Stinging Insects and Poisonous Spiders of Alabama

TWO TO THREE MILLION people in the United States are severely allergic to the venom of stinging insects. About 100 deaths each year in the United States are attributed to insect stings and bites. Hymenopterous insects (ants, wasps, bees, hornets and yellow jackets) cause more severe allergic reactions than do other insects. However, spiders such as the brown recluse and the black widow are also poisonous. The nettle caterpillars such as the larvae of the saddleback moth, io moth, the hag moth, and the flannel moth can inflict a painful reaction upon contact. Hypersensitive individuals may experience swelling, nausea, and generalized systemic reactions. Ants, particularly the imported fire ant, can inflict a painful sting that will result in a pustule at the sting site.

REACTION TO INSECT STINGS—Reactions to insect stings may be immediate (within two hours) or delayed (after two hours). The most common type is the immediate local reaction. This consists of immediate pain, swelling, and redness and is considered a normal reaction. Although annoying to the individual, it is not considered a serious reaction. Occasionally, a local reaction may become very large (for example, involving the entire arm). This is also not considered serious unless the reaction occurs on head, face or neck. In that case, a physician should be consulted.

When the insect sting produces reactions which are remote from the site of the sting, a systemic or anaphylactic reaction has occurred. This happens in a few sensitive individuals and consists of swelling of the eyes and lips, hives breaking out on the body, tightness in the chest, faintness, and difficulty breathing. If any combination of these symptoms occurs, a physician should be seen immediately. A similar reaction may occur in an individual that is not sensitive if he or she receives a large number of stings. This is considered a toxic reaction. Again, a physician should be consulted.

A delayed local reaction to an insect sting generally consists of a large local swelling. A physician need not be consulted unless this is a particularly large reaction (for example, the entire arm) or involves the head, face or neck. Delayed systemic reactions are very uncommon.

Description and Habitat of Stinging and Poisonous Insects and Spiders

ANTS. Perhaps the most important of the ants that sting is the red imported fire ant. It is a small, reddish to brown ant. Its mound is easily recognized by its dome or conical shape ranging from a few inches to as high as 2 feet above the ground. When the outer surface of an active mound is broken, hundreds of these ants will rush out and attempt to protect the colony. A few stings can cause a toxic reaction even in a non-sensitive person. Young children are particularly susceptible, because they are unable to brush off these swarming insects.

YELLOWJACKETS—Yellowjackets are stout-bodied wasps, with various patterns of yellow and black on top of the abdomen. They usually build nests below the ground, often in abandoned rodent burrows or other natural cavities, and not uncommonly in walls and under houses. They are attracted to ripened fruit in orchard areas and to sweetened drinks in picnic areas. In dry weather, they are also attracted to any source of water. Their numbers are greater in August.
and September, at which time they can present a serious problem, particularly to those individuals allergic to stings.

**WASPS** — Some wasps build paper nests above the ground, usually under eaves of buildings and in bushes and shrubs. Certain paper wasps, for example the guinea wasp, sometimes are confused with the yellowjackets but they are more elongated and slower fliers. These wasps vary in color from dark red to yellow, but they are never as brightly colored with the striking yellow and black characteristics of yellowjackets. Most stings occur when the nest is disturbed, as in pruning shrubbery, painting, etc.

**HORNETS** — The bald-faced hornet is larger than a yellowjacket. It has black and whitish markings. The bald-faced hornet builds globe-shaped paper nests that hang from tree limbs or bushes. The European hornet is yellow and black; it is three to four times larger than a yellowjacket. This species will establish colonies in wall spaces of houses and barns. The greatest danger from hornets is in the disturbance of their nests. They usually do not sting unless molested, but are extremely protective of their nest sites and become extremely aggressive when their colonies are disturbed.

**BUMBLE BEES** — These are large, robust insects, 3/4 inch or more in length. They can usually be recognized by their hairy, robust shape and black and yellow coloration. Bumble bees nest in the ground, usually in deserted mouse nests or similar situations. They are very important in the pollination of certain kinds of plants, particularly some clovers, because of their long tongues. Bumble bee stings can be painfully severe. Stings usually occur when the nest is disturbed, as in mowing. When disturbed, bumble bees are extremely protective, aggressive, and persistent.

**HONEYBEES** — These are important pollinating insects, generally encountered in areas where they are foraging for nectar. They are generally mild-mannered, and will sting only when provoked. Their sting is generally dangerous only to individuals known to be sensitive or allergic. These people therefore should exercise caution in areas where there are flowering plants which are attractive to honeybees.

Unlike some other stinging insects such as wasps and yellowjackets, the honeybee has a barbed stinger which is usually left embedded in the flesh, and therefore the honeybee can sting only once. However, the stinger will continue to pump poison into the wound for several minutes. If you are stung by a honeybee, immediately scrape (rather than pull) the stinger out of the wound. Grasping and pulling the stinger will force more poison into the wound.

