

# *SUPPLEMENTARY MATERIAL*

## **DNA barcoding and distribution of gastropods and malacostracan amphipods and mysids in the Lower Danube Region**

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**Table S1.** Specimen taxonomy and accession number, sampling period and location, best match COI gene sequence for gastropod, amphipod and mysid species isolated from the Lower Danube Sector

Order	Family	Species	Specimen accession number	Year of sampling	Coordinates		Best match COI gene sequence		
					Lat. (α)	Long. (λ)	Identity (%)	Cover (%)	GenBank reference
Gastropoda									
Caenogastropoda	Amphimelaniidae	<i>Holandriana holandrii</i> C. Pfeiffer, 1828	ON000192	2021	43°44′13.0″	23°59′4.3″	100	98	MK094080
		<i>H. holandrii</i>	ON000184	2021	43°44′13.0″	23°59′4.3″	99.36	99	FJ652189
	Melanopsidae	<i>Microcolpia daudebartii acicularis</i> A. Férussac, 1823	MW139680	2019	45°13′36.23″	28°43′57.49′	99.37	99	FJ652188
Architaenioglossa	Viviparidae	<i>Viviparus viviparus</i> Linnaeus, 1758	ON000180	2021	45°13′36.23″	28°43′57.49′	99.25	98	MK517417
		<i>V. viviparus</i>	ON000191	2021	45°10′53.65″	29.204784	99	99	MT483648
		<i>V. viviparus</i>	ON000197	2021	45°10′53.65″	29.204784	99.25	98	MK517417
Littorinimorpha	Bithyniidae	<i>Bithynia tentaculata</i> Linnaeus, 1758	MW139681	2019	45°13′36.23″	28°43′57.49′	99.17	98	MK308219
		<i>B. tentaculata</i>	MW139682	2019	45°10′35.34″	29°28′28.66′	99.20	98%	MK308219
Cycloneritida	Neritidae	<i>Theodoxus transversalis</i> C. Pfeiffer, 1828	MW139678	2019	43°44′13.0″	23°59′4.3″	100	100	HM171591
Hygrophila	Lymnaeidae	<i>Ampullaceana lagotis</i> Schrank, 1803	MW600073	2020	45°24′19.16″	29°33′12.71′	99.27	98	LT623602
		<i>A. lagotis</i>	ON000193	2021	45°24′19.16″	29°33′12.71′	99.94	98	LT623602
		<i>A. lagotis</i>	ON036036	2021	45°24′19.16″	29°33′12.71′	99.46	100	LT623602
	Physidae	<i>Physa fontinalis</i> Linnaeus, 1758	MW600069	2020	45°10′53.65″	29.204784	99.42	98	FJ373018
	Planorbidae	<i>Planorbarius corneus</i> Linnaeus, 1758	MW600083	2020	45°10′53.65″	29.204784	99	100	MT862415
		<i>Gyraulus parvus</i> Say, 1817	ON000188	2021	43°44′13.0″	23°59′4.3″	99.38	98	MK308021
		<i>G. parvus</i>		2021	43°44′13.0″	23°59′4.3″	99.20	98	MK308021
Malacostraca									
Amphipoda	Corophiidae	<i>Chelicorophium robustum</i> G.O. Sars, 1895	MW139683	2019	45°13′36.23″	28°43′57.49′	99.64	98	KM009061

