



Insect Reptile and Plant

Student Enrichment Program

IRaP - Student Handbook

Insect / Reptile and Plant Identification
and First Aid



Student's Course Companion Booklet

Focusing on Identification, Awareness and First Aid
Measures.

This booklet is not intended as a definitive Medical Tool. Use it
only as a General Reference Guide.

Always seek Professional Medical Advice.



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Summery Activity

You will need to work with your partner to complete the following exercise.

Your instructor will tell you when to begin.

Activity #1

While in the garden one of you feels a sudden painful sting on the neck. A few moments later the face begins to swell and your breathing becomes difficult.

Option 1—There appears to a foreign object at the sting/pain site Select from the First Aid Box the item(s) best suited to remove it and/or reduce the pain.

Option 2— There is only a red and swollen mark at the sting/pain site. Select from the First Aid the items(s) best suited to reduce the pain.

Demonstrate what you might use if the persons if the persons breathing

Activity #2

After returning from a walk in the woods you notice a burning/itching sensation and several small blisters on your leg.

1. Select from the First Aid Box those items best suited to begin first aid treatment.
2. If you are unsure of what to do; describe how to get help?.
3. After a few days, some of the blisters have broken and the area is becoming more red with a thick yellow/green fluid.

What do you think should be done next? - Make a list of possible options (at least 3)



Summery Questions

Instructor will facilitate this summery as a group discussion.

*** Do Not write on this Page ***

1	Infection from intestinal Parasites or worms can only come from poor hygiene.	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> neither
2	A warm compress will relieve the pain from an ant bite.	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> neither
3	Keep a rattlesnake bite victim calm because the neurotoxin in their venom causes delirium and confusion.	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> neither
4	Can vinegar be used to lessen the pain of a jellyfish sting?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> neither
5	Is the green hour glass of the Black Widow Spider found on the spider's back or the abdomen.	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> neither

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Course Outline

Introduction:

The “HELP” Program was designed to help participants (children & adults) recognize and respond to common environmental health concerns. Specifically, those first aid measures appropriate to stings, bites and conditions associated with contact or ingested poisonings.

The courses in this program teach skills that prepare participants to give immediate care to a suddenly injured or ill person until advanced medical personnel arrive. This program offers a choice of Citizen CPR, Bandaging & Splinting, Insect Reptile / Plant (IRaP) Treatment and Patient Evacuation Skills. The emphasis is on Hands-On Skills, made relevant for a student group in California.

Learning Objectives:

Identify Common Local Hazards

1. Insect
2. Reptile
3. Animal
4. Plant

Describe First Aid Measures

1. Call For Help
2. Use an Epi-Pen
3. Common FA Techniques

Course Length:

45 minutes to 1 hour

Course Materials

All material are provided—

- Preserved specimens,
- Participant Manual,

Course Certificate & Requirements:

- American Red Cross issues the Certificate of Achievement for Citizen CPR.
- CaliforniaCGC issues the Certificate for all other course modules.
- Students must participate in *all* course activities

Course Safety:

Wet specimens are preserved with either 60% ethyl alcohol gel or liquid denatured Alcohol. All other specimens are sealed in either acetate or clear resin.

****Specimen containers are not to be opened for any reason.****



Black Mold/Stachybotrys

Identification

Black toxic mold looks black or dark green. When black toxic mold is growing it has a distinctive shiny, slimy looking surface. However if black toxic mold dries out it can turn gray and powdery looking.

Habitat

Found in soil and grain, but the mold is most often detected in cellulose-rich building materials from damp or water-damaged buildings.

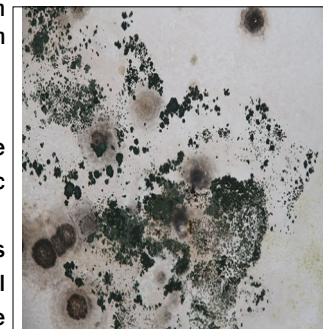
Sting/Hazard

Black toxic mold produces trichothecene mycotoxins which are one of the most toxic and resilient types of mycotoxins.

Toxic black mold causes serious symptoms and health problems such as mental impairment, breathing problems, damage to internal organs and sometimes even

death. The main groups of symptoms toxic black mold causes are:

- Mental and neurological symptoms
- Respiratory symptoms
- Circulatory symptoms
- Vision and eye problems
- Skin problems
- Immune system problems
- Reproductive system problems
- Tiredness and discomfort
- Other illnesses and health effects



First Aid

There is no direct First Aid. Wear personal protective equipment such as gloves, respirator, etc. If you suspect exposure seek medical help as soon as possible.