**STINGING CATERPILLARS** — The most important stinging or netting caterpillars in Alabama include the larvae of the flannel moth, saddleback moth, hag moth and the io moth. The caterpillars do not have stingers, as wasps and bees do; instead their venom originates from tiny poison glands associated with stiff, hollow spines which penetrate the skin upon contact. The caterpillars feed upon many trees, shrubs and flowers. Stings usually occur when a person brushes against a caterpillar or attempts to remove it from the body or clothing. Perhaps the most venomous larva of this group is the puss caterpillar. The puss caterpillar is about 1 inch long when mature. The color is tan to greyish brown. When viewed from above, the puss caterpillar's head is obscured beneath the body. The first symptoms following contact may be greatly reddened skin with the inflammation spreading several inches around the contact site. In sensitive persons, the leg or arm may become noticeably swollen and tender and this may be accompanied in some cases by severe headaches. A person may also become weak and nauseated and have shock-like symptoms. These conditions will usually occur within two hours after contact. It is extremely important to contact a physician immediately should any of these more severe symptoms occur.

The io moth larva is about two inches long, with yellow to reddish maroon stripes edged with white along the sides of the body. It appears spiny compared to the furry puss caterpillar. The stinging spines are similar to those of the puss caterpillar. However, the pain usually is less severe and complications are less frequently reported. The larva of the saddleback caterpillar is about 1 inch long when mature and strikingly colored. The basic body color is brown but the center of the body, back and sides are green, suggesting a saddle blanket. In the center of the green blanket is a purplish brown spot which suggests a saddle. The larva is armed with groups of spines. This insect occurs on a number of trees and on plants such as grape and muscadine. When contact with the skin is made, the larva produces a very hot stinging sensation. The skin reddens for several inches around the area, depending on the sensitivity of the person.

The larva of the hag moth feeds on many kinds of shrubs and on low branches of deciduous trees. When full grown it is about 5/8 inch long and is light brown. It has nine pairs of lateral processes from which the stinging hairs are borne. The longer processes are curved and twisted, suggesting the disheveled look of a hag, for which it is named. This insect is probably the least common in Alabama of the stinging caterpillars. The sting is said to be comparable to that of the saddleback caterpillar.
No really effective form of first-aid treatment for caterpillar sting is available. Prompt application of an ice pack may help to reduce pain and to prevent swelling. Prompt treatment by a physician should be obtained if severe reaction is indicated. Young, aged, or unhealthy individuals are more likely to suffer severe reaction symptoms.

**SPIDERS**—Spiders are readily recognized by the presence of eight legs and only two distinct body regions. Most are quite harmless to people. Many are beneficial because they feed on various types of insects and other small animals. Most spiders have difficulty piercing the skin of people and usually produce only a mild short lasting reaction, or at most, slight pain or swelling less than that of a bee sting. However, two species are quite poisonous. These are the black widow spider and the brown recluse spider.

The **black widow** spider is characterized by glossy, black color and the presence of a red or lightly colored “hour glass” marking on the underside of the abdomen. Its length with legs extended sometimes reaches 1½ inches. The male is much smaller than the female. The black widow is usually found in an inverted position near the center of the web made of coarse silk. The black widow is usually found outside in wood piles, etc., and is shy and non-aggressive. However, the female will defend herself by biting when threatened or disturbed, particularly if the egg sac is present.

The black widow has a very potent venom, which is called neurotoxin. However, only a small amount is usually injected with each bite; therefore, most bites are self-limited and produce only local pain. With severe envenomation (especially in children and elderly adults) a critically severe reaction may occur. This consists of muscle cramps and spasms, severe pain, and nausea and vomiting. A physician should be consulted immediately if a black widow spider bite occurs.

The **brown recluse** spider is slightly smaller than the black widow, but has very long legs. Its general color varies from light tan to chocolate brown. There are six eyes arranged in three pairs across the front head part of its body. There is also a dark “violin shaped” marking on the top. The venom of the brown recluse produces a condition called “necrotic arachnidism.” The bite itself may be completely painless, or a painful reaction may occur immediately in which a stinging sensation is followed by intense pain that may last from two to eight hours. A small blister may form at the bite as a larger area around the bite becomes red and swollen. This area is very sensitive and tender for some time. The infected tissue gradually sloughs away, resulting in an ulcerous wound which is gradually replaced with dense scar tissue. Wounds heal very slowly, sometimes requiring from eight to ten weeks. A round, sunken scar results, which remains permanently. The scar may be up to the size of a half dollar or more. In some cases the bite of a brown recluse produces a systemic reaction which may be fatal. Death is usually attributed to internal hemorrhaging and blockage. Use an antiseptic at the site of the bite and an ice pack to localize the venom-induced pain. Anyone bitten by one of these spiders should consult a physician immediately. If at all possible the spider should be collected so a positive identification can be made.

