

PHYLUM	FAMILY	Total number of species	Number of species without barcode	Number of species with barcode	Percentage of the gap in the reference libraries
Anellida	Naididae	1	1	0	100
Anellida	Acoetidae	1	1	0	100
Anellida	Chrysopetalidae	1	1	0	100
Anellida	Fabriciidae	1	1	0	100
Anellida	Arenicolidae	1	1	0	100
Anellida	Saccocirridae	1	1	0	100
Anellida	Aphroditidae	3	2	1	66.7
Anellida	Pectinariidae	3	2	1	66.7
Anellida	Sigalionidae	8	5	3	62.5
Anellida	Serpulidae	26	16	10	61.5
Anellida	Lumbrineridae	10	6	4	60
Anellida	Magelonidae	5	3	2	60
Anellida	Capitellidae	17	10	7	58.8
Anellida	Syllidae	33	19	14	57.6
Anellida	Terebellidae	18	10	8	55.5
Anellida	Opheliidae	9	5	4	55.5
Anellida	Nereididae	21	11	10	52.4
Anellida	Cirratulidae	23	12	11	52.2
Anellida	Phyllodocidae	26	13	13	50
Anellida	Sabellidae	16	8	8	50
Anellida	Poecilochaetidae	2	1	1	50
Anellida	Spionidae	28	14	14	50
Anellida	Flabelligeridae	6	3	3	50
Anellida	Cossuridae	2	1	1	50
Anellida	Orbiniidae	10	5	5	50
Anellida	Paraonidae	19	9	10	47.4
Anellida	Maldanidae	17	7	10	41.2
Anellida	Ampharetidae	10	4	6	40
Anellida	Sabellariidae	5	2	3	40
Anellida	Onuphidae	13	5	8	38.5
Anellida	Eunicidae	14	5	9	35.7
Anellida	Hesionidae	9	3	6	33.3
Anellida	Pilargidae	3	1	2	33.3
Anellida	Chaetopteridae	3	1	2	33.3
Anellida	Scalibregmatidae	3	1	2	33.3
Anellida	Polynoidae	10	3	7	30
Anellida	Dorvilleidae	4	1	3	25
Anellida	Nephtyidae	8	1	7	12.5
Anellida	Glyceridae	10	1	9	10
Anellida	Euprosinidae	1	0	1	0
Anellida	Erpobdellidae	1	0	1	0

Anellida	Thalassematidae	2	0	2	0
Anellida	Oeonidae	6	0	6	0
Anellida	Goniadidae	4	0	4	0
Anellida	Pholoidae	1	0	1	0
Anellida	Oweniidae	2	0	2	0
Anellida	Sternaspidae	2	0	2	0
Anellida	Trichobranchidae	3	0	3	0
Anellida	Polygordiidae	1	0	1	0
Arthropoda	Amphilochidae	1	1	0	100
Arthropoda	Atylidae	1	1	0	100
Arthropoda	Calliopiidae	1	1	0	100
Arthropoda	Cheluridae	1	1	0	100
Arthropoda	Colomastigidae	1	1	0	100
Arthropoda	Megaluropidae	1	1	0	100
Arthropoda	Phliantidae	1	1	0	100
Arthropoda	Phoxocephalidae	2	2	0	100
Arthropoda	Leuconidae	1	1	0	100
Arthropoda	Nannastacidae	1	1	0	100
Arthropoda	Ethusidae	1	1	0	100
Arthropoda	Gourretiidae	1	1	0	100
Arthropoda	Palicidae	1	1	0	100
Arthropoda	Pirimelidae	2	2	0	100
Arthropoda	Varunidae	2	2	0	100
Arthropoda	Laophontidae	1	1	0	100
Arthropoda	Aegidae	1	1	0	100
Arthropoda	Joeropsididae	1	1	0	100
Arthropoda	Trichoniscidae	1	1	0	100
Arthropoda	Cypridinidae	2	2	0	100
Arthropoda	Cytherideidae	1	1	0	100
Arthropoda	Loxoconchidae	1	1	0	100
Arthropoda	Xestoleberididae	1	1	0	100
Arthropoda	Parapseudidae	1	1	0	100
Arthropoda	Bathyporeiidae	5	4	1	80
Arthropoda	Lysianassidae	10	8	2	80
Arthropoda	Apseudidae	4	3	1	75
Arthropoda	Tanaellidae	7	5	2	71.4
Arthropoda	Stenothoidae	3	2	1	66.7
Arthropoda	Arcturidae	3	2	1	66.7
Arthropoda	Gnathiidae	3	2	1	66.7
Arthropoda	Jaeropsidae	3	2	1	66.7
Arthropoda	Hyalidae	5	3	2	60
Arthropoda	Oedicerotidae	5	3	2	60
Arthropoda	Cirolanidae	5	3	2	60
Arthropoda	Mysidae	12	7	5	58.3

