Volume 1, Issue 10

April, 2008

DEPARTMENT OF FINANCIAL SERVICES,
DIVISION OF RISK MANAGEMENT
ALEX SINK, CFO R.J. CASTELLANOS, DIVISION DIRECTOR

Risk Services Notes

Bites and Stings

With spring upon us and summer quickly approaching the risk of exposure to bites and stings from snakes, insects and spiders increases substantially. Although this is a risk factor that remains year-round in Florida, the number of incidents increases dramatically during the warmer months. Many of us face these exposures not only at work, but also during our leisure time and we all need to be aware of this exposure.

Each year in the U.S., there are over 8,000 poisonous snakebites, mostly in the summer season. Poisonous snake bites are medical emergencies, and they can be deadly if not treated quickly. Children are at higher risk for death or serious complications because of their smaller body size. However, the right anti-venom can save a victim's life. Getting the victim to an emergency room as quickly as possible is the top priority, as many snakebites, if properly treated, will not have serious effects. Snake bites can cause severe local tissue damage and often require follow-up care. All snake species will bite when threatened or surprised, but most will usually avoid an encounter if possible and only bite as a last resort. Snakes found in and near water are frequently mistaken as being poisonous. Most species of snake are harmless and many bites will not be life-threatening, but unless you are absolutely sure that you know the species, treat it seriously.

Employees may be in circumstances exposing them to biting and stinging insects. More people die each year from the stings of bees, wasps and similar insects than all the bites of spiders and snakes combined. While even that number of deaths nationally is not large, the stings of common wasps, yellow jackets and bees may result in systemic and potentially life-threatening allergic reactions in some people. Therefore, they cannot be taken for granted and those who are sensitized to insect stings must take special precautions to delay or avoid anaphylactic shock.

Florida is blessed with an abundance of biting flies... mosquitoes, various species of Tabanid Flies (blood-sucking flies) and biting midges ("no-see-ums" or "sand flies").

Except for mosquitoes, biting insects are largely pests whose major effects are pain & itching and the possibility of secondary infection. Mosquitoes, however, offer serious threat of disease transmission.

Mosquitoes offer the most serious health threat because of their ability to transmit viral, protozoan and filarial diseases.

Florida mosquitoes breed in the wild, but the major disease bearing mosquitoes also breed prolifically in close association with man's activities. Therefore, one does not have to be in the "deep woods" to be exposed to mosquito borne diseases.

West Nile Virus is primarily transmitted by *Culex* mosquitoes. However, the Asian Tiger mosquito (*Aedes albopictus)* is believed to be able to transmit the West Nile virus as well as many other disease organisms.

Eastern Equine Encephalitis (EEE) is a mosquito-borne viral disease. Because of the high case fatality rate, it is regarded as one of the more serious mosquito-borne diseases in the United States. EEE virus is transmitted to humans through the bite of an infected mosquito. The main EEE transmission cycle is between birds and mosquitoes. Several species of mosquitoes can become infected with EEE virus.

Other diseases that Florida mosquitoes are capable of transmitting include malaria, yellow and dengue fever, none of which have been reported to be transmitted from Florida sources in many years. However, continued vigilance is necessary. Just as West Nile Virus quickly became endemic in the native bird population, these diseases may return to Florida.

Tabanid flies are flies such as deer flies, horse flies, yellow flies, stable flies and black flies, to name a few. All are "day biting' insects and all depend upon vision and chemical emissions to locate potential victims. Carbon dioxide emissions from mammals are considered to be the most important single attractant. Because tabanids fly from one victim to another they are considered potential disease vectors between animals, including between animals and man. The bites cause a raised local wheal with severe local itching. Headaches, nausea, and swelling of lymph nodes are common. Severe systemic reactions may occur.

Insect repellants that contain DEET are generally considered by public health officials to be the most effective. Some clothing is woven tightly enough to resist mosquito bites, but most is not. In addition some insects are repelled or attracted by the color of clothing. Use insect repellant according to directions in addition to clothing.

Attached is a poster on venomous snakes in Florida and to the left are important links for further research in outdoor exposures.

