

## Nature's Toxins

\*Scientific names are provided for your reference and are not required learning

### Brown Recluse Spider *Loxosceles reclusa*

All spiders are beneficial to man because they consume large amounts of insects. Practically all spiders are toxic or venomous, but only the Brown Recluse and Black Widow have bites that are a problem for humans. Brown Recluse bites are painful and have sometimes caused death. Recluses are rather long-legged and slender. Their bodies are about .5 inches long and their color varies from fawn to chocolate brown. They can be recognized by a distinct, violin-shaped marking on the forward part of the back.



### Black Widow Spider *Latrodectus mactans*

The Black Widow is probably the best known of all spiders. Even though only 1 or 2 people die each year in the United States from spider bites, almost everyone fears or hates them. Like the Brown Recluse, Black Widows are shy and sensitive, and tend to hide in dark places. With a little care in where we stick our hands and by shaking out our bedding when outdoors, we can avoid these spiders. The Black Widow is fairly large, up to 1 inch long, and deep black in color. The female usually has a red “hourglass” design on its abdomen. The male’s abdomen is more elongated with white and red markings on the sides.



**Honey Bee** *Apis mellifera*

Honey Bees are golden-brown in color and have the characteristic bee shape. These very common insects are the most important bees in the pollination of plants. Besides producing 75 to 100 million dollars of honey and beeswax each year, their pollinating activities are worth 15 to 20 times that amount. As helpful as they are to man, they do cause 3 to 4 deaths each year in the United States. The toxic sting can cause some people to go into anaphylactic shock. This simply means that some people who get stung experience a severe allergic reaction to the bee's toxin.



**Bumble Bee** *Bombus pennsylvanicus*

Bumble Bees are common and can usually be recognized by their round shape and black and yellow coloration. On rare occasions, orange marked bees can be found. Bumble Bees are important pollinators of certain kinds of clover because of their long tongues. Most of these bees nest in the ground, usually in a deserted mouse nest or bird nest, or similar situation. Like the Honey Bee, they have a toxic sting if bothered. Generally speaking, most bees are not aggressive and will not sting unless provoked.



**Yellow Jacket** *Vespula sp.*

Yellow Jackets have an abdomen banded with black and yellow. They build nests of varying sizes, some underground, some hidden in rock walls or under logs. An empty field mouse nest is often used. Unfertilized eggs develop into drones (males). Fertilized eggs grow into workers (sterile females) or queens. Females inflict a painful, venomous sting.



**Eastern Wood Tick** *Dermacentor variabilis*

The male's body is pale gray with reddish-brown spots on their legs. The female's body is reddish-brown with a small shield of black-speckled gray near the head and brown legs. Their habitat is primarily woodlands and shrubby areas often near trails. The adults feed on the blood of larger mammals. During the larval stage they parasitize rodents. Ticks can transfer disease organisms from one host to another. After a walk through a wooded area it is wise to inspect clothing and hair for ticks. The ticks should be carefully removed and either burned or drowned in alcohol.



**FEMALE WOOD TICK**



**MALE WOOD TICK**

**Deer Tick** *Ixodes dammini*

The Deer Tick is so small that it can fit on the head of a pin. They are orange-brown and have a black spot near their head. Like other ticks, they are arachnids (four pairs of legs). They are found in areas with heavy brush, woodlands, vegetation, etc. and are most active during the summer months. Deer Ticks can carry the bacterium that causes Lyme Disease. The bacterium is transmitted to humans when the tick buries its mouth into the skin of the host. Lyme Disease is not fatal, but it can be highly debilitating both physically and mentally due to its attacks on the nervous system.



**Timber Rattlesnake** *Crotalus horridus*

The Timber Rattlesnake is a large venomous (toxic) snake that may reach 60 inches in length. It feeds primarily on small mammals and birds. Like all poisonous snakes, nature has designed them with fangs and toxins to secure their prey, and not for the purpose of biting humans! They are not an especially aggressive species, but they will bite if cornered or their nest is threatened. They are usually found near rocky outcrops in wooded river valleys or near hills.



