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Kingdom Animalia, phylum Platyhelminthes

flatworms, cestodes, trematodes, monogeneans

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Kingdom Animalia, phylum Platyhelminthes (flatworms, cestodes, trematodes, & monogeneans)

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Summary

The total number of described and known, yet undescribed marine platyhelminth species, in the Aotearoa New Zealand region is 414 (Table 8.1, Fig. 8.1). Of this total, 112 (27%) belong to the class Cestoda, 188 (45%) belong to the class Trematoda, 57 (14%) to the class Monogenea, and 57 (14%) are free-living flatworms. Since the previous review by Johns *et al.* (2009), seven new species and one new genus have been described, 33 species have been recorded from the New Zealand marine realm that were previously known elsewhere, and there are many records of taxa which remain unnamed or unidentified. There has been a considerable increase in known, yet undescribed species, due to more extensive use of molecular methods. A checklist of New Zealand extant Platyhelminthes is provided.

Introduction

Morphologically, platyhelminths vary greatly, from microscopic free-living forms, through exotic and colourful marine flatworms and leaf-like parasitic liver flukes, to ribbon-like tapeworms in some cases exceeding 25 metres long. Globally, there are some 21,400 described species within phylum Platyhelminthes, according to the World Register of Marine Species (WoRMS) (<https://www.marinespecies.org/>), a global initiative to register all marine organisms (WoRMS 2021). Most species are parasites belonging to class Trematoda (~7,700) and Monogenea (~5,500) (flukes), or Cestoda (tapeworms) (~2,400). All other species (about 5,800) belong to a non-monophyletic group of free-living flatworms traditionally called ‘turbellarians’.

Since Johns *et al.* (2009), who listed 318 marine platyhelminth species up to the year 2000, two major publications have prompted major changes to our understanding of the parasitic platyhelminths. Firstly, the *Keys to the Trematoda* (in three volumes: Gibson *et al.* 2002; Jones *et al.* 2005; Bray *et al.* 2008) provided the first complete classification and identification key for the flukes of subclass Digenea. While classifications continue to change with the advent of new genetic data, this series remains the primary source for trematologists. Secondly, the classification and identification of tapeworms has taken a leap forward with the publication of an extensive monograph on the Cestoda (Caira & Jensen 2017), made possible with funding from a National Science Foundation (NSF) program on Planetary Biodiversity Inventory. Based on sampling from all over the world, and upon a genetic framework, this study presented new data and a new classification that pushed cestodology into the future. For the current status of all marine platyhelminth taxa, WoRMS and its subsidiary, *World List of Turbellarian Worms* (Tyler *et al.* 2006–2021) continues to be an

invaluable source of information, as it is regularly updated by experts in the field.

Here we summarise the current status of our knowledge of the New Zealand platyhelminth fauna and provide an updated checklist.

Status of New Zealand extant Platyhelminthes

Summary of platyhelminth biodiversity. The total number of described and known, yet undescribed platyhelminth species in the New Zealand EEZ is 414 (Table 8.1). Of this total 112 (27%) belong to the class Cestoda, 188 (45%) belong to the class Trematoda, 57 (14%) to the class Monogenea, and 57 (14%) are free-living flatworms (see Fig. 8.1 for examples).

Since 2000, seven new species and one new genus have been described, 33 species have been recorded from the New Zealand marine realm that were previously known elsewhere, and there are many records of taxa which remain unidentified to species or are unnamed. Molecular methods have increased our understanding of diversity by elucidating cases of multiple species complexes and cryptic species, but taxonomically, such species remain undescribed and unnamed. Molecular methods are also proving valuable in discovering life cycles where the morphology of larval stages is not sufficiently detailed to identify them to species. Eleven entries cited in Johns *et al.* (2009) are no longer considered to be valid for the New Zealand region, because they were either added in error (as a historical mistake) or because their global distribution and/or taxonomic status has been updated (Table 8.2). Fifty-four species cited in Johns *et al.* (2009) have been revised taxonomically, had spelling updates, or nomenclatural changes (Table 8.3), and 16 taxa have

Table 8.1. Summary of platyhelminth diversity in Aotearoa New Zealand region expressed as total numbers and percentage change. Data for 2000 are derived from Johns *et al.* (2009: p. 107). OTU = Operational Taxonomic Unit.

	Cestoda		Trematoda		Monogenea		Free-living flatworms		Total		% change
	2000	2023	2000	2023	2000	2023	2000	2023	2000	2023	
Total species diversity	58	112	141	188	58	57	61	57	318	414	30
Described extant species	49	69	104	111	57	56	31	32	241	268	11
Undescribed extant species (OTU)	9	43	37	77	1	1	30	25	77	146	90
Described endemic extant genera	2	0	7	2	6	2	1	1	16	5	-68
Described endemic extant species	11	11	42	46	26	19	20	23	99	100	1

Table 8.2. Species deleted from the New Zealand record. Species cited in Johns *et al.* (2009) that are no longer considered valid for New Zealand region, because they were added in error (as a historical mistake) or because their global taxonomic distribution or status has been updated. These are hereby deleted from the New Zealand record.

Taxon name cited in Johns <i>et al.</i> (2009)	Comment & Reference
<i>Acanthobothrium crassicolle</i> Wedl, 1855	Compiler of original inventory accepted this species as a valid synonym of <i>A. intermedium</i> , a decision with which we disagree (Caira & Jensen 2017).
<i>Calyptrobothrium riggi</i> Monticelli, 1893	A different species has been synonymised with this one, rendering this a duplicate record, misspelled as <i>riggi</i> in original inventory (WoRMS).
<i>Galactosomum</i> sp. Martorelli <i>et al.</i> , 2008	This species has been described and named (Presswell & Bennett 2020).
<i>Gastrocotyle trachuri</i> van Beneden & Hesse, 1863	This record was not from NZ waters (Lebedev 1968).
Gen. et sp. indet. 1 Hine <i>et al.</i> 2000 MF	These five undetermined Trematoda records occurred in a single host, smooth oreo, <i>Pseudocyttus maculatus</i> Gilchrist, 1906; these were personal observations by Diggles, in Hine <i>et al.</i> (2000). There is no way of discerning what records refer to, and where any specimens might now be; they may be species that have been recorded elsewhere and they may not. records are too vague to be of real interest
Gen. et sp. indet. 2 Hine <i>et al.</i> 2000 MF	
Gen. et sp. indet. 3 Hine <i>et al.</i> 2000 MF	
Gen. et sp. indet. 4 Hine <i>et al.</i> 2000 MF	
Gen. et sp. indet. 5 Hine <i>et al.</i> 2000 MF	
<i>Problitrema</i> sp. Wierzbicka & Langowska 1984	All species of <i>Problitrema</i> have now been synonymised as <i>P. richardii</i> (López, 1888) Looss, 1902, making this listing obsolete (Gibson 1976).
<i>Pseudaxinoides australis</i> Lebedev, 1968	This record was not from NZ waters (Lebedev 1968).

been relegated in synonymy (Table 8.4). The number of endemic genera has fallen from 16 to 5 (Table 8.1) as new species of genera formerly thought to be endemic have been described from other parts of the world.

Changes in higher classification. A phylogenetic study using molecular methods (Philippe *et al.* 2011) established that subphyla Acoelomorpha and Xenoturbellida were not platyhelminths at all, but were sister groups to echinoderms and hemichordates, in a new phylum called Xenacoelomorpha (see Chapter 6 in this volume for New Zealand Xenacoelomorpha). The two species of acoelomorph worms documented from New Zealand, *Sterreria* cf. *variabilis* Meyer-Wachsmuth, Curini Galletti & Jondelius, 2014, and *Polychoerus gordoni* Achatz, Hooge, Wallberg, Jondelius & Tyler, 2009, are therefore removed from Johns *et al.*'s (2009) original list. In recognition of the paraphyletic nature of the turbellarians, the higher classification of the zooparasitic classes Trematoda and Cestoda have changed since Johns *et al.*'s (2009) list, and they are now placed together in a superclass, Neodermata. In addition, class Monogenea is no longer considered a subdivision of the Trematoda but is promoted to its own class (WoRMS 2021; Laumer *et al.* 2015). All higher taxa in the checklist are now altered to reflect this.

Major gains in knowledge of New Zealand Platyhelminthes

Turbellaria. No new free-living turbellarian taxa have been described in the last 20 years, but *Syndesmis kurakaikina* Monnens, Frost, Clark, Sewell, Vanhove & Artois, 2019 (Fig. 8.1A), a rhabdocoel endosymbiont of the sea urchin *Evechinus chloroticus* (Valenciennes, 1846), was described formally after having been mentioned in the literature several times (Monnens *et al.* 2019).

Class Cestoda. One new cestode has been described in New Zealand in the last 20 years – a specimen originally identified by Alexander (1963) as *Calliobothrium verticillatum* (Rudolphi, 1819) Van Beneden, 1850 was re-examined by Pickering & Caira (2008) and found to be a new species, which was named *Calliobothrium schneiderae* Pickering & Caira, 2008. Subsequently, genetic data placed the species in a new genus as *Symcallio schneiderae* (Pickering & Caira 2008) Bernot, Caira & Pickering 2015. This species aside, most of the advances in this group come from molecular data increasing our understanding of cestode life cycles. Cestodes exhibit few morphological characters that are shared between larval and adult stages, so we know very little about the life cycles of marine cestode parasites (Blasco-Costa & Poulin 2017). Molecular

Table 8.3. Revised species in the New Zealand record. Species cited in Johns *et al.* (2009) that have been revised taxonomically, had spelling updates, or nomenclatural changes and updates. Updates follow World Register of Marine Species (<https://www.marinespecies.org/>).

Taxon name cited in Johns <i>et al.</i> (2009)	Revised name in checklist	Comment & reference of name change
<i>Ancistrocephalus microcephalus</i> (Rudolphi, 1819)	<i>Anchistrocephalus microcephalus</i> (Rudolphi, 1819) Monticelli, 1890	Spelling correction
<i>Anoncocephalus chilensis</i> (Riggenbach, 1896) Lühe 1902	<i>Anonchocephalus chilensis</i> (Riggenbach, 1896) Lühe 1902	Spelling correction
<i>Benthotrema richardsoni</i> Manter, 1954	<i>Pseudobenthotrema richardsoni</i> (Manter, 1954) Machida, Kamegai & Kuramochi, 2007	Machida <i>et al.</i> (2007)
<i>Bucephalus longicornutus</i> (Manter, 1954) Howell, 1966	<i>Alcicornis longicornutus</i> Manter, 1954	Alternate representation
<i>Calliobothrium verticillatum</i> (Rudolphi, 1819)	<i>Calliobothrium</i> n. sp. (<i>verticillatum</i> in Alexander, 1963)	Pickering & Caira (2008)
<i>Callotetrarhynchus</i> sp.	<i>Callitetrarhynchus</i> sp. (Lester <i>et al.</i> 1988)	Spelling correction
<i>Cladogynia latovarium</i> (Dronen, Schmidt, Allison & Mellen, 1988)	<i>Dildotaenia latovarium</i> Dronen, Schmidt, Allison & Mellen, 1988 Czaplinski & Vaucher, 1994	Czaplinski & Vaucher (1994)
<i>Crossobothrium dohrnii</i> (Oerley, 1885) Ruhnke, 1996	<i>Phyllobothrium dohrnii</i> (Oerley, 1885) Zschokke, 1889	Ruhnke (1996)
<i>Diclidophora coelorrhynchi</i> Robinson, 1961	<i>Macrouridophora coelorrhynchi</i> (Robinson, 1961) Rubec & Dronen, 1994	Rubec & Dronen (1994)
<i>Dicranotaenia clandestina</i> (Creplin in Krabbe, 1869)	<i>Wardium clandestina</i> (Creplin in Krabbe, 1869) Spassky & Spasskaya, 1954	Spassky & Spasskaya (1954)
<i>Didymoproblema fusiforme</i> Ishii, 1935	<i>Didymocylindrus fusiformis</i> (Ishii, 1935) Pozdnyakov, 1996	Pozdnyakov (1996)
<i>Diphtherostomum</i> sp. indet. 1	<i>Diphtherostomum</i> sp. 1 (Sharples & Evans, 1995)	Spelling correction
<i>Diphtherostomum</i> sp. indet. 2	<i>Diphtherostomum</i> sp. 2 (Hine <i>et al.</i> , 2000)	Spelling correction
<i>Diploplectoidea plicatum</i> (Linton, 1928)	<i>Bianium plicatum</i> (Linton, 1928) Stunkard, 1931 Sogandares-Bernal & Hutton, 1958	Sogandares-Bernal & Hutton (1958)
<i>Erpocotyle squali</i> (MacCallum, 1931)	<i>Squalonchocotyle squali</i> MacCallum, 1931	Price (1942)
<i>Grassitrema genypteri</i> (Fyfe, 1954)	<i>Tricotyledonia genypteri</i> Fyfe, 1954	Manter (1960)
<i>Gymnorhynchus</i> (<i>Gymnorhynchus</i>) <i>isuri</i> Robinson, 1959	<i>Gymnorhynchus isuri</i> Robinson, 1959	Beveridge & Campbell (1989)
<i>Gymnorhynchus</i> (<i>Molicola</i>) <i>horridus</i> , Goodsir, 1841	<i>Molicola horridus</i> (Goodsir, 1841) Dollfus, 1935	Beveridge & Campbell (1989)
<i>Heteraxinoides novaezealandiae</i> Dillon & Hargis, 1965	<i>Neoheteraxinoides novaezealandiae</i> Dillon & Hargis, 1965	Kritsky (2022)
<i>Heteraxinoides regis</i> Dillon & Hargis, 1965	<i>Neoheteraxinoides regis</i> Dillon & Hargis, 1965	Kritsky (2022)
<i>Hymenolepis</i> ? <i>alaskensis</i>	<i>Microsomacanthus alaskensis</i> (Deblock & Rausch, 1967) Deblock & Canaris, 2000	Deblock & Canaris (2000)
<i>Lecithochirium australe</i> Manter, 1954	<i>Lecithochirium australis</i> Manter, 1954	Spelling correction
<i>Lecithochirium</i> sp. indet. 2	<i>Lecithochirium</i> sp. (Hine <i>et al.</i> 2000)	New appellation
<i>Leptopiana australis</i> Laidlaw, 1904	<i>Notopiana australis</i> (Schmarda, 1859) Bock, 1913	WoRMS; Holleman (2007)
<i>Levensenella</i> sp.	<i>Levensenella</i> sp. (Thompson <i>et al.</i> 2005)	Spelling correction
<i>Macraspis elegans</i> Olsson, 1868	<i>Multicalyx elegans</i> (Olsson, 1869) Thoney & Burreson, 1988	Thoney & Burreson (1988)
<i>Macvicaria dactylopagri</i> (Manter, 1954)	<i>Plagioporus</i> (<i>Plagioporus</i>) <i>dactylopagri</i> Manter, 1954 Aken'ova, Cribb & Bray, 2008	Aken'ova <i>et al.</i> (2008)
<i>Maritrema novaezealandensis</i> Martorelli, Fredensborg, Mouritsen & Poulin, 2004	<i>Maritrema novaezealandense</i> Martorelli, Fredensborg, Mouritsen & Poulin, 2004	Presswell <i>et al.</i> (2014)
<i>Megalocotyle australis</i> (Robinson, 1961)	<i>Megalobenedenia australis</i> (Robinson, 1961) Egorova, 1994	Egorova (1994)
<i>Megalocotyle johnstoni</i> Robinson, 1961	<i>Allomegalocotyla johnstoni</i> (Robinson, 1961) Yamaguti, 1963	Yamaguti (1963)
<i>Meiognophallus</i> cf. <i>minutus</i> (Cobbold, 1859)	<i>Gymnophallus</i> sp.	R. Poulin pers. comm.
<i>Microcotylus neozelandicus</i> Dillon & Hargis, 1965	<i>Microcotyle neozelandica</i> Dillon & Hargis, 1965	WoRMS
<i>Neobavinema pelotretis</i> Dillon & Hargis, 1965	<i>Pseudoneobavinema pelotretis</i> (Dillon & Hargis, 1965) Mamaev, 1986	Mamaev (1986)
<i>Nybelinia</i> (?) sp. indet.	<i>Nybelinia</i> sp. (Hine <i>et al.</i> 2000)	Campbell & Beveridge (1994)
<i>Nybelinia</i> (<i>Syngenes</i>) sp. indet.	<i>Nybelinia</i> sp. (Robinson 1959)	Campbell & Beveridge (1994)
Opecoelidae gen. et sp. indet.	Opecoelidae gen. et sp. a (Donald <i>et al.</i> 2007)	New appellation
Opecoelidae gen. et sp. indet.	Opecoelidae gen. et sp. b (Donald <i>et al.</i> 2007)	New appellation
Opecoelidae gen. et sp. indet.	Opecoelidae gen. et sp. c (Donald <i>et al.</i> 2007)	New appellation
<i>Opegaster caulopsettae</i> Manter, 1954	<i>Opecoelus caulopsettae</i> (Manter, 1954) Aken'ova, 2007	Aken'ova (2007)
<i>Paracaelodium leontjevae</i> (Korotava, 1976) Bray & Gibson, 1977	<i>Accaladoocodium leontjevae</i> Korotava, 1976	Bray & Gibson (1977)
<i>Philophthalmus</i> sp. Weekes 1982	<i>Philophthalmus attenuatus</i> Bennett & Presswell, 2019	Bennett & Presswell (2019)
<i>Plagioporus</i> (<i>Caudotestis</i>) <i>pachysomus</i> Manter, 1954	<i>Caudotestis pachysomus</i> Manter, 1954	WoRMS
<i>Plagioporus</i> (<i>P.</i>) <i>interruptus</i> Manter, 1954	<i>Choerodon Nicola interruptus</i> (Manter, 1954) Martin, Cribb, Cutmore & Hutson, 2018	Martin <i>et al.</i> (2018)
<i>Plagioporus</i> (<i>Plagioporus</i>) <i>maorum</i> Allison, 1966	<i>Neolebouria maorum</i> (Allison, 1966) Gibson, 1976	Gibson (1976)
<i>Procerodes pacifica</i> Hyman, 1954	<i>Procerodes pacificus</i> Hyman, 1954	Sluys & Kawakatsu (1995)
<i>Ptychogonimus megastomus</i> (Rudolphi, 1819) Lühe, 1900	<i>Ptychogonimus megastomum</i> (Rudolphi, 1819) Lühe, 1900	Spelling correction
<i>Stephanostomum australe</i> Manter, 1954	<i>Stephanostomum australis</i> Manter, 1954	Spelling correction
<i>Sterrurus flexus</i> (Manter, 1954)	<i>Lecithochirium flexum</i> Manter, 1954	Nasir & Diaz (1971)
<i>Sterrurus genypteri</i> (Manter, 1954)	<i>Lecithochirium genypteri</i> Manter, 1954	Nasir & Diaz (1971)
<i>Tagia gempylis</i> Dillon & Hargis, 1965	<i>Gempylitrema gempylis</i> (Dillon & Hargis, 1965) Yamaguti, 1968	Yamaguti (1968)
<i>Trimacracanthus aetobatis</i> (Robinson, 1959)	<i>Prochristianella aetobatis</i> Robinson, 1959	Beveridge & Campbell (1987)
<i>Uvitellina</i> sp. indet. McDonald 1998	<i>Uvitellina</i> sp. (McDonald 1998)	Spelling correction
<i>Winkenhughesia australis</i> Robinson, 1961	<i>Winkenhughesia australis</i> Robinson, 1961	Spelling correction
<i>Winkenhughesia thyrsites</i> (Hughes, 1928) Price, 1943	<i>Winkenhughesia thyrsitae</i> (Hughes, 1928) Price, 1943	Spelling correction

