

## SUPPLEMENTARY MATERIAL

Predaceous *Toxorhynchites* mosquitoes require a living gut microbiota to develop

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## Supplementary Methods

### *Surface sterilization of eggs*

Axenic larvae were produced by placing eggs into sterile Petri dishes containing 70% EtOH for 5 min, transferring to a solution of 3% bleach and 0.1% ROCCAL-D (Pfizer) for 3 min, transferring again to 70% EtOH for 5 min, and rinsing 3x in sterile water. Sterile water was produced by autoclaving.

### *Verification of sterility of axenic larvae*

Sterility of axenic *Toxorhynchites amboinensis* and *Aedes aegypti* prey larvae was confirmed by culture-based and PCR analysis. For *A. aegypti*, a pool of 30 first instars from surface sterilized eggs was rinsed in sterile water and transferred to 100  $\mu$ l of sterile PBS and homogenized. Larval homogenates were plated on Luria broth (LB) and brain-heart infusion (BHI) agar plates at 28° C for 24-72 h and subsequently checked for colonies. DNA was also isolated from ten pools of 10 larvae using the Genra Puregene Yeast/Bacteria Kit (Qiagen). Following DNA extraction, the 16S rDNA gene was amplified using the universal bacterial primers 27F (5'- GAGAGTTTGATCCTGGCTCAG-3') and 1492R (5'- GGTTACCTTGTTACGACTT-3') and 5  $\mu$ l of the resulting PCR products was electrophoresed on a 1% (wt/vol) agarose gel. The same analyses were performed with *T. amboinensis* larvae, with a pool of 10 first instars being processed for culture-based analysis and 10 individual larvae being processed for PCR analysis.

### *Detection of bacterial isolates in gnotobiotic larvae*

The presence or absence of *Comamonas* or *E. coli* in gnotobiotic *T. amboinensis* and *A. aegypti* prey larvae was also determined using culture-based and PCR analysis. For culture-based analyses, ten individual *T. amboinensis* or *A. aegypti* fourth instars were collected randomly from replicate rearing dishes or plates and subsequently homogenized and plated as described above. Plates were then checked for viable colonies and ten individual colonies were screened via colony PCR using either *Comamonas*-specific primers Coma-qF (5'-GAGTCGAAAATCAGCGTTGC-3') and Coma-qR (5'-GCACAAGAACCCAAGCAACT-3') or *E. coli*-specific primers Tecol754 (5'-CAGTACAGGTAGACTTCTG-3') and Tecol553 (5'-TGGGAAGCGAAAATCCTG-3'). DNA from ten individual fourth instars collected from the same rearing dishes or plates was also used as template in PCR reactions containing the same taxon-specific primers.

### *PCR amplification conditions*

For all PCR analyses, 10  $\mu$ l reactions were conducted, each containing 1 X HotMaster Taq Buffer, 200  $\mu$ M of each dNTP, 0.2  $\mu$ M of each primer, 1 U of Hotmaster Taq polymerase (5 Prime) and 0.8  $\mu$ l of DNA template. Reactions were run on an MJ Mini thermocycler (Bio-Rad) with amplification cycle conditions as follows: denaturation at 94° C for 2 min, followed by 30 cycles of 94° C for 20 s, ( $T_a$ )° C for 20 s, and 65° C for 1 min, and final extension at 65° C for 5 min. The annealing temperature ( $T_a$ ) used for each primer set was as follows: 27F/1492R (50° C), Coma-qF/Coma-qR (55° C), and Tecol754/Tecol553 (58° C).

## Supplementary Tables and Figures

**Supplementary Table 1.** [See Pages 4-13]

**Table S1.** Prevalence of each OTU (99% sequence similarity) in each sample

OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
818	44	2	348	2	368	2	211	2	131	0	718	2	0	0	0	2050	1283	2062
0	5151	8820	7440	3457	6259	5604	11798	6998	8962	8434	12545	5793	1464	1407	613	383	139	577
346	0	8	5	0	3	6	0	0	0	0	5	7	0	0	0	0	0	0
347	0	0	0	0	0	0	0	0	0	0	0	0	3	1	11	4	15	1
340	3	34	57	52	47	1	163	361	73	124	35	38	40	12	79	11	7	3
341	0	9	6	1	1	0	2	6	2	0	3	1	0	0	0	0	0	0
342	0	6	4	1	4	0	3	13	2	6	5	2	2	1	3	0	0	0
343	0	5	0	2	0	2	1	7	0	4	0	3	8	15	2	0	0	0
348	5	1	2	2	2	1	12	2	10	2	2	0	118	93	40	116	58	121
816	0	0	2	0	4	0	1	1	1	0	0	1	6	1	11	2	1	1
817	0	64	0	6	0	30	0	26	0	17	0	20	1020	835	334	0	0	0
1149	0	0	0	0	0	0	0	0	0	0	0	0	4	0	20	4	20	0
711	0	0	0	0	0	0	0	0	0	0	0	0	15	6	21	0	0	0
424	0	0	0	0	0	0	0	0	0	0	0	0	5	4	29	13	26	2
298	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	48	6
299	0	1	0	0	0	0	0	0	0	0	0	0	14	3	29	0	3	0
296	0	0	0	0	0	0	0	0	0	0	0	0	6	2	9	7	11	9
297	0	0	0	0	0	0	0	0	0	0	0	0	3	0	13	3	13	0
292	0	0	4	0	1	0	4	1	1	0	3	0	3	4	0	13	7	18
293	0	0	0	0	0	0	0	0	0	0	0	0	4	5	25	0	0	0
290	0	0	0	0	0	0	0	0	0	0	0	0	12	4	18	0	0	0
291	0	11	7	0	5	0	2	3	0	5	3	7	1	0	2	0	0	0
1129	0	1	4	2	5	0	3	7	5	1	7	2	7	0	38	12	22	4
199	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	18	19	6
198	0	0	0	0	0	0	0	1	0	0	0	0	17	14	31	1	2	1
195	0	1	4	1	4	0	2	1	2	5	3	0	5	1	8	5	7	2
196	1	0	3	7	0	0	30	72	8	32	1	0	0	0	0	0	0	0
190	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	17	39	3
1126	0	12	5	0	4	1	4	12	2	1	4	8	0	0	0	0	0	0
270	0	4	4	0	6	0	5	3	2	0	4	3	0	0	0	0	0	0
271	0	0	0	0	0	0	0	5	1	1	1	4	14	3	25	0	0	0
272	0	0	28	0	21	0	6	0	1	0	16	0	0	0	0	6	16	4
273	0	2	0	1	0	0	0	0	0	1	0	0	21	18	6	0	0	0
274	0	0	0	0	0	0	0	0	0	0	0	0	3	2	25	7	18	6
277	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	16	8	5
194	0	0	0	0	0	0	0	0	0	0	0	0	13	2	59	20	29	11
279	0	0	0	1	0	0	0	2	0	0	0	1	10	1	23	0	0	0
738	0	0	0	0	1	0	1	1	1	0	0	1	14	1	27	1	0	0
497	0	0	1	1	0	0	1	21	1	6	1	1	0	0	0	0	0	0
525	0	0	1	0	0	0	0	0	0	0	0	0	11	0	25	4	10	2
500	0	0	0	0	0	0	0	0	0	0	0	0	11	1	24	0	0	0
522	0	20	4	0	6	1	0	24	1	3	3	20	3	0	2	0	0	0
1014	0	3	5	1	5	0	4	9	2	4	3	4	0	0	0	0	0	0
1016	358	80	176	314	180	51	1136	1274	679	767	331	40	28	21	13	5	5	7
1017	0	12	0	0	1	2	0	3	0	1	0	20	0	0	0	0	1	0
529	0	0	1	0	1	0	0	1	0	0	0	0	6	0	11	8	8	5
449	0	0	0	0	0	1	1	0	0	1	0	0	35	32	20	4	1	16
443	0	0	0	0	0	0	1	1	1	1	0	4	11	7	0	1	2	5
440	2	20	33	4	54	0	10	37	12	4	26	23	2	0	1	0	1	0

OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
447	0	14	1	2	6	1	1	3	2	3	1	8	10	5	24	2	0	1
108	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	15	51	8
109	0	0	3	0	8	0	6	0	0	0	6	0	0	0	0	33	46	17
102	1	3	3	4	3	4	1	7	2	11	4	0	28	33	18	16	10	25
103	1	5	18	17	21	0	31	95	14	25	15	1	1	0	1	0	0	0
100	0	0	0	0	0	0	0	2	0	0	0	0	25	10	77	7	12	2
101	1	17	18	2	9	1	10	22	2	2	13	14	0	0	1	0	0	0
106	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	35	61	18
107	0	24	5	3	4	0	0	7	1	4	3	23	26	8	70	4	13	0
104	6	4	12	1	3	0	8	4	9	6	16	3	118	112	67	109	52	129
105	0	0	19	0	38	0	14	0	5	0	32	0	0	0	1	8	6	6
903	0	20	1	10	0	13	0	22	1	15	0	22	3	2	0	0	0	0
39	0	117	0	123	0	119	0	183	0	234	0	45	7	1	0	0	0	0
38	22	9	12	21	13	6	108	48	69	37	32	5	54	43	21	151	45	132
33	9	106	0	84	1	62	23	183	14	185	3	48	109	102	24	34	7	45
32	5	189	43	90	30	176	58	175	27	250	86	157	20	20	8	10	1	8
31	11	199	18	43	14	135	51	99	35	131	40	80	56	39	12	80	17	35
30	8	16	15	13	14	16	19	35	22	29	54	5	177	126	24	284	66	336
37	3	224	3	52	7	135	6	122	7	123	8	139	32	33	8	1	0	3
36	3	6	10	0	6	2	12	4	8	4	29	4	172	203	52	187	74	296
35	20	65	60	22	67	28	89	52	65	35	108	17	3	3	1	6	7	13
34	0	193	0	125	4	110	0	264	2	240	8	105	67	55	31	1	0	1
433	1	2	6	1	1	2	9	11	3	3	5	5	385	235	94	38	19	27
338	0	0	0	1	0	0	0	1	0	0	0	0	10	0	20	0	0	0
335	0	3	2	1	5	0	17	30	2	6	6	1	0	0	0	0	0	0
337	0	0	2	0	0	0	1	1	0	0	0	0	7	1	30	2	4	1
336	0	1	6	0	5	0	1	4	1	0	5	0	1	2	8	0	0	0
333	10	237	29	44	25	177	41	73	19	86	67	98	1086	1023	355	432	166	405
332	0	0	0	1	0	0	5	15	1	5	0	0	1	1	7	3	2	0
852	0	6	2	3	3	0	1	14	1	0	2	4	0	0	2	0	0	0
345	0	1	0	0	3	0	1	0	2	0	6	0	5	11	0	4	3	10
193	0	0	0	6	1	0	5	45	1	5	0	0	0	0	0	0	0	0
6	333	1548	1359	396	1163	932	1356	946	1066	922	2683	766	218	193	48	122	39	193
99	0	28	9	0	16	6	1	0	5	0	28	14	0	0	0	0	0	0
98	0	0	0	10	0	0	50	62	12	23	1	0	0	0	1	0	0	0
91	5	26	7	13	11	17	20	25	25	22	24	4	466	490	303	660	382	790
90	0	0	0	0	1	0	0	1	1	0	0	0	9	7	18	3	8	1
93	3	3	0	19	0	2	7	44	4	55	0	0	20	17	4	16	3	19
92	0	0	47	0	35	0	18	0	1	0	31	0	0	0	0	11	18	3
95	1	0	22	0	43	0	5	0	2	0	22	0	0	0	0	9	11	3
94	1	4	10	0	12	1	4	0	4	2	37	0	4	8	4	66	16	40
97	0	37	19	2	17	0	9	20	5	5	15	22	2	1	2	0	0	0
96	1	5	1	1	0	0	8	10	2	3	2	1	26	27	20	36	9	53
349	0	0	0	0	0	0	0	1	0	1	0	0	21	18	7	0	0	0
740	0	28	8	4	5	0	0	31	3	2	2	29	3	0	11	0	0	0
551	0	5	5	2	2	9	5	5	2	1	8	2	9	5	0	6	0	1
238	0	0	0	0	0	0	0	0	0	0	0	0	16	15	10	4	1	2
234	3	0	1	3	2	0	10	2	4	4	4	0	4	1	2	12	5	12
236	0	19	0	3	0	18	7	4	0	6	0	9	5	1	0	0	0	0
237	4	3	22	4	23	1	14	13	10	9	37	7	228	211	133	150	68	194

OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
230	0	1	0	1	0	0	0	2	0	0	1	1	12	4	24	0	0	0
232	0	4	0	0	0	0	0	1	0	0	0	5	6	1	16	0	0	0
1	103	160	105	164	96	121	430	376	331	370	195	89	4813	4664	3122	5915	3128	7573
155	13	56	14	36	15	40	40	102	31	83	50	35	19	12	3	1	1	4
146	0	0	1	1	3	0	0	4	0	1	1	0	14	5	29	2	2	0
147	0	9	6	0	6	2	3	2	1	0	6	4	0	0	0	0	0	0
144	1	36	1	1	0	32	1	2	3	2	2	13	1	2	0	5	0	8
142	0	2	0	3	0	0	1	4	3	7	0	0	27	31	7	13	7	18
143	7	5	5	0	12	2	13	6	2	1	21	1	15	8	3	2	1	3
140	0	0	0	0	0	0	0	0	0	0	0	0	8	1	36	4	23	1
141	0	10	5	0	4	0	13	8	4	3	4	10	14	0	22	7	7	2
610	0	0	16	0	24	0	2	0	0	0	16	1	0	0	0	3	3	6
611	0	0	0	0	0	0	0	0	0	0	0	0	5	2	12	9	26	8
1179	2	9	10	2	6	1	3	7	6	7	10	1	33	27	40	29	18	21
615	0	1	1	3	2	0	6	11	2	2	0	2	1	0	1	0	0	0
1004	0	11	2	1	1	0	0	13	0	1	0	7	1	0	3	0	0	0
949	0	0	2	0	1	0	1	0	0	0	2	1	37	16	74	27	37	18
515	0	1	0	1	2	0	0	1	1	0	0	1	15	35	9	0	1	3
944	1586	3426	2819	1180	2770	2355	4867	2886	3484	3082	5211	2281	529	555	276	150	55	167
157	0	0	0	0	0	0	0	0	0	0	0	0	4	3	11	8	9	5
685	0	1	0	0	0	0	0	1	0	0	0	0	8	2	21	0	0	0
458	0	2	0	0	2	3	4	1	1	2	2	3	10	11	5	13	4	14
133	0	0	0	0	0	0	0	0	0	0	0	0	6	0	14	5	28	2
132	0	0	0	5	0	0	8	48	3	4	0	0	1	0	1	3	1	2
131	0	0	0	0	0	0	0	0	0	0	0	0	14	3	27	15	16	15
130	0	0	0	0	0	0	0	0	0	0	0	1	40	29	7	0	0	0
137	0	2	3	0	1	0	2	7	0	0	1	2	13	2	36	0	3	0
136	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	16	23	13
135	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	13	36	8
134	0	5	12	3	7	2	7	15	4	2	6	4	0	0	0	0	0	0
494	0	6	3	0	8	1	7	2	2	1	6	5	1	0	0	0	0	0
139	0	9	18	19	27	0	34	85	14	39	14	4	0	0	0	0	0	0
138	0	9	0	11	0	0	0	39	16	16	0	7	16	12	2	0	0	0
490	0	0	0	0	0	0	1	1	0	0	1	0	8	2	29	1	2	2
493	1	2	0	3	1	0	3	1	0	2	2	0	33	41	22	27	9	40
24	2	11	62	72	66	1	136	481	89	97	45	12	3	0	1	0	0	0
25	8	157	10	58	14	71	38	258	30	141	37	112	34	59	36	3	1	4
26	29	147	50	58	48	136	114	155	73	135	170	61	54	34	7	3	3	13
27	30	87	38	79	11	41	153	266	91	223	76	36	46	41	9	182	55	136
20	1	2	0	6	0	2	5	21	3	11	1	1	1274	860	366	104	36	100
21	53	174	156	28	188	140	248	91	140	60	309	116	92	74	26	80	22	65
22	70	44	21	109	7	31	181	210	121	175	21	25	543	540	147	56	24	66
23	3	21	2	7	4	9	26	21	18	14	6	12	457	319	84	345	71	253
28	2467	5860	4713	2198	4265	3585	7823	4509	6372	5407	8396	3777	1008	1046	473	260	110	362
29	2	15	39	46	51	0	111	266	54	79	28	7	2	0	3	0	2	0
407	0	0	0	0	0	3	0	1	1	0	0	0	6	9	3	5	1	5
402	0	15	1	1	0	2	5	2	1	0	1	2	1	1	1	0	0	0
401	0	4	29	19	17	0	48	97	19	21	11	4	0	0	3	0	0	0
400	0	0	64	0	45	0	13	0	5	0	31	0	0	0	0	13	32	1
932	0	10	8	1	5	1	2	5	3	0	0	2	0	0	1	0	0	0

OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
758	0	0	0	11	2	0	23	68	16	16	1	0	0	0	1	0	0	0
373	14	266	42	81	32	111	47	178	38	176	87	145	95	82	41	7	1	5
372	0	0	0	0	0	0	0	1	0	0	1	0	4	1	22	6	11	1
374	0	0	2	0	0	0	0	2	0	2	9	3	1	3	0	7	1	11
377	17	50	52	21	46	34	77	41	61	43	91	21	4	4	1	5	4	17
705	4	2	15	3	6	2	17	7	8	2	16	2	271	256	187	323	201	435
88	0	0	0	0	0	0	0	0	0	0	0	0	16	2	44	28	28	26
89	0	8	19	3	12	1	7	15	4	6	5	7	0	0	2	0	0	0
397	0	3	1	1	3	1	3	2	0	1	0	4	1	1	5	1	4	0
396	0	0	2	3	3	0	2	20	1	2	2	1	0	0	0	0	0	0
82	0	24	14	3	16	1	4	38	6	7	14	16	2	0	3	0	0	0
83	0	41	26	5	38	0	15	24	18	9	43	19	1	0	2	0	0	0
86	1	1	0	1	3	0	0	5	2	7	5	1	42	31	7	54	16	68
87	0	1	0	0	0	0	1	0	0	0	0	0	52	12	95	2	5	0
84	0	0	2	0	1	0	2	0	1	0	2	0	40	34	17	35	11	60
85	0	41	11	1	19	2	4	25	5	5	8	28	2	0	3	0	0	0
797	0	0	3	0	1	0	1	1	1	0	1	0	5	2	15	0	5	0
7	104	2494	317	546	276	1169	460	1230	295	1001	599	1234	853	777	282	41	17	57
585	0	0	0	0	0	0	0	0	0	0	0	0	7	2	23	6	19	1
413	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6	19	4
245	0	24	12	4	12	1	19	30	0	1	12	9	3	0	3	0	0	0
244	0	9	5	2	10	0	1	6	1	1	8	7	0	0	0	0	0	0
241	0	0	1	0	1	0	1	0	1	0	1	0	20	12	2	4	3	13
240	0	16	0	4	0	5	0	20	0	14	0	10	3	0	0	0	0	0
243	0	0	0	0	0	0	0	0	0	0	0	0	8	2	31	0	3	1
242	0	0	0	0	0	0	0	0	0	0	0	0	11	3	25	0	0	0
149	0	1	0	6	2	0	1	8	0	4	3	5	28	25	4	13	3	18
249	0	0	0	0	0	0	0	0	0	0	0	0	6	2	16	10	23	4
970	0	0	0	0	0	0	0	0	0	0	0	0	0	2	17	21	3	3
459	0	6	5	2	4	1	1	5	1	1	2	5	2	0	23	1	3	0
621	974	2313	2198	511	1692	1492	2667	1549	2025	1213	3098	1587	378	314	183	120	27	137
627	1	9	36	26	38	0	114	183	35	45	23	9	3	0	2	0	0	1
626	3	1	2	2	1	3	7	2	3	2	2	3	62	41	10	59	10	38
625	0	0	0	0	0	0	0	0	0	0	0	0	5	1	18	5	6	4
450	0	0	1	2	0	0	4	1	3	0	0	0	4	3	0	5	2	11
457	0	0	0	0	0	0	0	0	0	0	0	0	15	1	32	0	0	0
179	0	3	5	1	1	0	1	13	0	2	3	2	0	0	0	0	0	0
178	0	0	0	0	0	0	0	5	0	0	0	0	25	4	37	0	3	0
595	0	0	0	0	0	0	0	0	0	0	0	0	6	1	18	5	4	1
175	1	0	1	1	3	0	2	1	0	0	2	0	2	1	1	29	7	21
174	0	0	1	1	0	1	2	0	2	3	3	1	15	9	3	19	4	26
173	0	0	5	0	2	0	2	2	0	1	5	0	12	0	37	5	6	5
172	0	3	2	0	1	0	1	6	1	0	0	2	10	3	35	2	4	1
171	0	0	0	0	0	0	0	0	0	0	0	0	6	1	13	5	12	6
170	0	0	0	0	0	0	0	0	0	0	0	1	13	2	37	15	8	5
183	0	0	1	0	0	0	0	3	0	1	0	0	34	27	12	14	2	3
654	0	0	22	0	25	0	8	0	3	0	19	0	0	0	6	11	3	3
253	0	1	0	4	0	2	0	9	0	12	1	5	5	5	1	4	0	1
657	0	7	4	3	10	0	7	20	1	1	9	9	0	0	0	0	0	0
180	0	1	6	0	5	0	3	1	2	0	3	0	5	2	33	5	6	2

OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
2	1760	308	713	2145	714	226	5442	5995	3269	4853	1416	219	95	95	35	29	8	26
186	0	2	1	0	1	0	0	3	1	0	0	0	6	2	20	4	1	1
187	0	29	2	1	3	1	1	3	1	0	2	20	0	0	0	0	0	0
185	0	3	0	0	0	0	0	1	0	0	0	2	14	1	29	1	1	1
188	0	0	0	0	0	0	0	1	0	2	0	0	30	32	21	0	0	0
189	0	3	3	4	2	1	5	42	2	3	1	0	0	0	0	0	0	0
197	0	0	0	0	0	0	1	2	0	0	1	0	12	1	43	0	3	0
184	0	0	0	0	0	0	0	0	0	0	0	0	8	1	13	15	16	4
192	0	1	0	0	1	0	0	3	0	0	1	1	10	3	24	1	3	1
11	9	238	28	35	22	155	28	63	25	66	45	112	1426	1089	304	420	134	502
10	43	43	36	30	28	36	119	126	79	102	59	32	1395	1346	802	1686	862	2250
13	5	34	66	5	82	7	38	15	20	13	110	17	1005	813	612	849	416	995
12	79	218	53	44	52	178	258	136	158	138	80	131	1197	1048	408	1337	479	1629
15	113	727	305	215	327	570	474	701	276	593	650	408	99	75	12	36	4	21
14	6	196	41	42	28	123	16	70	23	104	71	89	3017	3344	675	102	21	152
17	3	43	7	22	6	37	21	51	18	55	8	34	2144	1686	636	69	13	61
16	25	44	96	24	73	18	67	73	40	51	133	31	350	339	239	312	128	379
19	26	1612	76	70	60	870	63	141	29	164	139	752	41	19	10	53	11	38
18	0	47	0	12	0	32	0	32	0	26	0	37	1148	887	360	0	0	0
884	0	19	3	0	3	1	0	0	0	1	6	2	0	0	0	0	0	0
889	1	6	6	5	10	14	4	7	6	8	23	3	1	0	0	1	0	1
355	0	0	0	0	0	0	0	0	0	0	0	0	15	2	13	0	1	0
320	0	4	4	0	10	1	2	9	2	0	6	1	1	0	0	0	0	0
324	0	16	0	0	4	0	0	0	0	1	1	11	0	0	0	0	0	0
325	0	0	0	1	0	0	1	1	0	2	0	0	4	2	11	10	5	4
201	0	5	3	1	6	0	3	6	2	3	3	4	0	0	0	0	0	0
774	0	30	16	2	6	1	9	18	6	4	19	16	0	0	1	0	0	0
203	0	0	0	0	0	0	0	0	0	0	0	0	8	7	22	8	11	1
776	0	2	6	4	1	0	3	12	3	6	8	8	0	0	0	0	0	0
204	0	0	0	0	0	0	0	0	0	0	0	0	11	2	19	1	0	0
207	0	34	1	8	1	29	2	14	2	15	1	20	36	32	4	22	4	19
209	0	1	2	0	4	0	2	3	1	1	3	1	10	3	20	5	3	1
208	0	3	5	0	3	0	4	4	1	2	1	1	14	2	30	2	10	4
77	2	47	13	20	10	12	18	60	9	13	10	22	3	1	0	1	1	0
76	0	5	10	4	4	0	5	24	2	8	4	4	23	13	70	12	17	5
75	1	48	5	19	10	24	19	71	8	51	5	28	0	0	1	0	1	0
74	1	23	1	26	0	13	6	21	7	54	0	11	28	37	7	19	5	31
73	0	0	0	0	0	0	0	1	0	1	0	0	65	19	122	5	6	2
72	0	2	6	2	13	0	6	1	0	2	7	7	0	0	1	4	3	1
71	0	0	51	0	57	0	8	0	2	0	25	0	0	0	12	25	5	5
70	1	0	1	10	1	0	34	103	24	20	0	0	1	0	0	0	0	0
79	3	56	18	1	32	37	1	0	8	0	98	37	0	0	0	0	0	0
78	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	71	138	34
1143	0	16	0	1	3	0	0	19	0	3	2	7	2	0	2	0	0	0
1145	0	0	0	0	0	0	0	0	0	0	0	0	7	1	20	8	18	2
667	0	0	0	2	0	0	5	22	1	3	0	0	2	0	2	2	1	0
666	0	5	15	17	16	1	43	130	23	33	17	7	1	1	7	0	0	1
692	0	3	9	1	8	1	0	3	2	5	3	5	2	2	5	1	0	1
690	0	0	0	0	0	0	1	1	0	0	0	0	7	0	26	1	1	0
694	0	0	5	0	14	0	4	0	0	0	17	0	0	0	0	6	4	2



OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
223	0	0	0	3	0	0	6	30	1	1	0	0	0	0	0	0	0	0
698	1	1	6	2	7	1	12	5	2	1	13	3	203	144	148	230	111	167
545	0	1	2	0	2	0	0	8	1	0	2	0	2	1	10	2	0	0
8	36	42	21	14	21	26	164	48	99	39	38	13	1314	1051	568	1223	670	1525
120	0	0	1	0	5	0	0	0	0	0	0	0	2	1	24	0	5	0
121	0	0	0	1	0	0	0	2	0	0	0	0	21	5	54	2	7	2
122	1	18	3	4	9	3	9	23	4	6	11	16	3	0	2	0	0	0
123	0	0	1	7	1	0	7	49	3	4	1	0	0	0	0	0	0	0
124	0	0	0	10	0	0	12	73	9	17	0	0	0	0	0	0	0	0
125	0	20	5	3	8	2	1	16	1	5	4	8	3	1	5	0	0	0
126	0	0	11	6	6	1	31	45	11	11	10	2	0	0	0	0	0	0
127	3	0	5	0	1	2	11	2	8	2	13	0	88	83	43	68	33	103
128	0	2	0	0	0	1	1	4	0	1	1	0	20	10	3	42	9	43
129	0	0	0	8	0	0	8	64	4	9	0	0	0	0	0	0	0	0
404	0	0	1	0	2	0	1	2	0	1	1	1	6	0	16	2	3	2
416	0	11	3	0	2	0	0	16	1	1	1	14	4	0	4	0	0	0
411	2	1	2	0	2	0	6	7	5	0	11	1	62	47	43	45	28	66
418	2	7	18	21	21	0	54	76	31	25	14	1	0	0	0	0	0	0
313	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	11	22	1
312	0	5	0	6	1	2	8	11	1	14	1	4	0	0	0	0	0	0
311	0	0	0	0	0	0	0	0	0	0	0	0	8	2	17	10	17	7
317	0	3	1	2	2	0	2	19	1	1	2	0	0	0	1	0	0	0
316	5	238	10	23	18	80	19	91	11	44	20	135	22	20	6	1	2	4
315	0	0	0	3	0	0	4	35	0	0	1	0	0	0	0	0	0	0
808	0	0	0	0	0	0	0	2	0	0	0	0	7	1	20	0	1	0
3	159	7	1080	0	1032	4	522	2	370	2	2126	2	0	0	0	7288	3609	7958
368	0	13	2	0	4	0	2	9	0	1	2	3	0	0	1	0	0	0
367	0	0	10	0	8	0	9	0	3	0	0	0	0	0	0	2	1	0
364	0	0	10	0	7	0	0	0	0	0	11	0	0	0	0	0	7	0
365	0	0	0	0	0	0	0	0	0	0	0	0	17	6	12	1	2	0
362	0	0	0	0	0	0	0	0	0	0	0	0	11	2	27	0	0	0
363	1	0	3	0	0	2	0	2	3	2	0	0	18	16	6	20	3	25
360	0	0	0	0	0	0	0	0	0	0	0	0	4	1	9	3	12	4
361	4	10	3	4	3	0	16	6	11	6	6	2	147	129	78	175	82	173
380	0	0	0	0	0	0	1	1	0	1	0	0	13	4	41	1	8	1
382	0	0	0	0	0	0	0	0	0	0	0	0	7	1	24	2	1	0
785	2021	4390	3756	1961	3297	2931	5533	3235	4574	4775	6371	2852	656	674	332	192	57	162
780	0	19	3	1	1	1	0	10	0	1	3	13	1	0	3	0	0	0
148	0	0	0	0	0	0	0	1	0	0	0	0	27	2	45	1	0	0
252	1	3	2	0	1	7	7	4	3	5	5	4	1	0	1	12	1	6
151	0	0	0	0	0	0	0	0	0	0	0	0	5	1	21	19	24	5
571	2	2	14	1	22	1	8	0	5	1	16	1	122	94	107	132	86	119
570	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	12	13	6
60	0	0	0	0	0	0	0	0	0	0	0	0	24	2	62	28	76	17
61	0	50	6	6	9	0	0	56	3	3	1	51	11	1	15	0	1	0
258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	26	2
63	4	7	18	3	20	5	13	17	8	9	38	3	219	191	127	168	63	227
64	3	101	8	17	10	43	23	27	11	35	20	34	2	0	0	3	0	2
65	0	17	26	5	34	1	18	23	5	5	26	20	0	0	0	0	0	0
66	0	0	28	0	42	0	4	0	2	0	21	0	0	0	0	7	9	2

OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
67	0	0	51	0	75	0	19	0	7	0	52	1	0	0	0	10	15	13
68	3	27	10	13	15	14	10	17	7	20	16	13	5	2	1	3	2	4
69	0	21	18	4	22	1	10	39	4	3	12	10	0	0	0	0	0	0
250	0	1	0	0	0	0	0	1	0	2	0	0	12	4	24	0	0	0
251	0	9	0	0	1	0	0	3	1	1	0	5	5	0	17	2	0	0
256	0	5	2	1	0	0	0	2	0	1	2	4	15	9	20	1	1	0
499	0	0	0	0	0	0	0	1	0	0	0	0	13	1	23	5	2	0
734	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	7	20	6
737	1	13	1	1	2	10	2	1	2	1	6	8	38	38	12	10	9	18
1033	0	0	0	0	0	0	0	0	0	0	0	0	11	0	21	3	4	1
504	0	5	6	1	5	0	5	11	0	2	3	6	0	0	0	0	0	0
502	0	27	3	0	4	0	0	10	0	2	4	15	2	1	6	0	0	0
633	0	9	3	1	2	0	3	7	0	4	2	4	0	0	0	0	0	0
468	0	3	0	4	0	3	1	6	0	7	2	1	1	3	1	0	0	0
1214	0	0	0	0	0	0	0	0	0	0	0	0	14	4	24	2	0	0
637	0	3	2	0	2	0	8	3	0	3	1	0	10	1	11	4	0	3
464	0	3	9	0	13	0	6	13	2	3	8	4	1	0	0	0	0	0
168	0	16	7	4	6	1	3	21	0	6	6	11	3	0	3	0	0	0
169	0	6	2	1	5	1	5	5	0	1	12	1	0	0	0	0	0	0
164	0	3	1	1	2	0	6	3	3	4	2	6	3	1	19	0	8	0
165	0	5	6	0	14	1	2	8	1	1	6	6	0	0	0	0	0	0
166	0	0	0	4	0	0	8	32	1	7	1	0	0	0	0	0	1	0
167	0	12	1	2	5	0	0	9	0	2	0	9	1	0	5	0	0	0
160	0	1	0	0	0	0	0	0	0	0	0	1	17	5	43	6	11	2
161	0	0	0	2	0	0	9	34	2	7	0	0	0	0	0	0	0	0
163	0	1	2	1	2	0	2	10	3	1	2	3	7	0	19	6	8	1
409	0	0	0	0	0	0	0	0	0	0	0	0	6	1	15	3	6	1
877	40	191	124	41	108	154	197	177	100	107	255	93	14	8	6	8	3	10
9	12	18	44	12	57	16	91	29	49	28	119	16	1403	1294	770	1636	779	1964
439	0	4	5	1	10	0	6	9	0	2	20	1	0	0	0	0	0	0
255	0	0	0	0	0	0	0	0	0	0	0	0	8	0	25	0	0	0
357	0	1	0	0	0	7	1	0	1	0	1	0	4	10	3	9	3	7
356	0	6	0	4	0	1	0	13	0	2	0	6	1	2	6	0	0	0
353	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	41	10
350	0	0	0	0	0	0	0	0	0	0	0	0	9	2	33	5	22	2
216	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	27	37	5
217	0	0	0	0	0	0	0	0	0	0	0	0	7	1	66	12	26	5
214	3	1	0	6	6	0	7	9	1	7	6	0	10	5	0	10	1	8
212	1	4	19	12	12	0	25	70	17	21	6	2	4	2	5	1	1	1
213	0	3	5	3	5	0	12	29	5	14	7	1	0	0	0	0	0	0
210	0	0	0	5	0	0	4	34	2	4	0	0	0	0	0	0	0	0
218	0	4	0	2	1	6	1	6	0	4	3	6	14	7	1	8	2	7
219	0	11	20	29	34	1	64	165	37	45	32	6	1	0	1	0	0	0
41	17	5	40	2	38	4	51	9	29	13	95	4	10	18	6	130	52	146
269	0	0	0	0	1	0	0	2	0	1	0	1	1	1	22	0	2	2
992	0	0	0	0	0	0	0	1	0	0	0	0	29	4	40	0	0	0
1079	0	0	27	0	21	0	6	0	0	0	10	0	0	0	0	4	14	4
1074	0	0	0	0	0	0	0	0	0	0	0	0	3	0	11	5	15	2
289	0	0	0	0	0	0	0	0	0	0	0	0	8	2	68	11	66	4
4	523	7	17	803	14	11	1704	2509	1104	1801	38	2	23	16	6	16	3	32

OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
281	0	5	0	1	0	0	1	27	2	3	1	4	1	1	2	0	0	0
280	0	2	1	1	2	4	4	2	4	3	11	3	0	0	0	0	0	0
283	0	5	3	0	3	0	23	2	1	4	6	3	0	0	0	0	0	0
282	0	1	1	1	0	0	0	4	1	2	1	1	7	2	20	0	1	0
285	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	10	24	1
284	0	8	3	4	3	2	8	5	6	6	6	2	0	1	1	1	0	2
287	0	16	13	4	16	0	5	24	2	5	7	4	1	0	1	0	0	0
263	0	0	0	1	0	1	2	0	1	2	2	1	16	13	2	11	1	9
262	0	0	0	0	0	0	0	0	0	0	0	0	11	11	16	1	0	0
261	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	34	7
260	0	0	0	0	0	0	0	0	0	0	0	0	12	1	25	0	0	0
267	2	6	0	2	3	4	4	4	1	4	4	1	4	6	3	5	2	10
266	0	20	4	3	6	0	6	10	1	7	5	18	21	3	50	4	3	1
265	2	5	5	0	10	1	5	4	2	0	11	1	0	0	0	7	3	9
264	5	23	15	18	9	15	36	41	24	44	14	5	494	449	354	493	337	596
268	0	0	0	7	1	0	5	18	0	0	0	0	0	0	0	0	0	0
182	0	0	0	7	0	0	10	24	7	11	0	0	0	0	0	0	0	0
1082	0	0	0	0	0	0	0	0	0	0	0	0	7	4	23	0	2	0
59	12	1	9	6	11	0	31	21	17	20	40	3	8	7	6	76	35	91
58	343	6	11	662	11	0	1380	1879	902	1371	24	3	19	25	7	17	4	9
55	1	0	4	1	8	1	17	8	11	6	22	1	33	22	8	129	50	128
54	0	0	0	0	0	0	1	1	1	0	0	0	28	6	108	42	102	23
57	3	2	0	1	2	1	13	7	9	2	7	0	110	81	28	101	60	113
56	5	29	2	30	0	12	24	67	10	86	2	18	17	8	0	11	3	14
51	0	100	0	10	1	80	2	6	1	16	0	49	53	42	8	0	0	1
50	0	1	0	1	2	0	8	1	7	2	3	0	65	66	26	84	32	97
53	4	1	20	0	16	2	3	1	6	1	36	3	52	51	14	95	20	87
52	1	3	0	3	0	1	7	33	4	8	2	0	71	68	149	111	144	69
259	287	3	10	650	7	10	1319	1899	864	1476	17	1	9	14	8	14	1	14
152	0	0	0	6	0	0	10	56	12	14	0	0	0	0	1	0	0	0
988	0	5	0	0	0	1	0	0	0	0	0	0	13	18	3	0	0	0
200	1	1	7	0	7	0	1	5	4	2	5	2	0	0	3	0	1	0
115	0	6	29	25	41	0	61	221	28	46	15	11	1	0	3	0	0	0
114	0	13	3	0	1	0	1	7	1	0	1	5	15	4	20	2	4	1
117	0	37	4	1	4	0	0	5	3	3	3	26	0	0	0	0	0	0
202	0	22	0	10	0	22	0	6	0	14	0	14	1	0	1	0	0	1
111	0	0	0	0	0	0	0	0	0	0	0	0	18	4	47	22	54	8
110	0	5	7	0	7	1	3	28	2	3	5	5	0	1	0	0	0	0
113	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	33	26	13
112	2	2	0	1	3	1	33	8	17	1	3	0	182	131	71	182	102	238
205	0	0	0	0	0	0	0	0	0	0	0	0	10	12	30	0	1	0
119	0	14	6	2	5	0	6	13	1	9	5	8	0	0	3	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	45	5
206	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	26	6
428	7	10	7	10	14	7	85	20	68	14	20	8	602	540	279	567	368	744
421	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	16	43	12
914	22	31	27	9	30	27	56	19	26	14	73	17	22	15	5	18	3	20
423	0	0	0	0	0	0	0	0	0	0	0	0	6	0	24	10	15	0
422	11	22	13	33	10	20	41	51	37	54	33	14	535	590	389	703	361	785
427	0	6	1	0	1	0	1	5	1	0	1	1	6	1	9	2	3	0

OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
308	0	22	0	1	2	0	0	1	0	0	0	17	0	0	1	0	0	0
309	0	0	0	0	0	0	0	0	0	0	0	0	13	4	19	0	0	0
300	0	0	0	10	0	0	11	59	4	7	0	0	0	0	0	0	0	0
305	0	0	2	4	8	0	5	17	6	2	0	0	0	0	0	0	0	0
181	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	11	22	6
848	0	0	0	0	0	0	0	0	0	0	0	0	9	2	22	13	23	2
62	0	0	1	0	1	0	5	0	7	0	8	0	0	0	0	147	52	150
145	0	0	0	0	0	0	0	0	0	0	0	0	7	1	26	7	23	5
755	0	0	0	0	0	0	0	0	0	0	0	0	4	1	28	8	25	3
561	1	0	17	0	17	0	4	0	1	0	12	0	0	0	0	5	8	1
562	2	8	5	0	1	0	0	0	0	0	11	0	3	0	0	6	1	8
229	0	13	2	0	0	1	1	13	0	8	0	9	4	0	6	0	0	0
228	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	23	6
227	0	10	1	3	1	15	0	7	1	7	1	1	7	9	2	5	3	4
226	0	8	7	2	5	1	8	13	7	1	1	7	11	4	27	5	7	3
225	0	1	7	1	8	0	9	30	1	5	5	0	0	0	0	0	0	0
224	0	0	0	3	0	0	2	35	1	7	0	0	0	0	1	0	0	0
222	0	1	1	2	0	0	0	5	0	0	0	1	9	2	18	0	3	0
221	0	0	0	0	0	0	0	0	0	0	0	0	13	6	41	1	1	0
220	0	0	0	0	0	0	0	0	0	0	0	0	17	11	16	1	3	4
1021	0	0	0	3	0	0	5	16	3	5	0	0	0	0	0	0	0	0
1188	0	1	4	0	8	0	2	26	3	3	3	0	0	0	0	0	0	0
1184	2	11	30	3	30	6	19	2	12	6	41	4	393	390	221	394	237	588
1029	0	3	1	0	2	0	0	6	1	2	0	2	12	2	20	0	0	0
391	0	0	2	0	4	0	1	0	0	0	1	0	7	0	19	3	2	1
116	0	1	0	0	0	0	0	0	0	0	0	0	43	8	62	4	1	1
150	0	0	0	0	0	0	0	0	0	0	0	0	18	4	47	14	24	5
153	2	10	4	1	6	11	15	8	8	12	12	10	4	1	2	4	2	8
154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	27	3
159	0	8	11	0	10	0	0	11	1	0	2	2	0	0	0	0	0	0
158	1	4	4	2	5	0	4	14	0	4	6	3	0	0	1	0	0	0
608	0	9	5	5	10	1	3	19	3	3	5	8	0	0	2	0	0	0
80	0	7	5	2	7	0	5	17	2	8	4	5	15	13	60	11	16	4
81	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	51	100	18
48	1	147	36	1	29	41	1	0	9	4	98	37	0	1	0	1	0	0
49	0	57	11	8	14	0	1	71	2	5	0	53	3	1	7	0	0	0
46	5	6	3	3	2	4	23	11	11	16	7	3	277	263	223	446	232	604
47	0	0	2	26	2	0	63	202	36	44	1	0	0	0	0	1	0	0
44	2	2	0	9	3	8	25	29	4	24	3	3	77	69	18	115	43	159
45	1	6	23	20	15	0	50	116	19	40	14	4	0	0	3	0	0	0
42	2	36	5	1	7	17	8	7	3	6	15	22	73	71	31	27	9	45
43	1	6	39	48	42	1	112	246	32	65	33	12	1	0	2	0	0	0
40	4	104	0	77	6	94	3	213	3	151	6	74	15	3	4	1	0	0
5	262	3851	926	647	903	2036	1290	2083	890	1326	1718	2018	865	779	247	44	17	51
488	0	0	1	0	4	0	1	0	0	0	4	0	0	0	0	16	22	6
487	0	0	0	0	0	1	0	0	0	0	0	3	7	2	19	0	0	0
485	0	0	0	0	0	0	1	5	0	0	0	0	26	6	46	3	6	8
481	1	5	2	0	4	1	4	0	3	3	6	0	1	1	0	0	0	1
480	1	0	0	0	5	0	5	2	1	0	3	1	0	1	0	7	2	10
470	0	4	8	4	7	6	2	6	4	6	3	4	7	2	0	2	0	0

OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
471	0	15	1	0	2	0	1	3	2	0	0	9	0	0	0	0	0	0
477	0	0	0	0	0	0	0	0	0	0	0	0	15	3	35	1	0	0
479	0	6	1	1	0	0	1	16	0	1	0	0	1	0	8	0	0	1

**Supplementary Table 2.** [See Pages 15-18]

**Table S2.** Prevalence and taxonomic assignment of shared OTUs in *T. amboinensis* larvae, their *A. aegypti* prey, and water samples.

OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
818	44	2	348	2	368	2	211	2	131	0	718	2	0	0	0	2050	1283	2062
0	5151	8820	7440	3457	6259	5604	11798	6998	8962	8434	12545	5793	1464	1407	613	383	139	577
340	3	34	57	52	47	1	163	361	73	124	35	38	40	12	79	11	7	3
348	5	1	2	2	2	1	12	2	10	2	2	0	118	93	40	116	58	121
1016	358	80	176	314	180	51	1136	1274	679	767	331	40	28	21	13	5	5	7
102	1	3	3	4	3	4	1	7	2	11	4	0	28	33	18	16	10	25
101	1	17	18	2	9	1	10	22	2	2	13	14	0	0	1	0	0	0
38	22	9	12	21	13	6	108	48	69	37	32	5	54	43	21	151	45	132
32	5	189	43	90	30	176	58	175	27	250	86	157	20	20	8	10	1	8
31	11	199	18	43	14	135	51	99	35	131	40	80	56	39	12	80	17	35
30	8	16	15	13	14	16	19	35	22	29	54	5	177	126	24	284	66	336
37	3	224	3	52	7	135	6	122	7	123	8	139	32	33	8	1	0	3
35	20	65	60	22	67	28	89	52	65	35	108	17	3	3	1	6	7	13
433	1	2	6	1	1	2	9	11	3	3	5	5	385	235	94	38	19	27
333	10	237	29	44	25	177	41	73	19	86	67	98	1086	1023	355	432	166	405
6	333	1548	1359	396	1163	932	1356	946	1066	922	2683	766	218	193	48	122	39	193
91	5	26	7	13	11	17	20	25	25	22	24	4	466	490	303	660	382	790
237	4	3	22	4	23	1	14	13	10	9	37	7	228	211	133	150	68	194
1	103	160	105	164	96	121	430	376	331	370	195	89	4813	4664	3122	5915	3128	7573
155	13	56	14	36	15	40	40	102	31	83	50	35	19	12	3	1	1	4
1179	2	9	10	2	6	1	3	7	6	7	10	1	33	27	40	29	18	21
944	1586	3426	2819	1180	2770	2355	4867	2886	3484	3082	5211	2281	529	555	276	150	55	167
24	2	11	62	72	66	1	136	481	89	97	45	12	3	0	1	0	0	0
25	8	157	10	58	14	71	38	258	30	141	37	112	34	59	36	3	1	4
26	29	147	50	58	48	136	114	155	73	135	170	61	54	34	7	3	3	13
27	30	87	38	79	11	41	153	266	91	223	76	36	46	41	9	182	55	136
21	53	174	156	28	188	140	248	91	140	60	309	116	92	74	26	80	22	65
22	70	44	21	109	7	31	181	210	121	175	21	25	543	540	147	56	24	66
23	3	21	2	7	4	9	26	21	18	14	6	12	457	319	84	345	71	253
28	2467	5860	4713	2198	4265	3585	7823	4509	6372	5407	8396	3777	1008	1046	473	260	110	362
373	14	266	42	81	32	111	47	178	38	176	87	145	95	82	41	7	1	5
377	17	50	52	21	46	34	77	41	61	43	91	21	4	4	1	5	4	17
705	4	2	15	3	6	2	17	7	8	2	16	2	271	256	187	323	201	435
7	104	2494	317	546	276	1169	460	1230	295	1001	599	1234	853	777	282	41	17	57
621	974	2313	2198	511	1692	1492	2667	1549	2025	1213	3098	1587	378	314	183	120	27	137
626	3	1	2	2	1	3	7	2	3	2	2	3	62	41	10	59	10	38
2	1760	308	713	2145	714	226	5442	5995	3269	4853	1416	219	95	95	35	29	8	26
11	9	238	28	35	22	155	28	63	25	66	45	112	1426	1089	304	420	134	502
10	43	43	36	30	28	36	119	126	79	102	59	32	1395	1346	802	1686	862	2250
13	5	34	66	5	82	7	38	15	20	13	110	17	1005	813	612	849	416	995
12	79	218	53	44	52	178	258	136	158	138	80	131	1197	1048	408	1337	479	1629
15	113	727	305	215	327	570	474	701	276	593	650	408	99	75	12	36	4	21
14	6	196	41	42	28	123	16	70	23	104	71	89	3017	3344	675	102	21	152
17	3	43	7	22	6	37	21	51	18	55	8	34	2144	1686	636	69	13	61
16	25	44	96	24	73	18	67	73	40	51	133	31	350	339	239	312	128	379
19	26	1612	76	70	60	870	63	141	29	164	139	752	41	19	10	53	11	38
889	1	6	6	5	10	14	4	7	6	8	23	3	1	0	0	1	0	1
77	2	47	13	20	10	12	18	60	9	13	10	22	3	1	0	1	1	0
75	1	48	5	19	10	24	19	71	8	51	5	28	0	0	1	0	1	0

