

PARK INTERPRETER REFERENCE

POND ORGANISMS

ANIMALS



Daphnia
Crustacean - Filter Feeder

Daphnia are found by the thousands near the water surface and form the base of the pond food chain. They look like tiny bits of dirt that move on their own, propelled by their antennae. Daphnia follow a daily migration route: at the surface of the water at dusk and to the lower level during night, rising and dawn and down again during the day.

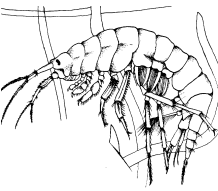


Copepod
Crustacean - Filter Feeder

These tiny crustaceans are also called "Cyclops" because they have one eye between their antennae. They are hard to see since they are so small. They use their antennae and hind legs to swim. Females carry two egg sacs during the breeding season that look like Mickey mouse.

Diet: organic debris (part of the decomposition chain)

Predators: minor food source for aquatic insects, fish, carnivorous zooplankton

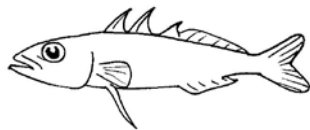


Sideswimmer
Crustacean - Scavenger

Also called scuds or amphipods, they swim on their sides using their many legs. They have two kinds of legs (*amphi* means both kinds and *pod* means foot): long walking legs on the first half of their body and shorter, simpler swimming legs on the rear half. Related to shrimp, they breathe through gills and are bottom dwellers, hiding under whatever they can find. Because so many animals feed on sideswimmers, females will lay up to 50 eggs every 10 days.

Diet: decaying plant and animal matter

Predators: larger insects, fish, birds, amphibians



Three-spined Stickleback
Fish - Predator

This small fish has three spines on its back which can be raised for protection. The male builds a nest and protects his young offspring. It uses its mouth to scoop up its food.

Diet: zooplankton, algae, insect larvae, small crustaceans, tiny animals

Predators: important food source for herons, mergansers, pond mammals



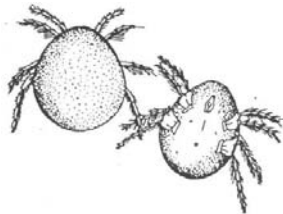
Pond Snail
Mollusc - Scavenger

Pond snails can be found at the pond bottom eating dead plants and animals. They have a tiny scraping mouth called a radula. Their tentacles have eyes and touch receptors at the tips. The foot contains part of the snail's digestive system. They can take in air at the water surface with their sac-like "lungs" but can also stay underwater absorbing oxygen through their body surface. Diet: algae, green plants, dead plants and animals. Predators: many animals such as insects, waterfowl, pond mammals



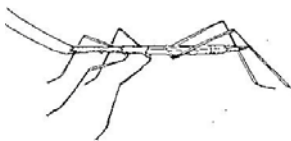
Leech
Annelid - Parasite

Leeches are flattened worms that do not like light. They breathe through their skin and move using their mouth and tail suckers. They have toothed jaws and a strong sucking mechanism in their throat. Most are parasitic, feeding off the blood of fish, snails, frogs, reptiles and mammals – including humans. They will also eat snail meat and insect larvae. They can survive a long time between meals because of digestive "storage tanks" for blood. When ephemeral ponds dry up, they are able to survive by digging into the mud and living in a semi-dormant state. They were used a lot in the past for medicinal purposes to bleed people. They are still used to a lesser degree to reduce bruising and other ailments.



Mite
Arachnid - Parasite

These small arachnids suck blood from their insect or amphibian hosts. Their eight legs are attached to their body. They are tiny and bright red.



Water Scorpion
Insect - Predator

The water scorpion flies from pond to pond looking for daphnia and other small animals to eat. They spend most of their time on plants lying in wait or slowly stalking their prey. Their stick-like body looks like the plants they hide in while waiting to ambush their prey. They move so slowly and seldom that microorganisms like algae will colonize them and other aquatic insects like backswimmers and caddisflies will lay their eggs on them. Water scorpions are actually insects, not scorpions.

Diet: small swimming crustaceans and insects



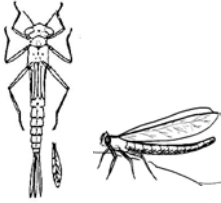
Water Strider
Insect - Predator

Water striders skate across the water surface on feet covered with waxy hairs. When disturbed, they can dive without getting wet, thanks to their water-repellant scales and hairs covering their body. When it rains, they leave the water surface to hide under leaves on shore. They feel and see

the light from the movement of small insect prey on the water surface. They communicate with each other by creating wave patterns. These insects can fly from pond to pond.

