Parasites of the Fishes of Alaska and Surrounding Waters

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ABSTRACT: The published records of parasites of freshwater and marine fishes of Alaska and the surrounding seas through 2006 are summarized. Fish hosts are listed alphabetically, providing a single, convenient source of information on the known parasites of Alaskan fishes. Of the 601 species of fish believed to inhabit the waters of Alaska, parasites are herein listed for 89 species. Information from 135 published studies spanning over a century of work are consolidated to assist both biologists and future investigators in parasite identification.

INTRODUCTION

Fish parasites are important sentinels of environmental health (Arkoosh et al. 2004) because they can only thrive in systems with the proper suite of invertebrates to serve as intermediate hosts, the correct physical and chemical conditions, and the proper physiology in the final host. Parasites also can act to regulate aquatic populations (McCallum and Dobson 1995) and may be as important as competition and predation in structuring animal communities (Minchella and Scott 1991). Parasites have proven quite useful as natural tags in delineating fish stocks (e.g. Margolis 1963; Urawa et al. 1998), and can provide valuable information on the diet, feeding behavior, migration patterns, and systematics of fish populations (Williams et al. 1992; Marcogliese and Cone 1997). During a lifetime, a fish parasite may pass through one or more intermediate hosts, one or more fish species, and often a final avian or mammalian host, making the parasite both a trophic marker and the top predator in the food web. The presence of helminth worms in edible fish products, the effect of fish-transmitted parasites on public health, and the deleterious impact of parasites in aquaculture facilities have all brought the need to understand fish parasites to the forefront.

Despite their ubiquitous presence and abundant numbers, the use of parasites in fisheries research has been hampered by their potentially immense number and the difficulties in identifying them. As of 1978, a total of 1,822 species of parasite had been described from marine fishes of the eastern Pacific (Love and Moser 1983). This paper is designed to bring together all published reports on fish parasites associated with the fishes of Alaska and represents an update of Moles (1982). Since the publication of the earlier report 25 years ago, several extensive surveys of fish parasites in the Bering Sea and Gulf of Alaska have been completed, increasing the number of published host/parasite records from 445 to 967. I would be remiss if I did not mention reviews by Margolis and Arthur (1979) and McDonald and Margolis (1995), which synopsize the parasites of fishes in Canadian waters as well as the review of Love and Moser (1983) for the U.S. West Coast.

The intended readers of this review are the biologists who work with the fish species rather than fish parasitologists, so the present document is organized by fish species rather than by parasite—as would be expected with a typical synopsis. Still, it is expected that this list will also prove valuable to the next generation of fish parasitologists as they investigate the literature surrounding various host/parasite combinations in these waters. Armed with some rudimentary knowledge of invertebrate zoology (is it a roundworm or a tapeworm?), an investigator should be able to use the list (host, life stage, organ) to narrow down the list of probable parasites to a presumptive identification. Even with more than one potential candidate, a quick comparison of the specimen with a drawing of that species from one of the many taxonomic guides would, in many cases, yield a presumptive identification

I have attempted to include all published reports that list a combination of fish host and parasite from both the fresh waters of Alaska and the surrounding seas—Beaufort, Chukchi, Bering, and the Gulf of Alaska. Reports from waters west of 180° are not included. Host species are presented alphabetically rather than taxonomically for ease of use, and fish names are as presented in Mecklenburg et al. (2002).

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Parasite species are listed under each host by class and then alphabetically with authorities as listed in McDonald and Margolis (1995). If the infective stage is a larval form, that information is presented in the next column, followed by the site of infection within or infestation upon the host. All known sites of infection for that parasite are listed rather than just the location or organ reported by the cited study. Organ abbreviations are as follows: bc (body cavity), brv (branchial vessels), gb (gall bladder), gc (gill cavity), int (intestine), iw (intestinal wall), kt (kidney tubules), mes (mesenteries), musc (musculature), pc (pyloric caeca), stom (stomach), sw (stomach wall), swb (swimbladder), and ub (urinary bladder). No attempt has been made to assess the validity of the published records. The numbers following each host/parasite combination direct the reader to the numbered record in the Literature Cited section.

Table 1. Published records of parasites of freshwater and marine fishes of Alaska and the surrounding seas through 2006.

Albatrossia pectoralis (Gilbert, 1892) • giant grenadier

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Cyclocotyloides pinguis* (Linton, 1940), Price, 1943		gills, mouth	63
Digenea	*Gonocera oshoro* Shimazu, 1970		ovary	107

Ammodytes hexapterus Pallas, 1814 • Pacific sand lance

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Gyrodactylus* sp.		fins, gills, skin	75
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	68
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	68
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	68

Anoplopoma fimbria (Pallas, 1814) • sablefish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	54
Digenea	*Dinosoma tortum* Yamaguti, 1938		stom	54
Digenea	*Podocotyle reflexa* (Creplin, 1925) Odhner, 1905		int	54
Digenea	*Stephanostomum baccatum* (Nicoll, 1907) Manter 1934 as *S. dentatum*		int	54
Digenea	*Stephanostomum californicum* Manter and Van Cleave, 1951		int	49
Digenea	*Steringophorus furciger* (Olsson, 1868) Odhner, 1905 as *Fellodistomum fercigerum*		int, pc, stom	54
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	49
Cestoda	*Scolex pleuronectis* O. F. Müller, 1788	plerocercoid	gb, int, pc, stom	54
Cestoda	*Scolex* sp.	plerocercoid	gb, int, pc, stom	49
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	49
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	49
Nematoda	*Pseudoterranova* sp. (Krabbe, 1878) Mozgovoi, 1953 as *Terranova* spp.	larva	mes, musc	49
Acanthocephala	*Corynosoma reductum* (Van Lindstow, 1905) Railliet and Henry, 1907	juvenile	mes	54
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	49
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	54
Crustacea	*Rocinela angustata* Richardson, 1898		skin	131

Aptocyclus ventricosus (Pallas, 1769) • smooth lumpsucker

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Prosorhynchus mizelli* Kruse, 1977		int, pc, stom	50

-continued-

Table 1. Page 2 of 24.

Atheresthes stomias (Jordan and Gilbert, 1880) • arrowtooth flounder

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Myxosporea	*Kudoa* sp.		musc	29
Monogenea	*Entobdella hippoglossi* (Mueller, 1776) Johnston, 1856		skin	54, 68
Monogenea	*Heterobothrium affinis* (Linton, 1898) Price, 1936		NI	54
Digenea	*Brachyenteron doderleiniae* Yamaguti, 1938		probably gall bladder	48
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	68
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	54
Digenea	*Prosorhynchus* sp. as *Prosorhynchus crucibulum*		int, pc, stom	54
Digenea	*Steganoderma formosum* Strafford, 1904		int, pc	54, 68
Digenea	*Stephanostomum* sp.		int	48
Cestoda	*Grillotia erinacea* (Beneden, 1858) Guiart, 1927	plerocercoid	bc, mes	54
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	48, 54, 68
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	54, 68
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	48
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Thynnarcaris adunca*		bc, int, mes, pc, stom	54, 68
Nematoda	*Pseudoterranova decipiens* (Krabbe, 1878) Mozgovoi, 1953 as *Phocanema decipiens*	larva	mes, musc	54
Nematoda	*Pseudoterranova* sp. (Krabbe, 1878) Mozgovoi, 1953 as *Terranova* sp.	larva	mes, musc	48, 68
Acanthocephala	*Corynosoma reductum* (Van Lindstow, 1905) Railliet and Henry, 1907	juvenile	int	54
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	68
Acanthocephala	*Corynosoma strumosum* (Rudolphi, 1802) Lühe, 1904	juvenile	bc, iw, liver, mes	48, 54
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	54
Acanthocephala	*Echinorhynchus* sp.		int, mes, sw	48
Crustacea	*Phrixocephalus cincinnatus* Wilson, 1980		eye	111

Batyraja aleutica (Gilbert, 1896) • Aleutian skate

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Grillotia borealis* Keeney and Campbell, 2001		int	42

Bathyraja interrupta (Gill and Townsend, 1897) • sandpaper skate

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Grillotia borealis* Keeney and Campbell, 2001		int	42

Bathyraja parmifera (Bean, 1881) • Alaska skate

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Grillotia borealis* Keeney and Campbell, 2001		int	42

Boreogadus saida (Lepechin, 1774) • Arctic cod

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Hemiurus levenseni* Odhner, 1905		stom	22
Nematoda	*Contracaecum* sp.		bc, int, musc, sw	22
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Contracaecum clavatum*		bc, int, mes, pc, stom	22
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	22
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	22
Acanthocephala	*Echinorhynchus salmonis* Müller, 1784		int	22

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Table 1. Page 3 of 24.

