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The Rutherglen bug: an agricultural pest and an under-recognised biting culprit

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Key words: rural dermatology, insect bites, arthropod bites, Rutherglen bug

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An 81-year-old woman presented to a dermatologist during spring of 2016 with a 1-2 week history of multiple pruritic, mildly-tender, non-follicular papules with central puncta, which were asymmetrically distributed over her chest and upper extremities. There was no acral or mucous membrane involvement. The clinical presentation was consistent with insect bites. The patient was systemically well with no evidence of an allergic reaction. The patient's medical history was significant for hypertension and gastroesophageal reflux disease. There were no recent changes to her long-term medication (irbesartan, amlodipine and esomeprazole) and she had no known drug allergies.

The patient reported finding hundreds of small, greyish-brown, winged bugs in her home at the time of the insect bites. The patient had no known psychiatric history and she denied illicit drug use. She collected a sample of the bugs from her house, which was close to the Murray River in New South Wales, Australia, and 17 km from Rutherglen. These specimens were identified by an expert entomologist at the Melbourne Museum Discovery Centre as the Rutherglen bug, *Nysius vinitor*.

The Rutherglen bug is a native agricultural pest that can damage crops and pastures throughout Australia and is found in New South Wales, Victoria, South Australia, southern Western Australia and Queensland.^{1,2} Breeding of this heteropteran bug commences in early spring; large numbers are often present in November and December when these bugs migrate into cropping areas depending on seasonal wind patterns.^{1,2} Adult bugs are 3-4 mm long, narrow-bodied, greyish-brown in colour, with prominent black eyes and folded wings (Figure 1).³

Rutherglen bugs are considered to be generalist herbivores. Indeed, almost all hemiptera (the order of *Nysius vinitor*) feed on plants, with the exception of the Cimicidae family, which includes bed bugs (*Cimex lectularius* and *Cimex hemipterus*), and the Reduviidae family, which includes kissing bugs (*Triatoma* species), that are known to feed on humans.⁴ In the late 1980s, Southcott reported that the Rutherglen bug may become a nuisance in homes and cause painful bites to humans.⁵ Aside from that report, Rutherglen bugs were thought to have little interest in humans. To the authors' knowledge, this case represents the first report in the scientific literature of insect bites from Rutherglen bugs for over

two decades. While the authors acknowledge the possibility that the patient's bites may have been caused by a different insect, the specific arthropod exposure as a consequence of the household infestation and the temporal relationship would appear to make the Rutherglen bug the most likely culprit. We therefore report a common presentation with an unusual aetiology.

While arthropod bites often pose as a minor nuisance only, secondary bacterial infection, transmission of insect-borne illnesses and severe allergic reactions are all potential complications. Knowledge of local arthropod fauna by dermatologists is pivotal in making the diagnosis of arthropod bites. Therefore, awareness of novel biting insects, such as the Rutherglen bug, is of public health interest to practicing Australian dermatologists.

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Figure 1. Adult Rutherglen bug, *Nysius vinitor*, a 3-4 mm long, narrow-bodied, grey-brown insect with folded wings and dark eyes. Image from Maipatil.³



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