

Billbugs

By Nate Royalty, Ph.D.



What does it look like? Billbugs are a type of a weevil, more commonly known as “snout beetles.” Adults are typically 1/4 to 1/2 inches long and are dark gray or bluish-black in color. Often, the insects appear brownish-red due to the coating of soil covering them. Their bodies consist of a long, beak-like snout, head and thorax. Billbug larvae are legless and white with brown heads.

Host material and range

There are approximately 50 recognized billbug species found in the United States and Canada, although in any given region, only one or two species typically cause significant turf damage. Billbug species can be divided into two general groups: species that overwinter as adults and/or larvae and usually attack warm-season or transition turf, and species that overwinter as adults and attack cool-season turf.

Most published information on billbugs is based on the bluegrass billbug (*Sphenophorus parvulus*). This species, the most common billbug turf pest found in North America, predominantly infests cool-season Kentucky bluegrass, perennial ryegrass and fine or tall fescues. The bluegrass billbug is most commonly a pest in the northern United States, but it can also be found in cool-season turf in the southern states.

Adult female bluegrass billbugs chew a hole in the stems of turf plants and deposit their eggs inside. The young larvae feed by tunneling inside of the host plant's stem. Large-instar larvae emerge from the stem and feed on the crown and roots of the plant.

Billbug damage is sometimes difficult to identify, since symptoms often appear similar

to those of dollar spot and summer drought. Damaged turf wilts in response to billbug feeding, and billbug damage often forms small, circular whitish spots on heavily infested turf. Severe injury is most common in new lawns, especially those established with sod. Most damage occurs near shrubbery and sheltered areas within the lawn.

Current threat

Symptoms of billbug damage are usually detected in mid-June through July, when the turf is under heat or drought stress. Billbug larvae can destroy large areas of turf, and sometimes entire lawns, if not contained or killed. Unlike white grub or mole cricket damage, billbug-infested soil usually remains firm even when plant roots are destroyed.

Plants damaged by billbug feeding can easily be pulled out of the soil. This “tug test” is a good indicator of billbug infestation.

Prevention tips

Good cultural control practices, including aeration, irrigation and proper fertilization, will help prevent billbug infestation. It is important to remove thatch build-up regularly, as the insects often live and burrow in areas of thick thatch.

Treatment tips

Adult billbugs have a hard, armor-like exterior that does not easily absorb insecticides. Larvae are also difficult to kill because they spend the majority of their lives inside of the plant stems. As a result, effective billbug control requires a precise understanding of the insect's biology and proper application technique.

Early applications of surface or thatch-targeted insecticides are effective in controlling adults before they oviposit. Studies at Ohio State University have found that products such as Merit insecticide are effective in controlling young larvae in the plants when applied in late April to late May.

Less is known about the many species of billbugs that attack turf in the southern and western United States. Although some insecticides are effective against these billbugs if applied at the appropriate timing, additional research is necessary to determine the most effective and cost-effective methods of managing these difficult billbug species.

Current research at North Carolina State University on the billbug biology species complex, supported by Bayer Environmental Science, is being conducted to better enable lawn care operators to manage these different pest species.

What can you do?

Diagnosing billbug infestation is very simple. Use the “tug test”- by pulling on several affected stems and tug them from the soil. Turf damaged by billbugs will easily break off, revealing piles of sawdust-like material, which is produced during billbug feeding.

Another simple way to identify the billbug culprits is to be observant. Billbugs will often appear on sidewalks or turf towards the late afternoon. If several insects are sighted, begin checking surrounding turf for potential damage. ■

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