

# Asian Cockroach, *Blattella asahinai* Mizukubo (Insecta: Blattodea: Blattellidae)<sup>1</sup>

Dina L. Richman<sup>2</sup>

*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 Asian cockroach was identified as a newly introduced species to the United States in 1986 when a professional pest control operator collected these insects in Lakeland, Florida. He referred to them as **German cockroaches**, *Blattella germanica* (L.), but noted that their behavior was unlike any other German cockroaches that he had previously encountered. Upon further investigation the cockroaches were found to be *Blattella asahinai*, Asian cockroaches.

## Distribution and Habits

The Asian cockroach was first described in 1981 from insects collected on Okinawa Island, Japan. *Blattella asahinai* was most likely introduced into the United States through imports from Japan. Since the first identification of *Blattella asahinai* in Lakeland (Polk County), it has spread through much of Florida and is reported in Alabama, Georgia, South Carolina, Louisiana, Mississippi, and Texas, and is likely present in Mississippi too.



Figure 1. Adult female Asian cockroach, *Blattella asahinai* Mizukubo, carrying an egg case (ootheca).

Credits: R.W. Baldwin, University of Florida

The primary habitat of the Asian cockroach is outdoors in shaded mulched or composted areas, such as landscaping and gardens where fresh plant litter accumulates. Populations of 30,000 to 250,000 insects per acre have been reported. Members of this species are strong fliers, unlike their close relative, the German cockroach. They may invade structures, but indoor infestations are rare occurrences. They become active at sundown and are attracted to light-colored surfaces and brightly lit areas. Adults will take flight during the day if disturbed.

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2. Dina L. Richman, graduate assistant, Entomology and Nematology Department; UF/IFAS Extension, Gainesville, FL 32611.

In 2008, the USDA published reports that the Asian cockroach might also have a possible beneficial role, as an egg predator, in controlling lepidopteran pests of annual crops (USDA 2008). However, as it is primarily a pest, there are no plans to distribute it as a biological control. This roach has been reported as pests in some agricultural fields in the Gulf states.

## Description

Asian cockroaches are almost identical to [German cockroaches](#). Chemical analysis by gas chromatography will confirm the species. However, there are also slight morphological differences between *Blattella asahinai* and *Blattella germanica*. Asian cockroach adults have longer and narrower wings than those of German cockroaches.



Figure 2. Adult male Asian (left), *Blattella asahinai* Mizukubo, and German (right), *Blattella germanica* (Linnaeus), cockroaches, ventral view. Notice the wings of the Asian cockroach extend past the tip of the abdomen.

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There are also differences between the species in the shape of the male tergal glands. Asian cockroach females produce smaller egg capsules, and nymphs are smaller than that of German cockroaches. Asian cockroach first instars have 23 antennal segments while German cockroach first instars have 24 to 25. Finally, margins of the abdomen and spots along the abdominal midsection of late instars *Blattella asahinai* appear white, whereas those areas are lightly pigmented in *Blattella germanica*.

## Life Cycle

A female Asian cockroach produces approximately four egg capsules (oothecae), each averaging 37 eggs, in her lifetime. Nymphs take approximately 67 days to reach adulthood. Adult females live an average of 104 days and adult males live an average of 49 days. Adult females produce their first egg capsule 13 days after eclosion and can drop another 20 days later. Adults are abundant February through May and again August through September. Nymphs predominate May through August.

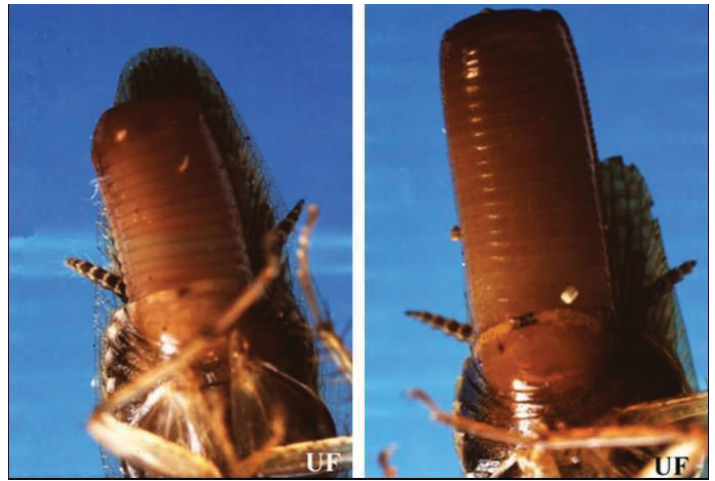


Figure 3. Ventral view of late stages of gravid female Asian cockroach (left), *Blattella asahinai* Mizukubo, and gravid female German cockroach (right), *Blattella germanica* (Linnaeus). Notice that the ootheca of the female Asian cockroach does not extrude as far beyond the adult's wings as the ootheca of the female German cockroach.

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Figure 4. The ootheca of a female Asian cockroach (left), *Blattella asahinai* Mizukubo, does not extrude as far beyond the adult's wings as the ootheca of a female German cockroach (right), *Blattella germanica* (Linnaeus).

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## Management

Control of Asian cockroaches is difficult due to their mobility and adaptability to various habitats. Traditional treatments using residual sprays inside and around the perimeter of a structure are ineffective due to infestations in mulched and wooded areas. Plus, adults enter homes through windows and doorways, avoiding areas typically treated for control of German cockroaches. Sodium vapor lamps for security lighting and yellow incandescent bulbs for porch lighting are both less attractive to adults and reduce attraction of adult insects to lighting near buildings. Although Asian cockroaches are susceptible to many pesticides, toxic pelletized baits scattered outdoors have provided the most reliable control.





Figure 5. Early instar German (left), *Blattella germanica* (Linnaeus), Asian (right), *Blattella asahinai* Mizukubo, cockroaches, dorsal view. Credits: Dina L. Richman, University of Florida



Figure 6. Late instar German (left), *Blattella germanica* (Linnaeus), and Asian (right), *Blattella asahinai* Mizukubo, cockroaches, dorsal view. Spots along the midsection of the Asian cockroach appear white, while those areas are lightly pigmented in the German cockroach. Asian cockroach nymphs are also smaller than German cockroach nymphs. Credits: Dina L. Richman, University of Florida

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Figure 7. Adult male German (left), *Blattella germanica* (Linnaeus), Asian (right), *Blattella asahinai* Mizukubo, cockroaches, dorsal view. The pronotal stripes of the Asian cockroach are darker and more defined compared to the stripes on the German cockroach. Credits: Dina L. Richman, University of Florida



Figure 8. Egg case (ootheca) of the Asian cockroach, *Blattella asahinai* Mizukubo. Credits: R.W. Baldwin, University of Florida