

Lily beetle

GWFF301

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First seen in Surrey in the 1940s, the lily beetle is now a serious pest of lilies and their relations in much of southern Britain and is slowly working its way further north.

Q What are lily beetles?

A Lily beetles (*Lilioceris lili*) are attractive, bright-red beetles around 7mm long with black heads, legs and undersides. They can deter predators by squeaking - they are audible if you hold them close to your ear.

Q Which plants do lily beetles attack?

A Adults and larvae eat the leaves, flowers and seed pods of lilies (*Lilium*), fritillaries and *Nomocharis* and can do severe damage. Adult beetles nibble irregular holes in the leaves and petals, while the larvae methodically work their way from the leaf tips towards the stem. Adults are occasionally found on other plants, including Solomon's seal and lily-of-the-valley, but these plants do not seem to be eaten by the larvae.

Q Tell me about their life cycle.

A The adults overwinter in the soil or on leaf debris and can appear from late March if the weather is warm. After mating, the female lays 200-300 orange eggs on suitable plants. About a week later, these hatch into reddish-brown larvae that cover themselves with their own black, slimy excrement. When the grubs are mature, they burrow into the soil to pupate, emerging as adults in mid- to late-summer.

Q Could I confuse them with anything else?

A Cardinal beetles are also bright red, with black legs, head and undersides. However, they are twice as big as lily beetles and the body tapers towards the head. Cardinal beetles are carnivorous, hunting other insects on a wide range of plants, especially tree trunks. Some soldier beetles are reddish-brown, and the same colour underneath. They tend to favour flat, open flowerheads such as umbellifers and are often seen in mating pairs. They are also carnivorous.

Q Where does the lily beetle come from?

A It originated in the Mediterranean region, though it also occurs in China and northern India. Lily beetle was recorded in England in the early part of the last century. However, it did not become successfully established until 1940, when it gained a foothold in a private garden in Chobham, Surrey.

Q How far has it spread?

A Lily beetle has spread surprisingly slowly in the UK. For many years it was found only in north-west Surrey and adjoining areas of Hampshire and Berkshire. In the past decade, however, there has been a swift expansion of its range, with reports of it in

Cheshire and South Lincolnshire. Lily beetle is now in Buckinghamshire, Kent, Oxfordshire, Sussex and the London boroughs. Outside this area it is found sporadically in most counties of southern England, East Anglia and the south and central Midlands.

The Royal Horticultural Society monitors the beetle's progress. It has been recorded in Wales, but there have been no sightings in Cornwall, and the first records from Devon were not received until 1997. As of March 2003 the lily beetle had been recorded in 46 counties in England and Wales. The first record for Leicestershire was received in 2001 and first records for south east Yorkshire and south west Yorkshire were received in summer 2002.

As recently as March 2001 lily beetle had not been reported in Ireland or Scotland, but in 2002 the RHS had some reported sightings from south of Glasgow. There was also a report of a sighting of an adult beetle in south Belfast, in June 2002.

Q Why has lily beetle become more widespread recently?

A Lily beetle thrives in areas with warm, dry climates, and its leisurely spread may be due to the fact that Britain is at the northern edge of its European climatic range. Observers have noticed that it is reluctant to fly

except on hot, sunny days, so the warm summers of recent years have allowed it to move further afield. This may also explain why it is spreading much more slowly through the wetter areas of south-west England and Wales.

Q How can I control lily beetle?

A If you grow only a few lilies, it's feasible to control lily beetle by inspecting them regularly. Pick off and squash the adults, grubs and eggs; the earlier you start looking, the more likely you are to break the pest's life cycle. Keep the beetles under control, at least until the plants finish flowering, to allow the bulbs to build up enough to form next

year's flowers. Where plants have been badly damaged, feed the remaining leaves with foliar feed.

Q Are there any suitable sprays?

A If you have lots of lilies and wish to spray them, use one based on imidacloprid. If plants are flowering, spray at dusk to avoid harming bees. The grubs are more susceptible than the adults, which are protected by their hard coats.

Q What about biological control?

A The lily beetle's warning red colour implies it is unpalatable to potential predators such as birds. However, scientists from the University of Rhode Island, USA, motivated by the recent arrival of

the pest in Boston, found parasitic larvae on lily-beetle grubs in France. It is hoped they may prove to be an effective biological control in future.

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