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Webbing Clothes Moth *Tineola bisselliella* (Hummel)



GENERAL INFORMATION

Of the two common species of clothes moth, the cosmopolitan *Tineola bisselliella* is the more common species in the United States. Only the larval stage is responsible for damage to materials because of the adults lack functional, chewing mouthparts. Usually, clothes moth larvae do not wander like carpet beetle larvae, however they can occasionally be found off fabrics feeding on dust or other materials of animal origin. Damage is most often concentrated in dark areas and crevices or creases. Examples of this could be; under furniture and cushions, where carpets and textiles are folded and in garments under collars, cuffs and folds. Adult clothes moths are secretive and are often found in darkened places. They will attempt to hide when disturbed and will often run, hop or fly short distances to escape. They are weak fliers compared to other moth species. They dislike sunlight and are not attracted to artificial light or black light. The males are much more active fliers than the females they seek out to mate with. Males and females can penetrate through surprisingly narrow cracks as they find their way in storage cabinets and boxes.

SIGNS OF INFESTATION

Webbing clothes moth infestations are often detected on damaged fabrics by the presence of scattered silken webbing and large quantities of pepper-like frass. Larvae spin a single thread of silk from their mouthparts and create tunnels or wispy sheets of webbing across their food material. The larvae use the webbing to cover themselves as they feed. They eventually create cylindrical pupal cases that are the same color as their food and that are often woven right into the food surface.

DIAGNOSTIC MORPHOLOGY

Adults:

- Straw, buff or yellow-tan in color
- Approximately 6 to 11 mm (1/4 to 1/2 inch) long
- Wingspread approx. 11 mm (1/2 inch)
- Wings folded and fringed with hairs
- Wings golden-yellow with satiny sheen
- Antennae long and slender
- Upright tuft of hairs on the head is coppery to reddish-gold color

Larval Stage:

- Whitish with a brown to black head
- The last instar (stage) reaches a length of 11 mm (1/2 inch)

Webbing clothes moth infestations appear far more messy than those of the casemaking clothes moth *Tinea pellionella*. The holes of the clothes moth damage made by the larvae appear to be scattered about the garment and are generally small. Threadbare spots caused where fibers are chewed in carpeting are also indicative of infestation.

FOOD SOURCES

Clothes moth larvae feed on woolens, mohair, feathers, fur, hair, skin, lint, felt and dust containing these materials. Infestations occur in clothing, carpets, rugs, furs, fabrics, blankets, stored wool products, upholstery, piano felts, fishmeal, milk powder, and brush bristles. The caterpillar may chew on fabrics of vegetable origin or synthetics if these fabrics are mixed with wool. Synthetics, cottons and other plant materials are not a food source for the webbing clothes moth but damage can occur in these items if they are in direct contact with the main food source. Staining from human food, body oils, sweat or urine on textiles increases the attractiveness of these materials to clothes moths. The larvae can consume valuable nutrients through the stained material.

LIFE CYCLE

Female webbing clothes moths lay from 40 to 50 small, pinhead-sized white eggs on or near potential food sources. Eggs have an exterior gelatinous material that aids in adhering them to potential food sources preventing them from being dislodged.

The time of egg development is based solely on temperature. At 55° F (13° C) the egg development time is 37 days. At room temperature, eggs will hatch in 7 - 10 days. At 90° F (32° C) the development time for eggs is cut to 4 days.

The length of the larval stage can vary from 35 days to 2 years depending on the availability of food and the temperature. A newly hatched larva may shed its skin between 5 to 12 times before it pupates. Adult males will live for 37 days at 65° F (18° C) while females will live for only 21 days at this temperature. Adult moths do not feed.

CONTROL & TREATMENT

Standard control and treatment methods for museum pests will generally control this pest.

Fact Sheet: Webbing Clothes Moth

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