

**Table S1:** Specimen of *Lariophagus distinguendus* from the collection of the Natural History Museum London (NHML) and the University of Hohenheim (UH). Locations, dates and the original host from which they were collected are shown.

locality	country	collecting date	source	original host
Paris	France	01.11.1927	NHML	<i>Stegobium paniceum</i>
Suigen	Korea	17.04.1930	NHML	<i>Calandra oryzae</i>
Palestro	Algeria	20.05.1930	NHML	<i>Stegobium paniceum</i>
Algier	Algeria	01.08.1931	NHML	<i>Calandra, Anobium</i>
Rio Salado	Algeria	12.11.1931	NHML	<i>Calandra granaria</i>
Rabat	Morocco	11.11.1933	NHML	<i>Sitophilus oryzae</i>
Berlin	Germany	may-june 1935	NHML	<i>Stegobium paniceum</i>
Miqve Yisrael	Palestine	05.12.1939	NHML	<i>Calandra sp.</i>
Suva	Fiji Isl.	16.01.1940	NHML	<i>Stegobium paniceum</i>
Beirut	Lebanon	23.10.1942	NHML	<i>Calandra oryzae (Sitophilus oryzae)</i>
Slough	England	1952	NHML	<i>Stegobium paniceum</i>
Nairobi	Kenya	09.03.1967	NHML	<i>Sitophilus oryzae &amp; Stegobium paniceum</i>
Slough	England	1976	NHML	<i>Sitophilus, Oryzaephilus, Cryptolestes</i>
Birmingham	England	1983	NHML	<i>Stegobium paniceum</i>
Slough	England	01.12.1996	NHML / UH	<i>Sitophilus granarius</i>
Pforzheim	Germany	2005	UH	<i>Sitophilus granarius</i>
Bygholm	Denmark	2005	UH	<i>Sitophilus granarius</i>
Stuttgart	Germany	2007	UH	<i>Stegobium paniceum</i>
Ravensburg	Germany	2008	UH	<i>Stegobium paniceum</i>
Satrup	Germany	2010	UH	<i>Sitophilus granarius</i>
Birkach	Germany	2011	UH	<i>Stegobium paniceum</i>
Wageningen	The Netherlands	2011	UH	<i>Stegobium paniceum</i>
Sachsen	Germany	2011	UH	<i>Sitophilus granarius</i>

**Table S2:** Strains used in the different experiments and the coordinates of the collection sites.

Strains	Collection sites (Coordinates)	Host preference	Fecundity	Phylogeny
RAVdb	N 47.77827 E 9.61213	+	+	+
STUdb	N 48.775418 E 9.181759	+	+	+
BIRdb	N 48.71964 E 9.20938	+	-	+
WAGdb	N 51.969187 E 5.665395	-	-	+
PFOgw	N 48.892186 E 8.694629	+	+	+
SLOgw	N 51.510538 E -0.595041	+	+	+
SATgw	N 54.691977 E 9.601231	+	+	+
SACgw	N 51.104541 E 13.201738	-	-	+
BYGgw	N 55.864722 E 9.825556	-	-	+

**Table S3:** Primer pairs of the different genes for the phylogenetic analysis including length of the resulting exons and introns.

Gene	primer pairs	in <i>Lariophagus</i>	length (bp)		Ref.
			exon	intron	
COI	for C1-J-2183 5'-CAACATTTATTTTGATTTTTTGG-3' rev TL2-N-3014 5'-TCCAATGCACTAATCTGCCATATTA-3'	679	679	0	[S01]
CAD	for 5'-CAGTTCGATGAAGAGCGTAGG-3' rev 5'-ATAGACACCCGAACCTTTGAAGA-3'	547	509	38	-
ITS2	for 5'-TGT GAA CTG CAG GAC ACA TG-3' rev 5'-ATG CTT AAA TTT AGG GGG T-3'	352-356	-	-	[S02]
LOC 100123206	for HOG4652_10_A 5'-GGWTTTGGYTTTATTCGTTG-3' rev HOG4652_10_A 5'-YTCTTTATTYCGYTTYACTTG-3'	478-490	311-323	167	[S03]
LOC 100123909	for HOG5134_01_A 5'-AGTAAAATGGGTYTWATGTC-3' rev HOG5134_01_A 5'-STRTTCCARTTWACTCCRTA-3'	504-526	228	276-298	[S03]
LOC 100117339	for HOG5592_08_A 5'-YAAYGAGGACCAATCGAGAT-3' rev HOG5592_08_A 5'-GCATWACRATAGATCTYGCTTCTC-3'	548-587	279-318	269	[S03]

**Table S4:** Specimen sequenced and (deposition information for specimen data and) genebank accession numbers. Specimen marked in blue were collected from *Sitophilus granarius*, strains in red from *Stegobium paniceum*.

