NEW HOST AND EXPANDED GEOGRAPHIC RANGE OF STELLATE SCALE, VINSONIA STELLIFERA (HEMIPTERA: COCCIDAE: CEROPLASTINAE)

Authors: J. Scott Blackwood, and Paul D. Pratt
Source: Florida Entomologist, 90(2) : 413-414
Published By: Florida Entomological Society
URL: https://doi.org/10.1653/0015-4040(2007)90[413:NHAEGR]2.0.CO;2

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne’s Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non-commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.
NEW HOST AND EXPANDED GEOGRAPHIC RANGE OF STELLATE SCALE, 
VINSONIA STELLIFERA (HEMIPTERA: COCCIDAE: CEROPLASTINAE)

J. SCOTT BLACKWOOD AND PAUL D. PRATT
USDA/ARS Invasive Plant Research Laboratory, 3225 College Ave., Fort Lauderdale, FL 33314

Stellate scale, Vinsonia stellifera (Westwood), is a polyphagous wax scale with a distribution spanning across the tropics and subtropics of both the northern and southern hemispheres (Williams & Watson 1990). It has been reported to occur as far north as Virginia in the U.S. (Hamon & Williams 1984) and as far south as the Northern Territory of Australia (Qin & Gullan 1994). Jansen (1995) reported the occurrence V. stellifera in the Netherlands within a glasshouse environment. This insect feeds on a wide range of plant taxa and can occur in high densities on a single plant. As a result, it was considered a potential threat to several economically important plants in Florida (Hamon & Williams 1984).

We report the occurrence of stellate scale both on a new host, Melaleuca quinquenervia (Myrtaceae), and in a new locality, on the island of New Providence of the Bahamas (near the Nassau airport; N25.05827, W-77.45352). U.S. quarantine records document the interception of stellate scale on imports of Eugenia (Myrtaceae) from the Bahamas. However, to our knowledge a specific locality in the Bahamas has not been reported in the scientific literature for stellate scale.

The native distribution of the melaleuca tree, M. quinquenervia, extends along the coastal region of New South Wales and Queensland in Australia. Over the past century, M. quinquenervia has been introduced into the Bahamas and Puerto Rico, as well as into California, Hawaii, Texas, Louisiana and Florida in the U.S. for ornamental, revegetation and agroforestry purposes (Turner et al. 1998; Dray 2003). While M. quinquenervia has not become a pest in all areas it was introduced, it has been categorized as an invasive weed in south Florida, the Bahamas and Puerto Rico (Turner et al. 1998; Pratt et al. 2005).

Stellate scale can be easily identified by its star-shaped wax covering (Hamon & Williams 1984) (Fig. 1). We observed the scale while performing regular demographic surveys of M. quinquenervia on New Providence. Typical densities of V. stellifera observed on M. quinquenervia were ca. 10-15 nymphs and adults per leaf. However, no evidence of damage to these leaves as a result of the feeding was apparent, and it is doubtful that the scale will have a significant impact as a natural enemy against this exotic tree.

Simberloff & Von Holle (1999) cautioned that commensalistic and mutualistic relationships between invaders may accelerate the rate of invasion of exotic species and may serve to magnify the cumulative impacts of the invaders on native communities. If V. stellifera does have the potential to impact other, native or economically important plants when present in sufficient densities, the coupling of V. stellifera and M. quinquenervia could heighten the risk that scales will achieve the numbers necessary to inflict detrimental impacts on these other plants. Adding to this risk, stellate scale has been observed to utilize both the camphor tree, Cinnamomum camphora (Lauraceae) (Jansen 1995), and a congener (Schefflera arbolicola) (Qin & Gullan 1994) of the Queensland umbrella tree, S. actinophylla (Araliaceae), as hosts. Both the camphor tree and the Queensland umbrella tree are invasive in Florida. Stellate scale has not yet been reported as an ecologically or economically important pest (Qin & Gullan 1994), but it should be monitored closely as the adventive ranges of M. quinquenervia and these other invasives expand.

SUMMARY

Stellate scale, Vinsonia stellifera, was observed utilizing Melaleuca quinquenervia as a host on New Providence of the Bahamas. This expands the known host and geographic ranges of this polyphagous and widespread scale insect.
REFERENCES CITED


