Supplementary material contains:

Supplementary Figure S1: Percentage of DMS by feature type and distribution along chromosomes

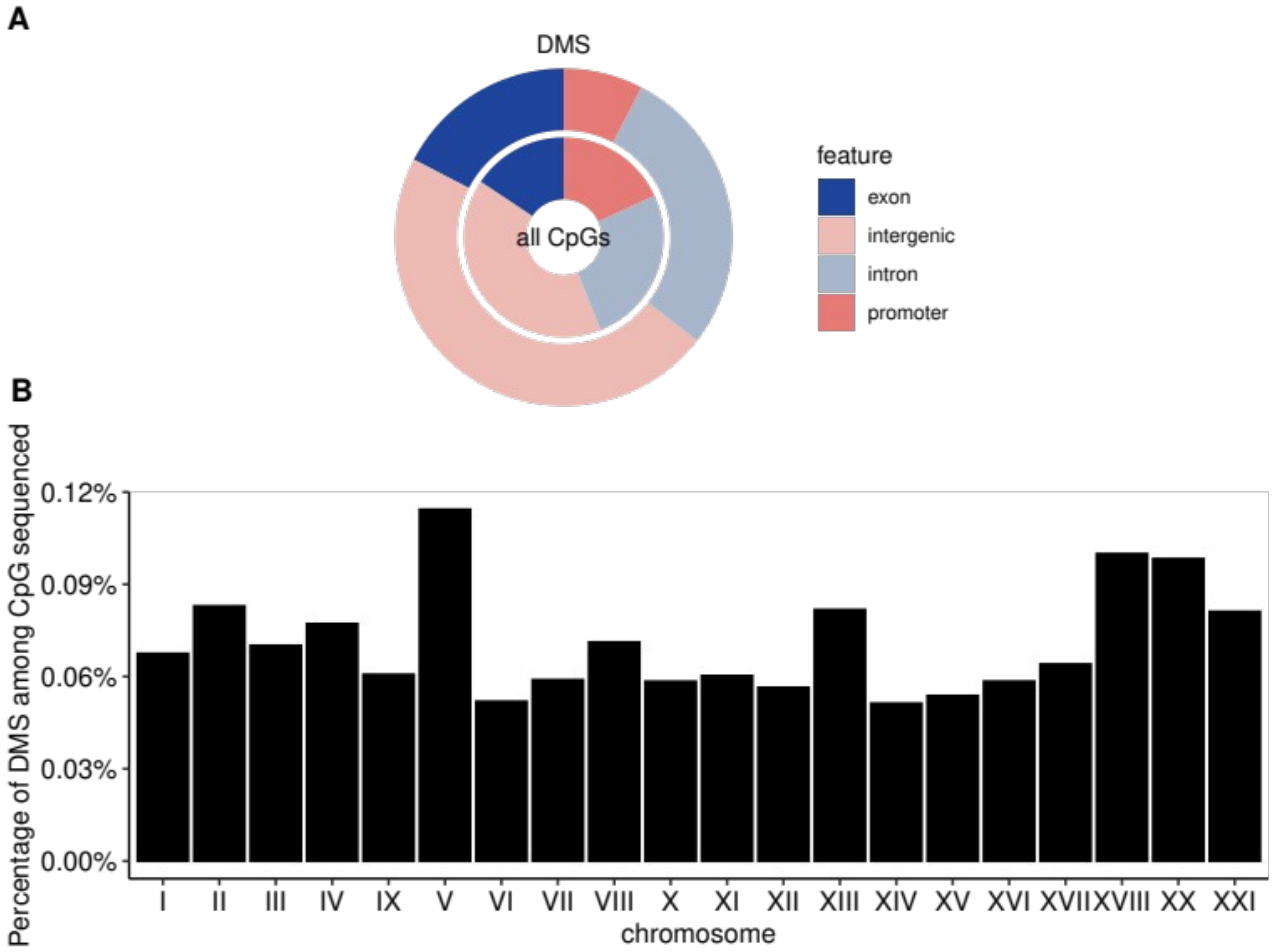
Supplementary Figure S2: GO enrichment analysis for the genes containing DMS belonging to categories infection-induced and intergenerational

Supplementary Figure S3: Disease tolerance, measured as the slope of the regression between body condition index and parasite count, is higher in offspring from infected fathers compared to offspring from control father.

