

A-1 PEST CONTROL PRESENTS...



Gazette

IT'S SUMMERTIME AND PESTS AREN'T ON VACATION

Roll out those hazy, crazy days of summer as the song goes. Along with those days comes the uninvited pests. Pests that can make your fun in the sun a terrible memory. Along with the warm, sunny days comes an army of pests which enjoy the summer just as we humans do.

This issue of Pest Gazette is devoted to the pesky pests...those pests that don't really cause significant damage to your house or business, but will cause serious damage to your daily activities.

Imagine a skunk walking across your patio during an evening party. The skunk is certainly an uninvited guest. Imagine a bat flying into the reception area of your business or house just as you are getting ready to turn out the lights for the night. Having a pool party? You really didn't invite those millipedes did you? Ready to settle down for an iced

tea and a good book? Page one seems to jump out of the book as the silverfish scurry.

Summertime calls to pest control operators can be panic calls due to honeybees in a bedroom or flies in a porch area just hours before guests are to arrive.

A-1 Pest Control is qualified to inspect your home or business to find early warning signs of the pesky pests. We will know how to keep you in charge of your working and living environment rather than letting the pests take over. A-1 Pest Control will give you tips on how to reduce or eliminate pest problems that crop up over the summer.

To learn more about the professional pest control services provided by A-1 Pest Control, call us at 417-883-4611.

And have a safe and fun summer.

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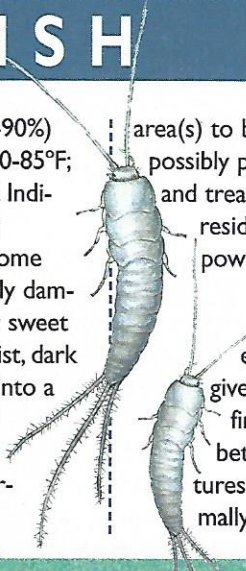
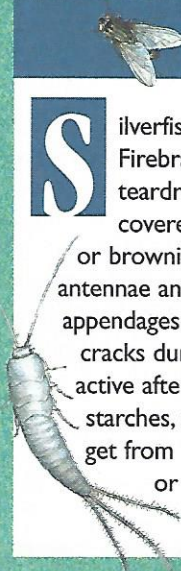
SILVERFISH

Silverfish, and their close relatives, Firebrats, are small, wingless, teardrop-shaped insects generally covered with (respectively) grayish or brownish scales. They have long, thin antennae and long, thin bristle-like appendages at their tail end. They hide in cracks during the daytime and become active after dark. Most of them feed on starches, sugars, and proteins they can get from book bindings, glazed paper, or similar sources, including dead insects. They require

high relative humidity (usually 70-90%) to live. Silverfish survive best at 70-85°F; firebrats survive best at 90-106°F. Individuals may live 2-8+ years. Some species can digest cellulose and some are cannibalistic. They may severely damage older books, papers, or other sweet or starchy materials in warm, moist, dark areas. They are often introduced into a home within cardboard or other paper products. Effective control requires correct identification, surveillance, drying out the infested

area(s) to below 65% relative humidity, possibly physical removal by vacuuming, and treatment with a properly labeled residual chemical. Dust or wettable powder formulations should work well for silverfish.

Inorganic dusts or micro-encapsulated formulations may give better long-term control of firebrats because they hold up better at the higher temperatures in which these pests are normally found.



HONEY BEES... OUR FRIENDS AND FOES

Honey bees are some of the most beneficial insects in our living environment. Honey bees pollinate flowers and allow us to have fruits and vegetables. A pleasant byproduct is the production of honey. But honey bees can be our foes when they end up in our houses or businesses.

Honey bees are docile social insects meaning that they live in groups. Each hive has a population of up to 80,000 bees. The types of bees in a hive are the queen, the workers, which are actually infertile females, and drones which are males. The queen, which can live up to five years, can produce 1,500 to 2,000 eggs per day. Young workers tend to the work of the hive, while the older workers forage for nectar and pollen. As the colony grows too large, a queen may leave with workers and start a new colony leaving a new queen behind to continue the colony. Honey bees peacefully go about their business pollinating plants and produc-

ing delicious honey.

