

Photo not available

Marine Invertebrates

Parasitic Worms

SPECIES STATUS:

IUCN Red List - Not considered
Endemic

SPECIES INFORMATION: Hawaii's parasitic worms consist of trematodes (flukes) and tapeworms (phylum Platyhelminthes). A complete list of Hawai'i parasitic worms of greatest conservation need (SGCN) is at the end of this fact sheet. The list includes known hosts for these parasites. All other SGCN worm groups are not parasitic. None of these species have common or Hawaiian names. Trematodes can be divided into two main groups, monogeneans (life cycle involves one host) and digeneans (life cycle involves two to four hosts).

Reproduction is similar for these two groups. Trematodes are hermaphrodites and cross fertilization usually occurs. Trematodes produce an extremely large amount of eggs, with records of 10,000 to 100,000 times the amount of turbellarians. The life cycle of monogeneans consists of only one generation or form, while digeneans have complex life cycles. Digenean eggs are laid in the gut of the host and passed in the host's feces. Digenean larvae go through various stages, including a free-swimming stage, and various hosts (often invertebrates) before becoming a reproductive adult. The majority of monogeneans are ectoparasites; however, some are endoparasites. Digeneans are primarily endoparasites. Tapeworms are digestive endoparasites that create segments called scolices (singular scolex).

DISTRIBUTION: Found in marine fishes throughout the islands.

ABUNDANCE: Unknown as they are poorly studied.

LOCATION AND CONDITION OF KEY HABITAT: All trematodes listed here occur in marine fishes. Primary habitat for most of the monogeneans is on their hosts' gills. Many digeneans infect gastrointestinal organs in marine fishes. Specific hosts for each species are listed in the table below.

THREATS: None identified specifically for the parasite. Threats to their hosts may be important.

CONSERVATION ACTIONS: In addition to common statewide and marine conservation actions, specific actions include:

- Efforts to maintain adequate habitat and to improve status of host species.

MONITORING:

- Survey for populations and distribution in known and likely habitats.

RESEARCH PRIORITIES:

- Improve understanding of factors affecting the species population sizes and distributions;
- Improve understanding of impact of parasites on hosts.

References:

Barnes RD. 1980. Invertebrate zoology. Philadelphia, PA: Saunders College. 1089 pp.

Parasitic Worms SGCN

Order	Family	Species	Hosts
Monogenea	Capsalidae	<i>Benedenia bodiani</i>	<i>Bodianus bilunulatus</i>
Monogenea	Capsalidae	<i>Benedenia hawaiiensis</i>	<i>Priacanthus cruentatus, Mullodichthys flavolineatus, Parupeneus multifasciatus, P. bifasciatus, P. chryserydris, P. pleurostigma, P. porphyreus, Dascyllus albisella, Cantherhines dumerilii, C. verecundus, A. triostegus, Acanthurus nigrofasciatus, A. dussumieri, Synodus dermatogenys, Aduefdaf abdominalis, Chromis ovalis, Chaetodon miliaris, Aluterus scriptus, Pervagor spilosoma, Naso hexcanthus, Neoniphon aurolineatus, Sargocentron spiniferum, Scarus sordidus, Xanthichthys</i>
Monogenea	Capsalidae	<i>Benedenia scari</i>	<i>Scarus sordidus</i>
Monogenea	Capsalidae	<i>Menziesia merinthe</i>	<i>Pontinus macrocephalus</i>
Monogenea	Capsalidae	<i>Menziesia ovalis</i>	<i>E. carbunculus, Priacanthus boops</i>
Monogenea	Capsalidae	<i>Allobenedenia epinepheli</i>	<i>Epinephelus quernus</i>
Monogenea	Capsalidae	<i>Dioncopseudobenedenia macracantha</i>	<i>Naso unicornis</i>
Monogenea	Microbothriidae	<i>Enoplocotyle hawaiiensis</i>	<i>Cantherhines verecundus, Sufflamen bursa, Centropyge potteri, Chaetodon lunula, Neoniphon aurolineatus, Priacanthus boops, Dendrochirus barberi, Pseudanthias thompsoni</i>
Monogenea	Dactylogyridae	<i>Ancyrocephalus ornatus</i>	<i>Arothron hispidus</i>
Monogenea	Dactylogyridae	<i>Ancyrocephalus parupenei</i>	<i>Parupeneus chryserydros, P. multifasciatus, P. pleurostigma</i>
Monogenea	Dactylogyridae	<i>Ancyrocephalus pauu</i>	<i>Myripristis chryseres, Pristolepis oligolepis</i>
Monogenea	Dactylogyridae	<i>Haliotrema acanthuri</i>	<i>Acanthurus triostegus</i>
Monogenea	Dactylogyridae	<i>Haliotrema amanses</i>	<i>Cantherhines verecundus</i>
Monogenea	Dactylogyridae	<i>Haliotrema angulare</i>	<i>Acanthurus nigroris</i>
Monogenea	Dactylogyridae	<i>Haliotrema angulocirrus</i>	<i>Monotaxis sp.</i>
Monogenea	Dactylogyridae	<i>Haliotrema bifurcocirrus</i>	<i>Parupeneus porphyreus</i>
Monogenea	Dactylogyridae	<i>Haliotrema bisegmentatum</i>	<i>Pomacentrus jenkinsi</i>

