

Nova Scotia



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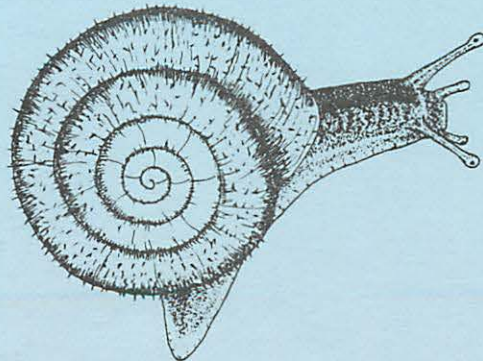
Nova Scotia Museum Complex

Curatorial Report Number 54

# Synopsis and Distribution Tables of Land and Freshwater, Mollusca of Nova Scotia

**Nova Scotia Museum**  
1747 Summer Street  
Halifax, Nova Scotia, Canada  
B3H 3A6

by Derek S. Davis  
April 1985



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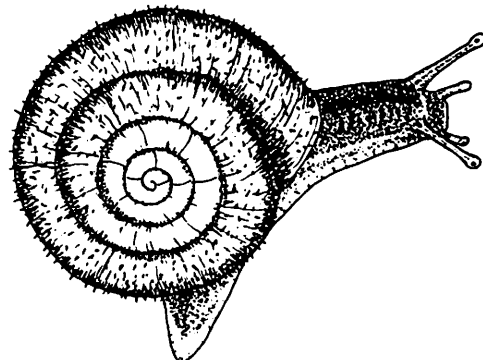
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NOVA SCOTIA MUSEUM

*Curatorial Reports*

The *Curatorial Reports* of the Nova Scotia Museum contain information on the collections and the preliminary results of research projects carried out under the program of the museum. The reports may be cited in publications but their manuscript status should be clearly indicated.

*Abstract*

A synopsis of the land and freshwater mollusca of Nova Scotia was prepared from a review of published literature. A total of 104 species are included some of which are considered to be extinct and others in need of verification. An analysis of the county records is included as distribution tables.

## INTRODUCTION

The land and freshwater molluscs, or non-marine molluscs as they are sometimes called, commonly occur in terrestrial and freshwater habitats in Nova Scotia. Animals included are the land snails and slugs, freshwater snails and freshwater mussels and clams. Aquatic snails and bivalves of saltmarshes and seashores are not included..

It is perhaps easily understood that studies of these animals in Nova Scotia have not been as frequent as studies of marine molluscs. The proximity of the sea, economic importance of the fisheries and marine aquaculture have provided more inducement to research workers. However, the land and freshwater molluscs have not been completely overlooked. Early collectors, particularly J. R. Willis, J. M. Jones and A. R. Campbell made important contributions. All of the early studies have been referred to in a general way by LaRocque (1953) in his catalogue of the recent mollusca of Canada. Since the Second World War several significant studies have been published including those of Ord and Watts (1949), MacMillan (1950), Moore (1962), Athearn and Clarke (1962) and Clarke and Meacham Rick (1963). These studies have provided detailed accounts either of certain groups of molluscs or of certain areas of the province. Also, there have been several applied studies relating to public health or wildlife management that have provided additional species records in recent years. In some cases specimens obtained during these studies were deposited at the Nova Scotia Museum and have been available for re-examination.

The purpose of this report is to provide a synopsis of the land and freshwater mollusc records in the published literature as a reference for future work. The only manuscript reports referred to are those in the Curatorial Report series of the Nova Scotia Museum, as these include some important records. It is recognized that some additional records exist in technical reports of other agencies and in university theses.

Records of some 104 species of freshwater prosobranchs, freshwater and land pulmonates and freshwater bivalves are included. Marine members of the prosobranch family Hydrobiidae and of the pulmonate family Ellobiidae are often included in lists of the land and freshwater mollusca. However, in Nova Scotia the three species involved, *Hydrobia totteni* Morrison, *Melampus bidentatus* Say and *Ovatella myosotis* (Drap.), are restricted to marine and brackish waters and have been omitted from this synopsis. Some introduced species such as *Testacella haliotidea* and *Helix aspersa* are probably now extinct in Nova Scotia and some other records of both native and introduced species need to be confirmed. An additional three species of gastropods are known to occur in Nova Scotia, namely *Acella haldemani* (Binney, 1867), *Ferrissia rivularis* (Say, 1817) and *Limax maximus* Linné, 1758, but these have not been included in the synopsis as the records have not yet been published.

The scientific names used in this synopsis are standardized as far as possible with Pilsbry (1939, 1946 and 1948), Kerney and Cameron (1979), Burch (1980) and Clarke (1981). The names of species in difficult genera, particularly within the Physidae and Succineidae, should be used with caution as these families have not been properly investigated in Nova Scotia.

## SYSTEMATIC LIST

## CLASS GASTROPODA

## Order Prosobranchia

## Suborder Mesogastropoda

## FAMILY VIVIPARIDAE

*Campelema decisum* (Say, 1816)

- Willis 1863:425 (as *Paludina decisum*, "many lakes of Nova Scotia; not rare")  
 Gould 1870:290 (as *Melantho decisum*, Nova Scotia)  
 Jones 1877:327 (as *Melantho decisum*, "Dartmouth Lakes, etc.")  
 Smith 1936:262 (Lake Jesse, Yarmouth Co.)  
 LaRocque 1953:266 (Nova Scotia)  
 Coleman 1968:440 (Lake Egmont, Halifax Co.)  
 Burch 1980:86 (Nova Scotia)  
 Clarke 1981:34 (Nova Scotia)  
 Davis 1981:11 (Halifax Co.)

*Cipangopaludina chinensis* (Gray, 1834)

- Coleman 1968:439 (as *Viviparus malleatus* Rve., Lower Sackville,  
 Halifax Co.)  
 Clarke 1981:38 (Lower Sackville, Halifax Co.)

## FAMILY VALVATIDAE

*Valvata sincera sincera* Say, 1824

- Davis and Wilson 1979:21 (Victoria Co.)  
 Clarke 1981:46 (Nova Scotia)  
 Isnor 1981:42 (Victoria Co.)

*Valvata tricarinata* (Say, 1817)

- Jones 1877:327 ("Lakes in the interior")

## FAMILY HYDROBIIDAE

*Lyogyrus granum* (Say, 1822)

- Davis 1981:11 (Halifax Co.)

*Ammicola limosa* (Say, 1817)

- Willis 1863:425 (as *Ammicola porata* Gould and *Ammicola limosa* Gould)  
 (Dartmouth Lakes; common. Blockhouse Pond, vicinity of Halifax)  
 Gould 1870:294 (Nova Scotia)  
 Jones 1877:327 (ponds and stagnant water)  
 Smith 1936:262 (as *Ammicola limosa porata* Say, Yarmouth Co.)  
 MacMillan 1954:390 (as *Ammicola limosa limosa* (Say) and *Ammicola limosa porata* (Say). Victoria Co., and Cape Breton Co.)  
 Coleman 1968:439 (Halifax Co.)  
 Davis and Wilson 1979:21 (Victoria Co.)  
 Clarke 1981:64 (Nova Scotia)  
 Davis 1981:11 (Halifax and Hants Co's)  
 Davis 1985:87 (Hants Co.)

*Marstonia lustrica* Pilsbry, 1890

- MacMillan 1954:390 (as *Ammicola lustrica* Pils., Victoria Co.)

## Order Pulmonata

## Suborder Basommatophora

## FAMILY ELLOBIIDAE

*Carychium exiguum* (Say, 1822)

- Pilsbry 1948:1052 (Windsor, N. S.)  
 LaRocque 1954:339 (Nova Scotia)

*Carychium exile* Lea 1842

- MacMillan 1954:390 (as *C. exile exile* Lea and *C. exile canadense* Clapp, Inverness and Victoria Co's.)