Diet: crustaceans, small insects

Predators: birds, fish, some small mammals, parasitized by mites



Damselfly Nymph

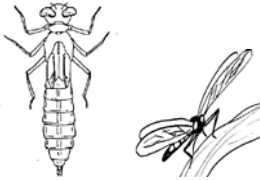
Insect - Predator

The young nymphs live in the pond and are often green or brown. They swim with a wiggle and sit on plants waiting for their food to swim by. The lower lip shoots out to grab prey. They breathe through their three tails. The adult damselfly flies around the pond and its wings sit straight along its back at rest.

Diet: flying insects e.g. mosquitoes, honey bees

Predators (nymphs): ducks, wading birds, larger insects

Predators (adults): frogs, martins and other birds



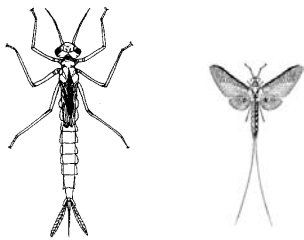
Dragonfly Nymph

Insect - Predator

The young dragonfly crawls along the pond bottom looking for mosquito larvae and tadpoles. The lower lip shoots out to grab prey. It spends up to five years as a larva and breathes through internal anal gills while escaping predators by using jet propulsion out of their anuses. The adult dragonfly holds its wings out from its back at rest and can often be seen flying around the pond. Some can reach flying speeds of 60 km/hr! They use their six legs to catch prey while flying.

Though super speedy, the adults have very poor hearing. Some scientists think they may not be able to sense sound at all. With 50,000 eyes their vision is excellent. Many of the dragonfly's adaptations haven't changed much since their ancestors lived 30 million years ago.

Diet/Predators: see damselfly



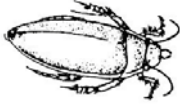
Mayfly Nymph

Insect - Herbivore and Scavenger

Mayflies can be distinguished by the active gills lining both sides of their abdomen which they pump to breathe. Look for the three tails. Their presence is a sign of good water quality. The adult mayfly emerges and lives only one or two days without eating; its sole purpose is to mate. They are the major converters of plant to animal tissue; their role in aquatic ecosystems is comparable to the role of mice and rabbits in terrestrial ecosystems.

Diet: algae, detritus (decomposing plants)

Predators: very important fish food (most common model for angler "flies")



Predacious Diving Beetle

Insect - Predator



During both the larva and adult stages they are fierce hunters. As larvae they are often called "Water Tigers." They live up to 5 years and will excrete an offensive fluid to scare their predators. "Scavenger Beetles" are similar looking, but are smaller and eat pond debris.

Diet (larvae): insects, crustaceans, snails, small fish

Diet (adult): varies from shrimp to small fish, even tadpoles several times its size

Predators: frogs, fish, wading birds, raccoons, skunks



Whirligig Beetle

Insect - Scavenger

They are often found in groups on the water surface. They are named for their behaviour of swimming quickly in circles. They swim very fast, up to 1 m per second! The waves from swimming may act as echolocation to find food. Their eyes are divided so they can see above and below water at the same time. They emit a defensive secretion so even though they spend most of their life in plan view on the water surface, fish and other predators do not eat them. When it dives underwater, it takes a bubble of air under its wings and on the tip of its abdomen.

Diet: small animals and organic matter trapped on the water surface



Water Boatman

Insect - Scavenger

When a water boatman dives beneath the pond, air is trapped beneath the wing so it can stay underwater a long time. Its back legs look and act like oars. Adults are strong flyers.

"Backswimmers" are similar insects with red eyes. They swim on their backs while hunting for prey. They are much more predatory.

Diet: mainly plant debris sifted from muddy bottom, occasionally green algae and tiny organisms (protozoa, mosquito/midge larvae)

Predators: birds, fish, frogs



Caddisfly Larva

Insect - Scavenger

These insect larvae build a tubular home out of twigs, wood, duckweed, or sand, held together with silk, that they carry with them. Their presence is a sign of good water quality. They later turn into a moth-like adult insect that lives for only a few days.

Diet: organic matter

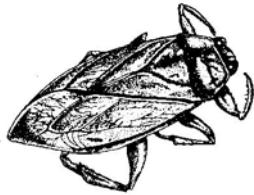
Predators: important food for many fish (commonly mimicked in "flies" for anglers), also eaten by birds such as swallows



Mosquito Larva

Insect - Filter Feeder

Mosquitoes are an important part of any healthy wetland and are the main food source for dragonflies and bats. Larvae are called wigglers and pupae are called tumblers. Adults feed on nectar. Females require a blood meal before they



Giant Water Bug

Insect - Predator

can lay their eggs.

