

Supplementary material

Table S1. Results of the analyses of variance comparing all parameters along the longitudinal gradients at 3000-m depth. Results of the Student test (t-test) performed along the longitudinal gradient comparing stations at 4000-m depth, along the bathymetric gradients comparing stations at 3055 and 3870-m depth and stations at 1290 and 4000-m depth. ns, not significant; * clear longitudinal gradient from St 10 to St 3.

	one-way ANOVA Longitudinal comparison at 3000 m depth: St 3–4 vs St 8–10		Student test Longitudinal comparison at 4000 m depth: St 1 vs St 6	Student test Bathymetric comparison 3055 vs 3870 m	Student test Bathymetric comparison 1290 vs 4000 m
	F	p	p	p	p
Chlorophyll-a	3108.0	0.0000*	0.144	0.000	0.000
Phaeopigments	11.5	0.0028*	0.004	0.018	0.013
Total phytopigments	24.0	0.0002*	0.004	0.016	0.013
Biopolymeric carbon	5.7	0.0215	0.021	0.046	0.008
Carbohydrates	9.0	0.0060	0.011	0.001	0.002
Proteins	30.1	0.0001*	0.046	0.015	0.090
Lipids	ns	ns	0.047	0.000	0.027
Nematodes	11.3	0.003*	0.064	0.138	0.001
Copepods	ns	ns	0.050	0.337	0.002
Polychaetes	ns	ns	0.173	0.191	0.145
Tardigrades	ns	ns	na	0.016	0.018
other	ns	ns	0.079	0.446	0.053
Total meiofaunal abundance	9.5	0.0052*	0.057	0.425	0.001
Total meiofaunal biomass	8.4	0.0074*	0.095	0.321	0.001
Nematode body mass	ns	ns	0.144	0.011	0.147
Species richness	ns	ns	0.035	0.473	0.000
Margalef index	ns	ns	0.032	0.403	0.000
Shannon index	ns	ns	0.167	0.500	0.000
E(51)	ns	ns	0.033	0.442	0.005
Pielou index	ns	ns	0.121	0.197	0.095
Maturity index	ns	ns	0.064	0.230	0.035
Index of trophic diversity	ns	ns	0.194	0.005	0.064
Taxonomic diversity	ns	ns	0.101	0.428	0.046
Taxonomic distinctness	ns	ns	0.049	0.094	0.162

Table S2. Check list of all genera encountered at all sampling stations.

Genera	ST1 %	ST3 %	ST4 %	ST5 %	ST6 %	ST7 %	ST8 %	ST10 %
<i>Acantholaimus</i>	12.8	7.0	4.6	4.8	6.2	3.2	6.9	13.0
<i>Actinonema</i>	1.7	0.0	0.5	0.5	0.0	3.2	1.4	2.1
<i>Aegialolaimus</i>	0.0	0.4	3.2	2.2	0.0	1.2	1.7	1.6
<i>Amphimonhystrella</i>	1.4	2.5	0.8	0.0	3.4	5.2	6.6	6.7
<i>Antomicron</i>	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
<i>Aponema</i>	0.3	0.4	1.6	0.0	2.8	5.2	0.6	1.0
<i>Bathyeurystomina</i>	1.0	1.2	1.1	0.0	0.7	0.8	1.2	1.6
<i>Calyptronema</i>	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
<i>Camacolaimus</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
<i>Campylaimus</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5
<i>Ceramonema</i>	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
<i>Cervonema</i>	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.5
<i>Chromadorella</i>	0.7	0.0	0.0	0.5	0.0	0.4	2.0	0.0
<i>Chromadorita</i>	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
<i>Comesoma</i>	0.0	0.0	0.0	0.0	0.0	3.6	0.6	0.0
<i>Cyartonema</i>	0.0	0.0	0.0	1.1	1.4	0.0	0.9	0.0
<i>Dagda</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
<i>Daptonema</i>	11.0	7.4	4.6	7.0	0.0	0.4	2.3	0.5
<i>Desmodora</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
<i>Desmoscolex</i>	6.2	2.1	3.8	0.5	0.7	6.7	4.6	1.6
<i>Diplolameilloides</i>	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
<i>Diplopeltoides</i>	2.1	0.4	0.0	0.0	4.8	1.6	1.4	1.6
<i>Diplopeltula</i>	0.0	0.0	0.3	0.0	0.0	0.0	0.6	0.0
<i>Disconema</i>	0.0	1.2	0.5	2.2	0.7	0.4	0.6	0.0
<i>Dolicholaimus</i>	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
<i>Doliolaimus</i>	0.0	2.1	2.9	0.0	0.7	1.6	1.2	1.0
<i>Dorylaimopsis</i>	0.0	0.0	0.0	0.0	0.7	0.4	0.0	0.0
<i>Elzalia</i>	0.7	0.8	0.5	0.0	0.7	1.6	1.7	0.5
<i>Enoploides</i>	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
<i>Enoplolaimus</i>	0.0	0.0	0.0	0.0	0.7	0.4	0.0	0.0
<i>Epsilonema</i>	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
<i>Eumorpholaimus</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
<i>Gammanema</i>	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.5
<i>Glochinema</i>	0.0	0.0	1.1	1.1	0.0	0.0	0.0	0.0
<i>Gnomoxyala</i>	0.7	0.4	0.5	0.0	0.7	0.4	0.3	0.5
<i>Gonionchus</i>	0.0	0.0	1.6	1.1	0.0	0.0	0.9	0.0
<i>Halalaimus</i>	7.6	12.4	10.2	9.7	6.2	7.9	9.5	9.3
<i>Halichoanolaimus</i>	0.0	0.0	0.0	1.1	0.0	1.2	1.7	0.0
<i>Hopperia</i>	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Hypodontolaimus</i>	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
<i>incertae sedis</i>	1.7	0.8	0.3	0.0	1.4	2.0	1.4	3.1
<i>Laimella</i>	0.0	0.0	0.0	1.1	0.7	0.4	0.0	0.0
<i>Leptolaimoides</i>	0.0	0.4	1.6	3.8	0.0	1.6	1.4	2.1
<i>Leptolaimus</i>	0.0	0.0	0.8	0.0	0.7	0.0	3.5	1.6
<i>Leptosomatium</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
<i>Linhystera</i>	0.3	0.8	0.5	0.0	14.5	0.4	2.0	1.6
<i>Litinium</i>	0.0	0.0	0.3	0.0	0.0	2.0	0.0	0.5
<i>Longicyatholaimus</i>	0.0	1.2	1.1	0.0	1.4	0.4	1.7	0.5
<i>Manganonema</i>	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
<i>Marylinia</i>	2.8	0.0	0.8	4.8	2.1	0.0	0.6	0.5
<i>Mesacanthion</i>	0.0	3.3	0.5	0.5	0.0	0.0	0.0	0.0
<i>Metachoniolaimus</i>	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0
<i>Metacomesoma</i>	0.0	0.0	0.0	0.0	0.0	1.6	4.6	1.0
<i>Metacyatholaimus</i>	0.7	1.2	1.3	0.0	2.1	1.2	0.3	0.0
<i>Metadasynemella</i>	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
<i>Metadasynemoides</i>	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Metadesmolaimus</i>	1.7	0.0	0.3	5.9	0.0	0.0	2.3	0.5
<i>Metalinhomoeus</i>	0.7	0.0	0.3	1.6	3.4	0.4	0.0	0.0
<i>Metasphaerolaimus</i>	0.7	2.5	2.4	3.8	0.0	0.0	0.9	0.0

