

Appendix E: Animals and Pests

Dangerous animals and other pests are present worldwide. General safety rules can help protect you from these hazards. All field researchers, regardless of the work location, should read through table E-1 for some general guidelines to avoid unwanted animals and pests. If your research is in North America, please also read table E-2. If your research will take you out of North America, please also read table E-3 about international animals.

A number of animals and pests may be encountered in fieldwork. Follow these general guidelines to prevent close encounters of the painful kind:

- Keep garbage in rodent-proof containers and stored away from your campsite or work area. Food crumbs and debris may attract insects and animals.
- Thoroughly shake all clothing and bedding before use.
- Do not camp or sleep near obvious animal nests or burrows.
- Carefully look for pests before placing your hands, feet, or body in areas where pests live or hide (e.g., woodpiles or crevices).
- Avoid contact with sick or dead animals.
- Wear clothes made of tightly woven materials and tuck pants into boots.
- Wear insect repellent.
- Minimize the amount of time you use lights after dark in your camp or work site because they may attract pests and animals.
- Use netting to keep pests away from food and people.
- Carry a first aid manual and kit with you on any excursion so you can treat bites or stings. If the pest is poisonous or if the bite does not appear to heal properly, seek medical attention immediately.
- Be aware of the appearance and habitat of likely pests, such as those described in the following pages.

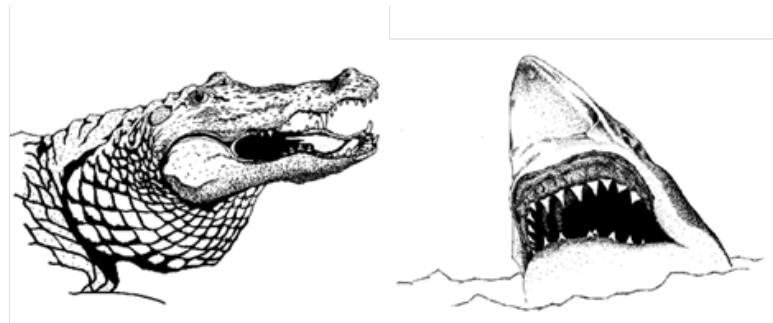


Table E-1: Animals and Pests Found Worldwide					
Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Sharks	Worldwide: Shores of oceans, including the U.S., Africa, Central and South America, Australia, and the Pacific Islands	Great White, Bull, Tiger, Oceanic Whitetip	Call for help; swim towards safety. Punch or kick the shark if necessary.	Seek medical attention for serious injuries or wounds.	Never swim alone. Don't wear sparkling jewelry. Don't enter the water when bleeding.
Crocodiles and Alligators	Worldwide: Tropics and subtropics of North America, Australia, Eastern China, and Africa	American Alligator (North America), Estuarine Crocodile (Australia), Nile Crocodile (Africa)	Do not provoke an alligator or crocodile.	Seek medical attention for serious injuries or wounds.	Avoid waters known to be home to crocodiles or alligators. Keep at least 30 feet away from any crocodile or alligator.
Rodents	Worldwide	Refer to Section on Diseases	Wear appropriate personal protective equipment (gloves) if you must touch a rodent.	Clean wounds thoroughly if bitten or scratched.	Keep areas clean to avoid attracting rodents. Keep food stored in sealed containers.
Conenose Bugs	North and South America	May cause allergies in some people. Refer to Section on Diseases		Use topical ointments to soothe itching. Take victim to the hospital in case of anaphylactic shock.	Use caution when working near nests and wood rat dens. Use extra caution when working near rock shelters.
Mosquitoes	Worldwide, especially wet areas conducive to breeding	Refer to Section on Diseases		Use topical ointment to relieve itching.	Use insect repellent to deter mosquitoes. Don't leave standing pools of water.

Table E-1: Animals and Pests Found Worldwide					
Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Water Dwellers	Worldwide, especially Australia, also in other tropical and subtropical areas	Blue Ringed Octopus, Box Jellyfish, and Irukandji Jellyfish (Australia); Stonefish – worldwide	Never touch an unidentified octopus or jellyfish. Avoid stepping on stingrays.	Jellyfish/ Octopus sting: Use seawater to remove nematocysts. Pour vinegar on the wound. Seek medical attention immediately. Stonefish sting: Rinse in hot water (45° C or 113° F) and seek medical attention. Blue-ringed octopus sting: Provide CPR and/or supportive care to the patient and seek medical attention IMMEDIATELY. Stingray sting: irrigate wound to remove spine fragments; apply pressure to stop bleeding; soak wound in hot water or apply heat pack; remove sting pieces if injury is on extremities, then clean wound; seek emergency medical attention.	Avoid going in waters known to be inhabited by jellyfish and octopus. Wear sandals in the water to avoid stepping on a stonefish. Shuffle in the water or throw stones in before wading to avoid stepping on a stingray.

Table E-2: Animals and Pests Found in North America

Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Bears	North America	Black Bear (North America), Grizzly Bear (Alaska, Western Canada, Pacific Northwest), Polar Bear (Arctic)	Never run. Move slowly and speak in a low soft voice. If attacked, lay in the fetal position and protect head. Play dead. Use Bear Spray (see https://www.nps.gov/subjects/bears/safety.htm for more information).	Seek medical attention for serious injuries or wounds.	Keep food out of sleeping areas. Never approach a bear or bear cub. Wear a bell or other noisemaker. Stay away from the bear's food supply.
Mountain Lions	: Western Canada, south into Wyoming, California, parts of Texas, Florida Everglades (few)	All	Do NOT run. Fight back. Protect your neck and head. Don't play dead.	Seek medical attention for serious injuries or wounds.	Do not corner it. Make yourself look larger (arms overhead). Use loud voice. Throw sticks or rocks. Carry pepper spray.
Snakes	North America	Rattlesnakes, Cottonmouths, Coral Snakes, Moccasins, and Copperheads	Do not pick up, disturb, or corner a snake. Move away from the snake.	Let the wound bleed freely for 30 seconds. Apply a cold pack. Keep area immobilized at heart level. Take victim to hospital (alert ahead if possible).	Walk in open areas. Wear heavy boots. Use a stick to disturb the brush in front of you.

