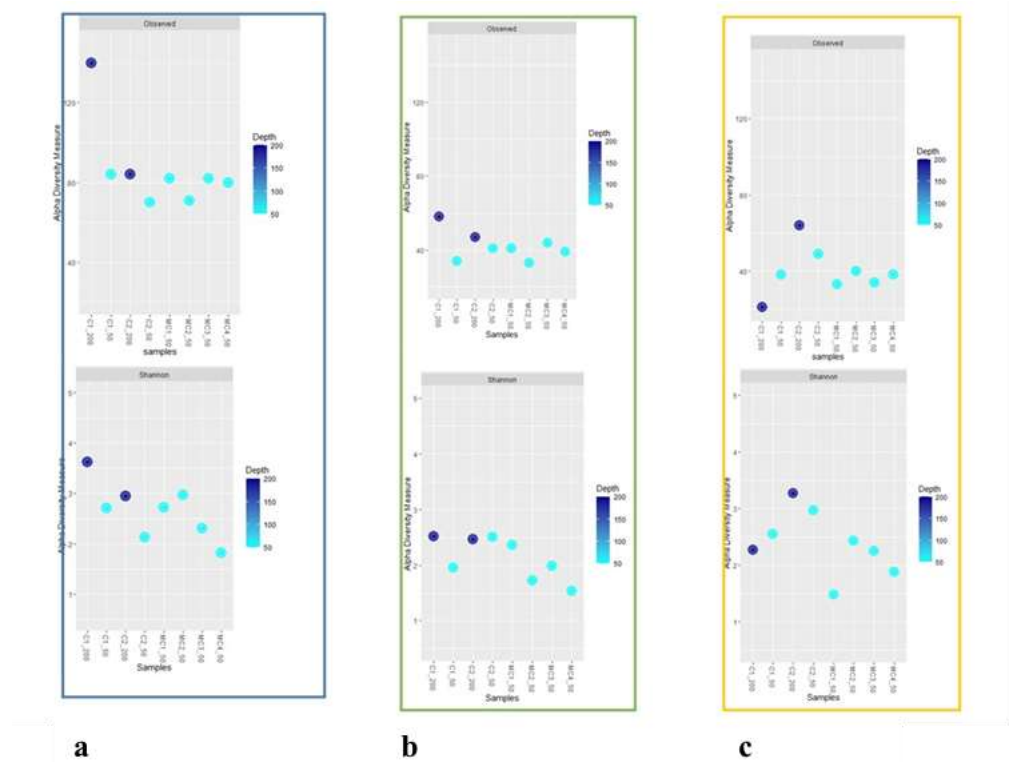
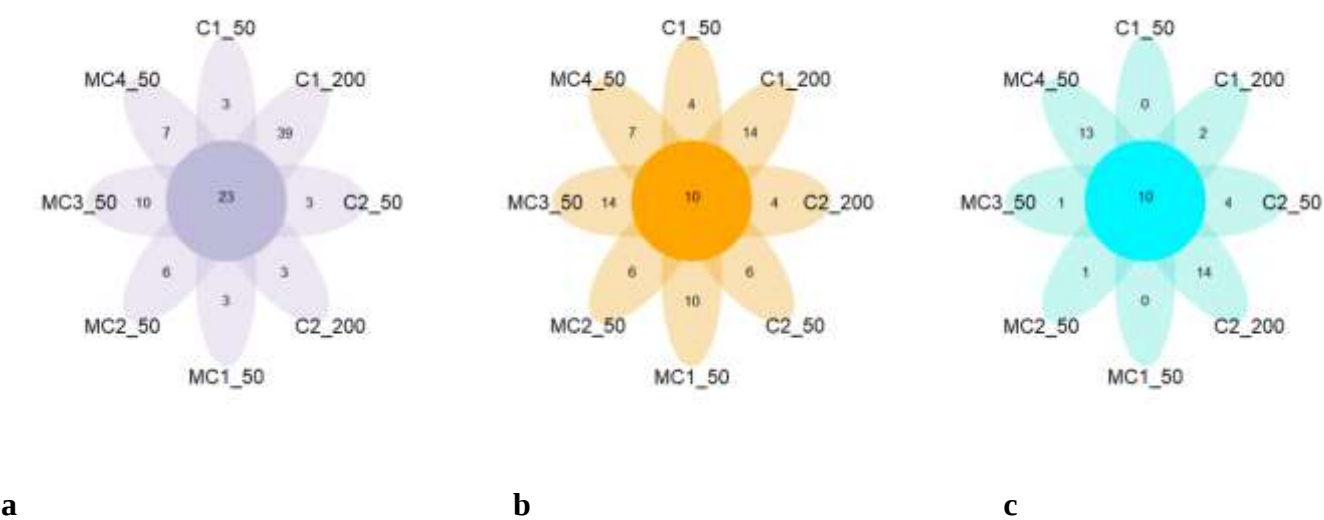


Supplementary Materials



Supplementary Figure. 1 Alpha diversity estimation from species richness (top) and Shannon index (bottom) for COI metazoan metabarcoding dataset (100-90% similarity level) across sampling events (1a), V9 (1b) and morphological analysis (1d).



Supplementary Figure 2 Flower plot of ASVs that were shared (in the center) and total ASVs in each sample (in the petals) between Canyon and LTER-MC assigned by COI (a) and V9 (b) metabarcoding and morphology (c). The numbers at petal edges represent the number of private ASVs in a sampling site.

