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Appendix A

(i) Fish 16S primers designed and used in the soft scat and bone analysis. The primers are shown aligned with homologous sequences from representative target taxa.

Phylum	Class	Family	Genus + species	16S1 (F-3') GGA CGA GAA G-A CCC T	16S1aHF (F-3') A G-A CCC TAT GGA GCT TTA GAC	16S1aHF (F-3') AGT TAC CCT AGG GAT AAC AGC G
Chordata	Mammalia	Otariidae	<i>Eumetopias jubatus</i>	NC004030	A.....CA ATT	.....
Chordata	Chondrichthyes	Rajidae	<i>Raja jordani</i>	AY257153	A.....A	.....
Chordata	Chondrichthyes	Rajidae	<i>Dipturus oxyrinchus</i>	AF442158	A.....A	.....
Chordata	Chondrichthyes	Rajidae	<i>Raja brachyura</i>	AY219573	A.....A	.....
Chordata	Chondrichthyes	Rajidae	<i>Raja raditis</i>	AY219589	A.....A	.....
Chordata	Chondrichthyes	Rajidae	<i>Raja montesquieu</i>	AY219571	A.....A	.....
Chordata	Chondrichthyes	Rajidae	<i>Raja cf. clavata</i>	AF442155	A.....A	.....
Chordata	Chondrichthyes	Rajidae	<i>Raja polyistigma</i>	AY219572	A.....A	.....
Chordata	Chondrichthyes	Squalidae	<i>Squalus acanthias</i>	SAC18134	A.....C. A.	.....
Chordata	Chondrichthyes	Squalidae	<i>Squalus cubensis</i>	AF288199	A.....C. A.	.....
Chordata	Chondrichthyes	Squalidae	<i>Squalus mitsukurini</i>	AF288198	A.....C. A.	.....
Chordata	Actinopterygii	Clupeidae	<i>Sardinops melanostictus</i>	AB032554	A.....C. A.	.....
Chordata	Actinopterygii	Clupeidae	<i>Sardinops caeruleus</i>	AY428443	A.....G	.....
Chordata	Actinopterygii	Clupeidae	<i>Sardinia pilchardus</i>	AY236433	A.....G	.....
Chordata	Actinopterygii	Clupeidae	<i>Clupea pallasii</i>	AY800000	A.....G	.....
Chordata	Actinopterygii	Clupeidae	<i>Clupea harengus</i>	MICH168R	A.....G	.....
Chordata	Actinopterygii	Clupeidae	<i>Clupea harengus</i>	AF420453	A.....G	.....
Chordata	Actinopterygii	Clupeidae	<i>Hemilepidotus spinosus</i>	AY520094	A.....G	.....
Chordata	Actinopterygii	Cottidae	<i>Hemilepidotus zapus</i>	AY539022	A.....G	.....
Chordata	Actinopterygii	Cottidae	<i>Hemilepidotus jordani</i>	AY539021	A.....G	.....
Chordata	Actinopterygii	Cottidae	<i>Myoxocephalus polyacanthocephalus</i>	AY539027	A.....G	.....
Chordata	Actinopterygii	Cottidae	<i>Tauturus bubalis</i>	AY539029	A.....G	.....
Chordata	Actinopterygii	Cottidae	<i>Eriophrys bison</i>	AY586824	A.....G	.....
Chordata	Actinopterygii	Cottidae	<i>Triglops eschschus</i>	AY539030	A.....G	.....
Chordata	Actinopterygii	Cottidae	<i>Microcotus sellaris</i>	AY539026	A.....G	.....
Chordata	Actinopterygii	Cottidae	<i>kelinus filamentosa</i>	AY555649	A.....G	.....
Chordata	Actinopterygii	Hemirhamphidae	<i>Thamphocetus richardsoni</i>	AY539015	A.....C	.....
Chordata	Actinopterygii	Hemirhamphidae	<i>Nautilichthys pribilofius</i>	AY539035	A.....C	.....
Chordata	Actinopterygii	Agonidae	<i>Xenentemus levis</i>	AY756259	A.....C	.....
Chordata	Actinopterygii	Agonidae	<i>Xenentemus latifrons</i>	AY539038	A.....C	.....
