

the vehicle with the doors closed and aspirate the desired insects from the windshield, doors and screens. When 50 to 100 insects are in the aspirator, transfer them to a collecting jar. This avoids damage from swirling particles in the air stream or from the insects piling up. The transfer is easily made from a straight aspirator into a preserving jar, if the jar lid has a self-closing valve made from a piece of inner tube rubber. Shut off the vac-

uum by pinching the aspirator tubing, insert the nozzle of the aspirator in the jar and tap the aspirator gently to dislodge the insects. Shutting off the vacuum in this way does not interfere with the vacuum setting.

Leafhoppers collected with this method showed a better rate of survival in vector studies than those taken by conventional methods, probably because it was easy to select undamaged specimens.

References

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A COLLECTION OF HYMENOPTERA FROM BRITISH COLUMBIA

By JOHN STAINER

This collection consists of species taken during the summer of 1939, at Okanagan Mission, with a few species collected at Vancouver Island points. I am indebted to Dr. R. Lambert, C. D. Miller, W. R. Mason, and G. S. Walley of the Division of Entomology, Ottawa, for their identifications; and to Prof. G. J. Spencer for his help with this paper. Most of the specimens are now in the National Collection at Ottawa, the remainder in my own collection in Parksville.

Of the 50 species listed 11 are not recorded from B.C. in the "Synoptic Catalogue of the Hymenoptera of America North of Mexico" (U.S. Dept. of Agriculture, April 1951). Some interesting points arise in geographical distribution. Of the Apoidea collected only 1 species has a continent-wide range; the ranges of 6 straddle the Rockies; and 23 are recorded West of the Rockies only. On the other hand of the other superfamilies 14 species have a continent-wide range, 3 more have ranges which straddle the Rockies; and only 3 are restricted to the West side of the Rockies. This follows a pattern evident in the Synoptic Catalogue, shown by these figures:

Per cent of American species with ranges which cross the Rockies

Genus <i>Andrena</i>	2.5
Genus <i>Dasymutilla</i>	11.2
Genus <i>Chrysis</i>	34.0

In the following list the specimens were taken at Okanagan Mission in 1939, unless otherwise indicated. Months of capture are given in Roman figures.

TENTHREDINOIDEA

Cimbicidae

Cimbex americana pacifica Cress. ♂ Parksville: 10. viii. 54.

Tenthredo varipictus Nort. ♀ Shawnigan Lake:—V. 54.

ICHNEUMONOIDEA

Ichneumonidae

Pimplinae

Xorides cincticornis Cress. Nanaimo:—viii. 52.

Ichneumoninae

Cratichneumon unifasciatus Say. Parksville:—viii. 53. and 10. ix. 53.

CHRYSIDOIDEA

Chrysididae

Hedychridium fletcheri Bod. 24. v. Nearest previously recorded range: Alta., Ida., Ore. *Chrysis (Chrysurus) pacifica* Say. 5. v. and 22. v.

C. (C.) tota Aaron. 30. iv. Nearest previously recorded range: Ida., Colo.

C. (Chrysis) coeruleans Fab. Nanaimo: 12. viii. 56. 23.v.

C. venusta Cress. 24. v. Previously recorded range throughout U.S.

C. (Pyria) fabricii Mocsary. 20. vi. Nearest previously recorded range: Calif., Ariz.

SCOLIOIDEA

Sphaerophthalminae

Dasyneutilla nigripes Fab. (2) 27. iv. Not previously recorded west of Alta., Ariz.

D. vesta Cress. (2) 1.v. and 7.v. No previous record west of Rockies.

YESPOIDEA

Eumeninae

Aucistocerus antilope antilope Panz. Hornby Island;—viii.52.

A. catskill albophaeratus Sauss. (3) 22. v. *Symmorphus canadensis* Sauss. 7. v.

Pompilinae

Anoplius insolens Banks. (7) 17. iv. to 26. vi.

SPHECOIDEA

Pemphredoninae

Passalococcus mandibularis Cress. Nanaimo;—viii.51.

Sphecinae

Podalonia communis Cress. (15) iv. to v. Ladysmith, V.I.; iv. to v. 39. Range Western U.S.; not recorded from B.C.

Sceliphron caementarium Drury. 8. v.

Nyssoninae

Bembix (Epibembix) comata Parker. (4) Cherry Point; 5.viii.42. Hornby Island;—vii.52. Nanaimo;—viii.52.