Brama japonica Hilgendorf, 1878 • Pacific pomfret

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Lampritrema miescheri* (Zschokke, 1890) Margolis, 1962 as *L. nipponicum*		int	58
Crustacea	*Hatschekia conifera* Yamaguti, 1939		gills	40

Catostomus catastomus (Forster, 1773) • longnose sucker

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Glaridacris catostomi* Cooper, 1920		int, stom	22

Clupea pallasii Valencienes, 1847 • Pacific herring

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Sporozoea	*Eimeria nishin* Fujita, 1934		testes	3
Sporozoea	*Eimeria sardinae* (Thélohan, 1890) Reichenow, 1921		testes	62
Sporozoea	*Goussia clupearum* (Thélohan, 1894) Labbé, 1896		liver, heart	25, 62, 3, 73
	Oligohymenophorea Trichodina sp.		gills	62
	Oligohymenophorea Cryptokaryon sp.		gills	62
Myxosporea	*Ceratomyxa auerbachi* Kabata, 1962		gb, int	62
Myxosporea	*Orotholinea orientalis* (Shulman and Shulman-Albova, 1953) Shulman, 1962		gb, kt	3, 62
Monogenea	*Gyrodactylus* sp.		fins, gills, skin	62
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		int, stom	3, 68
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	3, 62
Digenea	*Pronoprymna petrowi* (Layman, 1930) Bray and Gibson, 1980 as *Pseudopentagramma petrowi*		int, pc	3
Digenea	*Prosorhynchoides basargini* (Layman, 1930) Margolis and Arthur, 1979	metacercaria	fins, mouth, nares	3
Digenea	*Rhipidocotyle* sp.	metacercaria	fins, mouth, nares	3
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	3
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	68
Cestoda	*Scolex pleuronectis* O. F. Müller, 1788	plerocercoid	gb, int, pc, stom	3
Cestoda	*Scolex* sp.	plerocercoid	gb, int, pc, stom	68
Nematoda	*Anisakis simplex* (Rudolphi, 1809) Dujardin, 1845	larva	bc, iw, mes, musc, sw	3
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	24, 73, 68
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	3, 68
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981			68
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Thynnarcaris adunca*	larva	int, liver, mes	3
Acanthocephala	*Corynosoma strumosum* (Rudolphi, 1802) Lühe, 1904	juvenile	bc, iw, liver, mes	3
Acanthocephala	*Corynosoma villosum* Van Cleave, 1953	juvenile	bc, int, mes	3
Crustacea	*Bomolochus cuneatus* Fraser, 1920		gc	3
Crustacea	*Caligus clemensi* Parker and Margolis, 1964		fins, skin	3

Coregonus autumnalis (Pallas, 1776) • Arctic cisco

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Bothrimonus sturionis* Duvernoy, 1842 as *Diplocotyle olriki*		int, pc	12

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Coregonus nasus (Pallas, 1776) • broad whitefish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Acanthocephala	*Neoechinorhynchus tumidus* Van Cleave and Bangham, 1949		int	104

Coregonus nelsonii Bean, 1884 • Alaska whitefish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Salmincola corpulentus* (Kellicott, 1880) Kabata, 1988 as *Lernaeopoda extumescens*		branchial cavity, gills	126

Coregonus pidschian (Gmelin, 1789) • humpack whitefish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Acanthocephala	*Neoechinorhynchus tumidus* Van Cleave and Bangham, 1949		int	104

Coregonus sardinella Valenciennes, 1848 • least cisco

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Acanthocephala	*Neoechinorhynchus rutili* Müller, 1780) Hamann, 1892		int	104

Coregonus sp. • whitefishes

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Bothrimonus sturionis* Duvernoy, 1842 as *B. intermedius*		int, pc	20
Acanthocephala	*Neoechinorhynchus tumidus* Van Cleave and Bangham, 1949		int	104
Crustacea	*Salmincola extensus* (Kessler, 1868) Kabata, 1969 as *Achtheres coregoni*		gc, fins, skin	126

Coryphaenoides cinereus (Gilbert, 1896) • popeye grenadier

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Myxosporea	*Ceratomyxa asymmetrica* Moser and Noble, 1976		gb	82

Coryphaenoides longifilis Günther, 1877 • longfin grenadier

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Myxosporea	*Zschokkella meglitschi* Moser and Noble, 1977		ub	83

Cottus aleuticus Gilbert, 1896 • coastrange sculpin

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Kinetoplastidea	*Cryptobia* sp.		blood	6

Cottus asper Richardson, 1836 • prickly sculpin

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Oligohymenophorea	*Epistylis* sp.		gills	71
Myxosporea	*Myxobolus* spp.		gb	71
Digenea	*Crepidostomum isotomum* Hopkins, 1931		int	71
Digenea	*Tetracotyle* sp.	metacercaria	heart, kt, mes, musc	71
Cestoda	*Proteocephalus* sp.		pc, int, stom	71
Nematoda	*Eustrongylides* sp.	larva	bc, iw, musc, sw	71
Nematoda	*Pseudocapillaria salvelini* (Polyansky, 1952) Moravec, 1982		pc, int, stom	71
Acanthocephala	*Neoechinorhynchus rutili* Müller, 1780) Hamann, 1892		int	71
Pelecypoda	*Anodonta* sp.	glochidia	gills	71

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Table 1. Page 5 of 24.

Dallia pectoralis Bean 1880 • Alaska blackfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Phyllodistomum lysteri* Miller, 1940		ureters	22
Cestoda	*Diphyllobothrium dalliae* Rausch, 1956	plerocercoid	bc	97
Cestoda	*Diphyllobothrium* sp.	plerocercoid	bc, mes, musc	18
Cestoda	*Proteocephalus* sp.		pc, int, stom	22
Cestoda	*Triaenophorus* sp. as *Diphyllobothrium dalliae*	plerocercoid	musc	35
Cestoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	22
Nematoda	*Raphidascaris* sp.		int, liver, pc, stom	22
Acanthocephala	*Neoechinorhynchus* rutili Müller, 1780) Hamann, 1892		int	22

Eleginus gracilis (Tilesius, 1810) • saffron cod

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Pyramicocephalus phocarum* Fabricius, 1780	plerocercoid	int, pc, stom	35, 98

Esox lucius Linnaeus, 1758 • northern pike

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Crepidostomum farionis* Müller, 1780		gb, int, pc	22
Cestoda	*Cyathocephalus truncatus* (Pallas, 1781) Kessler, 1868		int, pc	22
Cestoda	*Triaenophorus crassus* Forel, 1868)	adult	musc	22
Nematoda	Raphidascaris sp.		int, liver, pc, stom	22
Acanthocephala	*Neoechinorhynchus tenellus* (Van Cleave, 1913) Van Cleave, 1919		int	22

Gadus macrocephalus Tilesius, 1810 • Pacific cod

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Microsporea	*Pleistophora* sp.		int, musc	68
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		fins, gc	68
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	68
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	68
Digenea	*Steganoderma formosum* Strafford, 1904		fins, musc, skin	68
Digenea	*Tubulovesicula lindbergi* (Layman, 1930) Yamaguti, 1934		int, stom	68
Cestoda	*Abothrium gadi* van Beneden, 1871		int, pc	68
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	68
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	68
Cestoda	*Scolex* sp.	plerocercoid	gb, int, pc, stom	68
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	112, 68
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	68
Nematoda	*Cystidicola* sp.		bc, mes, swb	101
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981			68
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Contracaecum clavatum*		stom	101
Nematoda	*Pseudoterranova decipiens* (Krabbe, 1878) Mozgovoi, 1953 as *Porracaecum decipiens*	larva	mes, musc	101
Nematoda	*Pseudoterranova* sp.	larva	mes, musc	68
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	68
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	68

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Table 1. Page 6 of 24.

Gadus macrocephalus Tilesius, 1810 • Pacific cod

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Hirudinea	*Beringbdella rectangulata* (Levinsen, 1882) Caballero, 1974 as *Levinsenia rectangulata*		gills, fins, skin	76
Hirudinea	*Oceanobdella quadrioculata* Malm, 1863) Karlsbakk, 2005 as *Platybdella quadrioculata*		operculum	101
Crustacea	*Clavella adunca* (Strøm, 1762) Dollfus, 1953 as *Anchorella uncinata*		fins, gc, gills, skin	126
Crustacea	*Clavella irina* Wilson, 1915		gc	127
Crustacea	*Lepeophtheirus cuneifer* Kabata, 1974		skin	39
Crustacea	*Lepeophtheirus parviventris* Wilson, 1915		gills, skin	125, 113, 101, 68
Crustacea	*Naobranchia occidentalis* Wilson, 1915		gills	127
Crustacea	*Rocinela angustata* Richardson, 1898		skin	131
Crustacea	*Rocinela belliceps* (Stimpson, 1864) Richardson, 1899		skin	31, 101

Gasterosteus aculeatus Linnaeus, 1758 • threespine stickleback

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Microsporea	*Glugea anomala* (Moniez, 1884) Gurley, 1893		fins, gills, musc, skin	21
Digenea	*Bunodera* sp.		int	22
Digenea	*Cainocreadium gasterostei* (Bovien, 1932) Yamaguti, 1971 as *Peracreadium gasterostei*		int	22
Cestoda	*Schistocephalus solidus* (O. F. Müller, 1776) Steenstrup, 1857	plerocercoid	bc, stom	19, 35, 118, 32
Nematoda	*Contracaecum* sp.		mes	22
Acanthocephala	*Acanthocephalus lucii (*Müller, 1776) Lühe, 1911		int	22
Acanthocephala	*Neoechinorhynchus rutili (*Müller, 1780) Hamann, 1892		int	119
Crustacea	*Ergasilus auritus* Markevich, 1940		fins, gills, skin	100
Crustacea	*Ergasilus turgidus* Fraser, 1920		gills	21
Crustacea	*Thersitina gasterostei* (Pagenstecher, 1861) Norman, 1905		gc, gills	118
Pelecypoda	*Anodonta beringiana* Middendorff 1851	glochidia	fin, skin, gills, mouth	21
Pelecypoda	*Anodonta oregonensis* I. Lea 1838	glochidia	fins	65

Hemilepidotus hemilepidotus (Tilesius, 1811) • red Irish lord

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	50
Digenea	*Prosorhynchus* sp.		int, pc, stom	50
Nematoda	*Pseudoterranova decipiens* (Krabbe, 1878) Mozgovoi, 1953 as *Phocanema decipiens*	larva	mes, musc	102
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	102

Hemilepidotus sp. • Irish lord

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Hirudinea	*Malmiana scorpii* (Malm, 1863) Strand, 1942 as *Ottoniobdella scorpii*		skin	101

Hexagrammos lagocephalus (Pallas, 1810) • rock greenling

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Neobenedenia melleni* (MacCallum, 1927) Yamaguti, 1963		skin	13
Digenea	*Urinatrema aspinosum* Schiller, 1956		ub	103
Nematoda	*Pseudoterranova decipiens* (Krabbe, 1878) Mozgovoi, 1953 as *Phocanema decipiens*	larva	mes, musc	95, 102
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	102
Crustacea	*Lepeophtheirus cuneifer* Kabata, 1974		skin	39
Hirudinea	*Heptacyclus albus* Epstein and Utevsky, 1996		skin	25

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Table 1. Page 7 of 24.

