

Croton Scale

Phalacrooccus howertoni Hodges and Hodgson

(Hemiptera: Coccidae)

INTRODUCTION

A soft scale was discovered infesting potted croton *Codiaeum variegatum* plants in the garden section of a Honolulu retail outlet in March of 2019. The scales were identified as *Phalacrooccus howertoni* Hodges & Hodgson, the exotic croton scale which was first discovered in Florida in 2008. This represents a new state record of this species in Hawai'i.

DESCRIPTION

Many overlapping generations at different life stages can be found on the stems, leaves, and petioles of host plants (Figs. 1, 2). Adult females and late instars are oval in shape and can be bright green to greenish-yellow to an olive-green (Figs. 2, 3) in color. Females are large and can be over 4 mm x 2 mm in size. Croton scales look very similar to the soft scale *Philephedra tuberculosa* (Figs. 4, 5), but croton scale females lack ovisacs (white waxy cotton egg mass; Fig. 5) which the former produces. The croton scale can also look similar to the green scale (*Coccus viridis*; Fig. 6) but the croton scale has black mottling/speckling (Figs. 3, 7); green scales appear to have two black dots as eyes. Immature male croton scales are usually found in large congregations on the undersides of leaves and are whitish gray in appearance (Fig 8). When fully mature, males are orange bodied, small, gnat-like insects (Fig. 9).

HOSTS

Like many soft scale pests, the croton scale is highly polyphagous and recorded from at least thirty-six plant families and sixty-three genera (Garcia et al. 2016). Its primary host is croton and is the only plant this scale has been found infesting in Hawai'i thus far.

In Florida, some recorded host plants of note for Hawai'i include 'a'ali'i (*Dodonaea viscosa*), *Annona*, avocado, *Ficus*, guava, mango, *Psychotria*, and taro (Hodges & Hodgson 2010).

DAMAGE AND ECONOMIC IMPACT

Signs of infestation include twisting and wilting of leaves, premature leaf drop, and sooty mold growth. High infestations may lead to tip dieback and decline in plant vigor.

The croton scale has the potential to become problematic for residential areas, nurseries, and commercial landscapes as croton is a widespread landscaping plant. Additionally, many of the croton scale's other hosts are common throughout the State.



Fig. 1. Many overlapping generations of female croton scales congregate on stem and petioles of croton.

croton scale

Phalacrocooccus howertoni Hodges and Hodgson

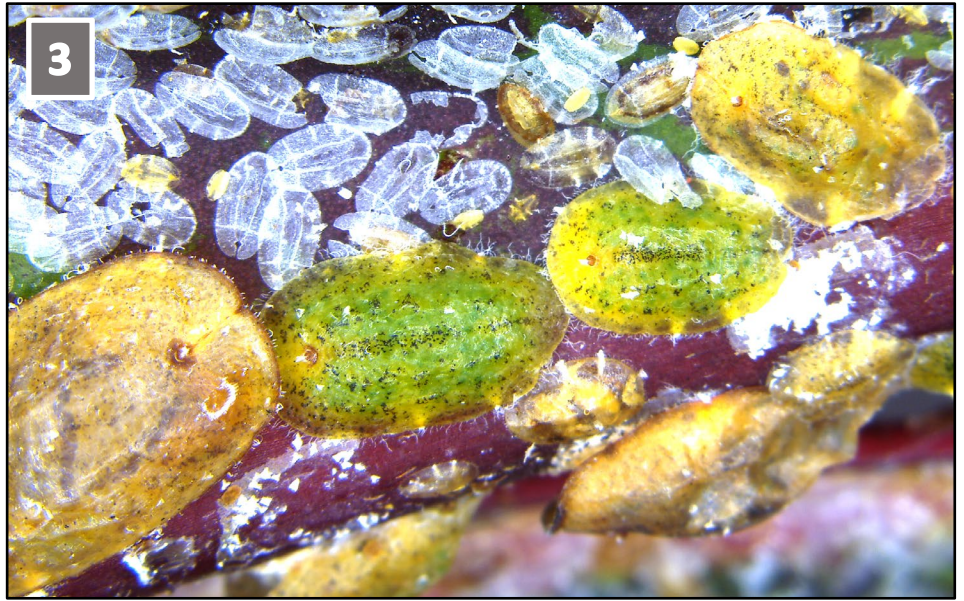


Fig. 2. Female croton scales on croton stem showing different colorations and different life stages.

Fig. 3. Close-up of croton scale females, crawlers, and empty male pupal cases.

Fig. 4. *Philephedra tuberculosa* females can look like croton scales before they produce ovisacs. Photo: Lyle Buss, University of Florida.

Fig. 5. *P. tuberculosa* ovisacs. Croton scales do not produce ovisacs.

DISTRIBUTION

Phalacrocooccus howertoni was discovered in Florida as a new genus and species and subsequently described by Hodges and Hodgson in 2010. It has since been discovered in Guatemala, Guadalupe, Barbados, French Guiana, and the British Virgin Islands (Garcia et al. 2016).

In **Hawai'i**, it is established on O'ahu and Kaua'i.

ACKNOWLEDGEMENTS

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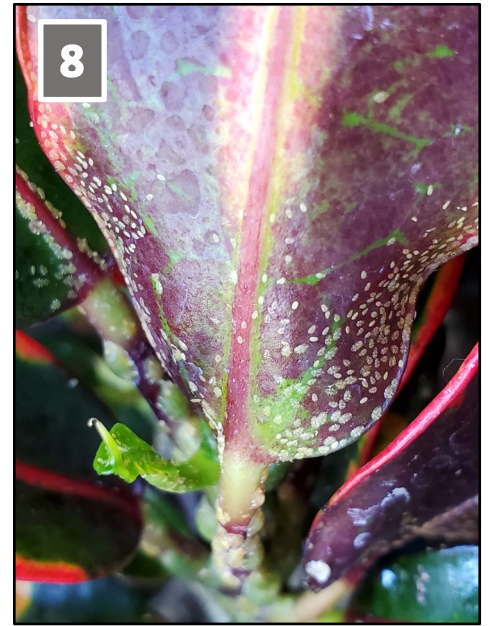


Fig. 6. Green scales can also be mistaken for the croton scale; green scales appear to have two black dots as eyes. Photo: United States National collection of Scale Insects Photographs, USDA Agricultural Research Service, Bugwood.org.

Fig. 7. Black mottling/speckling on croton scale.

Fig. 8. Immature male croton scales.

Fig. 9. Adult male croton scale emerging from pupation.

IF YOU SUSPECT INFESTATIONS

Hawai'i Island: 974-4146; Kaua'i: 241-7132; O'ahu: 973-9525; Maui: 873-3555

Email: HDOA.PPC@Hawaii.gov

REFERENCES

- Ben-Dov, Y. and C.J. Hodgson.** 1997. Soft scale insects, their biology, natural enemies and control. Elsevier Science B.V., Amsterdam. 31 p.
- Hodges, G.S and C.J. Hodgson.** 2010. *Phalacrococcus howertoni*, a new genus and species of soft scale (Hemiptera: Coccidae) from Florida. Fla. Entomol. 93(1): 8-23.
- García Morales M, B.D. Denno, D.R. Miller, G.L. Miller, Y. Ben-Dov, and N.B. Hardy.** 2016. *ScaleNet: A literature-based model of scale insect biology and systematics*. Database. doi: 10.1093/database/bav118. <http://scalenet.info>.