Order	Family	Species	Hosts
Monogenea	Dactylogyridae	<i>Haliotrema bodiani</i>	<i>Bodianus bilunulatus</i>
Monogenea	Dactylogyridae	<i>Haliotrema brotulae</i>	<i>Brotula multibarabta, Zebrasoma falvescens, Chromis ovalis, Parupeneus porphyreus, Melichthys vidua</i>
Monogenea	Dactylogyridae	<i>Haliotrema caesiopacea</i>	<i>Pseudanthias thompsoni</i>
Monogenea	Dactylogyridae	<i>Haliotrema camescens</i>	<i>Zanclus cornutus</i>
Monogenea	Dactylogyridae	<i>Haliotrema centropygis</i>	<i>Centropyge potteri</i>
Monogenea	Dactylogyridae	<i>Haliotrema chelicirrus</i>	<i>Neoniphon aurolineatus, N. sammara</i>
Monogenea	Dactylogyridae	<i>Haliotrema chromidis</i>	<i>Chromis ovalis</i>
Monogenea	Dactylogyridae	<i>Haliotrema curvicirrus</i>	<i>Parupeneus porphyreus</i>
Monogenea	Dactylogyridae	<i>Haliotrema flexicirrus</i>	<i>Acanthurus nigroris, A. nigrofasciatus, A. leucopareius</i>
Monogenea	Dactylogyridae	<i>Haliotrema lactoriae</i>	<i>Lactoria diaphanus</i>
Monogenea	Dactylogyridae	<i>Haliotrema macracantha</i>	<i>Acanthurus nigroris, A. thompsoni, Zebrasoma veliferum, Z. flavescens</i>
Monogenea	Dactylogyridae	<i>Haliotrema microphallus</i>	<i>Chaetodon ornatus, C. miliaris</i>
Monogenea	Dactylogyridae	<i>Haliotrema minutospirale</i>	<i>Parupeneus chryserydros, P. pleurostigma, P. multifasciatus</i>
Monogenea	Dactylogyridae	<i>Haliotrema palmatum</i>	<i>Acanthurus dussumieri, A. blochii</i>
Monogenea	Dactylogyridae	<i>Haliotrema pervagoris</i>	<i>Pervagor spilosoma</i>
Monogenea	Dactylogyridae	<i>Haliotrema priacanthi</i>	<i>Priacanthus cruentatus</i>
Monogenea	Dactylogyridae	<i>Haliotrema rectangulare</i>	<i>Pervagor spilosoma</i>
Monogenea	Dactylogyridae	<i>Haliotrema serpenticirrus</i>	<i>Acanthurus dussumieri</i>
Monogenea	Dactylogyridae	<i>Haliotrema sigmoidocirrus</i>	<i>Acanthurus blochii, A. dussumieri</i>
Monogenea	Dactylogyridae	<i>Haliotrema spiculare</i>	<i>Brotula multibarabta</i>
Monogenea	Dactylogyridae	<i>Haliotrema spirale</i>	<i>Mulloidichthys pfluegei, M. auriflamma, M. flavolineatus, Parupeneus pleurostigma, P. chryserydros</i>
Monogenea	Dactylogyridae	<i>Haliotrema tubulovagina</i>	<i>Zanclus cornutus</i>
Monogenea	Dactylogyridae	<i>Haliotrema zancli</i>	<i>Zanclus ornatulus, Acanthurus dussumieri, A. olivaceus, A. blochii, Ctenochaetus strigosus</i>
Monogenea	Dactylogyridae	<i>Cleithrarticus bulbovagina</i>	<i>Acanthurus dussumieri</i>
Monogenea	Dactylogyridae	<i>Pseudancryocephalus kala</i>	<i>Naso brevirostris, N. hexacanthus</i>
Monogenea	Dactylogyridae	<i>Pseudancryocephalus duplicatus</i>	<i>Naso unicornis</i>
Monogenea	Dactylogyridae	<i>Pseudancryocephalus longicirrus</i>	<i>Naso brevirostris, N. hexacanthus</i>
Monogenea	Dactylogyridae	<i>Pseudancryocephalus longispicularis</i>	<i>Naso brevirostris</i>
Monogenea	Dactylogyridae	<i>Pseudancryocephalus nasoni</i>	<i>Naso brevirostris</i>
Monogenea	Dactylogyridae	<i>Pseudohaliotrematooides falcatus</i>	<i>Sargocentron spiniferum</i>
Monogenea	Dactylogyridae	<i>Euryhaliotrematooides microphallus</i>	<i>Chaetodon auriga</i>
Monogenea	Dactylogyridae	<i>Pseudohaliotrematooides recurvatus</i>	<i>Strongylura gigantea</i>
Monogenea	Dactylogyridae	<i>Pseudohaliotrematooides zancli</i>	<i>Zanclus cornutus</i>
Monogenea	Dactylogyridae	<i>Parancyrocephaloides</i>	<i>Dactylopterus orientalis</i>