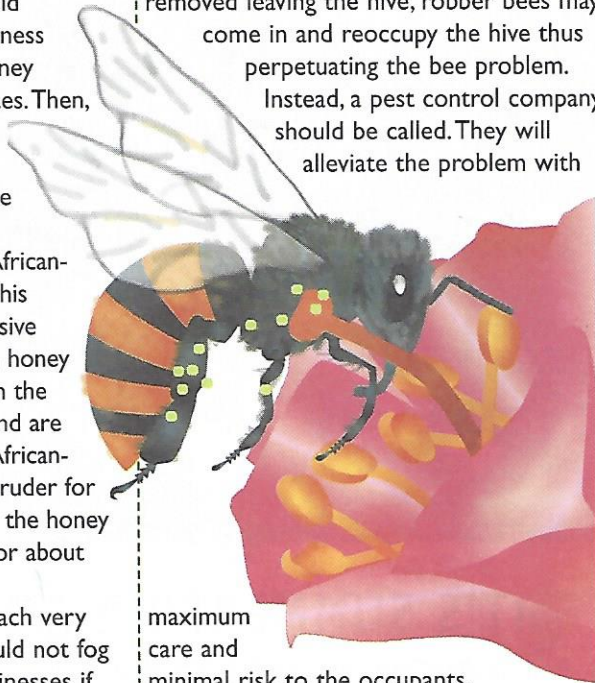
Sometimes, honey bees will build hives in walls of the home or business or in bushes nearby leading to honey bees in our living or working spaces. Then, the mild honey bee becomes a pest. Honey bees can sting and some people react violently to bee stings.

Much has been written about Africanized honey bees or "killer bees." This strain of bee is much more aggressive than the mild mannered European honey bee. Africanized honey bees are in the very warm areas of the country and are moving further north each year. Africanized honey bees will pursue an intruder for the length of a football field, while the honey bee will only pursue an intruder for about one tenth of that distance.

By midsummer, honey bees reach very high populations. Occupants should not fog the inside of their houses or businesses if

honey bees are found. If the bees are removed leaving the hive, robber bees may come in and reoccupy the hive thus perpetuating the bee problem.

Instead, a pest control company should be called. They will alleviate the problem with

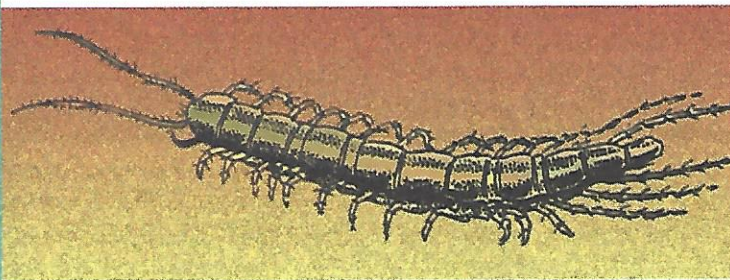


maximum care and minimal risk to the occupants.

MILLIPEDES AND CENTIPEDES

Millipedes are sometimes called "thousand leggers" because of they have so many pairs of legs. Insects always have three pairs of legs, or six legs total, so millipedes are not really insects. But they can be pests. Millipedes have a hard shell and have 30 to 90 pairs of legs. Millipedes have two pairs of legs on each body segment, which distinguishes them from centipedes in that centipedes have only one pair of legs per body segment.

There are over 1,000 species of millipedes in the United States.



The elongated body is rounded and they have no poison claws and will not bite. Millipedes are scavengers and usually feed on decaying organic matter. The flattened-bodied centipedes, on the other hand, are predators with many species having pairs of poison claws and use the poison to paralyze their prey, usually small insects. There have been reports of centipedes biting humans, but centipedes are not aggressive and the bite, while a bit painful, is not dangerous.

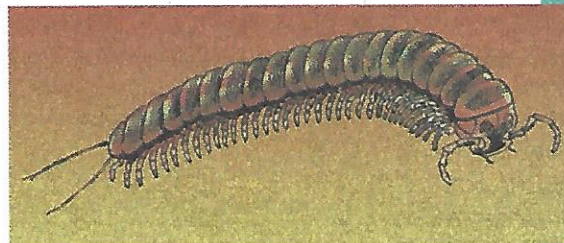
Stories of the giant centipedes and millipedes are somewhat exaggerated in the U.S. Most common centipedes rarely grow

beyond a few inches but can grow up to six inches long. A six-inch long centipede is certainly intimidating and will scare young children and adults alike. Millipedes can grow up to about four inches long.