## FAMILY LYMNAEIDAE

*Fossaria modicella* (Say, 1825)

- Willis 1863:427 (as *Limnea modicella*, Say...Halifax)  
 Jones 1877:330 (as *Limnea humilis* Say ...Halifax)  
 LaRocque 1953: 284 (as *F. modicella modicella*...Nova Scotia)  
 MacMillan 1954:392 (as *F. modicella modicella*, *F. modicella rustica*, *F. obrussa* (Say), Cape Breton, Inverness and Victoria Co's., and *F. umbilicata* (C. B. Adams) Victoria and Cape Breton Co's)  
 Burch 1980:172 (Nova Scotia)

Clarke 1981:28-29 (Nova Scotia)  
 Davis 1985:87 (as *Lymnaea modicella*, Hants Co.)

*Pseudosuccinea columella* (Say, 1817)

Willis 1863:426 (as *Limnaea culumella* (Sic), Say...common)  
 Jones 1877:330 (as *Limnaea columella*, Say...common)  
 Gould 1870:472 (as *Limnaea columella*, Nova Scotia)  
 MacMillan 1954:392 (Victoria and Cape Breton Co's.)  
 Davis and Wilson 1979:21 (Victoria Co.)  
 Burch 1980:174 (Nova Scotia)  
 Clarke 1981:35-36 (Nova Scotia)  
 Davis 1981:11 (as *Lymnaea columella*, Halifax Co.)  
 Davis 1985:87 (as *Lymnaea columella*, Hants Co.)

*Stagnicola catascopium catascopium* (Say, 1817)

Willis 1863:426 (as *Limnaea catascopium*, Say...Dartmouth Lakes, rare)  
 Jones 1877:330 (as *L. catascopium*, Say)  
 LaRocque 1953:276 (Nova Scotia)  
 MacMillan 1954:392 (Inverness Co.)  
 Farley 1967:1247-1254 (as *Lymnaea emarginata*, Lake Ainslie, Inverness Co.)  
 Burch 1980:176 (Nova Scotia)  
 Clarke 1981:44-45 (Nova Scotia)  
 Davis 1981:11 (as *Lymnaea catascopium*, Halifax Co.)

*Stagnicola elodes* (Say, 1821)

Willis 1863:426 (as *Limnaea elodes* Say...Windsor, N. S.)  
 Jones 1877:330 (as *L. elodes*, Say...Truro Marshes)  
 MacMillan 1954:392 (as *Stagnicola palustris* (Müller), Victoria and  
 Inverness Co's.)  
 Clarke 1981:142-143 (Nova Scotia)  
 Davis 1985:87 (Hants Co.)

FAMILY PHYSIDAE

*Physa ancillaria* (Say, 1825)

Willis 1863:427 (Dartmouth)  
 Jones 1877:330 (Dartmouth)

*Physa gyrina* Say, 1821

MacMillan 1954:391 (Victoria Co., Inverness Co., Cape Breton Co.)  
 Coleman 1968:440-441 (as *Physa sayi* Tappan, Halifax Co.)

*Physa heterostropha* Say, 1817

Willis 1863:427

Jones 1877:330 (Truro marshes)  
 Campbell 1906 (Pictou Co.)  
 Coleman 1968:439-441 (Halifax Co.)  
 Davis 1979:28 (Halifax Co.)  
 Davis and Wilson 1979:21 (Victoria Co.)  
 Burch 1980 (as *Physella (Costatella) heterostropha heterostropha*  
 (Say,1817), Nova Scotia)  
 Clarke 1981:156-157 (Nova Scotia) (as *Physa heterostropha* Say,1816)  
 Davis 1981:11 (Halifax Co.)  
 Davis 1985:87 (Hants Co.)

*Aplexa hypnorum* (Linnaeus, 1758)

Jones 1877:330 (as *Bulinus elongatus*, Binney, Truro)  
 Clarke 1981:172-173 (Nova Scotia)  
 Isnor 1981:43 (Pictou and Cumberland Co's)

FAMILY PLANORBIDAE

*Gyraulus circumstriatus* (Tryon,1866)

Davis 1979:28 (Halifax Co.)  
 Davis and Wilson 1979:21 (Inverness and Victoria Co's.)  
 Clarke 1981:176-177 (Nova Scotia)  
 Davis 1983:75 (Nova Scotia)  
 Davis 1985:83 (Hants Co.)

*Gyraulus deflectus* (Say,1824)

Willis 1863:427 (Dartmouth)  
 Jones 1877:330 (Dartmouth)  
 Smith 1936:262 (Yarmouth Co.)  
 MacMillan 1954:393 (as *Gyraulus hirsutus* (Gould), Victoria and  
 Cape Breton Co's.)  
 Clarke 1981:178-179 (Nova Scotia)  
 Davis 1981:11 (Halifax Co.)  
 Davis 1983:75 (Nova Scotia)  
 Davis 1985:88 (Hants Co.)

*Gyraulus parvus* (Say,1817)

Coleman 1968:439 (Halifax Co.)  
 Clarke 1981:180-181 (Nova Scotia)  
 Isnor 1981:44 (Halifax and Cumberland Co's.)  
 Davis 1983:75 (Nova Scotia)



*Menetus (Micromenetus) dilatatus* (Gould, 1840)

- Willis 1863:427 (as *Planorbis dilatata*, Dartmouth Lakes)  
 Jones 1877:330 (as *P. dilatatus*, Gould. Dartmouth Lakes)  
 Davis 1981:11 (Halifax Co.)  
 Isnor 1981:44 (Guysborough, Halifax, Lunenburg and Digby Co's.)  
 Davis 1983:74 (Guysborough, Halifax and Lunenburg Co's.)

*Promenetus exacuusus exacuusus* (Say, 1821)

- Coleman 1968:440 (Halifax Co.)  
 Clarke 1981:186-187 (Nova Scotia)  
 Davis 1983:75 (Nova Scotia)

*Planorbula armigera* (Say, 1821)

- Clarke 1981:194-195 (Nova Scotia)  
 Isnor 1981: 43 (as *P. jenksii* H. C. Carpenter, Halifax and  
 Cumberland Co's.)  
 Davis 1983:75 (Nova Scotia)

*Helisoma (Helisoma) anceps anceps* (Menke, 1830)

- Willis 1863:427 (as *Planorbis bicarinatus* Say, Dartmouth Lakes)  
 Jones 1877:330 (as *Planorbis bicarinatus*)  
 Smith 1936:262 (Yarmouth Co.)  
 MacMillan 1954:392 (Victoria and Inverness Co's)  
 Coleman 1968:441 (as *Helisoma trivolvis* Say, Halifax Co.)  
 Davis and Wilson 1979:21 (Victoria Co.)  
 Clarke 1981:198-199 (Nova Scotia)  
 Davis 1981:11 (Halifax Co.)  
 Davis 1983:75 (Nova Scotia)  
 Davis 1985:88 (Hants Co.)

*Helisoma (Planorbella) campanulatum campanulatum* (Say, 1821)

- Gould 1870:493 (Nova Scotia)  
 Smith 1936:262 (Yarmouth Co.)  
 MacMillan 1954:392 (Inverness Co.)  
 Davis and Wilson 1979:21 (Victoria Co.)  
 Clarke 1981:202-203 (Nova Scotia)  
 Davis 1981:11 (Halifax Co.)  
 Davis 1983:75 (Nova Scotia)  
 Davis 1985:88 (Hants Co.)

*Helisoma (Pierosoma) trivolvis trivolvis* (Say, 1816)

Willis 1863:427 (Dartmouth Lakes)  
 Jones 1877:330 (Dartmouth Lakes)  
 Clarke 1981:212-213 (Nova Scotia)  
 Davis 1983:75 (Nova Scotia)

## FAMILY ANCYLIDAE

*Ferrissia parallela* (Haldeman, 1841)

Willis 1863:426 (as *Ancylus parallelus* Hald.)  
 Jones 1877:330 (as *Ancylus parallelus* Hald.)  
 LaRocque 1953:296 (Nova Scotia)  
 MacMillan 1954:393 (Victoria Co.)  
 Davis and Wilson 1979:21 (Victoria Co.)  
 Clarke 1981:224-25 (Nova Scotia)  
 Davis 1981:11 (Halifax Co.)

