

Home & Garden Pest Management Guide For British Columbia

2019 Edition

Chapter 19 Insects Around the Home



Insects around the Home

Some insects can be objectionable or annoying around the home, simply by their presence. They may invade the home itself, if not controlled outdoors. For example, ants are beneficial insects because they attack many pest insects. However they will invade homes in search of food such as sugar, honey and fruit jams. Other insects are indoor pests that feed on stored food products, such as cereals, dried fruit, pet foods, dried flowers, animal parts (hair, hide, wool), and wood.

General Pest-Proofing Methods Used Around the Home

- Install weather stripping on doors and door sweeps.
- Repair screens on windows and doors and make sure they fit tightly.
- Seal cracks and crevices in interior and exterior walls.
- Caulk, stuff, or seal openings around pipes and conduits that enter the home
- Caulk crevices around doors, windows, vents, plumbing fixtures, equipment, cabinets, and countertops.
- Repair leaks in the roof, which may attract carpenter ants, fungus beetles, and other moisture-loving pests.
- Make sure that all trash cans have closing lids to discourage yellowjackets and flies.
- Make sure that there is no organic mulch next to the house walls. Wood mulch invites termites and moisture-loving pests like millipedes, sowbugs, and earwigs. Consider installing a 2-3 foot wide mulch-free band around the perimeter. Leave the area bare or fill it with gravel, crushed stone or shell.
- Remove plants that host specific invading pests and replace them with insect and diseaseresistant varieties. For example, boxelder bugs feed on the female boxelder tree, often moving into buildings in the fall.
- Eliminate standing water that breeds mosquitoes and other flies. Align downspouts so that water drains away from the house.
- Remove piles of wood, stone or other materials or stack them off the ground and away from house foundations.

Ants

Several kinds of ants that normally feed on other insects outdoors will enter homes in search of food if given the opportunity. These ants usually have nests outside in lawns, old tree stumps, under rocks or other objects, and are generally beneficial. They are small, black, brown, red or yellow and 2-10 mm in length. Pharaoh ants are smaller (1.5 mm) and can be a nuisance indoors, but do not live outdoors in our climate. Carpenter ants, which can destroy wood by their tunneling, are large, black and 8-15 mm in length. (See "Carpenter Ants", below). There are other species of



ants that destroy moisture-damaged wood; however, the main problem is the moisture. Once the moisture problem is addressed, the ants are generally no longer are a problem. Stinging ants, such as fire ants, are present in B.C, but they are rare.

Ants should be controlled if they are infesting the home and becoming a major nuisance. Sanitation is key; remove ants' access to food. Indoors, do not leave containers of sugar, honey, jam, etc. open in or on cupboards. Remove garbage as soon as possible. Floors and cupboards should be washed regularly to remove food particles. Washing baseboards and areas where ants are seen entering the home with 1 part bleach to 9 parts water will destroy trail markers left by ants for others to follow. Good sanitation as described will help control most home ant infestations, however, if a nest is present in the home, it will need to be destroyed before the problem will be solved.

Bait stations designed for management of ants around the home and garden are commonly available. These have a food bait to lure ants into the bait station. The bait also contains a poison such as borax. The ants carry the poisoned bait back to the nest where it destroys the queen and the colony. Place the bait stations in areas where ants are numerous. Liquid ant bait can also be used outdoors. Place a few drops of a liquid ant bait in ant runs or crevices near the ant hills (preferably away from the point of entry into building), but out of reach by pets. The bait is carried back to the brood which is eventually destroyed. In case of serious infestations, consult a licensed pest control operator. Control tactics include spraying the foundation walls with appropriate insecticide or the adjacent soil can be dusted with an insecticide according to label directions. Do not use this dust if pets or children are present.

Carpenter Ants

These are the largest species of ants in B.C., up to 15 mm long and black in colour. Winged individuals occur as early as February, but are most numerous in May. Winged adults look similar to winged termites, however winged termites are observed in the fall. Carpenter ant wings have only a few distinct veins and the front wings are larger than the hind pair. Termite wings have many veins in the wings and both pairs of wings are the same size and shape. Like other ants, carpenter ants live in colonies. Outdoors, carpenter ants live in stumps and old logs, but will infest homes, particularly if there is moist or unsound wood. If they are present in the wood of



Black carpenter ant Photo courtesy of Clemson University – USDA Cooperative Extension Slide Series, Bugwood.org

a home, "sawdust" may be noticed. They may chew into moist or unsound wood, or dry wood, in which to make their nesting cavity, but wood is not their food. They are predators of other insects as are all ants. They can occur anywhere in the structure from the basement to the attic, even in the roof boards.