Arthropoda	Aoridae	10	5	5	50
Arthropoda	Corophiidae	10	5	5	50
Arthropoda	Gammaridae	8	4	4	50
Arthropoda	Leucothoidae	6	3	3	50
Arthropoda	Pseudocumatidae	2	1	1	50
Arthropoda	Callianassidae	4	2	2	50
Arthropoda	Epialtidae	4	2	2	50
Arthropoda	Leucosiidae	6	3	3	50
Arthropoda	Porcellanidae	4	2	2	50
Arthropoda	Processidae	6	3	3	50
Arthropoda	Janiridae	2	1	1	50
Arthropoda	Limnoriidae	2	1	1	50
Arthropoda	Ammotheidae	4	2	2	50
Arthropoda	Acidostomatidae	1	0	1	0
Arthropoda	Carcinidae	5	2	3	40
Arthropoda	Inachidae	5	2	3	40
Arthropoda	Bodotriidae	6	2	4	33.3
Arthropoda	Parthenopidae	3	1	2	33.3
Arthropoda	Portunidae	3	1	2	33.3
Arthropoda	Upogebiidae	3	1	2	33.3
Arthropoda	Leptocheliidae	3	1	2	33.3
Arthropoda	Ischyroceridae	10	3	7	30
Arthropoda	Maeridae	7	2	5	28.6
Arthropoda	Tanaididae	7	2	5	28.6
Arthropoda	Melitidae	4	1	3	25
Arthropoda	Photidae	4	1	3	25
Arthropoda	Galatheidae	4	1	3	25
Arthropoda	Chironomidae	4	1	3	25
Arthropoda	Idoteidae	5	1	4	20
Arthropoda	Paguridae	11	2	9	18.2
Arthropoda	Diogenidae	6	1	5	16.7
Arthropoda	Sphaeromatidae	7	1	6	14.3
Arthropoda	Ampeliscidae	8	1	7	12.5
Arthropoda	Caprellidae	8	1	7	12.5
Arthropoda	Polybiidae	11	1	10	9.1
Arthropoda	Ampithoidae	3	0	3	0
Arthropoda	Cheirocratidae	1	0	1	0
Arthropoda	Dexaminidae	2	0	2	0
Arthropoda	Iphimediidae	3	0	3	0
Arthropoda	Microprotopidae	1	0	1	0
Arthropoda	Nuuanuidae	1	0	1	0
Arthropoda	Talitridae	1	0	1	0
Arthropoda	Urothoidae	5	0	5	0
Arthropoda	Diastylidae	3	0	3	0