Hexanchus griseus (Bonnaterre, 1788) • bluntnose sixgill shark

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Tetrarhynchus* sp.	plerocercoid	iw	30

Hippoglossoides elassodon (Jordan and Gilbert, 1880) • flathead sole

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Aporocotyle simplex* Odhner, 1900		brv, heart, mes	54
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Thynnarcaris aduncum*		bc, int, mes, pc, stom	54
Acanthocephala	*Corynosoma reductum* (Van Lindstow, 1905) Railliet and Henry, 1907	juvenile	int	54

Hippoglossus stenolepis Schmidt, 1904 • Pacific halibut

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Myxosporea	*Ceratomyxa drepanopsettae* Awerinzew, 1908		gb	9
Myxosporea	*Ceratomyxa platichthys* (Fujita, 1923) Dogiel, 1948		gb	9
Myxosporea	*Kudoa thyrsites* (Gilchrist, 1924) Meglitsch, 1947		musc	9
Myxosporea	*Leptotheca* sp.		gb, ub	9
Myxosporea	*Myxidium incurvatum* Thélohan, 1895		gb	9
Myxosporea	*Unicapsula muscularis* Davis, 1924		musc	9
Monogenea	*Entobdella hippoglossi* (Mueller, 1776) Johnston, 1856		skin	94, 101, 54, 9
Monogenea	*Entobdella pugetensis* Robinson, 1961		gills	9
Monogenea	*Heterobothrium affinis* (Linton, 1898) Price, 1936		NI	54
Digenea	*Aporocotyle simplex* Odhner, 1900		brv, heart, mes	9
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		fins, gc	9
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	50, 9
Digenea	*Dissocaccus laevis* (Linton, 1898) Manter, 1947		stom	9
Digenea	*Genolinea laticauda* Manter, 1925)		stom	9
Digenea	*Gonocera phycidis* Manter, 1925		stom	9
Digenea	*Hemiurus levenseni* Odhner, 1905		stom	9
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	9
Digenea	*Lecithophyllum botryophorum* (Olsson, 1868) Odhner, 1905		int, stom	9
Digenea	*Lepocreadium* sp.		int	9
Digenea	*Otodistomum* sp.	metacercaria	bc	9
Digenea	*Parahemiurus merus* (Linton, 1910) Woolcock, 1935		int, pc, stom	54, 9
Digenea	*Podocotyle gibbonsia* Johnson, 1949		int	9
Digenea	*Podocotyle* sp.		int, pc	9
Digenea	*Prosorhynchoides basargini* (Layman, 1930) Margolis and Arthur, 1979		int, pc, stom	9
Digenea	*Prosorhynchus* sp.		musc, skin	9
Digenea	*Pseudopecoelus nossamani* Kruse, 1977		int	50, 9
Digenea	*Steganoderma formosum* Strafford, 1904		fins, skin, mus	9
Digenea	*Tubulovesicula lindbergi* (Layman, 1930) Yamaguti, 1934		int, stom	9
Cestoda	*Bothriocephalus scorpii* (O. F. Müller, 1776) Rudolphi, 1808		int, pc	9
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	9
Cestoda	*Scolex pleuronectis* O. F. Müller, 1788	plerocercoid	gb, int, pc, stom	9

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Table 1. Page 8 of 24.

Hippoglossus stenolepis Schmidt, 1904 • Pacific halibut

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Nematoda	*Anisakis simplex* (Rudolphi, 1809) Dujardin, 1845	larva	bc, iw, mes, musc, sw	9
Nematoda	*Capilllaria margolisi* Moravec and McDonald, 1981		pc	9
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	9
Nematoda	*Cucullanus heterochrous* Rudolphi, 1802		int, stom	9
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981	larva	bc, int, mes, pc, stom	9
Nematoda	*Paracapillaria parophrysi* (Moravec, Margolis, and McDonald, 1981) Moravec, 1982		int	9
Nematoda	*Pseudoterranova decipiens* (Krabbe, 1878) Mozgovoi, 1953 as *Phocanema decipiens*	larva	mes, musc	54, 9
Acanthocephala	*Bolbosoma* sp.	juvenile	int	9
Acanthocephala	*Corynosoma endhydri* Morozov, 1940	juvenile	int, mes	9
Acanthocephala	*Corynosoma reductum* (Van Lindstow, 1905) Railliet and Henry, 1907	juvenile	int	54
Acanthocephala	*Corynosoma strumosum* (Rudolphi, 1802) Lühe, 1904	juvenile	bc, iw, liver, mes	9
Acanthocephala	*Corynosoma villosum* Van Cleave, 1953	juvenile	bc, int, mes	9
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	9
Hirudinea	*Notostomum cyclostoma* Johnsson, 1858		skin	110
Crustacea	*Acanthochondria cornuta* (O. F. Müller, 1776) Oakley, 1930		gc	129, 36
Crustacea	*Acanthochondria hippoglossi* Kabata, 1987		buccal cavity	41, 9
Crustacea	*Lepeophtheirus appendiculatus* Krøyer, 1863		gills	129
Crustacea	*Lepeophtheirus cuneifer* Kabata, 1974		skin	39
Crustacea	*Lepeophtheirus parviventris* Wilson, 1915		int, pc	125, 9
Crustacea	*Opisa tridentata* Hurley, 1963		skin	9
Crustacea	*Rocinela angustata* Richardson, 1898		skin	31
Crustacea	*Rocinela belliceps* (Stimpson, 1864) Richardson, 1899		skin	31

Isopsetta isolepis (Lockington, 1880) • butter sole

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Lepeophtheirus cuneifer* Kabata, 1974		skin	39

Lamna ditropis Hubbs and Follett, 1947 • salmon shark

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	adult	bc, iw, mes, sw	108

Lepidopsetta bilineata (Ayres, 1855) • southern rock sole

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Oligohymenophorea	*Trichodina borealis* Shulman and Shulman-Albova, 1953		gills	72
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		fins, gc	67, 68
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	50
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	68
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	67, 68
Digenea	*Podocotyle gibbonsia* Johnson, 1949		int	67

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Table 1. Page 9 of 24.

Lepidopsetta bilineata (Ayres, 1855) • southern rock sole

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Podocotyle* sp.		mes, musc	68
Digenea	*Tubulovesicula lindbergi* (Layman, 1930) Yamaguti, 1934		int, stom	67, 68
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	67, 68
Nematoda	*Anisakis simplex* (Rudolphi, 1809) Dujardin, 1845	larva	bc, iw, mes, musc, sw	67
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	68
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981		bc, int, mes, pc, stom	67, 68
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	68
Acanthocephala	*Corynosoma villosum* Van Cleave, 1953	juvenile	bc, int, mes	67
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	67
Crustacea	*Lepeophtheirus parviventris* Wilson, 1915		gills, skin	125
Crustacea	*Naobranchia occidentalis* Wilson, 1915		gills	135
Crustacea	*Nectobranchia indivisa* Fraser, 1920		gills	135

Lepidopsetta polyxystra Orr and Matarese, 2000 • northern rock sole

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Acanthochondria* sp.		gills	91
Crustacea	*Acanthochondria vancouverensis* Kabata, 1984		gc, naries	135
Crustacea	*Haemobaphes diceraus* Wilson, 1917		bulbous arteriosus	91, 135
Crustacea	*Naobranchia occidentalis* Wilson, 1915		gills	135
Crustacea	*Nectobranchia indivisa* Fraser, 1920		gills	135

Leptocottus armatus Girard, 1854 • armorhead sculpin

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Lepeophtheirus cuneifer* Kabata, 1974		skin	39

Limanda aspera (Pallas, 1814) • yellowfin sole

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Oligohymenophorea	*Trichodina borealis* Shulman and Shulman-Albova, 1953		gills	72
Kinetoplastidea	*Cryptobia* sp.		blood	110
Kinetoplastidea	*Trypanosoma* sp.		blood	110
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		int, stom	67
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	67
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	67
Digenea	*Podocotyle gibbonsia* Johnson, 1949		int	67
Digenea	*Tubulovesicula lindbergi* (Layman, 1930) Yamaguti, 1934		int, stom	67
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	67
Nematoda	*Anisakis simplex* (Rudolphi, 1809) Dujardin, 1845	larva	bc, iw, mes, musc, sw	67
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981		bc, int, mes, pc, stom	67
Acanthocephala	*Corynosoma villosum* Van Cleave, 1953	juvenile	bc, int, mes	67
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	67
Hirudinea	*Calliobdella* spp.		fins, skin, mus	110, 53

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Table 1. Page 10 of 24.