## Suborder Stylommatophora

## FAMILY CIONELLIDAE

*Cionella lubrica* (Müller, 1774)

MacMillan 1954:394 (Victoria, Cape Breton and Inverness Co's.)  
 Moore 1963:193 (Kings Co.)  
 Davis 1966:18 (Halifax Co.)  
 Clarke 1967:12 (Sable Island)  
 Davis 1985:88 (Hants Co.)

## FAMILY VALLONIIDAE

*Zoogenetes harpa* (Say, 1824)

MacMillan 1954:396 (Victoria, Inverness and Cape Breton Co's)  
 Moore 1963:194 (Kings Co.)

*Vallonia excentrica* Sterki, 1893

Pilsbry 1948:1025 (Halifax)  
 MacMillan 1954:395 (Victoria, Cape Breton and Inverness Co's)  
 Moore 1963:194 (Kings Co.)  
 Davis 1966:18 (Halifax Co.)  
 Davis 1985:88 (Hants Co.)

*Vallonia pulchella* (Müller, 1774)

- Willis 1863:427 (as *Helix minuta* Say, Halifax)  
 Jones 1877:330 (as *Helix pulchella*, Müll., Halifax)  
 Pilsbry 1984:1023 (Nova Scotia)  
 MacMillan 1954:396 (Cape Breton Co.)  
 Moore 1963:194 (Kings Co.)

*Planogyra asteriscus* (Morse, 1857)

- Davis 1985:88 (Hants Co.)

## FAMILY PUPILLIDAE

*Pupilla muscorum* (Linné, 1758)

- Isnor 1981:44 (Antigonish, Pictou, Halifax and Queens Co's)

*Vertigo bollesiana* (Morse, 1865)

- Moore 1963:193 (Kings Co.)

*Vertigo gouldi* (Binney, 1843)

- MacMillan 1954:3974 (as *V. gouldi gouldi* (A. Binney) and  
*V. gouldi paradoxa* Sterki, (Victoria Co.)  
 Moore 1963:193-194 (Kings Co.)

*Vertigo modesta* (Say, 1824)

- MacMillan 1954:394 (Inverness Co.)

*Vertigo nylanderi* Sterki, 1909

- MacMillan 1954:395 (Victoria Co.)

*Vertigo ovata* Say, 1822

- Willis 1863:427 (as *Pupa ovata*, J. M. Jones Esq., Halifax)  
 MacMillan 1954:395 (Inverness Co.)

*Vertigo pygmaea* (Draparnaud, 1801)

- MacMillan 1954:395 (Victoria and Inverness Co's)  
 Moore 1963:194 (Kings Co.)  
 Davis 1985:88 (Hants Co.)

*Vertigo ventricosa* (Morse, 1865)

MacMillan 1954:395 (Victoria Co.)

Moore 1963:194 (Kings Co.)

*Gastrocopta pentodon* (Say, 1821)

MacMillan 1954:395 (Inverness Co.)

## FAMILY STROBILOPSIDAE

*Strobilops aenea* Pilsbry, 1926

MacMillan 1954:396 (Victoria Co.)

*Strobilops labyrinthica* (Say, 1817)MacMillan 1954:396 (as *S. labyrinthica labyrinthica* (Say),  
Victoria Co. and *S. labyrinthica virgo* Pilsbry, Inverness Co.)

Davis 1985:88 (Hants Co.)

## FAMILY SUCCINEIDAE

*Succinea aurea* Lea, 1846

MacMillan 1954:393 (Victoria Co.)

*Succinea ovalis* Say, 1817Willis 1863:427 (as *Succinea obliqua*)Jones 1877:330 (as *Succinea obliqua* Say)Campbell 1906:25 (as *Succinea obliqua* (Pictou Co.))

MacMillan 1954:374 (Victoria and Inverness Co's)

Davis 1985:88 (Hants Co.)

*Catinella avara* (Say, 1824)Willis 1863:427 (as *Succinea avara*)Jones 1877:330 (as *Succinea avara* Say)

Pilsbry 1984:837 (Cape Breton Island)

MacMillan 1954:393 (as *Succinea avara* (Say), Victoria, Cape Breton  
and Inverness Co's)

*Catinella vagans* (Pilsbry, 1900)

- Moore 1963:193 (as *Quickella vagans*, Kings Co.)  
 Davis 1966:18 (as *Quickella vagans*, Halifax Co.)

*Oxyloma decampi* (Tryon, 1866)

- Willis 1863:427 (as *Succinea*-(?), Sable Island)  
 Pilsbry 1984:782 (as *O. decampi gouldi* Pilsbry 1943, Nova Scotia  
 and Cape Breton Island)  
 MacMillan 1954:393 (as *Succinea decampi gouldi* (Pilsbry), Victoria Co.)  
 Moore 1963:193 (as *Oxyloma decampi gouldi* Pilsbry), Kings Co.)  
 Clarke 1967:12 (as *Oxyloma* sp., Sable Island)

*Oxyloma verrilli* (Bland, 1865)

- MacMillan 1954:394 (as *Succinea verrilli*, Victoria, Cape Breton  
 and Inverness Co's)

## FAMILY PHILOMYCIDAE

*Philomycus carolinianus flexuolaris* (Rafinesque, 1820)

- Dimelow 1962:49 (Cumberland Co.)  
 Isnor 1981:45 (Yarmouth, Annapolis, Queens, Lunenburg, Halifax,  
 Guysborough, Pictou, Colchester, Cumberland and Victoria Co's)

*Pallifera dorsalis* (Binney, 1842)

- Campbell 1906:26 (as *Tebennophorus dorsalis*, Pictou Co.)  
 LaRocque 1953:326 (Nova Scotia)  
 Dimelow 1963:49 (Cumberland Co.)  
 Davis 1985:88 (Hants Co.)

## FAMILY ARIONIDAE

*Arion circumscriptus* Johnston, 1828

- LaRocque 1937:58 (Kings Co.)  
 Pilsbry 1948:674 (Kings Co.)  
 Ord and Watts 1949:23-24 (Halifax, Lunenburg, Queens, Hants, Antigonish,  
 Guysborough, Pictou, Inverness, Victoria and Cape Breton Co's)  
 LaRocque 1953:323 (Nova Scotia)  
 MacMillan 1954: 399-400 (Victoria and Cape Breton Co's)  
 Dimelow 1962:49 (Cumberland Co.)  
 Moore 1963:195 (Kings Co.)  
 Clarke 1967:12 (Sable Island)

*Arion hortensis* Ferussac, 1819

- Ord and Watts 1949:25-26 (Halifax and Lunenburg Co's)  
 LaRocque 1953:323 (Nova Scotia)  
 Davis 1966:18 (Halifax Co.)  
 Clarke 1967:12 (Sable Island)  
 Davis 1985:88 (Hants Co.)

*Arion subfuscus* (Draparnaud, 1805)

- Ord and Watts 1949:27 (Halifax, Lunenburg, Kings, Queens, Hants, Antigonish, Guysborough, Inverness and Cape Breton Co's)  
 LaRocque 1953:323 (Nova Scotia)  
 MacMillan 1954:400 (Inverness, Cape Breton and Richmond Co's)  
 Dimelow 1962:49 (Cumberland Co.)  
 Moore 1963:196 (Kings Co.)  
 Davis 1966:18 (Halifax Co.)  
 Clarke 1967:12 (Sable Island)  
 Davis 1985:88 (Hants Co.)

## FAMILY ENDODONTIDAE

*Anguispira alternata* (Say, 1816)

- Willis 1863:427 (as *Helix alternata* Say, Hants Co.)  
 Jones 1877:329 (as *Helix alternata* Say, interior of the country)  
 Pilsbry 1948:508 (Halifax and Canso, Nova Scotia)  
 LaRocque 1958:330 (Nova Scotia)  
 MacMillan 1954:397 (Inverness Co.)  
 Dimelow 1962:49 (Cumberland Co.)  
 Davis 1985:88 (Hants Co.)