Prune all tree branches and shrubs so that they do not touch the house, as ants may come and go to their nests via these branches. Prevent infestations by removing damp and decaying wood from around your home and yard. Do not store firewood for more than one year next your house or in contact with the ground. Make sure outside walls do not touch the soil to prevent moist areas. Wood in contact with the soil can be treated with a wood preservative. Elimination of major carpenter ant infestations is best done by a licensed pest control company using proper equipment. The nest must be found and destroyed if it is inside the walls. However, 80% of main nests are outdoors in rotting wood and satellite nests present in nearby homes. Spot treatment with an insecticide where ants are noticed entering a building is not effective. Carpenter ants are known to travel along wiring and plumbing in the walls. Light layers of dust containing products such as boric acid, diatomaceous earth or silica aerogel can be applied wherever wiring and plumbing can be accessed.

Bean Weevils

Greyish weevils up to 4 mm long, emerge from infested bean seeds and stored beans used for food. Larvae (grubs) feed inside seeds and then adults cut small holes and emerge.

Management:

Inspect bean seeds for signs of weevils prior to purchase. Do not purchase more than can be used up within 3-4 months. Store beans in tightly sealed containers or in the freezer. Infested beans can be placed in a freezer for two weeks or cooked to kill all stages of the insect before discarding.

Bedbugs

Adult bed bugs are oval-shaped with no wings. Before feeding, they are about 1/4 inch long and flat. After feeding, they turn dark red and become bloated. Eggs are very small, whitish, and pear-shaped. Egg clusters can be found in cracks and crevices. Bed bugs can hitch-hike on suitcases, clothing, vehicles, aircraft, cruise ships and other modes of transportation. They emerge from their hiding spots at night. Bed bugs can live without food (blood) for up to a year or longer. Problems may not be detected



Bean weevil and damage



Bedbug

until someone has been bitten. Getting bitten does not hurt, but the salivary fluid injected by bed bugs can cause skin irritation and inflammation. Bites commonly occur on the upper half of the body. Each individual may react differently, and it may take up to 9 days before any welts appear. A small, hard, swollen, white welt may develop on the skin, accompanied by severe itching that can last several hours or several days. Anaphylaxis may occur in people with severe allergies.

Management:

Getting rid of bedbugs requires persistence. Early intervention will help reduce the severity of a bedbug problem. Preventative measures and sanitation can help avoid infestations. To identify the cause of the problem you may need to contact your local health department or certified pest control operator. Experienced companies will know where to look for bed bugs, and will implement an integrated pest management plan using several management tools and approaches. Often, follow-up visits by Pest Control Operators are necessary to ensure success. Spot treatments using pesticides may be needed to control bedbugs, and may be implemented by a Pest Control Operator.

Bedbugs have several hiding spots, and it may be challenging to find and clean every place where bedbugs and their eggs may be. To identify a bed bug infestation, begin by looking for blood stains from crushed bugs, rusty spots of excrement, shells from hatched eggs and shed skins on sheets and mattresses, bed clothes, and walls. Dried bug excrement is often found along mattress seams. Use a flashlight to help in the search. In a severe infestation, offensive, sweet, musty odour from the insects' scent glands may be detected. Examine cracks and crevices of bed frames, especially if the frame is wood. Bed bugs prefer wood and fabric over metal and plastic. Remove and inspect headboards secured to walls. Infested parts of the bed should be discarded. In hotels, the area behind the headboard is often the starting spot for the bugs to become established. Monitor for bedbugs using glue boards or sticky tape (carpet tape works well) in areas where infestation is suspected. Check tape daily for insects.

Vacuuming can be useful for removing bugs and eggs from mattresses, carpet, walls, and other surfaces. Be sure to always dispose of the vacuum contents in a sealed trash bag. Steam cleaning carpets can also help kill bugs and eggs. To eliminate sites where bedbugs may live, repair cracks in plaster and glue down loosened wallpaper. Install or repair screens to prevent birds, bats or rodents from entering your home and serving as hosts for bed bugs. Be wary of acquiring second-hand beds, bedding, and furniture. Examine the items closely before bringing them in the home. Dispose of infested bedding or wash in very hot water and dry on hot setting. No insecticides are registered for use on bedding and linen.

