



Northern masked chafers

Cyclocephala borealis

Order Coleoptera, Family Scarabaeidae; scarab beetles
Native pest

Pest information: Turfgrasses, root-feeding grubs; adults do not feed.

Description: Adults are shiny brown scarabs around 13 mm in length with a dark brown mask across the head and a dark spot on each side of the thorax. After overwintering in the soil, adults emerge in late June and females lay egg clusters on top of the soil. Adults are nocturnal and do not feed. Northern masked chafers have a one-year life cycle. Damage is more severe in late summer when the grubs are third instar.

Life history: The grubs feed on roots, separating crown from roots. The grubs reach maximum size in September and then move down deeper in the soil to overwinter. There is a one year life cycle.

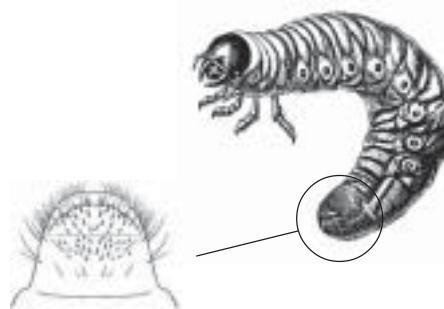
Overwintering: Grubs or prepupae in soil.

Damage symptoms: The roots of the grass are severed, so blades pull easily.

Monitoring: Healthy turf can tolerate greater than 20 grubs/sq. ft.; while stressed turf can tolerate less, around 10 grubs/sq. ft. Look for brown patches of turf that pull out of the ground, as the roots have been removed by grub feeding. Identify a grub problem by examining a square foot sample of lawn along the border where dead or damaged grass meets healthy grass. When grub densities are high, the blades pull away from the roots and the turf rolls back like a carpet. Skunks and moles are known to use grubs for food.

Cultural control: Maintain healthy grass by fertilizing in the spring and fall and watering during periods of drought.

Chemical control: Effective grub control requires accurate timing of applications to kill the most susceptible, small grubs. For most of the annual grubs (Japanese beetle, masked chafers, European chafer, Asiatic garden beetle and Oriental beetle), the best treatment time is early August. Halofenozide and imidacloprid are not fast acting and are often used in areas that experienced high damage the previous year; apply from mid May until early August. Only certain insecticides are effective for late season (September and October) or spring grub control, such as carbaryl, or trichlorfon for rescue treatments. If the product does not work, switch to another product. Reducing thatch and thorough irrigation after making a treatment will increase the chances of success. Do not use broad spectrum insecticides routinely, as they will do more harm than good and will kill the beneficial insects that live in the turf, which can cause pest outbreaks.



Raster of a Northern masked chafer grub. The hindend of the grub is called the raster. It contains sutures and hairs used to identify the grub species.



Annual white grub or Northern masked chafer adult. Note the dark spots on each side of the pronotum, the section behind the head. (283)

Photo: Vera Krischik

Biological control: Carabid ground beetles, staphylinid rove beetles, ants, spiders.

Plant mortality risk: High, if threshold is reached.

Biorational pesticides: *Beauveria bassiana*, halofenozide, nematodes (*Heterorhabditis bacteriophora*, *Steinernema carpocapsae*)

Conventional pesticides: beta-cyfluthrin (adults only), bifenthrin (adults only), carbaryl, chlorpyrifos, cyfluthrin (adults only), deltamethrin (adults only), imidacloprid, lambda-cyhalothrin, permethrin, trichlorfon