

Vile vegetation and biting buzzers may have their place. If only their place weren't so near your place! Creepy-crawlers and leafy lurkers can be annoying, health- and even life-threatening. But with a little knowledge and some preparation, you can meet the "enemy," and still keep your sense of humour.

By S.R. Gage



ILLUSTRATION BY TAMI KNIGHT

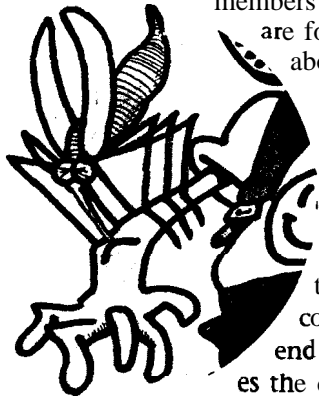
Upper right: A honey bee gathers pollen.
lower left: Watch out for yellowjacket colonies such as this one.

Life in the outdoors would be a good deal easier without things that crawl and fly and bite and sting. The twentieth century had some answers to this problem, such as DDT. We know now that our goal with these critters has to be peaceful coexistence. Using a little knowledge and preparation you should be able to live and let live, and avoid most of the discomforts discussed here. If you do come into harm's way, there are first aid measures you can take.



Winged Stingers

There are a good many different kinds of hornet-shaped insects in Canada; the ones that usually give us the most trouble are yellow and black and commonly called yellowjackets. These



members of the hymenoptera family are found all across Canada, from about the treeline south.

A yellowjacket colony grows exponentially over the summer, producing by autumn a vast number of aimless "workers." They may attack people during the summer if they feel their colony is threatened, but the

end of the warm weather increases the chance of yellowjacket interference with humans, as they spread out looking for a free meal. A wandering yellowjacket will happily eat taco sauce, but his first choice for a picnic lunch is another insect. Yellowjacket venom thus does double duty, inflicting pain on enemies and subduing prey.

Some people are hypersensitive to wasp venom. Their bodies' normal defence mechanisms overreact to a sting, leading to extensive swelling of tissues and even constriction of airway passages. This condition, called anaphylactic shock, can be fatal.

An excessive reaction can also be prompted



by bees. About fifteen percent of North Americans fall into this category, when their immune systems go into overdrive. But, even if there is no allergic reaction, multiple bee stings can produce such symptoms as headache, fever and muscle spasms.

A honeybee sting is a kamikaze manoeuvre in which your attacker has sacrificed herself for the good of the bee community. The bee leaves a good part of its posterior behind after stinging you, and that rump section continues to pump venom. The traditionally correct response was to scrape the stinger from your skin with a knife or credit card. New research indicates that time is of the essence, and that a quick grab-and-pull on what's left of the bee will not squeeze a heavy dose of venom into your body.

Honeybees, chunkier and hairier than wasps and somewhat smaller than a dime, can be found in any agricultural region in Canada. Bumblebees, those familiar large, humming zeppelins, are wide-spread across the country.

For any of the winged messengers mentioned here, a sting site needs to be cleaned and disinfected. Ice or a cool compress should help with local pain and irritation. In the case of multiple stings, an oral antihistamine will often control mild symptoms. But be alert for the signs of a more severe allergy attack — widespread hives, nausea, dizziness, difficulty breathing. These conditions indicate that professional medical aid is needed at once.

People with an established allergy to stings should consult with their doctor about carrying prescribed doses of the drug epinephrine in pre-loaded syringes (EpiPens) when they head out into the natural world. If the allergy is known, the EpiPen, benadryl tabs, or epinephrine should be carried along and everyone on the trip should know where it's kept, how and how much to administer.

To reduce your chances of being stung by yellowjackets, look out for spherical nests made of a paper-like material hanging down from a tree branch or tucked underground in an abandoned animal hole. Keep all food covered at your campsite. And avoid looking and smelling like a flower — strong-smelling deodorant, perfume,

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shampoos and hairspray are definitely out. Bright-coloured clothing, which, happily, attracts rescuers, can also, carried to extreme, attract unwanted stingers. (Choose your poison — black flies like dark colours! See below.)

