

Coconut Scale (*Aspidiotus destructor* Signoret)

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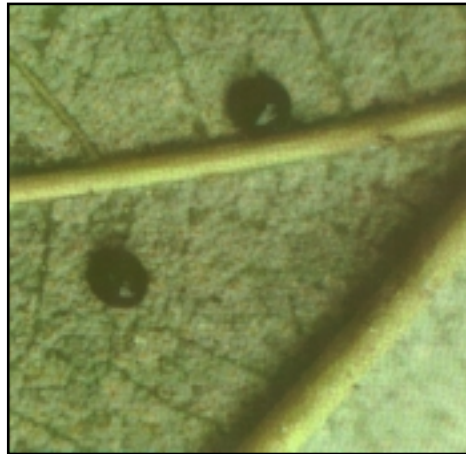
Coconut scale or transparent scale (*Aspidiotus destructor* Signoret) (Homoptera: Diaspididae) is a small, flat, whitish scale with a semitransparent or whitish, waxy covering. Females are circular in outline and males are oval. Eggs are laid under the scale cover and hatch in about eight days. These hatch into a stage called crawlers. The crawlers then move out from the scale and wander around the plant, or are dispersed by the wind, on clothing of people, or on the feet of birds and other flying animals. They settle on a host in about 12 hours, put their straw-like mouthparts into the leaf and form a wax covering over themselves. The crawler moults into a legless nymph which remains fixed to the settling spot as it develops. Females moult into a degenerate adult. Males pupate under the scale and form a winged adult with normal legs and antennae but no mouthparts. The female lays about 90 eggs over a period of nine days. The life cycle takes between 32 and 35 days to complete.

This scale attacks a large number of hosts including coconut and other palms, pandanus, banana, papaya, guava, avocado, cacao, cassava, tea, breadfruit, sugar cane, cotton and rubber. It is a severe problem on breadfruit on several of the islands in Micronesia, especially the atolls. The scale is found underneath the leaves and its position is marked by a yellow, discolored spot. Virtually the entire undersurface of leaves can be covered with scales during an outbreak. Heavy infestations on coconut will stunt new leaves and can stop nut production completely.

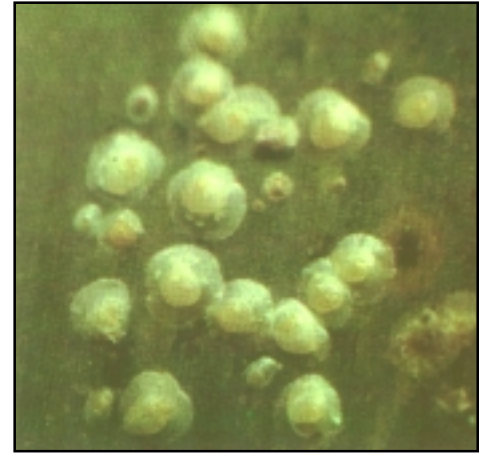
This insect is present in most of the tropical regions of the of the world. It is present in American Samoa, Hawaii and most of the large islands of Micronesia. It is currently spreading to the atolls of the Caroline and Marshall Islands.

Control

Some control on young palms can be achieved using an emulsion of soap and kerosene. On large palms or trees chemical control is impractical. Biological control is the



Large patch of scales with lady beetle feeding on them



Individual scales

best way to control the scale. Ladybeetles (Coccinellidae) are the most important biological control agents for the scales, but there are also aphelinid wasps such as *Aphytis* sp. which attack the scale. The coccinellids *Telsimia nitida*, *Pseudoscymnus anomalus*, *Cryptognatha nodiceps*, and *Chilocorus nigritus* provide excellent control of *A. destructor* in Micronesia, Hawaii, and American Samoa. *Rhizobius satelles* was also introduced to the Marianas but is rare. The importance of the different species of coccinellids varies on the different islands. If the use of chemicals is required or if additional information is desired, consult an Extension Agent at your local land grant institution. On Guam, you may also consult the Guam Fruit and Vegetable Pesticide Guide for current recommendations and permissible uses.

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