

Checklist of the Tapeworms, Flukes, and Monogeneans of British Columbia
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The following checklist is a complete list of the flatworms recorded from British Columbia. It is likely that some species have been overlooked and further literature searches will reveal additional records. This list follows the taxonomic hierarchies as used in the Turbellarian Taxonomic Database (<http://devbio.umesci.maine.edu/styler/turbellaria/turbella.php>) as this is by far the most current source. This recent convention differs significantly from the traditional 'four class' taxonomy (Turbellaria, Trematoda, Monogenea, and Cestoda) as genetic studies show that the three latter classes, all wholly parasitic, form a monophyletic clade that nests within the 'turbellarian' order Revertospermata! Rather than list the higher taxonomies of these parasitic forms as nested hierarchies, I subsumed the traditional taxonomies into Linnaean groupings between 'order' and 'family' but understand that these categories are meaningful only as placeholders for nested clades.

For several groups of free-living flatworms (a misnomer, several of these are actually commensal or parasitic!) there are simply no collections available for British Columbia although they most certainly occur. I limited this list to those species with actual records. Many of the marine triclads, for example, are noted as abundant in the San Juan Islands but have no BC records. Others are recorded from California and Japan and are probably found throughout the North Pacific. As a whole there is a relative paucity of workers who study the smaller free living flatworms. Because of their medical and ecological importance there are a great number of resources for the parasitic groups and this is reflected in the documented species lists as well as in available literature.

The list of parasitic species was compiled by a search of the Zoological Records Database and PubMed Database searching for the phylum name. A complete list of the references is included. Species marked with an asterisk (*) are parasitic species associated with humans and domestic animals. These species tend to be worldwide in distribution although may only complete a full life cycle in their native region. I have undoubtedly missed several species that follow this pattern. Also with these parasitic species I have trusted that the medical or veterinary source was accurate in identification.

Phylum Platyhelminthes

Class Rhabditophora Ehlers, 1985

Subclass Archoophora Reisinger, 1935

Order Polycladida Lang, 1884

Suborder Acotylea Lang, 1884

Family Callioplanidae Hyman, 1953

Genus *Pseudostylochus* Yeri & Kaburaki, 1918

Pseudostylochus ostreophagus Hyman, 1955

- Family Hoploplanidae Stummer-Traunfels, 1933
 - Genus *Hoploplana* Laidlaw, 1902
 - Hoploplana californica* Hyman, 1953
- Family Leptoplanidae Stimpson, 1857
 - Genus *Freemania* Hyman, 1953
 - Freemania litoricola* (Heath & McGregor, 1912)
 - Genus *Notoplana* Laidlaw, 1903
 - Notoplana atomata* (Müller, 1776)
 - Notoplana inquieta* (Heath & McGregor, 1912)
 - Notoplana inquilina* Hyman, 1955
 - Notoplana longastyletta* (Freeman, 1933)
 - Notoplana sanguinea* Freeman, 1933
 - Notoplana sanjuania* Freeman, 1933
 - Genus *Phylloplana* Laidlaw, 1903
 - Phylloplana viridis* (Freeman, 1933)
 - Genus *Stylochoplana* Stimpson, 1857
 - Stylochoplana chloronata* (Boone, 1929)
- Family Stylochidae Stimpson, 1857
 - Genus *Kaburakia* Bock, 1925
 - Kaburakia excelsa* Bock, 1925
 - Genus *Stylochus* Lang, 1884
 - Stylochus californiensis* Hyman, 1953
- Suborder Cotylea Lang, 1884
 - Family Pseudocerotidae Lang, 1884
 - Genus *Pseudoceros* Lang, 1884
 - Pseudoceros canadensis* Hyman, 1953
 - Pseudoceros luteus* (Plehn, 1898)
 - Family Euryleptidae Stimpson, 1857
 - Genus *Eurylepta* Ehrenberg, 1831
 - Eurylepta aurantiaca* Heath & McGregor, 1912
 - Eurylepta californica* Hyman, 1959
 - Eurylepta leoparda* Freeman, 1933
 - Genus *Stylostomum* Lang, 1884
 - Stylostomum sanjuania* Holleman, 1972
- Subclass Eulecithophora de Beauchamp, 1961
 - Infraclass Prolecithophora Karling, 1940
 - No recorded species in BC, but are certainly present
 - Infraclass Seriata Bresslau, 1933
 - Order Proseriata Meixner, 1938
 - No recorded species in BC, but are likely present
 - Order Tricladida Lang, 1884
 - Suborder Maricola Hallez, 1892
 - Family Uteriporidae Wilhelmi, 1909
 - Genus *Nexilis* Holleman & Hand, 1962
 - Nexilis epichitonius* Holleman & Hand, 1962
 - Genus *Uteriporus* Bergendal, 1890