**SCORPIONS**—Scorpions are arachnids which vary in length up to four inches. Most, however, are from 1½ to 2 inches. Scorpions are venomous and sting rather than bite. The stinger is situated at the tip of the tail. Fortunately, the scorpions reported in Alabama are not of the highly venomous type. Most scorpion stings result in localized reaction, but may be accompanied by pronounced swelling and by pain similar to that of a wasp or bee sting.

Scorpions are commonly found under stones, logs, loose bark of trees, and lumber. They occasionally invade houses. They feed on insects and spiders and other small animals. They usually are timid and reclusive, and rarely sting people unless molested or handled. Scorpions are most active in the spring and summer.

**WHAT TO DO IF STUNG OR BITTEN BY VENOMOUS ARTHROPODS**

(1) Remember that most stings and bites are self-limited and do not require medical attention. However, if you suspect an allergic or a systemic reaction, you should go to the hospital or consult a doctor immediately. If you have a large local reaction on the face or neck, you should also consult a physician. **With any black widow or brown recluse spider bite a physician**
CHEMICAL CONTROL OF STINGING INSECTS AND POISONOUS SPIDERS

<table>
<thead>
<tr>
<th>PEST</th>
<th>EFFECT OF BITE OR STING</th>
<th>CONTROL</th>
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<tbody>
<tr>
<td>Yellowjackets</td>
<td>Sharp localized pain for short period of time. Swelling results in case of sensitive persons, more severe reaction may occur immediately; see a physician immediately if symptoms of hypersensitivity appear.</td>
<td>.5% dichlorvos (Vapona, DDVP) or .5-1% Baygon. Use pressurized sprayer that will deliver spray stream 12-15 feet away. Treat nests at dusk or dark when insects have returned.</td>
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<tr>
<td>Wasps</td>
<td></td>
<td>If larvae are numerous on plants around home, spray with 5% Sevin or 1% Diazinon.</td>
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<td>Hornets</td>
<td></td>
<td>Treat mounds with Amdro in pastures. In lawns and recreation areas, use 5% Diazinon or 2% Dursban granules.</td>
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<tr>
<td>Bumble Bees</td>
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<td>Honeybees</td>
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<tr>
<td>Nettling Caterpillars, e.g. Io, Hag Moth, Saddle-back and Puss Moth Larvae</td>
<td>Hollow hairs connected to a poison sac; causes serious skin eruptions and itching.</td>
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<tr>
<td>Imported Fire Ant</td>
<td>Sting like a bee or wasp; burning sensation. Necrosis leaves small scar at sting site. Diagnostic feature is the pustule.</td>
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<tr>
<td>Spiders--</td>
<td>Bite is painful, causes swelling; systemic reaction may occur. Brown recluse causes tissue necrosis, leaving an ugly scar.</td>
<td>.5% chlorpyrifos, .5-1% Diazinon, .5-1% Baygon, 2% malathion, 25% Ficam W. Apply to areas where spiders frequent.</td>
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<tr>
<td>Black Widow and Brown Recluse</td>
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<tr>
<td>Scorpion</td>
<td>Abdomen curls forward over back and stinger is plunged into victim. Very painful but rarely fatal; illness for several days may result.</td>
<td>Clean up debris next to and under home. Spray entrance points into home with 1% Diazinon, Baygon, or .5% chlorpyrifos.</td>
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should be consulted immediately.

(2) Try to give an accurate description of the insect to the medical personnel; or, bring the insect with you.

(3) If you are severely allergic to stings, there are two things you should do: (A) Carry an identification that you are allergic to stings. This will help if you are found unconscious. (B) Keep a package of medicines used by the physician in treating allergic reactions. You and all immediate family members should be instructed in the proper administration of these medicines. Your personal physician should be able to assist you in obtaining and using these medicines.

(4) A severely allergic person may also be “desensitized” to these stings. A physician specializing in allergic diseases should be consulted for this treatment.

HOW TO AVOID INSECT STINGS

(1) Avoid close contact with flowering trees, shrubs, and flowers when bees and wasps are collecting nectar and pollen.

(2) Ripened fruits and soft drinks attract many kinds of insects, particularly yellowjackets and wasps. Keep sweet drinks covered. Pick fruits as they ripen and dispose of rotten fruits.

(3) If a stinging insect lands on you, deftly brush it away. DO NOT slap it against you. Slapping an insect is more likely to cause it to sting.

(4) If you disturb an insect’s nest area and provoke attack, get out of the area as quickly as possible. Try to keep them away from your face and head.

(5) If you spot an insect nest you may want to use a high pressure aerosol insecticide, one that shoots the spray 10 to 15 feet.

(6) Control wasp nests in and around eaves of houses and garages and other buildings as soon as they are noticed and before the colony grows large.

(7) If the nest is in the ground, wait until dark and saturate the nest entrance with a recommended insecticide.

(8) Keep the ground around and under houses clean. Remove boards, piles of rocks and other debris to prevent spiders and scorpions from harboring there.