

Exotic bruchids

What are bruchids?

Bruchids are small beetles that belong to the sub-family Bruchinae. These beetles feed on a range of seeds, especially pulse crops. Adults lay eggs on seed pods; the larvae hatch and bore directly into the seed pod to feed inside the developing seeds. Larvae pupate inside the seed and can potentially be moved between areas inside infected seeds. Feeding causes reduced seed quality, germination and yields.

There are over 200 pest species in the sub-family including species in the *Acanthoscelides*, *Bruchus*, *Bruchidius*, *Callosobruchus*, *Caryedon* and *Zabrotes* genera. Several species are present in Australia. However, many species such as Mediterranean pulse beetle (*Bruchus emarginatus*) and Mexican bean weevils (*Zabrotes subfasciatus*) are exotic and could cause seed damage and market access issues if they were to become established in Australia.

Bruchus and *Bruchidius* species often only have one generation per year and don't reproduce on stored grain, so infestations don't persist in storage. However, *Callosobruchus*, *Acanthoscelides*, *Caryedon* and *Zabrotes* species can breed on stored grain and have multiple generations per year.

What do they look like?

Bruchids are small (most are between 1.5–4.5 mm long), globular, triangular or tear-drop shaped beetles that are usually dull coloured with white, red, or black markings and wing covers (elytra) that do not cover the entire abdomen. Adults are active and will readily fly.

Larvae are up to 3 mm long, white or cream in colour and feed inside individual seeds. Symptoms are not obvious until harvest. Look for round exit holes in legume seeds.



Bruchid infested soybeans. Note characteristic round exit holes.

Clemson University – USDA Cooperative Extension Slide Series, Bugwood.org



Exotic Mexican bean weevil (*Zabrotes subfasciatus*) and damage on common (navy) bean seed. Frank Peairs, Colorado State University, Bugwood.org

Frank Peairs, Colorado State University, Bugwood.org

What can it be confused with?

There are a large number of species in this sub-family. Several occur in Australia already such as the pea weevil (*Bruchus pisorum*) and cowpea weevil (*Callosobruchus maculatus*). If you see bruchids that you are not familiar with, please contact an agronomist or expert for identification.

What should I look for?

The most obvious sign to look for is the presence of round exit holes in the sides of pulse seeds. The small adult beetles may also be seen around the infected seeds or in the infected crops later in the season.

How does it spread?

Adults can spread by flying. Long distance dispersal can occur while larvae are still inside seeds.

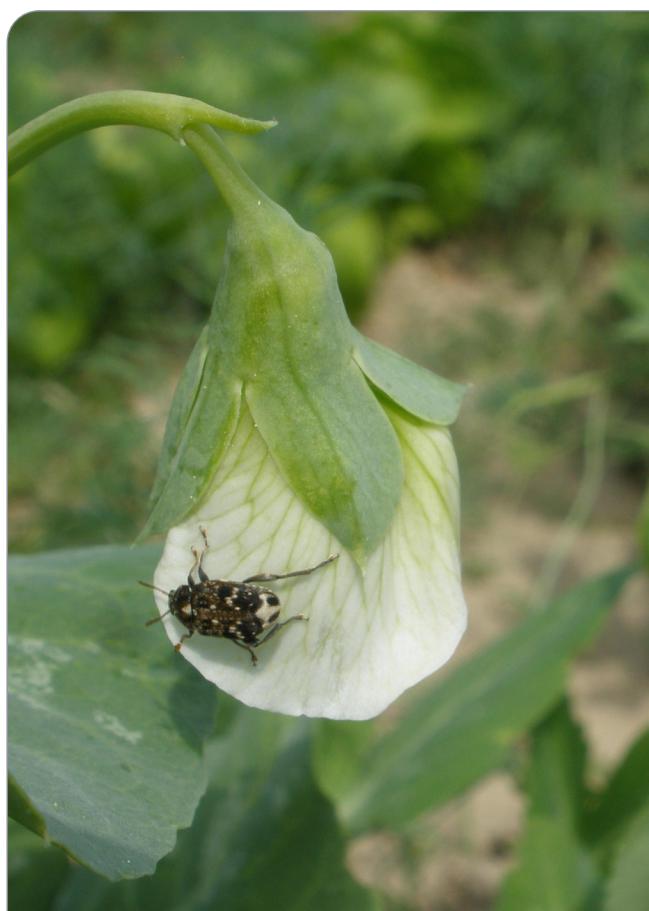
Where are they now?