Boxelder Bug

Prevalent in the Interior, this pest invades homes in the fall with the onset of cooler weather. In the spring, they gather on east and south-facing walls to warm up prior to seeking host trees. Look for flattened red and black, winged insects about 12 mm long. The favoured host is boxelder (Manitoba maple) but they will feed on other maples and some fruit trees. The boxelder bug is only a nuisance by its presence as it does not harm host trees, house or garden plants or vegetables.



Boxelder bug nymphs



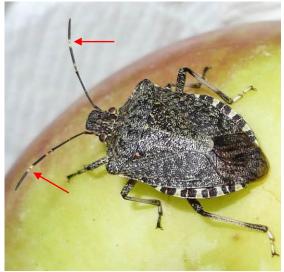
Boxelder bug Photo courtesy of Nicole Verpaelst

Outdoors, wash the insects off walls with a garden hose. Indoors, vacuum regularly and thoroughly. Seal possible entrances around the house exterior to prevent insects from entering living areas. Consider removing female Manitoba maples from around the house, as this is a preferred tree host.

Brown Marmorated Stink Bug

Brown marmorated stink bug was first detected in British Columbia in 2015. It is a serious pest and feeds on more than 100 different plant species including tree fruits, berries, grapes, vegetables, and ornamental plants. Adults can be a nuisance to homeowners when the adults aggregate on and in buildings in the fall to seek warm overwintering sites.

The adult is shield-shaped, about the size of a dime, brown marbled appearance with alternating brown and white markings on the outer edge of the abdomen. It can be distinguished from other stink bugs by the presence of distinctive white bands on the antennae.



Adult brown marmorated stink bug

Management:

Low numbers of brown marmorated stink bugs can be removed by hand, sweeping or a shop vacuum. Prevent entry into the home by sealing off any access points. The use of insecticides for controlling brown marmorated stink bugs in the home is not recommended.

Carpet Beetles

Carpet beetles are oval, about 3 mm long, and greyish to black in colour. Some are mottled with irregular patterns of white and red-to-yellow scales on a dark background. The larvae are oval or carrot-shaped, about 5 to 13 mm long. They are covered with dark brown or black hair.

The black and common carpet beetles are abundant in the Interior of B.C. The common carpet beetle is black or grey with a varied pattern of white and orange scales on its back. The varied carpet beetle is more abundant in Coastal B.C. It is similar in appearance and size to the common carpet beetle. The varied carpet beetle larva



Varied carpet beetle

has singular alternate bands of light and dark brown, and three pairs of hairy tufts on the tip of the abdomen. Beetles can multiply by feeding on hair, feathers and insect remains, and then invade the home through cracks and crevices. Larvae feed on dead insects and animals, hair, animal skins, feathers, fur and wool.

Management:

Regularly vacuum rugs and carpets, upholstered furniture, cold-air ducts, cracks in flooring and other undisturbed areas, especially under heavy furniture and appliances.

Dry-clean infested woolen clothes and store them in a beetle and moth-proof container, or in a plastic bag in the freezer. Apply diatomaceous earth dust along baseboards where insect activity is noticed. This material is non-toxic to people and pets, and causes the insects to die from dehydration. If necessary, spray baseboards or infested areas with an appropriate insecticide registered for in-house use. In the autumn, remove all bird and wasp nests from areas where carpet beetles can breed, including the eaves and attic. If you are managing rodents, use traps instead of bait, and check them regularly so no dead rodents are left for beetle breeding sites.

Centipedes and Millipedes



Centipede. Photo courtesy of Joseph Berger, Budwood.org



Millipede

These conspicuous insect-like arthropods may migrate into homes in spring and fall, but they do no damage, and are generally beneficial in the garden. Seal possible entrances around the house exterior to prevent them from entering living areas. Vacuum or sweep up any centipedes or millipedes that find their way into the house. Chemical control with insecticides is not warranted.

Elm Seed Bug

Elm seed bug was first reported in British Columbia in 2016. Adults are 6.5 - 7 mm (about 1/3 inch) long, black and rusty red colour with black triangle bordered by a rusty coloured triangle on the back. They can be a nuisance in high numbers because they enter homes and businesses. Elm seed bugs emit unpleasant odours when crushed and their fecal droppings on structures such as doors and windows can be unsightly.