HOW TO TELL CENTIPEDES FROM MILLIPEDES

1. Millipedes are elongated and almost worm-like whereas some species of centipedes are somewhat flattened.
2. Most millipedes are very dark in color. Most centipedes are yellowish to dark brown or even striped.
3. Millipedes have two pairs of legs (four legs) per body segment whereas centipedes have only one pair (two legs) per body segment.
4. Most centipedes have poisonous claws behind the head where millipedes do not.
5. Food preferences for millipedes include decaying vegetation whereas centipedes feed on small insects.

Your pest control professional can provide advice on reducing centipede or millipede populations. Eliminating harborage and perhaps performing a treatment to prevent entry into your house will make your summer more pleasant.



BATS

Bats are all members of the mammal Class: Chiroptera [= hand-wing(ed)], and are the only group of mammals who truly fly. Bats vary greatly in their feeding habits; from nectar-feeders, to fruit-feeders, to fish-feeders, to blood-feeders, to carnivores. The most common diet, by far, is feeding on insects. Nearly all temperate region bats are insect-feeders. The main species which roost in attics or other human habitats, especially during warm months of the year, in North America, are: the Little Brown Bat, *Myotis lucifugus* (LeConte); the Big Brown Bat, *Eptesicus fuscus* (Beauvois); or the Mexican Free-tailed Bat, *Tadarida brasiliensis* (Geoffroy). All three of these are insect-feeders, and each migrates northward each

Spring and then southward each Fall, usually hibernating over Winter in large groups in caves or similar habitats. Young (pups) are born in spring (usually

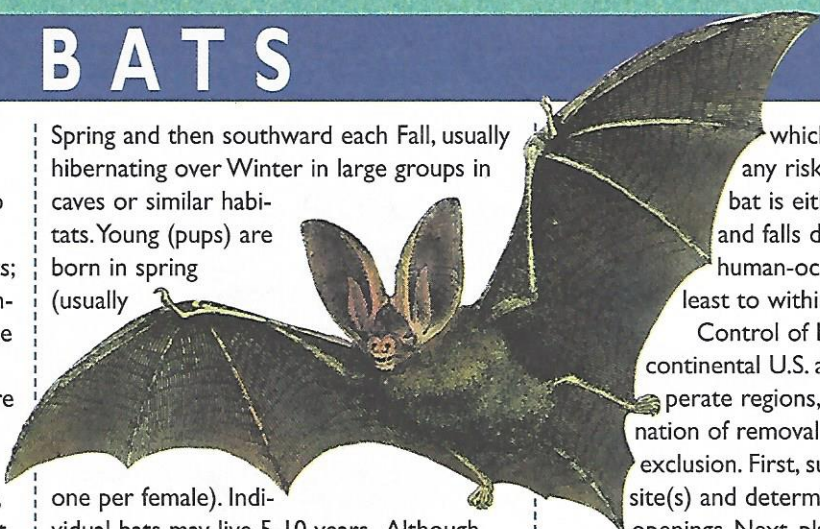
one per female). Individual bats may live 5-10 years. Although their eyesight is better than most people think, bats routinely depend on their echolocation (similar to sonar) to guide their flight and to detect and track prey insects "on the wing."

Medical concerns about bats are mainly the very small, but real, risk of rabies; and the fact that their droppings are an excellent reservoir for the fungal pathogen that causes human histoplasmosis. Rabies will only be found in a very few bats (usually many fewer than 1%). The main situation in

which humans are at any risk are where the bat is either sick or injured and falls down within a human-occupied area or at least to within a human's reach.

Control of bats, within the continental U.S. and similar temperate regions, is mainly a combination of removal followed by exclusion. First, survey the roosting site(s) and determine entry and exit openings. Next, place a one-way "valve" over one main exit. Many "valve" designs will work well, such as a net weighted along its bottom edge, or any commercially available cloth, net, or fabric "chute" which allows easy passage out but collapses against any bat that tries to enter. Chemical repellents, such as moth flakes, have only limited effect at moving the bats, and then they may only relocate a few feet from their original roost. Ultrasonic and other electronic devices have no measurable effect on bats.

Keep in mind that several bats in North America (at least four species) are endangered species, including the Indiana Bat, *Myotis sodalis* Miller & G.M. Allen, a close relative whose range overlaps that of the Little Brown Bat, *Myotis lucifugus* (LeConte).



SOMETHING IN THE AIR...SKUNKS ARE HERE

It's late evening and as you drive down the road, you see a pair of eyes watching you from the middle of the road. Don't hit that skunk!

