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Clothes Moth

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CLOTHES MOTHS

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Clothes moths and carpet beetles breed in clothing fabrics, rugs and house furnishings of animal origin. These materials are woolens, feathers, hair, skin, fur and real silk. In addition, the black carpet beetle infests dried milk, dried egg, germ meal, fish and meat scraps. Silverfish feed largely upon starchy materials such as found in book bindings, sizing in paper, wallpaper, etc., but may occasion loss through the eating of starched fabrics, cellulose acetate rayons, etc.

Illustrations used are from bulletin 112 N. S. Department of Agriculture, Dominion of Canada.

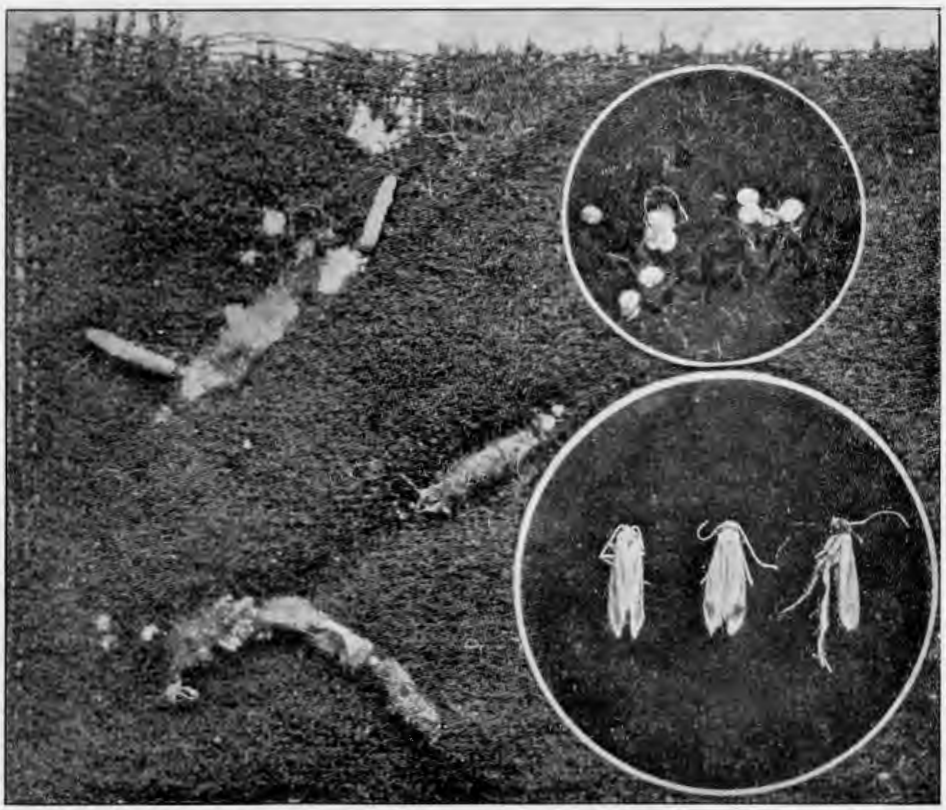

Fig. 1. Webbing Clothes Moth: Eggs (much enlarged), in upper circle; moths in lower circle; caterpillars and larval shelters on cloth—all somewhat enlarged.

Clothes Moths

There are three species of clothes moths in South Dakota: The webbing clothes moth, the case making clothes moth and the tapestry moth. The most common and important species is the webbing clothes moth.

Life History

The clothes moth has four distinct stages in its life cycle: Egg, larva or worm, pupa and the adult or moth.

Egg: The egg is white and oval, one thirty-second of an inch long. The moth lays 100 to 300 eggs during its lifetime—usually within folds of fabric or between fibers of fabric. Eggs hatch in four to eight days in summer, three to four weeks in colder weather.

