

Supplementary Table S1. List of monogenean taxa included in the phylogenetic analyses with provenance data on their hosts, localities and GenBank accession numbers

Monogenean species	Host species	Isolate	Locality	GenBank ID <i>cox1</i>	28S rDNA	Reference
Family Microcotylidae Taschenberg, 1879						
Subfamily Anchoromicrocotylinae Bravo-Hollis, 1981						
<i>Cynoscionicola branchialis</i> ^a	<i>Umbrina xanti</i> Gill		Mexico		AF382050	Olson & Littlewood (2002)
Subfamily Atrasterinae Maillard & Noisy, 1979						
<i>Atrispinum acarne</i> Maillard & Noisy, 1979	<i>Pagellus acarne</i> (Risso)		Off Sète, France (Western Mediterranean)	AY009160	AF311702	Jovelin & Justine (2001)
<i>Bychowkicotyla mormyri</i> (Lorenz, 1878) Unnithan, 1971	<i>Lithognathus mormyrus</i> (L.)		Off Sète, France (Western Mediterranean)	AY009161	AF311713	Jovelin & Justine (2001)
<i>Sparicotyle chrysophrii</i> (van Beneden & Hesse, 1863) Mamaev, 1984	<i>Sparus aurata</i> L.	L4	Adriatic Sea	GQ240236		Mladineo et al. (2009)
Subfamily Metamicrocotylinae Yamaguti, 1963						
<i>Intracotyle</i> sp. SC-2018	na		na		MH700262	Chou (unpublished)
<i>Metamicrocotyla</i> sp. SC-2018	na		na		MH700260	
Subfamily Microcotylinae Taschenberg, 1879						
<i>Bivagina pagrosomi</i> (Murray, 1931) Dillon & Hargis, 1965	<i>Sparus aurata</i> L.		Coffs Harbor, NSW, Australia	Z83003	Z83002	Littlewood et al. (1997)
<i>Caballeraxine</i> sp. SC-2018	na		na		AJ243678	Littlewood et al. (1999)
<i>Diplostamenides sciaenae</i> (Goto, 1894) Mamaev, 1986	<i>Johnius belangerii</i> (Cuvier)		Versova Dock Landing Centre, Mumbai, India		MH700261	Chou (unpublished)
<i>Diplostamenides</i> sp. SC-2018	na		na		KU204208	Verma & Agrawal (unpublished)
<i>Kahawaia truttae</i> (Dillon & Hargis, 1965) Lebedev, 1969	<i>Arripis trutta</i> (Forster)		Off Bermagui, Australia		FJ432589	Su (unpublished)
<i>Lutianicola</i> sp. SC-2018	<i>Arripis truttaea</i> (Cuvier)		na		MH700263	Chou (unpublished)
<i>Microcotyle algeriensis</i> Ayadi, Gey, Justine & Tazerouti, 2016	<i>Scorpaena notata</i> Rafinesque	MO-01 MO-02 MO-03	Off Bouharoun, Algeria (Western Mediterranean)	KX926443 KX926444 KX926445		Catalano et al. (2010)
<i>Microcotyle archosargi</i> MacCallum, 1913	<i>Archosargus rhomboidalis</i> (L.)	81	Off Seybaplaya Coast, Campeche Bank, Mexico		MG586867	Mendoza-Franco et al. (2018)
<i>Microcotyle arripis</i> Sandars, 1945	<i>Arripis georgiana</i> (Valenciennes)	MC06	Off Australia	LC472527	GU263830	Catalano et al. (2010)
<i>Microcotyle caudata</i> Goto, 1894	<i>Sebastes innermis</i> Cuvier	MC12	Seto Inland Sea, Japan	LC472528		Ono et al. (2020)
	“ <i>Sebastes innermis</i> species complex”	MC18		LC472529		
		MC20		LC472530		
		MC24		LC472531		
<i>Microcotyle erythrini</i> van Beneden & Hesse, 1863	<i>Pagellus erythrinus</i> (L.)		Off France (Western Mediterranean)	AY009159	AM157221	Badets et al., (2011)
		MePe1	Off Guardamar del Segura, Spain (Western Mediterranean)		MN814848	Jovelin & Justine (2001)
		MePe2		MN816012		Víllora-Montero et al. (2020)
				MN816013		