dactylopteri			
Order	Family	Species	Hosts
Monogenea	Dactylogyridae	<i>Murraytrematoides kuliae</i>	<i>Kuhlia sandvicensis</i>
Monogenea	Diplectanidae	<i>Diplectanum curvivagina</i>	<i>Pristipomoides sieboldii, P. auricilla</i>
Monogenea	Diplectanidae	<i>Diplectanum diplobulbus</i>	<i>Kyphosus cinerascens</i>
Monogenea	Diplectanidae	<i>Diplectanum kuhliae</i>	<i>Kuhlia sandvicensis</i>
Monogenea	Diplectanidae	<i>Diplectanum nenne</i>	<i>Kyphosus cinerascens</i>
Monogenea	Diplectanidae	<i>Diplectanum opakapaka</i>	<i>Pristipomoides microlepis, Aphareus rutilans</i>
Monogenea	Diplectanidae	<i>Diplectanum priacanthi</i>	<i>Priacanthus boops</i>
Monogenea	Diplectanidae	<i>Diplectanum querni</i>	<i>Epinephelus quernus</i>
Monogenea	Diplectanidae	<i>Diplectanum spiculare</i>	<i>Kyphosus cinerascens</i>
Monogenea	Diplectanidae	<i>Lamellodiscus epsilon</i>	<i>Monotaxis sp.</i>
Monogenea	Diplectanidae	<i>Acleotrema kyphosi</i>	<i>Kyphosus cinerascens</i>
Monogenea	Discocotylidae	<i>Vallisiopsis sphyraenae</i>	<i>Sphyraena barracuda, S. helleri</i>
Monogenea	Axinidae	<i>Axinoides diploporus</i>	<i>Ablennes hians</i>
Monogenea	Axinidae	<i>Axinoides stronglurae</i>	<i>Strongylura gigantea</i>
Monogenea	Axinidae	<i>Heteraxinoides capodontis</i>	<i>Caprodon schlegelii</i>
Monogenea	Gastrocotylidae	<i>Pseudaxine decapteri</i>	<i>Decapterus macarellus, D. muroadsi, Atule mate, Selar crumenophthalmus</i>
Monogenea	Microcotylidae	<i>Microcotyle bothi</i>	<i>Bothus mancus</i>
Monogenea	Microcotylidae	<i>Microcotyle emmelichthyops</i>	<i>Emmelichthyops sp. bonnetmouth??</i>
Monogenea	Microcotylidae	<i>Microcotyle polymixiae</i>	<i>Polymixia japonica</i>
Monogenea	Microcotylidae	<i>Bivagina kyphosi</i>	<i>Kyphosus cinerascens</i>
Monogenea	Microcotylidae	<i>Metamicrocotyla mugilis</i>	<i>Mugil cephalus</i>
Monogenea	Microcotylidae	<i>Prostomatocotyla kuhliae</i>	<i>Kuhlia sandvicensis</i>
Monogenea	Microcotylidae	<i>Prostomatocotyla maomao</i>	<i>Abudeodus abdominalis</i>
Monogenea	Hexabothriidae	<i>Hexabothrium dasytis</i>	<i>Dasyatis sp.</i>
Monogenea	Aspidogasteridae	<i>Lobatostoma albulae</i>	<i>Albula vulpes</i>
Digenea	Bucephalidae	<i>Bucephalus carangis</i>	<i>Caranx lugubrius</i>
Digenea	Bucephalidae	<i>Bucephalus carangoides</i>	<i>Carangoides sp, Sphyraena barracuda</i>
Digenea	Bucephalidae	<i>Bucephalus kaku</i>	<i>Sphyraena spp.</i>
Digenea	Bucephalidae	<i>Bucephalus sextentaculatus</i>	<i>Caranx sexfasciatus</i>
Digenea	Bucephalidae	<i>Bucephalus ulua</i>	<i>Carangoides ferdau</i>
Digenea	Bucephalidae	<i>Dollfustrema bipapillosum</i>	<i>Gymnothorax petelli</i>
Digenea	Bucephalidae	<i>Dollfustrema stromborhynchum</i>	<i>Gymnothorax undulates, G. flavomarginatus</i>
Digenea	Bucephalidae	<i>Dolichoenterum microtylum</i>	<i>Conger cinereum</i>
Digenea	Bucephalidae	<i>Rhipidocotyle kawakawa</i>	<i>Euthynnus affinis</i>
Digenea	Bucephalidae	<i>Bucephalopsis bipapillosa</i>	<i>Gymnothorax unudlatus, G. rueppelliae, Caranx sexfasciatus</i>
Digenea	Bucephalidae	<i>Bucephalopsis puhilaumilo</i>	<i>Gymnothorax undulatus</i>
Digenea	Bucephalidae	<i>Prosorhynchus berycis</i>	<i>Beryx decadactylus</i>
Digenea	Bucephalidae	<i>Prosorhynchus congeri</i>	<i>Conger sp.</i>
Digenea	Bucephalidae	<i>Prosorhynchus kahala</i>	<i>Seriola dumerilii</i>
Digenea	Bucephalidae	<i>Prosorhynchus polydactyli</i>	<i>Polydactylus sexfilis</i>
Digenea	Bucephalidae	<i>Prosorhynchus uniporus</i>	<i>Gymnothorax flavidus</i>
Digenea	Aporocotylidae	<i>Aporocotyle pacifica</i>	<i>Ruvettus preiosus</i>
Digenea	Sanguinicolidae	<i>Cardicola ahi</i>	<i>Thunnus albacares, T. obesus</i>