*Discus cronkhitei* (Newcomb, 1865)

- Willis 1863:427 (as *Helix striatella* Gould, Halifax)  
 Jones 1877:330 (as *Helix striatella* Anth., Halifax)  
 Campbell 1906:25 (Pictou Co.)  
 Pilsbry 1948:660 (as *D. cronkhitei cronkhitei*, Hectanooga, Digby Co. and Uniacke Lake, Hants Co., N. S.)  
 MacMillan 1954:397 (as *D. cronkhitei cronkhitei* and *D. cronkhitei catskillensis*, Victoria, Cape Breton and Inverness Co's)  
 Dimelow 1962:49 (as *D. cronkhitei cronkhitei*, Cumberland Co.)  
 Moore 1963:194 (as *D. cronkhitei catskillensis*, Kings Co.)  
 Davis 1966:18 (as *cronkhitei catskillensis*, Halifax Co.)  
 Clarke 1967:12 (Sable Island)  
 Davis 1985:88 (Hants Co.)

*Helicodiscus parallelus* (Say, 1821)

- Willis 1863:427 (as *Helix lineata* Say, Halifax)  
 Jones 1877:330 (as *H. lineata* Binney, Halifax)  
 Pilsbry 1948:625 (Hectanooga Co., Digby Co. and North Mountain,  
 Annapolis Co.)  
 MacMillan 1954:396 (Victoria Co.)  
 Davis 1985:89 (Hants Co.)

*Punctum minutissimum* (Lea, 1841)

- MacMillan 1954:396 (Victoria and Inverness Co's)  
 Davis 1985:89 (Hants Co.)

## FAMILY LIMACIDAE

*Deroceras laeve* (Müller, 1774)

- Campbell 1906:26 (as *Limax campestris*, Pictou Co.)  
 Ord and Watts 1949:20-22 (Halifax, Cumberland, Lunenburg, Queens,  
 Antigonish, Guysborough, Pictou, Inverness, Victoria, Cape Breton  
 and Richmond Co's)  
 MacMillan 1954:400 (Victoria, Cape Breton, Inverness, Richmond Co's)  
 Moore 1963:196 (Kings Co.)  
 Davis 1966:18 (Halifax Co.)  
 Clarke 1967:12 (Sable Island)  
 Davis 1979:28 (Halifax Co.)  
 Davis 1985:89 (Hants Co.)

*Deroceras reticulatum* (Müller, 1774)

- Campbell 1906:26 (as *Limax agrestis*, Pictou Co.)  
 Ord and Watts 1949:18-20 (Halifax, Lunenburg, Kings, Queens, Hants,  
 Antigonish, Guysborough, Pictou, Colchester, Inverness, Victoria,  
 Cape Breton and Richmond Co's)  
 LaRocque 1953:319 (Nova Scotia)  
 MacMillan 1954:400-401 (Victoria, Inverness, Cape Breton and Richmond  
 Co's)  
 Dimelow 1962:49 (Cumberland Co.)  
 Moore 1963:196 (Kings Co.)  
 Davis 1966:18 (Halifax Co.)  
 Davis 1985:89 (Hants Co.)

## FAMILY MILACIDAE

*Milax gagates* (Draparnaud, 1801)

- Fox 1962:122 (Cumberland Co.)

## FAMILY ZONITIDAE

*Retinella (Perpolita) binneyana* (Morse, 1864)

MacMillan 1954:397 (Victoria, Cape Breton and Inverness Co's)

*Retinella (Perpolita) electrina* (Gould, 1841)

Willis 1863:427 (as *Helix electrina* Gould, Halifax)

Jones 1877:329 (as *Helix electrina* Morse, Halifax)

Pilsbry 1946:256 (Nova Scotia)

MacMillan 1954:397 (Victoria, Cape Breton and Inverness Co's)

Moore 1963:195 (Kings Co.)

Davis 1966:17 (Halifax Co.)

*Retinella (Glyphyalina) indentata* (Say, 1823)

Campbell 1906:25 (as *Hyalina indentata*, Pictou Co.)

Moore 1963:195 (Kings Co.)

*Oxychilus cellarius* (Müller, 1774)

Willis 1863:427 (as *Helix cellaria* Müll.)

Gould 1870:395 (as *Hyalina cellaria*, Halifax)

Jones 1877:329 (as *Hyalina cellaria* Morse, Halifax)

Pilsbry 1946:249 (Nova Scotia)

LaRocque 1953:312 (Nova Scotia)

MacMillan 1954:398 (Victoria and Cape Breton Co's)

Dimelow 1962:49 (Cumberland Co.)

Moore 1963:194 (Kings Co.)

Davis 1966:17 (Halifax Co.)

Davis 1985:89 (Hants Co.)

*Oxychilus draparnaudi* (Beck, 1837)

MacMillan 1954:398 (Victoria and Cape Breton Co's)

*Striatura (Pseudohyalina) exigua* (Stimpson, 1850)

Pilsbry 1946:490 (Hectanooga, Digby Co.)

LaRocque 1953:317 (Nova Scotia)

MacMillan 1954:398 (Victoria and Inverness Co's)

Moore 1963:195 (Kings Co.)

Davis 1985:89 (Hants Co.)



*Striatura (Striatura) ferrea* Morse, 1864

Pilsbry 1946:497 (Digby, Hants and Queens Co's)  
 LaRocque 1953:317 (Nova Scotia)  
 MacMillan 1954:398 (Victoria Co.)

*Striatura (Striatura) milium* (Morse, 1859)

Campbell 1906:25 (as *Hyalina milium*, Pictou Co.)  
 MacMillan 1954:398 (Victoria, Inverness and Cape Breton Co's)

*Zonitoides (Zonitoides) arboreus* (Say, 1816)

Willis 1863:427 (as *Helix arborea* Gould, Halifax)  
 Jones 1877:329 (as *Hyalina arborea* Morse, Halifax)  
 Campbell 1906:25 (as *Hyalina arborea*, Pictou Co.)  
 Pilsbry 1946:480 (Nova Scotia)  
 MacMillan 1954:398-399 (Victoria, Cape Breton and Inverness Co's)  
 Dimelow 1962:49 (Cumberland Co.)  
 Moore 1963:195 (Kings Co.)  
 Clarke 1967:12 (Sable Island)  
 Davis 1979:28 (Halifax Co.)  
 Davis 1985:89 (Hants Co.)

*Zonitoides (Zonitoides) nitidus* (Müller, 1774)

MacMillan 1954:399 (Victoria Co.)  
 Moore 1963:195 (Kings Co.)  
 Davis 1985:89 (Hants Co.)

*Vitrina limpida* Gould, 1850

MacMillan 1954:399 (Victoria, Inverness and Cape Breton Co's)  
 Moore 1963:195 (Kings Co.)  
 Davis 1985:89 (Hants Co.)

*Hawaiiia minuscula* (Binney, 1840)

Isnor 1981:45 (Hants Co.)  
 Davis 1985:89 (Hants Co.)

## FAMILY TESTACELLIDAE

*Testacella haliotidea* Draparnaud, 1801

Willis 1863:428 (as *Testacella haliotoidea* (?) Forbes and Hanley,  
 Halifax, introduced)  
 LaRocque 1953:311 (Introduced, Nova Scotia)

## FAMILY EUCONULIDAE (Kaliellidae)

*Euconulus chersinus* (Say, 1821)

- Willis 1863:427 (as *Helix chersina*, Say, Halifax)  
 Jones 1877:329 (as *Hyalina chersina*, Binney, Halifax)  
 Campbell 1906:25 (as *Hyalina chersina*, Pictou Co.)

