

Tortricidae

38. **Archips rosaceana** (Harr.), oblique-banded leaf roller.
Larvae collected from raspberry, June 20, 1951, and reared to adults in insectary, July 3, 1951. Infestations of this leaf roller were common on raspberries during 1951.

THYSANOPTERA

Phlaeothripidae

39. **Haplothrips** sp., near **niger** (Osb.)
Specimens collected from blackberry and loganberry flowers, Huntingdon, June, 1951.

Thripidae

40. **Frankliniella** spp.,**occidentalis** complex
Specimens collected from blackberry and loganberry flowers, Huntingdon, June, 1951. Most of the specimens were **F. moultoni** Hood; a few were of **F. trehernei** Morg. Some of the heavily infested flowers showed dark discoloration around the bases of the stamens, but otherwise little injury was apparent on the blossoms. Occurrence of thrips on harvested fruit seemed to be the major economic problem with infestations on brambles.

41. **Taeniothrips atratus** (Hal.)
Three specimens obtained from blackberry and loganberry bloom, Huntingdon, June, 1951.

42. **Taeniothrips vulgatissimus** (Hal)
Adults common in flowers of blackberry and loganberry, Huntingdon, June, 1951.

43. **Thrips tabaci** Lind., onion thrips.
Five adults collected from blackberry and loganberry bloom, Huntingdon, June, 1951.

44. **Thrips madronii** Mlt.
Specimens collected from blackberry and loganberry flowers, Huntingdon, June, 1951.

45. **Thrips** sp., near **fuscipennis** Hal.
Adults collected from blackberry and loganberry blooms, Huntingdon, June, 1951. Miss Kellie O'Neill, in commenting on the identification of these specimens, stated that the only published record for **T. fuscipennis** in North America is Hood's (1927) record of it in New York.

ACARINA

Tetranychidae

46. **Tetranychus bimaculatus** Harvey, two-spotted spider mite.
Specimens collected from raspberry, Lulu Island, June, July, 1950. There has been no excessive build-up in mite populations on brambles in the lower Fraser Valley area despite the widespread use of DDT since 1948 for control of the raspberry fruitworm. Mite populations during 1951 on brambles were almost nil.

47. **Eotetranychus pacificus** (McG.), Pacific mite.
Specimens collected from raspberry, Lulu Island, July, 1949. One raspberry plantation on Lulu Island had a heavy infestation of **E. pacificus** in 1949, but there has been no further outbreak of it here.

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