Supplemental material

Table S1 Mean relative abundance of nematode genera (%) in control (no nitrogen addition and no mowing), +N (nitrogen addition and no mowing), +M (mowing but no nitrogen addition), N+M (nitrogen addition and mowing) treatments.

Genus	c-p	Control	+N	+M	N+M
Bacterivores					
Rhabditidae	1	1.8	2.6	0.0	0.0
Acrobeles	2	7.7	0.8	1.8	2.8
Acrobeloides	2	6.1	10.5	3.4	9.6
Acrolobus	2	0.7	0.2	0.0	0.0
Cephalobus	2	0.0	9.0	0.3	0.2
Cervidellus	2	3.2	0.2	6.6	10.0
Chiloplacus	2	1.2	0.3	0.0	0.0
Eucephalobus	2	0.3	0.2	0.0	0.0
Heterocephalobus	2	0.2	0.0	0.0	0.0
Drilocephalobus	2	0.0	0.2	0.0	0.2
Anaplectus	2	0.0	1.2	0.0	0.4
Wilsonema	2	0.2	0.0	0.0	0.0
Rhabdolaimus	3	2.0	1.1	2.2	1.7
Alaimus	4	2.7	2.5	1.1	2.5
Fungivores					
Aphelenchus	2	0.0	0.5	0.0	0.0
Paraphelenchus	2	0.3	3.1	1.0	0.8
Bursaphelenchus	2	0.0	0.3	0.0	0.0
Filenchus	2	2.8	0.8	1.7	0.2
Dorylaimoides	4	0.2	0.0	0.3	0.0
Tylencholaimus	4	3.6	1.6	26.0	5.7
Plant-parasites					
Ditylenchus	2	0.0	0.0	0.2	3.0
Aphelenchoides	2	3.0	2.1	1.5	2.5
Paratylenchus	2	1.3	0.3	1.5	2.1
Psilenchus	2	0.0	0.0	0.0	0.2
Basiria	2	0.8	2.2	1.0	2.5
Boleodors	2	0.0	0.2	0.0	0.0
Coslenchus	2	0.0	0.0	0.4	0.4
Malenchus	2	8.6	6.4	3.1	7.6
Neopsilenchus	2	0.3	1.6	0.0	0.7
Tylenchus	2	0.7	0.0	0.9	3.2
Macroposthonia	3	1.7	2.9	0.6	0.6
Tylenchorhynchus	3	0.0	0.0	3.8	8.7
Telotylenchus	3	4.0	5.9	2.6	2.7

Helicotylenchus	3	7.0	17.4	3.9	7.6
Pararotylenchus	3	1.3	3.0	2.3	4.2
Rotylenchus	3	3.3	1.5	0.5	0.4
Hoplotylus	3	0.0	0.0	0.5	0.0
Pratylenchus	3	0.2	4.6	2.3	2.5
Trichodorus	4	4.0	2.1	0.6	1.5
Axonchium	5	0.8	4.9	3.8	4.0
Dorylaimellus	5	12.0	4.4	8.0	1.9
Longidorus	5	2.7	0.0	0.8	0.0
Xiphinema	5	0.2	0.0	0.0	0.0
Omnivores-predators					
Campydora	4	1.7	0.8	3.6	1.7
Longidorella	4	0.2	0.2	5.1	0.3
Pungentus	4	2.2	0.0	1.8	0.0
Dorydorella	4	0.5	0.2	0.0	0.0
Epidorylaimus	4	2.3	0.0	0.0	0.0
Eudorylaimus	4	1.3	0.6	2.2	2.3
Kochinema	4	0.0	0.2	0.2	0.0
Microdorylaimus	4	3.2	0.0	0.0	0.0
Thonus	4	1.5	2.8	1.2	2.0
Mesodorylaimus	4	0.8	0.2	0.2	0.0
Aporcelaimellus	5	0.0	0.0	0.4	0.4
Aporcelaimus	5	0.3	0.2	0.2	0.0
Torumanawa	5	0.0	0.0	0.0	0.2
Discolaimium	5	0.7	0.2	1.8	2.0
Discolaimus	5	0.3	0.3	0.4	0.0
Nygolaimus	5	0.3	0.0	0.3	0.0
Laimydorus	5	0.0	0.0	0.0	0.2

Table S2 Results of the structural equations model linking climate, soil and plant drivers to nematode community characteristics. The model fit the data upon the *post-hoc* inclusion of relationship (χ^2 = 8.944, d.f. = 8, *p*-value = 0.347, RMSEA = 0.073).

