

SCIENTIFIC NOTE

FIRST DETECTION OF AND A REVIEW OF SOLENOPSIS MEALYBUG *PHENACOCCLUS SOLENOPSIS* TINSLEY (HEMIPTERA: PSEUDOCOCCIDAE) IN NEW SOUTH WALES, AUSTRALIA

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Here, we report the first detection in New South Wales of solenopsis mealybug *Phenacoccus solenopsis* Tinsley at Yetman, northeast of Moree on 20 February 2017. Samples sent to Biosecurity Collections, Orange Agricultural Institute were identified using the morphological key and information from Hodgson et al. (2008). The sample was detected on cotton (*Gossypium hirsutum* L.). Reference specimens are vouchered in ASCU (<https://www.dpi.nsw.gov.au/about-us/services/collections/insects>) under the following accession numbers (ASCT00183471, 72, 83-89,90, ASCT001883874).

In Australia, *P. solenopsis* was first detected in Queensland on cotton in the 2009-10 season in the Emerald and Burdekin districts, and subsequently found in Brisbane, Bundaberg and the Darling Downs (QDAFF, 2013). Shortly thereafter, it was discovered established in the Northern Territory and Western Australia (QDAFF, 2013). Currently, *P. solenopsis* is considered to be widespread in Northern Australia including several islands of the Torres Strait.

Phenacoccus solenopsis, originated from New Mexico in 1897 and has spread to at least 24 countries (Fand and Suroshe, 2015). It is a threat to tropical and subtropical agriculture and horticulture (Fand and Suroshe, 2015). *Phenacoccus solenopsis* has an extensive host range and is known to occur on 204 different host plants including the Chenopodiaceae, Solanaceae, Asteraceae, Fabaceae and Malvaceae (Abbas et al. 2010, Garcia Morales et

al. 2016). Hosts include cotton, eggplant (*Solanum melongena* L.), melons (*Cucumis* spp.), tomatoes (*Solanum lycopersicum* L.), and many broadleaf weeds including bind weed (*Convolvulus arvensis* L.), bladder ketmia (*Hibiscus trionum* L.), crownbeard (*Verbesina encelioides* (Cav.) Benth. & Hook f. ex A.Gray), native rosella (*Hibiscus* spp. L.), parthenium weed (*Parthenium hysterophorus* L.), pigweed (*Amaranthus* spp.), potato vine (*Solanum laxum* (Spreng)), sow thistle (*Sonchus oleraceus* L.), and stagger weed (*Stachys arvensis* L.) (QDAFF, 2013). The female mealybug cannot fly and instars move readily between plants and fields. Long distance movement is through the transport of infested machinery and plants (QDAFF, 2013). The biology of *P. solenopsis* was studied by Vennila et al. (2010).

The Australian ladybird beetle, *Cryptolaemus montrouzieri* Mulsant is a common predator of mealybugs and is known to check populations of *P. solenopsis* (Kaur et al., 2010; Siddhpara et al. 2013). If insecticides are required, sulfoxaflor, profenofos, spiromesifen and cypermethrin/chlorpyrifos combinations showed good activity against *P. solenopsis* overseas (Lysandrou et al. 2012). In Australia, Sequeira et al. (2020) found sulfoxaflor, spirotetramat and buprofezin were key insecticides for use in integrated pest management strategies.

ACKNOWLEDGEMENTS

This review was funded by New South Wales Department of Primary Industries. Dr Toni Chapman reviewed an earlier version of this manuscript. Michael Gorton provided useful comments on a final draft of the manuscript.

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