Management:

Prevent entry into homes or buildings by sealing

off any access points in windows, doors and screens. Vacuum bugs in and around homes. For large numbers, use a shop vacuum with 1-2 inches of soapy water in the bottom to drown the bugs. Remove volunteer elm trees and where practical, prune trees to reduce food sources. Clean up elm seeds and debris around the home and structures. Use sticky traps for trapping bugs around window sills. Inspect firewood for overwintering adults before bringing into the home.

The use of insecticides for controlling seed bugs in the home is not recommended. Under very high numbers, treating immature stages outside the home with a barrier spray along foundations, patios, doors and windows will help prevent bugs from entering homes. Products registered for home use containing permethrin and malathion will provide control. Homeowners can hire a commercial pesticide applicator for more control options.

Fleas

Fleas are small 1-2 mm long, dark brown jumping insects. Seasonal migration occurs in some species, which may make their presence more noticeable. They are usually associated with dogs, cats or chickens. Fleas may bite people if host animals are not available. Some animals and people have an allergic reaction to flea bites which causes severe itching and scratches may become infected.

Pets become infested after roaming in areas frequented by other flea-ridden pets or animals such as raccoons. Note that some fleas are host-specific, so will only feed on certain species of animals. For example, rodent fleas only feed on rodents. Fleas will survive for several weeks indoors or outdoors, without



Cat flea. Photo courtesy of Bugguide.net

feeding on a host. Eggs are laid on the pet and fall to the ground in areas where pets spend the most time. The flea larvae feed on dried blood that has fallen off the pet.

Management:

Wash pet bedding in hot soapy water every two to three weeks during flea season to kill flea eggs and immature fleas. Frequently and thoroughly vacuum indoor areas to remove flea eggs, dried blood that young fleas eat and adult fleas that have not yet hopped onto your pet. Consult a veterinarian if fleas are a problem. Several new safe and effective flea control products for pets will kill adult fleas or eggs and larvae with one monthly treatment. Flea powders, dusts and soaps containing insecticides for direct application to pets are also available which will kill adult fleas on pets and in the home, but frequent and repeated treatments may be necessary because these products are not persistent. If this method is used, pets can become re-infected with fleas within 48 hours of a flea bath or dust treatment if fleas are present in the home or yard.

Flies

The most common species of flies in the home is the house fly, *Musca domestica*. This fly is attracted to food odours. This species and other filth flies develop in manure and rotting vegetation or meat and may contaminate food with human pathogens. House flies overwinter as adults in buildings. Other species of flies such as cluster flies and blow flies are sometimes seen around homes. Management is essentially the same for most species.



House fly. Courtesy of Joseph Berger, Bugwood.org

To prevent flies from entering the house, use tight-fitting screens on windows and doors, especially around food preparation and eating areas. Screen crawl spaces and attic ventilators. Seal any cracks around window frames.

For temporary relief indoors, use household aerosol insecticide sprays. Also, sticky fly traps and small black lights with glue boards are very effective and portable.

Removal of breeding sites is critical for satisfactory long term management of flies. Animal manure, and decomposing or rotting plant material should be disposed of or composted to prevent use as breeding sites or attracting flies from other areas. Properly maintained and working compost piles are not a source of flies. Dead birds, rodents and other animals should be buried promptly before they become infested.

Grain/Flour Moths (Indian Meal Moth)

Flour moths can become a pest in the home as they infest stored food such as dry pet food, nuts and seeds, dried fruit, pasta, and coarse grains. As the infestation advances, small moths will be seen fluttering around the kitchen, or wherever the source of infestation is. Adult moths are about 5/8" (16 mm) across the wings. Their wings have a broad, dark, coppery-coloured band on a white/grey background. Webbing produced by the feeding larvae can be found in infested food. Larvae are cream-coloured with a distinct head capsule, and grow to 12-15 mm before pupating.



Indian meal moth. Photo courtesy of Clemson University – USDA Cooperative Extension Slide Series, Bugwood.org

Management:

Proper sanitation and storage can prevent flour moth problems from occurring. Do not store dry food in plastic bags. Use hard plastic or glass containers for storage. Some susceptible foods can be stored in the freezer. Even a small amount of food can support a population of flour moths. Clean up cupboards to remove any spilled food regularly. Use stored food up every 2 months or so. Do not buy damaged food packages as they can be infested and introduce the insect to your pantry.