Taxa	Species	Molecular		Morphology	
		COI	Tot. reads 98-100 % identity	α- taxonomy	Total abundance (ind.m ⁻³)
Copepoda Calanoida	<i>Acartia clausii</i>	X	3.595.907	X	2437,3
	<i>Acartia discaudata</i>	X	40.667		
	<i>Aetideus armatus</i>	X	36		
	<i>Aetideus sp._Co183.3.2</i>	X	21		
	<i>Haloptilus longicornis</i>	X	4.642	X	2,0
	<i>Haloptilus acurifrons</i>			X	1,7
	<i>Calanus helgolandicus</i>	X	13.656	X	3,0
	<i>Ctenocalanus vanus</i>	X	316.146	X	146,9
	<i>Mesocalanus tenuicornis</i>	X	1.907	X	17,0
	<i>Nannocalanus minor</i>	X	87.765	X	24,9
	<i>Neocalanus gracilis</i>	X	197	X	7,4
	<i>Calocalanus contractus</i>	X	50.576	X	72,9
	<i>Calocalanus pava</i>	X	100.884	X	2,5
	<i>Calocalanus sp._2_AC-2013</i>	X	18.906		
	<i>Calocalanus plumatus</i>			X	6,7
	<i>Calocalanus styliremis</i>	X	255.271	X	15,2
	<i>Calocalanus tenuis</i>	X	2.281	X	
	<i>Candacia bipinnata</i>	X	70.033	X	2,0
	<i>Candacia simplex</i>	X	8.791	X	4,6
	<i>Centropages typicus</i>	X	71.836	X	1186,8
	<i>Centropages ponticus</i>			X	2,3
	<i>Centropages violaceus</i>	X	151		
	<i>Isias clavipes</i>	X	4.797	X	9,7
	<i>Clausocalanus arcuicornis</i>	X	252.197	X	159,9
	<i>Clausocalanus furcatus</i>	X	384.049	X	43,8
	<i>Clausocalanus jobei</i>	X	69.591	X	2,0
	<i>Clausocalanus lividus</i>	X	207.981	X	24,6
	<i>Clausocalanus mastigophorus</i>	X	64.528	X	12,2
	<i>Clausocalanus parapergens</i>	X	68.143	X	2,8
	<i>Clausocalanus paululus</i>	X	151.155	X	138,7
	<i>Clausocalanus pergens</i>	X	155.717	X	79,0
	<i>Euchaeta acuta</i>	X	3.243	X	1,5
	<i>Heterorhabdus papilliger</i>	X	2.043	X	1,0
	<i>Lucicutia flavicornis</i>	X	41.965	X	6,6
	<i>Mecynocera clausi</i>	X	45.919	X	15,8
	<i>Pleuromamma abdominalis</i>	X	43.848		18,8
	<i>Pleuromamma borealis</i>	X	329		
	<i>Pleuromamma gracilis</i>	X	16.343	X	16,5
	<i>Paracalanus aculeatus</i>	X	3.717		
	<i>Paracalanus indicus</i>	X	34.000	X	
	<i>Paracalanus nanus</i>	X	34.091	X	116,6
	<i>Paracalanus parvus</i>	X	47.728	X	1273,7
	<i>Paracalanus quasimodo</i>	X	1.672.133	X	
	<i>Phaenna spinifera</i>			X	0,5
	<i>Pontellidae</i>			X	1,0
	<i>Pseudodiaptomus marinus</i>	X	1.907		
	<i>Scolecithricella dentata</i>	X	23.740	X	1,0
	<i>Scolecithrix danae</i>	X	218		
	<i>Spinocalanidae</i>			X	0,5
	<i>Temora stylifera</i>	X	1.589.389	X	1366,0
Copepoda Cyclopoida	<i>Oithona longispina</i>			X	12,3
	<i>Oithona nana</i>			X	20,3
	<i>Oithona plumifera</i>			X	20,9
	<i>Oithona setigera</i>			X	14,4
	<i>Oithona similis</i>			X	251,8
	<i>Oithona tenuis</i>			X	0,2
	<i>Oithona vivida</i>			X	2,3
	<i>Oithona davisae</i>	X	3		
	<i>Euterpina acutifrons</i>	X	841		
	<i>Oncaea curta/waldemari</i>			X	21,5
	<i>Oncaea media</i>			X	10,2
	<i>Oncaea mediterranea</i>	X	5.072	X	3,5
	<i>Oncaea scottodicarloi</i>	X	85.899	X	33,7
	<i>Oncaea venusta</i>	X	22.601	X	2,3
	<i>Oncaea waldemari</i>	X	2.238	X	21,5
	<i>Triconia confiera</i>	X	12.664	X	2,5
	<i>Triconia dentipes_minuta</i>	X	1	X	6,9
	<i>Triconia hawii</i>			X	1,0
	<i>Triconia umerus</i>	X	98	X	8,1
	<i>Monothula subtilis</i>			X	9,1
	<i>Sapphirina spp.</i>			X	2,6
	<i>Vetтория parva</i>			X	1,0
	<i>Mormonilla phasma</i>			X	3,0
	<i>Agetus flaccus</i>			X	2,6
	<i>Agetus typicus</i>			X	11,7
	<i>Corycaeus clausi</i>			X	9,1
	<i>Ditrichocorycaeus brehmi</i>			X	2,1
	<i>Onychocorycaeus giesbrechti</i>			X	10,7
	<i>Onychocorycaeus ovalis</i>			X	3,1
	<i>Urocorycaeus furcifer</i>			X	2,5
	<i>Farranula rostrata</i>			X	109,8
Copepoda Harpacticoida	<i>Longipedia sp.</i>	X	24.139		
	<i>Microsetella sp.</i>			X	4,6

Supplementary Table S1. Copepods identified in this study based on organismal DNA using COI and morphology-based dataset.