Death Cap/*Amanita phalloid*



Identification

This stately and beautiful mushroom, common in California's oak woodlands,.

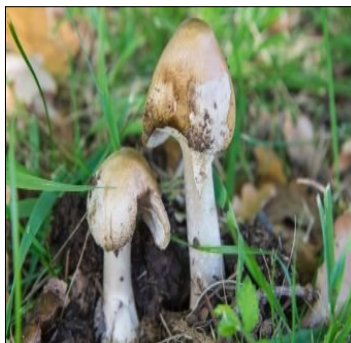
Cap (35-) 50-150 mm broad, convex to plano-convex, olive to olivaceous brown, yellowish green or pale yellowish brown. Gills shallowly adnexed to free, close, moderately broad, white, becoming cream in age. Odor mild when young, pungent and unpleasant in age - taste indistinct.

Habitat

Solitary to gregarious in duff under coast live oak, occasionally with other oaks; fruiting sporadically during summer in watered areas or from fog drip along the coast; common from fall to mid-winter in coastal oak woodlands, occasional with oaks at lower elevations of the Sierra Nevada.

Hazard

Deadly poisonous; contains both phallotoxins and amanitins. It is the amanitins (cyclic octapeptides that inhibit protein synthesis in cells) that are responsible for poisonings in humans.



Symptoms of poisoning generally appear between six and 24 hours after ingesting the death cap and can begin with nausea, vomiting and diarrhea. All human organs are affected, but damage to the liver is most severe and liver failure is the primary cause of death in *A. phalloides* victims. Symptoms usually appear 8-12 hours after ingestion; death occurs in 7-10 days in 10-15% of patients.

First Aid

Death cap poisoning is considered a medical emergency. If you suspect you have eaten some contact National Poison Control Center (1-800-222-1222) and go to a hospital immediately. If possible, take a sample of the mushroom with you.

Introduction



Although many different types of insects in the United States are able to inflict a poisonous bite or sting (meaning they are venomous), the insects most likely to cause medical problems are bees (including the domestic honey bee, its Africanized "killer bee" race, and the bumble bee), wasps (including paper wasps, hornets, and yellow jackets), and ants (including the fire ant). These insects are all in the Hymenoptera family, and thus stings from them are occasionally called Hymenoptera stings."

<http://www.webmd.com/skin-problems-and-treatments/picture-of-bee-wasp-hornet-yellow-jacket-stings>

This booklet contains helpful information regarding plants, animals and insects that are known as having localized and systemic effects on humans and animals. These adverse affects range form mild skin irritations to intense gastrointestinal, respiratory and neurological effects that may lead to death. Please note that the information contained in this booklet is not meant to be all-inclusive, but rather a compilation of the frequently encountered hazards. If you think that you or your pet is ill because of contact, sting, bite or ingestion of any substance, contact local EMS (911), Physician, Veterinarian or the 24-hour emergency poison hotline:

- National Poison Control Center ...1-800-222-1222
- ASPCA (for pets and animals)...1-888-426-4435.



(Imported) Fire Ant / *Solenopsis invicta*

Identification

Reddish, about 1.6 to 5 mm.

Diet

Fire ants are omnivorous. Known to eat meats, greasy and sweet materials. Fire ants are omnivores, meaning they will feed on animal or vegetable sources of food. The fire ant worker's diet includes insects, earthworms, ticks, spiders, arthropod eggs, honeydew and other sweets. Plant sources of food include seeds.

Habitat

Typically nest in the ground. At times, nests may appear as visible mounds of 61 cm in diameter and about 18 cm high. Large colonies can have up to 250,000 workers. Fire ants favor warm, sunny conditions. They prefer dry fields and avoid shady areas such as woods.

Sting/Hazard

When attacking, fire ants first use their mandibles to grip their prey, and then inject venom through a stinger.

Fire ant stings are painful for most humans and fatal to some: if a victim experiences a severe reaction such as sweating, nausea or excessive itching, emergency medical services should be contacted immediately. Their sting, which includes alkaloid venom, is highly irritating to humans and results in red bumps and white pustules, which can ultimately lead to scarring. Severe allergic reactions to fire ant stings, including severe chest pain, nausea, severe sweating, loss of breath, serious swelling, and slurred speech,[29] can be fatal if not treated.[30]



First Aid

First aid for fire ant stings includes external treatments and oral medicines.

- Ice the sting off and on (15 minutes on, 15 minutes off). ...
- Raise the part of your body where you got stung to reduce swelling.
- Take an antihistamine and use a hydrocortisone cream to relieve itching
- Subcutaneous epinephrine (Epi-pen) for management of serious anaphylactic reactions with respiratory distress.