Skunks are nocturnal, or active at night. This makes them well suited for a business area since there is little activity in an office complex at night and they can go about their business without most people knowing that they are fellow residents.

There are several types of skunks found in the U.S. The most widely known skunk in the US is the striped skunk (*Mephitis mephitis*), named for the white stripe down its back in contrast with jet black fur on either side.

Skunks prefer cleared areas such as pastures, but have adapted well to the human environment such as around offices and homes. The skunk's home is usually a den which can be hollowed by the skunk or a

found den such as a hollow tree trunk or brush piles.

In the suburban area, skunks frequently set up housekeeping under decks and in crawl spaces where they raise their litter of four to six young, which are born in the spring of the year. Other than in winter when they are less active and spring when the young are present, skunks can wander from site to site and abandon a refuge after only a few days.

Skunks feed on a variety of foods including plant and animal materials. In the summer the skunks feed on larger insects, their

favorite food and in the winter will feed on mice.

Skunks typically do not attack animals such as birds, but will feed upon bird eggs. In the human environment, skunks will feed on garbage or pet food left outside. The scent of the skunk is actually a defense and is a musk from glands and can reach an enemy 10-15 feet away. If pets are sprayed several home remedies such as tomato juice or paste can be used. One favorite recipe for removing odor is one quart of 3% hydrogen peroxide, one quarter cup of baking soda, one teaspoon of liquid soap which are all mixed, applied and rinsed while the peroxide is still fizzing. There are also some commercially available deodorizers available.

As with all mammals, skunks can carry rabies. As always, homeowners and building managers should leave the control of skunks to the professional pest control company. Call your pest control expert at the first sign of a problem to avoid more difficult and costly control later.



FILTH FLIES

The filth flies include the house fly, blowflies, flesh flies and their relatives. There are about 200 species of them.

These flies have two membranous wings, lapping-sponging mouth parts, and lots of bristles all over their

same morsel we intend to eat. Both the habit of regurgitating

out where the pest population is breeding. Control of the larvae is

air curtains over outside doors, and "sticky" ribbons or papers. Although there are a number of natural predators, parasites, and pathogens which attack house flies (for example), none of them is very successful

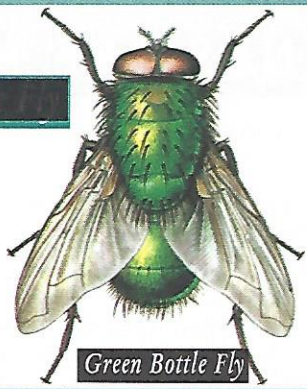
bodies. Their larvae live in various kinds of moist or decaying organic matter or dung. They feed by "spitting out" saliva and former stomach contents onto their intended next meal. After a few seconds, they suck up the fluid they spit out before, along with anything it might have dissolved. They

some of their stomach contents when they feed, and their very bristly ("hairy")

absolutely essential to controlling any population of filth flies. Sanitation is the next step. It includes cleaning up and removal of all of the material in which the flies are breeding

in reducing fly populations under natural conditions. After all these other steps have not accomplished the desired control, or (more often) when an immediate reduction of flies is required, properly labeled chemical pesticides may have to be used. These could be applied to flies' resting surfaces, breeding sites which cannot be

are very mobile, moving hundreds of feet in a few seconds, and feed on nearly any substance. These flies can multiply rapidly. One female house fly can lay 75-150



Green Bottle Fly

bodies make it very easy for filth flies to transmit pathogens to humans. Filth flies have been proven to spread more than 65 kinds of human pathogens, including:

typhoid, E. coli, cholera, polio, TB, "Staph," "Strep," leprosy, and several kinds of food poisoning. Control involves several steps. First, since there are so many species, you must collect a sample and get them accurately identified. Next, you have to do a survey to find

(i.e., where you find their larvae). Depending on the species of pest involved, the breeding (larval) medium could be live earthworms, dung, a cadaver, rotting plant matter, or garbage. Your

Stable Fly



next step, mechanical control, may include closing cracks, replacing or repairing screens, using light traps, baited traps,

eliminated or adequately closed off, or in baits for adult flies, placed between breeding site(s) and location(s) you are trying to protect. Ultra-sonic devices have no effect, and IGRs are often of limited practical use. Sanitation and mechanical controls have the greatest long-term effect on reduction of filth fly populations.

A-1 PEST CONTROL

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