Predaceous Diving Beetle
Acilius abbreviatus **N**

A resident of freshwater ponds, the Predaceous Diving Beetle preys on small water animals, its flattened back legs paddling its streamlined body through the water. An air bubble trapped under the wings allows it to breathe.

Common Water Strider
Aquarius remigis **N**

Water striders have long, slender legs, allowing their body weight to be distributed over a large surface area. They feed on mosquito larvae living under the surface, dead insects on the surface, and other insects that land on the water.

Carolina Grasshopper
Dissosteira carolina **N**

This is one of the largest grasshoppers in North America. It is usually not noticed until it takes wing, when it is often mistaken for a butterfly. It is common in disturbed areas, such as dykes, where it feeds mostly on grasses.

Two-striped Grasshopper
Melanoplus bivittatus **N**

Yellowish-green, with a pair of pale yellow stripes along the top of its body, the Two-striped Grasshopper produces a low buzzing sound by rubbing its hindwings against its forewings. It feeds on a variety of plants.

European Earwig
Forficula auricularia **I**

Earwigs are slender nocturnal insects with defensive pincers on the tip of their abdomens. Though considered a pest, they can also be seen as beneficial because they prey on agricultural pests, including aphids.

Firebrat
Thermobia domestica **I**

Firebrats and silverfish are similar in appearance. These wingless, nocturnal insects have 2 long antennae on their head and 3 long bristles at the back. Firebrats prefer hot, moist areas. They like sugar and starch, including glue in book bindings.

Sow Bug
Porcellio scaber **I**

Like other woodlice, Sow Bugs are crustaceans and breathe with gills. They have armour-like shells made of 7 hard plates, 2 pairs of antennae, 7 pairs of legs, and 2 appendages that look like tails. They cannot roll up when they are disturbed. They feed on organic material in moist habitats.

Pill Bug
Armadillidium vulgare **I**

Pill Bugs are another species of woodlice, but without the tail-like appendages and with the ability to roll up when disturbed. Woodlice do not cause damage to healthy plants. They are a useful part of the composting process.

Stone Centipede
Lithobius sp. **I**

This non-insect arthropod has 15 pairs of legs. A pair of front legs are modified as fangs to deliver venom to prey. When threatened, it can fling sticky liquid from its last pair of legs. Its diet consists of insects, spiders, slugs, and worms.

Yellow-spotted Millipede
Harpaphe haydeniana **N**

The yellow spots are a warning, as this millipede can produce cyanide as a defence. Found in forests along the Pacific Coast, it breaks down leaf litter, freeing its nutrients for other organisms. Males have 30 pairs of legs, females have 31.

European Harvestman
Phalangium opilio **I**

Sometimes called "daddy-longlegs", harvestmen, like spiders, have 2 body sections and 8 legs and do not have antennae. Unlike spiders, the body sections are joined, and they do not have web-spinning organs or poison glands.

Giant House Spider
Eratigena duellica **I**

Like other spiders, this one has 8 eyes, 8 legs, and 2 appendages called pedipalps on the front of the head, used to hold prey while eating. Its web is flat and messy, with a funnel at one end where it waits for prey to be trapped.

Cross Orbweaver
Araneus diadematus **I**

This common spider has a cross-shaped marking on its back and builds a wheel-shaped web of sticky silk. Prey insects that blunder into the web are quickly bitten, wrapped in silk, and stored for later consumption.

Cross Orbweaver (spiderlings)
Araneus diadematus **I**

These tiny yellow and black spiders are newly hatched Cross Orbweavers. The female lays up to 800 eggs each autumn, covering them with silk to protect them until they hatch in spring. If disturbed, the bundle of spiderlings will disperse on tiny silken safety lines before forming a clump again.

Banded Garden Spider
Argiope trifasciata **N**

This orbweaver spider has dark bands around its body, and brown and black rings on its legs. The large, concentrically patterned web that it makes in tall grass and shrubby vegetation is able to hold large insects, such as wasps and grasshoppers.

Zebra Jumping Spider
Salticus scenicus **I**

Named for its vivid black-and-white colour, this spider, like other jumping spiders, does not build a web, but instead stalks and pounces on its prey. Before jumping, it glues a silk thread to a surface so that if it misses, it can go back and try again.

Running Crab Spider
Philodromus dispar **I**

Male Running Crab Spiders are shiny and iridescent black with white edges. Females are variable in colour. They do not build webs, but catch insects by running them down. They are named for their ability to scuttle sideways or backwards.

Goldenrod Crab Spider
Misumena vatia **N**

This spider will change its colour to match the flower where it is hunting. It feeds on insects such as flies, bees, butterflies, grasshoppers, dragonflies, and hoverflies, using its small fangs to paralyze its prey with venom.

Western Black Widow
Latrodectus hesperus **N**

The venom of female Black Widow Spiders is active against a range of animals but not fatal to humans. Symptoms are pain, nausea, goosebumps, and localized sweating. The female often has a red mark on the lower abdomen.