Arthropoda	Alpheidae	6	0	6	0
Arthropoda	Atyidae	1	0	1	0
Arthropoda	Cancriidae	1	0	1	0
Arthropoda	Corystidae	1	0	1	0
Arthropoda	Crangonidae	5	0	5	0
Arthropoda	Dorippidae	1	0	1	0
Arthropoda	Eriphiidae	2	0	2	0
Arthropoda	Goneplacidae	1	0	1	0
Arthropoda	Grapsidae	1	0	1	0
Arthropoda	Hippolytidae	1	0	1	0
Arthropoda	Lysmatidae	1	0	1	0
Arthropoda	Majidae	1	0	1	0
Arthropoda	Nephropidae	1	0	1	0
Arthropoda	Palaemonidae	5	0	5	0
Arthropoda	Panopeidae	2	0	2	0
Arthropoda	Penaeidae	1	0	1	0
Arthropoda	Pilumnidae	2	0	2	0
Arthropoda	Pinnotheridae	1	0	1	0
Arthropoda	Potamidae	1	0	1	0
Arthropoda	Sicyoniidae	1	0	1	0
Arthropoda	Thiidae	1	0	1	0
Arthropoda	Thoridae	1	0	1	0
Arthropoda	Xanthidae	6	0	6	0
Arthropoda	Ceratopogonidae	1	0	1	0
Arthropoda	Baetidae	2	0	2	0
Arthropoda	Caenidae	1	0	1	0
Arthropoda	Euphausiidae	1	0	1	0
Arthropoda	Corixidae	1	0	1	0
Arthropoda	Gerridae	1	0	1	0
Arthropoda	Anthuridae	3	0	3	0
Arthropoda	Asellidae	2	0	2	0
Arthropoda	Holognathidae	1	0	1	0
Arthropoda	Ligiidae	1	0	1	0
Arthropoda	Munnidae	1	0	1	0
Arthropoda	Tylidae	1	0	1	0
Arthropoda	Sacculinidae	1	0	1	0
Arthropoda	Nebaliidae	2	0	2	0
Arthropoda	Libellulidae	1	0	1	0
Arthropoda	Nymphonidae	1	0	1	0
Arthropoda	Pycnogonidae	1	0	1	0
Arthropoda	Balanidae	6	0	6	0
Arthropoda	Chthamalidae	3	0	3	0
Arthropoda	Verrucidae	1	0	1	0
Arthropoda	Squillidae	1	0	1	0

Arthropoda	Adeonidae	1	1	0	100
Arthropoda	Aeteidae	2	2	0	100
Arthropoda	Cellariidae	2	2	0	100
Arthropoda	Chlidoniidae	1	1	0	100
Arthropoda	Escharinidae	1	1	0	100
Arthropoda	Margarettidae	1	1	0	100
Arthropoda	Microporidae	3	3	0	100
Arthropoda	Romancheinidae	1	1	0	100
Arthropoda	Scrupariidae	1	1	0	100
Arthropoda	Umbonulidae	1	1	0	100
Arthropoda	Watersiporidae	2	2	0	100
Arthropoda	Buskiidae	1	1	0	100
Arthropoda	Pherusellidae	1	1	0	100
Arthropoda	Victorellidae	4	4	0	100
Arthropoda	Celleporidae	5	4	1	80
Arthropoda	Cribrilinidae	4	3	1	75
Arthropoda	Beaniidae	3	2	1	66.7
Arthropoda	Phidoloporidae	3	2	1	66.7
Arthropoda	Smittinidae	3	2	1	66.7
Arthropoda	Haplopomidae	2	1	1	50
Arthropoda	Microporellidae	4	2	2	50
Arthropoda	Schizoporellidae	6	3	3	50
Arthropoda	Lichenoporidae	2	1	1	50
Arthropoda	Calloporidae	3	1	2	33.3
Arthropoda	Candidae	6	2	4	33.3
Arthropoda	Electridae	3	1	2	33.3
Arthropoda	Vesiculariidae	6	1	5	16.7
Arthropoda	Bitectiporidae	1	0	1	0
Arthropoda	Bugulidae	5	0	5	0
Arthropoda	Chorizoporidae	1	0	1	0
Arthropoda	Cryptosulidae	1	0	1	0
Arthropoda	Exochellidae	1	0	1	0
Arthropoda	Hippothoidae	1	0	1	0
Arthropoda	Myriaporidae	1	0	1	0
Arthropoda	Nolellidae	1	0	1	0
Arthropoda	Walkeridae	1	0	1	0
Arthropoda	Plagioeciidae	1	0	1	0
Arthropoda	Tubuliporidae	1	0	1	0
Arthropoda	Pyuridae	1	1	0	100
Arthropoda	Didemnidae	5	1	4	20
Arthropoda	Asciidiidae	5	1	4	20
Arthropoda	Polyclinidae	1	0	1	0
Arthropoda	Cionidae	1	0	1	0
Arthropoda	Perophoridae	1	0	1	0