Specimen	COI	CAD	LOC100123206	LOC100123909	LOC100117339	ITS2
SATgw_1	KJ867375	KJ867394	KJ923851	KJ923869	KJ923887	KJ923908
SATgw_2	KJ867376	KJ867395	KJ923865	KJ923870	KJ923888	KJ923909
SLOgw_1	KJ867377	KJ867398	KJ923854	KJ923873	KJ923891	KJ923910
SLOgw_2	KJ867378	KJ867399	KJ923855	KJ923874	KJ923892	KJ923911
BYGgw_1	KJ867379	KJ867400	KJ923856	KJ923875	KJ923893	KJ923905
BYGgw_2	KJ867380	KJ867401	KJ923857	KJ923876	KJ923894	KJ923906
SACgw_1	KJ867381	KJ867396	KJ923852	KJ923871	KJ923889	KJ923912
SACgw_2	KJ867382	KJ867397	KJ923853	KJ923872	KJ923890	KJ923907
PFOgw_1	KJ867383	KJ867392	KJ923849	KJ923867	KJ923885	KJ923903
PFOgw_2	KJ867384	KJ867393	KJ923850	KJ923868	KJ923886	KJ923904
STUdb_1	KJ867385	KJ867402	KJ923866	KJ923877	KJ923895	KJ923915
STUdb_2	KJ867386	KJ867403	KJ923858	KJ923878	KJ923896	KJ923916
RAVdb_1	KJ867387	KJ867404	KJ923859	KJ923879	KJ923897	KJ923913
RAVdb_2	KJ867388	KJ867405	KJ923860	KJ923880	KJ923898	KJ923914
WAGdb_1	KJ867389	KJ867406	KJ923861	KJ923881	KJ923899	KJ923917
WAGdb_2	KJ867390	KJ867407	KJ923862	KJ923882	KJ923900	KJ923918
BIRdb_1	KJ867391	KJ867408	KJ923863	KJ923883	KJ923901	KJ923919
BIRdb_2	-	KJ867409	KJ923864	KJ923884	KJ923902	KJ923920
<i>Nasonia vitripennis</i>	EU746610	KC213163	KJ923921	XM_001607631	KJ923922	KJ923923

**Table S5:** Partition and substitution models. The partitions for the two analysis (mtDNA and nDNA) with there best-fit substitution models HKY [S04], K80 [S05] and JC [S06] are shown. The discrete gamma model of heterogeneity among sites (+G) [S07] and the invariant site model (+I) were used in three partitions. The over all base pairs for each partition as well as the constant and parsimony informative characters are given.

Partition	Best-fit substitution model	Characters	Constant characters	Parsimony-informative characters
COI 1 <sup>st</sup> +2 <sup>nd</sup> codon position	HKY+I	452	402	21
COI 3 <sup>rd</sup> codon position	HKY+G	227	108	84
p1: 1 <sup>st</sup> +2 <sup>nd</sup> codon position of CAD and the LOC genes	HKY	923	908	1
p2: 3 <sup>rd</sup> codon position of CAD and the LOC genes	K80	461	350	8
p3: Introns of CAD and the LOC genes	HKY	777	633	9
p4: ITS2	JC+G	449	359	9

COI	PFOgw	SATgw	SACgw	SLOGw	BYGgw	STUdb	BIRdb	RAVdb	WAGdb	N.v.
PFOgw	0,024	0,016	0,022	0,024	0,140	0,127	0,140	0,135	0,175	
SATgw		0,028	0,004	0,009	0,138	0,125	0,138	0,134	0,177	
SACgw			0,027	0,025	0,141	0,134	0,141	0,137	0,178	
SLOGw				0,004	0,141	0,128	0,141	0,137	0,174	
BYGgw					0,141	0,131	0,141	0,137	0,175	
STUdb						0,028	0,000	0,006	0,178	
BIRdb							0,028	0,028	0,177	
RAVdb								0,006	0,178	
WAGdb									0,181	
N.v.										0,181

**Introns**

ITS2	PFOgw	SATgw	SACgw	SLOGw	BYGgw	STUdb	BIRdb	RAVdb	WAGdb	N.v.
PFOgw	0,000									
SATgw	0,000	0,000								
SACgw	0,000	0,000	0,000							
SLOGw	0,000	0,000	0,000	0,000						
BYGgw	0,000	0,000	0,000	0,000	0,023					
STUdb	0,023	0,023	0,023	0,023	0,023	0,000				
BIRdb	0,023	0,023	0,023	0,023	0,023	0,000	0,000			
RAVdb	0,023	0,023	0,023	0,023	0,023	0,000	0,000	0,000		
WAGdb	0,023	0,023	0,023	0,023	0,023	0,000	0,000	0,000	0,252	
N.v.	0,240	0,239	0,240	0,241	0,239	0,252	0,252	0,252	0,252	0,252

**rDNA (449bp)**

CAD	PFOgw	SATgw	SACgw	SLOGw	BYGgw	STUdb	BIRdb	RAVdb	WAGdb	N.v.
PFOgw	0,002	0,002	0,002	0,002	0,002	0,008	0,006	0,006	0,006	0,165
SATgw	0,026	0,000	0,000	0,000	0,000	0,006	0,004	0,004	0,004	0,167
SACgw	0,026	0,000	0,000	0,000	0,000	0,006	0,004	0,004	0,004	0,167
SLOGw	0,026	0,000	0,000	0,000	0,000	0,006	0,004	0,004	0,004	0,167
BYGgw	0,026	0,000	0,000	0,000	0,006	0,006	0,004	0,004	0,004	0,167
STUdb	0,000	0,026	0,026	0,026	0,026	0,002	0,002	0,002	0,002	0,169
BIRdb	0,000	0,026	0,026	0,026	0,026	0,000	0,000	0,000	0,000	0,167
RAVdb	0,000	0,026	0,026	0,026	0,026	0,000	0,000	0,000	0,000	0,167
WAGdb	0,000	0,026	0,026	0,026	0,026	0,000	0,000	0,000	0,000	0,167
N.v.	0,289	0,263	0,263	0,263	0,263	0,289	0,289	0,289	0,289	0,289