Lota lota (Linnaeus, 1758) • burbot

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Diphyllobothrium alascense* Rausch and Williamson, 1958	plerocercoid	stom	98
Cestoda	*Pyramicocephalus phocarum* Fabricius, 1780	plerocercoid	int, pc, stom	98
Nematoda	*Pseudoterranova decipiens* (Krabbe, 1878) Mozgovoi, 1953	larva	mes, musc, stom	98
Acanthocephala	*Corynosoma semerme* (Forssell, 1904) Lühe, 1905	juvenile	bc, int, mes	98
Acanthocephala	*Corynosoma strumosum* (Rudolphi, 1802) Lühe, 1904	juvenile	bc, iw, liver, mes	98
Acanthocephala	*Neoechinorhynchus rutili* Müller, 1780) Hamann, 1892		int	104

Lumpenus sagitta Wilimovsky, 1956 • snake prickleback

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Lepeophtheirus cuneifer* Kabata, 1974		skin	39

Lycodes polaris (Sabine, 1824) • polar eelpout

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	50

Lycodes raridens Taranetz and Andriashev, 1937 • marbled eelpout

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Sporozoea	*Haemogregarina* sp.		blood	109
Hirudinea	*Beringbdella anarhichae* (Diesing, 1859) emend. Malm, 1863		skin	109

Lycodes turneri Bean, 1879 • estuarine eelpout

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Diocus frigidus* Hansen, 1923		branchial chambers	121

Mallotus villosus (Müller, 1776) • capelin

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	68
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	68
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	68
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981			68

Megalocottus platycephalus (Pallas, 1814) • belligerent sculpin

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Pyramicocephalus phocarum* Fabricius, 1780	plerocercoid	int, pc, stom	98

Merluccius productus (Ayres, 1855) • Pacific hake

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Anthocotyle merlucci* van Beneden and Hesse, 1863		gills	49
Digenea	*Derogenes macrostoma* Yamaguti, 1938		int, stom	49
Digenea	*Lecithochirium* sp.		stom	49

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Merluccius productus (Ayres, 1855) • Pacific hake

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Lecithophyllum botryophorum* (Olsson, 1868) Odhner, 1905 as *Aponurus argentini*		int, stom	49
Digenea	*Steringophorus furciger* (Olsson, 1868) Odhner, 1905		int, pc, stom	49
Cestoda	*Bothriocephalus osparіichthydis* Yamaguti, 1934		int, pc	49
Cestoda	*Bothriocephalus* sp.		int, pc	49
Cestoda	*Diphyllobothrium* sp.	plerocercoid	bc, mes, musc	49
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	49
Cestoda	*Scolex* sp.	plerocercoid	gb, int, pc, stom	49
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	49
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	49
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Contracaecum aduncum*		bc, int, mes, pc, stom	49
Nematoda	*Hysterothylacium melanogrammi* (Smedley, 1934) Deardorff and Overstreet, 1981 as *Contracaecum melanogrammi*		NI	49
Crustacea	*Acanthochondria* sp.		gills	49
Crustacea	*Haemobaphes* sp.		bulbous arteriosus, gills	49
Crustacea	*Neobrachiella* sp. as *Parabrachiella* sp.		gills	49

Microgadus proximus (Girard, 1854) • Pacific tomcod

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Clavella canaliculata* Wilson, 1915		fin	127
Crustacea	*Lepeophtheirus cuneifer* Kabata, 1974		skin	39

Myoxocephalus quadricornis (Linnaeus, 1758) • fourhorn sculpin

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Pyramicocephalus phocarum* Fabricius, 1780	plerocercoid	int, pc, stom	98

Myxocephalus polyacanthocephalus (Pallas, 1814) • great sculpin

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Hirudinea	*Beringbdella rectangulata* (Levinsen, 1882) Caballero, 1974 as *Levinsenia rectangulata*		gills, fins, skin	76
Crustacea	*Chondracanthus lotellae* Thomson, 1889		gills	129

Oligocottus maculosus Girard, 1856 • tidepool sculpin

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Oligohymenophorea	*Trichodina* sp.		gills	43
Crustacea	*Haemobaphes intermedius* Kabata, 1967		bulbous arteriosus	44

Oncorhynchus gorbuscha (Walbaum, 1792) • pink salmon

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Myxosporea	*Henneguya salmincola* Ward, 1919		musc	26, 55
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		int, stom	55, 80
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	55
Digenea	*Hemiurus levenseni* Odhner, 1905		stom	55, 80

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Table 1. Page 12 of 24.

Oncorhynchus gorbuscha (Walbaum, 1792) • pink salmon

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	55
Digenea	*Lecithophyllum botryophorum* (Olsson, 1868) Odhner, 1905 as *Lecithophyllum* sp.		int, stom	55, 56
Digenea	*Parahemiurus merus* (Linton, 1910) Woolcock, 1935 as *Parahemiurus* sp.		int, pc, stom	55
Digenea	*Pronoprymna petrowi* (Layman, 1930) Bray and Gibson, 1980 as *Pentagramma petrowi*		int, pc	61
Digenea	*Prosorhynchoides basargini* (Layman, 1930) Margolis and Arthur, 1979		int, pc, stom	55
Digenea	*Tetracotyle* sp.	metacercaria	heart, kt, mes, musc	55
Digenea	*Tubulovesicula lindbergi* (Layman, 1930) Yamaguti, 1934		int, stom	55, 14
Cestoda	*Bothrimonus sturionis* Duvernoy, 1842 as *Diplocotyle olriki*		int, pc	55
Cestoda	*Diphyllobothrium* sp.	plerocercoid	bc, mes, musc	55
Cestoda	*Eubothrium* sp.		int, pc	55
Cestoda	*Phyllobothrium caudatum* (Zschokke and Heitz, 1914) Zmeev, 1936	plerocercoid	int, pc	55
Cestoda	*Phyllobothrium* sp.	plerocercoid	gb, int, pc	99
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	55
Nematoda	*Ascarophis* sp.		int, stom	55
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	55
Nematoda	*Philonema oncorhynchi* Kuitunen-Ekbaum, 1933		bc, swb	55
Nematoda	*Pseudoterranova decipiens* (Krabbe, 1878) Mozgovoi, 1953 as *Porracaecum* sp.	larva	mes, musc	55
Acanthocephala	*Bolbosoma* sp.	juvenile	int	55
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	55
Acanthocephala	*Corynosoma strumosum* (Rudolphi, 1802) Lühe, 1904	juvenile	bc, iw, liver, mes	55, 57
Acanthocephala	*Corynosoma villosum* Van Cleave, 1953	juvenile	bc, int, mes	55, 57
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	55
Acanthocephala	*Neoechinorhynchus* sp.		int	55
Acanthocephala	*Rhadinorhynchus trachuri* Harada, 1935 as *Nipporhynchus* sp.		int	55
Crustacea	*Bomolochus cuneatus* Fraser, 1920 as *Parabomolochus cuneatus*		gc	120
Crustacea	*Lepeophtheirus salmonis* (Krøyer, 1837) Verrill, 1873		fins, gills, skin	125, 126, 101, 86, 114, 115
Crustacea	*Rocinela belliceps* (Stimpson, 1864) Richardson, 1899		skin	131

Oncorhynchus keta (Walbaum, 1792) • chum salmon

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Myxosporea	*Ceratomyxa shasta* Noble, 1950		gb, int, kt, pc	27
Myxosporea	*Henneguya salmincola* Ward, 1919		musc	51, 26
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		int, stom	80
Digenea	*Hemiurus levenseni* Odhner, 1905		stom	80
Cestoda	*Phyllobothrium caudatum* (Zschokke and Heitz, 1914) Zmeev, 1936 as *P. keta*	plerocercoid	int, pc	15
Cestoda	*Phyllobothrium* sp.	plerocercoid	gb, int, pc	99
Cestoda	*Triaenophorus crassus* Forel, 1868)	plerocercoid	musc	117
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	99
Crustacea	*Lepeophtheirus salmonis* (Krøyer, 1837) Verrill, 1873		fins, gills, skin	86, 115

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Oncorhynchus kisutch (Walbaum, 1792) • coho salmon

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Myxosporea	*Henneguya salmincola* Ward, 1919		musc	26
Monogenea	*Tetronchus alaskensis* Price, 1937		gills	92
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		int, stom	80
Digenea	*Hemiurus levenseni* Odhner, 1905		stom	80
Cestoda	*Cyathocephalus truncatus* (Pallas, 1781) Kessler, 1868		int, pc	99
Cestoda	*Diphyllobothrium ditremum* (Creplin, 1825) Lühe, 1910	plerocercoid	bc, mes	123
Cestoda	*Eubothrium* sp.		int, pc	99
Cestoda	*Phyllobothrium* sp.	plerocercoid	gb, int, pc	99
Cestoda	*Proteocephalus* sp.		pc, int, stom	99
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	99
Nematoda	*Philonema oncorhynchi* Kuitunen-Ekbaum, 1933		bc, swb	99
Nematoda	*Salvelinema walkeri* (Ekbaum, 1935) Margolis, 1967		swb	79
Acanthocephala	*Neoechinorhynchus rutili* Müller, 1780) Hamann, 1892		int	119, 99
Acanthocephala	*Neoechinorhynchus tumidus* Van Cleave and Bangham, 1949		int	99
Crustacea	*Lepeophtheirus salmonis* (Krøyer, 1837) Verrill, 1873		fins, gills, skin	86, 115
Crustacea	*Salmincola californiensis* (Dana, 1852) Wilson, 1915		fins, gc, gills, skin	99
Pelecypoda	*Anodonta oregonensis* I. Lea 1838	glochidia	fins	66

