

Cultures were also attempted from freshly attacked trees in two widely separated localities, one of these being near Toby Creek in close proximity to the caged trees, and the other near Canal Flats, B.C. The same four organisms were found in these trees. *C. montia* and *Leptographium* sp. were isolated with about equal frequency and both yeasts were also consistently obtained.

Examination of old galleries and bark from the caged trees revealed the presence of a number of species of *Ceratocystis*. Perithecia were found of *C. minor* (Hedge.) Hunt, *C. minuta* (Siem.) Hunt, *C. montia*, and a presumed *Ceratocystis* sp., the perfect stage of the *Leptographium* sp.

These observations suggest that a complex of fungi is involved in blue stain of lodgepole pine and that bark beetles serve as their vectors. The consistent isolation of *C. montia* closely parallels the work of Rumbold in which a blue stain fungus, *C. montia* (*Ceratostomella montium* Rumb.), and some yeasts were associated with two species of *Dendroctonus*. (J. Agr. Res. 62: 589-601, 1940). The relative incidence of *C. montia* and *Leptographium* sp. apparently varies to some extent with the stage of beetle attack.—R. C. Robinson.

BRITISH COLUMBIA

Flight Capability of Ambrosia Beetle (*Trypodendron*).

—During the spring of 1960 an investigation using marked beetles was carried out to determine the distance the ambrosia beetle *Trypodendron lineatum* (Oliv.) might fly to attack logs (Dyer 1960. Bi-Monthly Prog. Rept. 16(6)). The number of marked beetles recovered was very small and they had flown only 110 feet from a release point.

In autumn many samples of duff containing beetles were collected in the forest adjacent to an area where beetles had bred during the summer in logging debris. On October 5 a living female with a white fluorescent mark on the pronotum was found in a sample containing 101 beetles.

This beetle apparently had flown from the place where 1,000 individuals with white marks were released on June 3, a map distance of two and one half miles and at 1,200 feet lower elevation. The flight could have been direct since one area could be seen from the other. The beetle had presumably found suitable material in which to breed during the summer in order to have survived and entered the duff for hibernation in the autumn.

Previous laboratory studies on *Trypodendron* (Chapman 1958. Proc. Tenth Int. Congr. Ent. 4: 375-380.) have indicated a considerable flight potential. This field observation further supports the belief that *Trypodendron* may in some circumstances fly several miles to attack logs.—E. D. A. Dyer.

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