



# BUG BIZ

Pest Management and Insect Identification Series



## Peridomestic Cockroaches Part 2 (Blattodea)

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A variety of cockroaches do not typically reside in homes or other structures but occasionally enter the indoor environment. Cockroaches generally prefer dark, warm, humid areas, and commonly inhabit void spaces under manhole covers and in sewer/drainage systems where organic material is present. They also inhabit tree hollows, mulch, woodpiles and basements. Some cockroach species are accidentally brought indoors in potted plants or animal enclosures. In more rural areas, cockroaches can infest livestock structures. Adult female cockroaches are typically slightly broader than males and may have different wing characteristics. This article deals with cockroaches of Louisiana that are associated with urban and rural outdoor landscapes.

Cockroaches represent a public health threat for two reasons: 1) they feed upon decaying organic matter, enter the human environment and subsequently deposit microbes that can be human pathogens; 2) cockroaches secrete proteins that are allergenic to humans and exposure to them can result in the development of asthma. Because of these factors, the presence of cockroaches in human structures is unacceptable and pest management may be necessary. Cockroaches have different behaviors and habitat preferences; therefore, their control relies on correct identification of species. At least 17 species of cockroaches are found in Louisiana, excluding termites, which are now included in the same order, Blattodea. These articles are divided into two parts, and the introduction and control methods are identical.

### Description

#### Surinam cockroach (*Pycnoscelus surinamensis*)



Adult *Pycnoscelus surinamensis*. Photo by Forest Huval

Adult Surinam cockroaches are medium in size,  $\frac{3}{4}$  to 1 inch (18 to 25 mm) in length with slightly variable characteristics based on the population. The pronotum is black with a yellow band on top. Forewings are light brown to olive in color. Abdominal segments are yellowish with black margins. Nymphs are dark brown to black and not as shiny as oriental cockroach nymphs. Surinam roaches reproduce parthenogenetically in the U.S. and outside of their native

range, meaning that only females are produced, and these give birth to other females. Because of the clonal nature of Surinam cockroach populations, their nymphal development times can vary greatly. In the area of origin, Surinam roaches do reproduce sexually. The Surinam cockroach originates from the Indomalaya region and is widely distributed throughout the world. They occur in loose soil and commonly hitchhike in potted plants. This has resulted in Surinam cockroaches being passively shipped all over the world, where they can then easily establish because of their parthenogenic reproduction. Surinam roaches are considered pests of greenhouses, zoos and other areas with high value plants, which they feed upon and cause damage. They also act as intermediate hosts for parasitic roundworms that can be vectored to poultry. They are rarely found inside homes but will infest potted plants brought indoors.

## Oriental cockroach

(*Blattella orientalis*)



Adult male (left) and female (right) *Blattella orientalis*.  
Photo by Forest Huval

Adults of the oriental cockroach are shiny black in color and sexually dimorphic (i.e., the sexes differ in appearance), with males having wings that cover two-thirds of the abdomen and females having only short wing pads. Adult males (average length of 1 inch or 25 mm) are smaller and narrower than females (average

length of 1¼ inches or 31 mm). Nymphs are dark reddish-brown and become darker, almost black, with age. Development requires six or seven months from egg to adult. Adults cannot fly. The oriental cockroach likely originated from northern Africa, the northern Middle East or southern Russia. The species is cold weather adapted and widely distributed throughout the world. They prefer cooler habitats such as basements, drains, sewers and pipes, wall voids, under concrete or rocks, or crawl spaces. They are attracted to shady, wet areas and often can be found in animal production buildings. This species is rarely encountered in Louisiana and is more common in states further north.

