Conservation concern as alien aphid detected on Kangaroo Island

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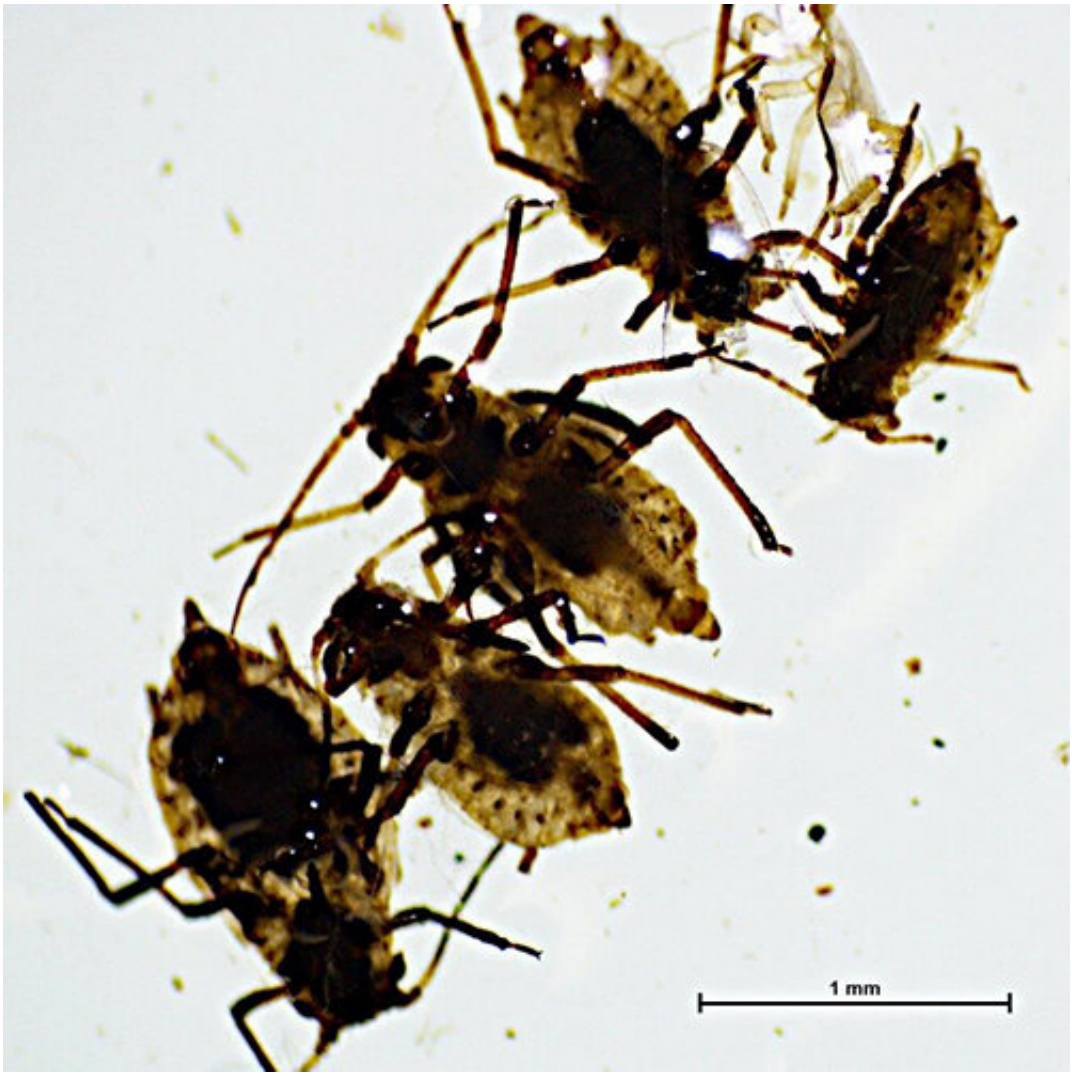

Credit: S. Kakko & S. Petit

An invasive species of aphid could put some threatened plant species on Kangaroo Island at risk as researchers from the University of South Australia confirm Australia's first sighting of *Aphis lugentis* on the Island's Dudley Peninsula.

It is another blow for Kangaroo Island's environment, especially following the Black Summer bushfires that decimated more than half the island and 96 per cent of Flinders Chase National Park.

Collected by wildlife ecologist Associate Professor Topa Petit and identified by colleagues from the WA Department of Primary Industries and Regional Development, the black aphids were found feeding on seedlings of Senecio odoratus, a native species of daisy, commonly known as the scented groundsel.

Of 16 native Senecio species on the island, at least ten are of conservation concern.

Originating from North America, the sap-sucking black aphids have spread across multiple continents over the past 20 years. This is the first record of the pest in Australia.

Assoc Prof Petit says the alien aphid species could threaten plants in the Compositae (daisy) family.

"Aphids were tended by several species of native ants that were feeding on their honeydew, showing easy integration for the pest in its new environment," Dr. Petit says.

"The presence of *Aphis lugentis* on Kangaroo Island could have serious consequences on seedling survival of Senecio and related species—as well as unknown ones for native ant communities."

Currently, 1,257 of Australia's threatened and endangered species are directly affected by 207 invasive plants, 57 animals and three pathogens. The most recent estimates found the cost of controlling invasive species and economic losses to farmers in 2011-12 was A$13.6 billion.

Once established across Australia, invasive species can be very difficult to eradicate.

Entomology diagnostician, Cameron Brumley from the Department of Primary Industries and Regional Development in Western Australia, and geneticists Monica Kehoe and Cuiping Wang, examined the aphid and found matching DNA in a collection from Hurstville, NSW, indicating the greater spread of aphid across Australia. Authorities have been alerted.

"It is still unclear how some fragile species of Kangaroo Island are coping following last year's bushfires, so I recommend that attention be paid to aphids present on plants related to daisies, on the island, but also on the mainland considering the likely presence of the aphid in other states. Its distribution needs to be mapped," Dr. Petit says.

"This aphid was probably introduced to Australia on ornamental plants. Locally native plants and native gardens offer better habitats for native wildlife and lower invasion risks. We need to learn to appreciate our remarkable native flora."

More information: Sophie Petit et al, First record of Aphis lugentis in Australia, tended by native ants on Senecio odoratus, *Austral Ecology* (2021). DOI: 10.1111/aec.13056

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