Bay watch | EVERY THURSDAY THROUGHOUT THE SUMMER WE UNCOVER THE HIDDEN WONDERS OF HAMILTON HARBOUR

Buzz of life in our bay

BY SUZANNE MA

There are literally millions of different insect species buzzing in and around Hamilton Harbour. Whether they are big bugs or small bugs, they all help to keep a healthy, balanced ecosystem. Large insects help control mosquito and pest populations. At the same time, they serve as food for bigger life forms such as reptiles, amphibians, birds and mammals.

Bugs also tell us about water quality. Sherwin Watson-Leung, an ecologist at Conservation Halton, says the presence of aquatic-dwelling insects is often an indication of a clean harbour.

"Taking water samples from the creek just gives us a snapshot of what's going through the water at one time," he explains. The samples can be inconsistent – clean one month and then polluted the next – and therefore inconclusive.

"Insects in the water can't get away from the effects of an oil spill or a septic tank overflowing," he says. "They live in these conditions every day, so we can look at each creature's tolerance and sensitivity to everything they have been exposed to and test the water quality (more accurately.)"

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Here are some interesting insects you might spot in the harbour and in Cootes Paradise:

ANDREW MCLACHLAN

Caddis Flies (Trichoptera)

The Caddis larvae have a soft body that they coat with a silk web that attracts grains of dirt, sand and grit. Eventually they are able to build a tubular case to protect themselves from predators and to keep camouflaged. Some look like a small stone chimney, while others can resemble a mini log cabin. As adults, they emerge from the water completely changed. They develop legs, wings and become adapted to living out of water.

As larvae, caddis flies live in the water mostly clinging to leaves and rocks on the bottom of creeks and streams. As adults they take flight and are found in swarms around trees or near the water.

Even though caddis flies are sensitive to water quality, large populations have been found in Cootes Paradise and Hendrie Valley. The fact that the harbour is able to support insects like the caddis fly is a great testament to waterfront renewal.

BOB BOTTS

Green Metallic Bee (Agapostemon Virescens)

These bees are bright green with a black and white striped abdomen. They are slightly smaller than the honeybee, ranging from six mm to 12 mm in length.

Green metallic bees build small nests as deep as 20 cm in the ground on the edge of the water. The bees are solitary and spend their days feeding on nectar and stocking their nests with pollen. The females mould the pollen with nectar into a ball and then lay an egg on it. The egg hatches and the larva feeds on the pollen and nectar ball until it reaches the mature larval stage. Over the winter, the larva pupates and emerges as an adult in the spring.

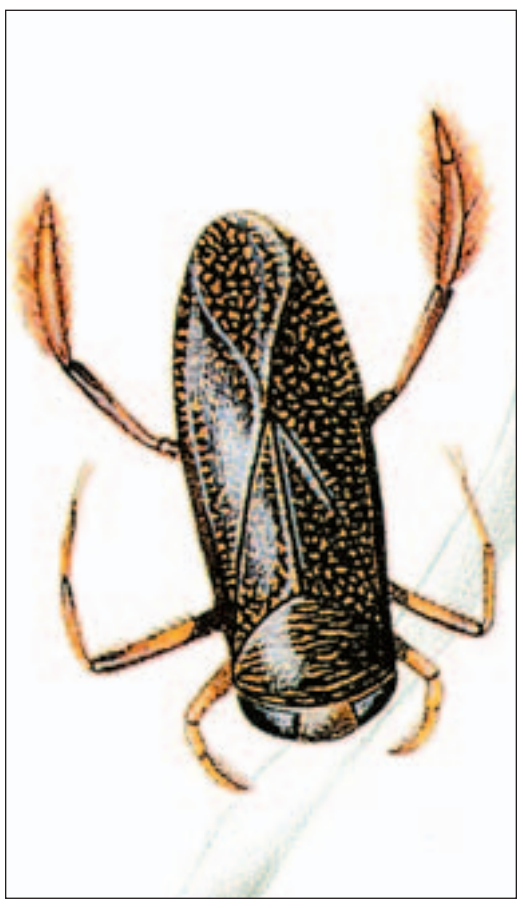
The green metallic bee are also known as "sweat" bees, because they are attracted to human perspiration.

