

June Meeting: **Red Lily Leaf Beetle Project**

by Lorraine Van Slooten

Sharon Bachman described the spread of the RLLB from its native Eurasia to Montreal in the 1940s to Boston by the 1990s and now throughout New England, New York, Pennsylvania, southern Canada and the U.S. west coast. It has the potential to spread even further through the U.S. Both adult beetles and their larva feed and complete their life cycles on the lilies of the genus *Lilium*. This includes Asiatic and Oriental lilies, Easter lilies and native lilies such as Turk's Cap, Tiger, Wood, Canada and Michigan lilies. They don't feed on daylilies, but occasionally feed on *Fritillaria*, Solomon's Seal, Toad Lily and plants in the Nightshade family (potatoes).

The red-orange adult beetles were first seen here in May. In late May to early June the females lay rows of oblong red eggs on the undersides of lily leaves. After the larvae hatch, they feed on the leaves, stems,



Photo credit: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org


buds and flowers and cause the most damage to the plants. These larvae protect themselves from predators by carrying their excrement on their backs. They're the gross larvae we've heard about! The larvae pupate in soil near their host plant and emerge in a few weeks as adults. They feed for a couple of weeks, overwinter in the soil and emerge in spring to mate, starting the cycle over again.

The University of Rhode Island has been researching the biocontrol of the beetle by introducing parasitoids from their native lands. The plan is that the parasitoids will single out the RLLB larvae as their hosts and thus reduce the beetle population. A parasitoid lives in its host and eventually kills the host as opposed to a parasite that just lives in its host. Three parasitoid wasps have been introduced into the U.S. and look promising. *Lemophagus errabundus* has been established in Massachusetts; *Tetrastichus setifer* and *Diaporsis jucunda* in Mass., Rhode Island, New Hampshire & Maine; *T. setifer* in Connecticut & Ontario. These parasitoid wasps lay their eggs in RLLB larvae. When the larvae pupate in the soil, the parasitoids complete their feeding and pupate.

A two year biocontrol project started by a team at Cornell partnering with CCE offices has begun in Putnam, Suffolk, Schoharie and Erie counties in N.Y. Parasitoid wasps are being released and Master Gardener volunteer help is needed to monitor the project lilies near Parkside Lodge in Buffalo as well as lilies in gardens where pesticides have not been used.

Contact Sharon if you are interested in working on this project.

Three simple steps that home gardeners can take to protect the parasitoids and support the biocontrol project:

1. Remove adults and eggs by hand to prevent exposure of the parasitoid wasps to toxic pesticides.
2. Use no mulch or a light cover in fall. Overwintering parasitoids are less protected in mulch than in the soil.
3. Digging up lily bulbs in fall and replanting in spring can harm overwintering parasitoids. 



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