Table E-2: Animals and Pests Found in North America

Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Spiders	North America	Black Widow and Brown Recluse	Do not pick up or disturb a spider.	Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Take victim to hospital (alert ahead if possible).	Use care around rock piles, logs, bark, outdoor privies, and old buildings. Shake out clothing and bedding before use.
Scorpions	North America, especially Mexico, Arizona, southeastern California, and Utah	All	Avoid contact with scorpions whenever possible.	Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Use painkiller or antihistamine if desired. Take victim to hospital if he or she shows no signs of improvement.	Always shake out clothing and bedding before use. Avoid lumber piles and old tree stumps.
Bees, Wasps	North America	Bees, wasps, hornets, and yellow jackets, Africanized Keller Bess (southeastern U.S.)	Avoid contact with these insects whenever possible.	Remove the stinger quickly. Place an ice pack and elevate to heart level. Use an antihistamine if needed.	Bring medication if you have an allergy (the sting may be fatal). Keep scented foods and meats covered.

Table E-2: Animals and Pests Found in North America

Type	Location	Most Dangerous Species	Defensive Action	First Aid	Prevention
Fleas and Ticks	North America	Refer to Section on Diseases	Avoid contact with animals or areas where fleas and ticks might be found.	Remove the flea or tick with tissue or tweezers and clean wound with antiseptic. Pay attention for signs of illness (see Section on Diseases) and seek medical attention if needed.	Wear clothing of tightly woven material. Wear insect repellent. Tuck pants into boots. Stay on widest part of path. Drag cloth across campsite to check for fleas or ticks.

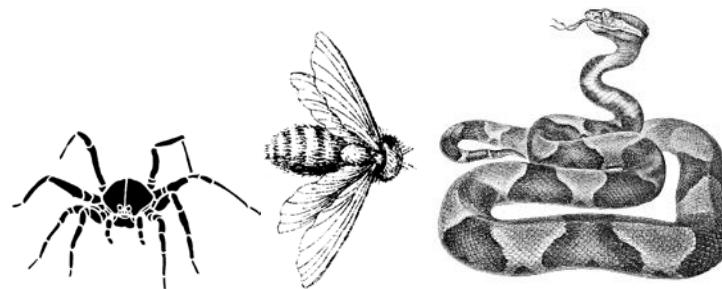


Table E-3: Animals and Pests Found Outside of North America					
Type	Location	Most Dangerous	Defensive Action	First Aid	Prevention
Bears	Worldwide: Arctic, South America, Asia	Polar Bears (Greenland and N. Russia), Spectacled Bears (N. and W. South America), Asiatic Black Bears (S. and E. Asia)	Never run. Move slowly and speak in a low soft voice. If attacked, lay in the fetal position and protect head. Play dead.	Seek medical attention for serious injuries or wounds.	Keep your camp area free of garbage and food waste. Never feed or approach a bear, especially a cub. Stay away from the bear's food.
Lions	Africa and Asia	All	Do not provoke a lion.	Seek medical attention for serious injuries or wounds.	Stay inside the vehicle if travelling near lions. Do not camp near areas frequented by lions.
Other Large Land Dwellers	Africa, Asia	Hippos, African Elephant, Rhinos, and Buffalo (Africa); Asian Elephants and Bengal Tigers (SE Asia); Siberian Tigers (N. and E. Asia)	Do not provoke these large animals.	Seek medical attention for serious injuries or wounds.	Stay inside the vehicle if travelling near large animals. Do not camp near areas frequented by large animals. Keep a lookout in open spaces.

Table E-3: Animals and Pests Found Outside of North America					
Type	Location	Most Dangerous	Defensive Action	First Aid	Prevention
Snakes	Worldwide	Russel's Viper and Indian Cobra (India); Tiger, Black, Brown and Sea Snakes (Australia); Egyptian Cobra, Puff Adder, and Saw Scaled Viper (Africa); Ferdelance (Central and South America)	Do not pick up, disturb, or corner a snake. Move away from the snake.	Let the wound bleed freely for 30 seconds. Apply a cold pack sparingly. Do NOT tourniquet. Keep area immobilized at heart level. Take victim to hospital (alert ahead if possible).	Walk in open areas. Wear heavy boots. Use a stick to disturb the brush in front of you.
Spiders	Worldwide	Funnel Web and Redback Spiders (Australia); Brazilian Wandering Spider, Brown Recluse, and Tarantula (South America)	Do not pick up or disturb a spider.	Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Take victim to hospital (alert them first). Kill spider for positive ID (if possible).	Use care around rock piles, logs, bark, outdoor privies, and old buildings. Shake out clothing and bedding before use.
Scorpions	Worldwide, especially North Africa, the Middle East, South America, and India	All	Avoid contact with scorpions whenever possible.	Clean wound and put a cool pack on the area. Keep area immobilized at heart level. Use painkiller or antihistamine if desired. Take victim to hospital if he or she shows no signs of improvement.	Always shake out clothing and bedding before use. Avoid lumber piles and old tree stumps.