Arthropoda	Molgulidae	3	0	3	0
Arthropoda	Styelidae	4	0	4	0
Arthropoda	Branchiostomatidae	1	0	1	0
Arthropoda	Clavelinidae	2	0	2	0
Cnidaria	Actiniidae	6	5	1	83.3
Cnidaria	Andresiidae	1	1	0	100
Cnidaria	Diadumenidae	1	1	0	100
Cnidaria	Cladocorynidae	1	1	0	100
Cnidaria	Hydractiniidae	2	2	0	100
Cnidaria	Aglaopheniidae	3	3	0	100
Cnidaria	Haleciidae	1	1	0	100
Cnidaria	Phialellidae	1	1	0	100
Cnidaria	Plumulariidae	1	1	0	100
Cnidaria	Sertulariidae	2	2	0	100
Cnidaria	Aiptasiidae	3	2	1	66.7
Cnidaria	Bougainvilliidae	2	1	1	50
Cnidaria	Kirchenpaueriidae	2	1	1	50
Cnidaria	Campanulariidae	12	1	11	8.3
Cnidaria	Haliplanellidae	1	0	1	0
Cnidaria	Hormathiidae	2	0	2	0
Cnidaria	Sagartiidae	2	0	2	0
Cnidaria	Alcyoniidae	1	0	1	0
Cnidaria	Cordylophoridae	2	0	2	0
Cnidaria	Corynidae	1	0	1	0
Cnidaria	Eudendriidae	2	0	2	0
Cnidaria	Tubulariidae	1	0	1	0
Cnidaria	Campanulinidae	1	0	1	0
Cnidaria	Olindiidae	1	0	1	0
Cnidaria	Scleractinia incertae sedis	1	0	1	0
Cnidaria	Cerianthidae	1	0	1	0
Echinodermata	Chiridotidae	1	1	0	100
Echinodermata	Ophiactidae	1	1	0	100
Echinodermata	Ophiocomidae	1	1	0	100
Echinodermata	Ophiomyxidae	1	1	0	100
Echinodermata	Schizasteridae	1	1	0	100
Echinodermata	Stichopodidae	1	1	0	100
Echinodermata	Holothuriidae	4	3	1	75
Echinodermata	Cucumariidae	6	4	2	66.7
Echinodermata	Asterinidae	7	4	3	57.1
Echinodermata	Parechinidae	2	1	1	50
Echinodermata	Phyllophoridae	2	1	1	50
Echinodermata	Ophiotrichidae	2	1	1	50
Echinodermata	Amphiuridae	5	1	4	20
Echinodermata	Synaptidae	6	1	5	16.7

Echinodermata	Arbaciidae	1	0	1	0
Echinodermata	Toxopneustidae	1	0	1	0
Echinodermata	Trigonocidaridae	1	0	1	0
Echinodermata	Echinocyamidae	1	0	1	0
Echinodermata	Sclerodactylidae	1	0	1	0
Echinodermata	Ophiidermatidae	1	0	1	0
Echinodermata	Ophiuridae	3	0	3	0
Echinodermata	Astropectinidae	4	0	4	0
Echinodermata	Loveniidae	2	0	2	0
Echinodermata	Spatangidae	1	0	1	0
Entoprocta	Barentsiidae	3	2	1	66.7
Entoprocta	Loxosomatidae	1	1	0	100
Entoprocta	Pedicellinidae	1	0	1	0
Hemichordata	Enteropneusta	1	0	1	0
Mollusca	Cerithiidae	6	3	3	50
Mollusca	Potamididae	1	1	0	100
Mollusca	Solecurtidae	1	1	0	100
Mollusca	Astartidae	2	2	0	100
Mollusca	Philinidae	1	1	0	100
Mollusca	Rhizoridae	1	1	0	100
Mollusca	Chitonidae	1	1	0	100
Mollusca	Fustiariidae	2	2	0	100
Mollusca	Gadilidae	1	1	0	100
Mollusca	Physidae	1	1	0	100
Mollusca	Aclididae	1	1	0	100
Mollusca	Cochliopidae	1	1	0	100
Mollusca	Tornidae	2	2	0	100
Mollusca	Cystiscidae	2	2	0	100
Mollusca	Drilliidae	1	1	0	100
Mollusca	Marginellidae	2	2	0	100
Mollusca	Discodorididae	2	2	0	100
Mollusca	Solemyidae	1	1	0	100
Mollusca	Umbraculidae	1	1	0	100
Mollusca	Lasaeidae	1	1	0	100
Mollusca	Pandoridae	1	1	0	100
Mollusca	Ungulinidae	1	1	0	100
Mollusca	Seguenzioidea	1	1	0	100
Mollusca	Omalogyridae	1	1	0	100
Mollusca	Ringiculidae	1	1	0	100
Mollusca	Rissoellidae	3	3	0	100
Mollusca	Scissurellidae	1	1	0	100
Mollusca	Skeneidae	1	1	0	100
Mollusca	Pyramidellidae	19	17	2	89.5
Mollusca	Rissoidae	26	19	7	73.1