*Euconulus fulvus* (Müller, 1774)

- MacMillan 1954:401 (Victoria, Cape Breton and Inverness Co's)  
 Moore 1963:196 (Kings Co.)  
 Davis 1985:89 (Hants)

## FAMILY POLYGYRIDAE

*Stenotrema hirsutum* (Say, 1816)

- Willis 1863:427 (as *Helix hirsuta* Say  
 Gould 1870:418 (as *Helix hirsuta*, Nova Scotia)  
 Jones 1877:330 (as *Helix hirsuta* Say, Halifax)

*Mesodon sayanus* (Pilsbry, 1906)

- Dimelow 1962:49 (Cumberland Co.)

## FAMILY HELICIDAE

*Trichia (Trichia) hispida* (Linné, 1758)

- Willis 1863:427 (as *Helix hispida*, Gould "perhaps imported")  
 Pilsbry 1939:16 (Halifax)  
 LaRocque 1953:302 (as *Hygromia hispida* Linné, Nova Scotia)  
 MacMillan 1954:401 (as *Hygromia hispida* (Linné), Victoria, Cape Breton  
 and Inverness Co's)  
 Moore 1963:196 (as *Hygromia hispida* (Linné), Kings Co.)  
 Davis 1966:17 (as *Hygromia hispida* (Linné), Halifax Co.)  
 Davis 1985:89 (Hants Co.)

*Trichia (Trichia) striolata* (Pfeiffer, 1828)

- Pilsbry 1939:18 (Halifax)  
 LaRocque 1953 (as *Hygromia striolata* C. Pfeiffer, Nova Scotia)

*Cepaea (Cepaea) nemoralis* (Linné, 1758)

- Willis 1863:427 (as *Helix nemoralis* Lin., "perhaps imported")  
 LaRocque 1953:302 (Sable Island)

*Cepaea (Cepaea) hortensis* (Müller, 1774)

- Jones 1877:330 ("whole country")  
 Campbell 1906:25 (as *Helix albolabris*, Pictou Co.)  
 Wintemberg 1919:71 (Mahone Bay, Lunenburg Co.)  
 Smith and Wintemberg 1929:113 (Mahone Bay, Lunenburg Co.)  
 Pilsbry 1939:67 (Halifax Co, Yarmouth and vicinity, East Jordan,  
 Digby Co., and Cape Breton Island)  
 LaRocque 1953:301 (Nova Scotia)  
 MacMillan 1954:402 (Victoria, Cape Breton and Inverness Co's)  
 Lindroth 1957:234-235 (Lunenburg Co., etc.)  
 Bousfield and Leim 1960:22 (Cumberland Co., Hants Co.)  
 Bleakney 1960:131-134 (Digby Co.)  
 Clarke & Erskine 1961:393-394 (Lunenburg Co.)  
 Clarke 1967:12 (Sable Island)  
 Moore 1963:196 (Kings Co.)  
 Walden 1963:169 (Nova Scotia)  
 Davis 1966:17 (Halifax Co.)  
 Davis 1985:89 (Hants Co.)

*Helix aspersa* Müller, 1774

- Pilsbry 1939:45 (Halifax, not confirmed)  
 LaRocque 1953:301 (Nova Scotia-doubtful)

## CLASS BIVALVIA (PELECYPODA)

## Order Eulamellibranchiata

## Suborder Schizodonta (Prionodesmacea)

## FAMILY MARGARITANIDAE (MARGARITIFERIDAE)

*Margaritifera margaritifera margaritifera* (Linné, 1758)

- Willis 1863:422 (as *Alasmodonta margaritifera*, Annapolis and Sackville Rivers)  
 Jones 1877:325 (as *Margaritana arcuata* St.)  
 LaRocque 1953:85 (Nova Scotia)  
 Athearn and Clarke 1962:21 (Cumberland, Antigonish, Inverness, Victoria, Richmond, Guysborough, Halifax, Annapolis, and Colchester Co's)  
 Clarke and Meacham Rick 1963:22 (Cumberland, Inverness, Cape Breton, Guysborough, Halifax, Lunenburg, Antigonish and Hants Co's)  
 Grigg 1972:4-5 (Annapolis, Halifax, Guysborough, Antigonish, Pictou, Colchester, Cumberland, Richmond and Inverness Co's)

Davis and Wilson 1979:21 (Victoria Co.)  
 Clarke 1981:248-249 (Nova Scotia)  
 Isnor 1981:47 (throughout Nova Scotia)

FAMILY UNIONIDAE

*Elliptio complanata* (Lightfoot,1786)

Willis 1863:421 (as *Unio complanatus* Lea)  
 Jones 1877:324 (as *Unio complanatus* Lea)  
 Athearn and Clarke 1962:22 (as *E. complanatus* (Solander) Cumberland,  
 Inverness, Victoria, Cape Breton, Guysborough, Halifax, Queens,  
 Yarmouth, Digby, Annapolis, Kings, Hants and Colchester Co's)  
 Clarke and Meacham Rick 1968:22 (as *E. complanatus* (Solander)  
 Cumberland, Antigonish, Inverness, Cape Breton, Guysborough,  
 Lunenburg, Queens, Digby and Annapolis Co's)  
 Grigg 1972:5-7 (Digby, Shelburne, Annapolis, Kings, Queens, Lunenburg,  
 Hants, Halifax, Guysborough, Antigonish, Pictou, Colchester,  
 Cumberland, Richmond, Victoria and Inverness Co's)  
 Wiles 1975:34 (Hants Co.)  
 Davis and Wilson 1979:21 (Victoria Co.)  
 Clarke 1981:266-267 (Nova Scotia)  
 Davis 1981:12 (Halifax and Hants Co's)  
 Kat and Davis 1984:181-182 (Cumberland, Victoria, Cape Breton, Richmond,  
 Halifax, Hants, Yarmouth and Digby Co's)

*Alasmidonta undulata* (Say,1817)

Athearn and Clark 1962:24 (Cumberland, Inverness, Halifax and  
 Colchester Co's)  
 Grigg 1972:8 (Hants, Halifax and Cumberland Co's)  
 Clarke 1981:278-279 (northern Nova Scotia)  
 Davis 1981:12 (Halifax and Hants Co's)  
 Kat and Davis 1984:180-181 (Hants Co.)

*Alasmidonta varicosa* (Lamarck,1819)

Athearn and Clarke 1962:25 (Cumberland, Guysborough, Annapolis  
 and Colchester Co's)  
 Grigg 1972:8 (Guysborough Co.)  
 Clarke 1981:280-281 (northern Nova Scotia)  
 Isnor 1981:48 (Cumberland, Colchester and Guysborough Co,s)

*Anodonta cataracta* Say, 1817

- Willis 1863:421 (as *Anodonta Ferussaciana* (?) Dartmouth Lakes)  
 Smith 1936:262 (as *Anodonta marginata* Say, Yarmouth Co.)  
 Athearn and Clarke 1962:27-29 (as *A. cataracta brooksiana* v. der Schalie, Cumberland, Inverness, Victoria, Cape Breton, Richmond, Halifax, Yarmouth and Digby Co's, as *A. cataracta cataracta* Say, Cape Breton, Halifax, Digby, Kings, Hants and Colchester Co's)  
 Coleman 1968:439 (Halifax Co.)  
 Grigg 1972:10-11 (Digby, Shelburne, Yarmouth, Kings, Lunenburg, Hants, Halifax, Guysborough, Pictou, Colchester, Richmond, Victoria and Inverness Co's)  
 Wiles 1975:34 (as *C. cataracta cataracta* and *C. cataracta fragilis*, Hants Co.)  
 Davis and Wilson 1979:21 (Victoria Co.)  
 Clarke 1981:294-295 (as *C. cataracta cataracta* and *C. cataracta fragilis* (Lamarck, 1819), Nova Scotia)  
 Davis 1981:12 (Halifax Co.)  
 Kat and Davis 1984:180 (as *C. cataracta fragilis*, Cumberland, Victoria, and Richmond Co's)  
 Davis 1985:89 (Hants Co.)