- Uteriporus pacificus* Sluys, 1989
- Suborder Paludicola Hallez, 1892
 - Family Dendrocoelidae Hallez, 1892
 - Genus *Dendrocoelopsis* kenk, 1930
 - Dendrocoelopsis piriformis* Kenk, 1953
 - Family Dugesiidae Ball, 1974
 - Genus Dugesia Girard, 1850
 - Dugesia dorotocephala* (Woodworth, 1897)
 - Dugesia tigrina* Girard, 1850
 - Family Planariidae Stimpson, 1857
 - Genus *Polycelis* Ehrenberg, 1831
 - Polycelis coronata coronata* (Girard, 1891)
- Suborder Terricola Hallez, 1892
 - No BC records, but several invasive species recorded from greenhouses worldwide
- Infraclass Rhabdozoa Meixner, 1925
 - Order Dalyellioida Bresslau, 1933
 - Family Provorticidae Beklemishev, 1927
 - No recorded species in BC, but are likely present
 - Family Umagillidae Wahl, 1910
 - Genus *Anoplodium* Schneider, 1858
 - Anoplodium hymanae* Shinn, 1983
 - Genus *Desmote* Beklemishev, 1916
 - Desmote inops* Kozloff, 1965
 - Genus *Fallacohospes* Kozloff, 1965
 - Fallacohospes inchoatus* Kozloff, 1965
 - Genus *Wahlia* Westblad, 1930
 - Wahlia pulchella* Kozloff & Shinn, 1987
 - Order Typhloplanoida Bressau, 1933
 - Family Promesostomidae Hartog, 1964
 - No recorded species in BC, but are likely present
 - Family Trigonostomidae Graff, 1905
 - Genus *Ceratopera* Hartog, 1964
 - Ceratopera axi* (Reidle, 1954)
 - Order Kalyptorhynchia Graff, 1905
 - Family Koinocystididae Meixner, 1924
 - No recorded species in BC, but are likely present
 - Family Polycystididae Graff, 1905
 - Genus *Gyratrix* Ehrenberg, 1831
 - Gyratrix hermaphroditus* Ehrenberg, 1831
 - Order Revertospermata Kornakova & Joffe, 1999
 - Suborder Fecampiida Rohde, Luton & Johnson, 1994
 - Family Fecampiidae Graff, 1903
 - Genus *Kronborgia* Christensen & Kannevorff, 1964
 - Kronborgia pugettensis* Shin and Christensen, 1985
 - Suborder Mediofusata Kornakova & Joffe, 1999

← Infraorder Neodermata Ehlers, 1985
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 Parvorder Cestoda Rudolphi, 1809
 Section Eucestoda Southwell, 1930
 Subsection Acystidea Guiart, 1927
 Family Tentaculariidae Poche, 1926
 Genus *Nybelinia* Lund, 1968
 Nybelinia surmenicola (Okada, 1929)*
 Subsection Cyclophyllidea Beneden, 1900
 Family Anoplocephalidae Blanchard, 1891
 Genus *Paranoplocephala* Lühe, 1910
 Paranoplocephala nearctica Haukisalme &
 Henttonen, 2007
 Paranoplocephala primordialis (Douthitt, 1915)
 Genus *Catenotaenia* Janicki, 1904
 Catenotaenia peromysci Smith, 1954
 Genus *Diandrya* Darrah, 1930
 Diandrya vancouverensis Mace & Shepard, 1981
 Genus *Moniezia* Blanchard, 1891
 Moniezia expansa (Rudolphi, 1810)*
 Family Davaineidae Braun, 1900
 Genus *Davainea* Blanchard, 1891
 Davainea proglottina (Davaine, 1860)*
 Family Dilepididae Fuhrmann, 1907
 Genus *Choanotaenia* Railliet, 1896
 Choanotaenia infundibulum (Bloch, 1779)
 Family Dipylidiidae Styles, 1896
 Genus *Dipylidium* Leukart, 1863
 Dipylidium caninum (Linnaeus, 1758)*
 Family Gryporhynchidae
 Genus *Paradilepis* Hsü, 1935
 Paradilepis simoni Rausch, 1949
 Paradilepis rugovanius Freeman, 1954
 Family Hymenolepidae
 Genus *Hymenolepis*
 Hymenolepis horrida (Lindstow, 1901)*
 Hymenolepis octocoronata (Linstow, 1829?)*
 Hymenolepis evaginata (Baker & Andrews, 1915)
 Hymenolepis nana (Siebold, 1852)
 Genus *Nadejdolepis* Spasski & Spasskaya, 1954
 Nadejdolepis alaskensis (Deblock & Rausch, 1967)
 Family Taeniidae Ludwig, 1836
 Genus *Taenia* (Linnaeus, 1758)
 Taenia crassiceps (Zeder, 1800)*
 Taenia hydatigena Pallas, 1766*