Research Links

Venomous Spiders in Florida

http://www.doacs.state.fl.us/pi/enpp/ento/venomousspiders.html

Avoid Being Bitten by a Brown Recluse Spider

http://spiders.ucr.edu/avoidbites.html

Common Florida Spiders

http://edis.ifas.ufl.edu/BODY_IN017

Stinging or Venomous Insects and Related Pests

http://edis.ifas.ufl.edu/IG099

Guide to Florida's Venomous Snakes

http://www.flmnh.ufl.edu/natsci/herpetology/fl-guide/venomsnk.htm

Summer Mosquito Safety

http://www.mosquito.org/resources/summer-safety.aspx

Mosquito Control

http://www.mosquito.org/mosquito-information/control.aspx

Controlling Wasps, Hornets, and Yellowjackets

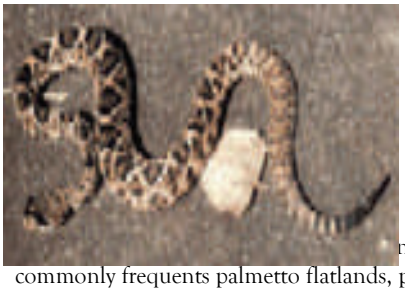
http://www.ca.uky.edu/entomology/entfacts/ef620.asp

Species Spotlight : Florida's Venomous Snakes

There are two types of venomous snakes **in Florida. The Crotalidae or pit vipers and the Elapidae. The Crotalidae are readily identified by the facial pits, one located between the eye and nostril on each side of the head. The elliptical eye pupil and broad, roughly V-shaped head are other identifying features of this group. Included in the family are the diamondback rattlesnake, canebrake rattlesnake, pigmy rattlesnake, cottonmouth, and the copperhead. The venom of these snakes is haemotoxic, that is, it destroys the red blood cells and the walls of the blood vessels of the victim. The Elapidae, represented in Florida by the coral snake, have neurotic venom. This attacks the nervous system of a victim, bringing on paralysis.**

Six Venomous Snakes in Florida

Diamondback Rattlesnakes



The eastern diamondback is the largest and most dangerous of our native snakes. It also ranks high on the list of poisonous snakes of the world. Its large body size, quantity of venom, aggressive defensive tactics and tremendous striking speed make this snake one to be treated with extreme caution.

The diamondback is recognized by a distinctive pattern of yellow-bordered diamond-shaped body markings. Brittle, button-shaped segments form a rattling mechanism at the end of the tail. The arrow-shaped head is much wider than the neck.

ndback occurs in every county and on many of the coastal islands. It may be encountered in almost nay habitat, but most commonly frequents palmetto flatlands, pine woods, abandoned fields, and brushy and grassy areas. In most situations, this snake is difficult to spot since its color pattern blends into the background.

When disturbed the rattler assumes a defensive position with the body coiled upon itself, rattle free and elevated to sound a warning whirr, and head and neck raised in an S-position. From this stance, when the target is close, the rattler can repeatedly deliver its stabbing strike and return to its original position so rapidly that the movements appear only as a blur to the human eye. The effective striking distance is form one-third to more than one-half the length of the snake's body. Recurved fangs or teeth, lying folded inside the roof of the rattler's mouth, are self erecting when the mouth is opened wide during a strike. As the fangs pierce the victim, pressure exerted on the poison sacs extrude venom into the wound. The rattler does not have to be coiled to strike--it can strike from any position and in any direction. When disturbed it generally, but not always, sounds a warning rattle. The diamondback may shed its skin from three to five times a year, depending upon the amount of food it takes in which in turn governs its rate of growth. A segment is added to the rattle at each shedding. Some rattle sections may be broken off as the snake travels about and it is somewhat unusual to find a perfect set. In the light of its irregular rate of adding new rattle segments, it may be concluded that the number of segments in a rattle in no way determines the age of a diamondback.

Although it may attain a body length of over eight feet, it is rare to find a rattler over seven feet long. Rattlesnakes feed on small warm-blooded animals, mainly rabbits, squirrels, rats, mice, shrews, and occasionally birds. It gives birth to form 9 to 15 young at a time. Newly born rattlers are equipped with venom and the hollow hypodermic needle fangs to inject it.

This species is commercially valued for its hide, meat and venom and for exhibition purpose. It renders economic service to farmers by preying on crop-destroying rodents.

Canebrake Rattlesnakes

The cane brake rattlesnake is restricted mainly to northern Florida but has been reported as far south as Alachua County. This snake is the southern subspecies of the timber rattlesnake found in other portions of the United States.

The canebrake is recognized by its grayish brown or pinkish buff color, with dark bands across its body, orange or rusty-red stripe down the middle of its back, and a brown or black tail which terminates in a rattle. As in other rattlesnakes, the head is much wider than the neck. It is more slender in build than the average diamondback. Florida specimens seldom measure more than five feet in length.

Usually found in the flatwoods, river bottoms and hammocks, the canebrake also occurs in abandoned fields and around farms. During hot weather, it may seek out low swampy ground.

