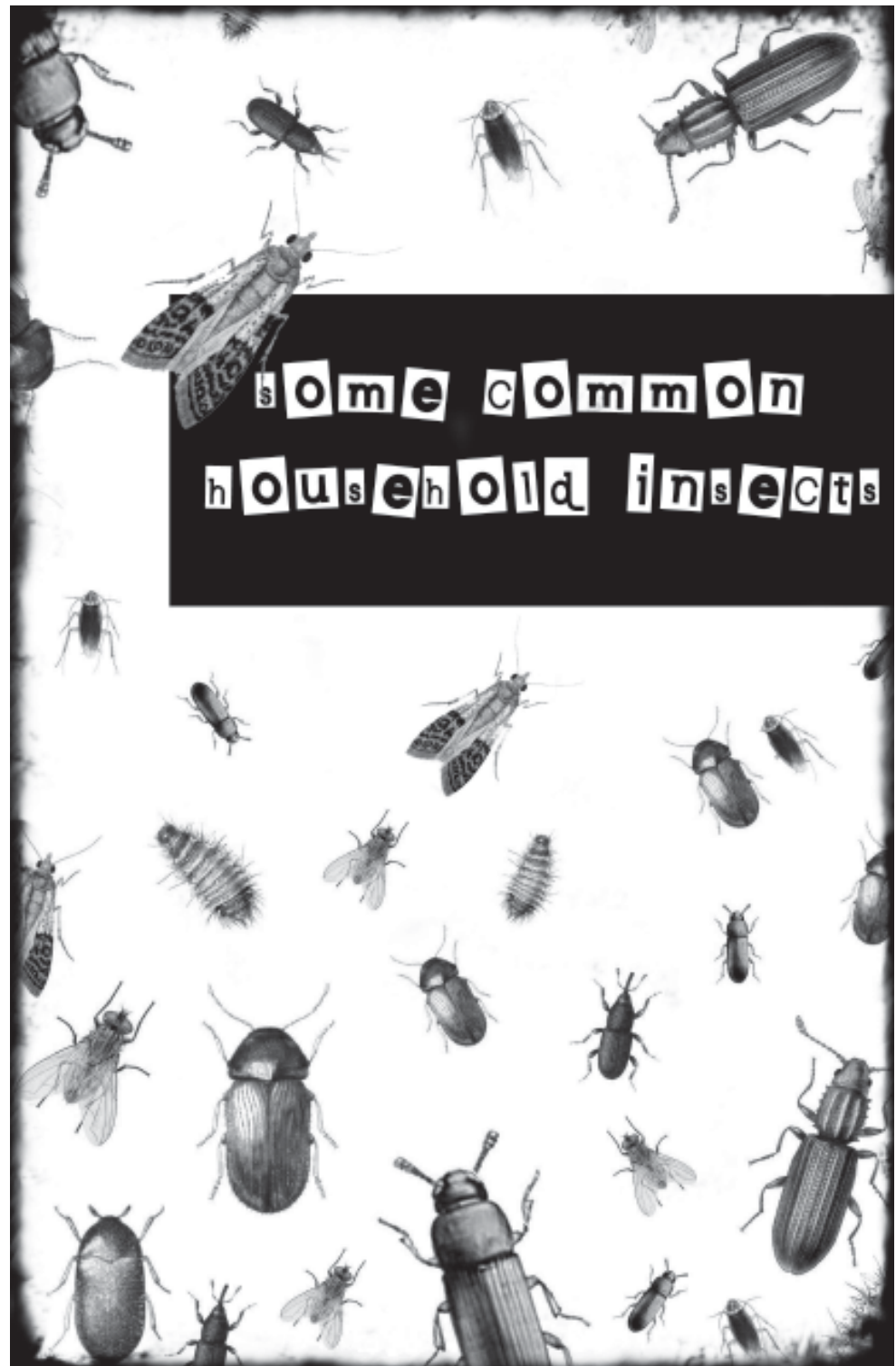




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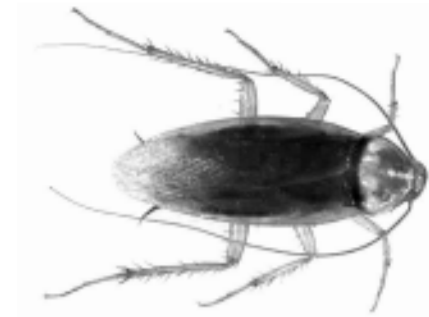
Some Common Household Insects

Pantry Pests

Nothing upsets a family more than finding bugs in their kitchen cabinets, cereals, spices and other foods. They immediately want to know how they got there, what they are and how to get rid of them.