Mollusca	Tellinidae	15	10	5	66.7
Mollusca	Limidae	3	2	1	66.7
Mollusca	Raphitomidae	3	2	1	66.7
Mollusca	Calliostomatidae	3	2	1	66.7
Mollusca	Mangeliidae	10	6	4	60
Mollusca	Retusidae	7	4	3	57.1
Mollusca	Epitoniidae	4	2	2	50
Mollusca	Akeridae	2	1	1	50
Mollusca	Aplysiidae	2	1	1	50
Mollusca	Carditidae	4	2	2	50
Mollusca	Cylichnidae	2	1	1	50
Mollusca	Haminoeidae	4	2	2	50
Mollusca	Bithyniidae	2	1	1	50
Mollusca	Eulimidae	6	3	3	50
Mollusca	Buccinidae	4	2	2	50
Mollusca	Fasciariidae	2	1	1	50
Mollusca	Nuculanidae	2	1	1	50
Mollusca	Anomiidae	4	2	2	50
Mollusca	Pleurobranchidae	2	1	1	50
Mollusca	Chamidae	2	1	1	50
Mollusca	Thraciidae	4	2	2	50
Mollusca	Phasianellidae	4	2	2	50
Mollusca	Turbinidae	2	1	1	50
Mollusca	Nuculidae	7	3	4	42.8
Mollusca	Arcidae	5	2	3	40
Mollusca	Donacidae	5	2	3	40
Mollusca	Lucinidae	5	2	3	40
Mollusca	Semelidae	8	3	5	37.5
Mollusca	Hydrobiidae	8	3	5	37.5
Mollusca	Cardiidae	14	5	9	35.7
Mollusca	Turritellidae	3	1	2	33.3
Mollusca	Psammobiidae	3	1	2	33.3
Mollusca	Dentaliidae	6	2	4	33.3
Mollusca	Caecidae	3	1	2	33.3
Mollusca	Dendrodorididae	3	1	2	33.3
Mollusca	Pectinidae	6	2	4	33.3
Mollusca	Pharidae	7	2	5	28.6
Mollusca	Naticidae	11	3	8	27.3
Mollusca	Montacutidae	4	1	3	25
Mollusca	Planorbidae	5	1	4	20
Mollusca	Mactridae	5	1	4	20
Mollusca	Mytilidae	21	4	17	19.0
Mollusca	Veneridae	22	4	18	18.2
Mollusca	Muricidae	9	1	8	11.1

Mollusca	Trochidae	18	2	16	11.1
Mollusca	Nassariidae	11	1	10	9.1
Mollusca	Ellobiidae	1	0	1	0
Mollusca	Hiatellidae	2	0	2	0
Mollusca	Solenidae	1	0	1	0
Mollusca	Glycymerididae	3	0	3	0
Mollusca	Noetiidae	1	0	1	0
Mollusca	Aglajidae	1	0	1	0
Mollusca	Bullidae	1	0	1	0
Mollusca	Scaphandridae	1	0	1	0
Mollusca	Acanthochitonidae	1	0	1	0
Mollusca	Ischnochitonidae	1	0	1	0
Mollusca	Lepidochitonidae	2	0	2	0
Mollusca	Neritidae	2	0	2	0
Mollusca	Acroloxidae	1	0	1	0
Mollusca	Lymnaeidae	2	0	2	0
Mollusca	Anabathridae	2	0	2	0
Mollusca	Aporrhaidae	2	0	2	0
Mollusca	Assimineidae	1	0	1	0
Mollusca	Barleeiidae	1	0	1	0
Mollusca	Calyptraeidae	1	0	1	0
Mollusca	Cassidae	1	0	1	0
Mollusca	Iravadiidae	1	0	1	0
Mollusca	Littorinidae	1	0	1	0
Mollusca	Skeneopsidae	1	0	1	0
Mollusca	Truncatellidae	2	0	2	0
Mollusca	Thyasiridae	1	0	1	0
Mollusca	Corbulidae	1	0	1	0
Mollusca	Clathurellidae	1	0	1	0
Mollusca	Columbellidae	2	0	2	0
Mollusca	Conidae	1	0	1	0
Mollusca	Costellariidae	1	0	1	0
Mollusca	Horaiclavidae	1	0	1	0
Mollusca	Mitridae	1	0	1	0
Mollusca	Turridae	1	0	1	0
Mollusca	Aeolidiidae	1	0	1	0
Mollusca	Calmidae	1	0	1	0
Mollusca	Chromodorididae	5	0	5	0
Mollusca	Polyceridae	1	0	1	0
Mollusca	Ostreidae	4	0	4	0
Mollusca	Pinnidae	1	0	1	0
Mollusca	Runcinidae	1	0	1	0
Mollusca	Plakobranchidae	1	0	1	0
Mollusca	Volvatellidae	1	0	1	0