**Introns (41bp)**

LOC100123206	PFOgw	SATgw	SACgw	SLOGw	BYGgw	STUdb	BIRdb	RAVdb	WAGdb	N.v.
PFOgw	0,000	0,000	0,000	0,000	0,000	0,006	0,006	0,006	0,006	0,040
SATgw	0,000	0,000	0,000	0,000	0,000	0,006	0,006	0,006	0,006	0,039
SACgw	0,000	0,000	0,000	0,000	0,000	0,006	0,006	0,006	0,006	0,040
SLOGw	0,000	0,000	0,000	0,000	0,000	0,006	0,006	0,006	0,006	0,040
BYGgw	0,003	0,003	0,003	0,003	0,006	0,006	0,006	0,006	0,006	0,040
STUdb	0,006	0,006	0,006	0,006	0,009	0,000	0,000	0,000	0,000	0,036
BIRdb	0,006	0,006	0,006	0,006	0,009	0,000	0,000	0,000	0,000	0,037
RAVdb	0,006	0,006	0,006	0,006	0,009	0,000	0,000	0,000	0,000	0,037
WAGdb	0,006	0,006	0,006	0,006	0,009	0,000	0,000	0,000	0,000	0,037
N.v.	0,353	0,353	0,353	0,353	0,353	0,361	0,361	0,361	0,361	0,361

**Introns (169bp)**

LOC100123909	PFOgw	SATgw	SACgw	SLOGw	BYGgw	STUdb	BIRdb	RAVdb	WAGdb	N.v.
PFOgw	0,000	0,000	0,000	0,000	0,000	0,013	0,013	0,013	0,013	0,061
SATgw	0,000	0,000	0,000	0,000	0,000	0,013	0,013	0,013	0,013	0,061
SACgw	0,000	0,000	0,000	0,000	0,000	0,013	0,013	0,013	0,013	0,061
SLOGw	0,000	0,000	0,000	0,000	0,000	0,013	0,013	0,013	0,013	0,061
BYGgw	0,000	0,000	0,000	0,000	0,013	0,013	0,013	0,013	0,013	0,061
STUdb	0,011	0,011	0,011	0,011	0,011	0,000	0,000	0,000	0,000	0,057
BIRdb	0,011	0,011	0,011	0,011	0,011	0,000	0,000	0,000	0,000	0,057
RAVdb	0,010	0,011	0,011	0,010	0,011	0,000	0,000	0,000	0,000	0,057
WAGdb	0,011	0,011	0,011	0,011	0,011	0,000	0,000	0,000	0,000	0,057
N.v.	-	-	-	-	-	-	-	-	-	-

**Introns (298bp)**

LOC100117339	PFOgw	SATgw	SACgw	SLOGw	BYGgw	STUdb	BIRdb	RAVdb	WAGdb	N.v.
PFOgw	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,036
SATgw	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,038
SACgw	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,037
SLOGw	0,004	0,002	0,004	0,000	0,000	0,000	0,000	0,000	0,000	0,036
BYGgw	0,004	0,002	0,004	0,000	0,000	0,000	0,000	0,000	0,000	0,038
STUdb	0,015	0,013	0,015	0,011	0,011	0,000	0,000	0,000	0,000	0,036
BIRdb	0,015	0,013	0,015	0,011	0,011	0,000	0,000	0,000	0,000	0,038
RAVdb	0,015	0,013	0,015	0,011	0,011	0,000	0,000	0,000	0,000	0,035
WAGdb	0,015	0,013	0,015	0,011	0,011	0,000	0,000	0,000	0,000	0,038
N.v.	0,323	0,322	0,323	0,319	0,319	0,316	0,316	0,315	0,316	0,316

**Introns (269bp)**

**Figure S6:** Estimates of evolutionary divergence over sequence pairs between groups. The number of base differences per site from averaging over all sequence pairs between groups are shown. The analysis involved 19 nucleotide sequences (18 in COI and Introns of LOC100123909). All ambiguous positions were removed for each sequence pair. Evolutionary analyses were conducted in MEGA6 [S08].

**Table S7:** Drilling duration and frequency of drilling of the different strains with either preimaginal or early adult experience. Experience on *Stegobium* is mared in red, on *Sitophilus* marked in blue.

strains	experience	drilling duration		frequency of drilling	
		<i>Stegobium</i>	<i>Sitophilus</i>	<i>Stegobium</i>	<i>Sitophilus</i>
RAVdb	preimaginal experience on <i>Stegobium</i>	111.89	0	19	0
		34.37	0	4	0
		31.48	0	8	0
		177.18	0	17	0
		0	0	0	0
		77.41	0	6	0
		41.01	0	7	0
		67.03	6.86	7	2
		138.22	0	9	0
		66.66	0	14	0
		98.28	4.55	1	1
		76.71	27.57	14	3
		44.45	0	7	0
		175.74	0	24	0
		37.36	0	4	0
		47.39	0	3	0
		56.49	0	7	0
		111.42	10.62	9	2
		55.74	46	4	3
		289.69	0	5	0
		0	0	0	0
		0	0	5	0
		27.09	11.89	0	0
		19.19	0	3	3
		19.42	0	3	0
		50.61	0	1	0
12.76	0	4	0		
106.31	0	1	0		
58.19	0	8	0		
-	-	5	0		
STUdb	preimaginal experience on <i>Stegobium</i>	96.25	0	4	0
		105.03	0	5	0
		43.8	0	1	0
		269.17	0	6	0
		46.47	0	2	0
		28.18	0.21	7	0
		47.55	0	4	0
		104.52	0	4	1