sequencing allows us to address this lack of knowledge and to associate larval specimens in intermediate hosts with adult specimens in definitive hosts.

A three-year study of the parasitic helminth diversity of the Otago marine region has uncovered 36 trophic

transmission routes involving 14 cestode species using genetic sequencing, incorporating over 170 intermediate and definitive hosts from the literature, and new collections (Bennett *et al.* 2023). Within order Cyclophyllidea, a species of *Anomotaenia* was

Table 8.4. Taxa cited in Johns *et al.* (2009) that have been relegated in synonymy with other taxa. Some of these revisions are taken from WoRMS, but we have been unable to find published source of changes.

Taxon name cited in Johns <i>et al.</i> (2009)	Relegation in synonymy with	Reference
<i>Annulocystis</i> sp.	<i>Lagenocystis/Univitellanulocystis</i> sp. Lester <i>et al.</i> 1985	Pozdnyakov (1996)
<i>Calliobothrium eschrichtii</i> van Beneden, 1850	<i>Symcallio schneidereae</i> (Pickering & Caira, 2008) Bernot, Caira & Pickering, 2015	Bernot <i>et al.</i> (2015)
<i>Calyptrobothrium riggi</i> Monticelli, 1893	<i>Monorygma hyperapolytica</i> (Obersteiner, 1914)	WoRMS
<i>Coronocestus coronatus</i> (Robinson, 1959) Caira, Marques, Jensen, Kuchta & Ivanov, 2013	<i>Echinobothrium coronatum</i> Robinson, 1959	Caira <i>et al.</i> (2013)
Dasyrhynchidae gen. et sp. indet.	<i>Lacistorhynchidae</i> gen. et sp. indet.	Palm (1997)
<i>Didymocystis</i> sp.	<i>Coeliodidymocystis</i> sp.	Pozdnyakov (1990)
<i>Ectenurus lepidus</i> Looss, 1907	<i>Ectenurus trachuri</i> (Yamaguti, 1934) Yamaguti, 1970	Bray (1990)
<i>Molicola uncinatus</i> (Linton, 1924) Palm, 2004	<i>Gymnorhynchus (Molicola) thyrsitae</i> Robinson, 1959	Palm (2004)
<i>Ornithobilharzia canaliculata</i> (Rudolphi, 1819) Odhner, 1912	<i>Ornithobilharzia kowalewskii</i> (Parona & Ariola, 1896)	Macko (1963)
<i>Orygmatobothrium musteli</i> van Beneden, 1850) Diesing, 1863	<i>Orygmatobothrium versatile</i> (Diesing, 1854) Diesing, 1863	Barker <i>et al.</i> (1984)
<i>Pleioplana californica</i> (Plehn, 1898) Faubel, 1983	<i>Stylochoplana plehni</i> Bock, 1913	WoRMS
<i>Probolitrema richardi</i> (López, 1888) Looss, 1902	<i>Probolitrema clelandi</i> Johnston, 1834	Gibson (1976)
<i>Probolitrema richardi</i> (López, 1888) Looss, 1902	<i>Probolitrema philippi</i> Woolcock, 1935	Gibson (1976)
<i>Probolitrema richardi</i> (López, 1888) Looss, 1902	<i>Probolitrema rotundatum</i> Johnston, 1934	Gibson (1976)
<i>Proctoeces maculatus</i> (Looss, 1901) Odhner, 1911	<i>Proctoeces subtenuis</i> (Linton, 1907) Hanson, 1950	Stunkard & Uzmann (1959)
<i>Wardianum taxorchis</i> Johnston, 1917	<i>Harrahiuum tringae</i> (Brandes, 1892) Dronen & Blend, 2015	Dronen & Blend (2015)

matched as a larval stage (in an amphipod) and adult (in gulls), thus completing the two-host life cycle of this undescribed species.

Species of Tetrabothriidea are thought to constitute a dominant group of cestodes in marine birds and mammals, yet very few records of larval stages exist (Mariaux *et al.* 2017). The study of Bennett *et al.* (2023) recovered a larval specimen of *Tetrabothrius* sp. from an arrow squid which genetically matched an adult within a sooty shearwater, as well as increasing the known species of this order present in New Zealand from one to over 11 from a range of seabird definitive hosts (Bennett *et al.* 2023).

Order Trypanorhyncha comprises parasites of elasmobranchs (sharks and rays), their hosts including a crustacean first intermediate host, and fish or cephalopod second intermediate/paratenic host. Bennett *et al.* (2023) included new records from four shark species and several fishes, while Bennett *et al.* (2022b) reported on new records within crustacean and molluscan intermediate hosts. New insights were gained into the host specificity of species within Trypanorhyncha. Some trypanorhynch species infected only one intermediate/paratenic host, e.g., *Lacistorhynchus dollfusi* Beveridge & Sakanari, 1987 was recovered only from barracouta, whereas *Hepatoxylon trichuri* (Holten, 1802) infected arrow squid from Otago and has been previously reported to infect 20 species of teleost fish, from records around New Zealand. An unknown species of eutetraphynchid was found in the octopus *Pinnoctopus cordiformis* (Quoy & Gaimard, 1832) for the first time, along with four crabs and a shrimp, illustrating a broad choice of intermediate hosts for this species.

Two other orders, “Tetraphyllidea” and Phyllobothriidea, also use elasmobranchs as definitive hosts. Bennett *et al.* (2023) added eight larval species within intermediate/paratenic hosts, of which four genetically matched adult stages within definitive hosts. Randhawa (2011) earlier provided genetic

evidence to demonstrate a transmission link between striped dolphin, *Stenella coeruleoalba* (Meyen, 1833), Risso’s dolphin, *Grampus griseus* (Cuvier, 1812), and great white shark, *Carcharodon carcharias* (Linnaeus, 1758), as a route for the transmission of the tapeworm *Clistobothrium carcharadoni* Dailey and Vogelbein, 1990, thus establishing both stages of the life cycle of the tapeworm, as well as elucidating the diet of the shark.

Advances have also been achieved for species within Onchoproteocephalidea, another order found in elasmobranch definitive hosts, represented in New Zealand only by *Acanthobothrium* species, for two species of which intermediate and definitive hosts were found in the publications of Bennett *et al.* (2019, 2022b, 2023). These authors (Bennett *et al.* 2023) also uncovered transmission routes between intermediate and definitive hosts for three species belonging to order Bothriocephalidea with both adult and larval forms in teleost fish.

Arrow squid, *Nototodarus sloanii* (Gray, 1849), are apparently very important intermediate hosts for the transmission of cestodes in Otago. Nine larval cestode species were recovered from arrow squid, eight of which were matched with adult stages infecting elasmobranch definitive hosts. Half of these species were recovered from only one other intermediate host, highlighting the importance of the arrow squid for the completion of cestode life cycles, and reflecting the significance of squid to the diet of coastal elasmobranchs (Bennett *et al.* 2023).

The unusual and previously unreported phenomenon of the expulsion of a living bolus of hymenolepid cestodes by an oystercatcher *Haematopus unicolor* Forster, 1844, during handling, was reported by Presswell *et al.* (2012).

Global increases in salmon consumption and changes in fish-eating habits have meant an increase in the potential for zoonotic infections by fish parasites; a case of diphyllobothriasis was reported in a patient in Japan, through the likely ingestion of raw salmon

in New Zealand. The causative tapeworm species was identified as *Diphyllobothrium nihonkaiense* Yamane, Kamo, Bylund & Wikgren, 1986, based on genetic analysis (Yamasaki & Kuramochi 2009).

Class Trematoda. Very little is known on the life cycles of New Zealand trematode parasites, but again, molecular methods are pivotal. The adults of two new species have been discovered and described, whose larval stages were already well known. Larval stages (rediae and cercariae) of a species of *Galactosomum* have been recognised for some years, infecting the intertidal mud snail, *Zeacumantus subcarinatus* (Sowerby, 1855) (e.g., Martorelli *et al.* 2008). During a survey of the helminth parasites of marine birds, specimens of adult *Galactosomum* were found in the intestines of Caspian tern, *Hydroprogne caspia* (Pallas, 1770), red-billed gull, *Chroicocephalus scopulinus* (Forster, 1844), black-backed gull, *Larus dominicanus* Lichtenstein, 1823, and little blue penguin, *Eudyptula novaehollandiae* (Stephens, 1826), which were described and named as *Galactosomum otepotiense* Presswell & Bennett, 2020 (Fig. 8.1D). This trematode is particularly interesting as an example of host-induced variability, where genetically identical adults vary morphologically depending upon their host species (Presswell & Bennett 2020).

Another species linked by genetic identity with its larval stage was *Philopthalmus attenuatus* Bennett & Presswell, 2019 (Fig. 8.1F). This species was also well known for its larval stages (rediae) which develop into two castes; large reproductive rediae and small soldiers, thus displaying a division of labour similar to the eusocial insects (Leung & Poulin 2011 *inter alia*). In an unusual life cycle, the adult of *P. attenuatus* is found under the nictitating membrane of the eye in seabirds and sheds its eggs into the water in the tears of the bird; the larvae hatch and penetrate the intertidal mud snail *Zeacumantus subcarinatus*, where they reproduce asexually, then shed cercariae into the environment which encyst on hard surfaces such as crustacean carapaces or mollusc shells, which are eaten by seabirds (Bennett & Presswell 2019).

Many more trematode life cycles were elucidated from the intensive three-year study mentioned above (Bennett *et al.* 2023). The study uncovered 103 potential transmission routes involving 11 trematode species using DNA sequencing.

Trematodes of family Himasthlidae have been well documented infecting a range of intermediate hosts by previous research (e.g., Leung *et al.* 2009; Keeney *et al.* 2015). Bennett *et al.* (2022b) reported various new intermediate hosts and Bennett *et al.* (2023) reported on further definitive hosts in this family. A species of *Acanthoparyphium*, as yet unnamed, was also unexpectedly found in two species of chiton (Polyplacophora), only the second record worldwide of this group hosting trematodes (Bennett *et al.* 2022b, 2023).

In addition, new intermediate or definitive hosts have been found for three species of family Microphallidae, one of Hemiuridae and one of Opecoelidae (Bennett *et al.* 2022b, 2023).

An interesting new finding was specimens of *Copiatestes thysritae* Crowcroft, 1948 (Syncocoelidae) at various life stages, providing insight into the life cycle of this unusual trematode. Larval specimens were recovered from a euphausiid shrimp (second intermediate host) and free-living among the plankton, as well as adults from the gills of three fish definitive hosts. The planktonic stage of this parasite possesses long sticky filaments which attach to the gills of its fish host when preyed upon. In large numbers, these larvae can form sticky mats which adhere to the legs of sea birds that are settled on the water, causing 'anklets' that can prevent them from taking flight. Large numbers of birds have died of starvation as a result of *C. thysritae* blooms in the past (Claugher 1976).

Cardiocephaloïdes ovicorpus Dubois & Angel, 1972 (Strigeidae) was recorded for the first time in New Zealand, in two shag species (Presswell & Bennett 2021) and its second intermediate host was subsequently uncovered (Bennett *et al.* 2023). This trematode infects triplefin fish (Family Tripterygiidae) in which larvae migrate to a position alongside the brain and encyst. Studies are ongoing to understand what impact this infection may have on fish behaviour.

