

**Supplementary Table S1.** List of sequences included in the phylogenetic analyses with details of collection localities, host species, references and GenBank accession numbers

Gene bank accession number	Species	Collection locality	Host species	Reference
AB517560	<i>Anisakis simplex</i>	Northwest Pacific Ocean (Japan, Mie Prefecture) <sup>a</sup>	<i>Scomber japonicus</i>	[29]
AB695403	<i>A. simplex</i>	Northwest Pacific Ocean (Japan) <sup>a</sup>	<i>Cololabis saira</i>	Unpublished
AP017678	<i>A. simplex</i>			Unpublished
AY994157	<i>A. simplex</i>	Northwest Pacific Ocean (Korean coast) <sup>a</sup>	<i>Conger myriast</i>	[23]
Q0338428	<i>A. simplex</i>	Northwest Atlantic Ocean (West coast of Ireland)	<i>Salmo salar</i>	[510]
HM437216-HM437219	<i>A. simplex</i>	Northwest Pacific Ocean (East coast of Korea) <sup>e</sup>	<i>Oncorhynchus masou</i>	[6]
HM488995-HM489004	<i>A. simplex</i>	Northwest Pacific Ocean (East coast of Korea) <sup>e</sup>	<i>Oncorhynchus keta</i>	[7]
HQ702736-HQ702739	<i>A. simplex</i>	Northwest Pacific Ocean (East and South coast of Korea) <sup>e</sup>	<i>Todarodes pacificus</i>	[8]
JN786317	<i>A. simplex</i>	Baltic Sea (Poland)	<i>Gadus morhua</i>	Unpublished
JO934885	<i>A. simplex</i>	Middle Adriatic Sea (Croatia)	<i>Trachurus trachurus</i>	[511]
KC633435-KC633436, KC633441	<i>A. simplex</i>	Northwest Pacific Ocean (East and South coast of Korea) <sup>e</sup>	<i>Scomber japonicus</i>	[10]
KC810002-KC810003	<i>A. simplex</i>	Northeastern Atlantic Ocean (Norwegian coast)	<i>Balaenoptera acutorostrata</i>	[512]
KC810004	<i>A. simplex</i>	Northwestern Atlantic Ocean (Norwegian coast)	<i>Globicephala melas</i>	[512]
KC965056	<i>A. simplex</i>	Baltic Sea (Vistula Lagoon)	<i>Clupea harengus</i>	[513]
KT852457	<i>A. simplex</i>	Northern North Sea (Tampen)	<i>Sebastes mentella</i>	[514]
KU899549	<i>A. simplex</i>	Baltic Sea (Poland)	<i>Clupea harengus membras</i>	[515]
KX158867	<i>A. simplex</i>	Barents Sea (Norway)	<i>Mallotus villosus</i>	[516]
KY270867-KY270870	<i>A. simplex</i>	Northwest Pacific Ocean (Korean coast) <sup>e</sup>	<i>Theragra chalcogramma</i>	Unpublished
LC514699	<i>A. simplex</i>	Northwest Pacific Ocean (Japan) <sup>e</sup>	<i>Sardinops melanostictus</i>	Unpublished
LC543749	<i>A. simplex</i>	Northwest Pacific Ocean (Japan) <sup>e</sup>	<i>Katsuwonus pelamis</i>	[517]
MF358545	<i>A. simplex</i>	Mediterranean Sea (Alboran Sea)	<i>Merluccius merluccius</i>	[518]
MF964205-MF964214	<i>A. simplex</i>	Northwest Pacific Ocean (East coast of Korea) <sup>e</sup>	<i>Gadus chalcogrammus</i>	[11]
MK820679	<i>A. simplex</i>	Yellow Sea (China) <sup>e</sup>	<i>Anoplopoma fimbria</i>	[519]
MN624178	<i>A. simplex</i>	Northwest Pacific Ocean (USA, California)	<i>Zalophus californianus</i>	Unpublished
MN747383	<i>A. simplex</i>	Mediterranean Sea: Tunisia	<i>Euthynnus alletteratus</i>	Unpublished
MN747422	<i>A. simplex</i>	Mediterranean Sea: Tunisia	<i>Auxis rochei</i>	Unpublished
MN877346	<i>A. simplex</i>		<i>Salmo salar</i> , <i>Scomber scombrus</i>	[520]
MN961155, MN961157-MN961159	<i>A. simplex</i>	Northeast Atlantic Ocean (Galician coast)	<i>Delphinus delphis</i>	[521]
MN961167-MN961168, MN961170	<i>A. simplex</i>	Northeast Atlantic Ocean (Galician coast)	<i>Stenella coeruleoalba</i>	[521]
MN961171-MN961172	<i>A. simplex</i>	Northwest Atlantic Ocean (Galician coast)	<i>Phocoena phocoena meridionalis</i>	[521]
MT667259	<i>A. simplex</i>	Mediterranean Sea	<i>Mola mola</i>	[522]
MT912452	<i>A. simplex</i>	Northeast Pacific Ocean (USA, California)	<i>Zalophus californianus</i>	Unpublished
MT989565	<i>A. simplex</i>	Northeast Atlantic Ocean (Norwegian Sea)	<i>Micromesistius poulassou</i>	[523]
MW324555	<i>A. simplex</i>	Tunisia: North coast	<i>Epinephelus marginatus</i>	Unpublished
OK338703	<i>A. simplex</i>	Baltic Sea (Øresund, Denmark)	<i>Gadus morhua</i>	[524]
<b>OP948879</b>	<i>A. simplex</i>	Northwest Pacific Ocean (East coast of Korea) <sup>d</sup>	<i>Balaenoptera acutorostrata</i>	This study
DQ116426	<i>A. simplex</i>			[525]
DQ116427	<i>Anisakis typica</i>			[525]
DQ116428	<i>Anisakis pegreffii</i>			[525]
DQ116429	<i>Anisakis berlandi</i>			[525]
DQ116430	<i>Anisakis ziphidarum</i>			[525]
DQ116432	<i>Anisakis physeteris</i>			[525]
DQ116433	<i>Anisakis brevispiculata</i>			[525]
DQ116434	<i>Anisakis pagglae</i>			[525]
FL685642	<i>Anisakis nascettii</i>			[526]
FL905109	<i>Contracaecum rudolphii</i>	China <sup>e</sup>	Phalacrocoracidae	[527]

<sup>a</sup>Unknown.

<sup>b</sup>Imported fish to Turkey.

<sup>c</sup>More than two information, and could not specify the exact locality and host.

<sup>d</sup>Sequence from this study.

<sup>e</sup>Sequences from the Northwest Pacific Ocean (Korea, Japan, and China).