



## BROWNBANDED COCKROACHES

*Supella longipalpa* (Serville)

### INTRODUCTION

Cockroaches are among the most common of insects. Fossil evidence indicates that cockroaches have been on earth for over 300 million years. They are considered one of the most successful groups of animals. Because cockroaches are so adaptable, they have successfully adjusted to living with humans. About 3,500 species of cockroaches exist worldwide, with 55 species found in the United States. Only four species are common pests in Pennsylvania structures. These are the German, brown-banded, Oriental, and American cockroaches. A fifth species, the Pennsylvania wood cockroach is an occasional nuisance pest in some locations.

### DESCRIPTION AND BEHAVIOR

Adult male brownbanded cockroaches (Fig. 1) are about 1/2 inch long and light brown, with fully developed wings. The adult females are shorter and stouter than the males and their wings do not cover the entire abdomen. Both adults and nymphs can be distinguished by the two brownish, broad bands across the body at the base of the abdomen and at mid-abdomen. Both males and females are quite active; adult males fly readily when disturbed.

Brownbanded cockroaches prefer warm and dry locations, such as near refrigerator motor housings, on the upper walls of cabinets, and inside pantries, closets, dressers, and furniture in general. They can also be found behind picture frames and beneath tables and chairs, and inside clocks, radios, light switch plates, doorframes, and dressers. It is common to find them hiding nearer the ceiling than the floor and away from water sources. Accurate identification is paramount to controlling brownbanded cockroaches. Control strategies for other cockroaches will not be efficacious for brownbanded cockroaches.

### LIFE HISTORY

The brownbanded cockroach has three developmental stages: egg, nymph, and adult. Eggs are laid in capsules, which the female carries for about 30 hours before she fastens it on walls, ceilings, and in protected and hidden areas. During her adult life a female produces about 14 egg capsules, each containing an average of 13 eggs. The length of the egg stage varies from 37 to 103 days,

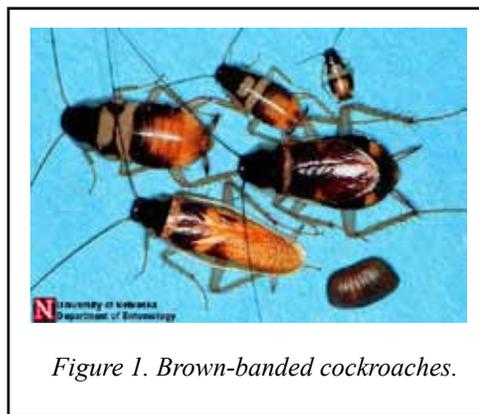


Figure 1. Brown-banded cockroaches.

depending on temperature. The nymphal stage ranges from 8 to 31 weeks. A female adult has a life span of 13 to 45 weeks; each female produces about 600 descendants per year.

### INJURY / DAMAGES

The brownbanded cockroach feeds on a wide variety of materials. Like members of other cockroach species, it may consume materials like glue or paste (especially from animal-based materials), starch, and certain color dyes. As a result, items like stamps, envelopes, bindings of older books, draperies, and occasionally wallpapers may show signs of feeding.

This species has also been known to chew on nonfood materials, such as nylon stockings, presumably for the residues of body oils and skin flakes. Damage by brownbanded cockroaches results from their feeding and harboring in pantries and storage areas indoors. Also, bacteria and protozoa that cause diseases (such as different forms of gastroenteritis and diarrhea) can be carried on the legs and bodies of cockroaches and deposited on food, utensils, etc.

### MANAGEMENT STRATEGIES

**Survey** - To control brownbanded cockroaches, it is important to do a thorough inspection, or survey. Cockroach surveys involve placing sticky traps at strategic locations within the building. Whenever possible, place survey traps either against a wall or in a corner of the floor, a shelf, or a drawer. Most commercially available traps come complete with bait to encourage cockroaches to enter. One week of trapping with a sufficient number of trap sites (ten or more) usually provides enough information for effective control. Treatments should be directed to those areas where cockroaches have been collected in the traps.

**Sanitation, Structural Modifications, and Repairs** - It is difficult to keep cockroaches from entering the home via boxes, grocery bags, suitcases, etc., but you can prevent them from developing into a serious problem. One of the key factors is sanitation. Clean up spilled foods on the floor. Do not leave dirty dishes overnight. Store items such as cereal, crackers, and cookies in airtight containers. Empty garbage each evening into a sturdy container with a tight-fitting lid.

Brown-banded cockroaches can conceal themselves in many places that are inaccessible to larger species. Making structural modifications such as caulking (in cracks, crevices; around ducts, molding, etc.) is necessary in bedrooms, bathrooms, dining rooms, and other areas of the house.

**Chemical Control** - Baiting is an effective method to control or eliminate brownbanded cockroaches. Baits containing hydramethylnon, fipronil, sulfluramid, boric acid, or abamectin can provide a high level of control when applied to those areas where cockroaches harbor. Some formulations of baits are available to the public in plastic feeding stations. Professional pest control personnel also have cockroach baits in flowable granular and gel formulations. Care should be taken to closely follow the label instructions for use.

Insecticidal dusts like boric acid, silica aerogel, and diatomaceous earth can provide additional control. Apply dusts lightly, as heavy deposits may repel cockroaches. These products can be applied in the cracks and crevices of bureaus, clothes closet shelves, ceiling light fixtures, valances above windows, hollow legs of chairs and tables, and wall or floor cracks and crevices throughout the house. Do not place dusts where they could come in contact with children or pets. Do not allow children access to areas treated with boric acid. Boric acid is of low toxicity to adults, but it can present a hazard to children. Take precautions to assure that dusts do not contaminate food.

The use of residual insecticidal sprays or aerosol foggers within a structure is of little value in controlling brownbanded cockroaches. In fact, these applications may disperse the cockroaches making control difficult and lengthy.

## WARNING

Pesticides are poisonous. Read and follow directions and safety precautions on labels. Handle carefully and store in original labeled containers out of the reach of children, pets, and livestock. Dispose of empty containers right away, in a safe manner and place. Do not contaminate forage, streams, or ponds.

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