Oncorhynchus mykiss (Walbaum, 1792) • rainbow trout

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Tetronchus alaskensis* Price, 1937		gills	92
Digenea	*Crepidostomum farionis* Müller, 1780		gb, int, pc	22
Digenea	*Crepidostomum* sp.		gb, int, pc	88
Cestoda	*Diphyllobothrium dendirticum* (Nitzsch, 1824) Lühe, 1910	plerocercoid	bc, mes	35
Cestoda	*Diphyllobothrium* sp.	plerocercoid	bc, mes, musc	5, 87
Cestoda	*Eubothrium crassum* (Bloch, 1779) Nybelin, 1922		int, pc	22
Cestoda	*Eubothrium* sp.		int, pc	99
Cestoda	*Ligula intestinalis* (Linnaeus, 1758) Gmelin, 1790	plerocercoid	bc	22
Cestoda	*Proteocephalus* sp.		pc, int, stom	22,99
Nematoda	*Contracaecum spiculigerum* (Rudolphi, 1809) Railliet and Henry, 1912		liver, mes	99
Nematoda	*Cucullanus* sp.		int	99
Nematoda	*Philonema oncorhynchi* Kuitunen-Ekbaum, 1933 as *Philonema* sp.		bc, int, mes	88, 87, 99
Acanthocephala	*Neoechinorhynchus rutili (*Müller, 1780) Hamann, 1892		int	99
Acanthocephala	*Neoechinorhynchus tumidus* Van Cleave and Bangham, 1949		int	99
Acanthocephala	*Rhadinorhynchus cololabris* Laurs and McCauley, 1964		int	37
Crustacea	*Lepeophtheirus salmonis* (Krøyer, 1837) Verrill, 1873		fins, gills, skin	86
Crustacea	*Salmincola californiensis* (Dana, 1852) Wilson, 1915		fins, gc, gills, skin	99
Crustacea	*Salmincola edwardsii* (Olsson, 1869) Wilson, 1915		gc, gills, fins	22

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Table 1. Page 14 of 24.

Oncorhynchus nerka (Walbaum, 1792) • sockeye salmon

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Myxosporea	*Chloromyxum coregoni* Bauder, 1948		gb, int	47
Myxosporea	*Chloromyxum wardi* Kudo, 1920		gb	51
Myxosporea	*Henneguya salmincola* Ward, 1919		musc	55, 59
Myxosporea	*Myxobolus arcticus* Pugachev and Khokhin, 1979		brain	132, 74, 70
Myxosporea	*Myxobolus krokhini* Konavalov and Shulman, 1966		gb	47
Monogenea	*Laminiscus strelkowi* (Bykhovsky and Polyansky, 1953) Pálsson and Beverley-Burton, 1983 as *Gyrodactyloides strelkowi*		gills	90
Monogenea	*Tetronchus alaskensis* Price, 1937		gills	59
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		int, stom	55, 59, 90, 80
Digenea	*Crepidostomum farionis* Müller, 1780		gb, int, pc	55, 59
Digenea	*Crepidostomum* sp.		gb, int, pc	88
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	55
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	
Digenea	*Diplostomum* sp.	metacercaria	eye	55
Digenea	*Diplostomum* sp.	metacercaria	eye	90
Digenea	*Hemiurus levenseni* Odhner, 1905		stom	55, 59, 80
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	55, 59, 90
Digenea	*Lecithophyllum botryophorum* (Olsson, 1868) Odhner, 1905		int, stom	56, 59
Digenea	*Lecithophyllum* sp.		int, stom	55
Digenea	*Pronoprymna petrowi* (Layman, 1930) Bray and Gibson, 1980 as *Pentagramma petrowi*		int, pc	61
Digenea	*Prosorhynchoides basargini* (Layman, 1930) Margolis and Arthur, 1979		int, pc, stom	59
Digenea	*Tetracotyle* sp.	metacercaria	heart, kt, mes, musc	55, 59
Digenea	*Tubulovesicula lindbergi* (Layman, 1930) Yamaguti, 1934		int, stom	55, 59, 90
Cestoda	*Bothrimonus sturionis* Duvernoy, 1842 as *Diplocotyle olriki*		int, pc	55
Cestoda	*Diphyllobothrium* sp.	plerocercoid	bc, mes, musc	55, 59, 90
Cestoda	*Diphyllobothrium ursi* Rausch, 1954	plerocercoid	stom	96, 35
Cestoda	*Eubothrium salvelini* (Schrank, 1790) Nybelin, 1922		int, pc	55, 59, 90
Cestoda	*Eubothrium* sp.		int, pc	55, 59
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	55
Cestoda	*Phyllobothrium caudatum* (Zschokke and Heitz, 1914) Zmeev, 1936	plerocercoid	int, pc	55, 59, 90
Cestoda	*Phyllobothrium* sp.	plerocercoid	gb, int, pc	99
Cestoda	*Proteocephalus* sp.	plerocercoid	int, pc	55, 59, 90, 99
Cestoda	*Triaenophorus crassus* (Forel, 1868)	plerocercoid	musc	55, 59, 90
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	55, 59, 90, 99
Nematoda	*Ascarophis* sp.		int, stom	55
Nematoda	*Capillaria* sp.		int	55, 59
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	55, 59, 90
Nematoda	*Cystidicola farionis* Fischer, 1798		bc, mes, swb	60
Nematoda	*Philonema oncorhynchi* Kuitunen-Ekbaum, 1933		bc, heart, kt, swb	22, 55, 59, 90, 99, 8
Nematoda	*Pseudoterranova decipiens* (Krabbe, 1878) Mozgovoi, 1953 as *Terranova* sp.	larva	mes, musc	59
Nematoda	*Pseudoterranova* sp.(Krabbe, 1878) Mozgovoi, 1953 as *Phocanema* sp.	larva	mes, musc	55
Nematoda	*Rhabdochona* sp.		int	90
Nematoda	*Salvelinema salmonicola* (Ishii, 1916) Margolis, 1966		swb	60

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Table 1. Page 15 of 24.

Oncorhynchus nerka (Walbaum, 1792) • sockeye salmon

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Acanthocephala	*Bolbosoma caenoforme* (Heitz, 1915) Meyer, 1935	juvenile	int	59, 90
Acanthocephala	*Bolbosoma* sp.	juvenile	int	55
Acanthocephala	*Corynosoma semerme* (Forssell, 1904) Lühe, 1905	juvenile	bc, int, mes	55, 57
Acanthocephala	*Corynosoma strumosum* (Rudolphi, 1802) Lühe, 1904	juvenile	bc, iw, liver, mes	55, 57, 59
Acanthocephala	*Corynosoma villosum* Van Cleave, 1953	juvenile	bc, int, mes	55
Acanthocephala	*Corynosoma wegeneri* Heinz, 1934 as *C. hadweni*	juvenile	mes	57
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	55, 59, 90
Acanthocephala	*Neoechinorhynchus rutili* Müller, 1780) Hamann, 1892		int	55, 59, 90, 99
Acanthocephala	*Rhadinorhynchus trachuri* Harada, 1935 as *Nipporhynchus* sp.		int	55, 59
Acanthocephala	*Rhadinorhynchus trachuri* Harada, 1935 as *Nipporhynchus* sp.		int	
Crustacea	*Ergasilus auritus* Markevich, 1940		fins, gills, skin	100
Crustacea	*Ergasilus* sp.		fins, gills, skin	55, 59
Crustacea	*Ergasilus turgidus* Fraser, 1920		gills	21
Crustacea	*Lepeophtheirus salmonis* (Krøyer, 1837) Verrill, 1873		fins, gills, skin	126, 86
Crustacea	*Salmincola californiensis* (Dana, 1852) Wilson, 1915 as *S. falculata*		fins, gc, gills, skin	55, 59
Pelecypoda	*Anodonta beringiana* Middendorff 1851	glochidia	fin, skin, mouth	21

Oncorhynchus tshawytscha (Walbaum, 1792) • Chinook salmon

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Myxosporea	*Henneguya salmincola* Ward, 1919		musc	26
Myxosporea	*Myxobolus arcticus* Pugachev and Khokhin, 1979		brain	116
Myxosporea	*Myxobolus kisutchi* Yasutake and Wood, 1957		brain	116
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		int, stom	99
Digenea	*Hemiurus levenseni* Odhner, 1905		stom	116
Cestoda	*Diphyllobothrium ditremum* (Creplin, 1825) Lühe, 1910	plerocercoid	bc, mes	123
Cestoda	*Diphyllobothrium* sp.	adult	bc, mes, musc	34, 116
Cestoda	*Eubothrium crassum* (Bloch, 1779) Nybelin, 1922		int, pc	116
Cestoda	*Eubothrium* sp.		int, pc	99
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	116
Cestoda	*Phyllobothrium caudatum* (Zschokke and Heitz, 1914) Zmeev, 1936 as *P. keta*	plerocercoid	int	116
Cestoda	*Phyllobothrium* sp.	plerocercoid	gb, int, pc	99
Nematoda	*Anisakis simplex* (Rudolphi, 1809) Dujardin, 1845	larva	bc, iw, mes, musc, sw	116
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	99
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	116
Nematoda	*Cucullanus* sp.		int	99
Nematoda	*Pseudoterranova* sp. (Krabbe, 1878) Mozgovoi, 1953 as *Porracaecum* sp.	larva	mes, musc	99
Nematoda	*Raphidascaris* sp.		int, liver, pc, stom	99
Acanthocephala	*Bolbosoma caenoforme* (Heitz, 1915) Meyer, 1935	juvenile	int	116
Crustacea	*Lepeophtheirus parviventris* Wilson, 1915		gills, skin	125
Crustacea	*Lepeophtheirus salmonis* (Krøyer, 1837) Verrill, 1873		fins, gills, skin	86, 116, 115
Crustacea	*Rocinela belliceps* (Stimpson, 1864) Richardson, 1899		skin	131
Pelecypoda	*Anodonta beringiana* Middendorff 1851	glochidia	fin, skin, mouth	21

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Table 1. Page 16 of 24.