A newly discovered species of Schistosomatidae was discovered to infect two gastropod species as first intermediate hosts and black-backed gulls as definitive hosts. This was only the second species of the family ever recorded in New Zealand's marine environment (Bennett *et al.* 2023).

Class Monogenea. The only new published record of a monogenean species in New Zealand in recent years documented the presence of *Paramicrocotyloides reticularis* Rohde, 1978, in both wild and captive broodstock of the yellowtail kingfish, *Seriola lalandi* Valenciennes, 1833 (Diggles & Hutson 2005). This species is not considered to be a serious pathogen (Hutson *et al.* 2007).

Other advances. A comprehensive checklist of the parasites infecting marine mammals within New Zealand and Australian waters (Lehnert *et al.* 2019) is the first of its kind, bringing together all known references to metazoan and protozoan parasites of marine mammals (pinnipeds and cetaceans), along with notes on taxonomy, distribution, ecology and, most importantly these days, whether molecular data are available. Lehnert *et al.* (2019) found that the parasites of even these large and charismatic host taxa were incompletely known. A large collection of over 200 parasitic helminth specimens was submitted to the Otago Museum in 2018, by the authors, BP and JB, along with comprehensive metadata, constituting the core of the most detailed parasite collection in New Zealand.

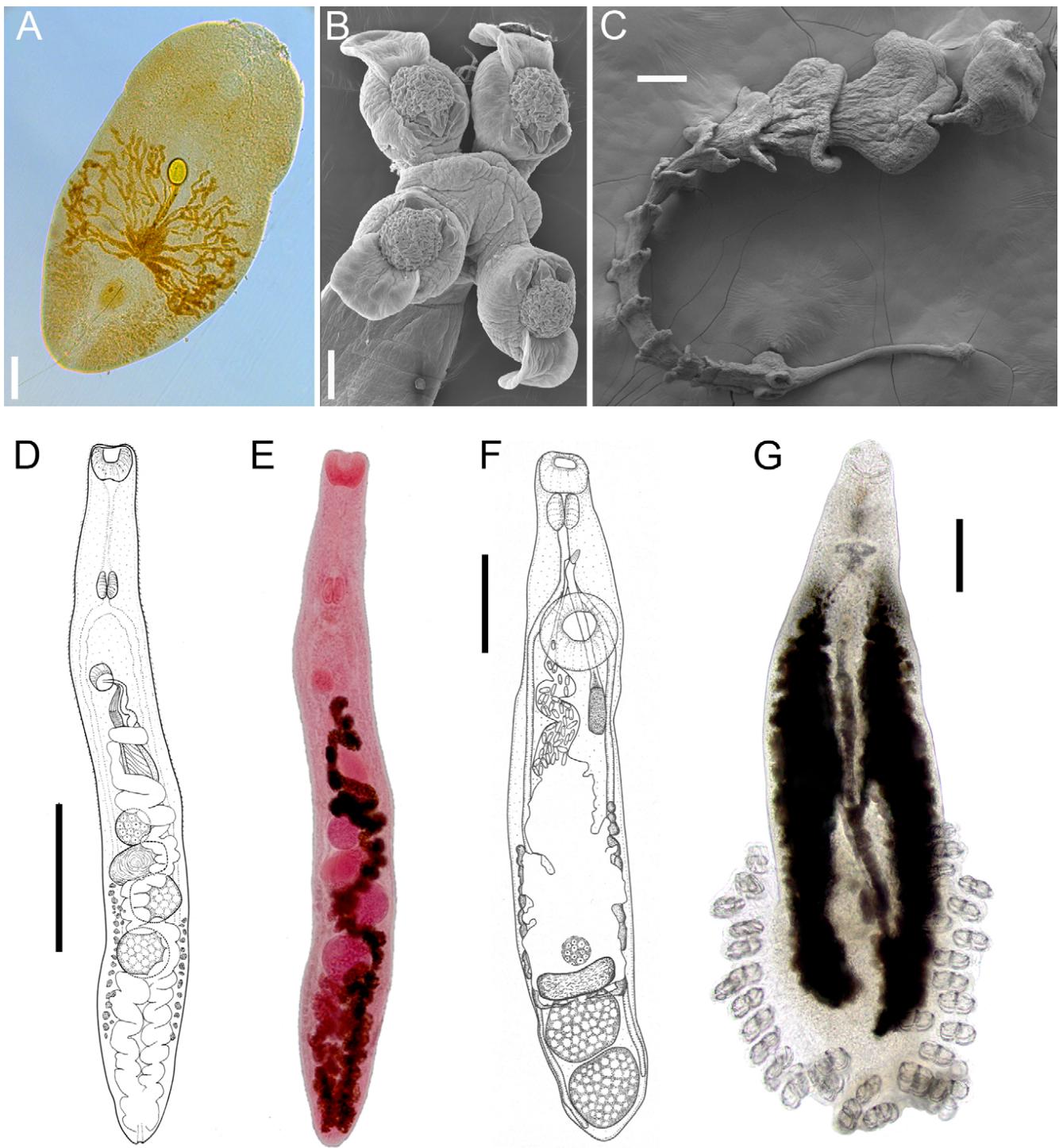


Figure 8.1. Phylum Platyhelminthes (Class Trematoda, class Monogenea (flukes), class Cestoda (tapeworms), and ‘turbellarians’): **A.** A ‘turbellarian’ rhabdocoel *Syndesmis kurakaikina* Monnens, Frost, Clark, Sewell, Vanhove & Artois, 2019, endosymbiont of sea urchin *Evechinus chloroticus* (Valenciennes, 1846), holotype specimen whole-mounted in lactophenol. Differential-interference contrast micrograph. Scale = 250 µm. Figure courtesy of Marlies Monnens; **B.** Scanning electron micrograph of scolex of cestode *Clistobothrium carcharodoni* Dailey and Vogelbein, 1990, from a great white shark, *Carcharodon carcharias* (Linnaeus, 1758). Scale = 100 µm. Photo courtesy of Haseeb Randhawa; **C.** Scanning electron micrograph of a new specimen of *Proterogynotaenia dougi* Sandeman, 1959, from a South Island pied oystercatcher, *Haematopus finschi* Martens, 1897. Scale = 100 µm. Image supplied by author BP; **D.** *Galactosomum otepotiense* Presswell & Bennett, 2020, from a Caspian tern, *Hydroprogne caspia* (Pallas, 1770), Otago Harbour. Drawing from original description. Scale = 500 µm. Reproduced from Presswell & Bennett 2020, with permission of copyright holder; **E.** *Ibid*, showing stained and mounted specimen. Scale = 500 µm. Reproduced from Presswell & Bennett 2020, with permission of copyright holder; **F.** *Philophthalmus attenuatus* Bennett & Presswell, 2019 from a black-backed gull, *Larus dominicanus* Lichtenstein, 1823, Otago Harbour. Drawing from original description. Scale = 500 µm. Reproduced from Bennett & Presswell 2019 with permission of copyright holder; **G.** An undescribed monogenean species of *Microcotyle* (Polyopisthocotylea: Microcotylidae) from a triplefin, *Trypterygion* sp., from Otago Harbour. Scale = 100 µm. Image supplied by author JB.

BP was made an Honorary Curator at the Museum in recognition of the collaboration.

Knowledge gaps, research progress and future priorities

Progress in the collection and identification of Platyhelminthes in New Zealand waters is slow; the majority of listed taxa are not described and are represented by operational names only. With no workers looking at free-living platyhelminths and only two professional taxonomists (Presswell and Bennett) studying parasitic platyhelminths, this is not a position that is likely to change quickly. Indeed, as molecular methods find increasing numbers of cryptic species or larval types, the percentage of genetically documented, but undescribed, species is likely to increase.

Potential hosts sampled for parasitic Platyhelminthes. For trematodes and cestodes, Bennett *et al.* (2022a) estimated that fewer than 5% of New Zealand's marine animals have literature reports of parasitic helminths. It is expected that most, if not all, animal species should host at least one species of parasitic helminth. Therefore, the lack of hosts sampled constitutes a massive gap in the knowledge regarding potential (parasitic) platyhelminth biodiversity. Teleost fish are particularly lacking in data on parasitic infections, and there is a stark difference in the percentage of hosts sampled for parasites between commercially (42%) and non-commercially (2%) caught fish species (Bennett *et al.* 2022a).

Taxonomic resolution. In total, 114 new records have been added to the inventory since Johns *et al.* (2009), but, of these, only 37 are identified to species level. Thirty-seven are new records from larval stages in molluscs, polychaetes, or fishes, which are not likely to be named to species level until the respective adults are found within their vertebrate hosts. In total, 35% of all Platyhelminthes known in New Zealand's marine environment require taxonomic resolution (44% of turbellarians, 38% of cestodes, 2% of monogeneans and 41% of trematodes). The taxonomy of many specimens is unresolved, in part, because while studies uncover genetically distinct populations or cryptic species, many workers have neither the time, funding, nor the expertise to describe them formally. Poor taxonomic resolution can detrimentally mask total biodiversity and affect our ability to identify functional or ecological differences between closely related species.

Life cycles resolution. Many cestodes and trematodes have complex life cycles where, over one generation, different life stages must infect different host species in a particular order to reach maturity and reproduce. Of the parasites in New Zealand, 67% of cestodes and 68% of trematodes are only known from one life stage (generally the adult stage) within one host (Bennett *et al.* 2022a). However, this is not restricted to New Zealand; it is estimated that, worldwide, fewer

than 5% of all helminth life cycles have been resolved (Blasco-Costa & Poulin 2017). A platyhelminth does not constitute solely an adult worm, but all the larval stages that make up that worm, and a species can only be fully understood when the whole life cycle is known (Blasco-Costa & Poulin 2017). Knowledge of life cycles can inform taxonomy, evolutionary studies, platyhelminth biology, ecology, and epidemiology, among other things (Blasco-Costa & Poulin 2017). With the increased use of molecular methods to match larval and adult stages, we predict that many more life cycles or part life cycles will be elucidated in the future.

Free-living platyhelminths. One recent study looking at small, free-living flatworms estimated that there may be some 20,000 marine microturbellarian species in all global shelf zones (Armonies 2018). Bearing in mind that the current New Zealand figure of 57 described species includes the larger and more prominent species and all marine environments, it is no exaggeration to say that we know virtually nothing of our marine flatworms. A herculean task awaits a future taxonomist.

In New Zealand, we are fortunate to have a part-time professional taxonomist (BP) and a postdoc (JB) studying the parasitic helminths, so that the state of knowledge is not static. The PhD thesis of JB, on the helminth fauna of a huge range of marine organisms from the New Zealand EEZ, has resulted in a number of articles cited above and produced large amounts of new data. But it has also provided an enormous quantity of material that may take years to identify and describe formally. Specimens in hand will be worked on in the years to come and promise to greatly increase our knowledge of marine platyhelminths and other parasitic worms. Our outlook is therefore cautiously optimistic, although a lack of funding for taxonomic work will forever be an issue. We continue to forge relationships with institutions and individuals in a position to provide vertebrate carcasses from marine environments and continue to find worms that are new to New Zealand or undescribed new species. Free-living marine Platyhelminthes are currently without a professional champion and taxonomist in New Zealand.

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Checklist of extant Platyhelminthes known from the New Zealand EEZ

The checklist is arranged according to the currently accepted systematics and classificatory scheme of Gibson *et al.* (2002), Jones *et al.* (2005), Bray *et al.* (2008) (Trematoda), Caira & Jensen (2017) (Cestoda), and WoRMS (all taxa). The common and scientific name of the definitive host (DH) and intermediate host (IH) is provided where known (* indicates a symbiont or endosymbiont, rather than a parasite). We have not included the host taxonomic authorities, which are available in WoRMS (<https://www.marinespecies.org>). Taxa indicated by 'E' were described from New Zealand but have not been reported in the literature from any other part of the world. This is not necessarily truly indicative of their endemicity as we have no way of knowing the geographical distribution of species that may have other definitive and intermediate hosts. More than two taxonomic authorities have been abbreviated to 'first author *et al.*' in the checklist.

Phylum PLATYHELMINTHES		
Subphylum RHABDITOPHORA		
Class "TURBELLARIA"		
Order FECAMPIIDA		
Family FECAMPIIDAE		
<i>Fecampia abyssicola</i>	Christensen, 1981	DH unknown marine invertebrate
<i>Kronborgia isopodicola</i>	Blair & Williams, 1987	E DH isopod <i>Exosphaeroma obtusum</i>
Order MACROSTOMORPHA		
Family MACROSTOMIDAE		
Macrostomidae gen. et sp. indet.	Riser, 1984	
Order POLYCLADIDA		
Suborder ACOTYLEA		
Superfamily DISCOCELOIDEA		
Family CRYPTOCOELIDAE		
<i>Cryptocelis</i> sp. A	Holleman <i>in</i> Gordon & Ballantine 1977	
<i>Cryptocelis</i> sp. B	Holleman <i>in</i> Gordon & Ballantine 1977	
Family ILYPLANIDAE		
<i>Ilyplana aberrans</i>	Bock, 1925	E
<i>Postenterogonia orbicularis</i>	(Schmarda, 1859) Faubel, 1983	
Superfamily LEPTOPLANOIDAE		
Family GNESIOCEROTIDAE		
<i>Echinoplana celerrima</i>	Haswell, 1907	
Family LEPTOPLANIDAE		
<i>Leptoplana? brunnea</i>	Cheeseman, 1882	E
Family NOTOPLANIDAE		
<i>Notoplana australis</i>	(Schmarda, 1859) Bock, 1913	
<i>Notoplana dubia</i>	(Schmarda, 1859) Faubel, 1983	
<i>Notoplana</i> sp. A	Holleman <i>in</i> Gordon & Ballantine 1977	
<i>Notoplana</i> sp. B	Holleman <i>in</i> Gordon & Ballantine 1977	
<i>Notoplana suteri</i>	(Jacubowa, 1906) Faubel, 1984	
Family PLEIOPLANIDAE		
<i>Pleioplana californica</i>	(Plehn, 1898) Faubel, 1983	
Family STYLÖCHOPLANIDAE		
Stylochoplana sp. A	Newman pers. comm. <i>in</i> Johns <i>et al.</i> 2009	
Stylochoplana sp. B	Holleman <i>in</i> Gordon & Ballantine 1977	
Stylochoplana sp.	In Salvitti <i>et al.</i> 2015	
Superfamily STYLOCHOIDEA		
Family CALLOPLANIDAE		
<i>Okakarus ballantinensis</i>	Holleman, 2007	E
Family PLANOCERIDAE		
<i>Planocera</i> sp. A	Miller & Batt, 1973	
<i>Planocera</i> sp. B	Holleman <i>in</i> Gordon & Ballantine 1977	
Family STYLOCHEIDAE		
<i>Leptostyloclus elongatus</i>	Bock, 1925	E
<i>Leptostyloclus polysorus</i>	(Schmarda, 1859) Bock 1925	E
<i>Styloclus zanzibaricus</i>	Laidlaw, 1903	
Suborder COTYLEA		
Superfamily ANONYMOIDEA		
Family ANONYMIDAE		
<i>Anonymus kaikourensis</i>	Holleman, 1998	E
<i>Anonymus multiviridis</i>	Holleman, 1998	E
Family CHROMOPLANIDAE		
<i>Chromoplana kaikouris</i>	Holleman, 2007	E
<i>Chromoplana sirena</i>	Holleman, 2007	E
Superfamily EURYLEPTOIDEA		
Family EURYLEPTIDAE		
<i>Eurylepta herberti</i>	Kirk, 1882	E
<i>Eurylepta</i> sp. A	Holleman <i>in</i> Johns <i>et al.</i> 2009	
<i>Eurylepta</i> sp. B	Holleman <i>in</i> Johns <i>et al.</i> 2009	
Superfamily PSEUDOCEROTOIDEA		
Family PSEUDOCEROTIDAE		
<i>Thysanozoon aucklandicum</i>	Cheeseman, 1883	E
<i>Thysanozoon brocchii</i>	(Risso, 1818) Grube, 1840	
<i>Thysanozoon brocchii huttoni</i>	Kirk, 1882	E
<i>Thysanozoon cruciatum</i>	Schmarda, 1859	
<i>Pseudobiceros</i> sp.	Newman <i>in</i> Johns <i>et al.</i> 2009	