*Anodonta implicata* Say, 1829

- Willis 1863:421 (Nova Scotia)  
 Jones 1877:325 (as *Anodon implicata*, Gould)  
 Johnson 1946:113 (Halifax Co.)  
 Athearn and Clarke 1962:26 (Inverness, Cape Breton, Kings and Hants Co's)  
 Clarke and Meacham Rick 1963:22 (Cape Breton Co.)  
 Coleman 1968:439 (Halifax Co.)  
 Burch 1975a:15 (Nova Scotia)  
 Wiles 1975:34 (Hants Co.)  
 Clarke 1981:304-345 (Nova Scotia)  
 Davis 1981:12 (Halifax and Hants Co's)  
 Kat and Davis 1984:180 (Cape Breton and Halifax Co's)

*Strophitus undulatus* (Say, 1817)

- Athearn and Clarke 1962:29 (Cumberland Co.)  
 Clarke and Meacham Rick 1963:26 (Cumberland Co.)  
 Burch 1975a:17 (Nova Scotia)  
 Clarke 1981:310-311 (Cumberland Co.)

*Lampsilis ochracea* (Say, 1817)

- Athearn and Clarke 1962:30 (Cumberland Co.)  
 Clarke and Meacham Rick 1963:26 (Cape Breton Co.)  
 Burch 1975a:19 (Nova Scotia)

Isnor 1981:48 (Cumberland, Digby and Cape Breton Co's)  
 Clarke 1981:340-341 (northern Nova Scotia and Cape Breton Island)  
 Kat and Davis 1984:18 (Cape Breton and Digby Co's)

*Lampsilis radiata radiata* (Gmelin, 1792)

Willis 1857:1 (as *Unio radiata* Lamarck, Grand Lake, Halifax Co.)  
 Jones 1877:324 (as *Unio radiatus* Barnes, Grand Lake)  
 Athearn and Clarke 1962:31 (Cumberland, Guysborough and Halifax Co's)  
 Clarke and Meacham Rick 1963:27 (Cumberland, Guysborough and  
 Antigonish Co's)  
 Grigg 1972:12-13 (Halifax, Pictou, Cumberland and Richmond Co's)  
 Wiles 1975:34 (Hants Co.)  
 Clarke 1981:342-343 (northern Nova Scotia)  
 Davis 1981:12 (Halifax Co.)  
 Kat and Davis 1984:181 (Cumberland and Halifax Co's)

*Lampsilis cariosa* (Say, 1817)

Clarke and Meacham Rick 1963:27 (Sydney River, Cape Breton Co.)  
 Burch 1975a:79 (Sydney River, Cape Breton Co.)  
 Shore 1977:24G. (Sydney River, Cape Breton Co.)  
 Clarke 1981:336-337 (Sydney River, Cape Breton Co.)  
 Isnor 1981:48 (Cape Breton Co.)  
 Kat and Davis 1984:181 (Sydney River, Cape Breton Co.)

Suborder Heterodonta (Teleodesmacea)

FAMILY SPHAERIIDAE

*Sphaerium (Sphaerium) nitidum* Clessin, 1876.

Burch 1975b:5 (as *Sphaerium nitidum* Westerlund, 1876) (Holarctic)  
 Clarke 1981:366-367 (Nova Scotia)

*Sphaerium (Sphaerium) simile* (Say, 1816)

Willis 1863:422 (as *Cyclas similes*, Say, Truro)  
 Gould 1870:102 (Truro, Nova Scotia)  
 Jones 1877:323 (as *Sphaerium simile*, Gould, Truro)  
 Clarke 1981:372-373 (Nova Scotia)  
 Isnor 1981:49 (Cumberland and Halifax Co's)

*Sphaerium (Musculium) lacustre* (Müller, 1774)

MacMillan 1954:403 (as *S. lacustre lacustre* (Müller) in Cape Breton Co.  
 and *S. lacustre ryckholti* (Norman) in Victoria Co.)  
 Herrington 1962:19 (Cape Breton Island)  
 Clarke 1981:378-379 (Nova Scotia)

*Sphaerium (Musculium) partumeium* (Say, 1822)

- Willis 1863:422 (as *Cyclas partumeia*, Say, Nova Scotia)  
 Gould 1870:104 (Truro, Nova Scotia)  
 Jones 1877:323 (as *Sphaerium partumeim*, Prime)  
 Coleman 1968:439 (Halifax Co.)  
 Clarke 1981:380-381 (Nova Scotia except Cape Breton Island)  
 Davis 1985:89 (Hants Co.)

*Sphaerium (Musculium) securis* (Prime, 1851)

- Herrington 1962:26 (Nova Scotia)  
 Coleman 1968:439-441 (Halifax Co.)  
 Clarke 1973:158 (Nova Scotia)  
 Burch 1975b:6 (Nova Scotia)  
 Clarke 1981:382-383 (Nova Scotia)  
 Davis 1981:12 (Halifax and Hants Co's)

*Pisidium (Pisidium) dubium* (Say, 1816)

- Willis 1863:422 (Dartmouth Lakes)  
 Gould 1870:109 (Halifax (Willis))  
 Jones 1877:323 (as *Pisidium dubium*, Gould)

*Pisidium (Cyclocalyx) adamsi* Prime, 1852

- Clarke 1973:170 (Nova Scotia)  
 Burch 1975b:7 (Nova Scotia)  
 Clarke 1981:392-393 (Nova Scotia, except Cape Breton Island)  
 Davis and Gilhen 1982:213 (Cumberland Co.)

*Pisidium (Cyclocalyx) casertanum* (Poli, 1791)

- MacMillan 1954:403 (Victoria, Cape Breton and Inverness Co's)  
 Herrington 1962:34 ("records throughout" (Canada))  
 Clarke 1968:12 (Sable Island)  
 Clarke 1981:394-395 (Nova Scotia)

*Pisidium (Cyclocalyx) compressum* Prime, 1852

- Clarke 1981:396-397 (Nova Scotia)

*Pisidium (Cyclocalyx) ferrugineum* Prime, 1852

- Clarke 1981:402-403 (Nova Scotia)

*Pisidium (Cyclocalyx) lilljeborgi* Clessin, 1886

- Clarke 1981:406-407 (Nova Scotia)

*Pisidium (Cyclocalyx) milium* Held, 1836

Clarke 1981:408-409 (Nova Scotia)

*Pisidium (Cyclocalyx) nitidum* Jenyns, 1932

MacMillan 1954:403 (Victoria Co.)

Herrington 1962:46 (Cape Breton Island)

Clarke 1981:410-411 (Nova Scotia)

*Pisidium (Cyclocalyx) variabile* Prime, 1852

Clarke 1973:200 (Nova Scotia)

Clarke 1981:418-419 (Nova Scotia)

*Pisidium (Neopisidium) conventus* Clessin, 1877

Clarke 1981:424-425 (Nova Scotia)



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## TABLES OF DISTRIBUTION

The following tables of distribution are based upon those records in the synopsis which are for specific counties of Nova Scotia. Native species are shown as circles and introduced alien species are squares. Open circles or squares represent species that are either considered extinct or unconfirmed in Nova Scotia at the present time. The location of the 18 counties of Nova Scotia and of Sable Island are shown in the map (fig. 1).

Because of the lack of detailed information on the land and freshwater molluscs of Nova Scotia, the distribution information must be considered only as preliminary. Information in the collections of the Nova Scotia Museums and other museums will provide a better summary of distribution when published on 10km<sup>2</sup> maps.