Order	Family	Species	Hosts
Digenea	Sanguinicidae	<i>Cardicola chaetodontis</i>	<i>Chaetodon miliaris, C. fremljii</i>
Digenea	Sanguinicidae	<i>Cardicola mugilis</i>	<i>Mugil cephalus</i>
Digenea	Sanguinicidae	<i>Neoparacardicola nasonis</i>	<i>Naso hexacanthus</i>
Digenea	Sanguinicidae	<i>Deontacalyx kyphosi</i>	<i>Kyphosus cinerascens</i>
Digenea	Haplosplanchidae	<i>Schikhobalotrema acanthuri</i>	<i>Acanthurus sandvicensis, A. nigrofasciatus, Zebrasoma flavescens</i>
Digenea	Haplosplanchidae	<i>Schikhobalotrema crassum</i>	<i>Pomacentrus jenkinsi</i>
Digenea	Haplosplanchidae	<i>Schikhobalotrema glomeratum</i>	<i>Acanthurus sandvicensis</i>
Digenea	Haplosplanchidae	<i>Schikhobalotrema hawaiiense</i>	<i>Ctenochaetus strigosus, Acanthurus blochii</i>
Digenea	Haplosplanchidae	<i>Schikhobalotrema robustum</i>	<i>Acanthurus sandvicensis</i>
Digenea	Monorchiidae	<i>Anamorchis ulua</i>	<i>Carangoides ferdau</i>
Digenea	Monorchiidae	<i>Genolopa oculata</i>	<i>Albula vulpes</i>
Digenea	Monorchiidae	<i>Lasiotocus delicatus</i>	<i>Parupeneus multifasciatus, P. pleurostigma</i>
Digenea	Monorchiidae	<i>Lasiotocus oculatus</i>	<i>Albula vulpes</i>
Digenea	Monorchiidae	<i>Lasiotocus ulua</i>	<i>Carangoides ferdau</i>
Digenea	Monorchiidae	<i>Lasiotocus weke</i>	<i>Mulloidichthys flavolineatus, M. pfleugeri, Parupeneus pleurostigma</i>
Digenea	Monorchiidae	<i>Monorcheides decapteri</i>	<i>Decapterus pinnulatus</i>
Digenea	Monorchiidae	<i>Paramonorcheides spicularis</i>	<i>Decapterus macarellus, D. muroadsi</i>
Digenea	Monorchiidae	<i>Hurleytrematoides coronatus</i>	<i>Chaetodon fremljii</i>
Digenea	Zoogonidae	<i>Deretrema acutum</i>	<i>Naso hexacanthus</i>
Digenea	Zoogonidae	<i>Deretrema carangis</i>	<i>Caranx lugubris</i>
Digenea	Zoogonidae	<i>Deretrema hawaiiense</i>	<i>Elagatis bipinnulatus, Carangoides sp., Alectis indica, Aphareus rutilans, Aphareus furcatus, Scomberoides sancta-petri</i>
Digenea	Zoogonidae	<i>Deretrema sphyraenae</i>	<i>Sphyraena spp.</i>
Digenea	Zoogonidae	<i>Deretrema uku</i>	<i>Apriion virescens</i>
Digenea	Zoogonidae	<i>Proctophantastes polymixiae</i>	<i>Polymixia japonica</i>
Digenea	Zoogonidae	<i>Lecithostaphylus aha-aha</i>	<i>Ablettes hians, Strongylura gigantea</i>
Digenea	Zoogonidae	<i>Parvipyrum acanthuri</i>	<i>Acanthurus olivaceous, A. dussumieri</i>
Digenea	Zoogonidae	<i>Zoogonoides synodi</i>	<i>Synodus dermatogenys</i>
Digenea	Felodistomidae	<i>Tergestia kuhliae</i>	<i>Kuhlia spp.</i>
Digenea	Felodistomidae	<i>Proctoeces hawaiiensis</i>	<i>Monotaxis spp.</i>
Digenea	Felodistomidae	<i>Lintonium consors</i>	<i>Arothron hispidus</i>
Digenea	Felodistomidae	<i>Diplobulbus minutus</i>	<i>Cheilio inermis</i>
Digenea	Gorgoderidae	<i>Xystretrum hawaiiense</i>	<i>Sufflamen bursa, S. frenatus, B. polylepis, Rhinecanthus rectangulus, Cantherhines verecundus</i>
Digenea	Callodistomidae	<i>Callodistomoides foliatus</i>	<i>Emmelichthysops</i>
Digenea	Pleorchiidae	<i>Pleorchis uku</i>	<i>Apriion virescens</i>
Digenea	Schistorchiidae	<i>Schistorchis stenosoma</i>	<i>Cantherhines dumerilii, C. verecundus, Sufflamen frenatus</i>
Digenea	Lepocreadiidae	<i>Hysterogonia balistis</i>	<i>Sufflamen bursa</i>
Digenea	Lepocreadiidae	<i>Labrifer tertius</i>	<i>Bodianus spp.</i>
Digenea	Lepocreadiidae	<i>Lepotrema xanthichthys</i>	<i>Xanthichthys sp.</i>
Digenea	Lepocreadiidae	<i>Allolepidapedon petimba</i>	<i>Fistularia petimba</i>
Digenea	Lepocreadiidae	<i>Neoallolepidapedon hawaiiense</i>	<i>Fistularia petimba</i>
Digenea	Lepocreadiidae	<i>Bulbocirrus aulostomi</i>	<i>Aulostomus chinensis</i>

