

Table S8. Annotations of the *T. freemani* mitogenome and its comparison to the *T. castaneum* mitogenome (NC_003081.2). Alignment scores between *T. freemani* and *T. castaneum* mitochondrial genes were calculated using Needleman–Wunsch algorithm.

Gene	Start position	End position	Size (bp)	Start codon	Termination	Similarity to <i>T. castaneum</i> mtDNA	
						Alignment score	Similarity score
tRNA-Ile	1	63	63			116,9696	0,984127
tRNA-Gln	61	129	69			97,33598	0,9275362
tRNA-Met	129	196	68			87,0156	0,9411765
ND2	203	1207	1005	ATA	TAA	257,5144	0,7870647
tRNA-Trp	1206	1272	67			124,8967	0,9850746
tRNA-Cys	1272	1332	61			89,36294	0,9344262
tRNA-Tyr	1334	1397	64			1,497805	0,765625
COX1	1394	2935	1542	CAC	TAA	1163,827	0,8463035
tRNA-Leu	2937	3002	66			74,40892	0,9090909
COX2	3003	3687	685	ATA	T	544,5334	0,8510949
tRNA-Lys	3691	3761	71			132,8237	0,9859155
tRNA-Asp	3789	3855	67			29,10444	0,8358209
ATP8	3856	4014	159	ATC	TAG	-19,56359	0,754717
ATP6	4008	4679	672	ATG	TAA	338,7267	0,8184524
COX3	4679	5464	786	ATG	TAA	399,1438	0,8155216
tRNA-Gly	5467	5529	63			84,22575	0,9365079
ND3	5590	5883	294	ATC	TAG	-269,9518	0,5884354
tRNA-Ala	5882	5948	67			77,61037	0,8955224
tRNA-Arg	5948	6010	63			84,98782	0,952381
tRNA-Asn	6010	6074	65			79,08857	0,9384615
tRNA-Ser	6075	6133	59			69,63734	0,8983051
tRNA-Glu	6134	6198	65			64,5461	0,8923077
tRNA-Phe	6197	6261	65			-184,3245	0,4461538
ND5	6263	7976	1714	ATA	T	1040,293	0,827888
tRNA-His	7974	8039	66			19,24164	0,8030303
ND4	8040	9372	1333	ATG	T	781,7487	0,8237059
ND4L	9366	9653	288	ATG	TAA	200,336	0,8368056
tRNA-Thr	9656	9719	64			86,2075	0,9375
tRNA-Pro	9720	9784	65			2,838774	0,8153846
ND6	9790	10281	492	ATT	TAA	35,82355	0,7662602
CYTB	10281	11420	1140	ATG	TAA	595,9787	0,8192982
tRNA-Ser2	11419	11485	67			61,39066	0,8955224
ND1	11503	12456	954	ATA	TAG	700,5536	0,8427673
tRNA-Leu2	12454	12518	65			64,54611	0,8923077
I-rRNA	12518	13762	1245			654,1954	0,8168675
tRNA-Val	13804	13872	69			113,0981	0,9565217
s-rRNA	13874	14648	775			702,1122	0,8696774
Control region	14649	15757	1109			-763,1833	0,6723827