Mollusca	Sepiolidae	1	0	1	0
Mollusca	Basterotiidae	1	0	1	0
Mollusca	Gastrochaenidae	1	0	1	0
Mollusca	Kelliidae	2	0	2	0
Mollusca	Mesodesmatidae	1	0	1	0
Mollusca	Acteonidae	1	0	1	0
Mollusca	Fissurellidae	3	0	3	0
Mollusca	Patellidae	1	0	1	0
Nematoda	Axonolaimidae	1	1	0	100
Nematoda	Comesomatidae	1	1	0	100
Nematoda	Chromadoridae	1	1	0	100
Nematoda	Cyatholaimidae	1	1	0	100
Nematoda	Xyalidae	1	1	0	100
Nematoda	Linhomoeidae	2	1	1	50
Nematoda	Oncholaimidae	2	0	2	0
Nemertea	Tetrastemmatidae	1	0	1	0
Nemertea	Lineidae	1	0	1	0
Nemertea	Tubulanidae	1	0	1	0
Phoronida	Phoronidae	3	0	3	0
Platyhelminthes	Leptoplanidae	1	1	0	100
Platyhelminthes	Stylochidae	2	2	0	100
Platyhelminthes	Dendrocoelidae	1	0	1	0
Platyhelminthes	Dugesiidae	3	0	3	0
Porifera	Clathrinidae	1	1	0	100
Porifera	Leucettidae	1	1	0	100
Porifera	Dysideidae	3	3	0	100
Porifera	Thorectidae	2	2	0	100
Porifera	Callyspongiidae	1	1	0	100
Porifera	Sycettidae	3	3	0	100
Porifera	Mycalidae	3	3	0	100
Porifera	Tedaniidae	1	1	0	100
Porifera	Chalinidae	3	2	1	66.7
Porifera	Spongiidae	2	1	1	50
Porifera	Halichondriidae	6	3	3	50
Porifera	Clionidae	2	0	2	0
Porifera	Irciniidae	2	0	2	0
Porifera	Plakinidae	1	0	1	0
Porifera	Suberitidae	1	0	1	0
Porifera	Tethyidae	1	0	1	0
Porifera	Geodiidae	2	0	2	0
Porifera	Aplysinidae	2	0	2	0
Sipuncula	Aspidosiphonidae	1	1	0	100
Sipuncula	Phascolionidae	1	1	0	100
Sipuncula	Golfingiidae	2	1	1	50

Sipuncula	Sipunculidae	1	0	1	0
Sipuncula	Phascolosomatidae	2	0	2	0

Table S1: Number of species with and without DNA-barcode for each family listed in decreasing order of the gap

Table S2: Number of barcoded species with reported primers and percentage of the LCO-1490/HCO-2198 and dgLCO-1490/dgHCO-2198 use