- Taenia krabbei* Moniez, 1879
Taenia laticollis Rudolphi, 1819*
Taenia monostephanos Linstow, 1905
Taenia multiceps Leske, 1780
Taenia rileyi Loewen, 1929
Taenia taeniformis (Batsch, 1786)*
Taenia taxidienaia Skinker, 1935
Taenia saginata Goeze, 1782*
Taenia solium Linnaeus, 1758*
- Genus *Echinococcus* Balachowsky, 1936
Echinococcus granulosus (Batsch, 1786)*
Echinococcus multilocularis (Leuckart, 1863)*
- Genus *Rhabdometra* Cholodkovsky, 1906
Rhabdometra odiosa (Leidy, 1887)
Rhabdometra nullicollis Ransom, 1909
- Genus *Cladotaenia* Cohn, 1901
Cladotaenia sp.
- Subsection Proteocephalidea Mola, 1925
- Family Proteocephalidae La Rue, 1911
- Genus *Proteocephalus* Weinland, 1858
Proteocephalus parallacticus MacLulich, 1943
- Subsection Pseudophyllidea van Beneden in Carus, 1863
- Family Amphicotylidae Nybelin, 1922
- Genus *Eubothrium* Nybelin, 1920
Eubothrium oncorhynhi Wardle, 1932
Eubothrium rugosum (Batsch, 1786)
Eubothrium salvelini (Schrank, 1790)
Eubothrium tulipai Ching & Andersen, 1983
- Family Diphyllobothriidae Lühe, 1910
- Genus *Diphyllobothrium* Cobbold, 1858
Diphyllobothrium dendriticum (Nitzsch, 1824)
Diphyllobothrium glaciale (Cholodkovsky, 1915)
Diphyllobothrium latum (Linnaeus, 1758)
Diphyllobothrium nihonkaiense Yamane, Kamo, Bylund, Wikgren, 1986
Diphyllobothrium pacificum (Nybelin, 1931)
Diphyllobothrium ursi Rausch, 1954
- Genus *Diplogonoporus* Loennberg, 1892
Diplogonoporus tetrapterus (Siebold, 1848)
- Family Schistocephalidae Dubinina, 1962
- Genus *Schistocephalus* Lermontova N. Tchernysheva, 1956
Schistocephalus solidus (Müller, 1776)
- Family Triaenophoridae Lönnberg, 1889
- Genus *Triaenophorus* Gill, 1858
Triaenophorus crassus Forel, 1868
- Subsection Spathebothriidea Wardle & McLeod, 1952

