

Banana spotting bug (*Amblypelta lutescens lutescens*)

Fruit spotting bug (*Amblypelta nitida*)

Emily Pattison, QDPI, 2024

Table 1. Risk and monitoring period for fruit spotting bugs in Queensland.

Flowering			Fruit drop		Golf ball			Colour break		Maturation		
Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	

Description

Fruit spotting bugs (FSB; *Amblypelta nitida* and *A. lutescens lutescens*) are native Australian pests that affect a wide range of horticultural crops, including citrus, in tropical and subtropical regions along the east coast. The 2 species are biologically similar and have overlapping distributions, with *A. l. lutescens* more common in the north and *A. nitida* in the south (Figure 1). Both nymphs and adults feed by injecting saliva into fruit, often causing significant economic damage. Citrus is a strong host of *A. l. lutescens* and is frequently used for monitoring and as a trap crop.

Eggs: both *Amblypelta* species eggs are approximately 1.5 mm long, oval with a flattened side, and initially golden, turning greenish-gold as they approach hatching. They are laid singly on plant surfaces (Figure 2).

Instars (nymphal stages): FSB undergo 5 nymphal instars before reaching adulthood. Nymphs are wingless but highly mobile. The first instar stage is green and they have a ridged body with prominent brown markings at the base of the abdomen (Figure 3). Later instar stages (second to fifth) are typically orange with 2 distinctive central black spots on the abdomen.

Adults: FSB adults are slender, winged insects about 11–15 mm long. They are predominantly green with a characteristic dark brown patch at the wing junction (Figure 3).

Life cycle

Four to six overlapping generations can occur from spring to autumn, but recent observations suggest that they are continuing to breed later in autumn and earlier in spring due to warmer winter.

Damage

FSB have piercing-sucking mouthparts and show a preference for citrus fruitlets, although they will also feed on shoots and flowers. Damage occurs when the bugs feed and damage plant cells, resulting in sunken lesions (Figure 4) that develop into scar tissue as the fruit matures (Figure 5). Juvenile stages, which are flightless, often feed on numerous fruitlets, causing widespread damage or fruit abortion.

Threshold: 15% or more of fruit or terminal damage during flowering and fruit set.

Risk period: all year (Table 1), especially around flowering and early fruit set stages when crops are most vulnerable, with pressure easing slightly in winter.

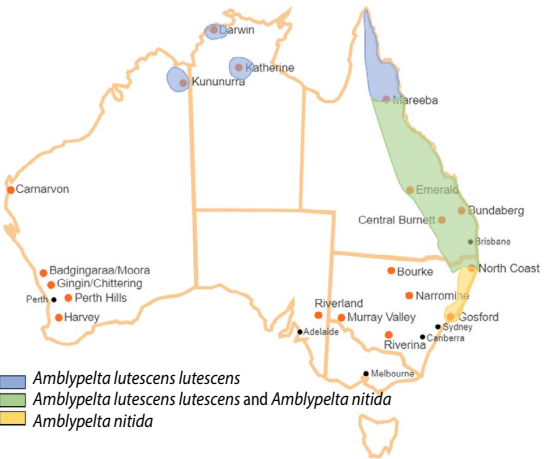


Figure 1. Distribution of *Amblypelta lutescens lutescens* and *Amblypelta nitida* in Australia.



Figure 2. *Amblypelta lutescens lutescens* egg laid on a lemon.