Thin-legged Wolf Spider
Pardosa sp. **N**

These predators move quickly, using their long legs to grab prey. Unlike most other spiders, they have excellent eyesight. This female is carrying an egg sac. Once the eggs hatch, the spiderlings will stay on the female's abdomen for about a week before dispersing.

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Bee City CANADA
Delta

Bugs in Delta

This brochure includes 40 insects, 2 crustaceans, 1 centipede, 1 millipede, 1 harvestman, and 8 spiders. Adult insects have 3 body parts, 6 legs, and 2 antennae; most also have wings. Spiders have 2 body parts and 8 legs. Crustaceans have 5 or more pairs of legs, while centipedes and millipedes have many body segments and many legs.

While some bugs destroy crops and spread disease, others pollinate flowers and food crops. Bugs provide food for other animals, help control plant and animal populations, and break down dead things. Factors such as climate change and insecticides are causing Earth to lose 1-2% of its insects each year. In 2020, Delta was designated a Bee City by Bee City Canada for committing to protect pollinators and their habitat.

Use the iNaturalist app or inaturalist.org to identify bugs and record their locations.

= Pollinator **N** = Native **I** = Introduced

Western Honey Bee
Apis mellifera **I**

Domesticated for honey production and pollination, they transport pollen between plants and bring it back to the hive for food. The hive consists of a single queen, a few hundred male drones, and thousands of female worker bees.

Yellow-faced Bumble Bee
Bombus vosnesenskii **N**

This large bumble bee is the most abundant one on the West Coast. It has a yellow face, partly yellow thorax, a black body, and a yellow segment on the abdomen. BC's 32 species of native bumble bees are critical for pollinating food crops and wild plants.

Common Eastern Bumble Bee
Bombus impatiens **I**

Imported from eastern North America to BC as a pollinator, this bumble bee is now established in the Lower Mainland. Like other bees, it has long antennae, 4 wings, and hairy abdomen and legs. Head and abdomen are black; thorax is yellow.

Black-tailed Bumble Bee
Bombus melanopygus **N**

Also called Orange-rumped Bumble Bee because of the orange band on its abdomen, this bumble bee is unusual for sometimes nesting above ground. Except for new queens, which hibernate during winter, bumble bee colonies die in late fall.

Mason Bee
Osmia sp. **N**

Mason bees are solitary and do not produce honey. Females make nest cells of mud, laying an egg in each cell and covering it with mud. They gather pollen for the nests in a "brush" on the underside of their abdomen, instead of in hind-leg "baskets" like most bees.

European Wool Carder Bee
Anthidium manicatum I

These solitary bees have yellow stripes and/or spots. Females comb wool fibres from plants to use as nesting material. When their "pollen brushes" are full, they are very yellow. Males use their abdominal spikes to drive off other insects.

Green Sweat Bee
Agapostemon sp. N

Although these small bees primarily feed on pollen and nectar, they must augment their diet with salt and moisture, which attracts them to human sweat. They are solitary and dig burrows in the ground to lay their eggs.

Bald-faced Hornet
Dolichovespula maculata N

Distinguished by their black-and-white colouring, these wasps build large, hanging, paper nests that contain a queen and up to 700 workers. Adults eat insects, spiders, and fruit, but they feed flower nectar to their larvae.

German Yellowjacket
Vespula germanica I

Like other wasps, they are smooth rather than hairy, with a narrow waist and 4 wings. Yellowjackets have black antennae. They build paper-covered nests in wall cavities, trees, and the ground. Wasps are important predators of pest insects.

European Paper Wasp
Polistes dominula I

Paper wasps have thinner bodies than yellowjackets, and their antennae are orange. The nests, which hang upside down and look like open honeycombs, are often built on human-made structures and house about 250 wasps.

American Sand Wasp
Bembix americana N

This large, green-eyed, striped wasp feeds on flower nectar. The female digs a nest in sandy soil and stocks it with flies for the single larva, opening and closing the hole each time she visits. They play a major role in controlling fly populations.

Mud-dauber Wasp
Sceliphron caementarium N

Another solitary wasp, the mud-dauber collects mud balls for constructing a nest of up to 25 cells. The female captures spiders to put in the cells, then deposits a single egg on the prey and seals the cells with mud. When the larvae hatch, they will eat the spiders.

Thread-waisted Wasp
Ammophila sp. N

This black wasp has a bulging abdomen with an orange band near the hair-thin waist. Adults feed on flower nectar and small insects such as caterpillars, paralyzing them to take to their larvae in underground nests.

Narrow-headed Marsh Fly
Helophilus fasciatus N

Like other hoverflies, marsh flies mimic the colours of wasps and bees to ward off predators, but they cannot sting. They have short antennae and 2 wings. Hoverflies are the second most important group of pollinators after wild bees.