<i>Micoletzkyia</i>	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
<i>Microlaimus</i>	0.7	2.1	1.6	5.4	0.0	0.4	1.4	0.0
<i>Molgolaimus</i>	0.0	2.9	4.3	1.6	3.4	0.4	0.3	3.1
<i>Monhystera</i>	1.0	0.4	1.9	0.0	0.0	1.6	0.3	0.0
<i>Nannolaimoides</i>	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
<i>Nemanema</i>	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
<i>Neotonchus</i>	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0
<i>Notochaetosoma</i>	0.0	1.7	2.9	0.0	0.0	0.0	0.0	0.0
<i>Oxystomina</i>	4.5	5.4	2.9	3.8	3.4	1.2	2.0	2.6
<i>Pandolaimus</i>	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0
<i>Paracanthonchus</i>	0.3	0.4	0.0	0.0	0.7	0.8	0.9	1.6
<i>Paracomesoma</i>	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
<i>Paracyatholaimus</i>	1.7	0.4	0.3	0.0	0.0	0.0	0.6	0.0
<i>Paralongicyatholaimus</i>	0.7	2.9	0.8	0.5	0.7	0.4	1.4	2.1
<i>Paramesacanthion</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
<i>Paramicrolaimus</i>	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
<i>Paramonhystera</i>	0.0	0.0	0.0	1.6	0.7	0.4	0.0	0.0
<i>Pareudesmoscolex</i>	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
<i>Parodontophora</i>	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
<i>Pierrickia</i>	1.0	5.0	7.8	0.5	15.9	4.8	6.4	7.3
<i>Platycoma</i>	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0
<i>Polygastrophora</i>	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
<i>Pomponema</i>	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Praecanthonchus</i>	0.3	0.4	0.0	0.0	1.4	0.0	0.6	0.0
<i>Prochromodorella</i>	0.0	0.0	0.5	0.0	0.0	0.4	0.0	1.6
<i>Pselionema</i>	3.8	3.3	2.9	1.1	2.1	0.4	2.3	0.5
<i>Quatricoma</i>	0.0	0.0	0.5	0.5	0.0	0.0	0.3	0.0
<i>Rhynchonema</i>	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
<i>Richtersia</i>	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.1
<i>Sabatieria</i>	0.0	2.9	0.5	2.7	2.1	10.7	4.3	7.8
<i>Setosabatieria</i>	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
<i>Sphaerolaimus</i>	12.4	7.4	4.3	7.5	0.0	6.3	4.0	4.1
<i>Spiliphera</i>	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
<i>Spirinia</i>	0.0	0.0	0.0	0.0	0.0	1.2	0.3	0.0
<i>Syringolaimus</i>	10.3	5.8	7.0	13.4	6.2	2.8	0.6	7.3
<i>Tarvaia</i>	1.0	1.7	0.5	0.0	0.7	0.0	0.6	1.0
<i>Terschellingia</i>	0.0	0.4	0.3	0.0	2.1	0.0	0.3	0.0
<i>Thalassoalaimus</i>	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.5
<i>Theristus</i>	2.1	0.8	3.5	0.0	0.0	0.0	1.4	2.1
<i>Tricoma</i>	0.3	0.4	1.1	0.0	0.0	1.2	0.6	0.5
<i>Trissonchulus</i>	1.0	0.0	0.0	0.0	0.7	0.0	0.3	1.6
<i>Vasostoma</i>	0.3	0.0	0.0	0.0	0.0	2.0	0.0	0.0
<i>Viscosia</i>	0.0	2.1	0.0	4.8	0.7	0.0	0.0	0.0
<i>Wieseria</i>	0.3	0.0	2.4	0.0	0.0	0.0	0.0	0.0