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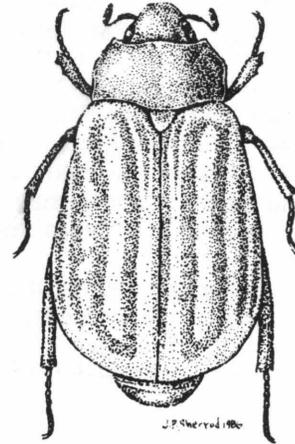


INSECT NOTES

MAY BEETLES OR JUNE BEETLES

One sure sign that summer is here is the presence of June Beetles (or May beetles!) flying around the outdoor lights at night. These big and clumsy beetles will fly to lights and collect on screens in large numbers during the warm nights of early summer. The larvae of these beetles are white grubs; they live in the lawns and pastures feeding on organic matter for 2-3 years. The adults emerge in May or June and fly at night to mate and lay eggs. These beetles are rarely active during the day.

It is difficult to control these beetles when they are so numerous they become pests. There is no way the soil around the house could be treated to control them, as the adults will fly to a light from a great distance. The best control is the use of an aerosol insecticide to kill the adults that collect around lights at night. They are a seasonal pest--only lasting a few weeks!



MUD-DAUBBERS

Mud-daubers are medium- to large-sized wasps with a long and very narrow "waist". Probably the most familiar of their nests are those made of mud or clay and attached to houses, under eaves, open garages, barns and sheds. The cylindrical cells of mud are built side by side, sometimes the entire group of cells is plastered over to make the outer surface smooth. The cells within the nest are provisioned with insect larvae or spiders (yes, mud daubers are *beneficial insects!*) which have been paralyzed by the female wasp's venom. A single egg is laid in each cell. The larvae feed on the paralyzed (but not dead) prey. A larva can mature in about 3 weeks, and then spin a cocoon in the mud cells to become an adult.

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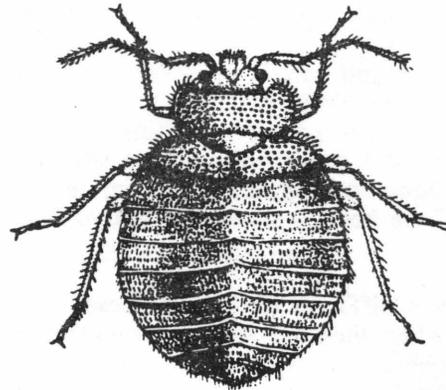
The adult mud dauber wasp does not emerge until the next spring! Mud daubers rarely sting, and do not defend their nests like bees and other wasps. They can be easily eliminated by removing the nests. These insects are fascinating and beautifully colored. The next time you see a nest, appreciate that the maker is beneficial and not a threat to people.



BED BUGS AND BAT BUGS

Bed bugs are not common household pests, but occasionally there are reports of isolated infestations. They are sometimes called "red coats", "chinchies", or "mahogany flats". The adult bed bug is a light to dark brown insect that is flattened from top to bottom. They feed on blood, particularly the blood of man. They feed by piercing the skin with a long beak and sucking blood into their stomach. The stages in the life cycle of the bed bug are egg, nymph, and adult.

Bed bugs feed mostly at night, by biting people when they are asleep. If they are very hungry, and if the light is dim, bed bugs will feed during the day. The female bed bug lays about 200 eggs, usually at the rate of 3-4 per day. The eggs are laid in cracks and crevices in the floor, baseboards, picture frames, mattress seams, and the bed frame. These are areas that bed bugs hide in during the day. Newly hatched nymphs feed immediately. They shed their skin five times before becoming adults. There may be three generations per year under favorable conditions.



Bat bugs are associated with small to large infestations of bats in attics. They feed on bat like the bed bug feeds on man. The bat bug looks very much like the bed bug, and occasionally will bite man. They are sometimes reported as household pests when bat populations have been removed from attics.

Control. Bed bugs and bat bugs can be eliminated from homes by carefully cleaning the rooms which are infested, and spraying an insecticide in the cracks and crevices of the bed frame, baseboards, and floor boards. Effective chemicals include chlorpyrifos (Dursban), propoxur (Baygon), and diazinon (Spectracide). Usually one application is sufficient for control.

DEAD FLIES ON TREE AND SHRUB LEAVES

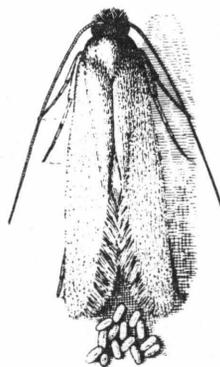
Remember that many of the flies found dead on the tips of leaves and branches in the spring are adults of the seed corn maggot, and they are dead because a fungus has killed them. The fungus attaches to the adult flies as they emerge from the soil in the spring. It takes about 10 days for the fungus to finally kill the adult fly. When the flies die the fungus seems to attach them to a leaf or branch of a tree--where homeowners can see them!