The All-Canadian Bug

Black flies are a nation-wide nuisance that can be found anywhere south of the Arctic archipelago. There are more than 100 species of black flies in Canada, but only five or six take an interest in human blood. The females of these species need blood to nourish their offspring, and they have the miniature surgical equipment to slice into your circulatory system and get it.

Black flies are sensitive to carbon dioxide, and this is the primary attractant to living, breathing humans, according to entomologist Dr. Doug Currie of the Royal Ontario Museum. These little vampires tend to prefer victims dressed in dark colours, and they always make a final check, before they drink, to insure that your body temperature indicates a warm-blooded target.

A black fly, dug into your skin, needs at least three minutes of gorging to fulfill her reproductive requirements. In the process, she releases various histamines and proteins into you that can cause an allergic reaction. Death by black flies is unknown in North America, but some people will suffer extensive swelling and feverish symptoms after only a few bites.

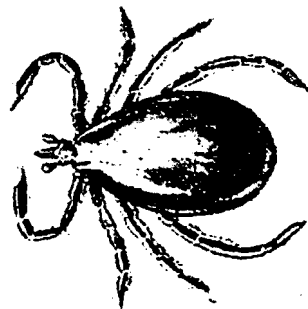
Sensitive victims can be treated as for other stinging insects. The best protection is a repellent with at least 30 percent DEET content. Citronella-based repellents are less effective, but easier on your skin and plastic gear. Light-coloured clothing, with closures at the wrists, ankles and waist will help.



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They Want Your Blood

Several species of ticks seek out human blood to complete their life cycle, much as black flies do. Dealing with a well dug-in tick can be unpleasant, but the real problem comes not from the tick itself, but from its role as a vector, or carrier of disease.

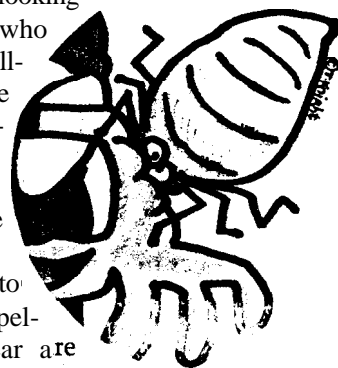


The deer tick and the western black-legged tick are members of the genus

Ixodes and are about the size of a pinhead. Although adult *Ixodes* ticks have been observed in many parts of Canada, the places you're most likely to pick up these tiny hitch-hikers are in the Long Point area of southern Ontario and in the foothills and mountains of southern B.C. and Alberta.

The primary concern with an *Ixodes* tick bite is Lyme disease. Lyme disease has a series of confusing symptoms that often make it hard for a physician to diagnose its presence. But caution is needed because this tiny beastie can give you persistent arthritic and neurologic problems. The early symptoms usually include a red bump at the bite location that expands into a circle with a white centre. This "bull's-eye" rash appears three to 30 days after a bite.

Ticks tend to hang off low vegetation (or the family pet), looking for a human ride. Hikers who might have become unwilling hosts should undertake a nightly tick check. Light-coloured clothing is an advantage when you're trying to spot ticks before they get permanently affixed. Stuffing pants into socks and using insect repellent on legs and footwear are also good ideas to discourage ticks.



If you find one of these thirsty little arachnids latched to your skin, reach for a pair of tweezers and make contact as close to its front end as possible. Gently pull the tick straight back without crushing it. Leave the petroleum jelly and the matches in your backpack. Applying such regimens to your visiting tick will not cause it to drop off, but only encourage it to spew more of the germs it might be carrying into your body.

Consider your extracted tick a trophy, and take it home in a plastic bag in case of medical

Upper right: This innocuous-looking tick can carry some nasty diseases. Lower left: A black fly gorges on human blood.