**Eastern Massasauga** or **Swamp Rattlesnake** *Sistrurus catenatus*

This is a stout-bodied snake. The largest Illinois specimen was around 35 inches long. For habitat, they prefer prairie marshes or old fields with heavy grass cover. They feed mainly on mice and other small mammals. A few persons in Illinois are known to have been bitten by a Massasauga; although hospitalization was required for them, they were not in serious danger.



**Northern Copperhead** *Agkistrodon contortrix*

This snake averages about 2-3 feet in length as an adult with the state record of 53 inches.

The Copperhead can be recognized (with some experience) by the hourglass shaped dark bands on its back. It is found primarily in rocky, forested hillsides. They eat small mammals, birds, frogs and insects. Small animals die after being injected by with the toxic venom from the snake's fangs. The venom is a hemotoxin (blood poison). It destroys tissues around the area of the bite.



**Poison Ivy** *Toxicodendron radicans*

Poison Ivy is probably the best known of the toxic plants. The skin inflammation it produces can be dangerous and most people have experienced discomfort from it at some time or another in their lives. Inflammation is caused by a yellowish oil, called urushiol, which it produces in the resin ducts of the leaves, flowers, fruit, and back of the stems and roots. Poison Ivy has no apparent effect on non-humans. In fact, over 60 species of birds are known to consume its white berries.



**Pokeweed** *Phytolacca Americana*

Pokeweed is a weedy plant of the fields, fencerows, and damp woods. It may grow as high as 10 feet and produces dark purple berries with purple juice. Native Americans often used these berries to dye different articles. Pokeweed contains an unidentified bitter substance that can cause vomiting and death if eaten in large quantities. Since boiling can destroy the toxin, young Poke shoots are still eaten in salads by some people.



**Trumpet Creeper** *Campsis radicans*

This woody vine can be found climbing along fences or high in shrubs and trees in moist or damp woods. It can be recognized by its trumpet-shaped, orange flowers. The fruit is an elongated slender capsule, which houses many winged seeds. Contact with the leaves or flowers of the Trumpet Creeper may cause inflammation of the skin with blisters.



**Cockleburs** *Xanthium chinense*

Cockleburs grow throughout the U.S. in moist places such as old furrows, pastures, streambeds, roadsides, ditches, shores, and beds of dry ponds. The plant may grow up to 4 feet in height. The fruit of the plant is a two-chambered bur that is oval in shape. It is covered with stout, hooked spines. Cocklebur seedlings are toxic to livestock that may graze on it.



**Poison Sumac** *Rhus vernix*

The smooth, gray, black-speckled branches of this poisonous tall shrub or small tree bear small, yellowish-green flowers on purple leafstalks in loose clusters arising from lower leaf axils. The fruit are small whitish berries in clusters. Touching this toxic plant can result in serious skin irritation with inflammation, itching, and blistering. This toxic plant is not present in Illinois.



**Castor Bean** *Ricinus communis*

Grown commercially for Castor Oil in the Gulf Coast states and is widely planted elsewhere for its foliage. It is an annual, growing up to 15 feet. The large lobed leaves are up to 3 feet across. Seedpods are a bur and form in clusters. The pods contain 3 small plump seeds that are usually mottled black or brown. There is enough of the toxin (ricin) in one seed to kill a human adult. Nausea, vomiting and diarrhea often characterize poisoning.



**White Snakeroot** *Eupatorium rugosum*

Solitary or clustered firm stems bear flat-topped clusters of small, fuzzy white flower heads composed entirely of disk flowers. When eaten by cows, this toxic plant results in milk that can be fatal to humans.



### **Dumb Cane**

The irritant effect of these plants is due to the sharp needles of insoluble calcium oxalate. Chewing on the leaf produces an almost immediate intense pain, which may be followed by swelling inside the mouth and the formation of blisters. Speech, in severe cases, becomes almost intelligible, hence the nickname, “dumbcane”. It can also produce injury to the eye and an irritating contact dermatitis.



### **Fool's Mushroom** *Amanita verna*

These mushrooms are pure white, capped with gills, and there is a ring present around the stem that (in most specimens) hangs down as a sort of veil. There is a cup at the base, but sometimes the thin tissue of the cup clings to the stem, making the cup rather indistinct. This toxin present in this mushroom is more deadly than the venom of a rattlesnake. There is a very good chance of survival after a rattlesnake bite, but ingestion of these beautiful fungi means an almost certain death.