	166.56	0	4	0
	24.93	0	6	0
	88.99	0	5	0
	104.23	0	2	0
	244.66	0	2	0
	80.17	0	7	0
	86.85	0	8	0
	177	0	6	0
	176.36	0	8	0
	31.38	0	11	0
	56.21	0	4	0
	39.54	0	6	0
	79.74	0	6	0
	105.29	0	5	0
	336.01	0	5	0
	194.08	0	3	0
	32.49	0	6	0
	47	0	4	0
	67.71	0	3	0
	171.4	0	5	0
	84.41	0	6	0
	39.14	0	3	0
	50.39	0	4	0
	0	0	0	0
	283.03	0	10	0
	332.72	0	5	0
	221.75	0	4	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	32.78	0	1	0
	14.14	0	1	0
BIRdb	478.24	0	3	0
preimaginal experience on <i>Stegobium</i>	0	0	0	0
	85.29	0	8	0
	460.65	0	5	0
	7	0	1	0
	314.83	0	13	0
	331.8	0	6	0
	0	0	0	0
	54.91	0	3	0
	0	0	0	0
	82.04	0	2	0
	37.47	0	5	0
	33.67	0	1	0

		355.15	0	3	0
PFOgw	preimaginal experience on <i>Stegobium</i>	90.89	70.76	5	4
		56.73	36.68	4	5
		83.74	0	13	0
		0	257.54	0	8
		0	135.04	0	4
		120.4	0	10	0
		399.09	0	14	0
		0	51.04	0	4
		0	45.74	0	7
		31.66	0	5	0
		116.81	0	9	0
		200.3	0	7	0
		0	272.62	10	0
		444.37	0	1	3
		4.13	40.45	3	6
		29.8	98.28	10	0
		274.8	0	9	0
		419.39	0	2	6
		23.82	204.39	0	6
		0	144.87	0	8
		0	132.53	10	3
		74.01	33.67	9	0
		367.68	0	8	0
		271.17	0	3	0
		397.21	0	9	0
		299.29	0	7	0
		288.14	0	15	0
		339.23	0	7	0
		424.58	0	5	0
		310.41	0	2	0
11.58	0	0	1		
52.36	0	8	0		
350.42	0	14	0		
336.2	0	13	0		
SLOgw	preimaginal experience on <i>Stegobium</i>	57.46	319.44	7	4
		0	380.93	0	7
		2.49	122	1	2
		74.61	25.06	7	1
		32.99	135.39	3	6
		318.54	0	8	0
		108.36	0	10	0
		29.57	109.78	5	5
		0	214.99	0	17



	0	185.45	0	13
	0	163.23	0	5
	278.72	0	11	0
	0	304.83	0	14
	0	125.08	0	4
	167.27	0	4	0
	0	230.92	0	6
	0	12.3	0	2
	11.78	231.8	1	4
	142.93	0	6	0
	0	395.72	0	11
	26.07	248.22	4	9
	161.85	49.06	12	2
	135.54	0	10	0
	150.41	0	14	0
	0	79.31	0	2
	0	263.8	0	9
	0	103.41	0	13
	0	131.09	0	5
	107.51	0	9	0
	0	199.44	0	4
	64.38	0	10	0
	0	126.42	9	0
	0	20.83	0	4
	8.44	42.23	0	2
	-	-	1	6
SATgw preimaginal experience on <i>Stegobium</i>	0	141.54	0	2
	0	0	0	0
	39.15	0	4	0
	208.19	0	3	0
	120.88	0	5	0
	0	249.6	0	3
	0	0	0	0
	0	0	0	0
	46.45	0	7	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	56.13	0	3
	0	0	0	0
	0	180.43	0	3
	0	0	0	0
	71.56	0	5	0

	0	0	0	0
	0	59.67	0	4
	0	57.38	0	4
	0	127.6	0	4
	0	283.22	0	2
	122.05	0	0	4
	299.2	0	1	0
	186.43	0	6	0
	0	0	4	0
	0	0	0	0
	10	0	0	0
	0	0	1	0
	126.39	0	0	0
	0	0	3	0
	45.29	0	0	0
	12.34	0	3	0
	-	-	1	0
RAVdb preimaginal experience on <i>Sitophilus</i>	304.22	0	3	0
	328.18	0	7	0
	101.95	0	8	0
	86.73	0	5	0
	16.65	0	1	0
	46.49	5.89	4	0
	66.08	0	4	1
	262.09	0	4	0
	91.34	0	11	0
	0	121.84	4	0
	216.04	0	0	7
	101.99	0	11	0
	163.13	24.61	9	0
	81.24	0	7	2
	0	29.61	7	0
	16.58	12.97	0	2
	78.03	0	2	1
	73.75	10.8	6	0
	136.44	0	4	1
	224.61	0	11	0
	69.04	0	8	0
	183.24	0	7	0
	148.05	0	8	0
	298.68	0	6	0
	18.52	0	6	0
	230.63	0	3	0
	122.07	0	14	0

		19.49	0	9	0
		81.86	34.14	2	0
		190.86	0	2	4
		196.78	0	8	0
		100.37	0	13	0
		89.61	0	4	0
		-	-	6	0
STUdb	preimaginal experience on <i>Sitophilus</i>	444.79	0	5	0
		388.46	0	13	0
		377.5	0	3	0
		368.03	0	13	0
		469.2	0	9	0
		230.15	0	12	0
		34.88	0	2	0
		40.82	0	3	0
		99.16	0	5	0
		271.36	0	7	0
		110.23	15.12	6	1
		352.95	0	10	0
		253.07	0	7	0
		116.93	3.5	9	1
		160.19	0	8	0
		369.93	0	18	0
		142.54	0	12	0
		311.71	0	14	0
		13.57	0	2	0
		84.87	0	11	0
		95.37	0	5	0
		343.59	0	3	1
		253.13	0	8	0
		102.24	0	13	0
		86.27	0	8	0
		196.88	0	6	0
		130.58	0	7	0
		89.73	0	7	0
		127.95	0	4	0
		219.18	0	12	0
312.67	0	11	0		
10.91	0	11	0		
334.71	0	2	0		
		-	-	10	0
BIRdb	preimaginal experience on <i>Sitophilus</i>	0	0	0	0
		286.05	0	9	0
		0	0	0	0