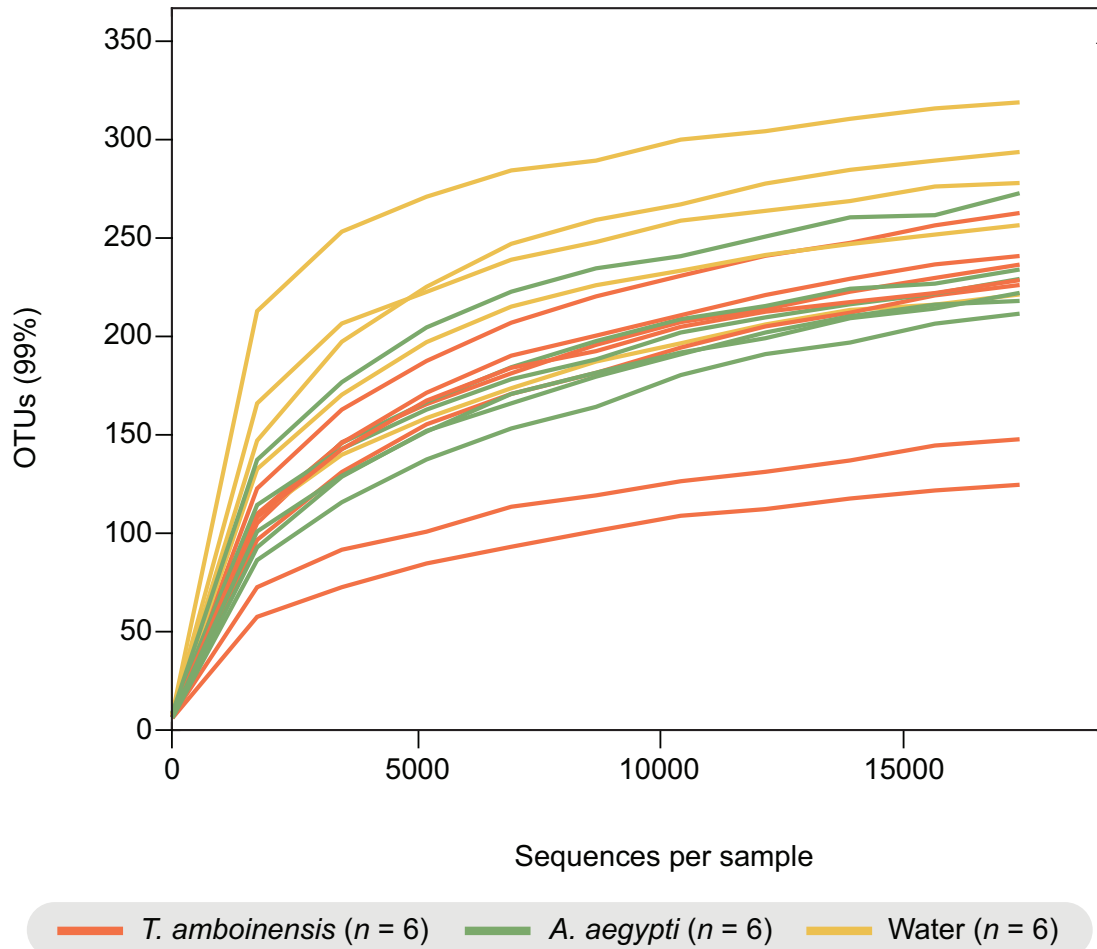
OTU ID	tox1	tox2	tox3	tox4	tox5	tox6	aegypti1	aegypti2	aegypti3	aegypti4	aegypti5	aegypti6	water1	water2	water3	water4	water5	water6
79	3	56	18	1	32	37	1	0	8	0	98	37	0	0	0	0	0	0
698	1	1	6	2	7	1	12	5	2	1	13	3	203	144	148	230	111	167
8	36	42	21	14	21	26	164	48	99	39	38	13	1314	1051	568	1223	670	1525
122	1	18	3	4	9	3	9	23	4	6	11	16	3	0	2	0	0	0
316	5	238	10	23	18	80	19	91	11	44	20	135	22	20	6	1	2	4
785	2021	4390	3756	1961	3297	2931	5533	3235	4574	4775	6371	2852	656	674	332	192	57	162
571	2	2	14	1	22	1	8	0	5	1	16	1	122	94	107	132	86	119
63	4	7	18	3	20	5	13	17	8	9	38	3	219	191	127	168	63	227
64	3	101	8	17	10	43	23	27	11	35	20	34	2	0	0	3	0	2
68	3	27	10	13	15	14	10	17	7	20	16	13	5	2	1	3	2	4
737	1	13	1	1	2	10	2	1	2	1	6	8	38	38	12	10	9	18
877	40	191	124	41	108	154	197	177	100	107	255	93	14	8	6	8	3	10
9	12	18	44	12	57	16	91	29	49	28	119	16	1403	1294	770	1636	779	1964
41	17	5	40	2	38	4	51	9	29	13	95	4	10	18	6	130	52	146
4	523	7	17	803	14	11	1704	2509	1104	1801	38	2	23	16	6	16	3	32
264	5	23	15	18	9	15	36	41	24	44	14	5	494	449	354	493	337	596
259	287	3	10	650	7	10	1319	1899	864	1476	17	1	9	14	8	14	1	14
428	7	10	7	10	14	7	85	20	68	14	20	8	602	540	279	567	368	744
914	22	31	27	9	30	27	56	19	26	14	73	17	22	15	5	18	3	20
422	11	22	13	33	10	20	41	51	37	54	33	14	535	590	389	703	361	785
1184	2	11	30	3	30	6	19	2	12	6	41	4	393	390	221	394	237	588
153	2	10	4	1	6	11	15	8	8	12	12	10	4	1	2	4	2	8
48	1	147	36	1	29	41	1	0	9	4	98	37	0	1	0	1	0	0
46	5	6	3	3	2	4	23	11	11	16	7	3	277	263	223	446	232	604
42	2	36	5	1	7	17	8	7	3	6	15	22	73	71	31	27	9	45
43	1	6	39	48	42	1	112	246	32	65	33	12	1	0	2	0	0	0
5	262	3851	926	647	903	2036	1290	2083	890	1326	1718	2018	865	779	247	44	17	51



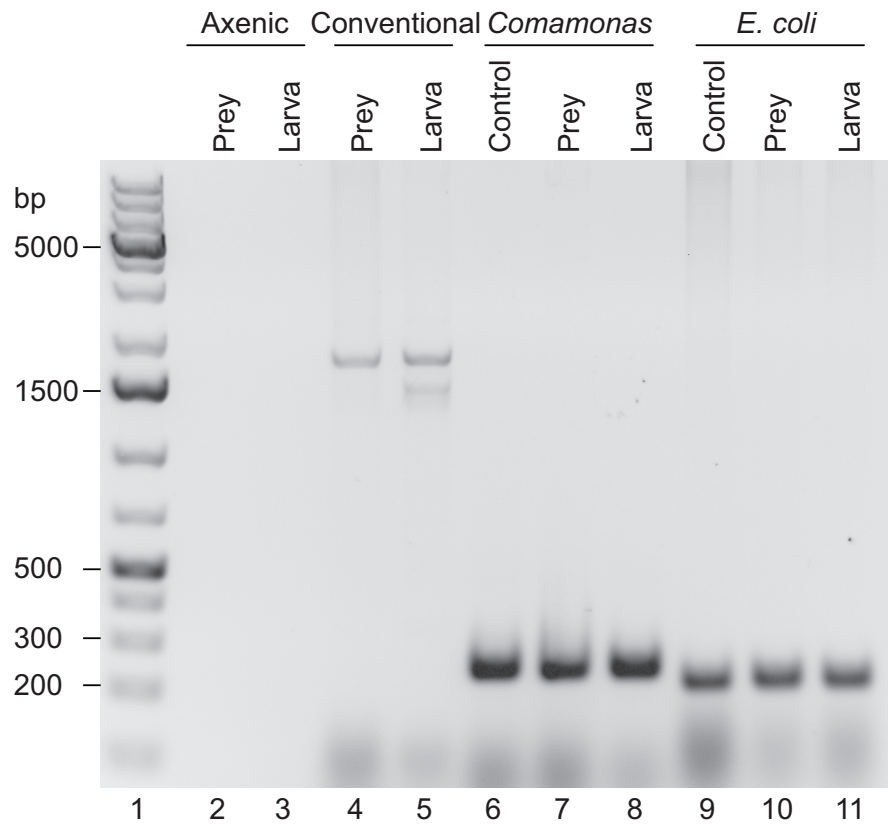
**Table S2.** Prevalence and taxonomic assignment of shared OTUs in *T. amboinensis* larvae, their *A. aegypti* prey, and water samples.

