

Family	Morphospecies (MB), Cryptic species (MB#) or Clade (MB#a)	COI					16S						
		Intraspecific/ Intraclade K2P %	Interspecific/ Interclade K2P %				Intraspecific/ Intraclade K2P %	Interspecific/ Interclade K2P %					
Acrociiridae	1. <i>Flabelligena</i> sp. A (MB)	0.00-1.90	1.	2.			0.75*	1.	2.				
	2. <i>Flabelligena</i> sp. B (MB)	0.00-1.88	24.83-31.06				0.00-1.33	24.68-26.46					
Cirratulidae	1. <i>Chaetozone</i> sp. (MB1a)						0.00-0.019	1.	2.	3.			
	2. <i>Chaetozone</i> sp. (MB1b)						**	2.72-4.35					
	3. <i>Chaetozone</i> sp. (MB1c)						0.27*	5.70-7.22	4.53-4.88				
Euphrosinidae	1. <i>Euphrosinella</i> cf <i>cirratiformis</i> (MB1)						0.00-2.42	1.	2.	3.			
	2. <i>Euphrosinella</i> cf <i>cirratiformis</i> (MB2)						0.27-0.28	5.50-7.53					
	3. <i>Euphrosinopsis</i> cf <i>antarctica</i> (MB)						0.62*	21.11-27.44	20.41-24.83				
Glyceridae	1. <i>Glycera</i> sp. (MB1)	0.00-0.44	1.	2.			0.00-2.74	1.	2.				
	2. <i>Glycera</i> sp. (MB2)	0.00-0.30	17.12-18.05				0.00-1.60	8.17-12.80					
Hesionidae	1. Hesionidae sp. (MB1)	0.15-0.51	1.	2.			0.00-2.97						
	2. Hesionidae sp. (MB2)	0.00-1.01	10.59-12.41										
Lumbrineridae	1. <i>Lumbrineris kerguelensis-cingulata</i> (MB1a)						0.00-1.42	1.	2.	3.	4.	5.	6.
	2. <i>Lumbrineris kerguelensis-cingulata</i> (MB1b)						**	9.45-11.61					
	3. <i>Lumbrineris kerguelensis-cingulata</i> (MB1c)						0.00-0.36	9.22-11.74	5.62-7.63				
	4. <i>Lumbrineris kerguelensis-cingulata</i> (MB1d)						1.46*	9.35-11.97	6.24-6.70	4.38-5.88			
	5. <i>Lumbrineris kerguelensis-cingulata</i> (MB1e)						**	10.40-12.50	6.11*	4.57-6.10	4.86-4.88		
	6. <i>Lumbrineris kerguelensis-cingulata</i> (MB1f)						0.00-0.36	10.35-15.54	5.77-7.56	3.91-5.54	4.21-5.22	3.91-5.21	
Maldanidae	1. <i>Asychis amphiglyptus</i> (MB)						0.27-2.05	1.	2.	3.	4.	5.	
	2. <i>Eupraxillella</i> cf <i>antarctica</i> (MB)						0.28-4.11	35.11-49.94					
	3. <i>Maldane sarsi antarctica</i> (MB)						0.26*	15.31-16.82	30.51-36.26				
	4. Maldanidae sp. (MB)						**	35.62-40.50	20.24-24.39	37.72-33.27			
	5. <i>Praxillella</i> sp. (MB)						**	39.39-40.48	23.08-24.83	37.47-37.65	10.81*		
Nephyriidae	1. <i>Aglaophamus</i> cf <i>trissophyllus</i> (MB1a)	0.00-0.18	1.	2.	3.	4.	5.						
	2. <i>Aglaophamus trissophyllus</i> (MB1b)	0.92*	5.33-5.75					0.00-1.67	1. 2. 3.	4. 5.	6.		
	3. <i>Aglaophamus</i> cf <i>trissophyllus</i> (MB1c)	**	4.54-4.74	5.54-6.13									
	4. <i>Aglaophamus</i> sp. (MB2)	0.16-0.18	13.55-14.01	13.09-13.34	13.31-13.54			0.00-0.80	1.63-3.38				
	5. <i>Aglaophamus</i> sp. (MB3)	2.12*	11.56-13.06	11.52-12.97	12.45-13.08	9.64-13.32							
	6. <i>Aglaophamus</i> sp. (MB4)							**	5.58-6.90	5.53-6.13			

Paraonidae	1. <i>Aricidea simplex</i> (MB)					0.00-1.45	1.	2.	3.	4.	5.
	2. <i>Aricidea cf belgicae</i> (MB1)					0.00-0.61	18.70-22.63				
	3. <i>Aricidea cf belgicae</i> (MB2)					0.27	18.34-21.63	0.82-1.54%			
	4. <i>Aricidea cf belgicae</i> (MB3)					**	19.16-21.22	2.46-3.07%	2.45-2.78		
	5. <i>Aricidea cf pulchra</i> (MB)					**	19.43-22.37	4.18-5.05%	3.89-4.18	3.05*	
Polynoidea	1. <i>Harmothoe fuligineum</i> (MB)	0.00-1.47	1.	2.	3.	0.00-2.28	1.	2.	3.	4.	5.
	2. <i>Macellicephalo sp.</i> (MB1)	0.15-0.73	27.03-30.86			0.00-1.08	34.52-47.89				
	3. <i>Macellicephalo sp.</i> (MB2)	**	25.47-26.85	12.58-12.84		0.00-0.56	31.58-36.45	2.74-4.30			
	4. <i>Macellicephaloides sp.</i> (MB1a)					0.00-4.10	34.61-41.81	36.46-54.35	35.29-43.05		
	5. <i>Macellicephaloides sp.</i> (MB1b)					0.58*	36.90-41.08	38.05-45.40	37.07-38.17	0.87-2.36	
Scalibregmatidae	1. <i>Scalibregma sp.</i> (MB1)	0.14-1.48	1.	2.	3.	0.00-2.86	1.	2.	3.		
	2. <i>Scalibregma sp.</i> (MB2)	**	13.99-14.53			**	4.92-6.66				
	3. <i>Scalibregma sp.</i> (MB3)	0.00-1.46	14.35-15.33	6.51-6.77		0.00-1.56	6.66-9.82	2.13-2.44			
Spionidae	1. <i>Laonice weddellia</i> (MB)	0.00-1.32	1.	2.		0.00-1.44	1.	2.	3.		
	2. <i>Laonice cf antarctica</i> (MB)	0.17*	22.54-24.10			0.00-0.27	16.74-19.07				
	3. <i>Laonice cf vieitezzi</i> (MB)					0.00-1.70	14.84-17.28	16.10-18.44			

Table S1 Minimum and maximum K2P pairwise comparison values (%) by family. Including intraspecific (MB, MB#) and intraclade (MB#a) comparisons as well as interspecific and interclade comparisons indicated by colour. Where blue = morphospecies comparisons, purple = cryptic species comparisons and green = within species clade comparisons for both the COI (left) and 16S (right) markers. * indicates no range available because only one pairwise comparison, ** indicates no intra pairwise comparison as only one sequence available for the relative species/clade. Note that for some families/species no COI data was obtained and in the case of Hesionidae sp. A and *Aglaophamus* spp. a greater number of species/clades were obtained from COI data than 16S.