**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

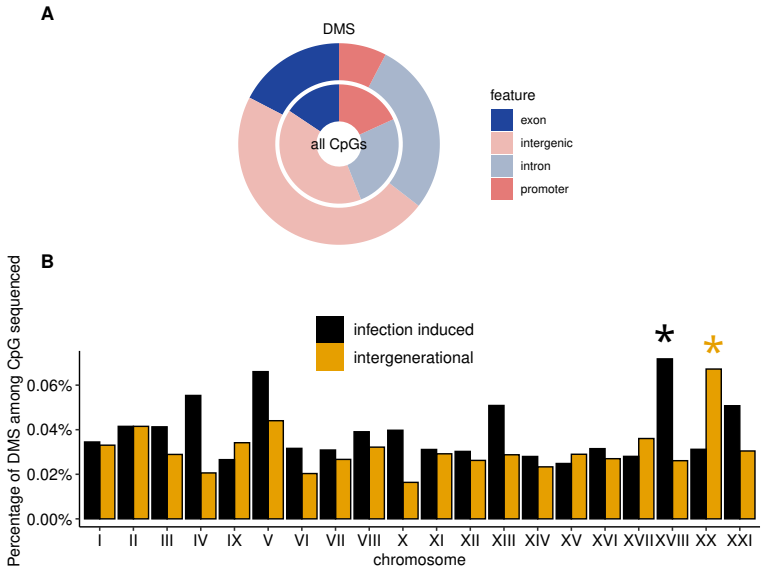
**Supplementary Figure S3:** Disease tolerance, measured as the slope of the regression between body condition index and parasite count, is higher in offspring from infected fathers compared to offspring from control father.

**Supplementary Figure S4:** In infected offspring fish from control fathers, body condition is predicted by the interaction number of worms\*PCA1 and by the interaction PCA1\*PCA2 at intergenerational DMS

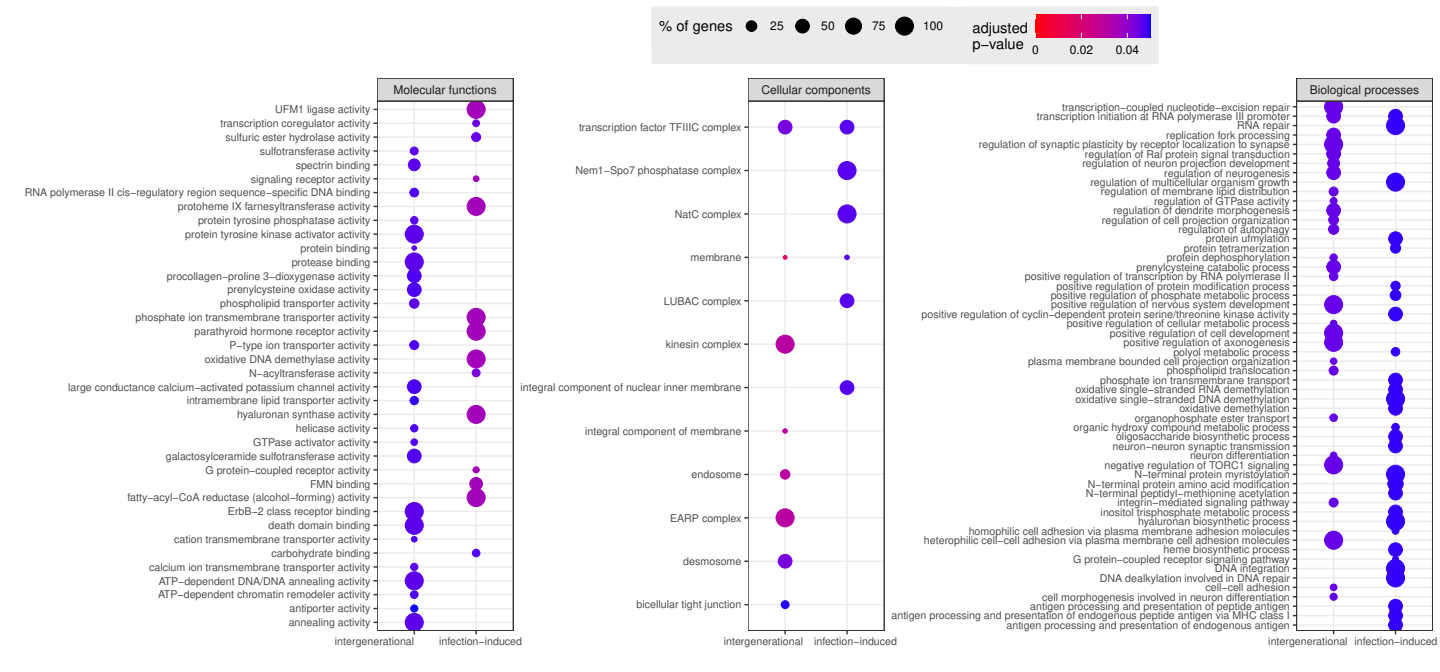
**Supplementary Table S1:** DMS annotation (separate spreadsheet)