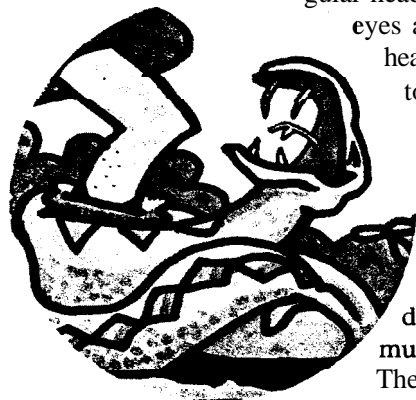
Prairie rattlesnake. Beware of these fellows on your plains adventures.

investigations later. If a good part of the tick has been left behind after your tweezer job, use a sterile needle to work the rest of it out. Wash the site with soap and water, apply an antiseptic, such as rubbing alcohol, or an antibiotic ointment.

An infectious bite from a tick is very rare in Canada. In North America, between 1987 and 1993, only 235 cases of Lyme disease were reported, and many of these were undoubtedly contracted south of the border. It may be further consolation to know that a deer tick needs a good 24 hours attached to a victim before Lyme disease bacteria can be transferred in significant amounts. However, if you develop unusual symptoms after a tick bite, you might remind your physician that there have been a handful of confirmed cases of relapsing fever, Q fever, Rocky Mountain spotted fever, tularemia, Colorado tick fever and Powassan encephalitis in Canada.

Serpents to Know

Rattlesnakes are the only poisonous snakes in Canada. Rattlers are members of a group of snakes called pit vipers, all of which have triangular heads, catlike eyes and, between the eyes and nose, facial pits sensitive to heat. Here is the short list of snakes to look out for.

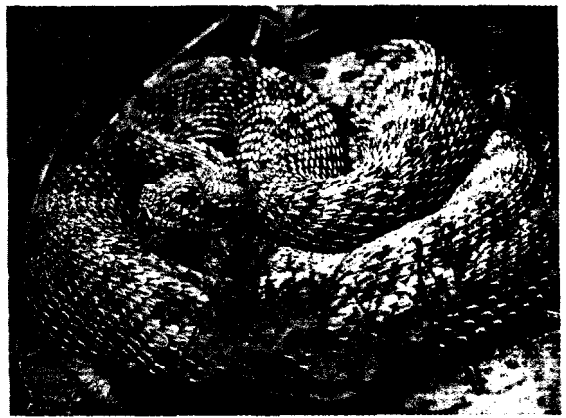


The northern Pacific rattlesnake is found in south-central British Columbia. It can be one of several earthen tones, with a pattern of dark blotches each surrounded by a light border. This snake reaches a maximum length of a metre and a half.

The prairie rattlesnake occurs in southeastern Alberta and southwestern Saskatchewan, with a particular concentration in Grasslands National Park. Their markings are similar to the northern Pacific snake, and grow about as long as their B.C. cousins.

Listed by the provincial government as a "threatened" species, the eastern massasauga rattlesnake survives in limited habitat in Ontario. The two largest areas of survival are the Bruce Peninsula and the east side of Georgian Bay. Massasauga rattlers are grey or pale brown, with a predominance of black flecks, and dark blotches along the back. Their average length is only 50 cm, and they have a small set of "buzzie" rattles.

An injection of snake venom, somewhere around ankle height, is not a pleasant prospect, but keep in mind rattlesnakes are not outlaw reptiles, waiting to ambush humans. These snakes want to be left alone, and have devel-



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oped subtle camouflage markings that help them avoid contact with anything except their small mammal prey.

"They are extremely cryptic," says Carleton University graduate student Chris Parent, who has spent eight summers observing rattlesnakes in Ontario's Killbear Provincial Park. "If I had a nickel for every time I've seen a person walk within their body height of a rattlesnake, and not notice it, I'd be a rich man," he adds.

