

Figure 1. Macadamia felted coccid. Enlarged photo of adult female (left) and male pupa (right). Actual length of female is less than 1 mm.

Macadamia Felted Coccid

Eriococcus ironsidei Williams

[Hemiptera (Homoptera): Eriococcidae]

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Introduction. An infestation of an insect believed to be the macadamia felted coccid (MFC), *Eriococcus ironsidei* Williams, was found infesting macadamia trees in South Kona on the island of Hawaii by staff of a commercial macadamia farm in late February 2005. Specimens were tentatively identified as the macadamia felted coccid by the University of Hawaii's College of Tropical Agriculture and Human Resources (CTAHR). On April 4, 2005, the identification was confirmed by D.R. Miller of the USDA Systematic Entomology Laboratory in Beltsville, Maryland.

Life History. The macadamia felted coccid is an insect belonging to the family Eriococcidae, whose members are similar to mealybugs, but having little or no wax on their bodies. It gets its name from the felt-like sacs which enclose adult females and pupal cases of males (Figure 1). Adult females do not have wings and are immobile. Adult males have wings and are gnat-like, but do not feed. Their only purpose is to locate and mate with immobile females. Mated females deposit eggs within their felted sac. After hatching, tiny crawlers move about and are able to disperse by wind or by hitchhiking on

birds, people, vehicles, or farm equipment to other areas. After settling down, individuals feed by inserting their needle-like mouthparts into plant tissue and removing sap. Like other related Hemiptera (Homoptera - aphids, soft scales and whiteflies), MFC also excretes droplets of a sugary substance called honeydew which drop on lower branches.

Distribution and Hosts. The macadamia felted coccid is native to Australia. Its host plants are restricted to smooth and rough-shelled macadamia (Jones 2002). On the Big Island, infestations of the scale have been found at Honomalino in South Kona. No infestations have been reported on the other neighboring islands.

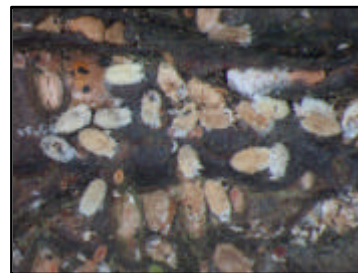


Figure 2. Macadamia felted coccid individuals on macadamia bark.

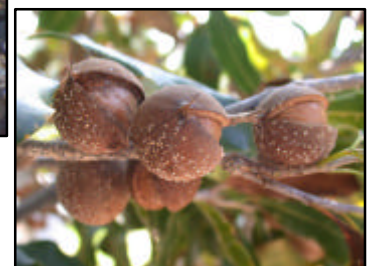


Figure 3. Macadamia felted coccid infesting macadamia nuts.

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Damage. Ironside (1978) reports that the MFC infests all above-ground parts of trees (Figures 2-4). It distorts and stunts new growth and causes yellow spotting on older leaves. Severe infestations can cause dieback (Figure 5). On bearing trees, nut yields are reduced and a delay is caused in the fall of mature nuts.



Figure 4. Macadamia felted coccid infesting macadamia foliage.

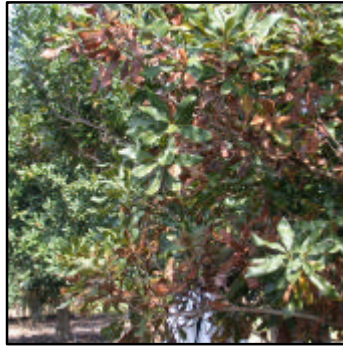


Figure 5. Dieback of macadamia branches caused by macadamia felted coccid.

Biological Control. In Australia, Ironside (1978) reported that the MFC has numerous natural enemies such as predaceous ladybird beetles, a predatory moth, tiny parasitic wasps, lacewings, and predatory mites. In South Kona, low numbers of several predaceous ladybug species have been observed in association with the MFC infestations. The Hawaii Department of Agriculture (HDOA) is investigating the possibility of importing tiny parasitic wasps from Australia for biological control of this insect.

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