Oleander / *Nerium oleander*

Identification

Plants are durable shrubs or trees that contain a gummy, clear sap. The leathery lance-shaped foliage is deep green and may be arranged opposite along the stems or in whorls. Oleander's funnel-shaped flowers bloom in clusters at the twig tips from summer to fall, and come in shades of white, pink, red, or yellow.

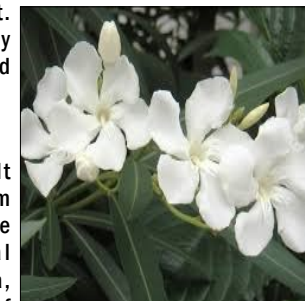


Habitat

Oleander (*Nerium oleander*) is an evergreen shrub or small tree that is prized by home gardeners for its showy, funnel-shaped blooms. Hardy to U.S. Department of Agriculture plant hardiness zones 8 through 10, oleander is part of the Apocynaceae or dogbane family. Oleanders are fast-growing and easy to care for, which makes them an appealing landscape plant. However, all parts of this plant are highly toxic and in some locations is considered invasive.

Hazard

Ingesting oleander plant parts can result in a variety of symptoms ranging from moderate to severe or fatal. These include skin rash, blurred vision, visual disturbances such as halos, diarrhea, nausea, stomach pain, vomiting, loss of appetite, irregular or slowed heartbeat, weakness, low blood pressure, confusion, dizziness, headache, fainting, depression, drowsiness, or lethargy. Symptoms such as depression, loss of appetite, and halos in the vision are typically only present in cases of chronic or severe poisonings.



First Aid

If you suspect ingestion of oleander plant parts it is vital that you seek immediate medical attention by contacting your local emergency services or by calling the National Poison Control Center at 1-800-222-1222. Do not try to treat poisoning symptoms at home and never induce vomiting unless instructed to do so by a medical professional.

Poison Oak/*Toxicodendron diversilobum*



Identification

Poison oak is a woody shrub/vine that loses its leaves in winter. In full sunlight, it forms a dense, leafy shrub 1 to 6 feet high. Leaves consist of three leaflets with stalk of the central leaflet being longer than those of the other two. A leaflet is 1 to 4" long and smooth with toothed or somewhat lobed edges.

Identification cont.

The surface of leaves can be glossy or dull and sometimes even somewhat hairy.

In spring, poison oak produces small, white-green flowers at the point where leaves attach to the stem. Whitish-green, round fruit form in late summer. In early spring young leaves are green or light red. In late spring/summer the foliage is glossy green and later shades of orange and red

Habitat

Western poison oak, is typically found in damp, semi-shady areas near running water, but thrives in direct sunlight, and requires water only in early spring. The plant is common in Douglas fir forests and California oak woodlands.

Hazard

Urushiol Oil from Poison Oak and Ivy causes a Type 4 hypersensitivity, often called "delayed type hypersensitivity", not an allergic reaction.

If urushiol oil is washed off the skin within an hour or so, the reaction can be largely prevented.

First Aid

Washing the skin to re-move excess plant oil will keep the rash from spreading. Thoroughly wash hands, since they serve as the major route for transferring the allergen to other parts of the body, especially the face. Also pour a mild solvent such as isopropyl alcohol over the area then wash with plenty of cold water; avoid warm water, since it enhances the penetration of the oil.

"*Tecnu*", creams and lotions and *Jewelweed* will remove the poison oak oil from your skin. You may also consider calamine lotion, hydrocortisone cream or oatmeal preparations along with a cool bath with baking soda.



Giant Forest Soldier Ant / *Camponotus gigas*

Identification

It is one of the largest ants in existence, measuring in at 20.9 mm for normal workers, and 30 mm for the soldiers.

Diet

Honeydew (a sugar-rich sticky liquid, secreted by aphids and some scale insects) makes up 90% of their diet, but they will also consume insects and bird droppings.

Habitat

These ants are found in the rain forest of Southeast Asia.

Sting/Hazard

When approached they often scramble away. But if threatened, they can deliver a painful bite with an injection of acid



First Aid

First aid for ant stings includes external treatments and oral medicines.

- Ice the sting off and on (15 minutes on, 15 minutes off). ...
- Raise the part of your body where you got stung to reduce swelling.
- Take an antihistamine and use a hydrocortisone cream to relieve itching
- Subcutaneous epinephrine (Epi-pen) for management of serious anaphylactic reactions with respiratory distress.