Order	Family	Species	Hosts
Digenea	Lepocreadiidae	<i>Lepidapedon kalikali</i>	<i>Pristipomoides sieboldii</i> , <i>P. auricilla</i>
Digenea	Lepocreadiidae	<i>Lepidapedon querni</i>	<i>Epinephelus</i> spp.
Digenea	Lepocreadiidae	<i>Lepidapedon ostichthydis</i>	<i>Prisitapis oligolepis</i>
Digenea	Lepocreadiidae	<i>Neonotoporus maruadsi</i>	<i>Decapterus maraudsi</i>
Digenea	Lepocreadiidae	<i>Neonotoporus opelu</i>	<i>Decapterus macarellus</i> , <i>D. muroadsi</i>
Digenea	Lepocreadiidae	<i>Pseudopisthagonoporus vitellous</i>	<i>Naso brevirostris</i> , <i>N. hexacanthus</i>
Digenea	Lepocreadiidae	<i>Koseiria kyphosi</i>	<i>Kyphosus cinerascens</i>
Digenea	Opecoelidae	<i>Ozakia hawaiiensis</i>	<i>Thalassoma ballieui</i> , <i>Synodus dermatogenys</i> , <i>Rhinecanthus rectangulus</i>
Digenea	Opecoelidae	<i>Ozakia iniistii</i>	<i>Inistiostio pavo</i>
Digenea	Opecoelidae	<i>Ozakia norae</i>	<i>Acanthurus triostegus</i>
Digenea	Opecoelidae	<i>Ozakia pfluegeri</i>	<i>Mulloidichthys pfleugeri</i>
Digenea	Opecoelidae	<i>Opecoelus kuhliae</i>	<i>Kuhlia sandvicensis</i>
Digenea	Opecoelidae	<i>Opecoelus mulloidichthidis</i>	<i>Mulloidichthys</i>
Digenea	Opecoelidae	<i>Opegaster bothi</i>	<i>Bothus</i> spp.
Digenea	Opecoelidae	<i>Opegaster dactylopteri</i>	<i>Dactylopterus orientalis</i>
Digenea	Opecoelidae	<i>Opegaster dendrochiri</i>	<i>Dendrochirus barberi</i>
Digenea	Opecoelidae	<i>Opegaster dermatogenys</i>	<i>Synodus dermatogenys</i>
Digenea	Opecoelidae	<i>Opegaster hawaiiensis</i>	<i>Mulloidichthys pfleugeri</i> , <i>Hemipteronotus</i> sp., <i>Sphyraena barracuda</i>
Digenea	Opecoelidae	<i>Opegaster iniistii</i>	<i>Inistiostio pavo</i>
Digenea	Opecoelidae	<i>Paropecoelus sacculatus</i>	<i>Parupeneus cheyserydros</i>
Digenea	Opecoelidae	<i>Paropecoelus lanceolatus</i>	<i>Parupeneus</i> spp.
Digenea	Opecoelidae	<i>Paropecoelus parupenei</i>	<i>Parupeneus porphyreus</i>
Digenea	Opecoelidae	<i>Paropecoelus sogandaresi</i>	<i>Parupeneus pleurostigma</i>
Digenea	Opecoelidae	<i>Pseudopecoeloides akule</i>	<i>Selar crumenophthalmus</i>
Digenea	Opecoelidae	<i>Pseudopecoeloides boops</i>	<i>Priacanthus boops</i>
Digenea	Opecoelidae	<i>Pseudopecoeloides opelu</i>	<i>Decapterus macarellus</i>
Digenea	Opecoelidae	<i>Pseudopecoeloides parviacetabulatus</i>	<i>Selar crumenophthalmus</i> , <i>Pseudopecoeloides akule</i>
Digenea	Opecoelidae	<i>Pseudopecoeloides tenuoides</i>	<i>Priacanthus cruentatus</i> , <i>Acanthurus nigroris</i>
Digenea	Opecoelidae	<i>Pseudopecoelus acanthuri</i>	<i>Acanthurus triostegus</i>
Digenea	Opecoelidae	<i>Pseudopecoelus puhipaka</i>	<i>Gymnothorax flavigularis</i>
Digenea	Opecoelidae	<i>Pseudopecoelus maomao</i>	<i>Abudefduf abdominalis</i>
Digenea	Opecoelidae	<i>Pseudopecoelus sphyraenae</i>	<i>Sphyraena</i> spp.
Digenea	Opecoelidae	<i>Pseudopecoelus vitellozonatus</i>	<i>Neoniphon</i> spp.
Digenea	Opecoelidae	<i>Plagioporus longisacculus</i>	<i>Pristipomoides microlepis</i>
Digenea	Opecoelidae	<i>Plagioporus polymixiae</i>	<i>Polymixiae japonica</i>
Digenea	Opecoelidae	<i>Plagioporus rooseveltae</i>	<i>Pristipomoides zonatus</i>
Digenea	Opecoelidae	<i>Plagioporus tohei</i>	<i>Conger</i> sp.
Digenea	Opecoelidae	<i>Plagioporus ula-ula</i>	<i>Etelis carbunculus</i>
Digenea	Opecoelidae	<i>Plagioporus thalassomatis</i>	<i>Thalassoma ballieui</i> ,
Digenea	Opecoelidae	<i>Helicometra aposinuata</i>	<i>Sargocentron spiniferum</i>
Digenea	Opecoelidae	<i>Helicometra boseli</i>	<i>Neoniphon</i> spp.
Digenea	Opecoelidae	<i>Helicometra dochmosorchis</i>	<i>Gymnothorax buriensis</i>
Digenea	Opecoelidae	<i>Helicometra gomphosi</i>	<i>Gomphosus varius</i>
Digenea	Opecoelidae	<i>Helicometra upapalu</i>	<i>Apogon mensemus</i>
Digenea	Opecoelidae	<i>Helicometrina quadrorchis</i>	<i>Gymnothorax steindachneri</i>

