

PEST ALERT

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Pseudaulacaspis coloisuvae Williams and Watson, an armored scale intercepted on orchids

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INTRODUCTION

On June 12, 2023, FDACS-DPI inspectors Grayson Grume and Robert Denoux collected the armored scale, *Pseudaulacaspis coloisuvae* Williams and Watson (Hemiptera: Diaspididae), alive on orchids labeled as *Vanda* sp. (Orchidaceae) imported from Thailand to a nursery in southwestern Florida. This is the first time this species has been intercepted in Florida. *Pseudaulacaspis coloisuvae* is Australasian in origin, being described from Fiji in 1988 (Williams and Watson 1988) and subsequently reported in the Solomon Islands in 2011 (Hodgson and Lagowska 2011). It has been intercepted once in the United States by the USDA from the Philippines and once in Korea from Indonesia (Suh 2016). To date, two hosts have been recorded: *Terminalia calamansanai* (Blanco) Rolfe (Combretaceae) and *Gardenia* sp. (Rubiaceae). Now known on three different plant families, this species is likely polyphagous with a broad host range.

IDENTIFICATION

The elongate oval scale cover, or test, of adult female *P. coloisuvae* is bright white in color (Fig. 1a–c), while the first instar nymphs are light brown and less conspicuous. Like all armored scales, the first and second instar exuviae (i.e., shed exoskeletons or molts) are incorporated into the cover as the scale molts to maturity (Fig. 1a–c). Eggs are laid underneath the cover and the mobile crawlers (first instars) emerge to disperse. This species is small in size, with the adult female scale cover reaching 2 mm in length at maturity and the slide-mounted specimens from 0.8–1.2 mm long. Superficially, *P. coloisuvae* looks similar to the common congener, *Pseudaulacaspis cockerelli* (Cooley), colloquially known as the false oleander scale or magnolia white scale. However, once slide-mounted, microscopic characters easily set these two species apart. Namely, *P. coloisuvae* has three large dorsal macroducts on the head, two laterad of the anterior mouthparts, and one set between the antennae. In other *Pseudaulacaspis* species, these wax-producing ducts are entirely absent on the head. Other characters of *P. coloisuvae* include the absence of submedial dorsal macroducts on abdominal segment VI and zero to one dorsal macroducts on the submedial area of abdominal segment II.

SURVEY

Armored scales may be present on the leaves, stems or roots of their host plants. In this collection, specimens of *P. coloisuvae* were both exposed on the leaf edges and hidden within the nodes of the orchids. Armored scales in the family Diaspididae feed on intracellular contents and cause chlorosis, or yellowing, usually starting with small irregular patterns around each individual scale. In heavy infestations, chlorosis can lead to tissue necrosis and leaf death. Plant symptoms may indicate a scale problem before the scales themselves are noticed. Little is known about the biology or pest potential of this species, but it is probably similar to other polyphagous armored scales. Specimens may be sent to the Division of Plant Industry for identification. For more information on how to submit a sample, visit www.FDACS.gov/DPIsamples.



Florida Department of Agriculture and Consumer Services

REFERENCES

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Fig. 1. *Pseudaulacaspis coloisuvae* Williams and Watson on the leaves of *Vanda* orchids. (A) The bright orange body of a live adult female can be seen under the semi-opaque cover. Note the two overlapping light brown exuviae on the right side are the first and second instar exuviae incorporated into the adult female cover. (B) With the cover, or test, removed, the bright orange body of the adult female is exposed. This female had not yet laid eggs. (C) Two adult females on a leaf.

Photos by Erin C. Powell, FDACS-DPI.