Chordata	Actinopterygii	Agonidae	<i>Odonotyx trispinosus</i>	AY586829	A.....C	.....
Chordata	Actinopterygii	Agonidae	<i>Podichthys acipenserinus</i>	AY586830	A.....C	.....
Chordata	Actinopterygii	Abyssocottidae	<i>Coryphopterus bairdianus</i>	AY539032	A.....C	.....
Chordata	Actinopterygii	Abyssocottidae	<i>Asprocottus pulcher</i>	AY539033	A.....C	.....
Chordata	Actinopterygii	Gadidae	<i>Gadus morhua</i>	AY586863	A.....C	.....
Chordata	Actinopterygii	Gadidae	<i>Theragra chalcogramma</i>	AY586862	A.....C	.....
Chordata	Actinopterygii	Merlucciidae	<i>Merlangius merlangus</i>	AY141400	A.....C	.....
Chordata	Actinopterygii	Merlucciidae	<i>Merlangius merlangus</i>	DQ020496	A.....C	.....
Chordata	Actinopterygii	Merlucciidae	<i>Melanogrammus aeglefinus</i>	DQ020497	A.....C	.....
Chordata	Actinopterygii	Merlucciidae	<i>Merluccius productus</i>	AY947850	A.....G	.....C
Chordata	Actinopterygii	Merlucciidae	<i>Merluccius bilinearis</i>	AF420456	A.....G	.....C
Chordata	Actinopterygii	Merlucciidae	<i>Merluccius merluccius</i>	AY843309	A.....G	.....C
Chordata	Actinopterygii	Anoplopomatidae	<i>Anoplopoma fimbria</i>	AY539010	A.....G	.....
Chordata	Actinopterygii	Trichodontidae	<i>Trichodon trichodon</i>	AY539066	A.....G	.....
Chordata	Actinopterygii	Ammodontidae	<i>Ammodontes kobleni</i>	AY141450	A.....G?
Chordata	Actinopterygii	Ammodontidae	<i>Ammodontes sp.</i>	AF315121	A.....G	.....
Chordata	Actinopterygii	Myctophidae	<i>Lampanyctus tenuifrons</i>	AY586816	A.....G...A...T	.....
Chordata	Actinopterygii	Myctophidae	<i>Lampanyctus regalis</i>	AF134246	A.....G...A...T	.....
Chordata	Actinopterygii	Myctophidae	<i>Diaphus dumerilii</i>	DDU277965	A.....G...A...T	.....
Chordata	Actinopterygii	Myctophidae	<i>Diaphus theta</i>	AF134244	A.....G...A...T	.....
Chordata	Actinopterygii	Myctophidae	<i>Stenobrachius leucostictus</i>	AB042181	A.....G...A...T	.....
Chordata	Actinopterygii	Myctophidae	<i>Stenobrachius leucostictus</i>	AF134242	A.....G...A...T	.....T...T...
Chordata	Actinopterygii	Hexagrammidae	<i>Hexagrammos lagodon</i>	AY583115	A.....G	.....
Chordata	Actinopterygii	Hexagrammidae	<i>Hexagrammos decagrammus</i>	AY520475	A.....G	.....
Chordata	Actinopterygii	Hexagrammidae	<i>Hexagrammos decagrammus</i>	AY583117	A.....G	.....
Chordata	Actinopterygii	Hexagrammidae	<i>Pleuragrammus monopterygius</i>	AY800004	A.....G	.....
Chordata	Actinopterygii	Hexagrammidae	<i>Pleuragrammus monopterygius</i>	AB041435	A.....G	.....
Chordata	Actinopterygii	Hexagrammidae	<i>Pleuragrammus monopterygius</i>	AY583119	A.....G	.....
Chordata	Actinopterygii	Hexagrammidae	<i>Ophiodon elongatus</i>	AY520095	A.....G	.....
Chordata	Actinopterygii	Hexagrammidae	<i>Ophiodon elongatus</i>	AY583120	A.....G	.....