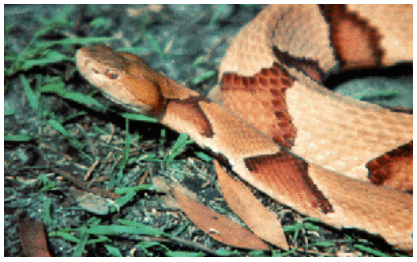
Pygmy Rattlesnakes

The pygmy rattlesnake, also called ground rattler, is common throughout Florida. It is found in every county and on many of the offshore islands. Its rattle is small and slender and produces a sound like the buzzing of an insect. This warning signal can be heard for no more than a few feet away.

Stout-bodied for so small a snake, it is gray in color and marked prominently with rounded, dusky spots. Starting at base of the head, reddish spots alternate with the black along the midline of the back. Most pygmy rattlers measure less than 18 inches in length.

This species feeds on small frogs, lizards, mice and other snakes. Like other members of the pit-viper family, it does not lay eggs, but gives live birth to its young.

Look for the pygmy rattlesnake in palmetto flatwoods, or in areas of slash pine and wire grass. It may be encountered in almost any locality where there are lakes, ponds, or marshes.



Copperhead

Florida is the southern extent of the range of the copperhead. At that, sighting it is hardly more than of rare occurrence in a few counties in the northwest portion of the state, notably Liberty and Gadsden counties. A handsome snake, it is pinkish tan in color with reddish-brown crossbands on the body. These bands are wide along the sides and narrow along the back to form something of an hourglass shape. The copper-colored head is wider than the neck. Average length is 30 inches.

Many snakes that are reported to be copperheads turn out to be young cottonmouths which are similar in appearance. So uncommon is this species here that very few bites, and no resulting deaths, have been reported from Florida.

Cottonmouth Moccasin

The cottonmouth moccasin is a pit viper without rattles. It grows to large size, exceeding five feet in length. Most Florida specimens average about three feet. It occurs commonly in every county in the state and on many coastal islands.

Color pattern of the cottonmouth varies form olive-brown to black, with or without dark crossbands on the body. It is stout-bodied with an abruptly tapering tail, and a broad head much wider than the neck. A distinctive mark is a dark band extending form the eye to the rear of the jaw. A drooping mouthline and protective shields overhanging its eyes give it a sullen appearance.

Often when disturbed it draws into a loose coil, cocks its head upwards and opens its mouth wide to reveal the whitish interior lining, hence the name cottonmouth. From this loose-coiled stance, it lunges out in a fast strike to embed its poison-carrying fangs. It usually retains a hold on its prey, chewing in order to drive its fangs deeper into its victim. It does not have to be coiled to strike, but can deliver a bite form almost any position, either in or out of the water. It is an unpredictable snake. Some individuals are calm and sluggish while others may be very aggressive.

A water snake, the cottonmouth is found along stream banks, in swamps, margins of lakes and in tree-bordered marshes. It hunts at night for its prey of fish, frogs, other snakes, lizards and small mammals.

A cottonmouth gives birth to six to 12 young that are born with poison sacs loaded and ready for action. The baby snakes are boldly marked with reddish-brown crossbands and bright yellow tails. At this stage they can be mistaken for copperheads.

During the day, the cottonmouth spends time resting near water, often in a grassy patch, on a pile of debris, in brushy places or in low trees hanging over the water.

The poisonous bite of this reptile results in great pain and severe swelling. With immediate and proper medical treatment, the bite is only occasionally fatal to humans.

Coral Snake

The coral snake's venom is the most potent of any of North America's snakes. This colorful species is closely related to the notorious cobra, krait, and mamba. The coral is shy and secretive, seldom aggressive unless startled, tormented or hurt. It has short fangs and a small mouth. It does not strike like the pit vipers but bites and chews to inject its poison. Especially vulnerable parts of the human anatomy to coral snake bites are fingers and toes. Most bites occur when a "pretty little snake" is picked up by someone who does not recognize it as a venomous one.

The coral snake is often confused with the harmless scarlet king snake, which it closely resembles. Both snakes are brightly colored with red, black and yellow bands. A helpful rhyme goes, "red touch yellow, kill a fellow; red touch black, good for Jack." The red rings of the coral borders the yellow. The red of the king snake borders the black. Also, the coral has a black nose, the king snake a red nose.

The coral snake is a small-sized, slender-bodied reptile with the narrow head and round eye pupils characteristic of non-poisonous species. The largest coral snake on record measured 47 inches, but most specimens are less than 24 inches in length.

Found more or less commonly throughout Florida, the coral inhabits pine woods, pond and lake borders and the jungle-like growth of Florida's hammocks. It favors such places as rotting logs, piles of decaying vegetation, heavy fallen leaf cover and old brush piles.

It noses about through decaying vegetation and humus to catch and feed on other snakes, lizards, frogs and other small animals. The coral snake lays eggs, usually six or less in number that hatch in 60 to 90 days. Young snakes measure from seven to nine inches at hatching, and are patterned and colored like their parents.