Diet: plant juices, blood of amphibians to mammals

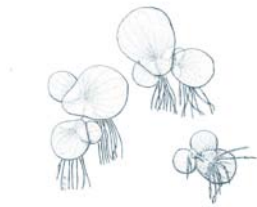
Predators: dragonflies, damselflies, swallows, bats

Watch out for this large hunter who is also called a “toe biter”. The front legs hold onto prey and the back legs are designed for swimming. When it catches its prey, it injects a poison to kill it, and then sucks the body juices through its straw-like mouth.

Diet: insects, tadpoles, snails, fish, even small frogs!

Predators: ducks, herons

PLANTS



Duckweed

Spirodela polyrhiza

Duckweed is tiny, and produces the plant kingdom’s smallest flowers. As the name suggests, it is excellent food for ducks.

Duckweed can spread to cover the entire surface of ponds during spring and summer. In the fall, it sinks to the bottom to overwinter.



Floating-leaved Pond Weed

Potamogeton natans

Pond-weeds are the largest family of aquatic plants. They have two types of leaves – floating and submerged. Their extensive rhizomes anchor them to the bottom of the pond and also store food for the winter. Floating-leaved pondweed is one of our most common pond plants.



Canada Waterweed

Elodea canadensis

Elodea forms dense masses of stems and leaves under the surface of ponds. It can be identified by its short leaves which grow in whorls around the stem. Beneath the surface of the pond, it provides shelter for insects and fish.

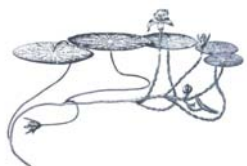


Yellow Water-Lily

Nuphar polysepalum

This native pond lily can be distinguished by its yellow cup-shaped flowers. The floating leaves emerge slightly from the water, which allows this plant to crowd out other pond vegetation. Pond lilies provide habitat for algae, insects, snails, frogs, fish, and others. Red-winged Blackbirds walk on the lily pads in search of food, lifting the leaves for a peek beneath. The seeds can be steamed as a dinner veggie, dried and ground for flour, cooked like oatmeal, or served as mock popcorn.

Examples of aboriginal use: Rootstocks were collected from muskrat dens where gifts of food



Water Shield
Brasenia schreberi

were left in trade; Haida still use root as medicine for numerous ailments such as colds, chest pains, cancer; various groups used rhizomes as medicine for tuberculosis; Called “west wind” in Hesquiat; brings calmer weather during westerly storms if person slaps leaf against water yelling “West wind! West wind!”

Water shield can be distinguished from other floating-leaved pond plants by the jelly-like sheath that covers its stem and leaves. The shield-shaped leaves are from 3 to 12 cm across. The top part of the leaves shed water, while the jelly sheath absorbs water. This helps keep the leaves right side up. Despite the thick jelly-like mucilage, the young leaves are eaten in Japan.



Coontail
Ceratophyllum demersum

Coontail is an introduced pond plant, native to Florida. The whorls of leaves around the stem make this plant look like a raccoon’s tail. Also known as Hornwort, it can grow up to 10 ft. long. A similar plant is Water Milfoil, which is also introduced and is highly invasive.



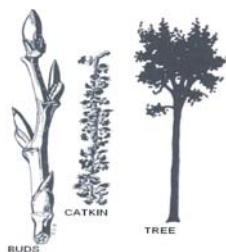
Cattail
Typha latifolia

Cattails can be found growing up to 2m. tall in still or slow flowing water at the edges of ponds. The brown spike which looks like a cat’s tail is the plant’s flower. The plant’s seeds are encased in fluff which many marsh animals use as nesting material. Cattails provide important food and habitat for pond animals such as muskrats, blackbirds and waterfowl. It was known as a grocery store from the marsh; aboriginals used it for everything from weaving mats for bedding, winter home insulation, capes, blankets, bags (leaves) to stuffing for pillows, wound dressings and diapers (seed fluff). It filters water and is used in sewage treatment and catchments ponds to filter runoff.



Yellow Iris
Iris pseudacorus

These tall yellow flowers are often found around the edges of ponds, where dragonfly nymphs may crawl up their leaves before emerging and water scorpions can sit on their stems waiting for their prey. They are the flower that inspired the fleur-de-lis. Seeds of this plant look like little brown hockey pucks.



Black Cottonwood
Populus balsamifera

Cottonwoods love growing in wet areas, so their leaves, buds, and catkins are often found floating in ponds. They have dark grey bark with deep and shiny dark green heart-shaped leaves. You can also identify them by smell. The buds in the spring are full of a sticky resin which smells wonderful. Various aboriginal groups ate the cambium. Balm of Gilead, a famous skin salve, can be made with the sticky resin and used to treat burns, cuts and skin irritations. Like all other willows, it contains salicylic acid which is used in aspirin and some dandruff shampoos.

Sources:

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