Pheromone traps can be used to trap adults and locate infestations. There may be more than one infestation, so be sure to inspect the area thoroughly. When the infestation is discovered, discard infested material. You may wish to freeze infested material for over 2 days to kill all stages of the moth. Do not use insecticides in the kitchen or pantry or on food.

Hornets and Yellowjacket Wasps





Baldfaced hornet



Hornet nest

These beneficial insects usually prey on other insects, but are sometimes attracted to food where their flying and ability to sting may be annoying. They usually nest in grey, paper-like globes located in trees or under house eaves. Some species nest in walls of houses, in attics, on branches of evergreens, or in the soil. Only mated queen wasps and hornets overwinter; the brood dies out each fall. New nests are started each spring. The "Bald-Faced Hornet" and the Yellowjacket are the two most common wasps found around the home and garden. While the hornet is larger than the yellowjacket and its sting painful, they tend to be less aggressive and confrontational than the yellowjackets. Hornets mostly (but not exclusively) prefer to construct their paper nests in cedar hedging and other dense vegetation, often 1 - 3 meters off the ground. Yellowjackets prefer to construct their nest in houses, underneath overhanging roofs, attics, garden sheds, etc. The vast majority of stinging incidences involves yellowjackets.

Management:

Where wasps or hornets are a nuisance, destroy nests in early summer, before insect numbers build up. Plug any holes where wasps are seen entering and exiting. Entrances can be sprayed with an aerosol insecticide formulated for this purpose. Ideally, carry out these activities after dark when worker wasps are no longer active. If it is necessary to remove large nests from high places, wear full protective clothing including a veil to prevent painful stings. Remove nests after dark and place in a sealed bucket or similar clean container and place in the freezer for 48 hours to kill wasps before disposal. Live wasps can chew through bags, so freeze immediately. Groundnesting wasps can be killed by pouring lots of boiling hot water into the nest entrance. Be careful to avoid scalds as well as stings. Boiling water may kill some nearby vegetation. Cover the nest opening with a shovel full of sand. Again, this is best done at night when worker wasps are less active.

Where nests cannot be located, commercial wasp traps may be helpful to reduce the wasp population. Traps are most effectively deployed in the spring to trap out queens before they establish their nests. Traps may be baited with fruit juice or meat to increase their effectiveness. Meat may be more effective in the spring, as queens are looking for sources of protein. Empty and clean traps frequently, at least every 2-3 weeks. Placing a trap in the freezer for a day or two, or filling it with soapy water will ensure that all of the wasps are dead before opening the trap.

European Paper Wasp



European paper wasp



European paper wasp nest

The European paper wasp is a new invasive species of wasp in many areas of B.C. It produces numerous, small, paper-like, umbrella-shaped nests, attached to eaves, window frames, porch ceilings, behind shutters, in shrubs and trees, etc. The nests have visibly open cells, arranged in a single layer, and are not enclosed in a paper globe or envelope. European paper wasps have caused direct damage to cherry and grape crops in the Okanagan and Kootenays. Although they are not very aggressive, paper wasps have the tendency to build numerous nests inside any nook or cranny such as barbeques, exterior lighting fixtures and bird houses, which increase the risk of stinging incidences.

Management:

Limit suitable nest sites by repairing holes in walls, caulking cracks in soffits and eaves, and screening vents and louvers. Seek out and eliminate nests early in the season before workers are produced and wasp numbers increase. During this period it is easy to knock down exposed nests and kill the queen. Later in the season, nests can be treated with a wasp and hornet spray, as described for hornets and yellowjacket wasps. Pest control firms also provide services to control paper wasps.

Ladybugs (Ladybird Beetles)

Ladybugs are familiar red to orange, round beetles with spotted backs. The invasive multicoloured Asian lady bug beetle has numerous spots and although beneficial, has become so numerous in recent years that they may invade homes in large numbers in October, when they are migrating to overwintering sites. The beetles and their larvae feed on insects, particularly aphids, on garden plants. They cause no damage to the home but can be a nuisance in large numbers.



Top: Lady bug eggs and larvae, Bottom: Lady bug pupae and adult multi-coloured Asian lady beetle

To prevent problems with ladybugs, try to stop them from entering your house in the fall. Beginning in the early fall, watch for beetles clustering on the sunlit side of your home. Seal obvious cracks and spaces in areas where the beetles gather. Ensure attic vents are screened; caulk gaps around window frames and places where telephone or cable TV wire goes through the siding.