	80.31	0	7	0
	0	0	0	0
	110.61	0	7	0
	0	16.45	0	1
	0	0	0	0
	5.34	0	1	0
	22.6	0	3	0
	121.75	0	2	0
	0	87.85	0	5
	252.6	0	4	0
	57.26	0	6	0
	71.36	9.32	4	1
	97.44	0	8	0
	91.43	0	7	0
	181.22	0	7	0
	80.64	0	6	0
	178.6	0	8	0
	336.77	0	7	0
	12.28	235.35	1	2
	51.34	209.09	4	2
	0	277.68	0	4
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0
	277.2	0	4	0
	0	100.04	0	8
	202.13	0	0	2
	397.81	0	3	0
	174.96	0	1	3
	0	61.51	2	0
	30.8	0	4	0
	119.56	0	0	6
	356.96	0	3	0
	260.11	0	7	0
	0	0	5	0
	53.12	0	3	0
	82.05	8.78	0	0
	151.23	0	3	0
	75.8	0	8	1
	0	176.14	11	0
	0	20.58	10	0
	0	62.52	0	7

PFOgw preimaginal experience on *Sitophilus*

		51.4	0	0	2
		64.41	85.12	0	3
		14.22	0	4	0
		189.47	0	3	3
		285.69	0	3	0
		7.06	0	7	0
		0	0	9	0
		8.25	30.25	2	0
		122.11	0	0	0
		0	0	1	5
		-	-	1	0
		-	-	0	0
		2.46	7.3	1	1
		0	323.38	0	9
		0	336.79	0	7
		81.28	0	0	0
		0	0	0	9
		0	148.76	0	0
		0	0	0	0
		0	0	0	3
		0	238.56	0	1
		0	2.66	0	0
		0	0	0	4
		0	265.49	0	4
		0	85.46	0	4
		0	183.8	0	2
		0	38.74	0	6
		0	102.08	2	10
		14.97	159.64	0	0
		0	0	0	0
		0	0	0	0
		0	0	0	2
		0	160.35	0	0
		0	0	0	12
		0	207.05	0	3
		0	309.67	1	6
		54.42	67.35	0	3
		0	189.27	3	2
		71.78	38.03	0	1
		0	241.32	0	2
		0	37.94	-	-
		10.26	0	1	0
		0	178.4	0	6
		22.49	0	3	0
SLOgw	preimaginal experience on <i>Sitophilus</i>				
SATgw	preimaginal experience on <i>Sitophilus</i>				

	77.18	0	5	0
	4.13	46.74	1	3
	49.87	0	0	0
	62.43	87.83	1	1
	16.96	0	2	0
	0	24.44	0	4
	0	97.2	0	4
	0	134.99	0	3
	0	10.7	0	2
	8.19	0	1	0
	0	79.31	0	0
	0	216.38	0	3
	0	88.71	0	6
	0	74.47	0	1
	0	56.27	0	2
	0	336.7	0	0
	22.62	0	0	2
	0	122.22	0	2
	0	167.98	1	0
	294.8	0	0	5
	0	45.9	0	2
	0	228.03	5	0
	0	89.96	0	3
	0	338.11	0	5
	85.85	0	0	8
	-	-	0	4
RAVdb early imaginal experience on <i>Stegobium</i>	15.4	0	3	0
	251.85	0	0	0
	0	0	1	0
	11.42	0	5	2
	0	0	0	0
	50.95	26.72	2	1
	0	0	0	3
	0	87.63	7	0
	23.19	10.51	3	2
	51.89	0	1	1
	21.56	6.67	0	0
	2.53	3.56	3	0
	6.5	0	1	0
	11.36	0	1	0
	0	10.57	0	2
	39.05	0	2	0
	0	0	0	0
	0	0	0	0

	18.26	0	2	0
	27.19	0	4	0
	25.73	0	3	0
	73.38	0	5	0
	53.99	0	6	0
	0	0	0	0
	51.78	0	8	0
	16.95	0	2	0
	79.81	4.53	3	1
	36.14	0	3	0
STUdb early imaginal experience on <i>Stegobium</i>	30.25	0	3	0
	71.39	0	4	0
	0	0	0	0
	77.79	0	0	3
	387.71	0	5	0
	300.25	0	5	0
	0	78.47	4	0
	0	0	0	1
	143.59	0	0	0
	222.06	32.46	3	0
	269.69	0	3	1
	0	47.47	6	0
	14.12	0	0	1
	0	0	4	0
	44.14	0	0	0
	272.39	0	2	0
	40.01	0	3	0
	0	0	4	0
	0	0	0	0
	10.7	0	0	0
	50.66	0	1	0
	8.3	0	2	0
	0	0	1	0
	0	124.2	0	0
	0	0	0	0
	0	0	0	0
	23.06	0	2	0
0	0	0	0	
0	47.61	0	2	
BIRdb early imaginal experience on <i>Stegobium</i>	150.48	0	7	0
	146.13	42.28	7	2
	234.09	0	5	0
	297.78	0	10	0
	101.78	0	6	0