Order	Family	Species	Hosts
Digenea	Opecoelidae	<i>Enenterum kyphosi</i>	<i>Kyphosus cinerascens</i>
Digenea	Opecoelidae	<i>Jeancadenartia pacifica</i>	<i>Kyphosus cinerascens</i>
Digenea	Bivesiculidae	<i>Bivesicula congeri</i>	<i>Conger sp.</i>
Digenea	Waretrematidae	<i>Hapladena spinosa</i>	<i>Acanthurus dussumieri, A. triostegus</i>
Digenea	Waretrematidae	<i>Hapladena nasonis</i>	<i>Naso unicornis</i>
Digenea	Waretrematidae	<i>Hapladena tanyorchis</i>	<i>Naso spp.</i>
Digenea	Waretrematidae	<i>Metamegasolena calotomuse</i>	<i>Calotomus sp.</i>
Digenea	Accacoeliidae	<i>Tetrochetus macrorchis</i>	<i>Xanthichthys, Diodon, Sphoeroides pachygaster</i>
Digenea	Acanthocolpidae	<i>Acaenodera placophora</i>	<i>Conger marginatus</i>
Digenea	Acanthocolpidae	<i>Pseudoacaenodera cristata</i>	<i>Conger marginatus</i>
Digenea	Acanthocolpidae	<i>Stehanostomum nunu</i>	<i>Aulostomus chinensis</i>
Digenea	Acanthocolpidae	<i>Stehanostomum hawaiiense</i>	<i>Caranx sexfasciatus</i>
Digenea	Acanthocolpidae	<i>Stehanostomum kawalea</i>	<i>Sphyraena helleri</i>
Digenea	Acanthocolpidae	<i>Stehanostomum petimba</i>	<i>Fistularia petimba</i>
Digenea	Acanthocolpidae	<i>Stehanostomum polymixiae</i>	<i>Polymixiae japonica</i>
Digenea	Acanthocolpidae	<i>Stehanostomum seriola</i>	<i>Seriola dumerili</i>
Digenea	Acanthocolpidae	<i>Stehanostomum uku</i>	<i>Aprion virescens</i>
Digenea	Acanthocolpidae	<i>Stehanostomum yagara</i>	<i>Fistularia petimba</i>
Digenea	Cryptogonimidae	<i>Paracryptogonimus aphaerei</i>	<i>Aphareus rutilans</i>
Digenea	Cryptogonimidae	<i>Paracryptogonimus muscularis</i>	<i>Aphareus furcatus</i>
Digenea	Cryptogonimidae	<i>Paracryptogonimus onaga</i>	<i>Etelis carbunculus</i>
Digenea	Cryptogonimidae	<i>Paracryptogonimus ula-ula</i>	<i>Etelis carbunculus</i>
Digenea	Cryptogonimidae	<i>Siphodera cirrhitti</i>	<i>Cirrhitus pinnulatus</i>
Digenea	Cryptogonimidae	<i>Pseudosiphoderoides opakapaka</i>	<i>Pristipomoides microlepis</i>
Digenea	Cryptogonimidae	<i>Pseudosiphoderoides rooseveltie</i>	<i>Pristipomoides zonatus</i>
Digenea	Albulatrematidae	<i>Albulatrema ovale</i>	<i>Albula vulpes</i>
Digenea	Hemiuroidae	<i>Acanthuritrema multivitellosum</i>	<i>Acanthurus triostegus</i>
Digenea	Hemiuroidae	<i>Acanthuritrema magnireceptaculum</i>	<i>Acanthurus triostegus</i>
Digenea	Hemiuroidae	<i>Aponurus acanthuri</i>	<i>Acanthurus sandvicensis</i>
Digenea	Hemiuroidae	<i>Aponurus priacanthi</i>	<i>Priacanthus boops</i>
Digenea	Hemiuroidae	<i>Bunocotyle mugilis</i>	<i>Mugil cephalus</i>
Digenea	Hemiuroidae	<i>Cyatholecithochirium gymnothoracis</i>	<i>Gymnothorax flavigularis, G. undulatus, Conger marginatus</i>
Digenea	Hemiuroidae	<i>Dinosoma polymixiae</i>	<i>Polymixiae japonica</i>
Digenea	Hemiuroidae	<i>Elytrophallus decapteri</i>	<i>Decapturus maraudezi</i>
Digenea	Hemiuroidae	<i>Elytrophallus fistulariae</i>	<i>Fistularia petimba</i>
Digenea	Hemiuroidae	<i>Elytrophallus holocentri</i>	<i>Holocentrus spinifer, H. xantherythrus</i>
Digenea	Hemiuroidae	<i>Elytrophallus mulloidichthydis</i>	<i>Mulloidichthys pfleugeri, Caesioperca thompsoni</i>
Digenea	Hemiuroidae	<i>Eriilepturus aequalis</i>	<i>Taractes rubescens</i>
Digenea	Hemiuroidae	<i>Eriilepturus synodi</i>	<i>Synodus dermatogenys</i>
Digenea	Hemiuroidae	<i>Eriilepturus trachinocephali</i>	<i>Trachinocephalus myops</i>
Digenea	Hemiuroidae	<i>Genolinea ampladena</i>	<i>Acanthurus olivaceus</i>
Digenea	Hemiuroidae	<i>Genolinea lobata</i>	<i>Acanthurus sandvicensis</i>