Usually these insects are brought into the home in a package of already infested food and under favorable conditions they multiply rapidly, spread to other food packages and become established in the cracks and crevices of cabinets where flour dust and other food stuffs have been deposited. In spite of a continuing rigid inspection of food, including processing plants and stores, insects are still occasionally found in the food packages we buy.

The store-product insects most often encountered in the home are small beetles or moths. Cockroaches* are often brought into the home with food such as sacks of potatoes or onions, or in cartons of soft drinks, but these insects do not live in the food and soon leave the package to become a general household pest.



American Cockroach

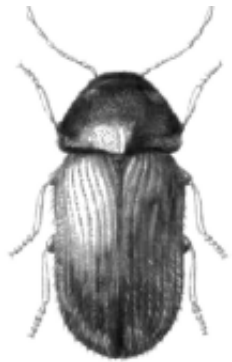
***For more information on cockroaches, request the WVDA bulletin entitled "Cockroaches"**

Infestation of food starts by stored products insects may be recognized by small holes in the packages, by webbing in flour or meal or by seeing the insects themselves. Small white “worms” are the larvae or young of these insects and the hard-shelled beetles or small moths are easily identified as the adults.

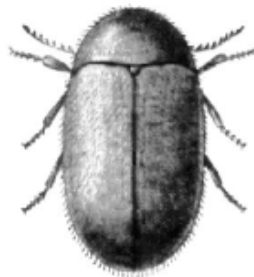
Some of the common insects encountered in the kitchen are:

1. *Drug Store Beetles and Cigarette Beetles*

These small, 1/10 to 1/16-inch long, round and light brown beetles closely resemble each other and are usually found in spices and dried herbs, seeds and tobacco.



Drug Store Beetle



Cigarette Beetle

2. *The Granary Weevil and the Rice Weevil*

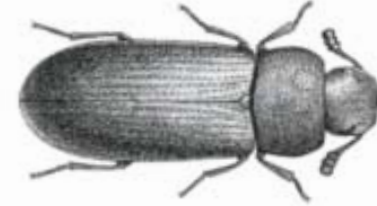
These small, long-snouted, nearly black insects, about 1/16th of an inch long, commonly infest stored products such as dried corn, wheat, macaroni and other grain products and whole seeds and flour although the young can only develop in whole seeds large enough for them to live in.



Rice Weevil

3. *The Red Flour Beetles*

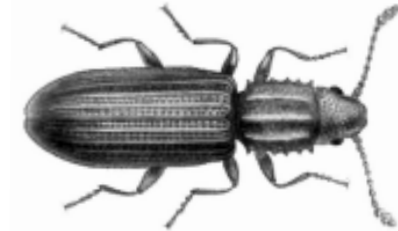
The Confused Flour beetle and the Red Flour beetle are reddish-brown in color, about 1/7 of an inch long and they are longer than wide. They infest a great variety of products including all kinds of grains, flour, beans, peas, baking powder, dried fruits, nuts, chocolate, cayenne pepper and many other foods.



Red Flour Beetles

4. *The Saw-toothed Grain Beetle*

This small, dark-brown, much flattened insect is about 1/10 of an inch long with six saw-toothed projections on each side of the thorax. They can infest nearly all of the plant products commonly used for human food as well as dried meats, yeast and sugar.



Saw-Toothed Grain Beetle

5. The two most commonly encountered moths are the Mediterranean Flour Moth and the Indian-Meal Moth.

These small moths are about 1/2 inch long and may infest many different kinds of grains, breakfast foods, bran and flour. The Indian-Meal Moth is a common pest in candy factories where nuts are used and both are common in flour and meal mills.

The two moths may be identified by the coloration or markings on the wings. The tip half of the fore-wings of the Indian-meal moth is a reddish-brown color and the front is a contrasting grayish-white. The Mediterranean flour moth is a pale gray color with two zigzag black lines on the wings.



Indian Meal Moth

Control

Controlling these pests is seldom easy. The first step is to locate and destroy all infested materials. Next, remove all foods and other items from the kitchen cabinets and scrub the shelves and walls with hot water and soap or detergent. When dry, the shelves should be treated with an insecticide. Many aerosol-type containers of insecticide are available and by reading the label on the can it should be easy to find a suitable one. Apply the spray to the walls and undersides of the shelves as well as to all cracks and crevices. If properly applied, the residue will be sufficient to kill most insects that may crawl on it and yet it will not harm packaged food products returned to the shelves.