	462.8	0	2	0
	25.11	6.18	3	1
	246.16	9.39	5	2
	342.87	0	5	0
	329.92	0	10	0
	224.72	0	4	0
	47.19	0	3	0
	358.96	0	5	0
	30.94	16.2	6	2
	141.43	0	8	0
	191.82	0	7	0
	162.61	0	10	0
	95.27	0	8	0
	20.09	0	4	0
	197.23	0	6	0
	0	0	0	0
	122.39	0	8	0
	294.65	0	0	3
	0	25.38	5	0
	317.27	0	3	0
	53.3	0	6	0
	224.49	0	8	1
	217.82	35.09	0	1
	0	1.59	-	-
PFOgw early imaginal experience on <i>Stegobium</i>	365.72	0	7	0
	384.41	0	3	0
	67.67	0	3	0
	143.62	0	3	0
	57.05	0	2	0
	0	0	0	0
	138.78	0	0	7
	0	54.37	2	0
	394.93	0	0	3
	16.19	169.97	2	0
	0	0	3	5
	1.73	0	0	0
	0	0	1	0
	36.54	0	0	0
	0	0	5	0
	148.1	0	0	0
	6.2	0	5	0
	295.86	0	1	0
	11.76	0	3	0
	111.7	64.25	2	0



	13.25	0	1	5
	43.49	0	2	0
	17.79	1.73	6	0
	0	0	3	1
	0	54.1	0	0
	6.46	0	0	7
	0	0	1	0
	379.67	0	0	0
	-	-	8	0
	0	0	0	0
	142.35	0	0	11
	219.8	0	4	0
	95.42	0	5	0
	0	0	6	0
	0	0	0	0
	0	0	0	0
	0	94.44	0	0
	61.41	0	0	5
	0	188.21	5	0
	8	0	0	11
	0	0	1	0
	0	0	0	0
	145.82	0	0	0
	0	79.12	6	0
	0	56.93	0	6
	0	0	0	2
	189.05	0	0	0
	175.07	0	8	0
	351.21	0	1	0
	80.86	0	4	0
	0	0	3	0
	2.29	0	0	0
	2.32	0	1	0
	0	152.84	1	0
	182.07	0	0	8
	392.61	0	12	0
	0	6	9	0
	0	16	0	1
	-	-	0	1
	197.58	0	2	0
	263.59	0	3	0
	263.69	0	3	0
	3.77	0	1	0
	0	241.65	0	4
SLOgw	early imaginal experience on <i>Stegobium</i>			
SATgw	early imaginal experience on <i>Stegobium</i>			

	64.4	0	4	0
	0	330.56	0	2
	159.37	0	4	0
	155.97	0	2	0
	124.76	0	2	0
	0	328.3	0	3
	0	0	0	0
	0	10.31	0	1
	266.16	0	1	0
	8.53	0	1	0
	216.2	0	3	0
	299.86	0	2	0
	23.19	375.3	5	3
	136.27	0	4	0
	21.99	0	3	0
	0	0	0	0
	0	0	0	0
	0	305.23	0	4
	221.67	0	1	0
	21.92	0	1	0
	0	0	0	0
	7.53	0	2	0
	40.95	0	6	0
	0	270.78	0	3
	0	273.25	0	1
RAVdb	183.72	0	7	0
	14.44	0	3	0
	0	0	2	0
	112.57	0	2	0
	77.13	0	6	1
	48.37	103.46	6	0
	39.07	0	8	0
	17.75	0	0	0
	20.02	150.91	2	1
	80.63	0	7	0
	21.44	0	1	0
	74.54	0	0	0
	75.37	0	4	0
	200.29	0	6	0
	293.55	0	3	6
	0	0	4	0
	299.01	0	2	0
	13.72	0	3	6
	78.87	0	11	0

early imaginal  
experience on  
*Sitophilus*

		23.95	0	3	0
		31.31	6.92	13	0
		131.64	0	6	0
		59.91	0	5	0
		0	0	7	0
		38	10.75	0	0
		43.35	4.28	5	1
		27.57	133.99	5	3
		177.76	0	6	0
		13.82	0	3	0
		110.1	0	11	0
		97.32	0	7	0
		78.48	0	5	0
		79.56	13.8	1	2
		0	0	6	0
		161.94	0	5	0
		101.67	0	6	0
		87.63	0	2	0
		32.65	0	8	0
		267.55	0	1	0
		0	254.09	4	0
		35.79	0	2	0
		238.1	0	5	0
		119.24	0	3	0
		237.92	0	3	0
		136.56	0	5	0
		88.27	0	3	0
		39.87	0	4	0
		256.34	0	2	0
		98.54	0	3	0
		168.98	0	4	0
		0	0	5	0
		197.84	0	2	0
		74.94	0	6	0
		220.87	0	2	0
		113.09	0	4	0
		179.54	0	0	1
		0	256.98	1	0
		21.11	0	0	3
		0	48.35	-	-
		33.96	0	3	0
		58.82	0	7	0
		204.25	0	4	0
		297.05	0	3	0