Order	Family	Species	Hosts
Digenea	Hemiuroidae	<i>Holacanthitrema lobatum</i>	<i>Holacanthus arcuatus</i>
Digenea	Hemiuroidae	<i>Hysterolecitha palani</i>	<i>Acanthurus dussumieri</i>
Digenea	Hemiuroidae	<i>Hysterolecitha tinkeri</i>	<i>Abudefduf abdominalis, A. sordidus, Pomacentrus jenkinsi</i>
Digenea	Hemiuroidae	<i>Hysterolecithoides manini</i>	<i>Acanthurus triostegus</i>
Digenea	Hemiuroidae	<i>Hysterolecithoides zebrasomatis</i>	<i>Zebrasoma veliferum</i>
Digenea	Hemiuroidae	<i>Lampritrema hawaiiense</i>	<i>Lampris guttatus</i>
Digenea	Hemiuroidae	<i>Lecithochirium albulae</i>	<i>Albula vulpes</i>
Digenea	Hemiuroidae	<i>Lecithochirium alectis</i>	<i>Alectis indica</i>
Digenea	Hemiuroidae	<i>Lecithochirium antennarii</i>	<i>Antennarius sp.</i>
Digenea	Hemiuroidae	<i>Lecithochirium apharei</i>	<i>Aphareus furcatus</i>
Digenea	Hemiuroidae	<i>Lecithochirium bothi</i>	<i>Bothus spp.</i>
Digenea	Hemiuroidae	<i>Lecithochirium chaetodontis</i>	<i>Chaetodon miliaris, C. fremblii, Parupeneus chrysoredros, Heniochus acuminatus</i>
Digenea	Hemiuroidae	<i>Lecithochirium cirrhitii</i>	<i>Paracirrhites forsteri</i>
Digenea	Hemiuroidae	<i>Lecithochirium congeri</i>	<i>Conger sp, Gymnothorax undulatus</i>
Digenea	Hemiuroidae	<i>Lecithochirium fistulariae</i>	<i>Fistularia petimba</i>
Digenea	Hemiuroidae	<i>Lecithaster mugilis</i>	<i>Mugil cephalus</i>
Digenea	Hemiuroidae	<i>Lecithochirium holocentri</i>	<i>Holocentrus spinifer</i>
Digenea	Hemiuroidae	<i>Lecithochirium kawalea</i>	<i>Sphyraena helleri</i>
Digenea	Hemiuroidae	<i>Lecithochirium keokeo</i>	<i>Auxis thazard</i>
Digenea	Hemiuroidae	<i>Lecithochirium maomao</i>	<i>Abudefduf abdominalis</i>
Digenea	Hemiuroidae	<i>Lecithochirium nohu</i>	<i>Scorpaenopsis cacopsis</i>
Digenea	Hemiuroidae	<i>Lecithochirium ostichthys</i>	<i>Ostichthys japonicus</i>
Digenea	Hemiuroidae	<i>Lecithochirium sammarae</i>	<i>Sargocentron spiniferum, Neoniphon sammarae</i>
Digenea	Hemiuroidae	<i>Lecithochirium spiravesiculatum</i>	<i>Gymnothorax undulatus</i>
Digenea	Hemiuroidae	<i>Lecithophyllum acanthuri</i>	<i>Acanthurus spp.</i>
Digenea	Hemiuroidae	<i>Monolecithotrema kala</i>	<i>Naso unicornis</i>
Digenea	Hemiuroidae	<i>Musculovesicula bilabiata</i>	<i>Gymnothorax spp.</i>
Digenea	Hemiuroidae	<i>Musculovesicula congeri</i>	<i>Conger marginatus</i>
Digenea	Hemiuroidae	<i>Plerurus alectis</i>	<i>Alectis indica</i>
Digenea	Hemiuroidae	<i>Plerurus kawakawa</i>	<i>Euthynnus affinis, Auxis thazard</i>
Digenea	Hemiuroidae	<i>Plerurus opakapaka</i>	<i>Pristipomoides microlepis</i>
Digenea	Hemiuroidae	<i>Plerurus sphyraenae</i>	<i>Sphyraena spp.</i>
Digenea	Hemiuroidae	<i>Prolecithochirium pterois</i>	<i>Pterois sphex</i>
Digenea	Hemiuroidae	<i>Prosorchiopsis aluterae</i>	<i>Aluterus scripta</i>
Digenea	Hemiuroidae	<i>Prosorchiopsis nasonis</i>	<i>Naso hexacanthus</i>
Digenea	Hemiuroidae	<i>Pseudodinosoma macrorchis</i>	<i>Polymixiae japonica</i>
Digenea	Hemiuroidae	<i>Pseudobunocotyla ampladrena</i>	<i>Acanthurus olivaceus, A. dussumieri</i>
Digenea	Hemiuroidae	<i>Quadrifoliovarium pritchardae</i>	<i>Naso unicornis</i>
Digenea	Hemiuroidae	<i>Separogermiductus congeri</i>	<i>Conger cinereus</i>
Digenea	Hemiuroidae	<i>Sterrhus cirrhitii</i>	<i>Cirrhitus alternatus</i>
Digenea	Hemiuroidae	<i>Sterrhus congeri</i>	<i>Conger marginatus</i>

Order	Family	Species	Hosts
Digenea	Hemiuroidae	<i>Sterrurus goslinei</i>	<i>Conger cinerus</i>
Digenea	Hemiuroidae	<i>Sterrurus microvatus</i>	<i>Gymnothorax</i> spp.
Digenea	Hemiuroidae	<i>Uterovesicularus sphyraenae</i>	<i>Sphyraena barracuda</i>
Digenea	Sclerodistomidae	<i>Sclerodistomum bravoae</i>	<i>Diodon</i> spp.
Digenea	Hirudinellidae	<i>Hirudinella ahi</i>	<i>Thunnus albacares,</i>
Digenea	Prosognotrematidae	<i>Prosognotrema subequilatum</i>	<i>Naso hexacanthus</i>
Digenea	Didymozoidae	<i>Adenodidymocystis intestinalis</i>	<i>Katsuwonus pelamys</i>
Digenea	Didymozoidae	<i>Coeliodidymocystis kamegaii</i>	<i>Katsuwonus pelamys</i>
Digenea	Didymozoidae	<i>Dermatodidymocystis vivipara</i>	<i>Thunnus albacares, T. obesus</i>
Digenea	Didymozoidae	<i>Dermatodidymocystis viviparoides</i>	<i>Thunnus albacares, T. obesus</i>
Digenea	Didymozoidae	<i>Didymocylindrus filiformis</i>	<i>Katsuwonus pelamys</i>
Digenea	Didymozoidae	<i>Didymocylindrus simplex</i>	<i>Katsuwonus pelamys</i>
Digenea	Didymozoidae	<i>Didymocystis irregularis</i>	<i>Thunnus albacares</i>
Digenea	Didymozoidae	<i>Didymocystis nasalis</i>	<i>Thunnus obesus</i>
Digenea	Didymozoidae	<i>Didymocystis orbitalis</i>	<i>Thunnus albacares, T. obesus</i>
Digenea	Didymozoidae	<i>Didymocystis palati</i>	<i>Thunnus albacares</i>
Digenea	Didymozoidae	<i>Didymocystis philobranchiaca</i>	<i>Thunnus albacares, T. obesus</i>
Digenea	Didymozoidae	<i>Didymocystis poonui</i>	<i>Thunnus obesus</i>
Digenea	Didymozoidae	<i>Didymocystis spirocauda</i>	<i>Thunnus albacares</i>
Digenea	Didymozoidae	<i>Didymocystoides bifasciatus</i>	<i>Thunnus albacares, T. obesus</i>
Digenea	Didymozoidae	<i>Didymocystoides buccalis</i>	<i>Thunnus alalonga</i>
Digenea	Didymozoidae	<i>Didymocystoides exiguus</i>	<i>Euthynnus affinis</i>
Digenea	Didymozoidae	<i>Didymocystoides intestinomuscularis</i>	<i>Katsuwonus pelamys</i>
Digenea	Didymozoidae	<i>Didymocystoides oesophagicola</i>	<i>Thunnus albacares</i>
Digenea	Didymozoidae	<i>Didymocystoides pectoralis</i>	<i>Thunnus obesus</i>
Digenea	Didymozoidae	<i>Didymocystoides pinnicola</i>	<i>Katsuwonus pelamys</i>
Digenea	Didymozoidae	<i>Lagenocystis katsuwonii</i>	<i>Katsuwonus pelamys</i>
Digenea	Didymozoidae	<i>Lobatocystis affinis</i>	<i>Euthynnus affinis</i>
Digenea	Didymozoidae	<i>Univitelloidymocystis neothunni</i>	<i>Thunnus albacares, T. obesus</i>
Digenea	Didymozoidae	<i>Allometanematobothrioides lepidocybii</i>	<i>Lepidocybium flavobrunneum</i>
Digenea	Didymozoidae	<i>Allonematobothriodes scombri</i>	<i>Scomber japonicus</i>
Digenea	Didymozoidae	<i>Allonematobothrium epinepheli</i>	<i>Epinephelus quernus</i>
Digenea	Didymozoidae	<i>Allonematobothrium apharei</i>	<i>Aphareus rutilans</i>
Digenea	Didymozoidae	<i>Angionematabothrium jugulariae</i>	<i>Istiophorus platypterus</i>
Digenea	Didymozoidae	<i>Epithelionematobothrium mulloidichthydis</i>	<i>Mulloidichthys pfleugeri</i>
Digenea	Didymozoidae	<i>Metanematobothrioides opakapaka</i>	<i>Pristipomoides microlepis</i>
Digenea	Didymozoidae	<i>Nematobothrioides kalikali</i>	<i>Pristipomoides sieboldi</i>
Digenea	Didymozoidae	<i>Neometanematobothrioides periorbitalis</i>	<i>Seriola dumerili</i>

