



Cockroach Management

In Arizona there are five common cockroaches in Arizona: German, American, Turkestan, Brownbanded and Desert cockroaches.

The German cockroach is commonly found in kitchens and favors hot, humid places. American and Turkestan cockroaches can be excluded from buildings by pest proofing, both species are attracted to lights and enter under doors and via dry floor drains. Desert cockroache males are also attracted to lights and most often if after dark lighting draws the flying males into areas with open access. In general, daytime sightings of most cockroach species, indicates a significant infestation.

- ◆ **The single most critical step in cockroach management is *careful monitoring*.** Filth and poor sanitation may help sustain cockroaches, but even clean environments can harbor roaches.

Monitor

An approach that integrates several strategies is required to deal with cockroaches, beginning with regular monitoring. Only monitoring can give you the information needed to efficiently and effectively deal with the situation, i.e. which cockroach is present, how are they arriving (as invaders from outside, or in food supplied from a distributor), how many are there, and are they breeding - as indicated by the presence of both adults and nymphs? Regular monitoring will let you know early on if you have cockroach invaders, and the problem can be dealt with before it becomes extensive.

Some cockroaches do not move extensive distances. German cockroach nymphs will only move a few feet from where their egg case hatched. Finding nymphs in a monitoring trap indicates that you are exactly where the cockroaches are infesting, this is the location that needs to be cleaned, uncluttered, and possibly treated with a bait.

Exclude and sanitize

Next to monitoring, exclusion and sanitation can especially help in preventing outdoor species (Turkestan, desert, and American) from entering. The German and brownbanded species are mostly indoor pests, and the most difficult to get rid of; they enter as hitchhikers on corrugated cardboard, clothing, backpacks, etc. Once inside, the German and brownbandeds will feed on food items not typically addressed by improved sanitation (Germans are notorious feeders of leather, wallpaper paste and book binding; brownbandeds dine on starchy glues found on envelopes and art supplies).

The best approach to managing both indoor and outdoor cockroaches is to replace corrugated cardboard with plastic bins, educate people as to their role in reducing clutter and improving sanitation, monitor, exclude and sanitize. Good exclusion and sanitation include:

- 🪳 Place (metal) baskets in all floor drains, and keep drains super clean;
- 🪳 Check exterior doors have intact door sweeps that seal against the threshold;
- 🪳 Outdoor lights should have yellow/bug bulbs instead of white bulbs (the yellow bulbs do not attract insects);
- 🪳 During periods when the facility or building is empty, arrange for someone to run water once a week in all toilets and sinks.
- 🪳 Fix outdoor water leaks (leaky faucets, irrigation, etc.);
- 🪳 Remove vegetation and debris that is against buildings
- 🪳 Do not use cardboard boxes to store things in (German cockroaches thrive in cardboard boxes).

Work with the human inhabitance

If cockroaches have access to anything they consider food, then baits will have *limited* effect. The building inhabitance must be educated as to their role in cleaning up and preventing cockroaches (especially in kitchen and dining areas):

- Remove/recycle all corrugated cardboard;
- Eliminate clutter (especially in closets and shelves if brownbandeds are present);
- Place ALL food in air-tight containers;
- Keep food consumption to designated areas;
- Maintain clean kitchen floors, especially in corners and under appliances.
- Emphasize a heightened level of sanitation.



German cockroach, Blattella germanica

Description: 13-16 mm (1/2" - 5/8") long. Light brown, two dark vertical stripes on pronotum. Nymphs are dark w/pale central marking. Ootheca yellow. deposited in sheltered areas. Likes heat (>70 F and high humidity). Reproductive females are very mobile unless they are carrying an egg case; males tend to stay in harborage areas; nymphs stay within 18" of where ever the egg case was left. Adults live 6 mos-1 yr.

HABITS: Common in kitchens, secondarily in bathrooms. Infests electrical appliances (blender bases, radios, etc.). Adaptable; feeds on glue, toothpaste, and soap. Greatest reproductive potential of all cockroaches. Efficiently transmits a variety of pathogens on their body.

Treatment: Clean, clean, clean! Replace corrugated cardboard with plastic bins, monitor kitchens intensively, rotate Maxforce gel (Fipronil) and Avert (Abamectin) baits in highly infected areas.**Persistent pests!**



American cockroach, Periplaneta americana (aka "sewer roach" and "Palmettobug" on east coast)

Description: 34-53 mm long (over 2"). Reddish brown. Ootheca usually deposited in cracks and crevices near a food source. Egg-to-adult takes ~1½ yrs at room temperature. This is the largest of domestic roach species.

HABITS: Detritus feeder; infests outdoor compost bins and decaying vegetation. Often moves indoors during hot weather and monsoon season. Found in moist areas indoors (bathtubs, clothes hampers, etc.). Mobile in dry sewer drains (toilets, sinks). They like it hot (84 F).

Treatment: Keep water in drains. Silica gel is effective as a crack and crevice treatment. Pest proof building.



Turkestan cockroach, Blatta lateralis

Description: Males and females 14-23 mm in length (1/2" - 3/4"). Females are dark brown to black, with two pale lateral bands; wings are reduced. Males are brownish yellow, and winged. Females are smaller in length.

HABITS: Turks are an outdoor cockroach and a detritus feeder. Males are attracted to lights; finding them inside often indicates a need to pest-proof external entryways. They prefer high temperatures. Often found in meter and irrigation boxes and exposed compost piles, where they break down detritus.

Treatment: Pest-proof external doors (sweeps and thresholds).



Brownbanded cockroach, Supella longipalpa

Description: 14 mm (1/2") in length. Males fly readily if disturbed. Females are darker than males. Ootheca pale brown, attached to underside of furniture and surfaces in dark places. Pale bands run across the wings on adults, across the body on nymphs. Faster life cycle than other 'roaches, (~161 days at room temp.). Adults live about 6 months.

HABITS: Feed on starches found in envelope glues and similar office/classroom supplies. Prefers warm areas and low humidity. Glide but do not fly.

Treatment: Eliminate or exclude food source, remove clutter, educate staff. Employ use of bait stations and monitor intensively. These can be **tough to eradicate!**



Male desert cockroach (above)

Female desert cockroach

Desert cockroach, Arenivaga genitalis

Description: Males are 18-20 mm (3/4") long and have a delicate brown-on-tan pattern on the pronotum. The wings are a mottled tan and longer than the abdomen. Females are 12-14 mm (1/2") long and have a broadly oval, somewhat hump-backed appearance. Females are wingless and may resemble dark brown sow bugs to the untrained eye.

HABITS: Recognizable by its cockroach shape, but not by its habits. Males are nocturnal and are strongly attracted to lights. They seldom enter homes unless doors are open and lights are left on. Females spend their lives burrowing in soft soil where they feed on organic debris. They are typically associated with pack-rat or other desert rodent burrows where the soil has been loosened and organic material is abundant.

Treatment: Pest-proof external doors (sweeps and thresholds).