Osmerus mordax (Mitchill, 1814) • rainbow smelt

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Brachyphallus crenatus* (Rudolphi, 1802) Odhner, 1905		int, stom	89
Digenea	*Prosorhynchoides* sp. as *Bucephalopsis*		int, pc, stom	89
Cestoda	*Diphyllobothrium alascense* Rausch and Williamson, 1958	plerocercoid	stom	98
Cestoda	*Diphyllobothrium ditremum* (Creplin, 1825) Lühe, 1910 as *D. osmeri*	plerocercoid	int, pc, stom	35, 89
Nematoda	*Pseudoterranova decipiens* (Krabbe, 1878) Mozgovoi, 1953	larva	mes, musc	98
Acanthocephala	*Corynosoma semerme* (Forssell, 1904) Lühe, 1905	juvenile	bc, int, mes	89
Acanthocephala	*Corynosoma similis* Neiland, 1962	juvenile	mes	89
Acanthocephala	*Corynosoma strumosum* (Rudolphi, 1802) Lühe, 1904	juvenile	bc, iw, liver, mes	89
Acanthocephala	*Corynosoma wegeneri* Heinz, 1934 as *C. hadweni*	juvenile	mes	28

Platichthys stellatus (Pallas, 1787) • starry flounder

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Acanthochondria rectangularis* (Fraser, 1920) Markevich, 1956		gc	91
Crustacea	*Lepeophtheirus parvicruris* Fraser, 1920		skin	91
Crustacea	*Lepeophtheirus parviventris* Wilson, 1915 as *L. septentrionalis*		gills, skin	113
Crustacea	*Nectobranchia indivisa* Fraser, 1920		gills	91

*Pleurogrammus monopterygius (*Pallas, 1810) • Atka mackerel

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	68
Digenea	*Steganoderma formosum* Strafford, 1904		fins, skin, mus	68
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	68
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	68
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	68
Nematoda	*Pseudoterranova* sp.	larva	mes, musc	68
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	68
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	68
Crustacea	*Lepeophtheirus parviventris* Wilson, 1915		gills, skin	126, 68

Pleuronectes quadrituberculatus Pallas, 1814 • Alaska plaice

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Acanthochondria cornuta* (O. F. Müller, 1776) Oakley, 1930		gc	36
Crustacea	*Lepeophtheirus parviventris* Wilson, 1915 as *L. septentrionalis*		gills, skin	130

Porichthys notatus Girard, 1854 • plainfin midshipman

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Opechona alaskensis* Ward and Fillingham, 1934		int, pc	122

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Table 1. Page 17 of 24.

Prosopium cylindraceum (Pallas, 1784) • round whitefish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Tetronchus variabilis* Mizelle and Webb, 1953		gills	64
Cestoda	*Proteocephalus filicollis* (Rudolphi, 1802) Weinland, 1928		int	22
Cestoda	*Proteocephalus* sp.		pc, int, stom	99
Acanthocephala	*Neoechinorhynchus tumidus* Van Cleave and Bangham, 1949		int	104, 99
Crustacea	*Salmincola thymalli* (Kessler, 1868) Wilson, 1915		gills	99

Pungitius pungitius (Linnaeus, 1758) • ninespine stickleback

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Diphyllobothrium* sp.	plerocercoid	bc, mes, musc	18
Cestoda	*Schistocephalus pungitii* Dubinina, 1959	plerocercoid	bc	33
Cestoda	*Schistocephalus solidus* (O. F. Müller, 1776) Steenstrup, 1857	plerocercoid	bc, stom	35

Raja binoculata Girard, 1854 • big skate

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Lepeophtheirus cuneifer* Kabata, 1974		skin	39

Raja sp. • skate

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Pseudacanthocotyla williamsi* Price, 1938 as *Acanthocotyle williamsi*		skin	93

Reinhardtius hippoglossoides (Walbaum, 1792) • Greenland Halibut

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Heterobothrium affinis* (Linton, 1898) Price, 1936		NI	54
Digenea	*Lecithophyllum sphaerolecithum* (Manter, 1925) Odhner, 1927		int, stom	54
Cestoda	*Grillotia erinacea* (Beneden, 1858) Guiart, 1927	plerocercoid	bc, mes	54
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	54
Acanthocephala	*Corynosoma reductum* (Van Lindstow, 1905) Railliet and Henry, 1907	juvenile	int	54
Crustacea	*Hatschekia reinhardtii* Wierzbicka, 1989		fins, gills	124

Ronquilus jordani (Gilbert, 1889) • northern ronquil

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	50

Salvelinus alpinus (Linnaeus, 1758) • Arctic char

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Bunodera luciopercae* (Müller, 1776) Stiles and Hassal, 1898		int	85
Digenea	*Crepidostomum farionis* Müller, 1780		gb, int, pc	85
Digenea	*Phyllodistomum* sp.		ureters, ub	85
Cestoda	*Bothrimonus sturionis* Duvernoy, 1842		int, pc	85
Cestoda	*Cyathocephalus truncatus* (Pallas, 1781) Kessler, 1868		int, pc	85
Cestoda	*Eubothrium crassum* (Bloch, 1779) Nybelin, 1922		int, pc	85
Cestoda	*Proteocephalus* sp.		pc, int, stom	85

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Salvelinus alpinus (Linnaeus, 1758) • Arctic char

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Nematoda	*Cystidicola farionis* Fischer, 1798 as *C. stigmatura*		bc, mes, swb	85
Nematoda	*Truttaedacnitis truttae* (Fabricius, 1794) Petter, 1974 as *Bulbodacnitis alpinus*		int, pc	84, 85
Acanthocephala	*Echinorhynchus salmonis* Müller, 1784 as *Metechinorhynchys salmonis*		int	85
Acanthocephala	*Neoechinorhynchus rutili* Müller, 1780) Hamann, 1892		int	119
Crustacea	*Salmincola carpionis* (Krøyer, 1837) Wilson, 1915		buccal cavity, fins, gills	85
Crustacea	*Salmincola edwardsii* (Olsson, 1869) Wilson, 1915		gc, gills, fins	85

Salvelinus malma (Walbaum, 1792) • Dolly Varden

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Tetronchus alaskensis* Price, 1937		gills	92
Digenea	*Crepidostomum* sp.		gb, int, pc	88
Cestoda	*Bothrimonus sturionis* Duvernoy, 1842 as *B. intermedius*		int, pc	20
Cestoda	*Eubothrium* sp.		int, pc	99
Cestoda	*Proteocephalus* sp.		pc, int, stom	99
Nematoda	*Cystidicola farionis* Fischer, 1798 as *C. stigmatura*		bc, mes, swb	46
Nematoda	*Philonema agubernaculum* Simon and Simon, 1936		bc, swb	66
Acanthocephala	*Neoechinorhynchus rutili (*Müller, 1780) Hamann, 1892		int	119
Crustacea	*Lepeophtheirus parviventris* Wilson, 1915		gills, skin	125
Crustacea	*Lepeophtheirus salmonis* (Krøyer, 1837) Verrill, 1873		fins, gills, skin	126
Crustacea	*Salmincola carpionis* (Krøyer, 1837) Wilson, 1915 as *S. gibber*		buccal cavity, fins, gills	126, 38

Salvelinus namaycush (Walbaum, 1792) • lake trout

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Crepidostomum farionis* Müller, 1780		gb, int, pc	22
Cestoda	*Cyathocephalus truncatus* (Pallas, 1781) Kessler, 1868		int, pc	22
Cestoda	*Triaenophorus crassus* Forel, 1868)	plerocercoid	musc	22
Nematoda	*Cystidicola farionis* Fischer, 1798 as *C. stigmatura*		bc, mes, swb	22
Nematoda	*Raphidascaris* sp.		int, liver, pc, stom	22