**Supplementary Table S2:** Composition of our dataset

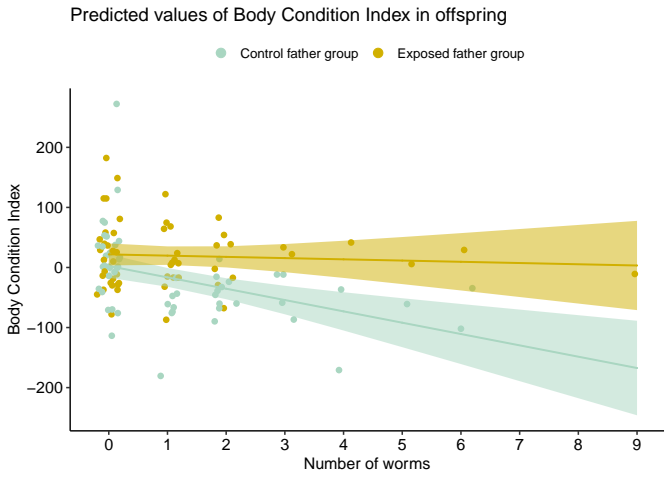
**Supplementary Figure S1: Percentage of DMS by feature type and distribution along chromosomes. A.** Percentage of DMS (outer circle) and non DMS (inner circle) found in intergenic regions, introns, exons and promoters **B.** Distribution of DMS on chromosomes, for infection induced and intergenerational categories. Stars indicate chromosomes enriched in DMS of one category.



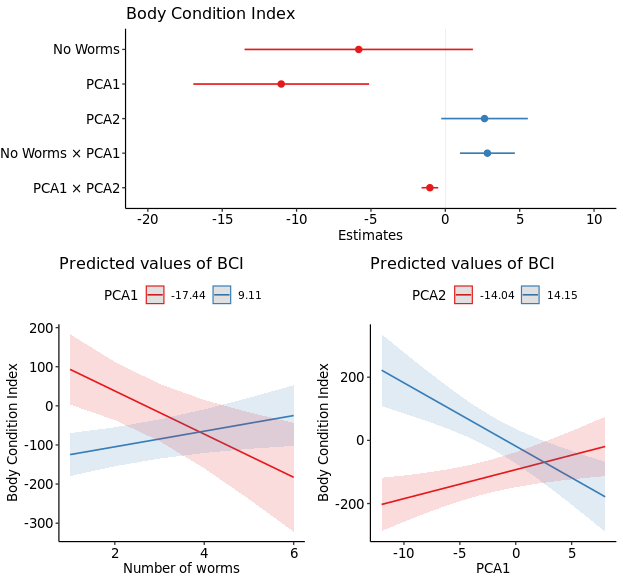
**Supplementary Figure S2: GO enrichment analysis for the genes containing DMS belonging to categories infection-induced and intergenerational.**



**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 S4: In infected offspring fish from control fathers, body condition is predicted by the interaction number of worms\*PCA1 and by the interaction PCA1\*PCA2 at intergenerational DMS**

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**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 |