Chordata	Actinopterygii	Syngnathidae	<i>Syngnathus exilis</i>	AY586868	A.....G...G...A...T	.....C
Chordata	Actinopterygii	Boiidae	<i>Boia lineata</i>	AF488458	A.....G...G...A...T	.....C
Chordata	Actinopterygii	Paralichthyidae	<i>Eriopis crocodrus</i>	AY586854	A.....G...G...A...T	.....C
Chordata	Actinopterygii	Paralichthyidae	<i>Citharichthys sordidus</i>	AY582496	A.....G...G...A...T	.....C
Chordata	Actinopterygii	Paralichthyidae	<i>Citharichthys xanthostigma</i>	AY582498	A.....G...G...A...T	.....C
Chordata	Actinopterygii	Paralichthyidae	<i>Citharichthys xanthostigma</i>	AF488449	A.....G...G...A...T	.....C
Chordata	Actinopterygii	Pleuronectidae	<i>Platichthys flesus</i>	AY157320	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Platichthys flesus</i>	AY586870	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Platichthys flesus</i>	AB122525	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Platichthys stellatus</i>	AF488432	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Platichthys stellatus</i>	AY586827	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Pleuronectes platessa</i>	AY157328	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Pleuronectes platessa</i>	AY586873	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Eopsetta jordani</i>	AF488426	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Pseudopleuronectes americanus</i>	AF488428	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Microstomus achni</i>	AY368898	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Microstomus pacificus</i>	AF488430	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Eopsetta grigorjevi</i>	AY368896	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Pseudopleuronectes herzensteini</i>	AY368899	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Parophrys vetulus</i>	AF488438	A.....G?
Chordata	Actinopterygii	Pleuronectidae	<i>Lepidopsetta bilineata</i>	AF488429	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Lepidopsetta bilineata</i>	AF488431	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Pseustichthys melanostictus</i>	AF488435	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Citharus linguatula</i>	AY582505	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Limanda ferruginea</i>	AF420452	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Glyptocephalus zachirus</i>	AF488436	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Platichthys bicoloratus</i>	AP002951	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Glyptocephalus cynoglossus</i>	AF420447	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Hippoglossus stenolepis</i>	AF488433	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Pseudopleuronectes americanus</i>	AF488438	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Reinhardtius evermanni</i>	AF488425	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Cleithron herzensteini</i>	AY368895	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Hippoglossoides platessoides</i>	AF488427	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Hippoglossoides elassodon</i>	AY586836	A.....G	.....T...
Chordata	Actinopterygii	Pleuronectidae	<i>Limanda aspera</i>	AF488441	A.....G	.....
Chordata	Actinopterygii	Pleuronectidae	<i>Limanda limanda</i>	AY368897	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Oncorhynchus nerka</i>	AY800002	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Oncorhynchus tshawytscha</i>	AF362054	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Oncorhynchus kisutch</i>	AY800005	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Oncorhynchus mykiss</i>	AY236431	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Oncorhynchus mykiss albus</i>	AF125509	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Oncorhynchus keta</i>	AF125512	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Oncorhynchus masou ishikawae</i>	AF125511	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Oncorhynchus masou masou</i>	AF125510	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Oncorhynchus tshawytscha</i>	AY800002	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Salmo salar</i>	U12143	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Salmo salar</i>	X77565	A.....G	.....
Chordata	Actinopterygii	Salmonidae	<i>Salvelinus alpinus</i>	AF154851	A.....G	.....
Chordata	Actinopterygii	Osmeridae	<i>Hypomesus pretiosus</i>	AY800001	A.....G	.....
Chordata	Actinopterygii	Osmeridae	<i>Spirinchus thaleichthys</i>	AY430239	A.....G	.....
Chordata	Actinopterygii	Osmeridae	<i>Osmerus mordax</i>	AF454841	A.....G	.....
Chordata	Actinopterygii	Osmeridae	<i>Thaleichthys pacificus</i>	AY443568	A.....G	.....
Chordata	Actinopterygii	Osmeridae	<i>Malilus villosus</i>	AY799999	A.....G	.....
Chordata	Actinopterygii	Cyprinodontidae	<i>Aplocheilichthys ventriosus</i>	AY539042	A.....G	.....
Chordata	Actinopterygii	Bathylagidae	<i>Bathylagus ochotensis</i>	AY443570	A.....G	.....