Dried foods that show no sign of infestation, but which may have been exposed, should be placed in shallow pans and put in the oven for about 1/2 hour at 140 degrees. This will prevent unnoticed eggs from developing. The oven door should be left open at the top to prevent scorching of the food. After cooling, the foods should be placed in tight fitting containers before being returned to the cupboard.

Precautions

Most insecticides are poisonous to people and to animals

- Keep insecticides where children and pets cannot reach them.
- When applying them, do not contaminate food, dishes or kitchen utensils.
- Do not store them with food.
- Do not breathe the spray mist or the dust . . . if insecticide is spilled on the skin, wash it off promptly.
- Change your clothes if you spill insecticide on them.
- Keep children and pets off of sprayed surfaces until the insecticide has dried.
- When you have finished applying an insecticide, empty unused material into the original container, clean the sprayer or duster and wash all exposed surfaces of the body with soap and water.

INFANTS' APPAREL – Apply insecticides to infants sweaters, blankets or other woolen articles only if they are to be stored. Launder or dry-clean them before returning to use.

Do not use any insecticide on rugs and carpets, furniture or clothing unless directed on the label. Dry clean treated clothing or bedding before using them.

OIL-BASE INSECTICIDES – Do not spray oil-base insecticides near open flames, sparks or electrical circuits. Do not spray them on silk, rayon or other fabrics that stain easily. Do not spray them on asphalt-tile floors, because they may dissolve the asphalt. They will also soften and discolor some linoleum and certain plastic materials; if in doubt about spraying such a surface, test the spray on a small inconspicuous place. If you apply one of these insecticides to the cracks in a parquet floor, apply it light; an excessive amount will dissolve the underlying black cement and the dissolved cement will stain the floor.

WEIGHT ON DAMP FURNISHINGS – Do not put weight or pressure on sprayed rugs, carpets or upholstered furniture (as by walking, sitting or pressing with the hand) until the spray has dried. Doing so gives the damp pile a mashed-down appearance, which persists for several days.

For positive identification of any insect pest in the home, garden or forest please send specimens to the **West Virginia Department of Agriculture, Agricultural Pest Survey Programs Unit, 1900 Kanawha Boulevard, East, Charleston, West Virginia, 25305**, for positive identification.

Larvae or adult insects (except moths or butterflies) should be placed in rubbing alcohol and packaged to protect them in the mail. Moths and butterflies should be carefully placed between two sheets of paper or light cardboard and packaged so that they will not be crushed or broken.

The larvae, or young, of clothes moths and carpet beetles damage fabrics by feeding on them. They feed on anything that contains wool and other animal fibers including furs, dead animal carcasses, museum specimens of insects or animals, hunting trophies etc.

Each year in the United States these insects cause damage to an estimated 200 million to 500 million dollars worth of products.

The webbing clothes moth and the case-making clothes moth look alike. The adult moths are small and are yellowish or buff in color. They usually avoid light and if seen at all, it will usually be when the lights in a room are turned on at night. In such instances, they almost immediately fly towards a dark place.

The larvae, when fully grown, are about 1/2 inch long and are practically hairless. They are white with dark heads and are usually found under collards and lapels, inside the pockets or linings or in the sleeves of seldom used clothing. They sometimes infest furniture. In fact the author once traced the source of a clothes moth infestation to the felt pads on the strikers of a grand piano.

There are four specimens of Carpet beetles that commonly infest homes: The Carpet beetle, the Black carpet beetle, the Varied carpet beetle and the Furniture Carpet beetle.

The larvae of the carpet beetle, the furniture carpet beetle and the varied carpet beetle are similar in appearance. They are never more than 1/4 inch long and they have brownish or black bristles that give them a fuzzy appearance. The larvae change into small beetles that are mottled with white, yellow, brown or black.

The black carpet beetle is easily distinguished from the other three species. The yellowish or dark brown larvae is up to 1/2 inch in length. The slender body tapers from the head to a tuft of long brown hairs at the rear and as the name implies, adult beetles are jet black.

Clothes moths and carpet beetles can be prevented from damaging fabrics by practicing good housekeeping, by using protective sprays on susceptible items, by having woolen clothing dry cleaned and "moth proofed" before storage and by constantly watching for the adults of these pests.

