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ANNOTATED LIST OF FOREST INSECTS OF BRITISH COLUMBIA PART XI *Papilio* spp. (PAPILIONIDAE)¹

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Six species of the genus *Papilio* commonly occur in British Columbia. The larvae of four species feed on the foliage of broad-leaved trees and shrubs but are not sufficiently numerous to be of economic importance.

Full-grown forest *Papilio* larvae are velvet green, about 1½ to 2 inches long, widest at the metathoracic segment and tapering gradually to the last abdominal segment. The head is tan to reddish brown. A dorsal Y-shaped, orange-coloured, eversible gland is present near the anterior margin of the prothorax; two "eye spots" appear on the dorsum of the third thoracic segment, and a transverse yellow band bordered posteriorly by a velvet black band occurs on the dorsum along the anterior margin of the first abdominal segment. *Papilio* spp. overwinter in sheltered sites as chrysalids usually supported in an upright position by a silken "harness". Hybrids may occur where the ranges of some species overlap.

P. glaucus canadensis R. & J. — *Populus tremuloides* Michx., *Alnus* sp. (3 records), *Betula* sp. (3), *Populus trichocarpa* Torr. & Gray (1), *Salix* sp. (1). Throughout the interior of British Columbia, commonest in the central and northern Interior. LARVA: easily separated from other forest *Papilio* because each "eye spot" is composed of only one element. The "eye spot" is yellow, outlined in black and bisected by a black line; the blue centre spot is enclosed by a black line. The black transverse band, narrower than the anterior yellow band, does not extend to the spiracular line.

P. rutulus Luc.—*Populus* spp., *Salix* spp., *Betula* sp. (2), *Alnus* sp. (2). Central to southern Interior, southern coastal regions and Vancouver Island; common. LARVA: each "eye spot" composed of two elements, yellow, enclosed by a black line. The larger element, bisected by a black line, has a bluish centre spot; the line about the blue spot is wider than the line containing the element. The black transverse band, twice as wide as the anterior yellowish band, does not extend to the spiracular line.

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P. eurymedon Luc. — *Ceanothus sanguineus* Pursh, *Betula* sp. (1), *Prunus* sp. (1). Central and southern Interior, southern coastal regions and Vancouver Island; common. LARVA: the markings on the larvae of this and the preceding species are similar, but the blue centre of the eye spot on *P. rutulus* measures about 1 mm. while that of *P. eurymedon* is approximately $\frac{1}{2}$ mm.

P. multicaudatus Kby. — *Prunus* spp., *Salix* sp. (1), Southern interior of British Columbia; common. LAR-

VA: each "eye spot" is composed of two elements that range from yellowish green to yellow, and are enclosed by very fine black lines. The larger element, bisected by a thin black line, has a centre spot of pale blue bordered by yellow which in turn is outlined in black. The black transverse band, three or four times wider than the anterior yellowish band, extends below the spiracular line. Many individuals have a narrow black line on the dorsum of the anterior margin on some of the abdominal segments.

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HOLOPLEURA MARGINATA Lec. reared from Douglas fir (Coleoptera:Cerambycidae)

On October 5, 1961, I noticed small piles of fresh boring dust beneath two Douglas fir branches lying on the ground in a dense stand near Okanagan Landing. Most of the bark of the branches was intact but the wood surface had been beautifully sculptured by wood-boring larvae, which subsequently had tunneled into the centre of the branch. One branch containing a cerambycid pupa was opened; the other was kept at room temperature and on January 20, 1962, an adult *Holopleura marginata* Lec. emerged through the same elliptical hole by which

the larva had entered the wood. A living larva in a second gallery was preserved.

Adults have been collected on only three occasions in the Forest Insect Survey in Interior British Columbia: Arrowhead, (H. B. Leech, Proc. Ent. Soc. B.C. 42:18); Silverton, June 24, 1953; and Texas Creek, May 25, 1961. In all cases, specimens were obtained by beating the branches of Douglas fir trees.

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Termites in the Queen Charlotte Islands

In September, 1962 I received five specimens of *Zootermopsis* termites from Mr. J. F. Munro of the British Columbia Forest Service which he had taken in Queen Charlotte City; this was the first record I had of these insects on the Queen Charlotte Islands.

In the autumn of 1962, I was given one worker termite by Mr. Bristol Foster, a graduate student, which he took at Rose Harbour, Q.C. Islands, on 16 August 1960.

These two records increase the known

range of termites in this Province. Since the specimens were workers and so cannot be determined to species, one can only guess that the species is *Z. angusticollis* which I took in 1926 in large numbers at Tofino, on the west coast of Vancouver Island. This was an island distribution but not nearly so far north as the Queen Charlotte Islands.

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