

TAXONOMIC GROUPS REFERENCE GUIDE

Common Phyla and Orders found in CABIN samples


Classification	Taxonomic Name	Common Name	Key Features
Major Phyla	Arthropoda	Crustaceans, Insects	Segmented bodies, jointed appendages, exoskeleton
	Annelida	Worms, Leeches	Long “worm-like” segmented body
	Mollusca	Snails, Mussels, Clams	Soft body with an internal or external shell
Major Classes	Insecta	Flies, True Bugs, Beetles	Body divided into 3 parts (head, thorax and abdomen), three pairs of legs and two pairs of wings or wingpads
	Euchelicerata (Arachnida)	Mites, Spiders	Often colourful, 2-3 mm, with 6-8 pairs of legs and no obvious body division
	Malacostraca	Crustaceans	Long antennae and segmented bodies with many appendages used for crawling and swimming
	Clitellata	Worms, Leeches	Long segmented bodies, some covered with microscopic hairs
	Gastropoda	Snails, Slugs	Shell, often spiraled, with the body parts contained inside
	Bivalvia	Mussels, Clams	Two separate shells opening on a hinge
		Mayflies	
Major Orders	Ephemeroptera		Most mayflies have 3 cerci (tails) and abdominal gills




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Classification	Taxonomic Name	Common Name	Key Features
Major Orders	Plecoptera	Stoneflies  Photo Credit: ECCC CABIN	Come in a range of sizes, all with 2 cerci (tails)
	Trichoptera	Caddisflies  Photo Credit: ECCC CABIN	Caterpillar-like larvae that can build cases out of vegetation or sand, glued together with silk
	Diptera	True Flies  Photo Credit: ECCC CABIN	Simple larvae have no obvious appendages but may have a head with eye spots




Classification	Taxonomic Name	Common Name	Key Features
Major Orders	Coleoptera	Beetles 	All beetles possess hardened wingpads called an elytra that protect the fragile flying wings underneath
	Odonata	Dragonflies, Damselflies 	The mouthparts of dragonflies and damselflies are extendible which help catch prey
	Megaloptera	Alderflies, Dobsonflies 	One of the largest insects in a river, large mandibles (jaws) and long abdominal gills are common

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Classification	Taxonomic Name	Common Name	Key Features
Major Orders	Hemiptera	True Bugs 	All Hemiptera have modified straw-like sucking mouthparts
	Lepidoptera	Butterflies, Moths 	Similar to caddisflies, caterpillars possess extra appendages along the abdomen
	Neuroptera	Spongillaflies, lacewings 	Aquatic species are specialized feeders on freshwater sponges. The wings of adults are membranous with many veins.

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Classification	Taxonomic Name	Common Name	Key Features
Major Orders	Sarcoptiformes/ Trombidiformes	Mites	Very small creatures that are often brightly coloured in samples
			
		Photo Credit: ECCC CABIN	
Decapoda		Crayfish	Crustacean with enlarged front legs modified into claws
			
		Photo Credit: ECCC CABIN	
Amphipoda		Scuds	Active swimmers with many appendages
			
		Photo Credit: ECCC CABIN	






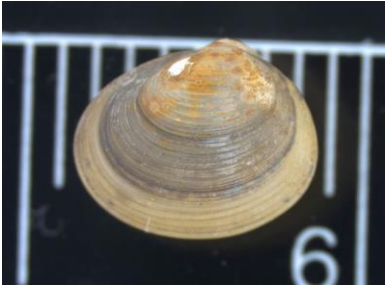
Classification	Taxonomic Name	Common Name	Key Features
Major Orders	Isopoda	Pill bugs 	Typically found crawling among substrate due to lack of swimming appendages
	Tubificida	Aquatic oligochaete worms 	Freshwater worms are smaller than earthworms and live amongst the substrate
	Hirudinida	Leeches 	Most species have a suction cup structure at one end to help grasp on to hosts

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Classification	Taxonomic Name	Common Name	Key Features
Major Orders	Basommatophora	Freshwater snails 	Snail shells are usually coiled and come in 2 varieties; left-handed and right-handed
	Unionoida	Freshwater mussels 	Larger bivalves in freshwater, filters material out of the water
	Veneroida	Freshwater clams 	Smaller bivalves which bury themselves in substrate

[Refer to Macroinvertebrate Identification Key \(macroinvertebrates.org\)](http://macroinvertebrates.org) for more information about macroinvertebrate taxonomy, identification and training resources.