If you happen to be bitten, do your best to identify the snake, and check the affected area for a pair of distinct puncture wounds. Non-poisonous snakes do occasionally bite, without deep skin penetration, and rattlesnakes can strike without releasing any venom. If in doubt, assume you do have a dose of venom. Expect a good deal of pain within five minutes of a strike, and considerable swelling and discoloration in the bite area. A record of how quickly symptoms appear can be of use to health professionals when you reach them.

The snake bite area should be washed with soap and water and immobilized in a position lower than the heart. If it will take more than 30 minutes to reach medical aid, a broad bandage can be wrapped five to ten centimetres above the wound. This bandage may reduce venom movement through the lymphatic system, but should be loose enough to permit a finger to be slipped under it. The less effort the victim has to put out to reach expert aid, the better. However, the priority must be to get access to antivenins and other drugs, even if the victim has to exert considerable effort.

Forget about tying on a tourniquet, cutting open the snake bite and sucking out the venom. The chances of helping the victim are marginal, while the likelihood of damaging tissue and adding further infection is high.

If you hear a telltale rattle in snake country, back off from your direction of travel, locate the snake, and take a two-metre detour. In warm weather, snakes may be active at night, so wear boots and carry a flashlight if you must move about after dark.

Dangerous Dust

Hantavirus hit the headlines in 1993 following a series of mysterious deaths among the Navajo people of the American southwest. Research based on that event concluded that the deer mouse was the carrier of the deadly virus involved.

Deer mice come in various shades of brown and are white underneath, from the chin to the tip of the tail. Their total length will not exceed 18 cm. Deer mice are widespread in Canada.

Hantavirus pulmonary syndrome (HPS) is contracted by breathing in or ingesting particles of mouse excreta — the droppings, urine or saliva of an infected mouse. People who contract the disease develop flu-like symptoms between one and five weeks after exposure. Some cases then move rapidly to severe respiratory problems, leading to lung failure and death. Mice carrying the hantavirus have been found in every province and territory in Canada except Prince Edward Island, Nova Scotia and the Northwest Territories. However, the 24 recognized Canadian cases have been limited to Saskatchewan, Alberta and British Columbia. Most of those who contract the disease have been agricultural workers, but in the U.S. there are two well-documented cases of backpackers who came down with HPS.

The fatality rate for hantavirus was originally estimated at 50 percent. "It is down to approximately 30 percent, partly because milder cases are now being recognized," says Dr. Harvey Artsob of the Laboratory Centre for Disease Control in Ottawa. He notes that while there is no known cure for hantavirus, early diagnosis improves the chances of recovery.

Any man-made structure in a natural setting is a potential area of high rodent activity and an area to avoid when making camp. Always make sure that food is well sealed and stored away from your sleeping area.



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Green Leaves, Red Rash

Three shiny leaves that each taper to a point and emerge from a common stem mark the presence of poison ivy. This plant can grow close to the ground or climb like a vine, in a broad variety of habitats. There are often clusters of green berries that turn white through the growing season.

Poison ivy can be found anywhere in Canada south of about 52 degrees latitude. And, it's found in a wide variety of habitats — from flood plains, bottomlands and lakeshores to sand dunes and rocky ridges.

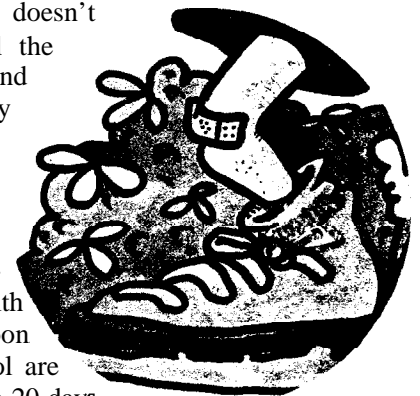
Poison oak is closely related to poison ivy, but the leaves are more lobate, like a true oak leaf. Poison oak is found in southern British Columbia below altitudes of 1,500 metres.

