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The Asiatic garden beetle *Maladera castanea* (Arrow 1913) (Coleoptera: Scarabaeidae)[1]

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The Featured Creatures collection provides in-depth profiles of insects, nematodes, arachnids and other organisms relevant to Florida. These profiles are intended for the use of interested laypersons with some knowledge of biology as well as academic audiences.

Introduction

The Asiatic garden beetle, *Maladera castanea* (Arrow), has been a pest in the northeastern United States since the 1920s. Generally not as abundant or damaging as the Japanese beetle (*Popillia japonica* Newman), the Asiatic garden beetle is occasionally numerous enough to cause damage to turf, gardens and field crops, as well as simply being a nuisance. The discovery of the Asiatic garden beetle in Florida was not unexpected. This is the first report of this pest beetle in the lower southeastern U.S. coastal plain.

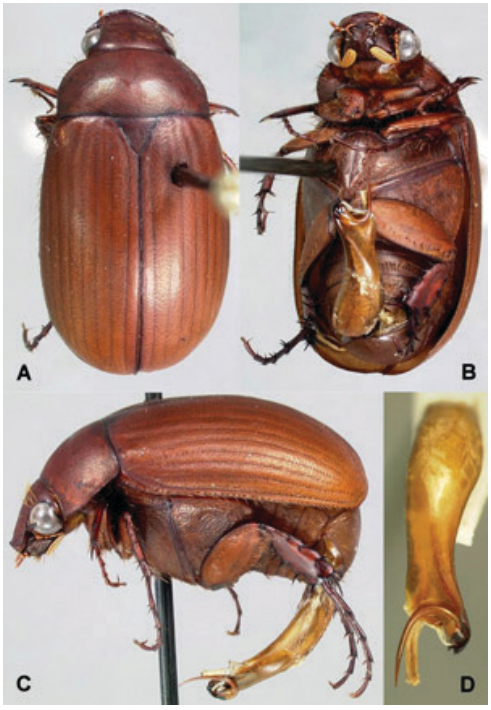

Figure 1. Adult *Maladera castanea* (Arrow), Asiatic garden beetle: A) dorsal, B) ventral, C) lateral and D) male genitalia.
Credits: Paul Skelley, Florida Department of Agriculture and Consumer Services.

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Distribution

The Asiatic garden beetle, native to China and Japan, became established in New Jersey around 1921 (Hawley and Hallock 1936, Tashiro 1987) and has slowly expanded its range in the Northeast. Tashiro (1987) presented data showing that it occurs in much of New England, with a localized infestation in South Carolina. Evans (2002) listed it as occurring in Georgia, but did not provide information on date of capture. The University of Georgia Collection of Arthropods has specimens from central Georgia collected in 1978 and 1991, with more recent collections in several northern counties in the early 2000s (J. McHugh and R. Hoebeke, pers. comm.). In the past few years, additional new records have been published: for Canada 2003 in Quebec (Chantal 2003) and 2009 in Nova Scotia (Cutler and Rogers 2009); for the United States 2006 in Indiana (Richmond 2010) and Illinois (Scott 2006; 2009 reported by NAPIS 2012), 2007 in Missouri (NAPIS 2012), 2008 in Kansas (NAPIS 2012), and 2008 in Alabama (Held and Ray 2009).

There appears to be a rapid dispersal westward, but not southward. With the beetles being in central Georgia since 1978, we would have expected it in Florida much earlier. However, the first known collection of the Asiatic garden beetle in Florida was in the Black Creek Ravines Conservation Area, Middleburg, Clay Co., (30.08099°N, 81.84125°W), on 6 May 2012, by J. Garrison at light (three specimens). This is a remote natural area that is not near any businesses importing potted plants or turf. The initial collection was soon followed by a collection at the 7600 block of Beaver Street of Jacksonville, Duval Co., on 11 May 2012, by G. Durrance (two specimens). These distant localities and its occurrence in a natural area indicate that the Asiatic garden beetle is established in northern Florida.

Habits

Adults feed on leaves and flowers. When infestations are heavy, they can eat leaves to the midrib. Adults are known to feed on over 100 different plants, including leaves of boxelder, viburnum, peach, cherry, strawberry, carrot, beet, eggplant, pepper, turnip, and flowers such as aster, chrysanthemum, roses, and goldenrod. Larvae feed on roots of various plants, appearing to prefer overgrown weedy areas to well-maintained, short grassy areas. While considered to be a minor pest, larval feeding is less notable than that of adults, except when in large numbers. This is partly because larvae burrow deeper than many other grubs (Tashiro 1987), where they may feed on more peripheral roots and not the main root ball. However, larvae are known to cause problems in ornamentals, turf, gardens, sweet potatoes, soybeans, corn, and other field crops. Cutler and Rogers (2009) discussed larvae causing damage to blueberries.

In the northern U.S., adults emerge in the summer from the end of June through October and are univoltine (Tashiro 1987). Conditions for their emergence predict an earlier emergence in the South and that they could have more than one generation per year (Held and Ray 2009). The new Florida records confirm their earlier emergence. It is not known whether they are univoltine or bivoltine in Florida.

Detection

Adults are active at night and can be found feeding on foliage and flowers. Adults are attracted to light and can easily be monitored with light traps. Larvae must be dug from the soil or from potted plants.

Management

Some research has been done specifically on controlling the Asiatic garden beetle (Koppenhöfer and Fuzy 2003). Recommended controls for white grubs and foliar feeding insects change from time to time and depend on the plant being damaged. In Florida, consult your county Cooperative Extension Office for the most recent control recommendations for the plants or crops in question.

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