Although almost all of Canada's freshwater bodies have been formed only since the end of the last ice age, a surprisingly rich and varied freshwater crustacean fauna has since managed to occupy the region from coast to coast and to the limit of melt ponds in the Arctic islands.

Fairy shrimps and tadpole shrimps occur only in temporary ponds, devoid of fishes and vertebrate predators, where they survive unfavourable periods of drought and freezing temperatures by means of resting eggs. Many of the microcrustaceans such as water fleas (*Daphnia, Simocephalus, Bosmina, Chydora*) and copepods (*Cyclops, Diaptomus*) living planktonically also survive and are transported from pond to pond by wind-blown or bird-carried resting eggs.

Ostracods are small active crustaceans with a seed-like bivalve shell, often remarkably sculptured, that inhabit all types of bottoms in both standing and running waters including rooted vegetation, algal mats, mud, sand and rubble. Eggs develop parthenogenetically and are resistant to desiccation for up to 20 years.

Among the higher crustaceans, the Amphipoda are represented by about 30 freshwater species of which *Gammarus lacustris, Hyalella azteca,* and *Crangonyx richmondensis* subspp. are the most widely distributed; the Isopoda by about a dozen species (*Asellus, Lircaeus*) and the Mysidacea by *Mysis relicta* of the larger deeper lakes. The decapods include the shrimp *Palaemonetes kadiakensis* in the Great Lakes system, and several species of the crayfish genera *Pacifastacus, Cambarus,* and *Orconectes,* some of which occur in Canada only in southern Ontario. Some crayfish species are edible, although not generally consumed in Canada, and the semi-terrestrial species of *Cambarus* do damage to lawns and embankments by tunnelling and by constructing earthen mounds or 'chimneys' at their burrow entrances.

The Mollusca of Canada

The Mollusca are an economically important, geologically ancient and biologically diverse segment of the fauna of Canada. The Phylum contains six classes: Monoplacophora, Amphineura (chitons), Gastropoda (snails, slugs, etc.), Scaphopoda (tusk shells), Pelecypoda (bivalves, *i.e.*, clams, mussels, etc.) and Cephalopoda (squids and octopods), and all of these except Monoplacophora occur in Canada. About 2,500 species of Canadian marine, freshwater and land molluscs representing 185 families have been recorded. In fact, among all animals the molluscs rank second only to the arthropods (insects, crabs, amphipods, etc.) in having the largest total numbers of known species. In 1966 over 49,000,000 pounds of clams, oysters, scallops and squids were commercially harvested in Canada. The damage caused by teredos (shipworms) and other injurious molluscs amounts to several millions of dollars annually. Many other examples of the medical and economic importance of molluscs could also be cited. So, although Canadian species are not as colourful or exotic as tropical species and are not as eagerly sought by shell collectors, they are nevertheless of great significance to man.

On the Atlantic Coast a warm shallow-water marine molluscan fauna occurs in the vicinity of Northumberland Strait and in isolated bays in Nova Scotia (Minas Basin, St. Mary Bay), characterized by the oyster *Crassostrea virginica* and the quahog *Mercenaria mercenaria* and representing a somewhat reduced, disjunct segment of the Virginian fauna; this fauna ranges elsewhere from Cape Cod to Cape Hatteras.

Except for these pockets of warm-water species, the Maritime region as far north as southern Newfoundland and the south shore of the St. Lawrence estuary is occupied by the North Atlantic Boreal Fauna which is very similar to that of northern Europe and is characterized by such species as the whelk *Buccinum undatum,* the mahogany clam *Arctica islandica* and the horse mussel *Modiolus modiolus.*

North of this region and extending throughout Hudson Bay, the Arctic Archipelago, and west to Alaska, an Arctic Fauna thrives which, in turn, is much like that of Greenland