STUdb early imaginal experience on *Sitophilus*

BIRdb early imaginal experience on *Sitophilus*

	205.14	0	4	0
	232.59	0	4	0
	215.28	0	4	0
	43.16	0	3	0
	336.08	0	7	0
	194.47	0	4	0
	422.64	0	3	0
	315.19	0	6	0
	243.65	0	4	0
	122.73	0	2	0
	4.5	0	1	0
	0	49.25	6	0
	313.54	0	6	0
	139.65	0	5	0
	209.51	0	0	2
	342.82	0	4	0
	229.3	0	6	0
	161.58	62.78	3	1
	156.12	0	2	0
	297.79	0	3	0
	342.64	0	7	0
	219.69	0	4	0
	0	226.24	0	2
	136.9	0	4	0
PFOgw early imaginal experience on <i>Sitophilus</i>	72.06	0	2	0
	0	114.16	0	1
	264.96	0	3	0
	0	0	0	0
	0	7.23	0	1
	182.87	0	2	0
	189.75	0	7	0
	0	0	0	0
	0	0	0	0
	0	67.64	0	1
	0	19.91	0	2
	0	138.91	1	0
	40.6	0	0	11
	0	239.96	0	0
	0	0	0	0
	377.51	0	0	0
	0	115.53	4	0
	0	0	0	8
	318.85	0	3	0
	0	67.12	0	7

	258.55	0	7	0
	66.89	0	6	0
	0	0	0	1
	0	33.01	1	4
	5.89	17.25	1	1
	0	165.43	0	2
	37.13	54.88	3	1
	0	180.39	0	5
	0	116.7	0	3
SLOgw early imaginal experience on <i>Sitophilus</i>	232.22	0	6	0
	0	89.41	0	6
	2.53	0	1	0
	0	60.2	0	2
	0	194.44	0	6
	0	217.64	0	6
	0	0	0	0
	0	7.31	0	2
	0	0	0	0
	10.03	0	1	0
	0	0	0	0
	0	205.57	0	3
	8.2	55.97	2	1
	0	225.66	0	6
	13.21	0	2	0
	0	319	0	6
	0	82.89	0	6
	50.09	5.67	2	1
	0	0	4	0
	0	0	0	0
	0	191.8	0	0
	87.88	0	0	9
	0	198.24	6	0
	0	365.45	0	5
	0	254.91	0	4
	0	334.92	0	5
	0	138.37	0	7
	164.17	0	0	10
0	206.92	4	0	
-	-	0	8	
SATgw early imaginal experience on <i>Sitophilus</i>	0	0	0	0
	0	19.38	0	2
	0	124.86	0	3
	0	146.66	0	4
	0	12.92	0	1

	0	0	0	0
	56.78	2.64	1	5
	4.19	116.21	0	5
	0	290.23	0	3
	0	53.81	0	0
	0	0	0	0
	0	0	0	4
	0	107.65	0	1
	0	169.19	0	5
	0	217.22	0	2
	0	314.29	1	0
	10.61	0	0	2
	0	29	0	1
	0	19.12	0	2
	0	93.47	0	1
	0	85.86	0	2
	0	213.24	0	2
	0	73.7	0	0
	0	0	0	2
	0	322.99	0	2
	0	88.19	1	0
	1.33	0	0	1
	0	156.39	1	0
	3.12	0	-	-

**Table S8:** Offspring of the different strains on the two different hosts *Stegobium* (red) and *Sitophilus* (blue).

stamm	wirt	offspring
RAVdb	<i>Stegobium</i>	39
RAVdb	<i>Stegobium</i>	70
RAVdb	<i>Stegobium</i>	131
RAVdb	<i>Stegobium</i>	20
RAVdb	<i>Stegobium</i>	43
RAVdb	<i>Stegobium</i>	53
RAVdb	<i>Stegobium</i>	73
RAVdb	<i>Stegobium</i>	45
RAVdb	<i>Stegobium</i>	0
RAVdb	<i>Stegobium</i>	83
RAVdb	<i>Stegobium</i>	67
RAVdb	<i>Stegobium</i>	61
RAVdb	<i>Stegobium</i>	83

RAVdb	<i>Sitophilus</i>	33
RAVdb	<i>Sitophilus</i>	37
RAVdb	<i>Sitophilus</i>	6
RAVdb	<i>Sitophilus</i>	34
RAVdb	<i>Sitophilus</i>	14
RAVdb	<i>Sitophilus</i>	0
RAVdb	<i>Sitophilus</i>	21
RAVdb	<i>Sitophilus</i>	12
RAVdb	<i>Sitophilus</i>	32
RAVdb	<i>Sitophilus</i>	15
RAVdb	<i>Sitophilus</i>	0
RAVdb	<i>Sitophilus</i>	0
RAVdb	<i>Sitophilus</i>	30
RAVdb	<i>Sitophilus</i>	6
RAVdb	<i>Sitophilus</i>	19
STUdb	<i>Stegobium</i>	1
STUdb	<i>Stegobium</i>	54
STUdb	<i>Stegobium</i>	121
STUdb	<i>Stegobium</i>	124
STUdb	<i>Stegobium</i>	79
STUdb	<i>Stegobium</i>	100
STUdb	<i>Stegobium</i>	89
STUdb	<i>Stegobium</i>	68
STUdb	<i>Stegobium</i>	105
STUdb	<i>Stegobium</i>	62
STUdb	<i>Stegobium</i>	120
STUdb	<i>Stegobium</i>	109
STUdb	<i>Stegobium</i>	113
STUdb	<i>Stegobium</i>	126
STUdb	<i>Stegobium</i>	29
STUdb	<i>Stegobium</i>	62
STUdb	<i>Stegobium</i>	56
STUdb	<i>Stegobium</i>	134
STUdb	<i>Sitophilus</i>	13
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	1
STUdb	<i>Sitophilus</i>	1
STUdb	<i>Sitophilus</i>	13
STUdb	<i>Sitophilus</i>	15
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	18
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	24
STUdb	<i>Sitophilus</i>	11