Flower Fly
Syrphus sp. N

Flower flies are also a type of hoverfly. Adults feed on pollen and nectar, while larvae prey upon pest insects, including aphids. In many flies, the eyes of males meet on the top of the head and those of females are widely separated.

Carpenter Ant
Camponotus sp. N

These large black ants, with red legs and yellow abdominal hairs, eat dead insects and sugary liquids. They do not eat wood but chew tunnels to make living spaces. Wingless females do the work. Winged males and females fly to form new colonies.

Thatching Ant
Formica sp. N

Black with red heads, thatching ants produce large nest mounds covered by plant material. There can be up to 40,000 adult workers per colony. They feed on plants, insects, and nectar from insects that they tend. Ants are excellent seed dispersers.

Seven-spotted Lady Beetle
Coccinella septempunctata I

There are about 5,000 species of lady beetles in the world. This one has been introduced because both larvae and adults eat aphids. After about 10 days of eating, larvae form a chrysalis. The adult emerges in about a week.

Asian Lady Beetle
Harmonia axyridis I

This species has zero to 22 black spots of variable size. As a predator of aphids and scale insects, it has been introduced into many countries. Like all lady beetles, when threatened, this species secretes an oily, foul-tasting fluid from its legs. The red colour warns predators of their bad taste.

Spotted Asparagus Beetle
Crioceris duodecimpunctata I

This leaf beetle is orange with 12 black dots. The larvae feed only on the asparagus berries, while adults prefer tender shoots and leaves. It is a serious pest of this plant. The larvae are orange and slug-like with visible heads and legs.

St John's Wort Beetle
Chrysolina hyperici I

About the size of a lady beetle, this beetle was introduced to control wild St John's Wort, which can be harmful to livestock. Eggs are deposited in July and August. The larva feeds on root tissue for the following year, then forms a pupa.

Black Vine Weevil
Otiorhynchus sulcatus I

The adult weevil is matte black with fused wing covers, and is unable to fly. It feeds at night on the outer edges of leaves, giving them a notched margin. Broad-leaved evergreen plants are particularly prone to damage.

Western Tiger Beetle
Cicindela oregona N

Tiger beetles are active predators with large eyes, sickle-like mandibles, and thread-like segmented antennae. This colourful species lives in sandy or muddy soil near water. It is fast running and quick to fly. The larvae live in burrows and ambush insect prey.

Audouin's Night-stalking Tiger Beetle
Omus audouini N

This rare tiger beetle is restricted to small areas around Boundary Bay and Victoria. It is distinguished by its uniformly dark appearance, inability to fly, and nocturnal habits. Adults hunt down their prey; larvae attack prey close to their burrows.

Oregon Stag Beetle
Platycerus oregonensis N

Male stag beetles have large antler-like mandibles used to wrestle each other over food and mating sites. Larvae feed for several years on rotting wood, while adults feed on tree sap and decaying fruit. This species lives in decaying hardwoods.

European Gazelle Beetle
Nebria brevicollis I

This large European ground beetle is black or dark brown, with brown legs and antennae. It preys on other insects. First seen in Oregon in 2007, it was first found in the Lower Mainland in 2015. Its introduction may have been through ship ballast or plant nursery material.

Bronze Ground Beetle
Carabus nemoralis I

Beetles make up about 40% of all insect species, and about 25% of all animals. Ground beetles have a tough shell for protection. They hunt at night. Many give off bad-tasting chemicals. This flightless import preys on introduced slugs.

Red Soldier Beetle
Rhagonycha fulva I

Introduced from Eurasia, the Red Soldier Beetle is shiny red with black antennae and black at the end of the wings. Adults feed on aphids, pollen, and nectar. Larvae prey on ground-dwelling invertebrates, such as slugs and snails.

Flower Longhorn Beetle
Xestoleptura crassipes N

Several hundred species of longhorn beetles live in our region, and they are probably the most important pollinating beetle. They have long antennae and colourful bodies. Insects use antennae for touch, smell, and taste.

Lined June Beetle
Polyphylla crinita N

These are large beetles with stripes on their wing covers. They make a hissing sound when disturbed. This local species has "peach fuzz" on the front of the thorax. Larvae feed on plant roots; the nocturnal adults feed mostly on conifer needles.

Golden Jewel Beetle
Buprestis aurulenta N

The adult beetle is iridescent green, with shining orange trim all around the wing covers. Adults feed on needles and bark. Larvae tunnel inside coniferous trees and can survive for several years in dry wood before emerging as adults.

Green Stink Bug
Chlorochroa sp. N

Stink bugs have needle-like mouth parts used to suck up the insides of plants. They inject enzymes that break down plant tissues, then vacuum up the resulting nutritional slurry. Stink bugs create smelly chemicals to defend themselves.

Western Conifer Seed Bug
Leptoglossus occidentalis N

This species sucks the sap of growing conifer cones. Groups may be seen congregated on branch tips or cones on the sunny side of the tree. They exude an offensive odour as a defence mechanism when handled.