- Family Cyathocephalidae Nybelin, 1922
 - Genus *Cyathocephalus* Kessler, 1868
 - Cyathocephalus truncatus* (Pallas, 1781)
- Subsection Tetraphyllidea Beneden, 1849
 - Family Tetraphyllidae Yoh, Jin, Zhen & Xie, 1984
 - Genus *Scolex* Müller, 1781
 - Scolex pleuronectis* Müller, 1788
 - Genus *Phyllobothrium* Beneden, 1849
 - Phyllobothrium caudatum* Zschokke & Heitz, 1914
 - Phyllobothrium delphini* (Bosc, 1802)
- Subsection Trypanorhyncha Diesing, 1863
 - Family Gilquiniidae Dollfus, 1942
 - Genus *Gilquinia* Guiart, 1927
 - Gilquinia squali* (Fabricius, 1794)
 - Family Grillotiidae Dollfus, 1969
 - Genus *Grillotia* Guiart, 1927
 - Grillotia heptanchi* (Vaullegeard, 1899)
- Section Cestodaria
 - Subsection Gyrocotylidea Poche, 1926
 - Family Gyrocotylidae Benham, 1901
 - Genus *Gyrocotyle* Diesing, 1850
 - Gyrocotyle fimbriata* Watson, 1911
 - Gyrocotyle parvispinosa* Lynch, 1945
 - Subsection Amphilinidea Poche, 1922
 - Family Amphilinidae Claus, 1879
 - Genus *Amphilina* Wagener, 1858
 - Amphilina bipunctata* Riser, 1948
- Parvorder Monogenea Carus, 1863
 - Section Monopisthocotylea Odhner, 1912
 - Superfamily Acanthocotyloidea Price, 1936
 - Family Acanthocotylidae Monticelli, 1903
 - Genus *Pseudoacanthocotyle* Yamaguti, 1963
 - Pseudoacanthocotyle pacifica* (Bonham & Guberlet, 1938)
 - Superfamily Capsaloidea Baird, 1858
 - Family Capsalidae Baird, 1853
 - Genus *Entobdella* Blainville, 1818
 - Entobdella hippoglossi* (Müller, 1776)
 - Superfamily Gyrodactyloidea Johnston & Tiegs, 1922
 - Family Gyrodactylidae Van Beneden & Hess, 1863
 - Genus *Gyrodactylus* Nordmann, 1832
 - Gyrodactylus aggregata* Mizelle & Kritsky, 1967
 - Gyrodactylus maculosi* Cone & Roth, 1993
 - Gyrodactylus nerkae* Cone, Beverley-Burton, Wiles & McDonald 1983
 - Gyrodactylus salmonis* Yin and Sproston, 1948

- Superfamily Tetraonchoidea Bychowsky, 1957
 - Family Tetraonchidae Bychowsky, 1933
 - Genus *Tetraonchus* Diesing, 1850
 - Tetraonchus variabilis* Mizelle & Webb, 1953
- Superfamily Udonelloidea Yamaguti, 1963
 - Family Udonellidae Taschenberg, 1879
 - Genus *Udonella* Johnston, 1835
 - Udonella caligorum* Johnston, 1835
- Section Polyopisthocotylea Odhner, 1912
 - Superfamily Anthocotylidea
 - Family Anthocotylidae
 - Genus *Anthocotyle*
 - Anthocotyle merlucci* (Van Beneden & Hesse, 1863)
 - Superfamily Chimaericoloidea Brinkmann, 1952
 - Family Chimaericolidae Brinkmann, 1942
 - Genus *Chimaericola* Brinkmann, 1941
 - Chimaericola colliei* Beverley-Burton, Chisholm & Last, 1991
 - Chimaericola leptogaster* (Leuckart, 1830)
 - Superfamily Diclidophoroidea Price, 1936
 - Family Diclidophoridae Cerfontaine, 1895
 - Genus *Diclidophora* Krøyer, 1838
 - Diclidophora pugetensis* Robinson, 1961
 - Superfamily Mazocraeidea Bychowsky, 1937
 - Family Octomacridae Yamaguti, 1963
 - Genus *Octomacrum* Müller, 1934
 - Octomacrum microconfibula* Hargis, 1952
 - Superfamily Microcotyloidea Unnithan, 1957
 - Family Microcotylidae Taschenberg, 1879
 - Genus *Microcotyle* Van Beneden & Hesse, 1863
 - Microcotyle sebastis* Goto, 1894
 - Genus *Prosomicrocotyla* Yamaguti, 1958
 - Prosomicrocotyla chiri* (Goto, 1894)
- Parvorder Trematoda Rudolphi, 1808
 - Section Digenea Agardh, 1823
 - Subsection Echinostomida LaRue, 1957
 - Family Campulidae Odhner, 1926
 - Genus *Megalodiscus* Chandler, 1923
 - Megalodiscus microphagus* Ingles, 1936
 - Genus *Lecithodesmus* Braun, 1902
 - Lecithodesmus goliath* (Van Beneden, 1858)
 - Lecithodesmus spinosus* Margolis & Pike, 1955
 - Genus *Echinostomum* Lane, 1915
 - Echinostomum revolutum* (Frölich, 1802)
 - Genus *Echinoparyphium* Dietz, 1909

