

A Study on the Ash Buprestid Beetle, *Agrilus* sp., in Shenyang

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The ash buprestid beetle, *Agrilus* sp., is a very harmful insect of garden ashes, (white ash, *Fraxinus americana* L.), in Shenyang. This insect destroyed a large number of these ashes in 1965. Observations of the life cycle, habit, and an experiment on control were carried out both in the laboratory and in the field during 1963 to 1965 in Shenyang. This insect pest only attacks ash trees in Shenyang.

The male beetle is about 8.55—11.6 mm in length and about 2.25—3.00mm in width, and the female beetle insect is about 8.95—13.3 mm in length and about 2.40—3.15mm in width. They are bronze in color, and occasionally may be bright green to blue.

The larvae bore in the inner bark of the ashes. The insect burrow often completely cuts off the circulation of the tree-sap, and death of the trees usually ensues. The adults feed on ash leaves.

The beetle has only one generation a year. The insects overwinter in the form of grown and mature larvae in the inner trunk of ashes. Larvae become active in early April. Pupation starts late April and ends mid June. The pupal stage lasts 19 to 31 days, with an average of 26.4 days. The earliest appearance of adults in field is about mid May, but they are most abundant in the field from late May to early June. Adult female beetles live 6 to 25 days and male beetles 6 to 18 days.

Copulation begins 7 to 10 days after adult emergence. The female beetles deposit yellow, disk-like eggs in cracks of the bark on trees 7 to 9 days after copulation. One female adult may lay 1 to 23 eggs each time. The egg stage lasts 5 to 9 days, with an average of 7.8 days. The larval stage lasts 301 to 315 days. The larvae begin to pass the winter in mid October.

The severity of the insect pest is closely related to the coverage and species composition of the stand, position within a tree, vigor and age of the trees, temperature, and other environmental factors.

Various measures may be applied to control the larvae, adults and eggs, but forestry management seems the best. Among the chemical controls studied, the spray of 1/200 dimethoate solution to the trunks of the trees within 2 to 3 days before emergence is the best. It may give 82.4% of mortalities in 10 days after the treatment.

¹ 1966, 14-page annual report in Chinese with English abstract.

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