	<i>Pagrus pagrus</i> (L.)	MePp1 MePp2 MePp3 MePp4		MN816014 MN816015 MN816016 MN816017	MN814849	
<i>Microcotyle isyebi</i> Bougerche, Gey, Justine & Tazerouti, 2019	<i>Boops boops</i> (L.)	MO01	Off Algeria (Western Mediterranean)	MK317922		Bouguerche et al. (2019a)
		MiBb1 MiBb2 MiBb3 MiBb4	Off Guardamar del Segura, Spain (Western Mediterranean)	MN816018 MN816019 MN816020 MN816021	MN814850	Villora-Montero et al. (2020)
<i>Microcotyle kasago</i> Ono, Matsumoto, Nitta & Kamio, 2020	<i>Sebastes marmoratus</i> (Cuvier)	MK02 MK01	Seto Inland Sea, Japan	LC472525 LC472526		Ono et al. (2020)
<i>Microcotyle sebastis</i> Goto, 1894	<i>Sebastes</i> sp.		North Sea, off UK		AF382051	Olson & Littlewood (2002)
<i>Microcotyle visa</i> Bougerche, Gey, Justine & Tazerouti, 2019	<i>Sebastes schlegelii</i> Hilgendorf <i>Pagrus caeruleostictus</i> (Valenciennes)	PacoerM O01 PacoerM O02 PacoerM O03	Fish farm, South Korea Off Algeria (Western Mediterranean)	DQ412044 MK275652		Park et al. (2007) Bouguerche et al. (2019b)
				MK275653 MK275654		
<i>Microcotyle whittingtoni</i> Villora-Montero, Pérez-del-Olmo, Georgieva, Raga & Montero, 2020	<i>Dentex dentex</i> (L.)	MwDd1 MwDd2	Off Guardamar del Segura, Spain (Western Mediterranean)	MN816010 MN816011	MN814847	Villora-Montero et al. (2020)
<i>Microcotyle</i> sp. 1 SC-2018	na		na		MH700256	Chou (unpublished)
<i>Microcotyle</i> sp. 2 SC-2018	na	SC-2018	na		MH700266	
<i>Microcotyle</i> sp. DG-2016	<i>Helicolenus dactylopterus</i> (Delaroche)	MO-06 MO-04	Off Bouharoun, Algeria (Western Mediterranean)	KX926447 KX926446		Ayadi et al. (2017)
<i>Microcotyle</i> sp. ^b	<i>Dentex dentex</i> (L.)	JWJ-2015	Off Crete, Greece		KT191025	Jun (2015)
Microcotylidae gen. sp. M10	<i>Sebastes</i> sp.		Off UK		EF653385	Aiken et al. (2007)
<i>Microcotyloides incisus</i> (Linton, 1910) Fujii, 1944	<i>Rhomboplites aurorubens</i> (Cuvier)	DNA- 2546	Northern Gulf of Mexico, off USA		KU527427 ^f	Claxton et al. (2017)
	<i>Lutjanus griseus</i> (L.)	210; 211 210	Campeche Bank, Mexico		MG586862 MG586861 JN602095	Mendoza-Franco et al. (2018)
<i>Omanicotyle heterospina</i> (Mamaev & Parukhin, 1974) Yoon, Al-Jufaili, Freeman, Bron, Paladini & Shinn, 2013	<i>Argyrops spinifer</i> (Forsskål)		Off Muscat, Oman Sea			Yoon et al. (2013)
“Paramicrocotyle” sp. FAS-2014	<i>Pinguipes chilensis</i> Valenciennes		Off Coquimbo, Chile	KJ794215		Oliva et al. (2014)
<i>Paracaesicola nanshaensis</i> Zhou, Li, Liu, Ding & Yuan, 2020 ^c	<i>Paracaesio sordidus</i> Abe & Shinohara		Off China		MH700264	Zhou et al. (2020)
<i>Pauciconfibula draconis</i> (Briot, 1904) Dillon & Hargis, 1965	<i>Trachinus draco</i> L.	MNHN HEL1421	Off Algeria	MW484929		Azizi et al. (2021)
<i>Pauciconfibula trachini</i> (Parona & Perugia, 1889) Dillon & Hargis, 1965	<i>Trachinus radiatus</i> Cuvier	TrraRaml a1Pau1	Off Tunisia	MW484936		Azizi et al. (2021)
<i>Polynemicola</i> sp. SC-2018	na		na		MH700265	Chou (unpublished)
<i>Polylabris sillaginae</i> (Woolcock, 1936)	<i>Sillaginodes punctatus</i> (Cuvier)		Off Australia		GU289509	Catalano et al. (2010)
Subfamily Prostatomicrocotylinae Yamaguti, 1968						
<i>Polylabris halichoeres</i> Wang & Zhang, 1998	na		na	JF505509		Zhang et al. (2011)

