



CAES

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Katherine Dugas
Department of Entomology
The Connecticut Agricultural Experiment Station
123 Huntington Street, P. O. Box 1106
New Haven, CT 06504

Phone: (203) 974-8600

Fax: (203) 974-8502

Email: katherine.dugas@ct.gov

Website: <https://portal.ct.gov/caes>

CARPET BEETLES (Family Dermestidae)

Carpet beetles, or Dermestids, are a diverse family of beetles that primarily feed on dried organic materials such as wool, fur, feathers, horns, seeds, grains, and silks.

As part of the natural recycling process, carpet beetles break down the 'hard' components of animal carcasses such as hide, horns, fur, feathers, and other high-keratin tissues. They become pests in homes when the larvae feed on organic fibers, textiles, and stored food products. The adults feed on pollen.

Description:

One of the most commonly encountered species of carpet beetle is the cosmopolitan varied carpet beetle, *Anthrenus verbasci* (Fig. 1). Adult varied carpet beetles are very small, about 1/8 inch in diameter, and are round in shape. Their bodies are covered in short scales colored gray, black, white, brown, and yellow, giving them a 'calico' appearance.



Fig. 1: Varied carpet beetle adult and larva



Fig. 2: Black carpet beetle adult and larva

The larvae are hairy, yellow-brown, and about 1/4 inch long.

Another species, the black carpet beetle, *Attagenus unicolor* (Fig. 2), is oval, completely black, and about 1/8-inch long. The larvae are thin, carrot-shaped, about 1/2 inch long, with a tuft of stiff hairy bristles attached to the rear end.

Biology:

Carpet beetles have a slow life cycle compared to other insects their size. Adults are capable of flight and seek out larval food sources to lay eggs. The larvae hatch within two weeks, and begin feeding on available

organic material. They are photophobic and will go through several molts before becoming adults. The larval stage develops slowly, taking months or years to mature. Warmer temperatures result in faster development. Mature larvae undergo pupation in the spring and adults emerge. They are attracted to light and will seek out windowsills and other brightly lit parts of the house in an attempt to disperse.

Inspection:

Locating the source of an infestation is the first step to controlling carpet beetles in the home. In many cases, an infestation is discovered during spring and fall cleaning, when homeowners are retrieving stored textiles for the holiday or summer seasons. Other times, a cluster of adult beetles may be discovered crawling along a windowsill or sunroom. Check under baseboards, in and under upholstered furniture and carpeting for presence of larvae. Anything containing natural fibers is a potential larval food source, such as furs, downs, woolens, and non-synthetic carpets; this also includes less-common sources such as taxidermied animals, antique chairs with non-synthetic padding, bird nests, ‘mummies’ of dead rodents in wall voids, rodent nests, and non-fiberglass based insulation (insulation that predates the 1930’s contains horsehair).

Control and Prevention:

In most cases, a regular cleaning routine will remove existing infestations and prevent future carpet beetle damage. As these insects have such a long life-cycle, they need to remain undisturbed for long periods of time in order to develop. Textiles and carpets that are regularly cleaned, washed, laundered, dry-cleaned, or vacuumed are unable to support carpet beetle populations. A vacuum with strong suction and a crevice tool attachment can be used to clean along baseboards and behind and underneath

furniture to remove lint, dust, and shed hair (especially pet hair). Properly discard of any unwanted non-textile items that may contain natural fibers or keratin, if not in regular use.

When storing textiles for long-term periods (months or years), it is important to first clean, then seal items in airtight plastic containers to prevent adult beetle access. Garment bags can also be used. Cedar-lined closets and chests have minor repellent properties and are not 100% effective. Mothballs (naphthalene) and PDB (paradichlorobenzene) crystals can also provide additional protection in storage containers. A small paper cup taped in an upper corner of the box or suspended from the hanger of a garment bag can serve as a container for crystals or mothballs so that they are not in direct contact with textiles. Applying these products in non-airtight conditions such as closets and attics is ineffective. Before using any insecticides, read manufacturer’s label carefully. Follow all directions and safety precautions, and never over apply.

Although there are several other homeowner-available products labelled for carpet beetle control such as diatomaceous earth and pyrethrins, treating for carpet beetles with aerosol-based insecticides or ‘bug bombs’ is not recommended. If more treatment is required than what regular cleaning and proper storage can provide, it may be necessary to employ a Pest Management Professional (PMP). This may be the case if infested items are numerous or large, such as furniture or entire carpets, or if infestations are high or hard to reach, such as pre-1930’s non-synthetic home insulation. Licensed PMP’s have access to professional grade restricted-use products labelled for carpet beetle control, as well as specialized equipment that can safely deliver these pesticides to minimize exposure.