<i>Pseudoceros</i> sp. A	Holleman <i>in Johns et al.</i> 2009	E
<i>Pseudoceros</i> sp. B	Holleman <i>in Johns et al.</i> 2009	E
<i>Pseudoceros</i> sp. C	Holleman <i>in Johns et al.</i> 2009	E
<i>Pseudoceros</i> sp. D	Holleman <i>in Johns et al.</i> 2009	E
Family STYLOSTOMIDAE		
<i>Stylostomum spanis</i>	Holleman, 2001	E
Order PROLECITHOPHORA		
Family PLAGIOSTOMIDAE		
<i>Vorticeros</i> sp.	Gordon, 1972	
Order PROSERIATA		
Family COELOGYNOPORIDAE		
<i>Coelognyporidae</i> gen. et sp. indet.	Riser, 1984	
Family MONOCELIDIAE		
<i>Monocelididae</i> gen. et sp. indet.	Riser, 1984	
Family NEMATOPLANIDAE		
<i>Nematoplaena</i> sp.	Riser, 1984	
Family OTOPLANIDAE		
<i>Otoplaniidae</i> gen. et sp. indet.	Riser, 1984	
Family POLYSTYLIPHORIDAE		
<i>Polystyliphora</i> sp.	Riser, 1984	
Order RHABDOCOELA		
Suborder DALYTYPHOPLANIDA		
Family UMAGILLIDAE		
<i>Anoplodium leighi</i>	Cannon, 1990	E
<i>Syndesmis kurakaikina</i>	Monnens <i>et al.</i> , 2019	E
<i>Syndesmis</i> sp.	McRae, 1959	E
Suborder KALYPTORHYNCHIA		
Family POLYCYSTIDAE		
<i>Antiboreorhynchus novzelae</i>	Karling & Schockaert, 1977	E
Order TRICLADIDA		
Superfamily BDELLOUROIDEA		
Family BDELLOURIDAE		
<i>Synsiphonium anderssoni</i>	(Westblad, 1952) Sluys, 1989	
<i>Synsiphonium angustum</i>	Sluys & Ball, 1989	E
<i>Palombiella stephensonii</i>	(Palombi, 1938) Westblad, 1951	
Family UTERIPORIDAE		
<i>Vatapa tumidosa</i>	Sluys & Ball, 1989	E
Superfamily PROCERODOIDEA		
Family PROCERODIDAE		
<i>Procerodes pacificus</i>	Hyman, 1954	
Family <i>incertae sedis</i>		
Tricladida <i>incertae sedis</i>	Holleman <i>in Johns et al.</i> 2009	
Superclass NEODERMATA		
Class CESTODA		
Subclass CESTODARIA		
Order GYROCOTYLIDEA		
Family GYROCOTYLIDAE		
<i>Gyrocotyle maxima</i>	MacDonagh, 1927	
<i>Gyrocotyle rugosa</i>	Diesing, 1850	
Subclass EUCESTODA		
Order BOTHRIOCEPHALIDEA		
Family BOTHRIOCEPHALIDAE		
<i>Bothrioccephalus scorpii</i>	(Müller, 1776) Cooper, 1917	
<i>Bothrioccephalus</i> sp. 1	Bennett <i>et al.</i> , 2023	
Family ECHINOPHALLIDAE		
<i>Bothriocotyle solinosomum</i>	Ariola, 1900	
<i>Echinophallus seriellae</i>	Korotava, 1975	E
<i>Echinophallus wageneri</i>	(Monticelli, 1890) Schumacher, 1914	
Family TRIAENOPHORIDAE		
<i>Amphicotyle heteropleura</i>	(Diesing, 1850) Lühe, 1902	
<i>Anthistrocephalus microcephalus</i>	(Rudolphi, 1819) Monticelli, 1890	
<i>Anonchocephalus chilensis</i>	(Riggenbach, 1896) Lühe, 1902	
Order CYCLOPHYLLIDEA		
Family ACOLEIIDAE		
<i>Diplophallus polymorphus</i>	(Rudolphi, 1819) Fuhrmann, 1900	
Family DAVAINIIDAE		
<i>Ophryocotyle proteus</i>	Friis, 1870	
Family DILEPIDIDAE		
<i>Anomotaenia</i> sp. 1	Bennett <i>et al.</i> , 2023	
<i>Capsulata edenensis</i>	Sandeman, 1959	
Family GRYPORHYNCHIDAE		
<i>Paradilepis urceina</i>	Bona, 1975	
Family HYMENOLEPIDIDAE		
<i>Cladognynia latovarium</i>	(Dronen <i>et al.</i> , 1988) Czaplinski & Voucher, 1994	E
<i>Dicranotaenia coronula</i>	(Dujardin, 1845) Railliet, 1892	
<i>Microsomacanthus alasakensis</i>	(Deblock & Rausch, 1967) Deblock & Canaris, 2000	
<i>Microsomacanthus cormoranti</i>	(Ortlepp, 1938)	
<i>Microsomacanthus</i> sp.	Presswell & Bennett, 2021	
<i>Microsomacanthus</i> sp. 1	Bennett <i>et al.</i> , 2022	
<i>Nadejolepis lauriei</i>	(Davies, 1939) Spassky & Spasskaya, 1954	
<i>Wardium clandestina</i>	(Creplin <i>in Krabbe</i> , 1869) Spassky & Spasskaya, 1954	
Hymenolepididae gen. et sp. indet.	Presswell <i>et al.</i> , 2012	
Family PROGYNOTAENIIDAE		
<i>Proterogynotaenia dougi</i>	Sandeman, 1959	
<i>Proterogynotaenia haematopodis</i>	(Davies & Rees, 1947) Ryzhikov & Tolkacheva, 1981	
Order DIPHYLLIDEA		
Family ECHINOBOTHRIIDAE		
<i>Coronocetus coronatus</i>	(Robinson, 1959) Cairns <i>et al.</i> , 2013	E
<i>Echinobothrium coenoformum</i>	Alexander, 1963	E
		DH rig, <i>Mustelus lenticulatus</i> ; IH unknown
		DH skate <i>Raja</i> sp.; IH unknown

Order DIPHYLLOBOTRIIDEA		
Family DIPHYLLOBOTRIIDAE		
<i>Adenophelus pacificus</i>	Nybelin, 1931	DH NZ fur seal, <i>Arctophoca australis forsteri</i> ; IH unknown
<i>Dibothriocelphalus nihonkaiense</i>	(Yamane <i>et al.</i> , 1986) Waeschenbach <i>et al.</i> , 2017	DH human, <i>Homo sapiens</i> ; IH salmon species
<i>Diphyllobothrium</i> sp.	Cordes & O'Hara, 1979	DH NZ fur seal, <i>Arctophoca australis forsteri</i> ; leopard seal, <i>Hydrurga leptonyx</i> ; IH unknown
Order ONCHOPROTEOCEPHALIDEA		
Family ONCHOBOTHRIIDAE		
<i>Acanthobothrium filicole benedeni</i>	Beauchamp, 1905	DH skate <i>Raja</i> sp.; IH unknown
<i>Acanthobothrium filicole paulum</i>	Linton, 1924	DH skate <i>Raja</i> sp.; IH unknown
<i>Acanthobothrium intermedium</i>	Perrenoud, 1931	E DH stingray <i>Dasyatis pastinaca</i> ; IH unknown
<i>Acanthobothrium musculosum</i>	(Baer, 1948) Yamaguti, 1959	DH stingray <i>Dasyatis pastinaca</i> ; IH unknown
<i>Acanthobothrium wedli</i> sp.	Robinson, 1959	DH rough skate, <i>Dipturus nasutus</i> ; IH sprat, <i>Sprattus antipodus</i> ; triplefin Tripterydiidae gen. et
<i>Acanthobothrium</i> sp.	Bennett <i>et al.</i> , 2019	DH rough skate, <i>Dipturus nasutus</i> ; smooth skate, <i>Dipturus innominatus</i> ; IH crab Nectocarcinus antarcticus; jack mackerel, <i>Trachurus novaezealandiae</i> ; triplefin Tripterygiidae gen. et sp.; opalfish, <i>Hemerocoetes monopterygius</i> ; ling <i>Genypterus blacodes</i>
<i>Acanthobothrium</i> sp. 2	Bennett <i>et al.</i> , 2023	DH unknown; IH sprat, <i>Sprattus antipodus</i>
Order PHYLLOBOTRIIDEA		
Family CHIMAEROCESTIDAE		
<i>Chimaerocestos</i> sp. 1	Caira <i>et al.</i> , 2014	DH Pacific spookfish, <i>Rhinochimaera pacifica</i> ; IH unknown
<i>Chimaerocestos</i> sp. 2	Caira <i>et al.</i> , 2014	DH Pacific spookfish, <i>Rhinochimaera pacifica</i> ; IH unknown
Family PHYLBOTRIIDAE		
<i>Anthobothrium laciniatum brevicolle</i>	Linton, 1891	DH blue shark, <i>Prionace glauca</i> ; IH unknown
<i>Calyptrobothrium chalarosomum</i>	Alexander, 1963	DH carpet shark, <i>Cephaloscyllium laticeps</i> ; IH unknown
<i>Calyptrobothrium occidentale</i>	Linton, 1900	DH electric ray, <i>Torpedo fairchildi</i> ; IH unknown
<i>Calyptrobothrium riggii</i>	Monticelli, 1893	DH seal shark, <i>Dalatias licha</i> ; electric ray <i>Tetronarce fairchildi</i> ; IH unknown
<i>Clistobothrium carcharodoni</i>	Dailey & Vogelbein, 1990	DH great white shark, <i>Carcharodon carcharias</i> ; IH striped dolphin, <i>Stenella coeruleoalba</i> ; Riso's dolphin, <i>Grampus griseus</i>
<i>Clistobothrium</i> sp. 1	Bennett <i>et al.</i> , 2022	DH unknown; IH squid <i>Moroteuthopsis ingens</i>
<i>Clistobothrium</i> sp. 2	Bennett <i>et al.</i> , 2022	DH unknown; IH squid <i>Moroteuthopsis ingens</i>
<i>Crossobothrium dohrnii</i>	(Oerley, 1885) Ruhnke, 1996	DH broadnose seven-gill shark, <i>Notorynchus cepedianus</i> ; IH unknown
<i>Crossobothrium</i> sp. 1	Bennett <i>et al.</i> , 2023	DH unknown; IH barracouta, <i>Thyrsites atun</i> ; tarakihi, <i>Nemadactylus maropterus</i>
<i>Monorygma grimaldii</i>	(Moniez, 1899) Meggitt, 1924	DH shark?; IH striped dolphin, <i>Stenella coeruleoalba</i>
<i>Orygmatobothrium musteli</i>	(van Beneden, 1850) Diesing, 1863	DH gummy shark, <i>Mustelus antarcticus</i> ; IH unknown
<i>Pentaloculum macrocephalum</i>	Alexander, 1963	E DH blind electric ray, <i>Typhlonarke aysoni</i> ; IH unknown
<i>Pentaloculum</i> sp. 1	Caira <i>et al.</i> , 2014	DH oval electric ray, <i>Typhlonarke tarakea</i> ; IH unknown
<i>Phormobothrium affine</i>	(Olsson, 1867) Alexander, 1963	E DH rough skate, <i>Dipturus nasutus</i> ; IH unknown
<i>Phyllobothrium delphinii</i>	(Bosc, 1802) Gervais, 1885	DH elasmobranch; IH dolphins <i>Cephalorhynchus hectori</i> , <i>Delphinus delphis</i> , <i>Lagenorhynchus obscurus</i> , <i>Stenella coeruleoalba</i> ; porpoise <i>Phocoena dioptrica</i>
<i>Phyllobothrium lactuca</i>	van Beneden, 1850	DH great white shark, <i>Carcharodon carcharias</i> ; rig, <i>Mustelus lenticulatus</i> ; IH unknown
<i>Phyllobothrium</i> sp.	Lehnert <i>et al.</i> , 2019	DH shark?; IH NZ fur seal, <i>Arctophoca australis forsteri</i> ; NZ sealion, <i>Phocartes hookeri</i> ; Minke whale, <i>Balaenoptera acutorostrata</i> ; dolphins <i>Cephalorhynchus hectori</i> , <i>Delphinus delphis</i> , <i>Lagenorhynchus obscurus</i> , <i>Tursiops truncatus</i>
Phyllobothriidae gen. et sp. indet.	Sharples & Evans, 1995	DH snapper, <i>Pagrus auratus</i> ; IH unknown
<i>Scyphophyllidium</i> cf. <i>giganteum</i>	Caira <i>et al.</i> , 2014	DH school shark, <i>Galeorhinus galeus</i> ; IH unknown
<i>Scyphophyllidium</i> sp. 1	Bennett <i>et al.</i> , 2023 (as <i>Paraorygmatobothrium</i> sp. 1)	DH unknown; IH barracouta, <i>Thyrsites atun</i>
<i>Yamaguticestus squali</i>	(Yamaguti, 1952) Caira, Bueno & Jensen, 2021	DH spiny dogfish, <i>Squalus acanthias</i> ; squid <i>Nototodarus sloanii</i> ; silver warehou, <i>Seriola punctata</i>
<i>Yamaguticestus</i> sp. 1		DH carpet shark, <i>Cephaloscyllium laticeps</i> ; IH squid <i>Nototodarus sloanii</i> ; triplefin Tripterygiidae gen. et sp.; opalfish, <i>Hemerocoetes monopterygius</i>
Order RHINEBOTRIIDEA		
Family ECHENEIBOTHRIIDAE		
<i>Clydonobothrium elegantissimum</i>	(Lönnberg, 1889) Euzet, 1959	E DH rough skate, <i>Dipturus nasutus</i> ; IH fish
<i>Clydonobothrium leioformum</i>	Alexander, 1963	DH rough skate, <i>Dipturus nasutus</i> ; IH unknown
<i>Echeneibothrium</i> sp. 1	Bennett <i>et al.</i> , 2019	DH rough skate, <i>Dipturus nasutus</i> ; IH fish
<i>Echeneibothrium</i> sp. 2	Bennett <i>et al.</i> , 2019	DH rough skate, <i>Dipturus nasutus</i> ; IH ling, <i>Genypterus blacodes</i>
Family RHINEBOTRIIDAE		
Rhinebothriidae gen. et sp. 1	Bennett <i>et al.</i> , 2023	DH unknown; IH Blue cod, <i>Parapercis colias</i> ; triplefin <i>Forsterygion lapillum</i> and <i>F. capito</i> , Tripterygiidae; spotted wrasse, <i>Notolabrus calidotus</i>
Rhinebothriidae gen. et sp. 2	Bennett <i>et al.</i> , 2023	DH unknown; IH triplefins <i>Forsterygion lapillum</i> , Tripterygiidae sp.
Rhinebothriidae gen. et sp. 3	Bennett <i>et al.</i> , 2023	DH unknown; IH triplefin Tripterygiidae sp.
Order TETRABOTHRIIDEA		
Family TETRABOTHRIIDAE		
<i>Tetrabothrius</i> (<i>Neotetrabothrius</i>) <i>lutzii</i>	Parona, 1901	DH Otago little blue penguin, <i>Eudyptula novaehollandiae</i> ; IH unknown
<i>Tetrabothrius</i> (<i>Neotetrabothrius</i>) sp.	Bennett <i>et al.</i> , 2021	DH Otago little blue penguin, <i>Eudyptula novaehollandiae</i> ; IH unknown
<i>Tetrabothrius</i> (<i>Tetrabothrius</i>) <i>forsteri</i>	(Krefft, 1871) Fuhrmann, 1904	DH Hector's beaked whale, <i>Mesoplodon hectori</i> ; IH squid?
<i>Tetrabothrius</i> sp.	Presswell & Bennett, 2021	DH spotted shag, <i>Phalacrocorax punctatus</i> ; IH unknown
<i>Tetrabothrius</i> sp. 3	Bennett <i>et al.</i> , 2023	DH sooty shearwater, <i>Puffinus griseus</i> ; IH squid <i>Nototodarus sloanii</i>
Order TETRAPHYLLIDEA		
Family CALLIOBOTRIIDAE		
<i>Calliobothrium tylotocephalum</i>	Alexander, 1963	E DH rig, <i>Mustelus lenticulatus</i> ; IH unknown
<i>Calliobothrium verticillatum</i>	(Rudolphi, 1819) van Beneden, 1850	DH rig, <i>Mustelus lenticulatus</i> ; IH hermit crab
<i>Calliobothrium</i> sp. nov.	Pickering & Caira, 2008	DH rig, <i>Mustelus lenticulatus</i> ; IH unknown
<i>Symcallio schneiderae</i>	(Pickering & Caira, 2008) Bernot, Caira & Pickering, 2015	E DH rig, <i>Mustelus lenticulatus</i> ; IH unknown
Family GASTROLECITHIDAE		
<i>Ceratobothrium xanthocephalum</i>	Monticelli, 1892	DH mako shark, <i>Isurus oxyrinchus</i> ; IH unknown
Family incertae sedis		
<i>Anthobothrium</i> sp. 1	Bennett <i>et al.</i> , 2022b	DH school shark, <i>Galeorhinus australis</i> ; IH squid <i>Nototodarus sloanii</i> ; lemon sole, <i>Pelotretus flavidatus</i> ; blue cod, <i>Parapercis colias</i> ; thornfish, <i>Bovichtus variegatus</i> ; barracouta, <i>Thyrsites atun</i> ; sprat, <i>Sprattus antipodus</i>
Trilocularia acanthiae vulgaris	Olsson, 1867	DH spiny dogfish, <i>Squalus acanthias</i> ; IH unknown
Trilocularia sp. 1	Bennett <i>et al.</i> , 2022b	DH spiny dogfish, <i>Squalus acanthias</i> ; squid <i>Nototodarus sloanii</i> ; clingfish, <i>Gastroscyphus hectoris</i> ; warehou, <i>Seriola brama</i> , <i>S. punctata</i>
Order TRY PANORHYNCHA		
Superfamily EUTETRARHYNCHOIDEA		
Family EUTETRARHYNCHIDAE		
<i>Trimacracanthus acetabatidis</i>	(Robinson, 1959) Beveridge & Campbell, 1987	DH eagle ray, <i>Myliobatis tenuicaudatus</i> ; IH crabs
Eutetrarhynchidae gen. et sp. indet.	Hine <i>et al.</i> , 2000	DH elasmobranch; IH yellow-belly flounder, <i>Rhombosolea leporina</i>
Eutetrarhynchidae gen. et sp. indet.	Bennett <i>et al.</i> , 2022b	DH unknown; crabs <i>Pagurus traversi</i> , <i>Halicarcinus varius</i> , <i>Hemiplax hirtipes</i> , <i>Ovalipes catharus</i> ; octopus <i>Pinnoctopus cordiformis</i> ; shrimp <i>Hippolyte</i> sp.
Family RHINOPTERICOLIDAE		
<i>Cetorhinicola acanthocapax</i>	Beveridge & Campbell, 1988	DH basking shark, <i>Cetorhinus maximus</i> ; IH unknown
Superfamily TENTACULARIOIDEA		
Family SPHYRIOCEPHALIDAE		
<i>Hepatoxyylon megacephalum</i>	(Rudolphi, 1819) Dollfus, 1942	DH great white shark, <i>Carcharodon carcharias</i> ; IH sharks <i>Galeorhinus galeus</i> , <i>Notorynchus cepedianus</i> , <i>Squalus acanthias</i> , <i>Dalatias licha</i> , <i>Deania calcea</i> ; skate <i>Raja</i> sp.