Moon Jellyfish / Aurelia aurita

Identification

Identify by their four moons' in the middle. These are the reproductive organs. Males have white and females have pink moons'. Moon jellyfish have short tentacles along the edge of the bell and four short arms situated around the mouth for catching food. Can be as small as 2 inches (5 cm) or grow over 1 foot wide (30 cm).

Diet

The common jellyfish is carnivorous, and feeds mainly on a variety of planktonic species such as molluscs, crustaceans, young worms and copepods (3). The plankton is caught in a layer of mucus that covers the jellyfish. Tiny hair-like structures called 'cilia' on the body of the jellyfish produce currents by beating.

Habitat

The moon jellyfish spends its time floating near the surface of the water,

Sting/Hazard

The tentacles of the moon jellyfish are poisonous for small marine animals but people are not affected by the toxin since it does not penetrate the skin. They fire thousands of stinging cells, or nematocysts, to poison prey!

If they were to sting humans accidentally, all it will do is leave a small rash as their cnidoblasts aren't powerful enough to penetrate human skin tissues, but most of the times these stings can hardly be felt at all.



First Aid

If a rash or irritation does occur treat as any Jelly Fish Sting—Wash area with salt water (ocean water is okay, but make sure you DO NOT get sand in the wound). Protect the affected area, if possible. Soak the area with a solution made of 1/2 vinegar and 1/2 water for about 30 minutes. This helps remove the tentacles. Rinse the area and then soak again with more of the vinegar-water solution.

Another way to remove tentacles is to apply shaving cream or a paste made from water and flour. Then, scrape the area with a dull edge, such as a credit card.

Roundworm / Ascaris lumbricoides

Identification

Adult: cylindrical shape, creamy white or pinkish in color

Male: average 15–30 cm and is more slender than female

Female: average 20–35 cm in length

The body is long, cylindrical, fusiform (pointed at both ends), body wall is composed of cuticle, epidermis and musculature



ascaris lumbricoides worms passed by a child in 2007

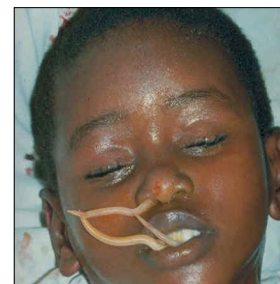
Diet

Adults survive by eating food digested by the host

Habitat

Ascaris eggs are found in the soil. The optimum soil is warm, moist, and shaded. Humans also act as reservoirs. The eggs are passed through the feces.

Eggs can also be found on chopping boards, coins, door handles, fingernail dirt, fruit, vegetables, furniture, insects, nasal discharge, money, and public bathrooms.



Hazard

Signs of infection include worms in stool, coughing up worms, loss of appetite, fever, and wheezing. In severe cases you will see vomiting, shortness of breath, abdominal distention, severe stomach or abdominal pain, intestinal blockage, and liver and gallbladder blockage.

Eggs of Ascaris are found in the feces of humans. They can be found in contaminated soil. The eggs can remain viable for months to years within the soil. The eggs can also be transmitted through undercooked produce previously contaminated with soil containing the eggs. Ascaris infection is generally found in places with poor sanitation. Once humans pass the eggs the eggs contaminate the soil and can become infectious in a few weeks. Humans obtain the infection with accidental ingestion of the infectious eggs. The larvae are carried through the lungs and then to the throat. The eggs will hatch once they reach the small intestine. The eggs then develop into adult worms that continue to lay eggs that are then passed through the feces. The cycle takes about two to three months.

Medical Treatment

Doctors may prescribe several different oral medications, such as mebendazole, albendazole, and pyrantel pamoate to treat ascariasis. If the intestine is blocked, surgery may be necessary. If the pulmonary stage is severe, corticosteroids may be prescribed to lessen the symptoms.

Liver Fluke (Flatworm) / Fasciola (hepatica)



Identification

They are leaf-shaped worms, large enough to be visible to the naked eye (adult *F. hepatica* measure 20-30 mm x 13 mm)

Diet

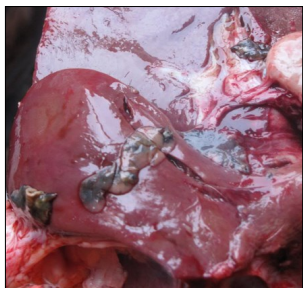
Adults of liver flukes are localized in the liver of various mammals, cows and sheep, including humans. These flatworms can occur in bile ducts, gallbladder, and liver, where they feed on blood.

