

Is It Japanese Beetle in the Field or Something Else

By Erin Hodgson, Department of Entomology

A few reports of metallic adult beetles have been coming my way this week. I thought it might be too early to see adult Japanese beetles in Iowa. But literally as I am writing this article, a Japanese beetle flies into my office through an open window - guess that answers my question! Some of you may have questions regarding identification of scarab beetles, or beetles in the insect family Scarabaeidae.

In general, adult scarab beetles are stout insects with a hardened body and clubbed antennae. Adults eat a variety of foods, including fungi, dung, carrion, sap, pollen and foliage. Rarely do the adults cause economic damage to field crops, but they can occasionally cause aesthetic damage to ornamental plants and fruit trees. The larvae are called grubs that feed underground or under debris. Larvae are pale yellow, gray or creamy in color, and are always C-shaped. Larvae can cause significant plant damage, particularly to grasses, as they feed on the root system.



Grubs are creamy white with a brown head capsule.¹

There are several scarab beetles in Iowa, and probably the most important species is the Japanese beetle. The larvae are difficult to distinguish, but [careful examination of the raster](#) (aka, the butt) hairs will provide diagnostic details. The adults are more easily identified based on size and color (see Table 1).

Japanese beetle life cycle.

There is one generation per year, with adults emerging from the soil in June. Mated females lay eggs in the soil until late August. Adults have an exceptionally wide host range (more than 300 plants) and skeletonize leaves. Hatched larvae feed on the roots until temperatures begin to cool in the fall; larvae move deep into the soil to overwinter. Nearly fully grown larvae resume feeding in the spring, pupate within the soil and emerge as adults.



Japanese beetle causes leaves to be bronzed and lacy. Adults often mass on plants.1



The annual cycle of Japanese beetle is like other scarab beetles in Iowa. 2

Table 1. Japanese beetle and other commonly mistaken scarab beetles in Iowa.

	<p>Japanese beetle³ <i>Popillia japonica</i> Adults are 5/16 inches long, have metallic green heads and bronze wing covers. There are six white tufts of hair on each side of the body. Fully grown grubs are 1 1/8 inches long and are creamy white.</p>
	<p>False Japanese beetle³ <i>Strigoderma arboricola</i> Adults are a similar size and shape to Japanese beetle, but are only somewhat metallic. Adults and larvae are not known to cause economic damage to field crops.</p>
	<p>Northern masked chafer beetle⁴ <i>Cyclocephala borealis</i> Adults are up to 7/16 inches in length and are dull brown in color. Fully grown grubs are up to 1 inch in length. There is one generation per year. Larvae can cause economic damage in turfgrass, but adults rarely cause damage to field crops.</p>
	<p>May/June beetle⁵ <i>Phyllophaga spp.</i> Adults are about 1 inch in length and brown or reddish brown in color. Fully grown grubs can get up to 1 1/2 inches long and are creamy white. Life cycles range from 1-4 years. Larvae are found in turfgrasses and adults rarely cause damage to field crops.</p>
	<p>Bumble flower beetle¹ <i>Euphoria inda</i> Adults are 1/2 inches long and hairy, with yellow and brown spots on the wings. They have a loud, buzzy flight. Adults eat rotting fruit and corn and larvae eat decaying organic matter. Not known to cause economic damage to field crops.</p>
	<p>Manure grubs⁵ <i>Aphodius granarius</i> Adults are less than 1.4 inches long and are black with reddish legs. Grubs can be found feeding on decaying organic matter (particularly manure) and sometimes cool-season turfgrasses. Rarely cause economic damage in field crops.</p>
	<p>Little bear⁷ <i>Paracotalpa granicollis</i> This beetle is larger than Japanese beetle, with most of the body and wings covered with hair. Not much is known about this shiny leaf chafer, although it's not reported to cause damage to plants.</p>

Photo credits

1. David Cappaert, Michigan State University (www.ipmimages.org)
2. M. F. Potter, D. A. Potter, and L. H. Townsend, University of Kentucky (<http://www.ca.uky.edu/entomology/entfacts/ef451.asp>)

3. Marlin E. Rice ([/CropNews](#))
4. Jerry A. Payne, USDA-ARS (www.ipmimages.org)
5. Steven Katovich, USDA Forest Service (www.ipmimages.org)
6. K. V. Makarov (<http://www.zin.ru/animalia/coleoptera/eng/aphgrakm.htm>)
7. Peter J. Bryant (<http://bugguide.net/node/view/272167/bgimage>)

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