CLOTHES MOTHS AND CEDAR CHESTS

Many people store wool sweaters and other clothes in cedar chests or cedar lined closets to protect the garments from attack by clothes moths and other insect pests. Cedar chests are traditionally the safe place to store those favored valuable wool clothes. The toxicity and repellency of cedar oil vapor to clothes moths has been considered since the colonists discovered red cedar in abundance on the East coast. As early as 1680 colonists have attested to the belief that cedar shavings would protect woolens from wool moths. However, more modern research data on the effect of red and white cedar on clothes moths shows that the colonists were not completely correct!

Clothes moth eggs. Cedar chests have a limited toxic effect on the survival of clothes moth eggs laid inside the chests. There is no toxic effect on the eggs laid on clothes outside the chest and then placed inside! *Clothes moth larvae.* Larvae that are about 4-days old or younger are more likely to die when exposed to fresh cedar vapor than older larvae (21-day old). Red cedar chests lose their toxic effects against older clothes moth larvae when the chests are about 26 months old. White cedar chests lose their toxic effectiveness after 16-20 months. When full grown clothes moth larvae are exposed to cedar vapor, a large percentage (72%) reached the adult stage.

Adults. Adult clothes moths emerging in red and white cedar chests are quite capable of mating and laying viable eggs. Cedar vapors seem to have little or no effect on the reproductive functions of moths. So, when you put wools away for the season, make sure they are clean (no gravy stains), and pack them in moth crystals in a plastic bag. (Then you can put them in the cedar chest.)



CLOVER MITES

Clover mites are an occasional nuisance pest in lawns and houses in the spring. These small, reddish pin-head-sized mites are most common in lawns that are less than 5 years old. (Don't know why!) They can occur in great numbers on the south or sunny side of the house or other structures surrounded by turfgrass. Although these mites feed on the grass plants--sucking plant juices--their pest status is based on the fact that they occur in great numbers and often invade houses and other buildings.

Clover mites can pour through openings around doors and windows and crawl about the inside of houses. Crushing them on the wall or floor leaves a red stain! Like other mites, clover mites prefer to crawl to the top of things--the top of the roof line outside of the house, to the ceiling in side houses! The numbers can disappear nearly as quickly as they appeared, but the few days of clover mite "boom" can cause alarm.

Controlling these pests is not easy. They are mites (not insects) and may not respond to treatment with *insecticides*! Traditional chemicals such as diazinon and dursban can be effective. If not, try an all-purpose fruit tree spray; these mixtures usually contain at least one miticide!



Disappearing Disease of Honey Bees - A Spring Problem in Virginia?

A number of beekeepers have called in recent weeks to ask about possible causes of dwindling bee populations and rather sudden losses of entire honey bee colonies. The general description has been one of rather rapid colony decline, typically occurring over a period of a few weeks. Colony populations dwindled to a small handful of workers and a queen or, in some cases, the entire population disappeared with few signs of a problem such as dead bees on the bottom board or on the ground in front of the hive.

In most cases where losses of this nature occur we can generally diagnose the problem or at least provide an explanation as to the probable causes. Factors such as insufficient honey or pollen stores, Nosema or tracheal mite infections or recent pesticide applications to nearby crops often provide an answer. However, beekeeper responses to questions about the conditions in colonies suffering losses do not suggest an answer. The general description of colony conditions before the losses occurred is one of strong colonies that have been rearing brood and have an apparent abundance of stored food. The inspection of colonies after a problem was noted has also suggested favorable conditions for colony growth; at least conditions appeared to be such that colonies should have been building populations, not decreasing in strength. In addition the loss patterns do not suggest pesticide damage, nor obvious disease or parasite infestations (Bee samples have not been analyzed in most cases but conditions do not indicate Nosema problems or mite infestations - some colonies were analyzed for mites in the past year and found to be negative.)

What is the cause of these problems and what can be done to reverse the situation? The answer, unfortunately, is not an easy one. The best explanation I can offer at the present time is that the reported conditions appear similar to a problem referred to as Disappearing Disease. This problem of unexplained losses and dwindling worker populations is not a new one and has been described in the beekeeping literature for over 80 years, although the greatest number of cases have been reported in the last 15-20 years. Disappearing Disease has been reported from at least 27 different states, including Virginia.

Problems with Disappearing Disease typically occur in the spring and are usually associated with strong colonies. Frequently colonies have gone through an active period of brood rearing and foraging. Then the weather has turned unseasonably cool and damp for a period of a week or more. During this period the worker population dwindles as workers disappear from the hive, leaving only a small cluster of bees and the queen. Colonies will recover during warm, dry weather and good nectar flow conditions, but supplemental feeding of sugar syrup and pollen supplements generally has not been effective at halting population declines.

Disappearing Disease is recognized by many researchers as a distinct malady of honey bees. It has not been associated with any microorganisms, nor does it appear to be pesticide related. It has been suggested, however, that the problem could be caused by genetic deficiencies that are enhanced by stress. At present the causes of Disappearing Disease are simply unknown and there are no known cures, other than those which occur from improvements in weather conditions.