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## Children: Especially at Risk with Pests

While pests affect everyone's health if they are not controlled, some of us are especially vulnerable to pest stings, pest transmitted diseases, and pest-caused allergies. This includes our children, as well as the elderly, and our pets. This article will focus on our children.

➔ Children and infants are especially at risk to pests because they are always moving around and exploring, often close to the ground or on the ground, causing them to naturally have more encounters with pests.

➔ Rats bite about 45,000 people annually in this country. The vast majority of these bites involve infants and smaller children.

➔ Children are also especially at risk to pest-induced allergies. Studies have shown that in some inner city areas, cockroaches are the #1 cause of allergies among children.

➔ An even bigger problem is that children are more susceptible to the many diseases pests carry. Dr. Jerome Goddard, a medical entomologist and author of *The Physicians Guide to Arthropods of Medical Importance*, points out that children are more vulnerable to diseases because their immune systems are still developing. Since children have been



exposed to fewer germs than adults, their reactions are often more severe. The disease organisms pests carry cause everything from *Lyme disease*, *encephalitis* and *hantavirus*, to common *diarrhea*.

➔ Children, because of their small size, are also more at risk from stinging insects—everything from bees, hornets, and yellowjackets, to fire ants and bites from poisonous spiders. The same amount of venom from these insects in a small child can cause a much more serious reaction than in an adult.

## Spiders Are Multiplying

Some spiders have nasty bites and can be dangerous, but most spiders are just creepy, sneaky, hairy, ugly, and messy, and we'd rather not have them anywhere near us.

Don't think you are alone if you get a severe case of the *heebie jeebies* when you see a spider crawling on your bedroom wall, or hanging from the ceiling. A recent study shows this reaction can happen even to entomologists. Although these people often work all day long around insects, spiders are another thing. The study shows that some of these people have a very deep fear, repulsion, or dislike for spiders. It is interesting that sometimes these very strong feelings do not go away, even after the person has worked for decades doing hands-on research with insects.

So if you are scared of spiders or feel a repulsion for spiders, don't feel so bad—even some people who spend their



entire lives working with "bugs" feel the same way!

Fortunately, we are *experts* at spider control, so there's no reason to put up with

these pests. Our special spider treatment programs are designed to kill the spiders directly around the home—before they get indoors—and kill those that have already invaded.

This is not a one-time treatment, because spiders are hatching all the time during warm weather. The young spiderlings "balloon" through the air, easily reinfesting previously treated areas. Also, cracks and crevices in the home are re-invaded by small spiders if the exterior isn't treated on a regular basis. Spiders can easily crawl indoors around the edges of screens, in the gap around doors and in other cracks and holes.

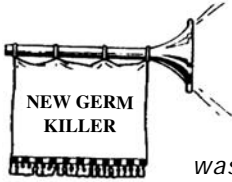
## Pest Prevention Tip of the Month

Once opened, pet food and pet treats should be placed in tightly sealed glass or plastic jars and labeled. Not only will this keep them fresher longer, it will also keep out insects and rodents. Use garbage cans with tight-fitting lids to store very large bags of pet food.



## How Insects Practice Food Safety

Humans have learned the importance of practicing food safety—keeping our food as free as possible from bacteria and other germs so it stays fresher and doesn't pass harmful microbes onto us. New research shows that certain insects that eat cockroaches also practice food safety.



The *emerald cockroach wasp* has a similar food safety problem as we do, and its food is cockroaches. Cockroaches are notoriously "dirty" insects that harbor a wide variety of bacteria. The emerald cockroach wasp lays its eggs on the legs of cockroaches. The larvae that hatch bore into the cockroach and feed on the roach's internal organs, not killing the roach until the larvae have fully developed. If the cockroach dies and decays too soon, the wasp larvae will die.

Amazingly, the wasp larvae are able to solve this "food safety" problem by emitting a special *antimicrobial liquid* that it spreads around inside the cockroach. This special concoction of two chemicals has been shown to be very effective in killing bacteria. The result is that the cockroach stays fresh longer, which gives the wasp larvae time to fully develop.

The compounds in this special concoction are being studied for possible use in food safety and as antibiotics. After all, if they can kill the bacteria in dirty cockroaches, they must be powerful!

## Eyespots Theory Debunked

Some species of butterflies and moths have two spots on their wings that look somewhat like eyes. It has been taught for the last 150 years that these "eyespots" scare off predators like birds because the eyes look like they could be the eyes of a larger animal.



Now this theory has been shown to be totally false. Research shows that even when the spots are modified and don't look at all like eyes—even squares and dashes—they scare off birds that would eat them. And when the spots are redrawn to look even more like real eyes, they are not any more effective at scaring off predators.

The study shows that large, bright markings of any kind startle or frighten off predators—whether they look like eyes doesn't matter.

## Ticks & Red Meat Allergy

One of most unexpected recent findings about ticks is that bites by *lone star ticks* can cause an allergic reaction when eating beef, pork, or lamb. Symptoms can range from vomiting and nausea, to hives and itching, to a life-threatening anaphylactic reaction. It is an unusual food allergy because symptoms are delayed, occurring 3 to 6 hours after red meat is eaten.

Instead of an allergy to a protein, this allergy is connected to sugars in the blood. Researchers still don't know why some people bitten by ticks develop the allergy and others don't, but there appears to be a genetic basis for the susceptibility, because cases seem to run in families.

A bite by the lone star tick may have occurred weeks or months before the symptoms show up for the first time. The good news is that the allergic response seems to fade after a few years, as long as the person isn't bitten again by a lone star tick.

Lone star ticks are primarily in the southeast, but their range has been expanding both west, and as far north as Massachusetts. No other ticks in the U.S. cause these problems, but red meat allergies due to tick bites have also been recorded in Australia and Europe.



## Are 'LED Lights' MORE ATTRACTIVE to Insects?

Lights outdoors can be a problem because they attract so many flying insects at night. Bright white or bluish light ("cool white" light, the kind produced by most incandescent and fluorescent lights) are especially attractive to insects, while bulbs that produce "warm white" light that has a slightly yellowish cast, like sodium vapor and halogen bulbs, are less attractive. Replacing a white incandescent light bulb with a yellow bulb outdoors has always been a practical way of attracting fewer insects at night, but most people don't like the strong yellow light. What about the new, more energy-efficient LED lights?

It all depends. The good news is that LED bulbs that are in the "warm white" range attract very few or no insects and are good lights to consider for lights in outdoor areas. Some LED bulbs that are 3200 K or higher (these are the "cool white" bulbs that have a more bluish cast) do seem to attract insects, so don't use these for key areas outdoors.

## Whatever Happened to Killer Bees?

Africanized honey bees, sometimes called killer bees, are not in the news nearly as much as they were a few years ago. Why? Killer bees have become 'old news.' But these invading bees are still moving north at about *one mile per day*. They now occupy most of the Southwestern U.S., as well as parts of southern California, Nevada, and part of southern Florida. They aren't able to overwinter in cold areas, but no one knows how far north they'll be able to live.

In areas where Africanized honey bees have invaded, people have had to adapt, and they've learned to be more cautious. The venom of these bees is no more toxic than our common European honey bees, but Africanized honey bees are much more aggressive in defending their nests. They often sting in much larger numbers, making them much more dangerous.