Larva or Worm. This is the feeding stage. Tiny white caterpillars when first hatched, they may reach one-half inch in length when fully grown. Worms spin threads wherever they go to form tubes for protection. These silken tunnels and webbing are conspicuous since hard pellets of excrement are usually associated with them. This larval stage may last from seven weeks to several months or even two years depending on temperature

Pupa. This is a brown colored inactive stage seldom noticed since it is found in a silken cocoon, more or less hidden by bits of material on which it has fed. This stage may last 8 to 10 days or even much longer.

Moth or Miller. Small moths have a wing spread of about half an inch. The webbing clothes moth is uniformly yellowish or buff-colored. The parent moth does not eat. Usually it does not live more than two weeks.

The entire life cycle of the clothes moth may be completed in 80 to 90 days. In some cases it may require three years to complete its cycle.

As before mentioned, moths in the larval stage feed upon animal substances such as real silk, wool, hair, fur, feathers and skins. Woolen lint, cat and dog hairs which accumulate in floor cracks, furnace pipes, neglected vacuum sweepers, etc., are often utilized as a breeding medium. They may feed upon and breed in dried eggs, casein, fish meal, meat scraps and dead insects. Furniture upholstered and filled with hair, piano felts, hair insulation, etc., are frequently infested.

Carpet Beetles

The most common carpet beetle in South Dakota is the black carpet beetle. Like the clothes moth this insect passes through four stages of development. Occasionally, however, the buffalo beetle, also a carpet beetle, is encountered in the state.

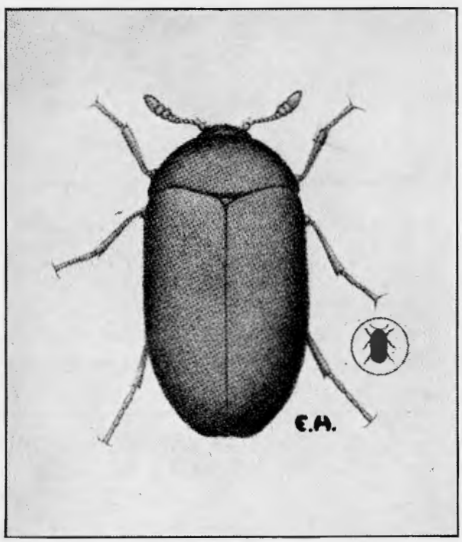

Fig. 2. The Black Carpet Beetle: Enlarged and natural size.

Beetle. The beetle or parent is a shiny, oval, black insect, about one-eighth of an inch in length. It is often encountered out of doors where it feeds on pollen of flowers and shrubs. It is, therefore, imperative that flowers be shaken thoroughly before taking indoors to dislodge the beetles and thereby prevent their entrance into houses. The adults live two to four weeks and lay about a hundred eggs. Beetles fly readily.

Eggs. Eggs are small, white in color, and quite fragile. They are deposited in a variety of places: Floor cracks, behind baseboards, seams and the pile of the fabric in clothing and furniture. In warm weather the eggs hatch in from 8 to 16 days.

Larvae or Worms. The worms or larvae are brown in color. They are covered with short, stiff, brown hairs which lie flat and are directed toward the rear end of the body. They have a tuft of long brown hair on the rear end of the body. The worms increase in size by shedding their skin. Each worm may molt 6 to 10 times during its growth. They eat voraciously after each molt. Cast skins may be found where the larvae have fed. The worm requires several months to more than a year to complete its growth. When mature, it crawls into hidden spaces such as behind baseboards, etc., and then pupates.

Pupa. This is the transformation stage between the worm and the beetle. The pupa is clothed with fine hair in which debris may become entangled. It is seldom seen since it is to be found only in dark secluded cracks and crevices. The pupal stage lasts 10 to 15 days before the beetle emerges.

There is usually but one generation of carpet beetles per year in this area. They are injurious only in the worm or feeding stage.

The carpet beetles feed on material in floor cracks, lint in cold air pipes, underneath and in the seams of rugs, beneath the covering of upholstered furniture and woolens (clothing and blankets). Silks are liable to attack, but less so than woolens.