## Turkestan cockroach

(*Shelfordella lateralis*)



*Shelfordella lateralis*.  
Photo by James Bailey

Adults (average length of 1½ inches or 30 mm) are sexually dimorphic and the two sexes appear to be different cockroach species. Adult males are winged, capable of flight, light brown or brownish-orange in color and may be mistaken for American or wood cockroaches (*Parcoblatta* sp.). Adult females are dark brown to black, with reduced wings, and broader abdomens

than males. The females are often mistaken for oriental cockroaches, which are larger. Nymphs are reddish-brown, with darker abdomens and require about eight months to reach adulthood. The species is native to arid parts of Central Asia. It was

discovered in California during the 1970s and has since become widely established in the southwestern U.S. The range in the U.S. has expanded towards southeastern U.S. and can be found as far east as Texas. The species will likely become established in Louisiana. It can out compete native cockroach species thanks to its higher reproductive capacity. The pet industry has aided the establishment of Turkestan cockroaches, which are often marketed under the name red runner cockroach. They are popular feeder insects and often escape or are released. Turkestan cockroaches are found in tree holes, spaces between bricks, among tree roots, in potted plants, leaf litter, under pavement, in irrigation boxes, around or under trash cans, planters, wood piles, organic material and sewers. They may also establish in animal production facilities. Both males and females are attracted to lights and may enter homes, but usually do not reproduce inside.

## Florida cockroach

(*Eurycotis floridana*)



*Eurycotis floridana*.  
Photo by Forest Huval

Adults are large, 1½ to 1⅝ (30 to 35 mm) inches in length, dark brown to black in color, and do not have wings. Nymphs are reddish-brown with black abdomens but can be differentiated from other cockroaches by the yellow margins on their pronotum. Development requires approximately three to four months from egg to adult. They are also called the Florida stinkroach because they produce a foul odor when threatened. Florida cockroaches

are primarily found in Florida, but their range extends into several southern states, including Louisiana. They are often found in wood piles, leaf litter, tree holes and plant debris around structures, where they almost exclusively feed on decaying plant material. They are not capable of breeding indoors but are sometimes accidentally brought inside with firewood or potted plants. Florida cockroaches do not move fast and cannot fly.

## Control

**Cultural control.** Management of peridomestic cockroaches relies upon exclusion, habitat modification and use of insecticides. Gaps that cockroaches are likely to enter should be sealed using an appropriate caulk or sealant. Adult American cockroaches can fit through a gap that is the height of two pennies, or 3 mm. Light coming from gaps around doors and through windows in buildings attract cockroaches and provide entry points. Older homes with outdated or degraded seals are particularly susceptible to cockroach invasion, especially after extreme weather (cold, rain, heat, etc.).

Eliminating habitats that cockroaches prefer will reduce populations around property. High moisture areas such as leaf piles should be removed. Wood piles should be placed far away from the home. Mulch in landscaped areas should be less than 2 inches thick. Plants that are close to the house should be trimmed so they do not contact the building. Organic material in areas such as drains and gutters should be cleaned so as not to provide a food source. Tree holes can be filled. Dispose of garbage in the area. Removal of moist areas and limiting access to water are also important, especially in greenhouses, animal production settings and zoos.

**Chemical control.** A variety of insecticides are available that are effective against peridomestic cockroaches. Baits are superior to other options because of their palatability and attractiveness to cockroaches. However, placement of bait in the correct areas is critical for their efficacy as it needs to out compete other food sources. Baits are often applied as granular or flake formulations directly to harborage locations mentioned for peridomestic cockroaches. Insecticide sprays can also be applied for residual protection around the home and also

should target cracks and crevices or areas where cockroaches are suspected to reside. The base of the foundation of structures, thresholds of windows and doors can also be treated with liquid insecticides to prevent entry of peridomestic cockroaches. Boric acid and silicate dusts are also effective options for cockroach control. Cracks and crevices or voids should be targeted when using dusts or boric acid. As always, be sure to follow all label directions on insecticide products.

## References

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Schal C. 2011. Cockroaches. In: The Mallis Handbook of Pest Control (S. Hedges and D. Moreland, eds.), 10th edition, GIE Media (in press).

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