		<i>C. robustum</i>	ON000195	2021	45°13'36.23''	28°43'57.49'	99.83	98	MN34323 7
	Gammaridae	<i>Dikerogammarus haemobaphes</i> Eichwald, 1841	MW600074	2020	45°24'19.16''	29°33'12.71'	99.51	100	MN34323 7
		<i>D. haemobaphes</i>	MW600089	2020	45°24'19.16''	29°33'12.71'	99.84	100	MN34323 7
		<i>D. haemobaphes</i>	ON000187	2021	45°10'35.34''	29°28'28.66'	99.83	100	MN34323 7
		<i>D. haemobaphes</i>	ON000189	2021	45°10'35.34''	29°28'28.66'	99.84	100	MN34323 7
		<i>Dikerogammarus villosus</i> Sowinsky, 1894	MW600090	2020	45°13'36.23''	28°43'57.49'	99.53	98	MK15994 2
Mysida	Misidae	<i>Limnomysis benedeni</i> Czerniavsky, 1882	MW600070	2020	45°10'35.34''	29°28'28.66'	99.51	98	AY529021
		<i>L. benedeni</i>	MW600071	2020	45°10'35.34''	29°28'28.66'	99.84	98	AY529018
		<i>L. benedeni</i>	MW600072	2020	45°10'35.34''	29°28'28.66'	98	98	AY529018
		<i>L. benedeni</i>	ON000186	2021	45°10'35.34''	29°28'28.66'	99.84	98	AY529021
		<i>Paramysis (Serrapalpis) lacustris</i> Czerniavsky, 1882	MW600085	2020	45°10'35.34''	29°28'28.66'	99.47	98	KT193643

**Table S2.** Taxonomy assignment by the INSECT R package for all COI sequences used on the present research (including sequences recovered from NCBI)

Representative	Accession number	TaxID	Taxon	Rank	Score	Kingdom	Phylum	Class	Order	Family	Genus	Species
<b>Malacostraca</b>												
<i>Dikerogammarus haemobaphes</i>	MW600074	44329	Gammaroidea	superfamily	0.9754	Metazoa	Arthropoda	Malacostraca	Amphipoda			
<i>Dikerogammarus haemobaphes</i>	MW600089	44329	Gammaroidea	superfamily	0.9754	Metazoa	Arthropoda	Malacostraca	Amphipoda			
<i>Dikerogammarus haemobaphes</i>	ON000187	1	root	no rank	NA							
<i>Dikerogammarus haemobaphes</i>	ON000189	2759	Eukaryota	superkingdom	1							
<i>Dikerogammarus villosus</i>	MW600090	191519	Dikerogammarus	genus	1	Metazoa	Arthropoda	Malacostraca	Amphipoda	Gammaridae	<i>Dikerogammarus</i>	
<i>Dikerogammarus villosus</i>	KM208875	191522	Dikerogammarus villosus	species	NA	Metazoa	Arthropoda	Malacostraca	Amphipoda	Gammaridae	<i>Dikerogammarus</i>	<i>Dikerogammarus villosus</i>
<i>Chelicerophium curvispinum</i>	MN556090	1732196	Senticaudata	suborder	1	Metazoa	Arthropoda	Malacostraca	Amphipoda			
<i>Chelicerophium robustum</i>	MW139683	1732196	Senticaudata	suborder	1	Metazoa	Arthropoda	Malacostraca	Amphipoda			
<i>Chelicerophium robustum</i>	ON000195	1	root	no rank	NA							
<i>Paramysis intermedia</i>	DQ779850	1	root	no rank	NA							
<i>Paramysis (Mesomysis) lacustris</i>	MW600085	401129	Mysinae	subfamily	0.9935	Metazoa	Arthropoda	Malacostraca	Mysida	Mysidae		
<i>Paramysis (Mesomysis) lacustris</i>	DQ779845	1	root	no rank	NA							
<i>Limnomysis benedeni</i>	MW600072	2759	Eukaryota	superkingdom	1							