<i>Hepatoxylon trichiuri</i>	(Holten, 1802) Bosc, 1811	DH giant squid?; porbeagle shark, <i>Lamna nasus</i> ; IH tuna, <i>Thunnus alalunga</i> ; alfonsino, <i>Beryx splendens</i> ; barracouta, <i>Thrysites atun</i> ; warehou, <i>Seriola brama</i> ; whiting, <i>Micromesistius australis</i> ; bluenose, <i>Hyperoglyphe antarctica</i> ; flathead, <i>Hoplichthys haswelli</i> ; frostfish, <i>Lepidopus caudatus</i> ; gemfish, <i>Rexea solandri</i> ; hake, <i>Merluccius australis</i> ; hapuku, <i>Polyprion oxygeneios</i> ; hoki, <i>Macruronus novaezelandiae</i> ; ling <i>Genypterus blacodes</i> ; orange perch, <i>Lepidopera aurantia</i> ; roughy, <i>Hoplostethus atlanticus</i> ; red cod, <i>Pseudophycis bachus</i> ; ribaldo, <i>Mora moro</i> ; dory, <i>Cytodus novaezelandiae</i> ; oreo, <i>Pseudocyttus maculatus</i> ; tarakihi, <i>Nemadactylus macropterus</i> ; sharks <i>Galeorhinus australis</i> , <i>Deania calcea</i> , <i>Hexanchus griseus</i> , <i>Squalus acanthias</i> , <i>Dalatias licha</i> , <i>Prionace glauca</i> , <i>Isurus oxyrinchus</i> ; electric ray, <i>Torpedo fairchildi</i> ; squid <i>Nototodarus sloanii</i>
<i>Sphyrioccephalus viridis</i>	(Wagener, 1854) Pintner, 1913	DH frilled shark, <i>Chlamydoselachus anguineus</i> ; IH unknown
Family TENTACULARIIDAE		
<i>Nybelinia lingualis</i>	(Cuvier, 1817) Dollfus, 1929	DH unknown marine fish; IH rough skate, <i>Dipturus nasutus</i>
<i>Nybelinia</i> sp.	Robinson, 1959	DH elasmobranch; IH John dory, <i>Zeus faber</i> ; jack mackerel, <i>Trachurus novaezelandiae</i> ; barracouta, <i>Thrysites atun</i>
<i>Nybelinia</i> sp.	Hine <i>et al.</i> , 2000	DH elasmobranch; IH kahawai, <i>Arripis trutta</i> ; redbait, <i>Emmelichthys nitidus</i> ; tarakihi, <i>Nemadactylus macropterus</i>
<i>Nybelinia</i> sp.	Bennett <i>et al.</i> , 2022b	DH unknown; IH squid <i>Nototodarus sloanii</i>
<i>Tentacularia coryphaenae</i>	Bosc, 1802	DH elasmobranch; IH skipjack tuna, <i>Katsuwonus pelamis</i> ; albacore tuna, <i>Thunnus alalunga</i>
Tentaculariidae gen. et sp.	Anglade & Randhawa, 2018	DH elasmobranch; IH NZ sole, <i>Peltorhamphus novaezealandiae</i>
Tentaculariidae gen. et sp.	Bennett <i>et al.</i> , 2019	DH rough skate, <i>Dipturus nasutus</i> ; IH unknown
Tentaculariidae gen. et sp. 1	Bennett <i>et al.</i> , 2022b	DH Seven-gill shark, <i>Notorynchus cepedianus</i> ; rough skate, <i>Dipturus nasutus</i> ; IH squid <i>Nototodarus sloanii</i> ; blue cod, <i>Parapercis colias</i> ; barracouta, <i>Thrysites atun</i>
Tentaculariidae gen. et sp. 2	Bennett <i>et al.</i> , 2022b	DH unknown; IH squid <i>Nototodarus sloanii</i> ; NZ sole, <i>Peltorhamphus novaezealandiae</i> ; lemon sole, <i>Peltorhynchus flavilatus</i> ; puffer fish, <i>Contusus richei</i>
Superfamily GYMNORHYNCHOIDEA		
Family GILQUINIIDAE		
<i>Gilquinia squali</i>	(Fabricius, 1794) Dollfus, 1930	DH spiny dogfish, <i>Squalus acanthias</i> ; IH unknown
Family GYMNORHYNCHIDAE		
<i>Gymnorhynchus isuri</i>	Robinson, 1959	DH elasmobranch; IH mako shark, <i>Isurus oxyrinchus</i>
<i>Gymnorhynchus</i> sp.	Hewitt & Hine, 1972	DH elasmobranch; IH butterfish, <i>Odax pullus</i> ; ling, <i>Genypterus blacodes</i>
<i>Molicola horridus</i>	(Goodsir, 1841) Dollfus, 1935	DH elasmobranch; IH sunfish, <i>Mola mola</i>
<i>Molicola uncinatus</i>	(Linton, 1924) Palm, 2004	DH elasmobranch?; IH barracouta, <i>Thrysites atun</i>
Superfamily LACISTORHYNCHOIDEA		
Family LACISTORHYNCHIDAE		
<i>Callitetrarhynchus</i> sp.	Lester <i>et al.</i> , 1988	DH elasmobranch; IH orange roughy, <i>Hoplostethus atlanticus</i> ; snapper, <i>Pagrus auratus</i>
<i>Grillotta erinaceus</i>	(van Beneden, 1858) Guiart, 1927	DH unknown marine fish; IH crab <i>Nectocarcinus antarcticus</i>
<i>Grillotta heptanchi</i>	(Vaullegaard, 1899) Dollfus, 1942	DH broadnose seven-gill shark, <i>Notorynchus cepedianus</i> ; six-gill shark, <i>Notorynchus cepedianus</i> ; IH unknown
<i>Grillotta cf. brayi</i>	Beveridge & Campbell, 2007	DH rough skate, <i>Dipturus nasutus</i> ; IH fish
<i>Grillotta</i> sp.	Grabda & Słosarczyk, 1981	DH unknown marine fish; IH ling, <i>Genypterus blacodes</i> ; hoki, <i>Macrurus novaezelandiae</i>
<i>Lacistorhynchus dollfusi</i>	Beveridge & Sakanari, 1987	DH school shark, <i>Galeorhinus australis</i> ; IH barracouta, <i>Thrysites atun</i>
<i>Lacistorhynchus tenuis</i>	(Van Beneden, 1858) Pintner, 1913	DH school shark, <i>Galeorhinus australis</i> ; IH barracouta, <i>Thrysites atun</i> ; mirror dory, <i>Zenopsis nebulosa</i> ; yellow-eyed mullet, <i>Aldrichetta forsteri</i>
Lacistorhynchidae gen. et sp. indet.	Lester <i>et al.</i> , 1988	DH elasmobranch; IH snapper, <i>Pagrus auratus</i>
Eucestoda <i>incertae sedis</i>	Anglade & Randhawa, 2018	DH unknown marine fish; IH NZ sole, <i>Peltorhamphus novaezealandiae</i>
Class MONOGENEA		
Subclass MONOPISTHOCOTYLEA		
Order CAPSALIDEA		
Family CAPSALIDAE		
<i>Allomegalocotyla johnstoni</i>	(Robinson, 1961) Yamaguti, 1963	DH trumpeter, <i>Latriss lineata</i>
<i>Benedenia sekii</i>	(Yamaguti, 1937) Meserve, 1938	DH snapper, <i>Pagrus auratus</i>
<i>Benedenia seriolae</i>	(Yamaguti, 1937) Meserve, 1938	DH kingfish, <i>Seriola lalandi</i>
<i>Encystylabe chironemii</i>	Robinson, 1961	DH red moki, <i>Cheilodactylus spectabilis</i>
<i>Mediavagina latridis</i>	(Lebedev, 1967) Lawler & Hargis, 1968	DH blue moki, <i>Latridopsis cilialis</i>
<i>Megalobenedenia australis</i>	(Robinson, 1961) Egorova, 1994	DH sea perch, <i>Helicolenus percoides</i>
<i>Pseudobenedenia nototheniae</i>	Johnston, 1931	DH smallscaled cod, <i>Notothenia microlepidota</i> ; black cod, <i>Paranotothenia magellonica</i>
<i>Pseudomegalocotyla latridis</i>	(Robinson, 1961) Yamaguti, 1963	DH trumpeter, <i>Latriss lineata</i>
<i>Tristoma adcockineum</i>	Yamaguti, 1968	DH swordfish, <i>Xiphias gladius</i>
Order DACTYLOGYRIDEA		
Family AMPHIBDELLATIDAE		
<i>Amphibdella cuticulovagina</i>	Dillon & Hargis, 1965	E DH electric ray, <i>Tetronarce fairchildi</i>
<i>Amphibdelloides maccallumi</i>	(Johnston & Tiegs, 1922) Price, 1937	DH electric ray, <i>Tetronarce fairchildi</i>
Family DIPLECTANIDAE		
<i>Lamellodiscus pagrosomi</i>	Murray, 1931	DH snapper, <i>Pagrus auratus</i>
Order GYRODACTYLIDEA		
Family ACANTHOCTYLIDAE		
<i>Lophocotyle novaezealandica</i>	Malmberg & Fernholm, 1989	E DH hagfish, <i>Eptatretus cirrhatus</i>
Family ANOPLODISCIDAE		
<i>Anoplodiscus cirrusspiralis</i>	Roubal, Armitage & Rohde, 1983	DH snapper, <i>Pagrus auratus</i>
Family GYRODACTYLIDAE		
<i>Gyrodactylus</i> sp.	Hine <i>et al.</i> , 2000	DH yellow-belly flounder, <i>Rombosolea leporina</i>
Family UDONELLIDAE		
<i>Udonella caligorum</i>	Johnston, 1835	DH barracouta, <i>Thrysites atun</i>
Order MONOCOTYLIDEA		
Family MICROBOTRIIDAE		
<i>Asthenocotyle taranakiensis</i>	Beverley-Burton, Klassen & Lester, 1987	E DH prickly dogfish, <i>Oxynotus bruniensis</i>
<i>Asthenocotyle kaikourensis</i>	Robinson, 1961	E DH Plunket's shark, <i>Proscynnodon plunketi</i>
<i>Leptomicrobothrium longiphallus</i>	Dillon & Hargis, 1965	E DH carpet shark, <i>Cephaloscyllium laticeps</i>
Family MONOCOTYLIDAE		
<i>Calicottyle ramsayi</i>	Robinson, 1961	E DH spiny dogfish, <i>Squalus acanthias</i>
<i>Empruthotrema raiae</i>	(MacCallum, 1916) Johnston & Tiegs, 1922	DH rough skate, <i>Dipturus nasutus</i>
<i>Merizocotyle amplidiscata</i>	Dillon & Hargis, 1965	DH rough skate, <i>Dipturus nasutus</i>
Subclass POLYOPISTHOCOTYLEA		
Order CHIMAERICOLIDEA		
Family CHIMAERICOLIDAE		
<i>Callorhynchicola multitesticulatus</i>	Manter, 1955	DH elephant fish, <i>Callorhinchus milii</i>
Order DICLYBOTHRIIDEA		
Family HEXABOTHRIIDAE		
<i>Callorhynchocotyle amatoi</i>	Boeger, Kristsky & Pereira, 1989	E DH elephant fish, <i>Callorhinchus milii</i>
<i>Callorhynchocotyle callorhynchi</i>	(Manter, 1955) Boeger <i>et al.</i> , 1989	DH elephant fish, <i>Callorhinchus milii</i>
<i>Ercocoyle antarctica</i>	(Hughes, 1928) Price	DH rig, <i>Mustelus lenticulatus</i> ; gummy shark, <i>M. antarcticus</i>
<i>Hexabothrium akaroense</i>	Dillon & Hargis, 1965	E DH school shark, <i>Galeorhinus galeus</i>
<i>Squalonchocotyle squali</i>	MacCallum, 1931	DH spiny dogfish, <i>Squalus acanthias</i>
Order MAZOCRAEIDEA		
Family DICLIDOPHORIDAE		
<i>Choricotyle australiensis</i>	Roubal <i>et al.</i> , 1983	DH snapper, <i>Pagrus auratus</i>
<i>Euryorchis australis</i>	Manter & Walling, 1958	DH warehou, <i>Seriola brama</i>
<i>Gempylitrema gempylilli</i>	(Dillon & Hargis, 1965) Yamaguti, 1968	DH gemfish, <i>Rexea solandri</i>
<i>Macrouridophora coelorhynchi</i>	(Robinson, 1961) Rubec & Dronen, 1994	E DH rattail, <i>Coelorinchus australis</i>