PHYLUM	Number of barcoded Species	Number of species with reported primers	dgLCO-1490/dgHCO-2198	LCO-1490/HCO-2198	Percentage of LCO-1490/HCO-2198 use	Percentage of dgLCO-1490/dgHCO-2198 use
Mollusca	264	107	11	40	37.4	10.3
Annelida	227	137	68	5	3.6	49.6
Arthropoda	248	169	28	40	23.7	16.6
Bryozoa	49	5	0	2	40	0
Echinodermata	34	23	1	0	0	4.3
Cnidaria	31	13	9	2	15.4	69.2
Porifera	16	2	0	0	0	0
Chordata	3	3	0	0	0	0
Nematoda	3	0	0	0	0	0
Platyhelminthes	4	1	0	0	0	0
Sipuncula	4	3	1	1	33.3	33.3
Entoprocta	2	1	0	0	0	0
Nemertea	3	2	0	0	0	0
Phoronida	3	1	1	0	0	100
Hemichordata	1	1	0	0	0	0

Phylum	Sub phylum	Class	Order	Superfamily	Family	Genus	Species	DNA Barcode (yes/no)
Mollusca		Bivalvia	Cardiida	Tellinoidea	Semelidae	Abra	<i>Abra alba</i>	Yes
Annelida		Polychaeta	Phyllodocida		Nereididae	Alitta	<i>Alitta succinea</i>	Yes
Arthropoda	Crustacea	Malacostraca	Amphipoda	Corophioidea	Ampithoidae	Ampithoe	<i>Ampithoe ferox</i>	No
Anellida		Polychaeta			Arenicolidae	Arenicola	<i>Arenicola marina</i>	Yes
Caenogastropoda		Gastropoda	Caenogastropoda	Cerithioidea	Cerithiidae	Bittium	<i>Bittium reticulatum</i>	Yes
Mollusca		Bivalvia	Cardiida	Cardioidea	Cardiidae	Cerastoderma	<i>Cerastoderma edule</i>	Yes
Mollusca		Gastropoda	Caenogastropoda	Cerithioidea	Cerithiidae	Cerithium	<i>Cerithium vulgatum</i>	No
Arthropoda	Hexapoda	Insecta	Diptera		Chironomidae	Chironomus	<i>Chironomus salinarius</i>	Yes
Arthropoda	Crustacea	Malacostraca	Tanaidacea	Paratanaoidea	Leptocheliidae	Chondrochelia	<i>Chondrochelia savignyi</i>	Yes
Mollusca		Gastropoda	Littorinimorpha	Truncatelloidea	Hydrobiidae	Ecrobia	<i>Ecrobia ventrosa</i>	Yes
Anellida		Polychaeta	Phyllodocida		Phyllodocidae	Eteone	<i>Eteone</i> sp.	Yes
Anellida		Polychaeta	Phyllodocida		Phyllodocidae	Eteone	<i>Eteone</i> cf. <i>flava</i>	Yes
Mollusca		Bivalvia	Cardiida	Tellinoidea	Tellinidae	Fabulina	<i>Fabulina fabula</i>	No
Arthropoda	Crustacea	Malacostraca	Amphipoda	Hadzioidea	Nuuanuidae	Gammarella	<i>Gammarella fucicola</i>	Yes
Arthropoda	Crustacea	Malacostraca	Amphipoda	Gammaroidea	Gammaridae	Gammarus	<i>Gammarus aequicauda</i>	Yes
Mollusca		Gastropoda	Trochida	Trochoidea	Trochidae	Gibbula	<i>Gibbula</i> sp.	Yes
Anellida		Polychaeta	Phyllodocida		Syllidae	Haplosyllis	<i>Haplosyllis</i> cf. <i>spongicola</i>	Yes
Anellida		Polychaeta			Capitellidae	Heteromastus	<i>Heteromastus filiformis</i>	Yes
Mollusca		Gastropoda	Neogastropoda	Muricoidea	Muricidae	Hexaplex	<i>Hexaplex trunculus</i>	Yes
Arthropoda	Crustacea	Malacostraca	Isopoda		Idoteidae	Idotea	<i>Idotea balthica</i>	Yes
Mollusca		Bivalvia	Lucinida	Lucinoidea	Lucinidae	Loripes	<i>Loripes orbiculatus</i>	Yes
Arthropoda	Crustacea	Malacostraca	Amphipoda	Hadzioidea	Melitidae	Melita	<i>Melita palmate</i>	Yes
Arthropoda	Crustacea	Malacostraca	Amphipoda	Aoroidea	Aoridae	Microdeutopus	<i>Microdeutopus gryllotalpa</i>	No
Arthropoda	Crustacea	Malacostraca	Amphipoda	Corophioidea	Corophiidae	Monocorophium	<i>Monocorophium ascherusicum</i>	Yes
Arthropoda	Crustacea	Malacostraca	Amphipoda	Corophioidea	Corophiidae	Monocorophium	<i>Monocorophium insidiosum</i>	Yes