<i>Limnomysis benedeni</i>	MW600071	2759	Eukaryota	superkingdom	1							
<i>Limnomysis benedeni</i>	MW600070	2759	Eukaryota	superkingdom	1							
<i>Limnomysis benedeni</i>	ON000186	2759	Eukaryota	superkingdom	1							
<b>Gastropoda</b>												
<i>Planorbarius corneus</i>	MW600083	6524	Planorbidae	family	1	Metazoa	Mollusca	Gastropoda		Planorbidae		
<i>Planorbarius corneus</i>	AY282590	240818	Planorbarius corneus	species	NA	Metazoa	Mollusca	Gastropoda		Planorbidae	<i>Planorbarius</i>	<i>Planorbarius corneus</i>
<i>Gyraulus albus</i>	MZ127279	1	root	no rank	NA							
<i>Gyraulus parvus</i>	ON000188	6448	Gastropoda	class	0.9746	Metazoa	Mollusca	Gastropoda				
<i>Gyraulus parvus</i>	ON000194	2759	Eukaryota	superkingdom	1							
<i>Physella acuta</i>	MK919687	1	root	no rank	NA							
<i>Physa fontinalis</i>	MW600069	109669	Physidae	family	1	Metazoa	Mollusca	Gastropoda		Physidae		
<i>Physa fontinalis</i>	FJ373018	146087	Physa fontinalis	species	NA	Metazoa	Mollusca	Gastropoda		Physidae	<i>Physa</i>	<i>Physa fontinalis</i>
<i>Ampullaceana balthica</i>	AY227364	582868	Radix balthica	species	NA	Metazoa	Mollusca	Gastropoda		Lymnaeidae	<i>Radix</i>	<i>Radix balthica</i>
<i>Ampullaceana lagotis</i>	ON036036	2759	Eukaryota	superkingdom	1							
<i>Ampullaceana lagotis</i>	MW600073	216307	Euthyneura	no rank	0.9999	Metazoa	Mollusca	Gastropoda				
<i>Ampullaceana lagotis</i>	ON000193	55689	Radix	genus	1	Metazoa	Mollusca	Gastropoda		Lymnaeidae	<i>Radix</i>	
<i>Viviparus acerosus</i>	MK517425	1	root	no rank	1							
<i>Viviparus viviparus</i>	ON000191	1206795	Lophotrochozoa	no rank	0.9931	Metazoa						
<i>Viviparus viviparus</i>	ON000180	54973	Ampullariidae	family	1	Metazoa	Mollusca	Gastropoda	Architaenioglossa	Ampullariidae		

<i>Viviparus viviparus</i>	ON000197	54973	Ampullariidae	family	1	Metazoa	Mollusca	Gastropoda	Architaenioglossa	Ampullariidae		
<i>Esperiana esperi</i>	KJ831022	69555	Caenogastropoda	subclass	1	Metazoa	Mollusca	Gastropoda				
<i>Holandriana holandrii</i>	ON000184	1	root	no rank	NA							
<i>Holandriana holandrii</i>	ON000192	1206795	Lophotrochozoa	no rank	1	Metazoa						
<i>Bithynia leachii</i>	MW138416	2759	Eukaryota	superkingdom	1							
<i>Bithynia tentaculata</i>	MW139681	1206795	Lophotrochozoa	no rank	1	Metazoa						
<i>Bithynia tentaculata</i>	MW139682	1206795	Lophotrochozoa	no rank	0,988	Metazoa						
<i>Microcolpia daudebartii acicularis</i>	MW139680	1206795	Lophotrochozoa	no rank	0.9834	Metazoa						
<i>Microcolpia daudebartii acicularis</i>	FJ652188	1620826	<i>Microcolpia daudebartii acicularis</i>	subspecies	NA	Metazoa	Mollusca	Gastropoda		Melanopsidae	Microcolpia	<i>Microcolpia daudebartii</i>
<i>Theodoxus transversalis</i>	MW139678	313645	<i>Theodoxus transversalis</i>	species	NA	Metazoa	Mollusca	Gastropoda	Cycloneritida	Neritidae	Theodoxus	<i>Theodoxus transversalis</i>
<i>Theodoxus transversalis</i>	HM171591	313645	<i>Theodoxus transversalis</i>	species	NA	Metazoa	Mollusca	Gastropoda	Cycloneritida	Neritidae	Theodoxus	<i>Theodoxus transversalis</i>
<i>Theodoxus danubialis</i>	GQ365727	2759	Eukaryota	superkingdom	1							
<i>Theodoxus fluviatilis</i>	MK754596	2759	Eukaryota	superkingdom	1							