Relation ship	Response	Predictor	Hypothesized causal mechanism	Standardized Estimate	Estimate	S.E.	Crit. Value	*p*-value
1	pH	N addition	N addition causes leaching of cations and reduces soil acidity	-0.93	-1.28	0.11	-11.87	<0.001
2	MBC	N addition	N addition increase nutrient source for microbes	-1.14	-202.89	65.20	-3.11	<0.01
3	PPC	N addition	N addition increases ammoniacal nitrogen in soil, and than direct suppressing nematode populations (Rodríguez-Kábana, 1986)	-0.42	-716.50	784.07	-0.91	0.36
4	FFC	N addition	N addition increases ammoniacal nitrogen in soil, and than direct suppressing nematode populations (Rodríguez-Kábana, 1986)	-0.42	-81.98	91.49	-0.90	0.37
5	BFC	N addition	N addition increases ammoniacal nitrogen in soil, and than direct suppressing nematode populations (Rodríguez-Kábana, 1986)	0.56	472.84	475.82	0.99	0.32
6	MBC	Mowing	Mowing decrease resource availability for microorganisms	0.15	26.42	23.97	1.10	0.27
7	PPC	Mowing	Mowing decrease resource availability for plant-parasites	-0.52	-900.53	246.71	-3.65	<0.001
8	FFC	Mowing	Mowing decrease resource availability for fungivores	0.42	81.69	28.79	2.84	<0.01
9	BFC	Mowing	Mowing decrease resource availability for bacterivores	-0.46	-387.104	149.719	-2.586	0.01
10	MBC	pH	Excess acidity ($[H^+]$) stress factor on microorganisms growth and reproduction	-0.43	-54.96	47.21	-1.16	0.24
11	PPC	pH	Excess acidity ($[H^+]$) stress factor on nematode growth and reproduction	-0.17	-209.38	487.39	-0.43	0.67
12	FFC	pH	Excess acidity ($[H^+]$) stress factor on nematode growth and reproduction	0.15	21.50	56.87	0.38	0.71

13	BFC	pH	Excess acidity ($[H^+]$) stress factor on nematode growth and reproduction	0.82	495.92	295.78	1.68	0.09
14	OPC	pH	Excess acidity ($[H^+]$) stress factor on nematode growth and reproduction	0.46	653.67	381.54	1.71	0.09
15	PPC	MBC	Microbial death residues and their decomposition products are food sources for plant-parasites	0.38	3.65	2.13	1.71	0.09
16	FFC	MBC	Fungivores feed on microorganisms	0.05	0.05	0.25	0.22	0.83
17	BFC	MBC	Bacterivores feed on microorganisms	-0.00	-0.01	1.30	-0.01	0.99
18	OPC	PPC	Omnivores-predators feed on plant-parasites	-0.06	-0.06	0.25	-0.25	0.80
19	OPC	FFC	Omnivores-predators feed on fungivores	-0.23	-2.28	2.39	-0.96	0.34
20	OPC	BFC	Omnivores-predators feed on bacterivores	0.31	0.72	0.47	1.52	0.13

