

**BLACK TURFGRASS ATAENIUS (Ataenius spretulus)**

Prepared by: Dr. M. Keith Kennedy  
Department of Entomology  
Michigan State University

Ataenius spretulus is a small black beetle which belongs to the family of beetles known as scarabs (Scarabaeidae). These beetles are saprophagous, i.e. they normally feed in dung or humus rich in decaying organic matter.

Although A. spretulus was first described attacking turf in Minnesota in 1932, it has only recently become a problem. The larval or "grub" stage of this beetle severely damaged fairways of annual blue grass (Poa annua) on a golf course near Cincinnati, Ohio in 1973. Since then, the beetle has been recognized as a problem on golf courses in 20 states ranging from Colorado to Connecticut and from Ontario Canada as far south as Kentucky.

In 1978, it caused considerable damage to annual blue grass fairways in both the Detroit and Saginaw areas of Michigan. The following information will provide you with a brief description of the beetle's life cycle and recommended controls for Michigan turf managers.

Ataenius spretulus

Favored Hosts    Poa annua  
bentgrass  
perennial bluegrass

Characteristic Damage

localized dry spots or wilting turf occurring in mid June despite regular irrigation.

How to Recognize

- Adults - shiny black beetle 5 mm in length; newly emerged adults may be reddish to chestnut brown
- Larvae - white C-shaped grubs 5 mm long when mature with legs and a tan head capsule. Three larval instars occur. Rostral pattern is scattered.



Life cycle

Adult beetles overwinter beneath leaf litter as well as the upper two inches of loose, well drained soil at the edge of wooded areas, river banks, etc. Seems to prefer pine litter.

Overwintering adults emerge in late March (at time of 1st crocus bloom) and return to golf fairways through April and May.

Egg laying occurs in early May about the time Van Houtte spirea and black locust are in full bloom, and tapers off in early June.

Life Cycle (cont.)

Eggs are laid in the thatch or in upper 1/4 inch of the soil immediately beneath the thatch.

1st generation larvae are present from June - mid July (see Fig. 1).

Larvae burrow 1-3 inches into the soil to pupate in late July - early August.

Newly emerged adults lay more eggs in August (when rose of Sharon is in bloom).

2nd generation larvae mature in late August when Canada goldenrod is in bloom.

2nd generation adults leave fairways to seek overwintering sites in late September to early October.

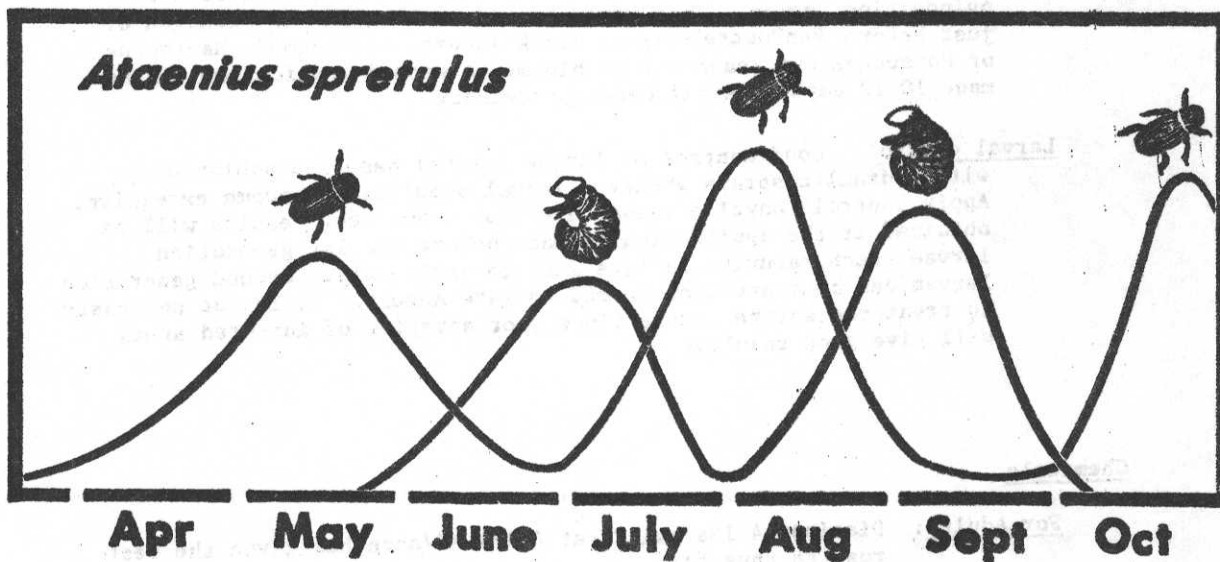


Figure 1. Life cycle of A. spretulus showing adult and larval activity.

Economic Threshold - Damage to turf generally occurs when grub densities are greater than 50-75/sq. ft. but may occur at densities of only 30/sq. ft. Severe damage occurs when there are 300-500 grubs/sq. ft.

How to check for grubs: Remove a sq. ft. of turf and soil 2-4 inches deep in several locations. Ten to 20 samples over the golf course may need to be taken, a greencup cutter is also good.

#### Control Strategies

Adult control: A single, but appropriately timed spray to control overwintered adults has shown excellent results in preventing the buildup and damage of grubs later in the summer. The spray should be applied after all overwintered beetles have emerged but before oviposition begins. This would be mid to late May in Michigan or just before VanHoutte Spirea, black locust, cottonwood, Hawthorne or Horsechestnut reaches full bloom. A second application may be made 10-12 days later if deemed necessary.

Larval control: Good control of larvae (grubs) has been achieved with hydraulic sprays whenever larval populations become excessive. Apply controls anytime larvae are found, but best results will be obtained if the application is made before the 1st generation larvae reach maturity in late June to early July. Second generation larvae can be controlled in mid to late August. It is not necessary to treat the entire course since spot spraying of infested areas will give good results.

#### Chemicals

For Adults: Diazinon 4 lbs/gal EC at 6 lbs AI/acre has given the best results thus far.

For Larvae: Diazinon 4 lbs/gal EC, Proxol 80 SP, or Proturf (Ethoprop) 5ZG have given adequate control, the latter being the least effective.