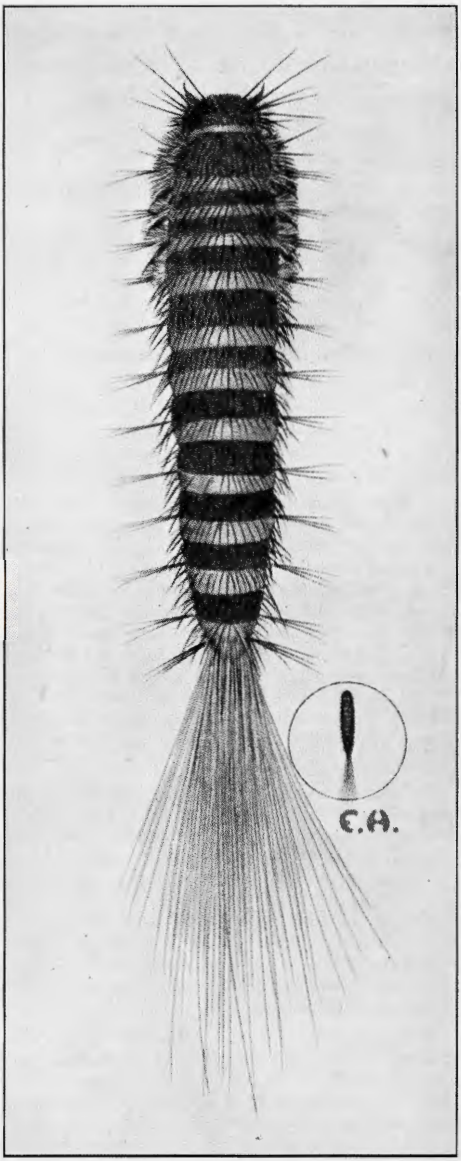

Fig. 3. Larva of Black Carpet Beetle: Enlarged and natural size.

Control

Moth and carpet beetle damage can be prevented and the following precautions should be taken to prevent infestations from these insects:

1. **Check over premises for the following constant breeding places:**
   a. Lint in cracks, crevices, cold air shafts or furnace pipes.
   b. Unused woolens, furs, skins, silks and feathers in attics, basements or closets in improper storage. These materials produce a constant supply of moths and beetles so must be eliminated or stored properly.

2. **Condition materials for proper storage.**
   a. Articles to be stored should be hung in the sunlight, thoroughly aired and brushed.
   b. Dry cleaning of garments is necessary when putting these materials away since it kills all stages of insect life.

3. **Store away** in tight garment bags, trunks, boxes or chests with paradichlorobenzene crystals between the layers of clothing. Use one-half to one pound of crystals to average size trunk, box or chest. Tape edges of lids with gummed paper tape or cellulose tape, if the lids are not tight fitting. Cedar chests, etc., will not halt the work of clothes moths if clothing is infested when stored. If paper garment bags are used, tie paradichlorobenzene crystals in a cheese-cloth bag and suspend from hanger. In pianos, a cloth bag of these crystals may be suspended in the piano case and the lids kept closed.

4. **Moth proofing.** Moth proofing consists of impregnating the fabric with a solution that is repellent or poisonous to the insect pests. The most successful moth proofing is done at the factory while the fabric is being dyed. Some protection from home-made moth proofing solutions can be had under certain conditions such as backs of rugs, etc. To make such a solution, add one ounce of sodium fluosilicate and two teaspoons of dreft to one gallon of water. Moth proofing is generally lost in dry cleaning or laundering.

5. **Sprays.** Many of our household sprays (oil bearing pyrethrum) are of value in clothes moth and carpet beetle control. Spraying the walls and floor cracks thoroughly to kill these pests is a common and fairly efficient remedy. In furniture lightly infested, thorough brushing and vacuum cleaning helps to remove all stages of insects but should be finished off with a spray. Be sure penetration is made into folds, seams, etc.

6. **Fumigation.** If the premises are heavily infested, it pays to have the dwelling fumigated with hydrogen cyanide gas. This method should not be attempted by the owner but a professional fumigator should be employed. In small rooms such as a closet or in a piece of upholstered furniture, the job may be done by the homemaker. Temperatures must be 70 degrees or above to secure results.