Family DISCOCTYLIDAE		Dillon & Hargis, 1965	DH hapuku, <i>Polyprion oxygeneios</i>
<i>Allocotylophora polypriionum</i>			
Family GASTROCTYLIDAE		Dillon & Hargis, 1965	DH jack mackerel, <i>Trachurus novaezelandiae</i>
<i>Pseudaxine bivaginalis</i>		Parona & Perugia, 1890	DH jack mackerel, <i>Trachurus novaezelandiae</i>
<i>Pseudaxine trachuri</i>			
Family HETERAXINIDAE		Dillon & Hargis, 1965	DH jack mackerel, <i>Trachurus novaezelandiae</i>
<i>Cemocytyle trachuri</i>		Dillon & Hargis, 1965	DH jack mackerel, <i>Trachurus novaezelandiae</i>
<i>Neoheteraxinoides novaezelandiae</i>		Dillon & Hargis, 1965	E DH jack mackerel, <i>Trachurus novaezelandiae</i>
<i>Neoheteraxinoides regis</i>		Dillon & Hargis, 1965	DH gemfish, <i>Rexea solandri</i>
<i>Zeuxapta seriolae</i>		(Meserve, 1938) Price, 1962	DH kingfish, <i>Seriola lalandi</i>
Family MAZOCRAEIDAE			
<i>Grubea australis</i>		Rohde, 1987	DH blue mackerel, <i>Scomber australasicus</i>
<i>Kuhnia scombrei</i>		(Kuhn, 1829) Sproston, 1945	DH blue mackerel, <i>Scomber australasicus</i>
<i>Neogrubaea seriolella</i>		Dillon & Hargis, 1965	DH warehou, <i>Seriolla brama</i> ; silver warehou, <i>S. punctata</i>
Family MICROCOTYLIDAE			
Subfamily MICROCOTYLINAE			
<i>Bivagina pagrosomi</i>		(Murray, 1931) Dillon & Hargis, 1965	DH snapper, <i>Pagrus auratus</i>
<i>Bivagina tasmaniensis</i>		(Yamaguti, 1938) Yamaguti, 1963	DH snapper, <i>Pagrus auratus</i>
<i>Diplasiocytyle johnstoni</i>		Sandars, 1944	DH yellow-eyed mullet, <i>Aldrichetta forsteri</i>
<i>Gonoplasius carangis</i>		(Robinson, 1961) Price, 1962	DH trevally, <i>Pseudocaranx dentex</i>
<i>Kahawhai truttae</i>		(Dillon & Hargis, 1965) Lebedev, 1969	DH kahawai, <i>Arripis trutta</i>
<i>Microcytyle brevis</i>		Dillon & Hargis, 1965	E DH triplefin, <i>Forsterygion varium</i>
<i>Microcytyle constricta</i>		Robinson, 1961	E DH blue cod, <i>Parapercis colias</i>
<i>Microcytyle emmelichthysops</i>		Yamaguti, 1968	DH redbait, <i>Emmelichthys nitidus</i>
<i>Microcytyle neozelanica</i>		Dillon & Hargis, 1965	E DH sea perch, <i>Helicolenus percoides</i>
<i>Microcytyle nemadactylus</i>		Dillon & Hargis, 1965	DH tarakihī, <i>Nemadactylus macropterus</i>
<i>Paramicrocytloides reticularis</i>		Rohde, 1978	DH kingfish <i>Seriola</i> spp.
<i>Pseudoneobivagina pelotretis</i>		(Dillon & Hargis, 1965) Mamaev, 1986	E DH soles, <i>Pelotretis flavidatus</i> , <i>Peltorhamphus novaezealandiae</i>
Subfamily SYNCOELICOTYLINAE			
<i>Tinrovia papilioauda</i>		Mamaev, 1987	E DH spiny eel, <i>Notacanthus sexspinis</i>
Family PSEUDODICLIDOPHORIDAE			
<i>Winkenthalughesia australis</i>		Robinson, 1961	E DH frost fish, <i>Lepidopus caudatus</i>
<i>Winkenthalughesia thyrsitae</i>		(Hughes, 1928) Price, 1943	DH barracouta, <i>Thrysites atun</i>
Class TREMATODA			
Subclass ASPIDOGASTREA			
Order ASPIDOGASTRIDA			
Superfamily ASPIDOGASTROIDEA			
Family MULTICALYCIDAЕ			
<i>Multicalyx elegans</i>		(Olsson, 1869) Thoney & Burreson, 1988	DH elephant fish, <i>Callorhinchus milii</i> ; IH unknown
Subclass DIGENEA			
Order DIPLOSTOMIDA			
Suborder DIPLOSTOMATA			
Superfamily DIPLOSTOMOIDEA			
Family BRAUNINIDAE			
<i>Braunina cordiformis</i>		Wolf, 1903	DH Hector's dolphin, <i>Cephalorhynchus hectori</i> ; IH unknown
Family DIPLOSTOMIDAE			
<i>Diplostomum spathaceum</i>		(Rudolphi, 1819) Olsson, 1876	DH Caspian tern, <i>Hydroprogne caspia</i> ; IH unknown
Family STRIGEIDAE			
<i>Apatemon jamiesoni</i>		Presswell, 2022	E DH spotted shag, <i>Phalacrocorax punctatus</i> ; black-backed gull, <i>Larus dominicanus</i> ; mallard, <i>Anas platyrhynchos</i> ; IH snail <i>Potamopyrgus antipodarum</i> ; common bully, <i>Gobiomorphus cotidianus</i>
<i>Cardiocephaloides oviceps</i>		Dubois & Angel, 1972	DH shags <i>Microcarbo melanoleucus</i> , <i>Leucocarbo chalconotus</i> ; IH triplefins <i>Forsterygion lapillum</i> , <i>F. capito</i> , <i>Tripterygiidae</i> gen.sp.
Strigeidae gen. et sp.		Peoples <i>et al.</i> , 2012	DH unknown marine bird; IH polychaete <i>Streblosoma toddae</i>
Strigeidae gen. et sp.		Leung <i>et al.</i> , 2009	DH unknown marine fish; IH whelk <i>Cominella glandiformis</i>
Superfamily SCHISTOSOMATOIDEA			
Family APOROCOTYLIDAE			
<i>Cardicola coridocidis</i>		Manter, 1954	E DH butterfish, <i>Odax pullus</i> ; IH unknown
<i>Cardicola whitmani</i>		Manter, 1954	E DH tarakihī, <i>Nemadactylus macropterus</i> ; IH unknown
<i>Paracardicolaides yamagutii</i>		Martin, 1974	DH eels <i>Anguilla dieffenbachia</i> , <i>A. australis</i> ; IH molluscs
<i>Paradeontacylix</i> sp.		Diggle & Huston, 2005	DH kingfish <i>Seriola</i> spp.; IH unknown
Family SCHISTOSOMATIDAE			
<i>Ornithobilharzia canaliculata</i>		(Rudolphi, 1819) Odhner, 1912	DH bar-tailed godwit, <i>Limosa lapponica</i> ; gulls <i>Larus dominicanus</i> , <i>Chroicocephalus scopolinus</i> ; tern, <i>Hydroprogne caspia</i> ; IH gastropod mollusc
Schistosomatidae gen. et sp. 1		Bennett <i>et al.</i> , 2022b	DH black-backed gull, <i>Larus dominicanus</i> ; IH limpet <i>Patelloidea corticata</i> , top shell <i>Microlenches huttoni</i>
Order PLAGIORCHIIDA			
Suborder APOCREADIATA			
Superfamily APOCREADIOIDEA			
Family APÓCREADIIDAE			
Subfamily APOCREADIINAE			
<i>Pancreadium otagoense</i>		Manter, 1954	DH blue cod, <i>Parapercis colias</i> ; IH unknown
Suborder BIVESÍCULATA			
Superfamily BIVESICULOIDEA			
Family BIVESICULIDAE			
<i>Bivesiculoides otagoensis</i>		Manter, 1954	E DH rubyfish, <i>Plagiogeneion rubiginosum</i> ; redbait, <i>Emmelichthys nitidus</i> ; IH unknown
Suborder BUCEPHALATA			
Superfamily BUCEPHALOIDEA			
Family BUCEPHALIDAE			
Subfamily BUCEPHALINAE			
<i>Alcicornis longicornutus</i>		Manter, 1954	E DH giant stargazer, <i>Kathetostoma giganteum</i> ; IH mud oyster, <i>Ostrea lutaria</i>
Subfamily DÓLICOENTERINAE			
<i>Dolichoenterum longissimum</i>		Ozaki, 1924	DH conger eel, <i>Conger conger</i> ; IH unknown
Subfamily PROSORHYNCHINAE			
<i>Telorhynchus arripidis</i>		Crowcroft, 1947	DH kahawai, <i>Arripis trutta</i> ; IH bivalve mollusc
Bucephalidae gen. et sp.		Anglade & Randhawa, 2018	DH NZ sole, <i>Peltorhamphus novaezealandiae</i> ; IH unknown
Superfamily GYMNOPHALLOIDEA			
Family FELLODISTOMIDAE			
Subfamily FELLODISTOMINAE			
<i>Coanomyzus tasmaniae</i>		Manter & Crowcroft, 1950	DH Māori chief, <i>Paranotothenia macrocephala</i> ; IH unknown
<i>Hypertrema ambovatum</i>		Manter, 1960	DH snubnosed eel, <i>Simenichelys parasitica</i> ; IH unknown
<i>Proctoeces maculatus</i>		(Looss, 1901) Odhner, 1911	DH blue moki, <i>Latridopsis ciliaris</i> ; IH mytilid bivalve mollusc
<i>Proctoeces</i> sp.		Sharples & Evans, 1995	DH snapper, <i>Pagrus auratus</i> ; IH bivalve mollusc
<i>Pseudobenthotrema richardsoni</i>		(Manter, 1954) Machida <i>et al.</i> , 2007	E DH sole, <i>Pelotretis flavidatus</i> ; IH unknown
<i>Sterigotrema robertpoulini</i>		Pérez-Ponce de León <i>et al.</i> , 2018	E DH NZ sole, <i>Peltorhamphus novaezealandiae</i> ; IH bivalve mollusc
<i>Sterigotrema rotundum</i>		Manter, 1954	E DH blue cod, <i>Parapercis colias</i> ; IH unknown
Subfamily TERGESTIINAE			
<i>Tergestia agnostomi</i>		Manter, 1954	E DH yellow-eyed mullet, <i>Aldrichetta forsteri</i> ; sprat, <i>Sprattus antipodum</i> ; IH mussel?
<i>Tergestia magna</i>		Korotaeva, 1972	E DH redbait, <i>Emmelichthys nitidus</i> ; IH bivalve mollusc
Family GYMNOPHALLIDAE			
<i>Gymnophallus</i> sp.		Leung <i>et al.</i> , 2009	DH oystercatchers <i>Haematopus</i> spp.; IH cockle, <i>Austrovenus stutchburyi</i> ; wedge shell, <i>Macromona liliiana</i> ; blue mussel, <i>Mytilus edulis</i>

