

SCIENTIFIC NOTE

SARUCALLIS KAHAWALUOKALANI (KIRKALDY), AN APHID SPECIES NEW TO AUSTRALIA (HEMIPTERA: STERNORRHYNCHA: APHIDIDAE)

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Summary

We report the first record in Australia of the crape myrtle aphid, *Sarucallis kahawaluokalani* (Kirkaldy). This aphid has been spreading aggressively around the world and reaches large populations on the ornamental tree crape myrtle (*Lagerstroemia indica*). It is not generally regarded as causing serious damage to its host plant, but can have nuisance value through dropping honeydew on underlying plants or vehicles. The aphid is holocyclic and monoecious wherever its annual cycle has been studied: i.e. it produces males and sexual egg-laying females in autumn and the overwintering eggs produce parthenogenetic females in spring.

Key words: incursion, establishment, crape myrtle, aphids.

INTRODUCTION

Aphid species continue to arrive in Australia, either with host plants or by hitch-hiking on international aircraft. We have previously discussed the history of other recent aphid incursions into Australia (Hales *et al.* 2017). Here we report the discovery of another invasive aphid, the crape myrtle aphid *Sarucallis kahawaluokalani* (Kirkaldy), sometimes listed as *Tinocallis* (*Sarucallis*) *kahawaluokalani* Kirkaldy, e.g. Blackman and Eastop (1994). Favret (2020) and Blackman and Eastop (2020) list *Sarucallis* Shinji 1922 at generic level and that name is used here.

DETECTION AND DETERMINATION OF *S. kahawaluokalani*

In April 2020 a Moericke yellow trap was set up in the Sydney suburb of Beecroft, and it immediately captured winged parthenogenetic females of an aphid not previously seen by DH. The aphids had patterns of pigmentation on the wings resembling the patterns shown by a species of *Tinocallis* (Blackman and Eastop 1994, plate 10b). Their account of *Tinocallis* enabled the identification to be narrowed down to the crape myrtle aphid *Sarucallis kahawaluokalani*, which has two pronounced spine-like tubercles arising from a black patch on the anterior abdominal dorsum. Identification was supported by discovery of large populations of these aphids on crape myrtle trees, *Lagerstroemia indica*, (Lythraceae), approximately 20 metres from the trap. The aphids were quite small (measured specimens approximately 1.1-1.9 mm body length), yellow in colour, with black markings as shown in various colour photographs available online, e.g. Kondo and Simbaqueba Cortes (2014). The aphids were present in very large numbers, choking spider webs, occurring on non-host plants and dropping honeydew on vehicles. Up to 60 per day were collected in the yellow trap, compared with 0-5 of other species combined. Most leaves of crape myrtle trees were infested, with 10 + adults per leaf. It was

confirmed that the aphid had not previously been recorded in Australia (Stephen Wade, pers. comm.). Specimens were deposited in the Agricultural Scientific Collections Unit, Department of Primary Industries, Orange NSW, with accession numbers as follows: ASCT00225450 to ASCT00225465, ASCT00187124 and ASCT00187125. DNA numbers are OAI1401 to OAI 1404.

DISCUSSION

First described by Kirkaldy in 1907 from Hawaii, this species has been rapidly extending its range from its east-Asian origins. It has long been established in the United States of America (Alverson and Allen 1992) and has spread to several countries in South America: Argentina (La Rossa *et al.* 1997), Brazil (Lazzari and Zonta de Carvalho 2006) and Colombia (Kondo and Simbaqueba Cortes 2014). It has also spread to a range of countries in Europe (Yovkova and Petrović-Obradović 2011). It caused some cosmetic damage to trees in the USA but without serious long-term effects (Alverson and Allen 1992). Mizell *et al.* (2002) described the world distribution of the aphid and observed that it seemed not to be parasitised by the usual aphidiid and aphelinid wasps, hence closing one possible avenue for biological control. A study of the autumn biology of this species in Sydney will be presented elsewhere (Hales, in prep.) in the context of other species in the same sub-family, the Calaphidinae. *Sarucallis kahawaluokalani* is known to be exclusively holocyclic wherever its annual cycle has been studied, producing sexual morphs and laying overwintering eggs. Winged viviparous forms are produced through spring, summer and autumn. The winged males and wingless egg-laying females are produced in autumn.

The very large numbers suggest to us that this insect will become widespread in Australia wherever crape myrtle is grown.

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