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

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Stellite 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 (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, Cinnamonomum camphora (Lauraceae) (Jansen 1995), and a congener (Schefflera arboicola) (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

Stellite 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

DRAY, F. A. 2003. Ecological Genetics of *Melaleuca quinquenervia* (Myrtaceae): Population Variation in Florida and its Influence on Performance of the Biological Control Agent *Oxyops vitiosa* (Coleoptera: Curculionidae). Ph.D. Dissertation. Florida International University, Miami, FL. 161 pp.

HAMON, A. B., AND M. L. WILLIAMS. 1984. The Soft Scale Insects of Florida (Homoptera: Coccoidea: Coccidae). Florida Dept. Agric. Cons. Serv. Div. Plant Ind. 11: 1-94.

JANSEN, M. G. M. 1995. Scale insects (Homoptera: Coccinea) from import interceptions and greenhouses in the Netherlands. Israeli J. Entomol. 29: 131-146.

PRATT, P. D., V. QUEVEDO, L. BERNIER, J. SUSTACHE AND T. D. CENTER. 2005. Invasions of Puerto Rican Wetlands by the Australian tree, *Melaleuca quinquenervia*. Caribbean J. Sci. 41: 42-54.

QIN, T. K., AND P. J. GULLAN. 1994. Taxonomy of the wax scales (Hemiptera: Coccidae: Cero plastinae) in Australia. Invert. Taxon. 8: 923-959.

SIMBERLOFF, D., AND B. VON HOLLE. 1999. Positive interactions of nonindigenous species: invasional meltdown? Biol. Invasions 1: 21-32

TURNER, C. E., T. D. CENTER, D. W. BURROWS, AND G. R. BUCKINGHAM. 1998. Ecology and management of *Melaleuca quinquenervia*, an invader of wetlands in Florida, U.S.A. Wetlands Ecol. Man. 5: 165-178.

WILLIAMS, J. R., AND D. J. WATSON. 1990. The Scale Insects of the Tropical South Pacific Region. Part 3. The Soft Scales (Coccidae) and Other Families. C.A.B. International, Wallingford. 267 pp.