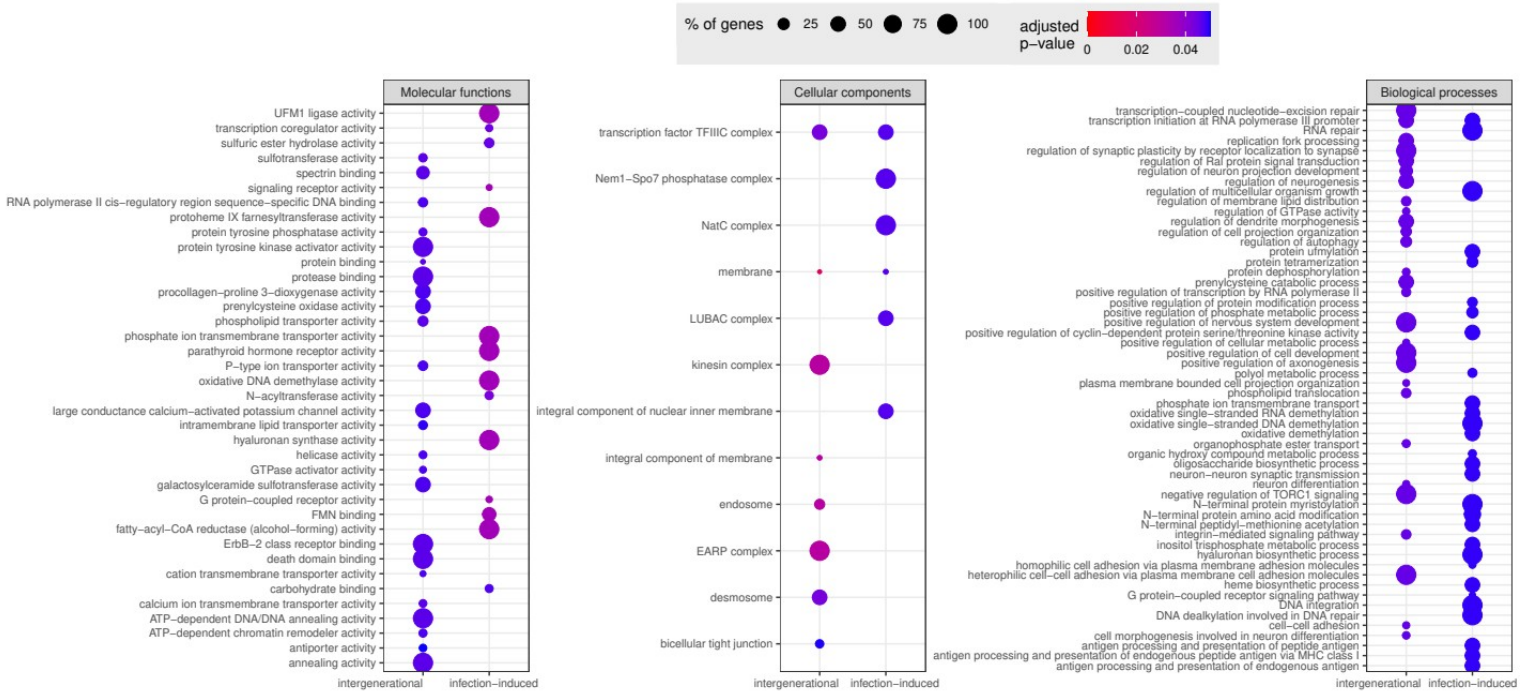
Supplementary Table S1: DMS annotation (separate spreadsheet)

