

What's Eating You? Clothes Moths (*Tineola* Species)

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PRACTICE POINTS

- Clothes moth larvae are common household pests that may be misidentified as a parasitic infection such as myiasis when found on a person.
- Understanding the basic biology of clothes moths will help the clinician identify an infestation and appropriately counsel patients that clothes moths do not pose a considerable health risk.

Common household insects can be confused with ectoparasites. Understanding the basic identification and monitoring techniques of clothes moths will help the clinician identify if a patient has an infestation of the household versus his/her body. Clothes moth larvae are not parasites but are found on infested clothing and can be confused with myiasis.

Cutis. 2018;101:413-414.

Clothes moths are common pests found inside buildings such as homes, stores, and museums. The most common species of importance include the webbing clothes moth (*Tineola bisselliella*) (Figure) and the casemaking clothes moth (*Tineola pellionella*). Both species target textiles such as wool, rugs, feathers, felts, hair, furs, and even grains.^{1,2} They avoid synthetics and plant materials such as cottons.¹

Characteristics

Adult clothes moths extend 7 to 8 mm and are a golden (*T bisselliella*) to brown (*T pellionella*) color with fringed wings and a tuft on their heads.^{1,3} Adults do not eat; females die within a few days of laying eggs, while males

live approximately 1 month. Once laid, eggs hatch within 4 to 10 days.^{1,3} The larvae (caterpillars) incur damage to clothes and other household goods. Fully mature larvae are 12- to 13-mm long, and the *Tineola* species have white- to cream-colored bodies with brown heads. The webbing clothes moth larva lacks ocelli (eyes), while the casemaking moth larva has a singular ocellus.¹

Transmission

An infestation is evidenced by woolen items that have furrows or holes in them. Pheromone traps also can expose an active infestation.³ The webbing moth larvae can be found beneath a self-spun silken mat on the food source that offers the insect protection and camouflage while it eats; the mat collects frass (feces) and clothes particles.^{1,3,4} The casemaking moth larvae drag around a portable silken bag that takes on the color of the fabric being eaten and serves as a refuge when disturbed.^{1,3,4} Both adult and larval stages prefer low light conditions.



Webbing clothes moth (*Tineola bisselliella*) larva.

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The authors report no conflict of interest.

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The total time of development from caterpillar to adult varies depending on the temperature and humidity of the environment, but most clothes moths complete their life cycle within 1 to 3 months.¹

Management of an Infestation

Multiple infestation treatment options exist should a patient present with a clothes moth infestation. Infested clothing articles or small blankets and rugs can be dry-cleaned or laundered. Any items not in use should be laundered before being sealed in airtight storage containers. Mothball vapor at appropriate concentrations is lethal to the moths, and when possible, clothing should be stored with mothballs or flakes at the concentration recommended by the manufacturer.⁴ Individuals should avoid application of household insecticides to clothing or bedding, which may be poisonous to people.^{1,4} Freezing, heating, and dry ice fumigation techniques also can be used to treat infested products.³ Cedarwood usually is insufficient to deter an infestation, as the oil vapor rarely reaches an effective concentration to repel or harm the insects.^{3,4} Strict housekeeping with attention to vacuuming carpets, baseboards, closets, and laundering all linens and furniture covers can further reduce an infestation.⁴ Clothes items can be set in the sunlight and brushed to help loosen the pests, as they dislike direct light and may fall from the garments.³ Dust

insecticides also can be used per the manufacturer label to treat crevices and baseboards in an active area of infestation that may otherwise be difficult to clean.³ If an extensive infestation exists or larger items are infested, then a professional pest control agency should be employed for proper eradication.

Conclusion

Understanding the life cycle and basic biology of clothes moths and other common household pests will help the clinician identify an infestation and counsel patients if an insect is a true ectoparasite. Clothes moth larvae are not parasites but can be found on clothing and can be confused with myiasis or true parasites.

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