Order	Family	Species	Hosts
Digenea	Didymozoidae	<i>Neonematobothrioides poonui</i>	<i>Thunnus obesus</i>
Digenea	Didymozoidae	<i>Neonematobothrium kawakawa</i>	<i>Euthynnus affinis</i>
Digenea	Didymozoidae	<i>Opisthorchinematobothrium parathunni</i>	<i>Thunnus obesus</i>
Digenea	Didymozoidae	<i>Orbitonematobothrium perioculare</i>	<i>Thunnus obesus, T. albacares</i>
Digenea	Didymozoidae	<i>Unitubulotestis parupenei</i>	<i>Parupeneus cheyserydros</i>
Digenea	Didymozoidae	<i>Annulocystis auxis</i>	<i>Auxis thazard</i>
Digenea	Didymozoidae	<i>Annulocystis katsuwonii</i>	<i>Katsuwonus pelamys</i>
Digenea	Didymozoidae	<i>Pseudocolocytotrema affinis</i>	<i>Auxis thazard, Euthynnus affinis</i>
Digenea	Didymozoidae	<i>Sicuotrema auxis</i>	<i>Auxis thazard</i>
Digenea	Didymozoidae	<i>Allodidymocodium unitubulare</i>	<i>Euthynnus affinis</i>
Digenea	Didymozoidae	<i>Osteodidymocodium kawakawa</i>	<i>Euthynnus affinis</i>
Digenea	Didymozoidae	<i>Opepherocystis kawakawa</i>	<i>Euthynnus affinis</i>
Digenea	Didymozoidae	<i>Triplocystoides affinis</i>	<i>Euthynnus affinis, found with Opepherotrematoides multitubularis</i>
Digenea	Didymozoidae	<i>Nephrodidymotrema ahi</i>	<i>Thunnus albacares</i>
Digenea	Didymozoidae	<i>Gonapodasmius menpachi</i>	<i>Myrprisitis berndti</i>
Digenea	Didymozoidae	<i>Koellikeria abdominalis</i>	<i>Thunnus albacares</i>
Digenea	Didymozoidae	<i>Koellikeria pylorica</i>	<i>Thunnus obesus</i>
Digenea	Didymozoidae	<i>Koellikeria retrorbitalis</i>	<i>Thunnus obesus, T. albacares</i>
Digenea	Didymozoidae	<i>Koellikeria submaxillaris</i>	<i>Thunnus obesus, T. albacares</i>
Digenea	Didymozoidae	<i>Koellikerioides internogastricus</i>	<i>Thunnus obesus, T. albacares</i>
Digenea	Didymozoidae	<i>Koellikerioides externogastricus</i>	<i>Thunnus obesus, T. albacares</i>
Digenea	Didymozoidae	<i>Koellikerioides intestinalis</i>	<i>Thunnus obesus</i>
Digenea	Didymozoidae	<i>Koellikerioides apicalis</i>	<i>Thunnus obesus</i>
Digenea	Didymozoidae	<i>Patelokoellikeria seriolaee</i>	<i>Seriola dumerilii</i>
Digenea	Glyiauchenidae	<i>Flagellorema centropygis</i>	<i>Centropyge potteri</i>
Digenea	Glyiauchenidae	<i>Flagellorema chaetodontis</i>	<i>Chaetodon miliaris, C. fremblii</i>
Digenea	Glyiauchenidae	<i>Flagellorema potteri</i>	<i>Centropyge potteri, Acanthurus sandvicesis</i>
Digenea	Glyiauchenidae	<i>Leptobulbus magnacirratus</i>	<i>Scarus sordidus, S. dubius, Calotomus zonarchus</i>
Digenea	Paramphistomidae	<i>Cleptodiscus bulbosus</i>	<i>Melichthys spp, Chaetodon miliaris</i>
Cestode	Amphicotylidae	<i>Pseudeubothriodes lepidocybii</i>	<i>Lepidocybium flavobrunneum</i>
Cestode	Bothriocephalidae	<i>Metabothriocephalus menpachi</i>	<i>Myrprisitis spp.</i>
Cestode	Ptychobothriidae	<i>Alloptychobothrium spilonotopteri</i>	<i>Cypselurus spilonotopteri</i>