- Echinoparyphium contiguum* Barker & Bastron,
1915
- Family Fasciolidae Railliet, 1895
 Genus *Fascioloides* Eard, 1917
 Fascioloides magna (Bassi, 1875)
 Genus *Fasciola* Ehrenberg, 1839
 Fasciola hepatica (Linnaeus, 1758)*
- Family Notocotylidae Lithe, 1909
 Genus *Ogmogaster* Jägerskiöld, 1891
 Ogmogaster antarcticus Johnston, 1931
 Ogmogaster pentalineatus Rausch & Fay, 1966
 Ogmogaster plicatus (Creplin, 1829)
- Family Paramphistomidae Fiscoeder, 1901
 Genus *Ophioxenos* Sumwalt, 1926
 Ophioxenos lampetrae Burton & Margolis, 1982
- Family Philophthalmidae Looss, 1899
 Genus *Parorchis* Nicoll, 1907
 Parorchis acanthus Nicoll, 1907
- Subsection Opisthorchiida Braun, 1901
- Family Acanthocolpidae Lühe, 1909
 Genus *Stephanostomum*
 Stephanostomum tristephanum McFarlane, 1936
- Family Heterophyidae Leiper, 1909
 Genus *Cryptocotyle* Lühe, 1899
 Cryptocotyle lingua (Creplin, 1825)
 Genus *Galactosomum* Looss, 1899
 Galactosomum phalacrocoracis Yamaguti, 1939
- Family Opisthorchiidae Braun, 1901
 Genus *Clonorchis* Looss, 1907
 Clonorchis sinensis (Cobbald, 1875)
- Subsection Plagiorchiida La Rue, 1957
- Family Allocreadiidae Looss, 1902
 Genus *Bunodera* Railliet, 1896
 Bunodera lucipercae (Müller, 1776)
 Genus *Crepidostomum* Braun, 1900
 Crepidostomum farionis (Müller, 1780)
 Crepidostomum metoecus (Braun, 1900)
 Crepidostomum auriculatum (Wedl, 1858)
 Genus *Pseudoalloeceadium* Yamaguti, 1971
 Pseudoalloeceadium alloneotenicum (Wootton,
 1957)
- Family Brachycoeliidae Looss, 1899
 Genus *Brachycoelium* Dujardin, 1844
 Brachycoelium salamandra (Frölich, 1789)
- Family Dicrocoeliidae Looss, 1899
 Genus *Dicrocoelium* Dujardin, 1844

- Dicrocoelium dendriticum* (Rud, 1819)*
- Family Eucotylidae Cohn, 1904
 Genus *Eucotyle* Cohn, 1904
 Eucotyle castanea Jensen, 1971
 Eucotyle cohni Skrjabin, 1924
- Family Gorgoderidae Looss, 1899
 Genus *Gorgoderina* (Looss, 1902)
 Gorgoderina multilobata Ingles & Langston, 1933
 Genus *Phyllodistomum* Braun, 1899
 Phyllodistomum umblae (Fabricius, 1780)
- Family Microphallidae Ward, 1901
 Genus *Maritrema* Nicoll, 1907
 Maritrema megametrios Deblock & Pearson, 1968
 Maritrema gratiosum Nicoll, 1906
- Family Nanophyetidae Wallace, 1935
 Genus *Nanophyetus* Chapin, 1927
 Nanophyetus salmincola Chapin, 1927
- Family Opecoelidae Ozaki, 1925
 Genus *Plagioporus* Stafford, 1904
 Plagioporus shawi (Mcintosh, 1939)
 Genus *Neolebouria* Gibson, 1976
 Neolebouria tinkerbella Thompson & Margolis, 1987
- Genus *Podocotyle* Dujardin, 1845
 Podocotyle abitionis McFarlane, 1936
 Podocotyle araii Gibson, 1986
 Podocotyle enophrysi Park 1937
- Genus *Glypthelmins* Stafford 1905
 Glypthelmins californiensis (Cort 1919)
- Genus *Haplometrana* Lucker, 1931
 Haplometrana intestinalis Lucker, 1931
- Genus *Plagiorchis* Lühe, 1899
 Plagiorchis californiensis Cort, 1919
 Plagiorchis proximus Barker, 1915
- Family Steganodermatidae Dollfus, 1952
 Genus *Lepidophyllum* Brongniart, 1828
 Lepidophyllum cameroni Arai, 1969
- Family Zoogonidae Odhner, 1902
 Genus *Deretrema* Linton, 1910
 Deretrema cholaeum McFarlane, 1936
- Subsection Strigeidida La Rue, 1926
- Family Brachylaimidae Joyeux & Foley, 1930
 Genus *Brachylaima* Dujardin, 1843
 Brachylaima fuscata (Rudolphi, 1819)
- Family Bucephalidae Poche, 1907
 Genus *Prosorhynchus* Odhner, 1905

