

## Article

**Biological notes and risk status of *Brevipalpus phoenicis* (Geijskes, 1939) (Acari: Tenuipalpidae) in New Zealand**JOCELYN A. BERRY<sup>1</sup> & QING-HAI FAN<sup>2</sup><sup>1</sup> Science, Information & Risk Directorate, Ministry of Agriculture and Forestry, Wellington, New Zealand.  
E-mail: Jo.Berry@maf.govt.nz<sup>2</sup> Plant Health & Environment Laboratory, Investigation & Diagnostic Centres, MAF Biosecurity New Zealand, Auckland, New Zealand. E-mail: qinghai.fan@maf.govt.nz**Abstract**

The status of the tenuipalpid mite *Brevipalpus phoenicis* (Geijskes, 1939) (Acari: Tenuipalpidae) in New Zealand was previously uncertain. New collection records suggest that this mite is established, at least in the northern North Island.

*Brevipalpus phoenicis* is known to vector a number of plant diseases caused by Rhabdoviridae (Mononegavirales), including some known to cause serious damage to food crops such as *Citrus leprosis virus* (CiLV), Passion fruit green spot virus (PFGSV) and Coffee ringspot virus (CoRSV). None of the diseases vectored by this mite are known to be present in New Zealand. Consequently *B. phoenicis* should still be considered of concern to New Zealand's biosecurity under some circumstances.

**Introduction**

The genus *Brevipalpus* (Tenuipalpidae) contains around 300 species worldwide including the economically important pest species *Brevipalpus californicus* (Banks), *B. obovatus* Donnadieu, and *B. phoenicis* (Geijskes) (Mesa *et al.* 2009). These three species are morphologically similar, and share many common biological and ecological characteristics. As a result they have been consistently confused and misidentified for over 50 years (Welbourn *et al.* 2003); consequently geographical distribution and host records may be unreliable. In addition, there are numerous reports of intraspecific variation, leading some researchers to suggest the existence of hidden species complexes within one or more of these three species (Childers *et al.* 2003a).

Groot (2006) suggested that mites morphologically identified as *B. phoenicis* comprise a paraphyletic group based on molecular genetic characters. Female *B. phoenicis* are haploid and reproduce asexually. Males are sporadically produced, but appear to be infertile, and most offspring are female (Groot *et al.* 2005). Experimental work by Groot *et al.* (2005) suggested that the species is represented by a collection of specialist clones, rather than a general purpose genotype.

*Brevipalpus californicus*, *B. obovatus* and *B. phoenicis* have all been reported from New Zealand by a number of authors, however there is some uncertainty regarding their status, in particular that of *B. phoenicis*.