Suborder ECHINOSTOMATA		
Superfamily ECHINOSTOMATOIDEA		
Family CYCLOCŒLIDAE		
<i>Harrahium tringae</i>	(Brandes, 1892) Dronen & Blend, 2015	DH bar-tailed godwit, <i>Limosa lapponica baueri</i> ; IH snails
<i>Uvitellina</i> sp.	McDonald, 1998	DH pied stilt, <i>Himantopus leucocephalus</i> ; IH unknown
Family ECHINOSTOMATIDAE		
<i>Echinostoma</i> sp.	Crockett & Kearns, 1975	DH little blue penguin, <i>Eudyptula minor</i> ; IH unknown
<i>Echinosomatidae</i> gen. et sp. indet.	Boustead, 1982	DH unknown marine bird; IH northern bastard cod, <i>Pseudophycis breviuscula</i>
<i>Echinosomatidae</i> gen. et sp. indet.	Boustead, 1982	DH unknown marine bird; IH lemon sole, <i>Pelotretis filavilatus</i>
Family HIMASTHLIDAE		
<i>Acanthoparyphium spinulosum</i>	Johnston, 1917	DH bar-tailed godwit, <i>Limosa lapponica</i> ; IH gastropod mollusc
<i>Acanthoparyphium</i> sp.	Bennett et al., 2022b	DH unknown; IH limpet <i>Notoacmea scapha</i>
<i>Acanthoparyphium</i> sp. A	Leung et al., 2009	DH oystercatchers <i>Haematopus finschi</i> , <i>H. unicolor</i> ; IH mudsnail <i>Zeacumantus subcarinatus</i> ; cockle, <i>Austrovenus stutchburyi</i> ; wedge shell, <i>Macomona liliana</i> ; limpet <i>Notoacmea scapha</i> ; chitons <i>Chiton glaucus</i> , <i>Sypharochiton pelliserpentis</i>
<i>Acanthoparyphium</i> sp. B	Leung et al., 2009	DH oystercatchers <i>Haematopus</i> spp.; IH mudsnail <i>Zeacumantus subcarinatus</i> ; nereid polychaetes
<i>Acanthoparyphium</i> sp. C	Leung et al., 2009	DH oystercatchers <i>Haematopus</i> spp.; IH mudsnail <i>Zeacumantus subcarinatus</i> ; cockle, <i>Austrovenus stutchburyi</i>
<i>Acanthoparyphium</i> sp. D	Leung et al., 2009	DH oystercatchers <i>Haematopus</i> spp.; IH mudsnail <i>Zeacumantus subcarinatus</i> ; cockle, <i>Austrovenus stutchburyi</i>
<i>Acanthoparyphium</i> sp. E	Keeney et al., 2015	DH unknown; IH mudsnails <i>Zeacumantus lutulentus</i> , <i>Z. subcarinatus</i>
<i>Curtuteria australis</i>	Allison, 1979	DH bar-tailed godwit, <i>Limosa lapponica</i> ; red-billed gull, <i>Chroicocephalus scopulinus</i> ; oystercatchers <i>Haematopus finschi</i> , <i>H. unicolor</i> ; IH whelk <i>Cominella glandiformis</i> ; cockle, <i>Austrovenus stutchburyi</i> ; polychaete <i>Ampharetidae</i> sp.; wedge shell, <i>Macomona liliana</i> ; limpet <i>Notoacmea scapha</i>
<i>Curtuteria</i> sp. A	Leung et al., 2009	DH oystercatchers <i>Haematopus</i> spp.; IH whelk <i>Cominella glandiformis</i> ; cockle, <i>Austrovenus stutchburyi</i>
<i>Himasthila leptosoma</i>	(Creplin, 1829) Dietz, 1909	DH bar-tailed godwit, <i>Limosa lapponica</i> ; IH gastropod mollusc
<i>Himasthila</i> sp. 1	Bennett et al., 2022	DH red-billed gull, <i>Chroicocephalus scopulinus</i> ; black-backed gull, <i>Larus dominicanus</i> ; IH wedge shell, <i>Macomona liliana</i> ; blue mussel, <i>Mytilus edulis</i> ; limpet <i>Sigapatella novaezelandiae</i>
Himasthidae gen. et sp. indet.		DH unknown; IH mudsnails <i>Zeacumantus lutulentus</i> , <i>Z. subcarinatus</i>
Family PHILOPHTHALMIDAE		
<i>Parorchis acanthus</i>	(Nicoll, 1906) Nicoll, 1907	DH South Island pied oystercatcher, <i>Haematopus finschi</i> ; red-billed gull, <i>Chroicocephalus scopulinus</i> ; black-backed gull, <i>Larus dominicanus</i> ; bar-tailed godwit, <i>Limosa lapponica</i> ; IH gastropod mollusc
<i>Parorchis</i> sp.	O'Dwyer et al., 2014	DH unknown marine bird; IH snails <i>Austrolittorina antipodum</i> , <i>A. cincta</i>
<i>Philophthalmus attenuatus</i>	Bennett & Presswell, 2019	DH red-billed gull, <i>Chroicocephalus scopulinus</i> ; black-backed gull, <i>Larus dominicanus</i> ; IH mudsnail <i>Zeacumantus subcarinatus</i>
<i>Pittacium pittacium</i>	(Braun, 1901) Szidat, 1939	DH variable oystercatcher, <i>Haematopus unicolor</i> ; IH unknown
Suborder HEMIURATA		
Superfamily AZYGOIDEA		
Family AZYGIIDAE		
Subfamily AZYGIINAE		
<i>Otodistomum plunketti</i>	Fyfe, 1953	DH Plunket's shark, <i>Scymnodon plunketti</i> ; IH unknown
<i>Otodistomum veliporum</i>	(Creplin, 1837) Stafford, 1904	DH electric ray <i>Tetronarce fairchildi</i> ; carpet shark, <i>Cephaloscyllium laticeps</i> ; Plunket's shark, <i>Prosymnodon plunketti</i> ; seal shark, <i>Dalatias licha</i> ; Baxter's dogfish, <i>Etomopterus baxteri</i> ; IH unknown
Superfamily HEMIUIROIDEA		
Family ACCACOELIIDAE		
Subfamily ACCACOELIINAE		
<i>Accacladocelium alveolatum</i>	Robinson, 1934	DH sunfish, <i>Mola mola</i> ; IH zooplankton
<i>Odhnerium calyptrocotyle</i>	(Monticelli, 1893) Yamaguti, 1934	DH sunfish, <i>Mola mola</i> ; IH unknown
<i>Rhynchopharynx paradoxus</i>	Odhner, 1928	DH sunfish, <i>Mola mola</i> ; IH unknown
Subfamily PARACCACLADIINAE		
<i>Paraccacladium leontjevae</i>	(Korotaeva, 1976) Bray & Gibson, 1977	DH blue sweep, <i>Scoris violacea</i> ; IH unknown
Family DEROGENIDAE		
Subfamily DEROGENINAE		
<i>Derogenes macrostoma</i>	Yamaguti, 1938	E DH hoki, <i>Macruronus novaezelandiae</i> ; IH unknown
<i>Derogenes nototheniae</i>	Manter, 1954	DH black cod, <i>Paranotothenia magellanica</i> ; IH unknown
<i>Derogenes varicus</i>	(Müller, 1784) Looss, 1901	DH southern conger, <i>Conger verreauxi</i> ; northern scorpionfish, <i>Scorpaena cardinalis</i> ; dwarf scorpionfish, <i>Scorpaena papilloides</i> ; red gurnard, <i>Chelidonichthys kumu</i> ; witch, <i>Arnoglossus scapha</i> ; ling, <i>Genypterus blacodes</i> ; red cod, <i>Pseudophycis bachus</i> ; silver dory, <i>Cyttus novaezelandiae</i> , <i>Cyttus traversi</i> ; hoki, <i>Macruronus novaezelandiae</i> ; IH zooplankton
Family DIDYMOZOIDAE		
Subfamily DIDYMOZOINAE		
<i>Didymocylindrus filiformis</i>	Ishii, 1935	DH skipjack tuna, <i>Katsuwonus pelamis</i> ; IH unknown
<i>Didymocylindrus fusiformis</i>	(Ishii, 1935) Pozdnyakov, 1966	DH skipjack tuna, <i>Katsuwonus pelamis</i> ; IH unknown
<i>Didymocylindrus simplex</i>	(Ishii, 1935) Yamaguti, 1970	DH skipjack tuna, <i>Katsuwonus pelamis</i> ; IH unknown
<i>Didymocystis intestinomuscularis</i>	(Yamaguti, 1970) Pozdnyakov, 1990	DH skipjack tuna, <i>Katsuwonus pelamis</i> ; IH unknown
<i>Didymocystis</i> sp. A	Lester et al., 1985 (as <i>Coeliodidymocystis</i> sp.)	DH skipjack tuna, <i>Katsuwonus pelamis</i> ; IH unknown
<i>Didymocystis</i> sp. B	<i>Lagenocystis/Univitelanulocystis</i> sp.	DH skipjack tuna, <i>Katsuwonus pelamis</i> ; IH unknown
<i>Lobatozoum multisacculum</i>	Ishii, 1935	DH skipjack tuna, <i>Katsuwonus pelamis</i> ; IH unknown
<i>Oesophagocystis dissimilis</i>	(Yamaguti, 1938) Yamaguti, 1970	DH skipjack tuna, <i>Katsuwonus pelamis</i> ; IH unknown
Subfamily GONAPODASMIINAE		
<i>Annulocystis</i> sp.	Lester et al., 1985	DH skipjack tuna, <i>Katsuwonus pelamis</i> ; IH unknown
<i>Didymozoidae</i> gen. et sp. indet. 1	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 2	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 3	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 4	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 5	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 6	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 7	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 8	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 9	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 10	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 11	Jones, 1991	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
<i>Didymozoidae</i> gen. et sp. indet. 12	Grabda & Ślōsarczyk, 1981	DH albacore tuna, <i>Thunnus alalunga</i> ; IH molluscs, copepods
Family GONOCERCIDAE		
Subfamily GONOCERCINAE		
<i>Gonocera phycidis</i>	Manter, 1925	DH unknown marine fish; IH silver warehou, <i>Seriola punctata</i>
Family HEMIURIDAE		
Subfamily DINURINAE		
<i>Ectenurus trachuri</i>	(Yamaguti, 1934) Yamaguti, 1970	DH rattail, <i>Coelorinchus australis</i> ; hake, <i>Merluccius gayi</i> ; blue cod, <i>Parapercis colias</i> ; northern scorpionfish, <i>Scorpaena cardinalis</i> ; hoki, <i>Macruronus novaezelandiae</i> ; IH unknown
<i>Tubulovesicula angusticauda</i>	(Nicoll, 1915) Yamaguti, 1934	
Subfamily ELYTROPHALLINAE		
<i>Lecithocladium excisum</i>	(Rudolph, 1819) Lühe, 1901	DH sea perch, <i>Helicolenus percoides</i> ; jack mackerel, <i>Trachurus novaezelandiae</i> ; IH unknown
<i>Lecithocladium magnacetabulum</i>	Yamaguti, 1934	DH southern conger, <i>Conger verreauxi</i> ; scorpionfish, <i>Scorpaena cardinalis</i> , <i>S. papilloides</i> ; red gurnard, <i>Chelidonichthys kumu</i> ; blue moki, <i>Latridopsis cilialis</i> ; hapuku, <i>Polyprion oxygeneios</i> ; red cod, <i>Pseudophycis bachus</i> ; silver dory, <i>Cyttus novaezelandiae</i> ; hoki, <i>Macruronus novaezelandiae</i> ; hake, <i>Merluccius australis</i> ; IH gastropod, copepod
<i>Lecithocladium seriollellae</i>	Manter, 1954	DH butterfly perch, <i>Caesioperca lepidoptera</i> ; blue cod, <i>Parapercis colias</i> ; IH unknown
		DH snapper, <i>Pagrus auratus</i> ; IH unknown
		DH warehou, <i>Seriola brama</i> ; silver warehou, <i>S. punctata</i> ; silver dory, <i>Cyttus novaezelandiae</i> ; IH unknown