- Prosorhynchus apertus* McFarlane, 1936
Prosorhynchus scalpellus McFarlane, 1936
 Genus *Rhipidocotyle* Diesing, 1858
 Rhipidocotyle elongatum McFarlane, 1936
 Family Diplostomatidae Poirier, 1886
 Genus *Diplostomum* Brandes, 1888
 Diplostomum baeri bucculeatum Dubois & Rausch, 1950
 Diplostomum scudderi (Olivier, 1941)
 Genus *Neascus* Hughes, 1927
 Neascus sp
 Family Fellodistomatidae Nicoll, 1913
 Genus *Pentagramma* Duzee, 1898
 Pentagramma petrovi Layman, 1930
 Family Gymnophallidae Odhner, 1905
 Genus *Lacunovermis* Ching, 1965
 Lacunovermis macomae (Lebour, 1908)
 Genus *Gymnophallus* Odhner, 1900
 Gymnophallus somateriae (Levinsen, 1881)
 Genus *Meiogymnophallus* Cable, 1965
 Meiogymnophallus affinis (Jameson & Nicoll, 1913)
 Genus *Cercaria* Müller, 1773
 Cercaria margaritensis Ching, 1982
 Cercaria columbiensis Edwards & Jansch, 1955
 Family Hemiuridae Lühe, 1901
 Genus *Genolinea* Manter, 1925
 Genolinea laticauda Manter, 1925
 Genolinea japonica Yamaguti, 1938
 Genus *Brachyphallus* Odhner, 1905
 Brachyphallus crenatus (Rudolphi, 1802)
 Genus *Hemiurus* Gervais, 1855
 Hemiurus levinseni (Odhner, 1905)
 Genus *Lecithaster* Lühe, 1901
 Lecithaster gibbosus (Rudolphi, 1802)
 Genus *Parahemiuris* Yamaguti, 1971
 Parahemiuris merus Yamaguti, 1971
 Genus *Tubulovesicula* Yamaguti, 1934
 Tubulovesicula lindbergi (Layman, 1930)
 Genus *Lecithophyllum* Odhner, 1905
 Lecithophyllum anteroporum Margolis, 1958
 Genus *Genolinea* Manter, 1925
 Genolinea oncorhynchi Margolis & Adams, 1958
 Genus *Dinurus* Looss, 1907
 Dinurus nanaimoensis McFarlane, 1936
 Genus *Lecithochirium* Lühe, 1901

Lecithochirium exodicum McFarlane, 1936
Family Schistosomatidae Looss, 1899
Genus *Gigantobilharzia* Odhner, 1910
Gigantobilharzia sp.
Genus *Trichobilharzia* Skrjabin and Zakharow, 1920
Trichobilharzia adamsi Edwards & Jansch, 1955
Trichobilharzia physellae (Talbot, 1936)
Trichobilharzia stagnicola (Talbot, 1936)
Genus *Tetracotyle* Diesing, 1858
Tetracotyle sp.
Section Aspidogastrea Faust and Tang, 1936
Family Rugogastridae Schell, 1973
Genus *Rugogaster* Schell, 1973
Rugogaster hydrolagi Schell, 1973

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