

Pest Alert: Red Lily Leaf Beetle

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In Spring of 2012, a European beetle pest of lilies was recorded in Washington State for the first time. This new pest, *Lilioceris lili*, also known as lily leaf beetle (LLB), has been found in the SW neighborhoods of Bellevue, WA. Native to Europe, LLB was first discovered in North America in Montreal, Canada in 1945, and then found in the United States in Cambridge, MA in 1992. Until now, the beetle was only thought to be located in 7 NE states.

LLB can complete its life cycle on true lilies (*Lilium* spp.) and fritillaries (*Fritillaria* spp.). Researchers in the eastern US have found that Asiatic hybrid varieties of lilies are most susceptible to LLB while some Oriental varieties are resistant. *Lilium henryi* 'Madame Butterfly', *L. speciosum* 'Uchida', *L. 'Black Beauty'*, *L. regale* and *L. 'Golden Joy'* are among the most resistant varieties to this pest. Adults can also feed on some plants in the following genera: *Polygonatum* spp. (Solomon's seal), *Solanum* spp., such as bittersweet nightshade and potatoes, *Smilax* spp., and *Nicotiana* spp. Daylilies (*Hemerocallis* spp.) are not impacted by this pest.

Adult beetles overwinter in the soil and emerge in the spring, when they begin to feed on developing foliage and seek mates. Adults are 0.25 – 0.375 inches long, a conspicuous bright scarlet red color on top, with the head, underbody, legs and antennae black (Figure 1). Adult beetles are very active, mobile, and make a defensive chirping or squeaking noise when provoked.

Mated adult females lay eggs in small batches in irregular rows on the underside of host plant leaves: up to 450 eggs during the season (Figure 2). The small orange-brown eggs hatch in one to two weeks. Larvae are orange to light green, but cover themselves in excrement and resemble slime-covered slugs (Figure 3), likely a defensive tactic to ward off or hide from predators. Newly emerged larvae feed on the undersides of leaves. As larvae mature, feeding damage becomes more apparent on older leaves and sometimes stems and flowers. In the northeastern US, larvae feed and develop for three to four weeks, then migrate to the soil to pupate for another three to four weeks. Adults emerge and will feed on foliage until fall when they move into the soil to overwinter.



Figure 1. Adult lily leaf beetles in Bellevue WA. (Photo E. LaGasa WSDA)



Figure 2. LLB eggs laid in irregular rows. (Photo E. LaGasa WSDA)



Figure 3. LLB young larvae feeding on underside of lily leaf. (Photo E. LaGasa WSDA)

Effective insecticides have not been determined for Washington State. Visit WSU's Hortsense (<http://pep.wsu.edu/hortsense/>) for current recommendations when they become available. In areas where LLB is found, gardeners should visit lilies often, beginning in April, to check for the pest and its damage. Handpick and physically discard adult beetles, eggs, and developing larvae. This can greatly reduce the amount of damage caused. Be sure to also remove eggs on the underside of leaves. Continue this activity throughout the season.

Currently, LLB is only known to occur in King County. If you find specimens outside of King County:

- collect samples and submit them for identification
- if you collect adults, freeze them in a crush-proof container, or
- if you collect larvae, place them in household vinegar to preserve the sample
- bring samples to the local Extension office or Master Gardener clinic (<http://ext.wsu.edu/locations>), or
- contact the WSU Puyallup Plant & Insect Diagnostic Laboratory (<http://www.puyallup.wsu.edu/plantclinic/>).

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