Supplementary Table S2: Composition of our dataset

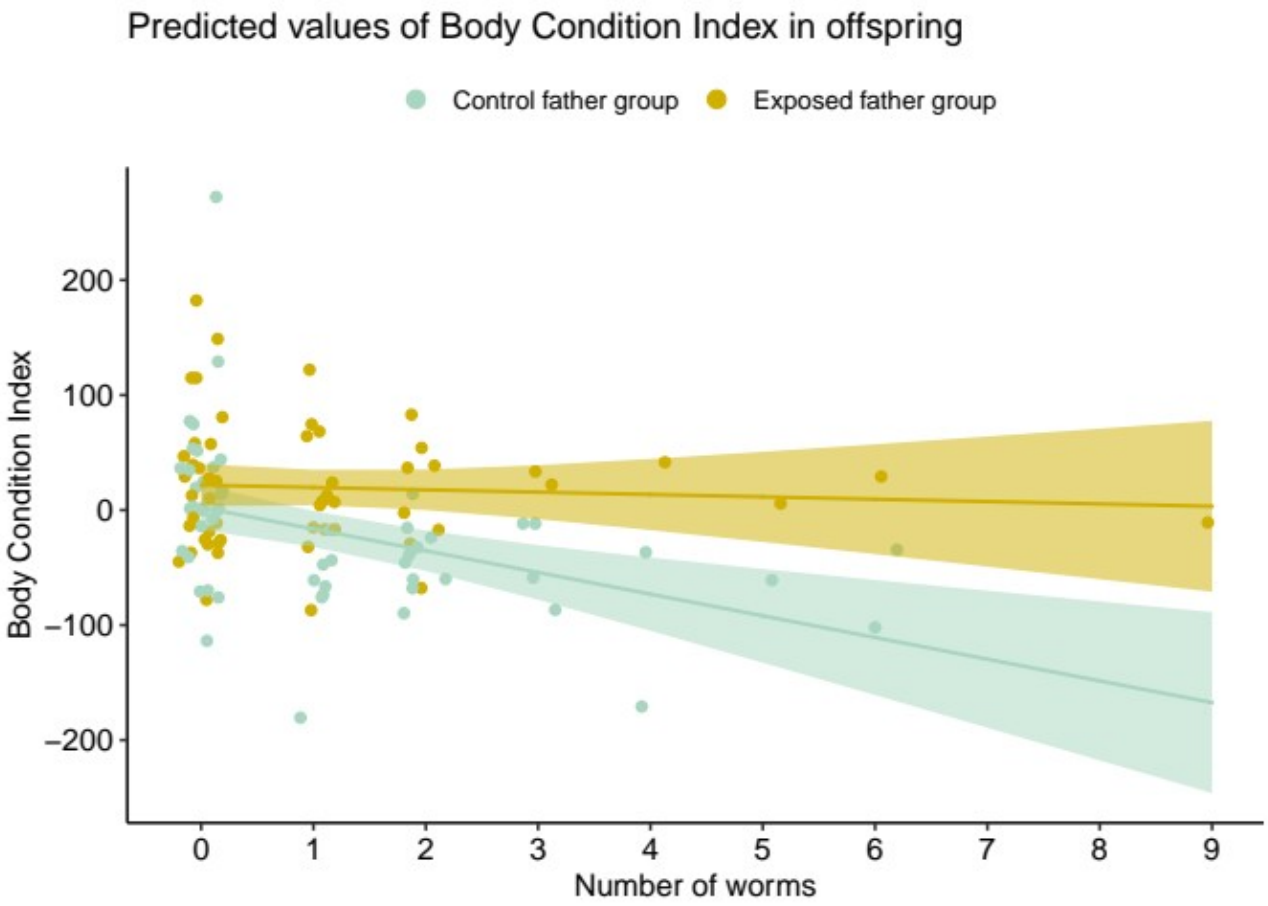
Supplementary Figure S1: Percentage of DMS by feature type and distribution along chromosomes. A. Percentage of DMS (outer circle) and non DMS (inner circle) found in intergenic regions, introns, exons and promoters **B.** Distribution of DMS on chromosomes