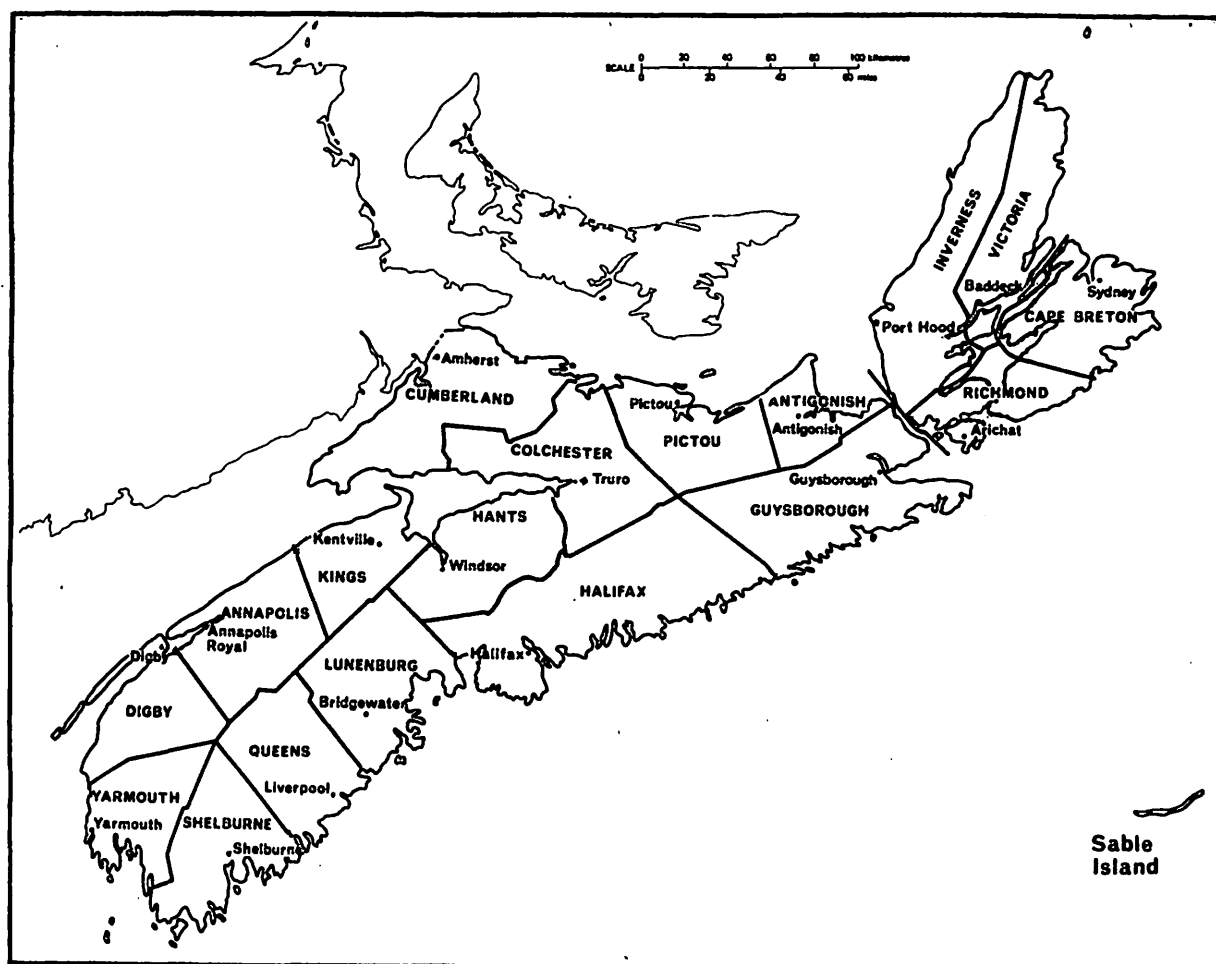


Fig. 1. Map of Nova Scotia showing county boundaries and the location of Sable Island.

Table 1. The distribution of Prosobranchia and Basommatophora  
(mostly freshwater snails)

	Digby	Yarmouth	Shelburne	Annapolis	Kings	Queens	Lunenburg	Hants	Halifax	Guysborough	Antigonish	Pictou	Colchester	Cumberland	Richmond	Cape Breton	Victoria	Inverness	Sable Island	
<b>VIVIPARIDAE</b>																				
<i>C. decisum</i>	.	●	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.
<i>C. chinensis</i>	●	.	.	.	.	.	.	.	■	.	.	.	.	.	.	.	.	.	.	.
<b>VALVATIDAE</b>																				
<i>V. sincera</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.
<i>V. tricarinata</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<b>HYDROBIIDAE</b>																				
<i>L. granum</i>	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.
<i>A. limosa</i>	.	●	.	.	.	.	.	●	●	.	.	.	.	.	.	●	●	.	.	.
<i>M. lustrica</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	○	.	.	.
<b>ELLOBIIDAE</b>																				
<i>C. exiguum</i>	.	.	.	.	.	.	.	○	.	.	.	.	.	.	.	.	.	.	.	.
<i>C. exile</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	●	.	.
<b>LYMNAEIDAE</b>																				
<i>F. modicella</i>	.	.	.	.	.	.	.	●	●	.	.	.	.	.	.	●	●	●	.	.
<i>P. columella</i>	.	.	.	.	.	.	.	●	●	.	.	.	.	.	.	●	●	.	.	.
<i>S. catascopium</i>	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	●	.	.
<i>S. elodes</i>	.	.	.	.	.	.	.	●	.	.	.	●	.	.	.	.	●	●	.	.
<b>PHYSIDAE</b>																				
<i>P. ancillaria</i>	.	.	.	.	.	.	.	.	○	.	.	.	.	.	.	.	.	.	.	.
<i>P. gyrina</i>	.	.	.	.	.	.	.	.	○	.	.	.	.	.	.	○	○	○	.	.
<i>P. heterostropha</i>	.	.	.	.	.	.	.	.	●	.	.	●	.	.	.	.	.	.	.	.
<i>A. hypnorum</i>	.	.	.	.	.	.	.	.	.	.	●	○	●	.	.	.	.	.	.	.
<b>PLANORBIDAE</b>																				
<i>G. circumstriatus</i>	.	.	.	.	.	.	.	●	●	.	.	.	.	.	.	.	●	●	.	.
<i>G. deflectus</i>	.	●	.	.	.	.	.	●	●	.	.	.	.	.	.	.	●	●	.	.
<i>G. parvus</i>	.	.	.	.	.	.	.	.	●	.	.	.	.	●	.	.	.	.	.	.
<i>M. dilatatus</i>	●	.	.	.	.	.	●	.	●	●	.	.	.	.	.	.	.	.	.	.
<i>P. exacuosis</i>	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.
<i>P. armigera</i>	.	.	.	.	.	.	.	.	●	.	.	.	●	.	.	.	.	.	.	.
<i>H. anceps</i>	.	●	.	.	.	.	.	●	●	.	.	.	.	.	.	.	●	●	.	.
<i>H. campanulatum</i>	.	●	.	.	.	.	.	●	●	.	.	.	.	.	.	.	●	●	.	.
<i>H. trivolvis</i>	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.
<b>ANCYLIDAE</b>																				
<i>F. parallela</i>	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	●	.	.	.
Total	1	5	0	0	0	0	1	9	10	1	0	2	3	3	0	4	13	9	0	

Table 2. The distribution of Stylommatophora (land snails and slugs)