Habitat

People living along rivers (Hawaii, California, and Florida) are prone to infection by flukes because they have a habit of eating raw or undercooked fresh-water fish. Adult flukes produce eggs which are passed into the host intestine.

Hazard

People get infected by accidentally ingesting (swallowing) the parasite. This happens by eating raw watercress or other contaminated freshwater plants. Also by ingesting contaminated water, or by eating vegetables that were washed or irrigated with contaminated water. People have also gotten infected by eating undercooked sheep or goat liver that contained immature forms of the parasite



Persons feel sick in early phase of infection, while immature flukes are passing (migrating) from the intestine through the abdominal cavity and liver. Symptoms from the acute (migratory) phase can start 4 to 7 days after the exposure and can last several weeks or months.

Persons feel sick during the chronic phase of the infection, when adult flukes are in the bile ducts (the duct system of the liver). The symptoms, if any, associated with this phase can start months to years after the exposure.

During both phases of the infection, clinical features can include fever, malaise, abdominal pain, hepatomegaly (an enlarged liver), and abnormal liver tests.

Medical Treatment

If you suspect infection, see a healthcare provider. Triclabendazole is the drug of choice. It is given by mouth, usually in one or two doses. Most people respond well to the treatment.

Portuguese man-of-war / Physalia physalis



Identification

Recognized by its balloon-like float, which may be blue, violet, or pink and rises up to 6 in. above the water. Below the float are long strands of tentacles and polyps that grow to 30 ft. and may extend by as much as 100 ft. The tentacles contain stinging nematocysts. This is not a true jellyfish but a siphonophore,

Diet

Using its venomous tentacles, a man o' war traps and paralyzes its prey. It typically feeds on small marine organisms, such as fish and plankton.

Habitat

The gas-filled bladder, or pneumatophore, remains at the surface, while the remainder is submerged. Since the Portuguese man o' war has no means of propulsion, it can only move with assistance from a combination of winds, currents, and tides. It is most commonly found in the open ocean in tropical and subtropical regions. Strong winds may drive them into bays or onto beaches.

Sting/Hazard

Common signs and symptoms of jellyfish stings include:

Burning, prickling, stinging pain— Red, brown or purplish tracks on the skin — a "print" of the tentacles' contact with your skin, Itching, Swelling, Tingling and numbness, Throbbing pain that radiates up a leg or an arm .



Severe jellyfish stings can affect multiple body systems. These reactions may appear rapidly or several hours after the stings. Signs and symptoms of severe jellyfish stings include: Nausea and vomiting, Headache, Muscle and joint problems, Weakness and dizziness, Fever, Loss of consciousness, Difficulty breathing, Heart problems

First Aid

Wash area with salt water (ocean water is okay, but make sure you DO NOT get sand in the wound). Protect the affected area, if possible. Soak the area with a solution made of 1/2 vinegar and 1/2 water for about 30 minutes. This helps remove the tentacles. Rinse the area and then soak again with more of the vinegar-water solution.

Another way to remove tentacles is to apply shaving cream or a paste made from water and flour. Then, scrape the area with a dull edge, such as a credit card.

After removing the tentacles, apply a cream containing a painkiller, an antihistamine, or a steroid such as cortisone cream.



Common House Mosquito/ *Culex pipiens*

Identification

They are light brown, medium sized 3 to 7 mm mosquito with a blunt tipped abdomen (body).

There are narrow white bands on the body segments but none on the legs or proboscis (beak or biting mouth parts)

Diet

Both males and females feed on various sugar sources, such as nectar, honeydew and juices from fruits.

Only females feed on blood, and will do so preferentially, over sugar, when they have mated. Blood provides proteins essential to the development of their eggs. Their primary blood meal hosts are considered to be birds, but they will feed on humans and other mammals.

Habitat

Stagnant water, Polluted streams, catch basins, untended swimming pools and ornamental pools

Sting/Hazard

A vector for diseases, such as Japanese encephalitis, meningitis, and urticarial (hives). In the US and parts of Europe, it can spread West Nile virus. They use exhaled carbon dioxide, body odors, temperature, and also movement to home in on their victims.



Symptoms and signs of West Nile virus include fever, headache, body aches, skin rash, and swollen lymph nodes. Severe symptoms and signs may include stiff neck, sleepiness, disorientation, coma, tremors, convulsions, and paralysis. Most cases of West Nile virus infection are mild and go unreported.

First Aid

Although mosquito bites are itchy, try to avoid scratching. They'll go away on their own. If you need relief in the meantime, apply a hydrocortisone cream or calamine lotion to the bite. A cold pack will also provide relief (15min on -15min off).