Chordata	Actinopterygii	Sebastidae	<i>Sebastes matsubarae</i>	AY539077	A.....G	.....
Chordata	Actinopterygii	Sebastidae	<i>Sebastes schlegelii</i>	AY491978	A.....G	.....
Chordata	Actinopterygii	Sebastidae	<i>Sebastes brevignani</i>	AF518224	A.....G	.....
Chordata	Actinopterygii	Sebastidae	<i>Sebastes marinus</i>	AF518225	A.....G	.....
Chordata	Actinopterygii	Sebastidae	<i>Sebastes elongatus</i>	AY539076	A.....G	.....
Chordata	Actinopterygii	Sebastidae	<i>Sebastes atrovirens</i>	AY583110	A.....G	.....
Chordata	Actinopterygii	Sebastidae	<i>Helicolenus tiligendrorii</i>	AP002948	A.....G	.....
Chordata	Actinopterygii	Sebastidae	<i>Helicolenus dactylopterus</i>	AY589575	A.....G	.....
Chordata	Actinopterygii	Stichaeidae	<i>Anoplopoma fimbria</i>	AY586832	A.....G	.....
Chordata	Actinopterygii	Stichaeidae	<i>Chirolophus decoratus</i>	AY586822	A.....G	.....
Chordata	Actinopterygii	Bathylagidae	<i>Bathylagus signatus</i>	AY589601	A.....G	.....
Chordata	Actinopterygii	Trichodontidae	<i>Zapora alatus</i>	AY586802	A.....G	.....

(ii) Cephalopod 16S primers designed and used in the soft scat analysis. The primers are shown aligned with homologous sequences from representative target taxa. The sequence alignments are not shown for the 16ScephFb (Table 2a) primer which was specifically designed for the amplification of octopus and was used in conjunction with the 16ScephF primer.

Phylum	Class	Family	Genus + species	Accession no.	16Sf1 (5'-3')	16ScephF (5'-3')	16SallR (5'-3')
					GGA CGA GAA -GA CCC T	A CGA GAA -GA CCC TAT TGA GCT TAT A	A GTT ACC ATA GGG ATA ACA G-C G
Mollusca	Cephalopoda	Onychoteuthidae (hook squids)	<i>Onychoteuthis</i> sp.	AJ223483	... ..	... ..	... ..
Mollusca	Cephalopoda	Onychoteuthidae (hook squids)	<i>Onychoteuthis compacta</i>	AJ223482	... ..	... ..	... ..
Mollusca	Cephalopoda	Onychoteuthidae (hook squids)	<i>Onychoteuthis</i> sp.	AJ223481	... ..	... ..	... ..
Mollusca	Cephalopoda	Onychoteuthidae (hook squids)	<i>Moroteuthis robsoni</i>	AJ223487	... .R. ? . A. ....	... .R. ? . A. ....	... ..
Mollusca	Cephalopoda	Onychoteuthidae (hook squids)	<i>Moroteuthis robusta</i>	AJ223489	... ..	... ..C .....	... ..-G .
Mollusca	Cephalopoda	Onychoteuthidae (hook squids)	<i>Moroteuthis knipovitchi</i>	AJ223488	... ..	... ..	... ..T .
Mollusca	Cephalopoda	Onychoteuthidae (hook squids)	<i>Onykia</i> sp.	AJ223486	..AC	C .....	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo opalescens</i>	AJ000107	... ..	... ..G .	... ..R.
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo opalescens</i>	AF110078	... ..	... ..G .	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo opalescens</i>	AF110077	... ..	... ..G .	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo bleekeri</i>	AB191142	... ..	... ..C .....	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo gahi</i>	AJ000106	... ..R .....	... ..R .....	... ..M. -S .