	Digby	Yarmouth	Shelburne	Annapolis	Kings	Queens	Lunenburg	Hants	Halifax	Guysborough	Antigonish	Pictou	Colchester	Cumberland	Richmond	Cape Breton	Victoria	Inverness	Sable Island	
CIONELLIDAE																				
<i>C. lubrica</i>	.	.	.	.	●	.	.	●	●	.	.	.	.	.	.	●	●	●	●	●
VALLONIIDAE																				
<i>Z. harpa</i>	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	●	●	●	●
<i>V. excentrica</i>	.	.	.	.	●	.	.	●	●	.	.	.	.	.	.	.	●	●	●	●
<i>V. pulchella</i>	.	.	.	.	●	.	.	.	●	.	.	.	.	.	.	.	●	.	.	.
<i>P. asteriscus</i>	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.
PUPILLIDAE																				
<i>P. muscorum</i>	.	.	.	.	.	●	.	.	●	.	●	●	.	.	.	.	.	.	.	.
<i>V. bollesiana</i>	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>V. gouldii</i>	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.
<i>V. modesta</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.
<i>V. nylanderi</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.
<i>V. ovata</i>	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	●	.	.
<i>V. pygmaea</i>	.	.	.	.	●	.	.	●	.	.	.	.	.	.	.	.	.	●	●	.
<i>V. ventricosa</i>	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.
<i>G. pentodon</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.
STROBILOPSIDAE																				
<i>S. aenea</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.
<i>S. labyrinthica</i>	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	●	●	.
SUCCINEIDAE																				
<i>S. aurea</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.
<i>S. ovalis</i>	.	.	.	.	.	.	.	●	.	.	●	.	.	.	.	.	.	●	●	.
<i>C. avara</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	●	●
<i>C. vagans</i>	.	.	.	.	●	.	.	.	●	.	.	.	.	.	.	.	.	●	●	●
<i>O. decampi</i>	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.	.	●	●	●
<i>O. verrilli</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	●	●
PHILOMYCIDAE																				
<i>P. carolinianus</i>	.	●	.	●	.	●	●	.	●	●	.	●	●	●	.	.	●	.	.	.
<i>P. dorsalis</i>	.	.	.	.	.	.	.	●	.	.	●	●	●	.	.	.	.	.	.	.
ARIONIDAE																				
<i>A. circumscriptus</i>	.	.	.	.	■	■	■	■	■	■	■	■	.	■	.	■	■	■	■	■
<i>A. hortensis</i>	.	.	.	.	.	.	■	■	■	■	.	.	.	.	.	.	.	.	.	■
<i>A. subfuscus</i>	.	.	.	.	■	■	■	■	■	■	■	.	.	■	■	■	.	■	■	■
ENDODONTIDAE																				
<i>A. alternata</i>	.	.	.	.	.	.	.	●	●	●	.	.	.	●	.	.	.	.	●	.
<i>D. cronkhitei</i>	●	.	.	.	●	.	.	●	●	.	.	●	.	●	.	●	●	●	●	●
<i>H. parallelus</i>	●	.	.	●	.	.	.	●	●	.	.	.	.	.	.	.	●	●	●	●
<i>P. minutissimum</i>	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	●	●	.	.
Total	2	1	0	2	13	3	4	14	13	4	3	6	1	6	1	9	19	16	6	

Table 2. (cont.)

	Digby	Yarmouth	Shelburne	Annapolis	Kings	Queens	Lunenburg	Hants	Halifax	Guysborough	Antigonish	Pictou	Colchester	Cumberland	Richmond	Cape Breton	Victoria	Inverness	Sable Island
LIMACIDAE																			
D. laeve	.	.	.	.	●	●	●	●	●	●	●	●	.	●	●	●	●	●	●
D. reticulatum	.	.	.	.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	.
MILACIDAE																			
M. gagates	.	.	.	.	.	.	.	.	.	.	.	.	.	■	.	.	.	.	.
ZONITIDAE																			
R. binneyana	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	●	●	.
R. electrina	.	.	.	.	●	.	.	.	●	.	.	.	.	.	.	●	●	●	.
R. indentata	.	.	.	.	●	.	.	.	.	.	.	●	.	.	.	.	.	.	.
O. cellarius	.	.	.	.	■	.	.	■	■	.	.	.	.	■	.	■	■	.	.
O. draparnaudi	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	■	■	.	.
S. exigua	●	.	.	.	●	.	.	●	.	.	.	.	.	.	.	.	●	●	.
S. ferrea	●	.	.	.	.	●	.	●	.	.	.	.	.	.	.	.	●	.	.
S. milium	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	●	●	●	.
Z. arboreus	.	.	.	.	●	.	●	●	●	.	.	●	.	●	.	●	●	●	●
Z. nitidus	.	.	.	.	●	.	.	●	.	.	.	.	.	.	.	●	●	.	.
V. limpida	.	.	.	.	●	.	.	●	.	.	.	.	.	.	.	●	●	●	.
H. minuscula	.	.	.	.	.	.	.	●	.	.	.	.	.	.	.	.	.	.	.
TESTACELLIDAE																			
T. haliotideae	.	.	.	.	.	.	.	□	.	.	.	.	.	.	.	.	.	.	.
EUCONULIDAE																			
E. chersinus	.	.	.	.	.	.	.	●	.	.	●	.	.	.	.	.	.	.	.
E. fulvus	.	.	.	.	●	.	.	●	.	.	.	.	.	.	.	●	●	●	.
POLYGYRIDAE																			
S. hirsutum	.	.	.	.	.	.	.	.	○	.	.	.	.	.	.	.	.	.	.
M. sayanus	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.
HELICIDAE																			
T. hispida	.	.	.	.	■	.	■	■	.	.	.	.	.	.	.	■	■	■	.
T. striolata	.	.	.	.	.	.	.	□	.	.	.	.	.	.	.	.	.	.	.
C. nemoralis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	□
C. hortensis	■	■	.	.	■	.	■	■	■	.	.	■	.	■	.	■	■	■	■
H. aspersa	.	.	.	.	.	.	.	.	□	.	.	.	.	.	.	.	.	.	.
Total	3	1	0	0	12	3	4	12	12	2	2	7	1	7	2	12	15	11	4



Table 3. The distribution of Bivalvia (freshwater mussels and clams)

	Digby	Yarmouth	Shelburne	Annapolis	Kings	Queens	Lunenburg	Hants	Halifax	Guysborough	Antigonish	Pictou	Colchester	Cumberland	Richmond	Cape Breton	Victoria	Inverness	Sable Island	
<b>MARGARITIFERIDAE</b>																				
<i>M. margaritifera</i>	.	.	.	●	.	.	●	●	●	●	●	●	●	●	●	●	●	●	●	.
<b>UNIONIDAE</b>																				
<i>E. complanata</i>	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	.
<i>A. undulata</i>	.	.	.	.	.	.	.	●	●	.	.	.	●	●	.	.	.	.	●	.
<i>A. varicosa</i>	.	.	.	●	.	.	.	.	.	●	.	.	●	●	.	.	.	.	.	.
<i>A. cataracta</i>	●	●	●	.	●	.	●	●	●	●	.	●	●	●	●	●	●	●	●	.
<i>A. implicata</i>	.	.	.	.	●	.	.	●	●	.	.	.	.	.	.	●	.	●	.	.
<i>S. undulatus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.
<i>L. ochracea</i>	●	.	.	.	.	.	.	.	.	.	.	.	.	●	.	●	.	.	.	.
<i>L. radiata</i>	.	.	.	.	.	.	.	●	●	●	●	●	●	.	.	.	.	.	.	.
<i>L. cariosa</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.
<b>SPHAERIIDAE</b>																				
<i>S. nitidum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>S. simile</i>	.	.	.	.	.	.	.	.	○	.	.	.	●	●	.	.	.	.	.	.
<i>S. lacustre</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	●	.	.	.
<i>S. partumeium</i>	.	.	.	.	.	.	.	●	●	.	.	.	●	.	.	.	.	.	.	.
<i>S. securis</i>	.	.	.	.	.	.	.	●	●	.	.	.	.	.	.	.	.	.	.	.
<i>P. dubium</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>P. adamsi</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.	.	.	.
<i>P. casertanum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	●	●	.	●
<i>P. compressum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>P. ferrugineum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>P. lilljeborgi</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>P. milium</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>P. nitidum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	●	.	.	.
<i>P. variabile</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>P. conventus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<b>Total</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>8</b>	<b>9</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>7</b>	<b>10</b>	<b>4</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>1</b>	
<b>Total for all groups</b>	<b>9</b>	<b>9</b>	<b>2</b>	<b>5</b>	<b>28</b>	<b>7</b>	<b>12</b>	<b>43</b>	<b>54</b>	<b>12</b>	<b>8</b>	<b>19</b>	<b>12</b>	<b>26</b>	<b>7</b>	<b>33</b>	<b>53</b>	<b>42</b>	<b>11</b>	