In furniture, two to three pounds of paradichlorobenzene is necessary for the average overstuffed chair. In warm weather, it may be done in an outbuilding or even on a porch. Sprinkle the crystals liberally over the piece of furniture, cover tightly with several blankets, and weight down to the floor all the way around to seal in the fumes. Treat for 48 hours.

In closets perhaps a liquid fumigant is more desirable since it evaporates much more readily. A fumigant of the non-inflammable type is recommended. A mixture of ethylene-dichloride (75 per cent) and carbon tetrachloride (25 per cent) is readily obtainable under various trade names. Use 1½ pints to every 100 cubic feet of space. Place the liquid in a shallow pan on the top shelf of the closet. Close and seal the door with adhesive tape or gummed paper tape. Success depends upon sealing in the fumes. Clothes may be left without fear of injury to the gas exposure. Leave at least 72 hours.

7. **Baits or traps.** Some benefit can be had from exposing pieces of woolen fabric on closet floors for a week or 10 days. Remove and dip same in hot water to kill eggs and larvae of clothes pests. Pieces of woolen fabric soaked in moth proofing solution, then dried, and later exposed act as traps.

8. **Cold treatment.** Furniture infested may often be treated by moving it to the out of doors in midwinter and exposing it to the cold temperatures. When thoroughly chilled, bring it indoors, heat to living room temperatures and again remove to outside cold temperatures.

Fish Moths or Silverfish

Silverfish are slender, scale covered, wingless insects about three-eighths of an inch long. They have three long tail-like bristles at the rear of the body. There are two species in South Dakota: The common silverfish with a silvery pearl gray color and the other,

the fire brat, with dusky markings on its back. Both are nocturnal, hiding during the daytime. They move very rapidly when disturbed.

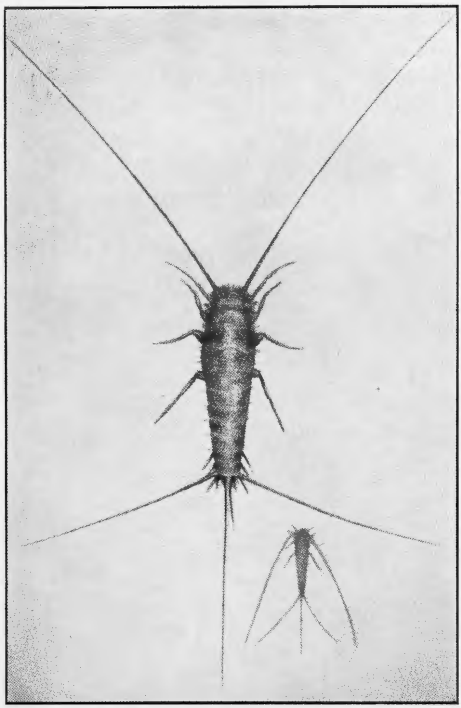

Fig. 4. Silverfish: Enlarged and natural size.

Life History

Not too much is known concerning the life cycle of this insect. The eggs, few in number, hatch into young which are very similar to the parent. It takes about two years for them to reach maturity. They are hardy and can subsist a long time without food.

Food

Silverfish feed upon sizing in paper, starchy book bindings, wallpaper, etc. Starched clothing and lace curtains are often ruined through their feeding habits. Cellulose acetate rayons are attacked and often heavily injured by these insects.

Control

Silverfish can be killed readily through a poisoned bait:

Oatmeal (ground to powder)	1¾ cups
Sodium fluoride	1 level teaspoon
Sugar	½ teaspoon
Salt	¼ teaspoon

Mix ingredients dry and moisten the mass with enough water to bind the substances together. When dry, scatter small bits of the bait around the hiding places of the insect.

Pryethrum powder, if fresh, dusted or blown into places frequented by silverfish is oftentimes effective. The treatment, however, must be persistently repeated if it is to be successful.

Sodium fluoride may also be used as dust blown into the hiding places of this insect. It must be remembered that this material is poisonous so care must be exercised in its handling.

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