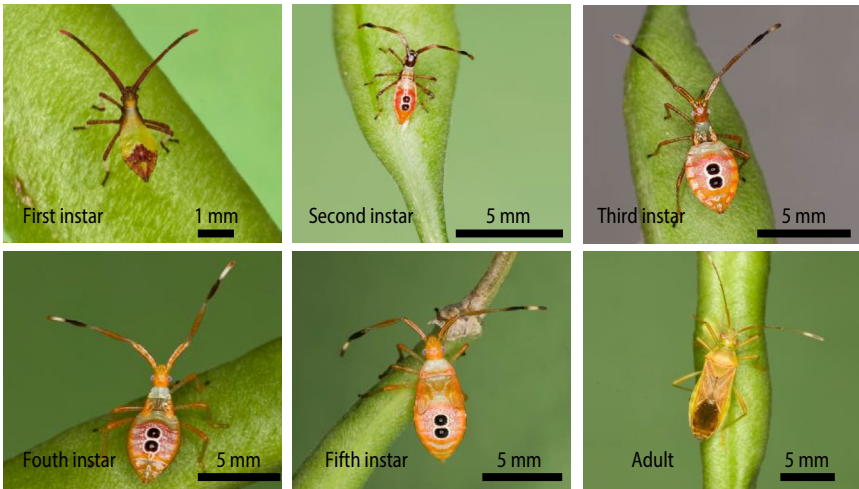


Figure 3. Life stages of *Amblypelta lutescens lutescens*. Photos: Govender (2013).



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Fruit spotting bugs

Fact sheet

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Monitoring

Monitoring for FSB is challenging due to their cryptic behaviour and mobility. The most effective method is to inspect for recent feeding damage, as FSB often aggregate in localised hotspots. They are most commonly found on plants that are flowering or carrying fruitlets. Pheromone traps might assist with monitoring, but only for *A. l. lutescens*.

Management and control

Cultural: reducing tree height and opening up the canopy will improve spray coverage and can deter FSB, which favour tall, shaded trees. Managing alternate hosts is critical, as FSB feed on over 150 plant species. Key hosts such as custard apple, mango, cotton tree, and wild-weed species (e.g. mock orange) should be removed or kept at least 100 m from the orchard, particularly on the upwind side. Pheromone traps can be used to help with monitoring.

Biological: FSB have a range of natural enemies, many of which inhabit native vegetation in their natural range. In commercial orchards augmentative releases are generally required for effective control. Numerous generalist predators also feed on FSB.

- *Anastatus* wasps (*Anastatus* spp.): these egg parasitoids lay their eggs inside FSB eggs (Figure 6), helping to suppress populations. *Anastatus* spp. wasps are commercially available and should be released into native vegetation surrounding the orchard to target background populations. As they are sensitive to chemical sprays, placement in unsprayed areas is recommended.
- Other natural enemies include predatory flies, assassin bugs, spiders, lacewings, and predatory birds (e.g. butcher birds and finches), which attack various life stages of the FSB.

Chemical: calibrate sprayers to ensure even coverage and appropriate droplet size throughout the full canopy. Apply insecticides to hotspots and orchard perimeters as soon as FSB activity is detected to limit population spread. Rotate insecticide groups to reduce the risk of resistance and prioritise 'softer' products to help preserve beneficial insect populations.

References

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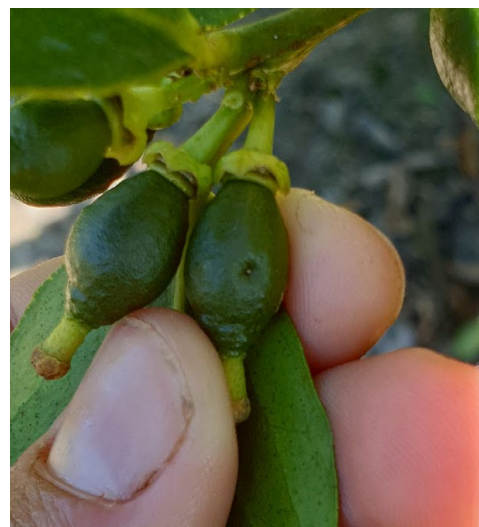


Figure 4. Sunken appearance of recent fruit spotting bug damage on a lime fruitlet.



Figure 5. A cluster of lime fruitlets with extensive fruit spotting bug damage.



Figure 6. *Anastatus* wasp laying its larvae into a fruit spotting bug egg. Photo: BioResources Pty Ltd.

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