Poison sumac grows only in swampy habitat that is found in southwestern Quebec and southern Ontario. While the berry clusters of other sumacs point upward, those of the poisonous variety droop down from the plant.

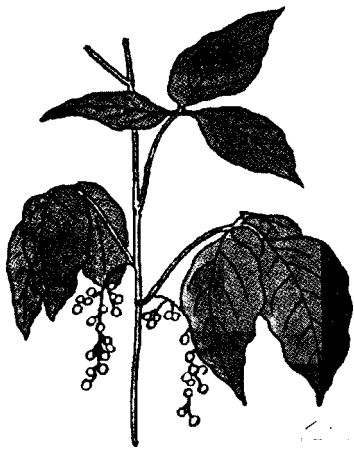
Oily urushiol is the common ingredient in the sap of these plants which causes irritation. And it's possible to make contact with urushiol from any part of the plant at any time of year. The human reaction is a form of allergic contact dermatitis, which begins as the urushiol works its way under the outer, protective layer of the skin.

About 85 percent of North Americans are allergic to urushiol. The level of one's sensitivity can change over time, so just because you have reached middle age rash-free, doesn't mean you won't someday feel the itch. The redness, swelling and desire to scratch come about any time up to a few days after contact with a poison plant. The irritation will begin wherever most oil was received, then gradually spread to other affected areas of the body. Blisters with a non-poisonous discharge soon develop. The effects of urushiol are self-limiting, and in a mere 14 to 20 days the misery and itch will be gone.

The simplest defence in an area with many poisonous plants is to put a layer of clothing between you and the shiny leaves. These clothes, as well as pets and tools, will need to be washed or hosed down after contact with the plant. The Food and Drug Administration in the U.S. has approved a barrier cream called Ivy Block, which can stop or greatly reduce the pen-



Deer mice can carry the deadly hantavirus.



Poison ivy can grow close to the ground or climb like a vine, in a broad variety of habitats.

etration of urushiol. However, the makers have not yet applied for approval to sell this product in Canada.

If you realize your skin has brushed up against the wrong plant, quick action can greatly reduce your pain and suffering. Cleanse the affected area with rubbing alcohol, if you have it, followed by water. Then wash the whole body with soap and water. Too-early application of soap may simply move the urushiol around to contaminate more skin.

Preparations such as Burow's solution (aluminum acetate) and calamine lotion will help with the itching. Over-the-counter hydrocortisone creams are not strong enough to offer relief, but prescription corticosteroid drugs will help in severe cases.

Stings, bites, poisons, toxins, deadly viruses — they're not exactly out there *waiting*, but they're definitely out there. Some are merely an annoyance, others are painful and even life-threatening. You may prepare very carefully for outdoor adventure, and still overlook these hazards, because the hazard itself is unforeseen or because an individual's reaction is unpredictable. Prepare as far as possible and, when all bases have been covered, ponder this tidbit: one

of the worst bites, as far as infection goes, is that of a human. Happy trails!

Sandy Gage is a freelance writer and a guide for the Federation of Ontario Naturalists and Worldwide Adventures who once, as a camp counsellor, eased the symptoms of a major yellowjacket attack by covering himself in mud.

FURTHER READING

Rabies, Lyme Disease, Hanta Virus and Other Animal-Borne Human Diseases in the United States and Canada by E. Lendell Cockrum (Tucson: Fisher Books, 1997).

Rattlesnake Tales (free newsletter with emphasis on the massasauga rattlesnake). Contact Bob Johnson, Toronto Zoo, 361A Old Finch Avenue, Toronto, ON M1B 5K7.

Ticks And What You Can Do About Them, by Roger Drummond (Berkeley: Wilderness Press, 1998).

Wilderness Medicine (4th ed.) by William Forgey (Merrillville, Indiana: ICS Books, 1997).