Yellow Sac Spider / *Cheiracanthium inclusum*



Identification

Yellow Sac Spiders are light yellow to pale yellowish green, sometimes with an orange-brown stripe on top of abdomen. The cephalothorax (fused head and thorax) is orange brown to reddish and the abdomen is pale yellow to light grey. An adult female sac spiders body is 1/4 to 3/8 inches long and its leg span is up to 1 inch.

Identification — cont.

Males are more slender, with a slightly larger leg span. The first pair of legs is longer than the fourth. Yellow Sac Spiders have eight similarly-sized dark eyes arranged in two horizontal rows.

Diet

Yellow Sac Spiders prey is a wide diet of arthropods, including spiders larger than themselves and even their own eggs.

Habitat

They shelter in flattened silk tubes during the day and move about to hunt during the night. Yellow Sac Spiders often live in houses and can frequently be found crawling upon walls or other vertical surfaces. Yellow Sac Spiders construct a silken tube or sac in a protected area, such as within a leaf, under landscape timbers or logs, or at the junction of a wall and ceiling and they use this sac as their daytime retreat. This is how the Yellow Sac Spiders derives its common name, sac spider. These spiders do not build webs.



Sting/Hazard

Yellow Sac Spiders are very powerful and the fangs can penetrate human skin quite easily. The venom has mild and local cytotoxic (a toxic effect on cells) and neurotoxic (poisonous to nerve tissue, as to the brain or spinal cord) effects. Typical symptoms of a sac spider bite include a stinging sensation followed by redness and mild swelling. In a few cases, the bite may blister and break, leaving a sore /ulceration that can take several weeks to heal. No fatal incidents from encounters with the yellow sac spider have ever been recorded

First Aid

The use of antibiotics is usually required should secondary infections set in but this could be prevented by the use of an antibacterial cream such as Betadine. There is no anti-venom.....An anti-tetanus injection may be necessary.



**Black Widow Spider /
Name***Latrodectus hesperus,*

Identification

Females are typically dark brown or black, with a red or orange hourglass on the ventral abdomen; some have a pair of red spots or no marking at all. They often exhibit various red or red and white markings on the dorsal abdomen, ranging from a single stripe to bars or spots. Females are about 1.5 inches long, males are about half that size.

Diet

Black widow spider eat other arachnids (spiders) and insects caught in their webs.

Habitat

Black widows are found in temperate regions throughout the world. They may be found in dark, dry shelters, " barns, garages, basements, outdoor toilets, hollow stumps, rodent holes, trash, brush and dense vegetation.

Sting/Hazard

Only the female black widow bites humans, especially when disturbed, or while protecting her eggs.



The bite will redden and begin to swell. More serious symptoms begin within 15 minutes to a few hours of the bite. Pain may not limited to the bite location. The chest and abdomen, in particular, will be painful. The muscles in these areas will cramp and go rigid due to severe muscle spasms. Your back and shoulders may also hurt.

Other symptoms you might experience include:

difficulty breathing, which is due to paralysis of the diaphragm, nausea, chills, increase blood pressure, headache, sweating, weakness, fever and in extreme cases, black widow spider venom poisoning may lead to seizures and even death.

First Ad

Immediately preceding your trip to the hospital or on the way to the hospital.

- Wash the bite thoroughly with soap and water.
- Apply a wet or damp ice pack for 10-15 minutes at a time, with 10-15 minute breaks in between.
- Elevate the location of the bite, if possible. For example, if you were bitten on your hand, keep your arm over your head. You should get to a hospital as soon as possible.



Bark Scorpion / *Centruroides exilicauda*

Identification

Yellow/Brown in color with darker coloring on top of body, about 3 inches. Thin tail about 1/16 wide, Pair of pincers, 4 pairs of legs, Tail with stinger

Diet

Scorpions are predatory. They often ambush their prey, lying in wait as they sense its approach. They consume all types of insects, spiders, centipedes and other scorpions. Larger scorpions may feed on vertebrates, such as smaller lizards, snakes, and mice if they are able to subdue them.

Habitat

in the U.S. are found in the southwest, preferring the warm, dry climates found in Arizona, California and New Mexico.

Sting/Hazard

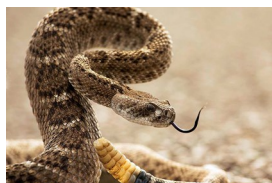
The bark scorpion is the most venomous scorpion in North America. The venom is a neurotoxin which depolarizes the nervous system of the victim.



