

FRESHWATER MUSSELS OF THE CANADIAN INTERIOR BASIN

ARTHUR H. CLARKE

National Museum of Natural Sciences, National Museums of Canada

(SUMMARY)

In Canada, as elsewhere, the zoogeographic regions whose limits can be defined by significant, concordant changes in the distributions of freshwater mollusks are coincident with major drainage areas. Four such drainage areas are represented. These are: (1) the Atlantic Coastal Basin which extends through the Maritime Provinces, eastern Quebec, Newfoundland, and

Drainage Systems

Species or Subspecies	Nelson Basin															
	Mackenzie River	Churchill River	Saskatchewan River	Lake Winnipegosis	Red River	Winnipeg River	Nelson River	Hayes River	Severn River	Wimisk River	Attawapiskat River	Albany River	Moose River	Harricana River	Nottaway River	Eastmain River
<i>Fusconaia flava</i>	—	—	—	—	+	—	+	—	—	—	—	—	—	—	—	—
<i>Quadrula quadrula</i>	—	—	—	—	+	—	+	—	—	—	—	—	—	—	—	—
<i>Amblema plicata</i>	—	—	—	—	+	+	+	—	—	—	—	—	—	—	—	—
<i>Elliptio complanata</i>	—	—	—	—	—	—	—	—	—	—	—	+	+	+	+	—
<i>Lasmigona costata</i>	—	—	—	—	+	+	—	—	—	—	—	—	—	—	—	—
<i>Lasmigona compressa</i>	—	—	+	+	+	+	—	—	—	—	+	+	+	—	—	—
<i>Lasmigona complanata</i>	—	—	+	+	+	+	+	—	—	—	—	—	—	—	—	—
<i>Anodonta grandis grandis</i>	—	+	+	+	+	+	+	—	—	—	—	+	—	—	—	—
<i>Anodonta grandis simpsoniana</i>	+	+	+	+	—	+	+	+	+	+	+	+	+	+	+	+
<i>Anodonta kennerlyi</i>	+	—	+	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Anodontoides ferussacianus</i>	—	—	—	+	+	+	+	—	—	—	—	+	—	—	—	—
<i>Strophitus undulatus</i>	?	—	+	+	+	+	+	—	—	—	—	—	—	—	—	—
<i>Proptera alata</i>	—	—	—	—	+	+	—	—	—	—	—	—	—	—	—	—
<i>Ligumia recta</i>	—	—	—	—	+	+	+	—	—	—	—	—	—	—	—	—
<i>Lampsilis radiata siliquoidea</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	—
<i>Lampsilis ovata</i>	—	—	?	—	+	+	+	—	—	—	—	—	—	—	—	—

Labrador; (2) the Great Lakes-St. Lawrence Basin; (3) the Pacific Coastal Basin which extends throughout most of British Columbia and much of the Yukon Territory; and (4) the Canadian Interior Basin. The latter region comprises more than one-third of North America. It covers all of Canada not included within the other drainage areas and extends south to the headwaters of the Red River on the Minnesota-South Dakota boundary and northwest to the headwaters of the Firth River in northeastern Alaska.

The present distribution of freshwater mussels in the Canadian Interior Basin has been profoundly influenced by topography, geology, Pleistocene history, existing connections between river systems, and climate. Pleistocene features of special significance are the proglacial lakes, Lake Agassiz and Lake Barlow-Ojibway. During its period of existence from 12000 to 8000 years B.P. the boundaries of Lake Agassiz and the locations of its outlets shifted several times but its net effect was to provide wide avenues for immigration of Mississippi-Missouri Basin species into central, western, and northwestern Canada. Lake Barlow-Ojibway (8000-6000 B.P.) similarly provided access for Great Lakes-St. Lawrence species to northeastern Ontario and northwestern Quebec. (The Beringian Refugium in Yukon Territory and Alaska was also an important feature. During Wisconsin glaciation it was populated by about 42 species of freshwater mollusks, including *Anodonta beringiana* Middendorff. None of the Unionacea now living in the Canadian Interior Basin appear to have survived in Beringia, however.)

Sixteen species and subspecies of Unionidae are known from the Canadian Interior Basin. Their distributions are shown in the accompanying table.