Sebastes aleutianus (Jordan and Evermann, 1898) • rougheye rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Benedenia derzhavini* (Layman, 1930) Meserve, 1938		gills	106
Monogenea	*Microcotyle sebastis* Goto, 1894		gills	69
Monogenea	*Trochopus trituba* (Pratt and Aldrich, 1953) Bravo-Hollis, 1958 as *Trochopus* sp.		gills	106, 69
Digenea	*Anisorchis opisthorchis* Polyanski, 1955		int, pc	54
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	106
Digenea	*Dinosoma tortum* Yamaguti, 1938		stom	54
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	54
Digenea	*Lecithochirium platessa* Mamaev, Parukhin and Baeva, 1963		stom	54
Digenea	*Lecithophyllum sphaerolecithum* (Manter, 1925) Odhner, 1927		int, stom	54
Digenea	*Neolepidapedon sebastisci* (Acena, 1947) Yamaguti, 1971		int, pc	106
Digenea	*Opechona alaskensis* Ward and Fillingham, 1934		int, pc	54

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Sebastes aleutianus (Jordan and Evermann, 1898) • rougheye rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Podocotyle atomon* (Rudolphi, 1802) Dujardin, 1845		int	54
Digenea	*Podocotyle reflexa* (Creplin, 1925) Odhner, 1905		int	54
Digenea	*Podocotyle* sp.		int, pc	106
Digenea	*Prosorhynchus* sp. as *Prosorhynchus crucibulum*		int, pc, stom	106
Digenea	*Stephanostomum baccatum* (Nicoll, 1907) Manter 1934 as *S. dentatum*		int	106
Digenea	*Steringophorus furciger* (Olsson, 1868) Odhner, 1905 as *Fellodistomum fercigerum*		int, pc, stom	54
Cestoda	*Grillotia erinacea* (Beneden, 1858) Guiart, 1927	plerocercoid	bc, mes	54
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	106
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	106
Cestoda	*Scolex pleuronectis* O. F. Müller, 1788	plerocercoid	gb, int, pc, stom	54
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	54
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	106
Nematoda	*Cucullanus* sp.		int	106
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Thynnarcaris aduncum*		bc, int, mes, pc, stom	106
Acanthocephala	*Corynosoma reductum* (Van Lindstow, 1905) Railliet and Henry, 1907	juvenile	int	54
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	106, 69
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	54, 106, 68
Crustacea	*Chondracanthus pinguis* Wilson, 1912		gills, operculum, nares	106, 69
Crustacea	*Clavella parva* Wilson, 1912		fins	106, 69
Crustacea	*Colobomatus kyphosus* Sekerak, 1970		cephalic canals	106, 69
Crustacea	*Naobranchia occidentalis* Wilson, 1915		gills	69
Crustacea	*Neobrachiella robusta* (Wison, 1912) Kabata, 1979 as *Brachiella robusta*		gills	106, 69
Crustacea	*Sarcotaces arcticus* Collett, 1874		bc, musc	106

Sebastes alutus (Gilbert, 1890) • Pacific Ocean perch

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Benedenia derzhavini* (Layman, 1930) Meserve, 1938		gills	54
Monogenea	*Microcotyle sebastis* Goto, 1894		gills	106
Monogenea	*Trochopus trituba* (Pratt and Aldrich, 1953) Bravo-Hollis, 1958 as *Trochopus* sp.		gills	106
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	106
Digenea	*Fellodistomum sebastodis* (Yamaguti and Matumura, 1942) Dollfus, 1952		gb	106
Digenea	*Helicometra sebastis* (Sekerak and Arai, 1974) Bray, 1979 as *Neohelicometra sebastis*		int, pc	106
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	54
Digenea	*Lecithophyllum botryophorum* (Olsson, 1868) Odhner, 1905		int, stom	106
Digenea	*Lecithophyllum sphaerolecithum* (Manter, 1925) Odhner, 1927		int, stom	54
Digenea	*Lepidapedon gadi* (Yamaguti, 1934) Yamaguti, 1938		int	54
Digenea	*Opechona alaskensis* Ward and Fillingham, 1934		int, pc	54, 106
Digenea	*Podocotyle atomon* (Rudolphi, 1802) Dujardin, 1845		int	54
Digenea	*Podocotyle reflexa* (Creplin, 1925) Odhner, 1905		int	54
Digenea	*Podocotyle* sp.		int, pc	106
Digenea	*Prosorhynchus* sp. as *Prosorhynchus crucibulum*		int, pc, stom	106
Digenea	*Psettarium sebastodorum* Holmes, 1971		heart	106
Digenea	*Steganoderma formosum* Strafford, 1904		int, pc	54

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Sebastes alutus (Gilbert, 1890) • Pacific Ocean perch

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Cestoda	*Bothriocephalus scorpii* (O. F. Müller, 1776) Rudolphi, 1808		int, pc	54, 106
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	106
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	106
Cestoda	*Scolex pleuronectis* O. F. Müller, 1788	plerocercoid	gb, int, pc, stom	54
Nematoda	*Ascarophis pacificus* Zhukov, 1960		int	54
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	106
Nematoda	*Cucullanus heterochrous* Rudolphi, 1802		int, stom	54
Nematoda	*Cucullanus* sp.		int	106
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Thynnarcaris aduncum*		bc, int, mes, pc, stom	106
Acanthocephala	*Bolbosoma caenoforme* (Heitz, 1915) Meyer, 1935	juvenile	int	54
Acanthocephala	*Corynosoma reductum* (Van Lindstow, 1905) Railliet and Henry, 1907	juvenile	mes	54
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	106
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	106
Crustacea	*Chondracanthus pinguis* Wilson, 1912		gills, operculum, nares	106
Crustacea	*Chondracanthus triventricosus* Sekerak, 1970		nasal cavities	106
Crustacea	*Clavella parva* Wilson, 1912		fins	106
Crustacea	*Colobomatus kyphosus* Sekerak, 1970		cephalic canals	106
Crustacea	*Haemobaphes theragrae* Yamaguti, 1939		brv	106
Crustacea	*Neobrachiella robusta* (Wison, 1912) Kabata, 1979 as *Brachiella robusta*		gills	106
Crustacea	*Rocinela angustata* Richardson, 1898		skin	131
Crustacea	*Sarcotaces arcticus* Collett, 1874		bc, musc	106

Sebastes borealis Barsukov, 1970 • shortraker rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Microcotyle sebastis* Goto, 1894		gills	69
Monogenea	*Trochopus trituba* (Pratt and Aldrich, 1953) Bravo-Hollis, 1958		gills	69
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	69
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	69
Crustacea	*Chondracanthus pinguis* Wilson, 1912		gills, operculum, nares	69
Crustacea	*Clavella parva* Wilson, 1912		fins	69
Crustacea	*Colobomatus kyphosus* Sekerak, 1970		cephalic canals	69
Crustacea	*Naobranchia occidentalis* Wilson, 1915		gills	69
Crustacea	*Neobrachiella robusta* (Wison, 1912) Kabata, 1979		gills	69

Sebastes ciliatus (Tilesius, 1813) • dusky rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Trochopus trituba* (Pratt and Aldrich, 1953) Bravo-Hollis, 1958 as *Trochopus* sp.		gills	106
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	106, 68
Digenea	*Fellodistomum sebastodis* (Yamaguti and Matumura, 1942) Dollfus, 1952		gb	106
Digenea	*Lecithophyllum botryophorum* (Olsson, 1868) Odhner, 1905		int, stom	106
Digenea	*Opechona alaskensis* Ward and Fillingham, 1934		int, pc	106
Digenea	*Opechona occidentalis* Montgomery, 1957		int, pc	106

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Table 1. Page 21 of 24.

Sebastes ciliatus (Tilesius, 1813) • dusky rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Podocotyle* sp.		int, pc	106, 68
Digenea	*Prosorhynchus* sp. as *Prosorhynchus crucibulum*		int, pc, stom	106
Digenea	*Tubulovesicula lindbergi* (Layman, 1930) Yamaguti, 1934		int, stom	68
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	106, 68
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	106
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	68
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	106
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Thynnarcaris aduncum*		bc, int, mes, pc, stom	106, 68
Nematoda	*Pseudoterranova* sp.	larva	mes, musc	68
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	106, 68
Crustacea	*Chondracanthus pinguis* Wilson, 1912		gills, operculum, nares	106
Crustacea	*Chondracanthus triventricosus* Sekerak, 1970		nasal cavities	106
Crustacea	*Colobomatus kyphosus* Sekerak, 1970		cephalic canals	106
Crustacea	*Neobrachiella robusta* (Wison, 1912) Kabata, 1979 as *Brachiella robusta*		gills	106
Crustacea	*Sarcotaces arcticus* Collett, 1874		bc, musc	81

Sebastes flavidus (Ayres, 1862) • yellowtail rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Sarcotaces arcticus* Collett, 1874		bc, musc	4

Sebastes maliger (Jordan and Gilbert, 1880) • quillback rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Opisa odontochela* Bousfield, 1987		gills, skin	11
Crustacea	*Opisa tridentata* Hurley, 1963		gills, skin	11

Sebastes melanops Girard, 1856 • black rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Trochopus trituba* (Pratt and Aldrich, 1953) Bravo-Hollis, 1958 as *Megalocotyle marginata*		gills	10
Crustacea	*Clavella recta* Wilson, 1915		fins	127, 128

Sebastes mystinus (Jordan and Gilbert, 1881) • blue rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Opisa tridentata* Hurley, 1963		stom	11

Sebastes polyspinis (Taranetz and Moiseev, 1933) • northern rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Fellodistomum sebastodis* (Yamaguti and Matumura, 1942) Dollfus, 1952		gb	106
Digenea	*Opechona alaskensis* Ward and Fillingham, 1934		int, pc	106
Digenea	*Podocotyle* sp.		int, pc	106
Digenea	*Psettarium sebastodorum* Holmes, 1971		heart	106
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	106
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	106
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	106
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Thynnarcaris aduncum*		bc, int, mes, pc, stom	106

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Table 1. Page 22 of 24.

