

WHAT IS ZYGOGRAMMA BICOLORATA?

Z. bicolorata is a *Parthenium* leaf-feeding beetle native to Mexico which was introduced to Australia as a biocontrol agent in 1980.

Adult beetles have black heads, elongated round bodies, and cream-coloured backs with longitudinal black stripes. Adult females are generally larger than male and also have slightly different shape. Female *Z. bicolorata* are 6mm in length, while male beetles are smaller at about 5mm.



LIFE CYCLE

Adult females can lay up to on average over 2500 eggs in their life time. The larvae hatch after 36 to 72 hours. Larvae go through four stages of larval development as they feed on *Parthenium* for the next 12 - 16 days. Pupation takes place in the soil and beetles emerge from the soil after a further 8 - 10 days. The whole life cycle, from egg to adult taking around 25 - 28 days depending on different climatic conditions.

Adults can survive for several months to years, depending on factors such as environmental conditions and predation.

HOW DOES THE BEETLE AFFECT PARTHENIUM?

Both the adult and larvae of *Z. bicolorata* feed on the leaves of *Parthenium*. They have the ability to completely defoliate the weed, depleting all leaf material.

This reduces the ability of *parthenium* to photosynthesize and limits the plant's growth and reproduction, therefore reducing the invasive ability of the weed.

HOW TO ESTABLISH A COLONY OF BEETLES?

Release *Z. bicolorata* onto newly emerged leafy *Parthenium*, in an area that has not recently undergone any chemical treatment.

Establishment of *Z. bicolorata* at the release site is dependent on climatic conditions, soil type, level of natural enemies and the abundance and quality of host plants (*Parthenium*).

Monitoring for beetle activity should be undertaken in spring following the first rain of the season.



Image credits: [Prabhjot Kaur Gill](#)