# Billbugs?

**By Dr. R. Chris Williamson,** *Department of Entomology, University of Wisconsin-Madison*

Despite the fact that I have been at the University of Wisconsin for over a decade, I really did not put much thought or effort into worrying about billbugs! However, with the persuasion of my colleague Dr. Doug Richmond (Purdue University) and the fact that we experienced a Bluegrass Billbug, *Sphenophorus parvulus* Gyllenhal, outbreak at the O.J. Noer Turfgrass Research and Education Facility in Verona, WI, billbugs are certainly now on my mind.

For those of you who are not familiar with billbugs, likely many of you, there are several species of billbugs in the United States; however the most common species in the Midwest is the bluegrass billbug (BGB). Billbugs are beetles that belong to the family Curculionidae, often referred to as the snout beetles due to their distinguishable snout-like mouthpart that resembles an aardvark. Bluegrass billbug adults range in color from gray to brown to black. BGB has a one-year life cycle; during the spring, overwintered adults leave their hibernation sites to begin laying eggs in the leaf sheaths of turfgrass plants including Kentucky bluegrass and perennial ryegrass. Adults (males and females) can be seen crawling over paved sidewalks and driveways on their way to turf areas. After hatching, BGB larvae immediately being tunneling (feeding) vertically in the leaf sheaths where they eventually feed and destroy the plant crown. Because BGB larvae grow and develop through several molts, larger larvae move (chew) out of the turf plant and move into the root zone and begin feeding on roots and rhizomes. BGB larvae can be found in the soil at a depth of around 3-4 inches. Larval feeding is completed by mid- to late summer with pupation taking place in the soil. Young adults of the new generation are present during early to mid-fall seeking hibernation (overwintering) sites.

**Bluegrass Billbug Larvae**

**Bluegrass Billbug Adult**

**Grass plants damaged by larvae are easily pulled out.**

## Monitoring for Billbugs

BGB adults can be monitored in the spring by merely looking for them crawling across paved surfaces as they are seeking areas of turf to lay their eggs. Larvae can be readily sampled by conducting the "tug test" whereby you merely grab a tuft of turf and pull-up on it. If it breaks-off near the crown and you

see an accumulation of fine, whitish, sawdust-like frass, your likely have BGB. If present, you can dissect the turf plant to locate a BGB larva.

**Insecticide Management of Billbugs**

There are **three** approaches to managing billbugs with insecticides: 1) Adult preventative; 2) Larval preventative; and 3) Larval curative. Each approach has its strengths and weaknesses, however the larval curative approach is not suggested since most billbug (larval) damage will likely have occurred and the insecticide treatment will not reduce the subsequent feeding damage to the turf. Consequently, considerations should be aimed at the adult preventative and larval preventative approach. Essentially, the adult preventative approach targets the overwintering adults as they emerge from hibernation. The goal is to control the adults before they have the opportunity to lay eggs in the turf, thus preventing subsequent larval damage. This approach requires routine monitoring of adults in the early spring. Once observed, an application of a contact insecticide to the turf where the billbugs are active is an effective management approach. A variety of contact insecticides including: acephate (Orthene), bifenthrin (Talstar), cyfluthrin (Tempo), deltagard (DeltaGard), indoxacarb (Provaunt) and lambda-cyhalothrin (Scimitar) are contact insecticides that will provide excellent control of billbugs when applied at the appropriate timing. The larval preventative approach targets both egg-laying adults (females) as well as young larvae in the leaf sheath of turfgrass plants. Consequently, this approach requires the application of systemic insecticides in early May, prior to adult billbug activity. Insecticides for this approach include: chlorantraniliprole (Acelepryn), clothianidin (Arena), clothianidin and bifenthrin (Aloft), halofenozide (Mach 2), imidacloprid (Merit), imidacloprid and bifenthrin (Allectus) and thiamethoxam (Meridian). Regardless of your insecticide management approach or product you select, ALWAYS read and follow the product label directions before using pesticides!