Indoors, seal around light fixtures, window frames and pipes so that ladybugs in the walls and attic space cannot enter the living area of your house. If they get inside, remove them with a vacuum or, if it is warm outside, open window where they are congregating and let them out.

Using an insecticide is not recommended as ladybugs are beneficial and will protect your plants in the summer.

Mosquitoes

Mosquitoes are biting and blood-sucking insects. They breed in temporary water pools or quiet margins of ponds. Female mosquitoes will fly many miles to feed on animals and humans. Most mosquitoes in British Columbia are not known to transmit any diseases to humans. However West Nile Virus, a mosquito-borne disease, is now active at low levels in the some areas of Southern BC. Refer to the <u>BC Centre for Disease Control</u> for current information.

Effective control requires a large-scale abatement program. Do not let water collect in or around the home or garden. For example, dump out bird baths at least once per week, and do not leave pet dishes, sand toys, etc. in the yard full of water for more than one week. Keep lawn grass cut short as mosquitoes like to rest in tall grass during the day. Personal relief may be obtained by using repellents, screens and netting. Products containing DEET are safe and effective mosquito repellents when used appropriately. Follow instructions indicated on mosquito repellent products. Do not apply products containing DEET to babies; use screens or netting instead. For children age 6 months to 2 years, use a maximum of one application of DEET per day, using the least concentrated product available (10% DEET or less). For children age 2-12 years, do not apply more than 3 times per day, and use the least concentrated product (10% DEET or less).

Wear light-coloured clothing, and avoid use of strong smelling deodorants or perfumes that are attractive to mosquitoes. Citronella candles or mosquito coils may provide some short-lived, local relief. CAUTION: Candles and burning coils are a fire hazard.

Red Flour Beetle and Confused Flour Beetle

The red flour beetle and the confused flour beetle are both pantry pests. They are very similar in appearance. Red flour beetles can fly, while confused flour beetles do not. Adult beetles are shiny reddish brown and about 3 mm long, flattened, and oval. The larvae are worm-like, slender, yellowish, and grow to 4-5 mm long. This insect's small size enables them to work their way inside improperly sealed containers and improperly stored dried food. These beetles will feed on several different kinds of food including cereals, grains, spices, grain products, shelled nuts, dried fruit, chocolate, drugs, peas, beans and other similar materials. The females will lay their small, white sticky eggs in flour or



Red flour beetle

other food material. Because the eggs are coated with a sticky secretion, they easily adhere to sides of containers and boxes.

Management:

Proper sanitation and storage can prevent flour beetle problems from occurring. Do not store dry food in plastic bags. Use hard plastic or glass containers with tight fitting lids for storage. Some susceptible foods can be stored in the freezer. Even a small amount of food can support a population of flour beetles. Clean up cupboards to remove any spilled food regularly. Use stored food up every 2 months or so. Do not buy damaged food packages as they can be infested and introduce the insect to your pantry.

Pheromone traps can be used to trap adults and locate infestations. There may be more than one infestation, so be sure to inspect the area thoroughly. When the infestation is discovered, discard infested material. You may wish to freeze infested material for over 2 days to kill all stages of the beetle. Do not use insecticides in the kitchen or pantry or on food.

Silverfish and Firebrats

Silverfish and firebrats are slender, soft-bodied, wingless, silver-grey insects, about 13 mm long when mature. They are very quick moving. They are active at night and in dark undisturbed places. They are most common in older buildings. They feed on proteins and starchy materials such as dead insects, many types of human food, wallpaper and bookbinding, paper sizing and starched fabrics. Silverfish can be found almost anywhere in a house but prefer warm, damp places, so they are often found in or near sinks, floor drains, and bathtubs and showers. Firebrats prefer warm, dry locations.



Silverfish, photo courtesy of Pest and Diseases Image Library, Bugwood.org



Firebrat, photo courtesy of Clemson Univ – USDA Cooperative Slide Series, Bugwood.org

Management:

Frequent airing, elimination of dampness and general sanitary precautions will discourage these pests. Sticky cockroach traps, placed on the floor beside baseboards, will often provide good control of silverfish and firebrats. Household formulations of pesticides registered for these pests can be applied to baseboards and other areas frequented by silverfish and firebrats. Treat cracks and crevices and areas around baseboards and heat-duct outlets.

Sowbugs (pillbugs)

These are segmented, caterpillar-like creatures with many legs, up to 1.5 cm long. They commonly occur in compost heaps or decaying vegetation. Sowbugs occasionally feed on foliage and stems of healthy plants. They are often present where there is a lot of organic matter and where soil remains wet during the day. They usually are not damaging except to young seedlings.