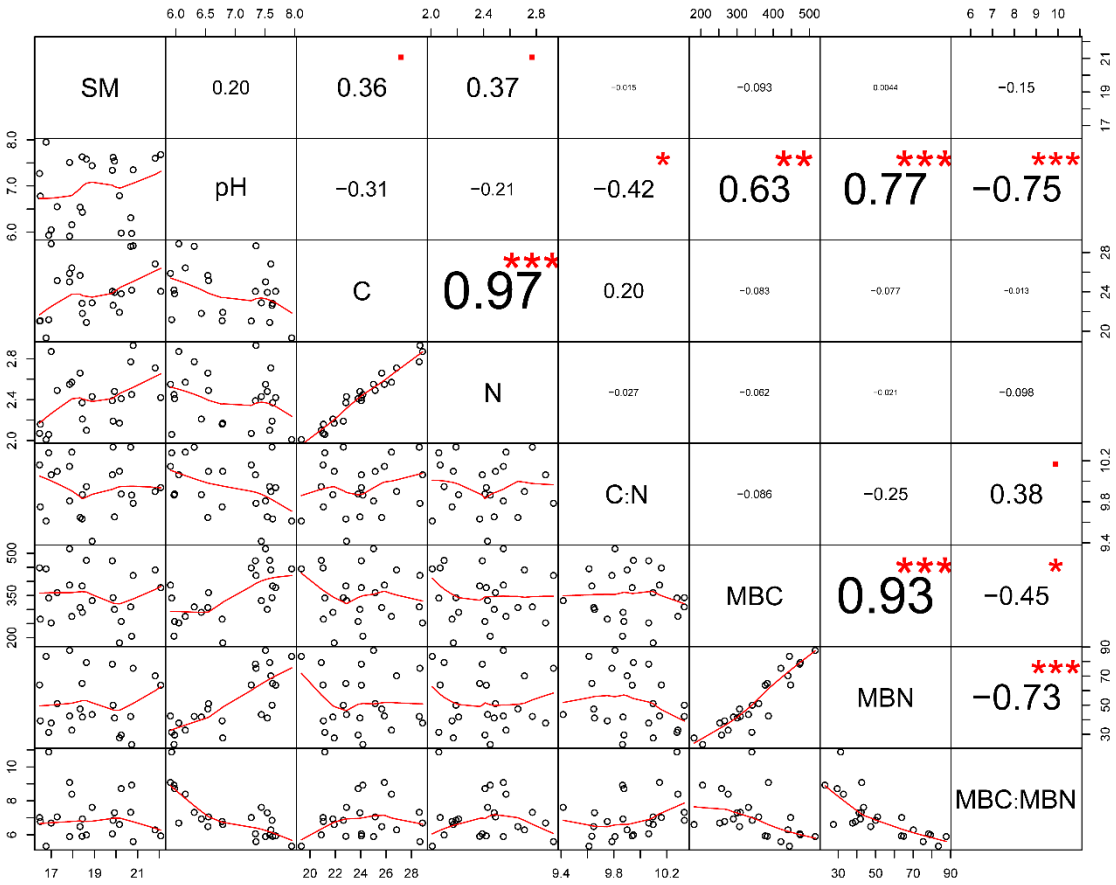

Fig. S1 Relationship between soil moisture (SM), pH, total soil carbon (TC), total soil nitrogen (TN), C:N ratio (C: N), microbial biomass carbon (MBC), microbial biomass nitrogen (MBN), and microbial biomass C: N ratio (MBC: MBN)