Heavy infestation may be handled best by a reputable professional pest control firm although the various insecticide preparations available for the control of these pests (READ THE LABEL) are effective if the directions are followed and all possible infestation sites in the home are treated.

Flies



House Flies

The house fly, *Musca domestica*, is not only a nuisance in the home - it is a real danger to the health of man!

This fly breeds in manure, garbage and decaying crop wastes. If disease germs are present in these materials, or in others that they visit, the germs can be transferred to man's food when the fly walks on it or deposits its excreta on it.

By contaminating food and water and by coming in direct contact with the hands and mouth, the flies are capable of spreading typhoid, dysentery and diarrhea. They can transmit the eggs of several parasitic worms and they have a part in the spread of such diseases as cholera, yaws, tachoma and others.

The first step in fly control is the elimination of breeding places. Keep garbage in tight fitting containers and clean them periodically. Dispose of garbage at least every other day and on the farm, dispose of manure properly.

Use aerosol sprays containing pyrethrins for control of flies in the home. Be sure that the container is labelled "For Flying Insect Control." Plastic strips containing Vapona (DDVP) may be used in areas where garbage is stored indoors, in garages, basements etc. Do not use these strips where food is prepared or served or in bedrooms or other living rooms frequently used. The old fashioned fly swatter is still very effective in fly control as are electric grids and traps.

Well-fitting screens on windows are a must if flies are to be kept from the home. Screens should be of at least 14 meshes per square inch, but 16 mesh screens will keep out other smaller insects as well. In most of West Virginia, bronze or plastic rust-resisting screens will last longer than galvanized or aluminum screens.

Surface sprays and baits are available for "on the farm" use.

Follow the directions on the label when using these materials.

The Cluster fly, *Pollenia rudis*, is another fly commonly found in the home, particularly in late fall and during the winter.

Parasitic on certain earthworms, the cluster fly normally lives out-of-doors where it frequents various flowers and fruits. They lay their eggs on the ground near the burrows of earth worms. The newly hatched maggots penetrate the earth worms and live there as a parasite for about two weeks after which they leave the host and slowly undergo change (pupate) into adults.

In the fall, the adult flies seek shelter in which to spend winter. They often enter the home in great numbers and become a real pest. During periods of warmer weather in the winter months they may be seen crawling sluggishly about on the floors or window sills.

Cluster flies are able to force their way through very small openings and for this reason they are extremely difficult to exclude from the house.

Use carefully fitted screens and treat around the frame, before installing storm windows, with an aerosol spray labelled for ant and roach control. These sprays can also be used in the attic or between the walls. In spraying old fashioned windows with counter weights, the sprays should be directed into the sash cord opening.

Vapona strips should be hung in unused attics and storage rooms. One commercially available strip should be used for each 1,000 cubic feet of space. Do not use these strips in bedrooms or nurseries.

infestation although rats may be to blame. All fleas feed on animal or human blood and they cannot survive without it.

The female flea lays eggs on the animal or its' sleeping place. The eggs fall off the animal and in a few days hatch into larvae. In about three weeks they are adults and begin to feed. Adult fleas can live for several weeks without food. Pet owners sometimes return from vacations to find their homes overrun by fleas, even though none were evident when they departed.

Fleas can be controlled but the best method is to prevent infestations by keeping pets flea free. Flea collars, sprays, powders and treated soaps are available from any pet shop or veterinarian. Treat the animals as directed on the package. Fleas leave the animal within a few minutes after many of these preparations are used. Often the fleas are only paralyzed and many recover. Treat the animal out-of-doors if possible.

Most household sprays available in pressurized containers can be used to treat rugs, furniture, floors and baseboards when fleas are present. Before spraying, clean rooms and upholstered furniture with a vacuum cleaner.

Clothes Moths & Carpet Beetles

Fleas



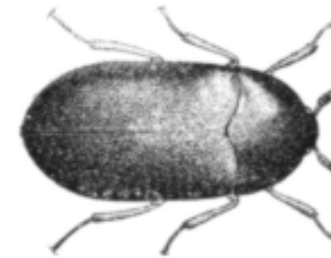
Cat Flea

Fleas often breed in large numbers where pets and livestock are kept. They spread through homes and yards and may become a problem even to the urban dweller.

Pets infested with fleas are usually the source of household



Carpet Beetle Larva



Adult Carpet Beetle