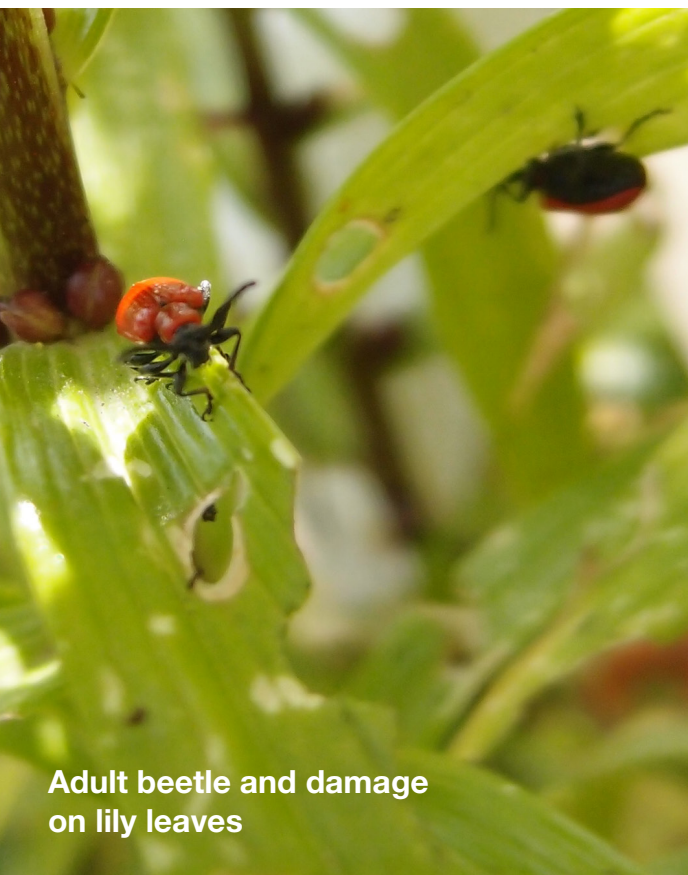


About the **Lily Beetle**

The Lily Beetle (*Lilioceris lili*), is a bright red-scarlet beetle which feeds primarily on lilies (*Lilium spp.*), and fritillaria (*Fritillaria spp.*). They cause extensive damage to all parts of the lily plant above ground. This beetle, an introduced pest from Asia, was first discovered in Montreal, Canada in the early 1940s.

The beetle's first arrival to Canada is believed to be through the lily trade, getting a free ride on lilies or bulbs in the adult or egg state.

The Red Lily Beetle is now a resident of every province in Canada except British Columbia.



Adult beetle and damage on lily leaves



Larva on lily flower bud

Report the Beetle

If you have found this invasive pest on your lilies, please provide a picture and report your findings to confirm the identity and map out the spreading range of this pest.

Please Contact:

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Alberta Regional Lily Society

For more information visit arls-lilies.org

Lily Beetle

Lilioceris lili

Have you seen this beetle in your garden?



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Alberta Regional Lily Society



Eggs

Adults overwinter in the soil or under leaf litter. They may overwinter near the plants they fed on during the past summer but are not restricted to these sites. They emerge in the spring in late April to early May, disperse for 1-2 weeks, then settle down to feed and find a mate. The female then lays eggs on the underside of the leaf in an irregular line. The eggs are reddish-orange in colour and only 1-2mm in length. A single female beetle can lay between 200-300 eggs. The average hatching period is 8-10 days.

Larvae

The eggs hatch into a yellowish-white larva with a black head. The lily beetle larva deposits its faeces on its back as a protective shield against the hot sun and predators. They feed for 20-25 days, and will devastate the lily plant if not detected. It has a habit of feeding on the underside of the leaf at first, making them more difficult to be detected. Early feeding is limited to skeletonizing the under side of the leaf surface. Once they are more mature, they will move about freely and devour the above ground plant including leaves, flower buds and open flowers.



Pupae

When the larvae are mature and ready to pupate, they begin the transformation into adult beetles. The larvae will burrow into the soil and change colour to orange. It creates a waterproof cocoon around its body in preparation for the transformation period which takes, on average, 21 days. The adult beetle will then emerge to the surface and continue to feed on lily plants until early fall. The colder weather triggers the adults to return to the soil where they overwinter, emerging the following spring to repeat their life cycle again. In Alberta, our growing season is short, we only have to endure one cycle per year.

Lily Beetle

The adult lily beetle is bright red to scarlet in colour, with a black head and large black eyes. The legs and antennae are black, as is the under side of the body. This beetle has an elongated body, 8-10mm in length with no spotting or markings. Not to be mistaken for the beneficial lady bug beetle, which is also red, but has a more circular body appearance with black spotting. They have a tendency to drop to the ground black belly up to hide, and are also good flyers, able to disperse quickly and far.

Control: For small infestations, control methods should be non-chemical if at all possible. As soon as the lilies emerge in spring, keep your eyes out for signs of this pest. Picking the adult beetles and larvae and checking the underside of lilies for eggs in spring or summer is the first step. Removal of breeding-age adults before they have the opportunity to reproduce will help in the control or elimination of this pest. Larvae are easily scraped off leaves or squished wearing gardening gloves. Lily beetle larvae are more vulnerable to chemical applications than adult beetles, and they also do the most damage. If picking the beetles and/or larvae by hand is impossible, you may need to consider a visit to a local greenhouse or nursery for chemical pest control products. The parasitic wasp *Tetrastichus setifer*, native to Asia, has been released in New England, Ottawa and recently in southern Alberta. This wasp is able to withstand Canadian winters and is quickly establishing in beetle infested areas. Please do not use chemical controls if the wasp is released in your area.

The chart below is an approximate summer cycle of the lily beetle for the western Canadian prairies. Cycle times may overlap.

LILY BEETLE SUMMER CYCLE	APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER		
	Adult Beetle Dormant			Emerge and Mate			Egg Incubation			Larvae Hatching and Feeding			Larvae Pupate (under ground)			New Adults Emerge and Continue to Feed			Return to Soil		