Sebastes polyspinis (Taranetz and Moiseev, 1933) • northern rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Chondracanthus pinguis* Wilson, 1912		gills, operculum, nares	106
Crustacea	*Chondracanthus triventricosus* Sekerak, 1970		nasal cavities	106
Crustacea	*Colobomatus kyphosus* Sekerak, 1970		cephalic canals	106

Sebastes ruberrimus (Cramer, 1895) • yelloweye rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Trochopus trituba* (Pratt and Aldrich, 1953) Bravo-Hollis, 1958 as *Megalocotyle marginata*		gills	10, 133
Crustacea	*Opisa tridentata* Hurley, 1963		skin	11

Sebastes zacentrus (Gilbert, 1890) • sharpchin rockfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Benedenia derzhavini* (Layman, 1930) Meserve, 1938		gills	106
Monogenea	*Microcotyle sebastis* Goto, 1894		gills	106
Monogenea	*Trochopus trituba* (Pratt and Aldrich, 1953) Bravo-Hollis, 1958 as *Trochopus* sp.		gills	106
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	106
Digenea	*Neolepidapedon sebastisci* (Acena, 1947) Yamaguti, 1971		int, pc	106
Digenea	*Opechona alaskensis* Ward and Fillingham, 1934		int, pc	106
Digenea	*Podocotyle* sp.		int, pc	106
Digenea	*Prosorhynchus* sp. as *Prosorhynchus crucibulum*		int, pc, stom	106
Digenea	*Psettarium sebastodorum* Holmes, 1971		heart	106
Cestoda	*Bothriocephalus scorpii* (O. F. Müller, 1776) Rudolphi, 1808		int, pc	106
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929	plerocercoid	bc, iw, mes, sw	106
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	106
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	106
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981 as *Thynnarcaris aduncum*		bc, int, mes, pc, stom	106
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	106
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	106
Crustacea	*Chondracanthus pinguis* Wilson, 1912		gills, operculum, nares	106
Crustacea	*Chondracanthus triventricosus* Sekerak, 1970		nasal cavities	106
Crustacea	*Colobomatus kyphosus* Sekerak, 1970		cephalic canals	106
Crustacea	*Haemobaphes theragrae* Yamaguti, 1939		brv	106
Crustacea	*Neobrachiella robusta* (Wison, 1912) Kabata, 1979 as *Brachiella robusta*		gills	106

Sebastolobus alascanus Bean, 1890 • shortspine thronyhead

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Hirudinea	*Malmiana* sp.		eye	53

Somniosus pacificus Bigelow and Schroeder, 1944 • Pacific sleeper shark

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Erpocotyle somniosi* (Causey, 1926) Price, 1942 as *Onchocotyle somniosi*		gills	16
Cestoda	*Monorygma perfectum* (van Beneden, 1853) Diesing, 1863		stom	52
Crustacea	*Ommatokoita elongata* Grant, 1927		eye	7

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Table 1. Page 23 of 24.

Squalus acanthias Linnaeus, 1758 • spiny dogfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Crustacea	*Lepeophtheirus cuneifer* Kabata, 1974		skin	39

Stenobrachius leucopsarus (Eigenmann and Eigenmann, 1890) • northern lampfish

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Nematoda	*Contracaecum* sp.	larva	bc	17

Thaleichthys pacificus (Richardson, 1836) • eulachon

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	68
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	68
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	68
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	68

Theragra chalcogramma (Pallas, 1814) • walleye pollock

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Sporozoea	*Eimeria* sp.		int, liver, pc, mes, swb	23
Sporozoea	*Goussia* sp.		kt, liver, spleen	23
Microsporea	*Pleistophora* sp. as *Glugea punctifera*		int, musc	45, 2, 77, 68
Myxosporea	*Chloromyxum* sp.		kidney	77
Myxosporea	*Myxidium theragrae* Fujita, 1923		gb	2
Myxosporea	*Sphaerospora* sp.		kidney	77
Myxosporea	*Zschokkella hildae* Auerbach, 1910		kt, ub	2
Myxosporea	*Zschokkella* sp.		ub	68
Digenea	*Aporocotyle theragrae* Ichihara, 1970		heart, brv	2
Digenea	*Derogenes varicus* (O. F. Müller, 1784) Looss, 1901		int, stom	2
Digenea	*Hemiurus levenseni* Odhner, 1905		stom	2
Digenea	*Lecithaster gibbosus* (Rudolphi, 1802) Lühe, 1901		int, pc, stom	78
Digenea	*Lecithophyllum botryophorum* (Olsson, 1868) Odhner, 1905		int, stom	2
Digenea	*Lepidapedon gadi* (Yamaguti, 1934) Yamaguti, 1938		int	2, 77
Digenea	*Podocotyle sinusacca* Ching, 1960		int	78
Digenea	*Podocotyle* sp.		int, pc	2, 77, 68
Digenea	*Prosorhynchoides basargini* (Layman, 1930) Margolis and Arthur, 1979	metacercaria	fins, mouth, nares	2
Digenea	*Prosorhynchus* sp.	metacercaria	fins	2
Digenea	*Rhipidocotyle* sp.	metacercaria	fins, mouth, nares	2
Digenea	*Steganoderma* sp.		int, pc	77
Cestoda	*Abothrium gadi* van Beneden, 1871		int, pc	2, 68
Cestoda	*Abothrium* sp.		int, pc	77
Cestoda	*Bothriocephalus* sp.		int, pc	77
Cestoda	*Nybelinia surmenicola* Okada in Dollfus, 1929 as *Nybelinia* sp.	plerocercoid	bc, iw, mes, sw	1, 2, 68
Cestoda	*Phyllobothrium* sp.	plerocercoid	int, musc	68
Cestoda	*Scolex pleuronectis* O. F. Müller, 1788	plerocercoid	gb, int, pc, stom	2
Cestoda	*Scolex* sp.	plerocercoid	gb, int, pc, stom	77, 68
Nematoda	*Anisakis simplex* (Rudolphi, 1809) Dujardin, 1845	larva	bc, iw, mes, musc, sw	2
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	45, 112, 77, 68
Nematoda	*Contracaecum* sp.	larva	iw, mes, sw	2, 77, 68
Nematoda	*Hysterothylacium aduncum* (Rudolphi, 1802) Deardorff and Overstreet, 1981		bc, int, mes, pc, stom	2, 68
Nematoda	*Hysterothylacium* sp.	larva	mes	77
Nematoda	*Pseudoterranova decipiens* (Krabbe, 1878) Mozgovoi, 1953	larva	mes, musc	2

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Table 1. Page 24 of 24.

Theragra chalcogramma (Pallas, 1814) • walleye pollock

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Nematoda	*Pseudoterranova* sp.	larva	mes, musc	68
Acanthocephala	*Corynosoma* sp.	juvenile	bc, int, mes	68
Acanthocephala	*Echinorhynchus gadi* Müller, 1776		int, mes	45, 2, 68
Hirudinea	*Beringbdella rectangulata* (Levinsen, 1882) Caballero, 1974 as *Levinsenia rectangulata*		gills	1
Hirudinea	*Beringbdella rectangulata* (Levinsen, 1882) Caballero, 1974 as *Levinsenia rectangulata*		gills	134
Crustacea	*Clavella adunca* (Strøm, 1762) Dollfus, 1953 as *C. irina* and *C. uncinata*		fins, gc, gills, skin	1
Crustacea	*Clavella perfida* Wilson, 1915		gills	127, 2, 134
Crustacea	*Clavella* sp.		fins, gc	68
Crustacea	*Haemobaphes diceraus* Wilson, 1917		bulbous arteriosus	134
Crustacea	*Haemobaphes* sp.		bulbous arteriosus, gills	2
Crustacea	*Lepeophtheirus cuneifer* Kabata, 1974		skin	39
Crustacea	*Rocinela belliceps* (Stimpson, 1864) Richardson, 1899		skin	131

Thymallus arcticus (Pallas, 1776) • Arctic grayling

Parasite class	Parasite species	Infective stage	Infection site	Lit. Cited
Monogenea	*Tetronchus borealis* (Olsson, 1893) Monticelli, 1905 as *T. rauschi*		gills	64
Digenea	*Crepidostomum isotomum* Hopkins, 1931		int	22
Digenea	*Phyllodistomum* sp.		ureters, ub	22
Cestoda	*Proteocephalus* sp.		pc, int, stom	22
Cestoda	*Triaenophorus crassus* (Forel, 1868)	plerocercoid	musc	22
Nematoda	*Anisakis* sp.	larva	bc, iw, mes, musc, sw	22
Nematoda	*Cucullanus* sp.		int	99
Acanthocephala	*Acanthocephalus rauschi* (Schmidt, 1969) as *Paracanthocephalus rauschi*		NI	105
Acanthocephala	*Neoechinorhynchus rutili (*Müller, 1780) Hamann, 1892		int	22
Crustacea	*Salmincola edwardsii* (Olsson, 1869) Wilson, 1915		gc, gills, fins	22
Crustacea	*Salmincola thymalli* (Kessler, 1868) Wilson, 1915		gills	99

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