Most sting symptoms are mildly painful and involve numbness, tingling and swelling around the sting site. Severe symptoms include muscle twitching, unusual head, neck and eye movements, drooling, sweating, vomiting, high blood pressure, low blood pressure, accelerated heart rate, restlessness or excitability. Stings can cause immediate pain or burning, and produce small swellings that are sensitive to the touch. Bark Scorpion stings result in numbness or tingling, blurry vision and twitching muscles. For children, hyperactivity and erratic eye movement can manifest.

First Ad

Immobilize the affected part below the level of the heart and keep person calm to slow/delay absorption of the poison. Seek emergency medical assistance immediately because death may occur if untreated.



Diamondback Rattlesnake/ Crotalus atrox

Identification

Snakes ranges from brown to gray to pinkish, depending on the habitat. Its back is lined with dark diamond-shaped blotches outlined by lighter-colored scales. The spade-shaped head is distinguished by two dark stripes, one on each side of its face, which run diagonally.

Identification cont.

Has long, tubular fangs, which are characteristic of venomous snakes. Its tail is circled by several alternating black and white bands, like the pattern of a raccoon's tail. The snake has "rattle" on the end of the tail that it uses as a warning sign. Grows up to 8 feet long.

Diet

Eats small mammals such as chipmunks, prairie dogs, gophers, ground squirrels, rabbits, mice, rats and will also eat birds.

Habitat

Ranges from central Texas, through New Mexico and Arizona, and into California. This species is not found in Washington state.

The snake occupies diverse habitats from sea level to 7,000 feet, ranging from desert flats to rocky hillsides, grassy plains, forested areas, river bottoms and coastal prairies.

Bite/Hazard

The venom of a rattlesnake is considered to be hemotoxic. This type of venom attacks tissue cells, creating necrosis and destroying viable cells. It also prevents clotting and promotes hemorrhaging throughout the affected area.

First Aid

Staying calm, Immobilize and Position the Affected Area lower than the heart. Use wire cutters or good pair of scissors to remove rings or restrictive clothing. While it is critical to prevent restriction that leads to loss of blood flow, it is important to inhibit lymphatic flow. Use strips of cloth or ACE Wrap to apply mild constrictive pressure to the entire limb. Transport to medical facility immediately.



Deer (Black Legged)/Ixodes pacificus

Identification

their bodies are flattened and they possess eight legs as adults and nymphs, but only six legs in the larval stage. Unfed adult female blacklegged ticks are approximately 3 - 5 millimeters (mm) long and are colored red and brown. Female ticks that are engorged with a blood meal appear darker and are about 10 mm long.



Diet

Ticks must eat blood at every stage to survive. Larvae and nymphs feed on birds, small mammals, and especially lizards.

Habitat

Adult female and male ticks climb low-lying vegetation in grassland, woodland-grass, or brush, where they lie in wait for hours or days for potential hosts, including medium- to large-sized mammals, such as black bears, coyotes, deer, foxes or jack rabbits, to brush against them.

Bite/Hazard

Once adult ticks contact a suitable host, female ticks begin to search for a suitable attachment site. In contrast, male western blacklegged ticks mainly seek vertebrate hosts to locate receptive females for mating purposes. After about 48 hours they may pass on Lyme disease, Babesiosis, Ehrlichiosis



First Aid

Remove the tick with tweezers to grasp the tick near its head or mouth and pull gently to remove the whole tick. **Other methods – such as applying petroleum jelly, fingernail polish, rubbing alcohol or a hot match – aren't recommended.**



If possible, seal tick in a container. Your doctor may want the tick if signs or symptoms of illness develop.

Wash hands and area around the tick bite with soap and water.

Dog Tick/*Dermacentor variabilis*



Identification

The American dog tick is dark brown with whitish markings on its back and is one of the larger species of ticks found in the United States. The larvae and nymphs are very small and are not easily seen. The adult female is 3/16 inch long before feeding, and when engorged with blood, can be up to 5/8 of an inch long and 3/8 of an inch wide. Engorged females look like dark pinto beans.

Diet

Ticks must eat blood at every stage to survive. Larvae and nymphs feed on birds, small mammals, and especially lizards.

Habitat

Adult female and male ticks climb low-lying vegetation in grassland, woodland-grass, or brush, where they lie in wait for hours or days for potential hosts, including medium- to large-sized mammals, such as black bears, coyotes, deer, foxes or jack rabbits, to brush against them.



Bite/Hazard

Rocky Mountain Spotted Fever, Tuleremia and may carry Human Granulocytic Ehrlichiosis.



