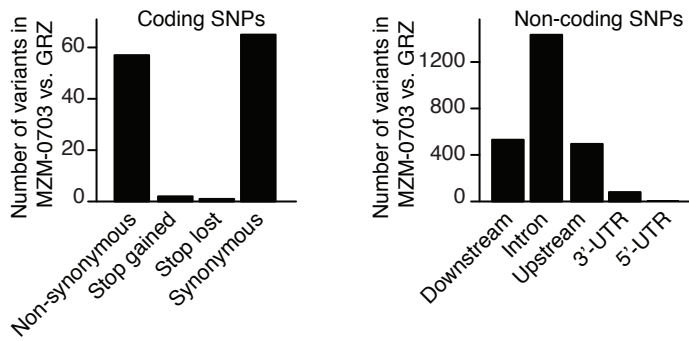


Figure S7

A SNPs in MZM-0703 vs. GRZ in the region underlying the lifespan QTL (cross GxM P0)



B Candidate genes in lifespan QTL region with non-synonymous SNPs at conserved sites (Illumina sequencing)

Gene	GRZ aa	MZM-0703 aa	MZM-0403 aa	Consensus aa
<i>ATXN7L1</i>	G589	R589	R589	R/K
<i>GRN</i>	Q151, W449	H151, C449	H151, C449	H/F, C
<i>HIPK2(11of26)</i>	H218, K321	Y218, T321	Y218, T321	Y, T
<i>IFI35</i>	M196	L196	L196	L
<i>TTYH3A</i>	S423	T423	T423	T
<i>ZNF800A</i>	N489	T489	T489	T/S

C GRN mutiple protein alignment (turquoise killfish residue 151)

```

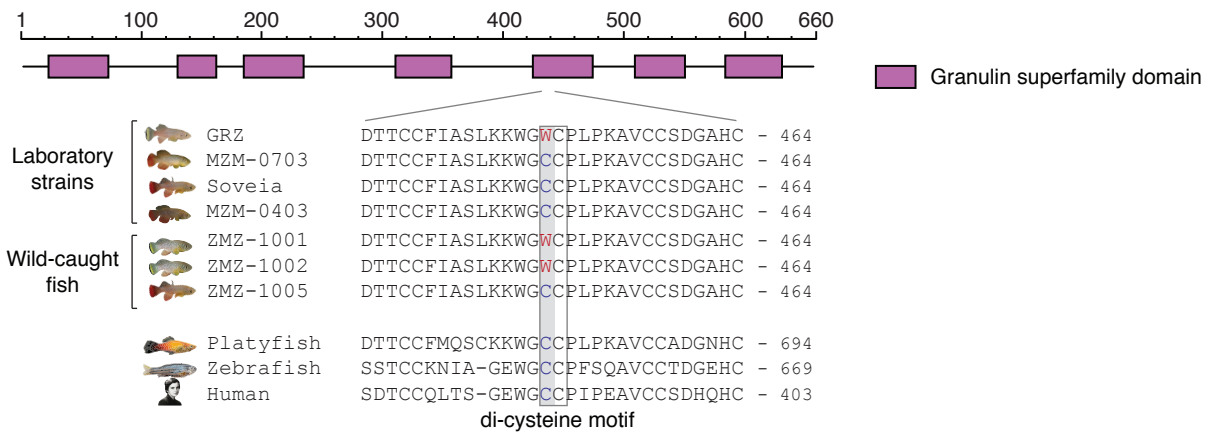
T. killifish CPDGKHCCPEGQRCSNACHSCIKK - 163
Platyfish   CSDGKHCCPEGHHCSDRSRSCIKK - 163
Medaka      CPDGKHCCPEGHQCSDLRSRSCVKK - 163
Fugu        CPDSKTM----- - 107
Stickleback CSDGKHCCPEGHQCSADCRSCIKQ - 117
Zebrafish   CSDGKHCCPNDEHCSSDSSLVCVKR - 162
Human       CGDGHCCPRGFHCADGRSCFQR - 115
    
```

D GRN mutiple protein alignment (turquoise killfish residue 449)

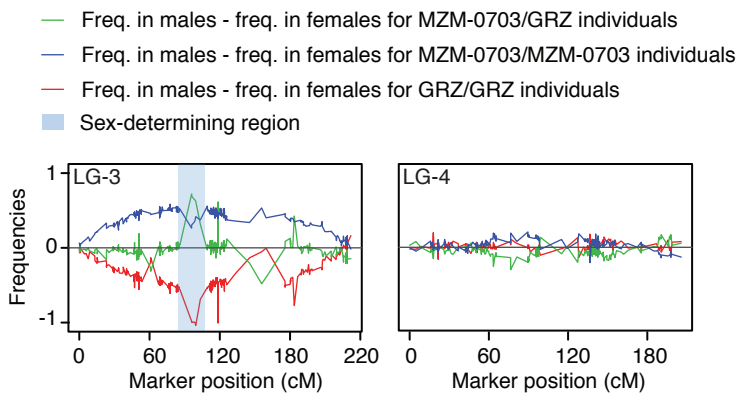
```

T. killifish DTTCCFIASLKKWGWCCPLPKAVCCSDGAHC - 464
Platyfish   DTTCCFMQSKKWGCCPLPKAVCCADGNHC - 694
Medaka      QTTCCKTQE-GGWGCCPFPEAVCCADGEHC - 644
Fugu        GSTCCMAS-GQWACCPLPEAVCCEDGDHC - 373
Stickleback SNTCCFMAESQKWGCCPLPKAVCCSDGNHC - 423
Zebrafish   SSTCCKNIA-GEWGCCPFPSQAVCCTDGEHC - 669
Human       SDTCCQLTS-GEWGCCPIPEAVCCSDHQHC - 403
    
```

E GRN protein sequence in turquoise killfish strains, wild-caught fish and other species (turquoise killfish residue 449)



F Genotype frequency distortion and recombination



G Genotype frequency distortion in F2 males vs. females