STUdb	<i>Sitophilus</i>	25
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	19
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	10
STUdb	<i>Sitophilus</i>	18
STUdb	<i>Sitophilus</i>	31
STUdb	<i>Sitophilus</i>	20
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	51
STUdb	<i>Sitophilus</i>	15
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	51
STUdb	<i>Sitophilus</i>	14
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	11
STUdb	<i>Sitophilus</i>	0
STUdb	<i>Sitophilus</i>	1
PFOgw	<i>Stegobium</i>	3
PFOgw	<i>Stegobium</i>	50
PFOgw	<i>Stegobium</i>	5
PFOgw	<i>Stegobium</i>	82
PFOgw	<i>Stegobium</i>	93
PFOgw	<i>Stegobium</i>	3
PFOgw	<i>Stegobium</i>	134
PFOgw	<i>Stegobium</i>	1
PFOgw	<i>Stegobium</i>	0
PFOgw	<i>Stegobium</i>	76
PFOgw	<i>Stegobium</i>	42
PFOgw	<i>Stegobium</i>	0
PFOgw	<i>Stegobium</i>	0
PFOgw	<i>Stegobium</i>	128
PFOgw	<i>Stegobium</i>	129
PFOgw	<i>Stegobium</i>	104
PFOgw	<i>Stegobium</i>	16
PFOgw	<i>Stegobium</i>	42
PFOgw	<i>Sitophilus</i>	38
PFOgw	<i>Sitophilus</i>	72
PFOgw	<i>Sitophilus</i>	10
PFOgw	<i>Sitophilus</i>	34
PFOgw	<i>Sitophilus</i>	56
PFOgw	<i>Sitophilus</i>	37
PFOgw	<i>Sitophilus</i>	25
PFOgw	<i>Sitophilus</i>	65



PFOgw	<i>Sitophilus</i>	23
PFOgw	<i>Sitophilus</i>	55
PFOgw	<i>Sitophilus</i>	35
PFOgw	<i>Sitophilus</i>	12
PFOgw	<i>Sitophilus</i>	47
PFOgw	<i>Sitophilus</i>	52
PFOgw	<i>Sitophilus</i>	63
PFOgw	<i>Sitophilus</i>	68
PFOgw	<i>Sitophilus</i>	60
PFOgw	<i>Sitophilus</i>	0
PFOgw	<i>Sitophilus</i>	57
SLOgw	<i>Stegobium</i>	74
SLOgw	<i>Stegobium</i>	73
SLOgw	<i>Stegobium</i>	84
SLOgw	<i>Stegobium</i>	62
SLOgw	<i>Stegobium</i>	50
SLOgw	<i>Stegobium</i>	25
SLOgw	<i>Stegobium</i>	21
SLOgw	<i>Stegobium</i>	86
SLOgw	<i>Stegobium</i>	50
SLOgw	<i>Stegobium</i>	4
SLOgw	<i>Stegobium</i>	58
SLOgw	<i>Stegobium</i>	115
SLOgw	<i>Stegobium</i>	89
SLOgw	<i>Stegobium</i>	94
SLOgw	<i>Stegobium</i>	75
SLOgw	<i>Stegobium</i>	117
SLOgw	<i>Stegobium</i>	16
SLOgw	<i>Sitophilus</i>	85
SLOgw	<i>Sitophilus</i>	115
SLOgw	<i>Sitophilus</i>	124
SLOgw	<i>Sitophilus</i>	108
SLOgw	<i>Sitophilus</i>	94
SLOgw	<i>Sitophilus</i>	83
SLOgw	<i>Sitophilus</i>	119
SLOgw	<i>Sitophilus</i>	73
SLOgw	<i>Sitophilus</i>	91
SLOgw	<i>Sitophilus</i>	115
SLOgw	<i>Sitophilus</i>	124
SLOgw	<i>Sitophilus</i>	109
SLOgw	<i>Sitophilus</i>	90
SLOgw	<i>Sitophilus</i>	82
SATgw	<i>Stegobium</i>	103
SATgw	<i>Stegobium</i>	58
SATgw	<i>Stegobium</i>	107

SATgw	<i>Stegobium</i>	97
SATgw	<i>Stegobium</i>	138
SATgw	<i>Stegobium</i>	131
SATgw	<i>Stegobium</i>	114
SATgw	<i>Stegobium</i>	123
SATgw	<i>Stegobium</i>	112
SATgw	<i>Stegobium</i>	141
SATgw	<i>Stegobium</i>	111
SATgw	<i>Stegobium</i>	128
SATgw	<i>Stegobium</i>	92
SATgw	<i>Stegobium</i>	79
SATgw	<i>Stegobium</i>	103
SATgw	<i>Stegobium</i>	127
SATgw	<i>Stegobium</i>	94
SATgw	<i>Stegobium</i>	124
SATgw	<i>Sitophilus</i>	66
SATgw	<i>Sitophilus</i>	128
SATgw	<i>Sitophilus</i>	108
SATgw	<i>Sitophilus</i>	114
SATgw	<i>Sitophilus</i>	79
SATgw	<i>Sitophilus</i>	99
SATgw	<i>Sitophilus</i>	108
SATgw	<i>Sitophilus</i>	164
SATgw	<i>Sitophilus</i>	150
SATgw	<i>Sitophilus</i>	134
SATgw	<i>Sitophilus</i>	98
SATgw	<i>Sitophilus</i>	87
SATgw	<i>Sitophilus</i>	120
SATgw	<i>Sitophilus</i>	135
SATgw	<i>Sitophilus</i>	91
SATgw	<i>Sitophilus</i>	96
SATgw	<i>Sitophilus</i>	109
SATgw	<i>Sitophilus</i>	115

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