Subfamily GLOMERICIRRINAE			
<i>Glomericirrus amadae</i>	Yamaguti, 1937	DH orange roughy, <i>Hoplostethus atlanticus</i> ; IH unknown	
<i>Glomericirrus macroura</i>	(Gaevskaja, 1973) Gaevskaja, 1979	DH banded rattail, <i>Coelorinchus fasciatus</i> ; IH unknown	
Subfamily HEMIURINAE			
<i>Parahemiurops arripidis</i>	Lebedev, 1971	E DH kahawai, <i>Arripis trutta</i> ; IH chaetognath, fish	
Subfamily LECITHOCHIRINAE			
<i>Lecithochirium australis</i>	Manter, 1954	E DH barracouta, <i>Thyrsites atun</i> ; IH unknown	
<i>Lecithochirium conviva</i>	Lühe, 1901	DH conger eel, <i>Conger conger</i> ; IH unknown	
<i>Lecithochirium flexum</i>	Manter, 1954	E DH conger eel, <i>Conger conger</i> ; IH unknown	
<i>Lecithochirium genypteri</i>	Manter, 1954	E DH ling, <i>Genypterus blacodes</i> ; jack mackerel, <i>Trachurus novaezelandiae</i> ; tarakihi, <i>Nemadactylus macropterus</i> ; IH unknown	
<i>Lecithochirium lotellae</i>	(Manter, 1954) Skrjabin & Guschanskaja, 1957	DH rock cod, <i>Lotella rhinina</i> ; IH unknown	
<i>Lecithochirium</i> sp.	Hine <i>et al.</i> , 2000	DH banded rattail, <i>Coelorinchus fasciatus</i> ; IH unknown	
<i>Lecithochirium</i> sp.	Oversstreet & Hochberg, 1975	DH fishes; IH octopus <i>Pinnocopus cordiformis</i>	
<i>Lecithochirium</i> sp. 1	Bennett <i>et al.</i> , 2022b	DH sole, <i>Peltorhamphus novaezealandiae</i> ; witch, <i>Arnoglossus scapha</i> ; triplefin, <i>Forsterygion capito</i>	
Tricotylenidae	Fyfe, 1954	E DH porcupine fish, <i>Tragulichthys jaculiferus</i> ; ling, <i>Genypterus blacodes</i> ; jack mackerel, <i>Trachurus novaezelandiae</i> ; IH unknown	
Subfamily OPISTHADENINAE			
<i>Genolinea anura</i>	(Layman, 1930) Manter, 1954	E DH red moki, <i>Cheilodactylus spectabilis</i> ; IH unknown	
<i>Genolinea dactylopagri</i>	Manter, 1954	E DH tarakihi <i>Nemadactylus macropterus</i> ; blue moki, <i>Latridopsis ciliaris</i> ; IH unknown	
<i>Genolinea laticauda</i>	Manter, 1925	DH banded rattail, <i>Coelorinchus fasciatus</i> ; IH unknown	
<i>Mitrostoma nototheniae</i>	Manter, 1954	DH Māori chief, <i>Paranotothenia macrocephala</i> ; IH unknown	
Family HIRUDINELLIDAE			
<i>Hirudinella ventricosa</i>	(Pallas, 1774) Baird, 1853	DH albacore tuna, <i>Thunnus alalunga</i> ; swordfish, <i>Xiphias gladius</i> ; IH unknown	
Family PTYCHOGONIMIDAE	(Rudolphi, 1819) Lühe, 1900	DH rough skate, <i>Dipturus nasutus</i> ; IH crabs	
Family SCLERODISTOMIDAE			
Subfamily PROSORCHIINAE	Kurochkin <i>et al.</i> , 1971	E DH silver warehou, <i>Seriolella punctata</i> ; IH unknown	
<i>Prosorchnis australis</i>	(Leuckart <i>in</i> Sars, 1885) Gibson & Bray, 1977	DH kahawai, <i>Arripis trutta</i> ; snapper, <i>Pagrus auratus</i> ; warehou, <i>Seriolella brama</i> ; silver warehou, <i>Seriolella punctata</i> ; skipjack tuna, <i>Katsuwonus pelamis</i> ; IH krill <i>Nematoscelis megalops</i> , <i>Thysanoessa gregaria</i>	
Family SYNCOELIIDAE	Crowcroft, 1948	E DH barracouta, <i>Thyrsites atun</i> ; jack mackerel, <i>Trachurus novaezelandiae</i> , <i>T. murphyi</i> ; warehou, <i>Seriolella punctata</i> ; sprat, <i>Sprattus antipodus</i> ; IH krill <i>Nyctiphanes australis</i>	
<i>Copiates filiferus</i>			
<i>Copiates thyrseata</i>			
Suborder LEPOCREADIATA			
Superfamily LEPOCREADIOIDEA			
Family ENENTERIDAE			
<i>Proenenterum ericotylum</i>	Manter, 1954	DH Māori chief, <i>Paranotothenia macrocephala</i> ; IH unknown	
<i>Proenenterum isocotylum</i>	Manter, 1954	DH Māori chief, <i>Paranotothenia macrocephala</i> ; IH unknown	
Family LEPIDAPEDIDAE			
<i>Lepidapedon australis</i>	Manter, 1954	E DH rattail, <i>Coelorinchus australis</i> ; IH unknown	
<i>Lepidapedon blairi</i>	Bray & Jones, 1993	E DH oblique banded rattail, <i>Coelorinchus aspercephalus</i> ; Bollons's rattail, <i>C. bollonsi</i> ; IH unknown	
<i>Lepidapedon congeri</i>	Manter, 1954	E DH conger eel, <i>Conger conger</i> ; IH unknown	
<i>Lepidapedon</i> sp.	Hine <i>et al.</i> , 2000	DH banded rattail, <i>Coelorinchus fasciatus</i> ; IH unknown	
<i>Myoxenus crowcrofti</i>	Manter, 1954	E DH banded wrasse, <i>Notalabrus fucicola</i> ; IH unknown	
<i>Neocreadium geniagni</i>	Howell, 1966	E DH spotted stargazer, <i>Genyagnus monopterygius</i> ; IH unknown	
<i>Neolepidapedon cablei</i>	Manter, 1954	E DH rock cod, <i>Lotella rhinina</i> ; IH unknown	
<i>Neolepidapedon polyprioni</i>	Manter, 1954	DH hapuk, <i>Polypriion oxygeneios</i> ; IH unknown	
Family LEPOCREADIIDAE			
<i>Bianium plicatum</i>	(Linton, 1928) Stunkard, 1931	DH globefish, <i>Contusus richei</i> ; IH gastropods, fish	
<i>Dihemistophanus lydiae</i>	(Stossich, 1896) Looss, 1901	DH sunfish, <i>Mola mola</i> ; IH unknown	
<i>Pseudocreadium monacanthi</i>	Layman, 1930	DH leatherjacket, <i>Meuschenia scaber</i> ; IH unknown	
<i>Pseudoholarchis pulcher</i>	(Manter, 1954) Yamaguti, 1958	DH blue moki, <i>Latridopsis ciliaris</i> ; IH unknown	
Suborder MONORCHIATA			
Superfamily MONORCHIOIDEA			
Family MONORCHIIDAE			
Subfamily MONORCHIINAE			
<i>Genolopa microsoma</i>	Lebedev, 1968	E DH trevally, <i>Pseudocaranx dentex</i> ; jack mackerel, <i>Trachurus novaezelandiae</i> ; IH unknown	
Suborder OPITHORCHIATA			
Superfamily OPITHORCHIOIDEA			
Family HETEROPHYIDAE			
<i>Apophallus</i> sp.	Presswell & Bennett, 2021	E DH shags <i>Phalacrocorax carbo</i> , <i>Leucocarbo chalconotus</i> ; IH unknown	
<i>Galactosomum otepotiense</i>	Presswell & Bennett, 2019	E DH Caspian tern, <i>Hydroprogne caspia</i> ; red-billed gull, <i>Chroicocephalus scopulinus</i> ; southern black-backed gull, <i>Larus dominicanus</i> ; little blue penguin, <i>Eudyptula novaehollandiae</i> ; IH mudsnail <i>Zeacumanthus subcarinatus</i>	
Heterophyidae gen. et sp.	Cordes & O'Hara, 1979	DH short-beaked dolphin, <i>Delphinus delphis</i> ; IH unknown	
Suborder PRONOCEPHALATA			
Superfamily PRONOCEPHALOIDEA			
Family NOTOCOTYLIDAE			
<i>Notocotylus</i> sp.	Allison, 2000	DH SI pied oystercatcher, <i>Haematopus finschi</i> ; IH unknown	
<i>Notocotylidae</i> gen. et sp. 1 NZ	O'Dwyer <i>et al.</i> , 2014	DH oystercatchers <i>Haematopus finschi</i> , <i>H. unicolor</i> ; IH snails <i>Austrolittorina antipodum</i> , <i>A. cincta</i>	
<i>Notocotylidae</i> gen. et sp. 2 NZ	O'Dwyer <i>et al.</i> , 2014	DH unknown; IH snail <i>Austrolittorina antipodum</i>	
Suborder XIPHIDIATA			
Superfamily ALLOCREADIOIDEA			
Family ACANTHOCOLPIDAE			
<i>Stephanostomum australis</i>	Manter, 1954	DH red gurnard, <i>Chelidonichthys kumu</i> ; IH unknown	
<i>Stephanostomum pristes</i>	(Deslongchamps, 1824) Looss, 1899	DH red cod, <i>Pseudophycis bachi</i> ; IH unknown	
<i>Stephanostomum</i> sp. (Otago Museum IV106075)		DH NZ brill, <i>Colistium guntheri</i> ; IH NZ brill, <i>C. guntheri</i> ; triplefin, <i>Forsterygion lapillum</i>	
Family BRACHYCLADIIDAE			
Subfamily BRACHYCLADIINAE			
<i>Brachycladum delphini</i>	(Poirier, 1886) Looss, 1899	DH short-beaked dolphin, <i>Delphinus delphis</i> ; IH unknown	
<i>Brachycladum palliatum</i>	(Looss, 1885) Looss, 1899	DH short-beaked dolphin, <i>Delphinus delphis</i> ; IH unknown	
<i>Campula</i> sp.	Hutton <i>et al.</i> , 1987	DH Hector's dolphin, <i>Cephalorhynchus hectori</i> ; IH unknown	
<i>Synthesium tursioonis</i>	(Marchi, 1873) Stunkard & Alvey, 1930	DH bottlenose dolphin, <i>Tursiops truncatus</i> ; IH unknown	
Family OPECOELIDAE			
Subfamily HELICOMETRINAE			
<i>Helicometra grandora</i>	Manter, 1954	E DH dwarf scorpionfish, <i>Scorpaena papillosus</i> ; IH unknown	
Subfamily OPECOELINAE			
<i>Coitoaecum tylogenium</i>	Manter, 1954	E DH bellows fish, <i>Centriscops humerosus</i> ; IH unknown	
<i>Opecoelus caulopsettae</i>	(Manter, 1954) Aken'ova, 2007	E DH witch, <i>Arnoglossus scapha</i> ; IH unknown	
<i>Opecoelus lotellae</i>	Manter, 1954	E DH rock cod, <i>Lotella rhinina</i> ; IH unknown	
<i>Opecoelus</i> sp. 1	Bennett <i>et al.</i> , 2022	DH yellow-eyed mullet, <i>Aldrichetta forsteri</i> ; sprat, <i>Sprattus antipodus</i> ; IH euphausiid shrimp, <i>Nyctiphanes australis</i>	
<i>Opecaster gobii</i>	Yamaguti, 1952	DH triplefin, <i>Tripterygion</i> sp.; IH unknown	
<i>Opecaster</i> sp.	Korotaeva, 1975	DH jack mackerel, <i>Trachurus novaezelandiae</i> ; IH unknown	
<i>Pseudopecoeloides carangis</i>	(Yamaguti, 1938) Yamaguti, 1940	DH jack mackerel, <i>Trachurus novaezelandiae</i> ; IH unknown	
<i>Pseudopecoeloides tenuis</i>	Yamaguti, 1940	DH jack mackerel, <i>Trachurus novaezelandiae</i> ; IH unknown	
<i>Pseudopecoeloides hemilobatus</i>	Manter, 1954	E DH Australian silver dory, <i>Cytus australis</i> ; IH unknown	
<i>Pseudopecoeloides japonicus</i>	(Yamaguti, 1938) von Wicklen, 1946	DH bellows fish, <i>Centriscops humerosus</i> ; IH unknown	

<i>Pseudopecoelus sewelli</i>	Bray, 1990	DH ling, <i>Genypterus blacodes</i> ; orange roughy, <i>Hoplostethus atlanticus</i> ; IH unknown
<i>Pseudopecoelus vulgaris</i>	(Manter, 1934) von Wicklen, 1946	DH dwarf scorpionfish, <i>Scorpaena papillosus</i> ; redbait, <i>Emmelichthys nitidus</i> ; sea perch, <i>Helicolenus percoides</i> ; IH unknown
Subfamily OPISTHOBETINAE <i>Macvicaria dactylopagi</i>	(Manter, 1954) Aken'ova <i>et al.</i> , 2008	E DH tarakihi, <i>Dactylopagrus macropterus</i> ; IH unknown
<i>Macvicaria</i> sp. (Otago Museum IV106066)		DH NZ brill, <i>Colistium guntheri</i> ; triplefin, <i>Forsterygion capito</i> ; IH unknown
Subfamily PLAGIOPORINAE <i>Choerodon Nicola interruptus</i>	(Manter, 1954) Martin <i>et al.</i> , 2018	E DH soldier fish, <i>Pseudolabrus miles</i> ; IH unknown
<i>Decemtestis pseudolabri</i>	Manter, 1954	E DH spotty, <i>Notolabrus celidotus</i> ; NZ sole, <i>Peltorhamphus novaezealandiae</i> ; IH unknown
<i>Plagioporus prepotorus</i>	Manter, 1954	E DH red gurnard, <i>Chelidonichthys kumu</i> ; IH unknown
Subfamily PODOCOTYLINAE <i>Neolebouria maorum</i>	(Allison, 1966) Gibson, 1976	E DH octopuses <i>Pinnocutopus cordiformis</i> , <i>Octopus australis</i> ; IH unknown
<i>Podocotyle caithnessi</i>	Manter, 1954	E DH southern conger, <i>Conger verreauxi</i> ; IH unknown
Subfamily STENAKRINAE <i>Caudotestis pachysomus</i>	Manter, 1954	E DH blue cod, <i>Parapercis colias</i> ; IH unknown
<i>Neonotoporus novaezelandicus</i>	Lebedev, 1968	E DH jack mackerel, <i>Trachurus novaezelandiae</i> ; IH unknown
Opecoelidae gen. et sp. a	Donald <i>et al.</i> , 2007	DH unknown marine fish; IH topshell, <i>Diloma subrostratum</i> ; limpet <i>Notoacmea scapha</i>
Opecoelidae gen. et sp. b	Donald <i>et al.</i> , 2007	DH unknown marine fish; IH topshell, <i>Diloma subrostratum</i>
Opecoelidae gen. et sp. c	Donald <i>et al.</i> , 2007	DH unknown marine fish; IH topshell, <i>Diloma aethiops</i> , <i>D. aridum</i> , <i>D. nigerrimum</i>
Opecoelidae gen. et sp. d	Leung <i>et al.</i> , 2009	DH unknown marine fish; IH whelks <i>Cominella glandiformis</i> , <i>C. virgata</i> , <i>C. adspersa</i>
Opecoelidae gen. et sp. e	Leung <i>et al.</i> , 2009	DH unknown marine fish; IH polychaetes <i>Abarenicola affinis</i> , <i>Capitella</i> sp., <i>Heteromastus filiformis</i>
Opecoelidae gen. et sp. f	Bennett <i>et al.</i> , 2022	DH unknown; IH hermit crab <i>Trizoches spinosus</i>
Superfamily GORGODEROIDEA		
Family GORGODERIDAE		
Subfamily ANAPORRHUTINAE <i>Nagmia</i> sp.	Bennett <i>et al.</i> , 2023 (López, 1888) Looss, 1902	DH anchovy, <i>Engraulis australis</i> ; IH unknown
<i>Probolitrema richardii</i>		DH carpet shark, <i>Cephaloscyllium laticeps</i> ; shark <i>Acanthus</i> sp.; spiny dogfish, <i>Squalus acanthias</i> ; IH unknown
Superfamily MICROPHALLOIDEA		
Family FAUSTULIDAE		
<i>Cercaria pectinata</i> (=Bacciger sp.)	Huet, 1891	DH unknown marine fish; IH cockle, <i>Austrovenus stutchburyi</i>
Family MICROPHALLIDAE		
Subfamily LEVINSENIELLINEAE <i>Levinseniella (Monorrhenos)</i> sp.	Thompson <i>et al.</i> , 2005	DH black-backed gull, <i>Larus dominicanus</i> ; IH mudsnail <i>Zeacumantus subcarinatus</i> ; crabs incl. <i>Hemigrapsus sexdentatus</i>
Subfamily MARITREMATINAE		
<i>Maritrema (Maritrema) deblocki</i>	Presswell, Blasco-Costa & Kostadinova, 2014	E DH mallard, <i>Anas platyrhynchos</i> ; IH unknown
<i>Maritrema gratiosum</i>	Nicoll, 1907	DH SI pied oystercatcher, <i>Haematopus finschi</i> ; bar-tailed godwit, <i>Limosa lapponica</i> ; IH unknown
<i>Maritrema novaezealandense</i>	Martorelli, Fredensborg, Mouritsen & Poulin, 2004	E DH gulls <i>Chroicocephalus scopolinus</i> , <i>Larus dominicanus</i> ; IH amphipods <i>Proharpinia stephensi</i> , <i>Transorchestia serrulata</i> , <i>Paracalliope novizealandiae</i> ; crabs <i>Cyclograpsus lavauxi</i> , <i>Halicarcinus varius</i> , <i>H. whitei</i> , <i>Hemigrapsus crenulatus</i> , <i>H. sexdentatus</i> , <i>Hemiplax hirtipes</i> ; shrimp <i>Heterosquilla tricarinata</i> ; snail <i>Zeacumantus subcarinatus</i> ; isopods <i>Eurylana</i> sp., <i>Paridotea ungulata</i> , <i>Batedotea elongata</i>
Subfamily MICROPHALLINAE		
<i>Microphallus</i> sp.	O'Dwyer <i>et al.</i> , 2014	DH unknown marine bird; IH brown periwinkle, <i>Austrolittorina cincta</i>
<i>Microphallus</i> sp. 1	Leung <i>et al.</i> , 2009	DH gulls <i>Chroicocephalus scopolinus</i> , <i>Larus dominicanus</i> ; IH mudsnail <i>Zeacumantus subcarinatus</i> ; crabs <i>Hemiplax hirtipes</i> , <i>Hemigrapsus crenulatus</i> , <i>H. sexdentatus</i> , <i>Astrohelice crassa</i> , <i>Cyclograpsus lavauxi</i>
<i>Microphallus</i> sp. A	Bennett <i>et al.</i> , 2023	DH unknown; IH crab <i>Hemigrapsus sexdentatus</i>
<i>Microphallidae</i> gen. et sp. indet. A	Hine <i>et al.</i> , 2000	DH yellow-belly flounder, <i>Rhombosolea leporina</i> ; IH unknown
<i>Microphallidae</i> gen. et sp. indet. B	Hine <i>et al.</i> , 2000	DH yellow-belly flounder, <i>Rhombosolea leporina</i> ; IH unknown
<i>Microphallidae</i> gen. et sp. indet.	Leung <i>et al.</i> , 2009	DH unknown marine bird; IH whelk <i>Cominella glandiformis</i>
<i>Microphallidae</i> gen. et sp. indet.	Presswell & Bennett, 2021	DH little pied shag, <i>Microcarbo melanoleucus</i> ; IH unknown
Family RENICOLIDAE		
<i>Renicola</i> sp.	Martorelli <i>et al.</i> , 2008	DH unknown marine bird; IH mudsnail <i>Zeacumantus subcarinatus</i>
<i>Renicola</i> sp.	O'Dwyer <i>et al.</i> , 2014	DH unknown marine bird; IH snail <i>Austrolittorina antipodum</i>
<i>Renicola</i> sp.	Duignan, 2001	DH little blue penguin, <i>Eudyptula minor</i> or <i>E. novaehollandiae</i> ; IH unknown
<i>Renicola</i> sp.	Bennett <i>et al.</i> , 2023	DH unknown; IH anchovy, <i>Engraulis australis</i> ; sprat, <i>Sprattus muelleri</i>
Subfamily ZOOGONIDAE		
Subfamily ZOOGONINAE <i>Brevicreadium congeri</i>	Manter, 1954	E DH conger eel, <i>Conger conger</i> ; IH unknown
<i>Diphterostomum</i> sp.	Sharples & Evans, 1995	DH snapper, <i>Pagrus auratus</i> ; IH unknown
<i>Diphterostomum</i> sp.	Hine <i>et al.</i> , 2000	DH yellow-belly flounder, <i>Rhombosolea leporina</i> ; IH unknown
Digenea ord. <i>incertae sedis</i>		
Family A	Donald, 2016	DH unknown; IH whelks <i>Cominella glandiformis</i> , <i>C. virgata</i>
Family B	Donald, 2016	DH unknown; IH whelk <i>Cominella glandiformis</i>
Family C	Donald, 2016	DH unknown; IH whelk <i>Cominella virgata</i>
Family <i>incertae sedis</i>	Leung <i>et al.</i> , 2009	DH unknown; IH pulmonate mud snail, <i>Amphibola crenata</i>

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