<i>Polylabroides guangdongensis</i> Zhang & Yang, 2000	na	na	JQ038230		Zhang et al. (unpublished)
<i>Polylabris</i> cf. <i>mamaevi</i> SC-2018	na	na		MH700591	Chou (unpublished)
<i>Polylabris</i> sp. SC-2018	na	na		MH700257	
<i>Polylabroides</i> sp. SC-2018	na	na		MH700258	
Family Capsalidae Baird, 1853					
<i>Encotyllabe antofagastensis</i> Sepúlveda, González & Oliva, 2014	<i>Anisotremus scapularis</i> (Tschudi)	As1F74 As3F135 As4F136 As2F113 As3F134 F1	Off Antofagasta, Chile Off Cabo Frio, RJ, Brazil Off Heron Island, QLD, Australia	JQ782836 JQ782837 JQ782838 JQ782839 JQ782840	Sepúlveda et al. (2014) MT982166 AF026112
<i>Encotyllabe caballeroi</i> Velasquez, 1977	<i>Gymnocranius audleyi</i> Ogilby				Taborda et al. (unpublished) Mollaret et al. (1997)
<i>Encotyllabe caranxi</i> Lebedev, 1967	<i>Pseudocaranx dentex</i> (Bloch & Schneider)	AHC 29665	Off Australia		FJ971990 Perkins et al. (2009)
<i>Encotyllabe cheilodactyli</i> Sepúlveda, González & Oliva, 2014	<i>Cheilodactylus variegatus</i> Valenciennes	Cv3F60 Cv1F29 Cv1F30 Cv2F31 Cv3F61 F29	Off Antofagasta, Chile	JQ782841 JQ782842 JQ782843 JQ782844 JQ782845	Sepúlveda et al. (2014)
<i>Encotyllabe chironemi</i> Robinson, 1961	<i>Chironemus marmoratus</i> Günther		Off Cabo Frio, RJ, Brazil Coffs Harbour, Australia		MT982167 AF382054 Olson & Littlewood (2002)
<i>Encotyllabe</i> cf. <i>spari</i> ACAC-2017	<i>Orthopristis ruber</i> (Cuvier)	E451	Off Urca, Brazil		KY553149 Camargo et al. (2017)
<i>Encotyllabe</i> sp. h FAS-2020		F44 E1.6-E1.9 E2.2	Off Cabo Frio, RJ, Brazil		MT968927 Taborda et al. (unpublished)
<i>Encotyllabe</i> sp. y FAS-2020	<i>Pagrus pagrus</i> (L.)			MT967362	MT968928

^aAs “*Cynoscionicola branquialis*” (lapsus) (syn. of *C. branchialis*) on GenBank; ^bAs “*Microcotylidae* sp. JWJ-2015” on GenBank; ^cAs “*Monogenea* gen. n. sp. SC-2018” on GenBank.

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