Sowbugs

Locate compost bins and piles as far as possible from the vegetable beds and allow the soil surface to dry between waterings. If additional control is required, dust along seedling rows with diatomaceous earth (silicon dioxide). Diatomaceous earth has very low toxicity to mammals and is effective.

Spiders

Spiders are beneficial to humans as they feed exclusively on insects such as flies, aphids, etc. They provide a free, year-round pest control service in the home & garden. However, the webs are a nuisance to people as they collect dust in the corners of rooms and get stuck to face and hands while walking through the garden. Thus, it is necessary to vacuum or sweep the webs down periodically. Enough spiders will survive the cleanup to rebuild the network.

All spiders are venomous, however the black widow and hobo spider are the only spiders considered dangerous to humans in B.C. All spiders including the black widow are reclusive and prefer to avoid contact with people. The brown recluse spider, which is also considered dangerous, does not occur in B.C., but is present in Eastern North America.



Orb weaver spider



Black widow spider

The black widow is a moderately large spider, body 12 mm long and measuring 3.8 cm with legs extended. It is shiny black with two reddish triangles that form the shape of an hourglass on the underside of its abdomen. Black widows live outside in woodpiles and similar sites, and are widespread in Southern B.C. Bites are rarely fatal, but if bitten by this spider, you should seek immediate medical attention. Children may have a more severe reaction to spider bites than adults.

The hobo spider is a moderately large brown spider, body 12-18 mm long, with long, unmarked legs. It spins a funnel-like web. This introduced species is now present in Southern B.C., but populations are very localized. Hobo spider bites have been blamed for causing necrotic lesions (similar to those caused by the brown recluse spider), however there is some doubt that the species is truly venomous, and hobo spiders are timid and rarely bite. Hobos are difficult to identify, and closely resemble several other species of spiders. Many other beneficial spider

species also spin funnel webs, so the presence of this type of web is not an indication that hobo spiders are present.

Management:

Prevent spiders from entering buildings by keeping good spider habitat (such as firewood and dense vegetation) well away from the house, maintaining screens over crawl space vents and basement windows; caulking cracks around basement door, window frames and where utility pipes enter the building. Use good weather-stripping around doors and windows. Web-spinning spiders such as black widows can be discouraged from 'hanging' around by sweeping away any webbing as it appears. Insecticides are not generally effective against spiders. Sticky traps may be placed in basements to trap out spiders that get in the house. Practice good sanitation by keeping basements free of clutter such as boxes, papers, clothing and lumber.

Wear gloves when working outdoors in potential spider habitats such as rock gardens, and when moving wood. When working in enclosed infested areas such places as crawl spaces, wear protective clothing, including long sleeves tucked into gloves, long pants tucked into boots, and coveralls or a jacket with a hood.

Termites

There are two main destructive species of termites in B.C. The Pacific dampwood termite lives primarily in the coastal areas (the Lower Mainland and Vancouver Island) and is a problem in homes and other wood structures that have permanently moist wood due to leaks or improper foundations that are not high enough (25 cm) above ground level. In the Interior and on Vancouver Island, the western subterranean termite invades wood-framed buildings constructed in the vicinity of their colonies. More detailed information on this termite is available on the Ministry of Agriculture website www.gov.bc/plant health.



Subterranean termite Photo courtesy USDA Forest Service Archive, Bugwood.org

Winged termites emerge from established colonies in

the fall. Winged termites look much like winged ants, but winged termites have four wings of equal size with a net-like vein pattern; the front pair of wings of ants is much bigger than the hind pair, and the veins are few and distinctive. Also, ants tend to fly in the spring, rather than the fall, as termites do. Western subterranean termites are about 9 mm long and black and Pacific damp wood termites are about 2.5 cm long and reddish. Be sure to have specimens identified if you are unsure whether they are termites or ants.

Management:

Chemical control is seldom successful against damp wood termite. The most satisfactory solution is to eliminate damp wood by replacing the wood, fixing leaks, improving ventilation, raising the

building and put a proper foundation under it or other necessary measures. Infested fence posts should be replaced with pressure-treated posts.

If there is a problem with subterranean termites, a professional termite control company is the best solution as the treatment methods require training to properly apply. It is advisable to include termite prevention methods prior to and during construction in areas where termites may be present.