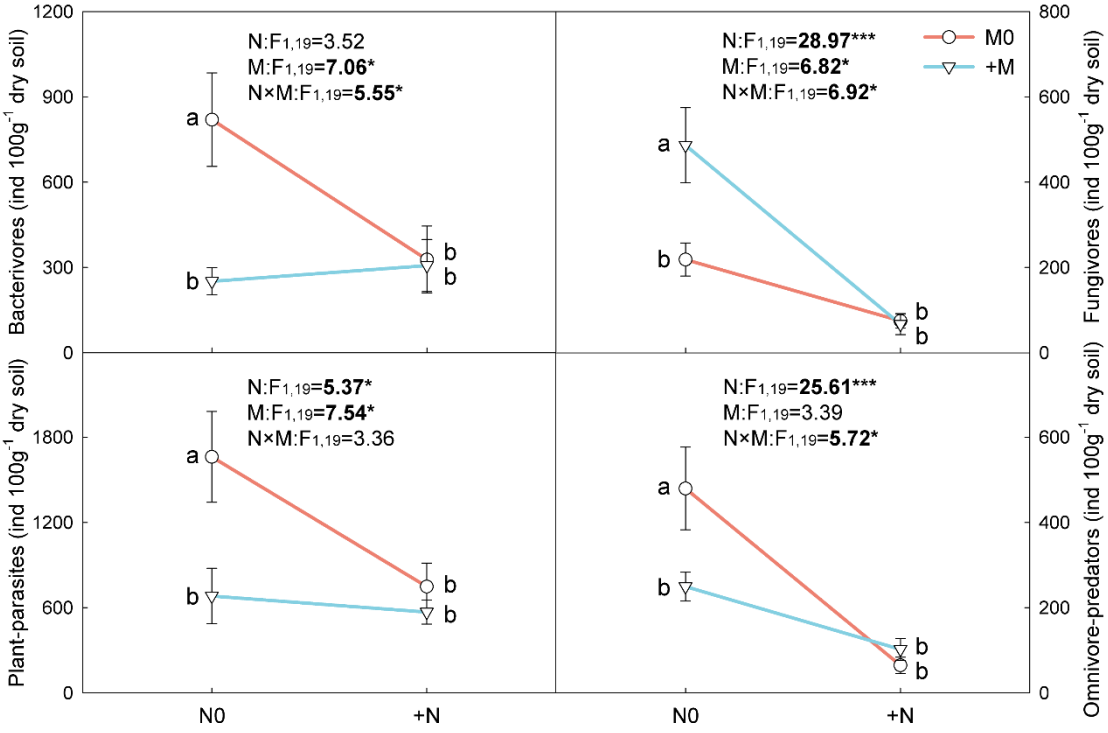

Fig. S2 Effect of nitrogen addition and mowing on nematode abundance of trophic groups. *F*- and *P*-values from a two-way ANOVA on the effects of nitrogen addition (N), mowing (M) and their interaction are also presented. Data are shown as mean + SE. Different letters indicate significant differences at $P < 0.05$ based on a Tukey's HSD test. *$P < 0.05$; **$P < 0.01$; ***$P < 0.001$.

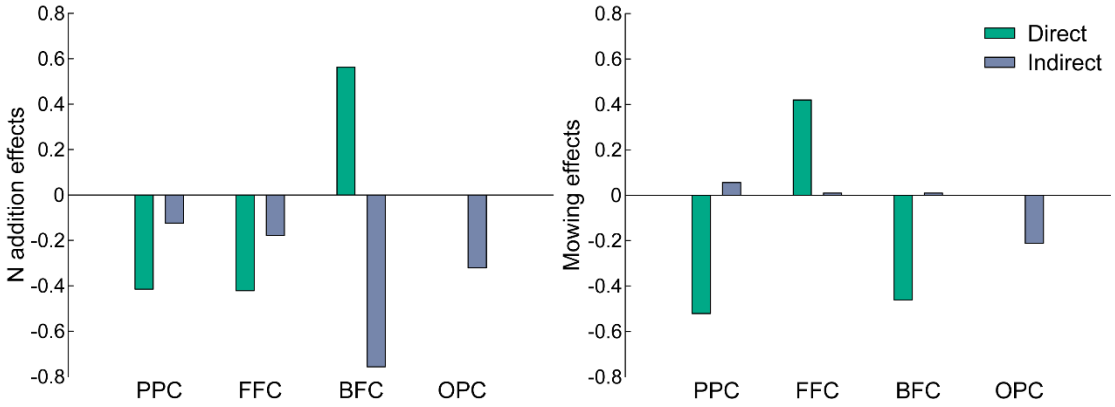

Fig. S3 Standardized direct and indirect effects of nitrogen addition and mowing on nematode biomass carbon of trophic groups from SEM model. PPC, plant-parasites biomass carbon; FFC, fungivores biomass carbon; BFC, bacterivores biomass carbon.