RESEARCH LABORATORY TECHNICAL REPORT

BARTLETT TREE EXPERTS
SCIENTIFIC TREE CARE SINCE 1907

Tea Scale

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Tea scale, *Fiorinia theae*, is an armored scale insect which secretes a hard covering called a "test." Presumably a native of southeast Asia, it is found throughout the Southeast, Texas, and California. It is a major pest of camellias and hollies, and has been reported to feed on dogwood, bottlebrush, boxwood, and euonymus. This insect, although small and difficult to detect, is considered one of the most serious insect pests of ornamentals in the United States [1].

Description and Life Cycle

Tea scales are found on the lower surface of leaves (Figure 1a). Female tests are elongated or oval-shaped, flat, and brown. Males produce a narrow, soft, white covering. Crawlers (immature stage) are small and yellow, and males produce a cottony secretion (Figure 2). Multiple generations of this insect may occur from February through November. Females will lay 10-15 eggs and crawlers will hatch after 7-21 days, moving to new feeding sites. These crawlers will settle, produce tests, and feed for a few months until females begin laying eggs again (40-60 days later) [2].

Figure 1: Tea scale feeding on lower surface of leaf (1a); stippling damage is evident on upper surface (1b)

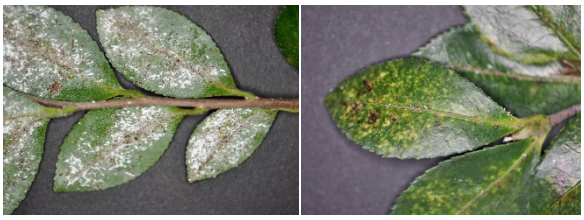

Figure 2: Multiple life stages of tea scale: adult female (dark brown), remnants of male tests (white), and immature crawlers (yellow)

Damage

Symptoms begin as stippling (speckling) on the upper surface of leaves (Figure 1b), similar to damage from mites. These symptoms may progress to yellow blotching, and in severe cases, premature leaf drop, dieback, and stunting occur.

Management

Although other insects prey on tea scale [3], natural predation is insufficient to manage outbreaks. Horticultural oil applied in the dormant season may reduce an overwintering population. However, therapeutic treatments must be applied when crawlers are active. Repeat visits for inspection, monitoring, and treatment application are necessary. Contact your Bartlett Tree Experts Arborist Representative to learn about a customized management program.

Founded in 1926, The Bartlett Tree Research Laboratories is the research wing of Bartlett Tree Experts. Scientists here develop guidelines for all of the Company's services. The Lab also houses a state-of-the-art plant diagnostic clinic and provides vital technical support to Bartlett arborists and field staff for the benefit of our clients.

References

[1] R.J. Gill, "The scale insects of California. Part 3. The armored scales (Homoptera: Coccoidea: Coccidae)," Technical Series in Agricultural Biosystematics and Plant Pathology, California Department of Food and Agriculture, Sacramento, California, No. 3, p. 307, 1997.

[2] B. Munir and R.I. Sailer. "Population dynamics of the tea scale, *Fiorinia theae* (Homoptera: Diaspididae), with biology and life tables," *Environmental Entomology*, vol. 14, pp. 742-748, 1985.

[3] G.L. Miller, J.D. Oswald, and D.R. Miller. "Lacewings and scale insects: A review of predator/prey associations between the Neuropterida and Coccoidea (Insecta: Neuroptera, Raphidioptera, Hemiptera)," *Annals of the Entomological Society of America*, vol. 97, pp. 1103-1125, 2004.