Water Boatmen (Corixidae Heteroptera)

Water Boatmen have grey, elongated oval bodies that can be as long as 12 mm. Their hind legs look like oars – making them good swimmers. Like all aquatic bugs, water boatmen lack gills. They breathe air when at the surface of the water and carry an air bubble under their wings, drawing oxygen from this bubble when they are underwater. They have a broad beak that allows them to ingest solid food particles.

They can be found all around the harbour and Cootes Paradise eating algae and small aquatic animals and lingering around to feast on nests of mosquito larvae.

Water boatmen eggs are used as food in Mexico. Eggs are collected from aquatic plants, dried and ground into flour.



FIREFLY ENCYCLOPEDIA OF INSECTS AND SPIDERS

HENRI GOULET

Whirligig Beetle (Coleoptera Gyrinidae)

Whirligig beetles are shiny black insects with hardened front wings and membranous hind wings. They can range in size from 3 mm to 16 mm in length. Their eyes are divided on each side of the head in two equal parts, giving them a four-eyed appearance. This allows them to see above and below the water surface at the same time, helping them hunt for food more efficiently.

Whirligig beetles are found on ponds and streams, and in still waters around the harbour. They can be spotted in groups gliding and scurrying about on the surface of the water in large circles. The rapid swimmers mainly feed on insects that fall onto the surface of the water, but they also have the ability to dive and feed on small aquatic insects deeper in the water.

If you're able to pick up one of these beetles, they will give off an apple-like odour.

JOHN MITCHELL

Giant Water Bugs (Lethocerus Americanus)

Giant water bugs are a little easier to spot in Hamilton Harbour because they grow to be nearly eight centimetres in length. Though giant water bugs aren't known to attack people, they have earned the nickname "toe biters" for their enormous grasping forelegs and beak used to impale other insects and fish. Giant water bugs prey on aquatic insects, small fish, frogs, tadpoles, and even small birds.

During mating season, giant water bugs fly from one body of water to another. It is during these flights that these insects are attracted to lights, earning another nickname "electric light bugs." The giant water bug likes still water and can be spotted along the shoreline and in Grindstone Creek. Adults are considered a delicacy in Asia and are eaten both fresh and cooked.

BOB BOTTS

Dragonfly

Dragonflies and Damselflies (Odonata)

Dragonflies and damselflies are long, narrow insects ranging from 20 to 125 mm long. They have large heads and very large eyes, while the abdomen is long and slender. They are usually beautifully coloured, with four membranous wings. Damselflies look more delicate and slim, with their forewings and hind wings narrowing at the base. Their eyes are widely separated and most species hold their wings above the abdomen when they are resting.

Dragonflies are larger. Their eyes touch near the top of their head and the wings do not narrow at the base. When they are resting, the wings are usually spread.

There are as many as 100 different species of dragonflies and damselflies in the Hamilton/Halton area. They start out their lives as eggs, usually laid in the water. These eggs hatch into free-swimming larvae called nymphs. The nymphs go through several stages of development, shedding skin during growth. Some need several weeks or several years, depending on the species, to reach maturity. Dragonflies and damselflies live only a few weeks to a few months as adults.

Summer is a great time to see dragonflies and damselflies all around Hamilton Harbour, especially in Cootes Paradise. Both dragonflies and damselflies are predators, hunting for midges, mosquitoes, small moths, bees, butterflies and even other smaller dragonflies. Nymphs primarily feed on bloodworms and other aquatic larvae and vegetation. You might spot dragonflies and damselflies flying in a "wheel" position. This is because mating occurs in flight — the male grasps the female behind the head with claspers at the end of his abdomen and the female brings the end of her abdomen forward to contact special structures at the end of the male abdomen. Males have the ability to reach in and scrape out sperm that has been deposited by previous mates. This is why most males stay connected to the females in the "wheel" position until the eggs are ready to be laid.

BOB BOTTS

Damselfly mating wheel