Individual species have unique distributions. Some species are restricted to relatively small areas, such as the bean weevil (*Acanthoscelides argillaceus*) which is only found in Central America. Other species have much wider distributions such as the Mexican bean weevil (*Zabrotes subfasciatus*) which is thought to have originated in Central and South America but has spread to North America, Africa and southern Asia.



Exotic Mexican bean weevil (*Zabrotes subfasciatus*). Note wing cover does not cover abdomen (arrow), small size and globular body shape.

Pest and Diseases Image Library, Bugwood.org



Adult Bruchids feed on pollen and nectar and may be seen around flowers. If adults are seen check grain for presence of larvae.

Mariusz Sobieski, Bugwood.org

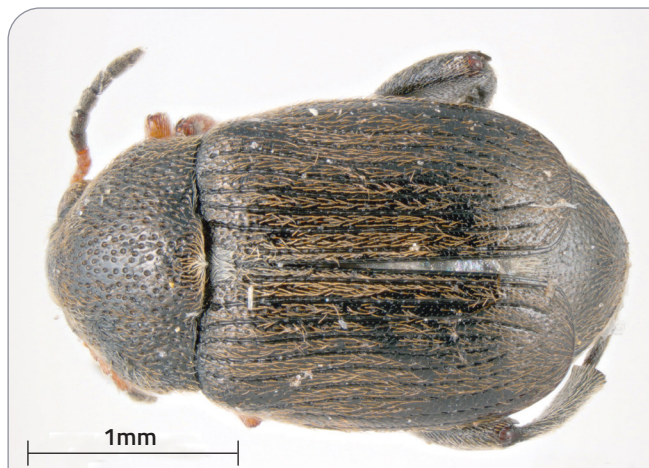
How can I protect my farm from bruchids?

Check legume seeds for signs of exit holes caused by the larvae or signs of the small adult beetles. Make sure you are familiar with common pests of legumes (including endemic bruchids in your area) so you can tell if you see something different.

Only bring in seed, feed and fertilizer from reputable suppliers.

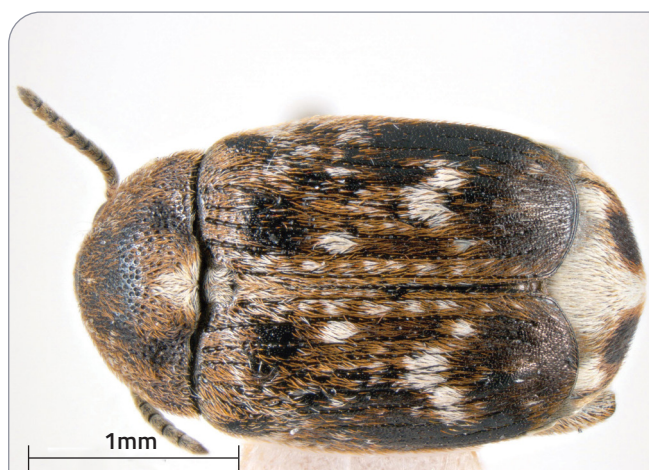
Early detection is crucial in stopping or slowing progress of a new pest. Monitor your crops regularly for anything unusual, and call in a specialist without delay to help identify anything unfamiliar.

If you see anything unusual, call the **Exotic Plant Pest Hotline** on **1800 084 881**.



Exotic vetch bruchid (*Bruchus brachialis*).

Pest and Diseases Image Library, Bugwood.org



Exotic Mediterranean pulse beetle (*Bruchus emarginatus*). Note shape and that wing cover does not cover abdomen (arrow).

Pest and Diseases Image Library, Bugwood.org

GRAINS FARM BIOSECURITY PROGRAM

An initiative of Plant Health Australia and Grain Producers Australia



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