Philanthinae

Philanthus flavifrons Cress. (3) Nanaimo; 10.vi.51. French Creek, V.I.;—vi.54.

APOIDEA

Andrenidae

Andrena candida Smith. ♂ ♀ 20.iv. Cherry Point; 4.v.42.

A. carliniformis Viereck and Cockerell. ♀ ♀ 8. and 14.v. Nearest previously recorded range: Calif., Utah, Wyo.

Andrena (?) compactiscopa Viereck 2 ♀ ♀ 14.v.

A. erecta Viereck. ♀ Cherry Point; 5.iv.42.

A Note on the Oviposition of NYCTOBIA LIMITARIA Wlk.

On May 4, 1950, about 3:30 p.m., I noticed a female of the geometrid *Nyctobia limitaria* Wlk. flying in a leisurely way amongst the coniferous undergrowth bordering the creek at the Trinity Valley Forest Biology Field Station. I watched for about ten minutes before it flew down a steep bank and was lost; while under observation it settled about ten times on young Douglas fir, Engelmann spruce, and western red cedar. By following the moth I was able to pick out six eggs which it laid on the spruce and fir foliage. It showed no preference for either host, but was attracted to trees growing close to the water; twice it returned and laid a second egg on a tree of each species almost overhanging the creek. When ovipositing, the

A. (?) pcrarmata Cockerell. ♂ 4 ♀ ♀ 1. to 16.iv.

A. prunorum kincaidii Cockerell 2 ♀ ♀ Kelowna; 10.v.39. Nanaimo;—vii.52.

A. sladeni Viereck. 3 ♂ ♂ 5 ♀ ♀ 10. to 16.iv. to 24.v.

A. (?) striatifrons Cockerell. 2 ♀ ♀; 24. iv. to 24.v.

Halictidae

Halictus rubicundus Christ. 8 ♀ ♀ 15. to 16.iv. Cherry Point, 4.v.42.

H. virgatus Cockerell ♀ 23.iv.

Megachilidae

Chelynia (Melanostelis) rubi Cockerell. ♀ 22.v. Nearest recorded range Alta., Wash., Calif., Colo.

Hoplitis (Monumetha) albifrons argentifrons Cress. ♀ 6.vi.

H. (Chlorosmia) fulgida fulgida Cress. ♀ 6.vi. Nearest recorded range Alaska, Yukon, Alta., Ore.

Osmia (Osmia) lignaria propinqua Cress. 13 ♂ ♂ 5 ♀ ♀ 4.iv. to 21.vi.

O. (Chalcosmia) coloradensis Cress. ♂ 8.v.

O. (C.) texana Cress. ♀ Nanaimo;—vii.52.

O. (Cephalosmia) marginipennis Cockerell. ♂ ♀ 30.iv. and 16.vi.

O. (C.) montana Cress. ♂ ♀ 30.iv.

O. (C.) pascoensis Cockerell. ♀ 30.iv.

O. (Acanthosmoides) (?) enixa Sandhouse. ♀ 14.v.

O. (Nothosmia) densa densa Cress. ♂ 6.vi.

O. (N.) jurta subpurpurea Cockerell. ♂ 8.v.

Megachile (Delomegachile) melanophaca calogaster Cockerell. ♀ Parksville; 22. vi. 53.

M. (D.) melanophaca melanophaea Smith. ♀ Nanaimo; 1.viii.52.

Apidae

Anthophora bomboides standfordiana Cockerell. ♀ 21.vi.

A. pacifica pacifica Cress. ♂ 4.v.

Emphoropsis murihirta Cockerell. 8 ♂ ♂ 9 ♀ ♀ 2.iv. to 14.v. Nearest recorded range Calif.

Melecta pacifica Cress. 2 ♂ ♂ 16.iv.

Ceratina acantha submaritima Cockerell. ♀ 19.v.

Bombus mixtus Cress. ♀ Nanaimo, 5.viii.51.

moth rested motionless, the wings half extended, on the upper side of a spray of foliage; the abdomen was curved downward and forward and the eggs were laid on the under side of the needles. On at least one occasion when the moth perched on a cedar, its proboscis was extended and it appeared to be taking moisture from the surface of the foliage.

At the time these observations were made the sun was shining and the temperature at the nearby field station was about 58° F. In the vicinity of the creek the temperature was judged to be at least ten degrees colder and most of the understory was in shade.

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