First Aid

Remove the tick with tweezers to grasp the tick near its head or mouth and pull gently to remove the whole tick. **Other methods — such as applying petroleum jelly, fingernail polish, rubbing alcohol or a hot match — aren't recommended.**

If possible, seal tick in a container. Your doctor may want the tick if signs or symptoms of illness develop.

Wash hands and area around the tick bite with soap and water.

Eastern Coral Snake / *Micrurus fulvius*



Identification

"Red on yellow, kill a fellow; red on black, venom lack". This color pattern, however, is unreliable in Latin America. Adults reach about 2 feet (0.6 meters) in length.

Diet

They eat lizards, frogs, and smaller snakes, including other coral snakes.

Habitat

Found in the southwestern and southeastern United States and much of Mexico.

Bite/Hazard

There is little or no pain or swelling at the site of the bite, and other symptoms can be delayed for 12 hours. However, if untreated by antivenin, the neurotoxin begins to disrupt the connections between the brain and the muscles, causing slurred speech, double vision, and muscular paralysis, eventually ending in respiratory or cardiac failure.



Fortunately Coral Snakes have much smaller fangs than do pit vipers, they must "chew" to allow their venom to flow into the wound, making it harder for them to envenomate humans.—Consequently, coral snake bites rarely cause a fatal injury.

First Aid

Prompt evacuation of the victim to a medical facility is the first priority.

Rapidly apply a pressure immobilization technique in which a compressive bandage (eg, elastic bandage, crepe bandage, torn clothing) is wrapped around the bitten extremity, starting distally and progressing to encompass the entire limb. Wrap it as tightly as one would wrap a severely sprained joint. Then, splint the extremity and, if possible, keep it at approximately heart level.





Blue (Mud Dauber) Wasp / *Chalybion californicum*

Identification

A large, active, blue-black wasp with iridescent blue wings.

Diet

Adults take nectar. Larvae feed on spiders.

Habitat

Found throughout North America in fields with flowers and near buildings. Unlike other wasps, the mud dauber is not social, and does not live in a colony. They like to make its nest in elevated areas.

Sting/Hazard

They usually reserve their sting only for prey (spiders) and rarely sting humans (they do so only if handled roughly). They don't defend their nests like paper wasps and other social species.



First Aid

Despite their general reluctance to sting caution should still be used when dealing with a mud dauber wasp nest, as their sting may cause swelling and redness.

Special Note:

While some consider them an annoyance, others might be inclined not to exterminate them as they help keep spider populations down around their nests.



This may be especially beneficial in areas where the species of spiders are dangerous to humans. For instance some variations of the mud dauber search out and hunt black widow spiders, an arachnid with a venomous bite dangerous to humans.



Honey Bee/*Apis mellifera*

Identification

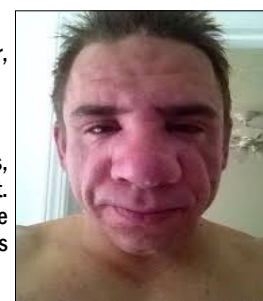
Working bees feature a nearly all black head with a body coloring of golden brown and black with patches of a dull orange. Yellow bands are easily distinguishable on the abdomen and wings are clear. Their entire bodies are covered in tiny hairs with these being most notable on the head and body.

Diet

Honey bees are vegetarians; their diet consists of nectar, pollen, water and (Royal Jelly).

Habitat

They prefer to live in gardens, woodlands, orchards, meadows and areas where flowering plants are abundant. Within their natural habitat, honey bees build nests inside tree cavities and under edges of objects to hide themselves from predators.



Sting/Hazard

In many cases, there's only pain and swelling at the sting site. In rare cases, a life-threatening allergic reaction can cause difficulty breathing, tongue swelling, nausea, and unconsciousness.

First Aid

For mild to moderate reactions, treatment involves removing the stinger, washing the area with soap and water, and applying cold compresses or ice. Creams to the affected area can help reduce discomfort. Severe reactions may need epinephrine, for example with an Epi-Pen.

Special Note:

Although it is widely believed that a worker honey bee can sting only once, this is a partial misconception: although the stinger is in fact barbed so that it lodges in the victim's skin, tearing loose from the bee's abdomen and leading to its death in minutes, this only happens if the skin of the victim is *sufficiently thick*, such as a mammal's.

Honey bees are the only hymenoptera (Ants/Wasps/Bees/Sawflies) with a strongly barbed sting, though yellow jackets and some other wasps have small barbs.

Bees with barbed stingers can often sting other insects without harming themselves. Queen honeybees and bees of many other species, including bumblebees and many solitary bees, have smooth stingers and can sting mammals repeatedly.