Mollusca		Bivalvia	Mytilida	Mytiloidea	Mytilidae	Mytilus	<i>Mytilus galloprovincialis</i>	Yes
Anellida		Polychaeta			Orbiniidae	Naineris	<i>Naineris laevigata</i>	Yes
Anellida		Polychaeta	Phyllodocida		Nereididae	Neanthes	<i>Neanthes acuminata</i>	Yes
Mollusca		Gastropoda	Littorinimorpha	Rissooidea	Rissoidae	Rissoa	<i>Rissoa membranacea</i>	Yes
Anellida		Polychaeta			Orbiniidae	Aricia	<i>Scoloplos sp.</i>	Yes
Arthropoda	Crustacea	Malacostraca	Tanaidacea	Tanaidoidea	Tanaididae	Tanais	<i>Tanais dulongii</i>	Yes
Mollusca		Gastropoda	Neogastropoda	Buccinoidea	Nassariidae	Tritia	<i>Tritia nitida</i>	No

Table S3: List of species collected in the Acquatina lagoon reporting the presence or absence of DNA-barcode in the reference libraries.

CLUSTAL 2.1 multiple sequence alignment

```
ChiroNCBI          AGAGGGGCCTCTGTTGATTTAGCAATCTTTTCCCTTCACCTAGCAGGAGTATCATCCATT
Chirosequencenew  AGAGGGGCCTCTGTTGATTTAGCAATCTTTTCCCTTCACCTGGCAGGAGTATCATCCATT
Chirosequence     -----GCCTCTGTTGATTTAGCAATCTTTTCCCTTCACCTAGCAGGAGTATCATCCATT
                  *****.*****

ChiroNCBI          TTAGGCTCTGTAAATTTTATTACAACAGTTATTAATATACGAGCTAACGGTATTACATTA
Chirosequencenew  TTAGGCTCTGTAAATTTTATTACAACAGTTATTAATATACGAGCTAACGGTATTACATTA
Chirosequence     TTAGGCTCTGTAAATTTTATTACAACAGTTATTAATATACGAGCTAACGGTATTACATTA
                  *****

ChiroNCBI          GATCGAATACCTTTATTTGTATGATCAGTTGTTATTACAACGGTATTATTACTACTTTCA
Chirosequencenew  GATCGAATACCTTTATTTGTATGATCAGTTGTTATTACAACGGTATTATTACTACTTTCA
Chirosequence     GATCGAATACCTTTATTTGTATGATCAGTTGTTATTACAACGGTATTATTACTACTTTCA
                  *****

ChiroNCBI          TTACCTGTTTTAGCTGGGGCTATTACAATACTTTTAAACAGATCGAAATTTAAATACATCA
Chirosequencenew  TTACCTGTTTTAGCTGGGGCTATTACAATACTTTTAAACAGATCGAAATTTAAATACATCA
Chirosequence     TTACCTGTTTTAGCTGGGGCTATTACAATACTTTTAAACAGATCGAAATTTAAATACATCA
                  *****

ChiroNCBI          TTCTTTGACCCCGCCGGAGGAGGAGACCCTATTCTTTATCAACATTTATTTTGATTTTTT
Chirosequencenew  TTCTTTGACCCCGCCGGAGGAGGAGACCCTATTCTTTATCAACATTTATTTTGATTTTTT
Chirosequence     TTCTTTGACCCCGCCGGAGGAGGAGACCCTATTCTTTA-----
                  *****

ChiroNCBI          GGACATCCAGAA
Chirosequencenew  GGCACCCCTGAA
Chirosequence     -----
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Figure S1: Results of the nucleotide multi-alignment of two *CO1* amplicon sequences from *Chironomus* larvae genomic DNA and the entry sequence MN454846 of *Chironomous salinarius CO1* from NCBI GenBank