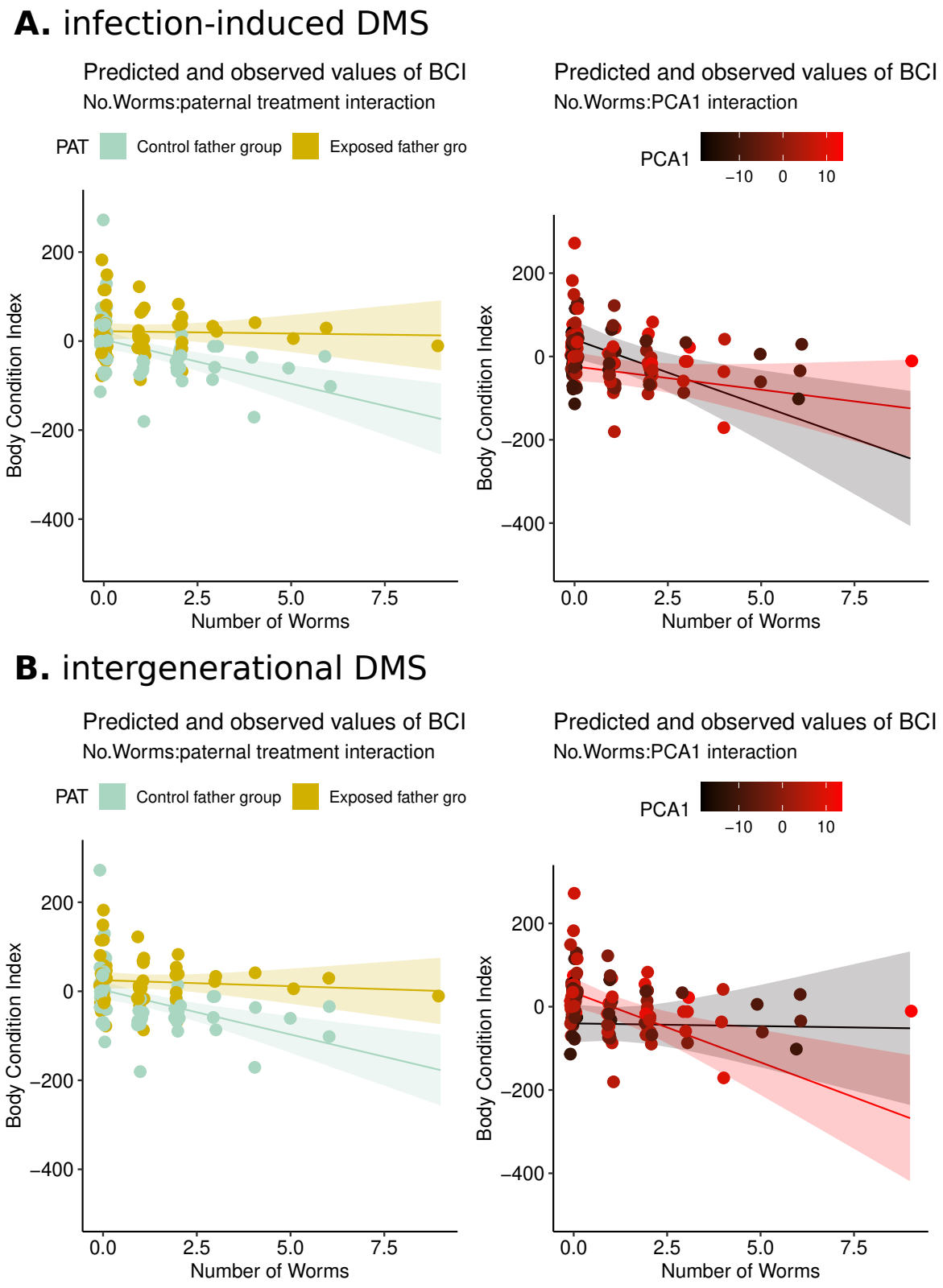
Supplementary Figure S2: GO enrichment analysis for the genes containing DMS belonging to categories infection-induced and intergenerational.



Supplementary Figure S3: Disease tolerance, measured as the slope of the regression between body condition index and parasite count, is higher in offspring from infected fathers compared to offspring from control father.



Supplementary Figure 4. Link between tolerance, paternal effects and DNA methylation at the identified DMS for (A) infection-induced DMS and (B) intergenerational DMS. Tolerance, i.e. the slope of Body Condition Index (BCI) by number of worms, is influenced by the paternal treatment. The interaction with the first PCA axis from methylation values at DMS is represented, but not statistically significant.



Supplementary Table S2: Composition of our dataset

treatment	G1 control G2 control		G1 control G2 infected		G1 infected G2 control		G1 infected G2 infected	
sex	male	female	male	female	male	female	male	female
brother pair								
BP04	1	3	2	2	2	2	3	1
BP05	1	3	0	3	3	1	2	2
BP16	3	1	1	1	4	0	2	2
BP30	2	1	1	2	1	3	2	2
BP31	2	1	1	3	0	3	1	2
BP34	2	0	2	2	2	0	2	1
BP46	2	2	2	1	3	0	3	1
BP49	0	4	2	2	1	3	1	1