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PINE CHAFER BEETLE CAUSES DAMAGE IN THE SOUTHEAST

The pine chafer, Anomala oblivia (Horn.), although native to the southeastern United States, has only recently caused any serious defoliation of southern pines. Several infestations have been reported on loblolly pine plantations in recent years. One occurred near Waycross, Georgia, in 1956 and another south of New Bern in eastern North Carolina in 1957.1/ These infestations persisted for only one year, and there was no apparent damage to the trees. An infestation near Bolton, North Carolina, first reported in 1958, differs from other recent outbreaks in the Southeast in that it has persisted for several years.

This scarabaeid beetle occurs in open, scrubby pine forests from Georgia to New York and westward to Lake Michigan. The details of its biology are unknown in the Southeast, but the general life history is quite similar to that described for central Michigan.2/

As in Michigan, one generation occurs each year. Adults emerge in the early part of June, feed on pine needles for several weeks, mate, and then lay their eggs in the soil. The eggs probably hatch in 10 to 15 days. The grubs are similar in appearance to white grubs. They feed on the roots of grasses and weeds until cold weather and overwinter at depths of several inches in the soil. Pupation occurs in mid-May, and the adults emerge 2 to 3 weeks later. The adults cause the damage to the trees. The adult female is about 9 millimeters long and light tan in color. The male is 6 to 7 millimeters long, has a greenish bronze head and pronotum, and dark tan wing covers.

In the Southeast, this insect prefers loblolly pine, but in the Bolton area it was also observed feeding on slash, longleaf, and pond pine. In all cases adult feeding occurred on the new growth. A notch is eaten in each needle just above the bundle sheath and the ends of the needles die, giving the tree a reddish, fire-scorched appearance. The bases of the needles usually survive and grow to about one-half their normal length.

In the Bolton area, foresters found the beetle infesting almost every tree on 500 acres of 2-year-old planted loblolly pine in the spring of 1958. By the spring of 1959 the outbreak included 5,000 acres of 2-, 3-, and 4-year-old loblolly and slash pine. By mid-June of 1960 approximately 1,500 acres of

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1/ Nagel, W. P. Pine leaf chafer defoliation on loblolly pine in southern North Carolina. U. S. Forest Serv. Southeast. Forest Expt. Sta. Forest Insect Survey Rpt. 59-2, 3 pp. 1959. (Unpublished.)

2/ Craighead, F. C. Insect enemies of eastern forests. U. S. Dept. Agr. Misc. Pub. 657, 679 pp., illus. 1950.

2- and 3-year-old pine were lightly to moderately defoliated, 1,000 acres suffered heavy defoliation, and the beetle could be found throughout a 20,000-acre area on pine of all sizes. The infestation appears likely to continue in 1961.

The plantations referred to are on a wet site formerly stocked with pond pine. The land was cleared, burned, drained, disced, and then planted to loblolly or slash pine the following season. During the first season the grass and weed cover on newly planted areas was sparse, but it may have served to attract beetles into the area to lay eggs. In succeeding years the grass and weed cover became quite dense and the roots offered a favorable feeding site for beetle larvae. To date no feeding has been observed in 1-year-old plantings, but in the second and succeeding years the adult beetles have attacked the young trees.

When feeding by adults is confined to a single year, there appears to be no cause for concern. It is quite unlikely that tree mortality will occur in plantations that have suffered several defoliations. Repeated defoliation, however, may reduce the height growth of the trees. Where the young trees have to compete with woody shrubs, a severe reduction in height growth as a result of beetle attack might allow the shrubs to overtop the pines and damage the plantations.

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