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo edulis</i>	AJ000103	... ..	... ..	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo patagonica</i>	AJ000102	... ..	... ..	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo chinensis</i>	AJ000105	... ..	... ..C .....	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo duvauceli</i>	AJ000101	... ..	... ..	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo edulis</i>	AF369956	... ..	... ..-A .	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo gahi</i>	AF110076	... ..	... ..	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo bleekeri</i>	AF110074	... ..	... ..C .....	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo chinensis</i>	AF369955	... ..	... ..G .	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo subulata</i>	AF110072	... ..	... ..	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo forbesi</i>	AF110075	... ..	... ..	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo pealei</i>	AF110079	... ..	... ..	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo vulgaris</i>	AF110082	... ..	... ..C ....G .	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo reynaudii</i>	AF110081	... ..	... ..C ....G .	... ..C
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo plei</i>	AF110080	... ..	... ..	... ..
Mollusca	Cephalopoda	Loliginidae (squids)	<i>Loligo bleekeri</i>	AF110073	... ..	... ..C .....	... ..
Mollusca	Cephalopoda	Enoploteuthidae (armed squids)	<i>Enoploteuthis higginsii</i>	AJ223485	... ..	... ..A .T. ....	... ..-S .
Mollusca	Cephalopoda	Enoploteuthidae (armed squids)	<i>Enoploteuthis galaxias</i>	AJ223484	... ..	... ..A .....	... ..
Mollusca	Cephalopoda	Architeuthidae (giant squids)	<i>Architeuthis</i> sp.	AY392149	... ..	... ..	... ..
Mollusca	Cephalopoda	Octopodidae (octopus)	<i>Enteroctopus dofleini</i>	AY545109	... ..	... ..TA .	... ..

iii) Crustacean 16S primers designed and used in the soft scat analysis. The primers are shown aligned with homologous sequences from representative target taxa.

Phylum	Class	Family	Crustacean sp.	Accession no.	16Sf1 (5'-3') GGA CGA GAA GAC CCT	16ScrutF (5'-3') GGA CGA TAA GAC CCT ATA A	16ScrutR (5'-3') AGT TAC TTT AGG GAT AAC AGC
Arthropoda	Malacostraca	Cancridae (rock crabs)	<i>Cancer magister</i>	AY789473	... .. T.. ... ..	... .. ... ..	... ..
Arthropoda	Malacostraca	Cancridae (rock crabs)	<i>Cancer pagurus</i>	DQ079708	... .. T.. ... ..	... .. ... ..	... ..
Arthropoda	Malacostraca	Geryonidae (deep sea crabs)	<i>Chaceon affinis</i>	AF100916	... .. T.. ... ..	... .. ... ..	... ..
Arthropoda	Malacostraca	Potamidae	<i>Johara tiomanensis</i>	AY803556	... .. T.. ... ..	... .. ... ..	... ..
Arthropoda	Malacostraca	Xanthidae	<i>Liomera cinctimana</i>	AF501737	... .. T.. ... ..	... .. ... ..	... ..
Arthropoda	Malacostraca	Pinnotheridae (pea crabs)	<i>Austinia felipensis</i>	AF503183	A.. .. T..	A.. .. ... ..	... ..
Arthropoda	Malacostraca	Porcellanidae (porcelain crabs)	<i>Petrolisthes armatus</i>	DQ444875	A.. .. T..	A.. .. ... ..	... ..
Arthropoda	Malacostraca	Acanthaspidiidae	<i>Ianthopsis ruseri</i>	AY691338	A.. .. T..	A.. .. ... ..	... ..
Arthropoda	Malacostraca	Palaemonidae (palaemonid shrimps)	<i>Macrobrachium rosenbergii</i>	AY377853	... .. T.. .N. ...	... .. T.. .N. ...	... ..
Arthropoda	Malacostraca	Palaemonidae (palaemonid shrimps)	<i>Palaemon longirostris</i>	AJ640129	... .. T.. ... ..	... .. ... ..	... ..
Arthropoda	Malacostraca	Pandalidae (pandalid shrimps)	<i>Pandalus latirostris</i>	AB244633	... .. T.. ... ..	... .. ... ..	... ..G
Arthropoda	Malacostraca	Ligiidae	<i>Ligia occidentalis</i>	AF260862	... .. T.. ... ..	... .. ... ..A..	... ..
Arthropoda	Malacostraca	Euphausiidae (krills)	<i>Euphasia pacifica</i>	AY688458	T.. .. T..	T.. .. ... ..	... ..