OTU ID	taxonomy
818	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Neisseriales; f__Neisseriaceae; g__Vogesella; s__
0	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Pseudomonadales; f__Moraxellaceae; g__Acinetobacter; s__rhizosphaerae
340	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Pseudomonadales; f__Moraxellaceae; g__Acinetobacter
348	k__Bacteria; p__Bacteroidetes; c__Sphingobacteria; o__Sphingobacteriales; f__Sphingobacteriaceae; g__Sphingobacterium; s__multivorum
1016	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Enterobacteriales; f__Enterobacteriaceae; g__Rahnella; s__aquatilis
102	k__Bacteria; p__Bacteroidetes; c__Sphingobacteria; o__Sphingobacteriales; f__Sphingobacteriaceae; g__Pedobacter; s__
101	k__Bacteria; p__Bacteroidetes; c__Sphingobacteria; o__Sphingobacteriales; f__Sphingobacteriaceae; g__Pedobacter
38	k__Bacteria; p__Actinobacteria; c__Actinobacteria; o__Actinomycetales; f__Micrococcaceae; g__Arthrobacter
32	k__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhodospirillales; f__Acetobacteraceae; g__Rhodovarius; s__lipocyclicus
31	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Xanthomonadales; f__Xanthomonadaceae; g__Stenotrophomonas; s__geniculata
30	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Burkholderiales; f__Oxalobacteraceae
37	k__Bacteria; p__Bacteroidetes; c__Sphingobacteria; o__Sphingobacteriales; f__Sphingobacteriaceae; g__Pedobacter; s__
35	k__Bacteria; p__Bacteroidetes; c__Cytophagia; o__Cytophagales; f__Cytophagaceae; g__Siphonobacter; s__aquaeclarae
433	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Burkholderiales; f__Comamonadaceae
333	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Aeromonadales; f__Aeromonadaceae; g__Aeromonas; s__hydrophila
6	k__Bacteria; p__Bacteroidetes; c__[Saprospirae]; o__[Saprospirales]; f__Chitinophagaceae; g__; s__
91	k__Bacteria; p__Bacteroidetes; c__Flavobacteria; o__Flavobacteriales; f__[Weeksellaceae]; g__Cloacibacterium; s__
237	k__Bacteria; p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae; g__Clostridium; s__
1	k__Bacteria; p__Bacteroidetes; c__Flavobacteria; o__Flavobacteriales; f__[Weeksellaceae]; g__Cloacibacterium; s__
155	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Methylophilales; f__Methylophilaceae; g__Methylotenera; s__mobilis
1179	k__Bacteria; p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae; g__Clostridium; s__
944	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Pseudomonadales; f__Moraxellaceae; g__Acinetobacter; s__rhizosphaerae
24	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria
25	k__Bacteria; p__Proteobacteria; c__Deltaproteobacteria; o__Bdellovibrionales; f__Bdellovibrionaceae; g__Bdellovibrio; s__
26	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Methylophilales; f__Methylophilaceae; g__Methylotenera; s__mobilis
27	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Burkholderiales; f__Comamonadaceae; g__Delftia; s__
21	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Burkholderiales; f__Comamonadaceae
22	k__Bacteria; p__Bacteroidetes; c__Flavobacteria; o__Flavobacteriales; f__[Weeksellaceae]; g__Elizabethkingia; s__meningoseptica
23	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Burkholderiales; f__Comamonadaceae; g__Azohydromonas; s__
28	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Pseudomonadales; f__Moraxellaceae; g__Acinetobacter; s__rhizosphaerae
373	k__Bacteria; p__Bacteroidetes; c__Sphingobacteria; o__Sphingobacteriales; f__Sphingobacteriaceae
377	k__Bacteria; p__Bacteroidetes; c__Cytophagia; o__Cytophagales; f__Cytophagaceae; g__Siphonobacter; s__aquaeclarae
705	k__Bacteria; p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae; g__Clostridium
7	k__Bacteria; p__Bacteroidetes; c__Sphingobacteria; o__Sphingobacteriales; f__Sphingobacteriaceae
621	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Pseudomonadales; f__Moraxellaceae; g__Acinetobacter; s__rhizosphaerae
626	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Burkholderiales; f__Comamonadaceae; g__Azohydromonas; s__
2	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Enterobacteriales; f__Enterobacteriaceae; g__Rahnella; s__aquatilis
11	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Aeromonadales; f__Aeromonadaceae; g__Aeromonas; s__hydrophila
10	k__Bacteria; p__Bacteroidetes; c__Flavobacteria; o__Flavobacteriales; f__[Weeksellaceae]
13	k__Bacteria; p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae; g__Clostridium; s__butyricum
12	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Enterobacteriales; f__Enterobacteriaceae; g__Enterobacter
15	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Burkholderiales; f__Comamonadaceae; g__Variovorax; s__paradoxus
14	k__Bacteria; p__Bacteroidetes; c__[Saprospirae]; o__[Saprospirales]; f__Chitinophagaceae; g__; s__
17	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Burkholderiales; f__Comamonadaceae; g__Comamonas; s__
16	k__Bacteria; p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae; g__Clostridium; s__
19	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Rhodocyclales; f__Rhodocyclaceae; g__Zoogloea; s__
889	k__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhizobiales; f__Rhizobiaceae; g__Agrobacterium; s__
77	k__Bacteria; p__Actinobacteria; c__Actinobacteria; o__Actinomycetales; f__Microbacteriaceae; g__Microbacterium
75	k__Bacteria; p__Actinobacteria; c__Actinobacteria; o__Actinomycetales; f__Nocardiodiaceae; g__Pimelobacter; s__
79	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Alteromonadales; f__Shewanellaceae; g__Shewanella; s__algae
698	k__Bacteria; p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae; g__Clostridium
8	k__Bacteria; p__Bacteroidetes; c__Sphingobacteria; o__Sphingobacteriales; f__Sphingobacteriaceae; g__Sphingobacterium; s__multivorum
122	k__Bacteria; p__Bacteroidetes; c__Sphingobacteria; o__Sphingobacteriales; f__Sphingobacteriaceae

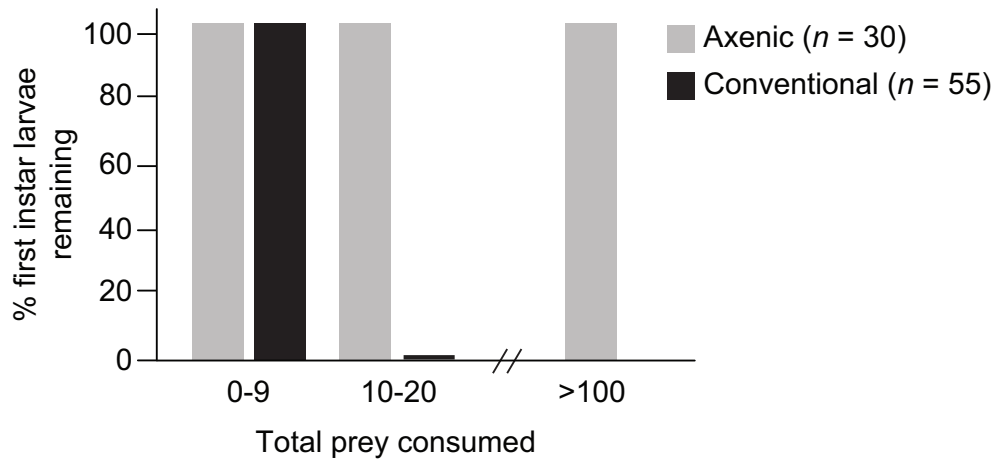
OTU ID	taxonomy
316	k__Bacteria; p__Proteobacteria; c__Deltaproteobacteria; o__Bdellovibrionales; f__Bdellovibrionaceae; g__Bdellovibrio; s__
785	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Pseudomonadales; f__Moraxellaceae; g__Acinetobacter; s__rhizosphaerae
571	k__Bacteria; p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae; g__Clostridium
63	k__Bacteria; p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae; g__Clostridium; s__
64	k__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhizobiales
68	k__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Rhizobiales; f__Rhizobiaceae
737	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Enterobacteriales; f__Enterobacteriaceae
877	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Burkholderiales; f__Comamonadaceae; g__Variovorax; s__paradoxus
9	k__Bacteria; p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae; g__Clostridium
41	k__Bacteria; p__Bacteroidetes
4	k__Bacteria; p__Bacteroidetes; c__Flavobacteriia; o__Flavobacteriales; f__[Weeksellaceae]; g__Chryseobacterium; s__
264	k__Bacteria; p__Bacteroidetes; c__Flavobacteriia; o__Flavobacteriales; f__[Weeksellaceae]; g__Cloacibacterium; s__
259	k__Bacteria; p__Bacteroidetes; c__Flavobacteriia; o__Flavobacteriales; f__[Weeksellaceae]; g__Chryseobacterium; s__
428	k__Bacteria; p__Bacteroidetes; c__Sphingobacteriia; o__Sphingobacteriales; f__Sphingobacteriaceae; g__Sphingobacterium; s__multivorum
914	k__Bacteria; p__Proteobacteria; c__Betaproteobacteria; o__Burkholderiales; f__Comamonadaceae
422	k__Bacteria; p__Bacteroidetes; c__Flavobacteriia; o__Flavobacteriales; f__[Weeksellaceae]
1184	k__Bacteria; p__Firmicutes; c__Clostridia; o__Clostridiales; f__Clostridiaceae; g__Clostridium; s__butyricum
153	k__Bacteria; p__Proteobacteria; c__Alphaproteobacteria; o__Caulobacterales; f__Caulobacteraceae; g__Caulobacter; s__
48	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Oceanospirillales; f__Halomonadaceae; g__Halomonas
46	k__Bacteria; p__Bacteroidetes; c__Flavobacteriia; o__Flavobacteriales; f__[Weeksellaceae]; g__Cloacibacterium; s__
42	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Enterobacteriales; f__Enterobacteriaceae
43	k__Bacteria; p__Proteobacteria; c__Gammaproteobacteria; o__Enterobacteriales; f__Enterobacteriaceae; g__Rahnella; s__aquatilis
5	k__Bacteria; p__Bacteroidetes; c__Sphingobacteriia; o__Sphingobacteriales; f__Sphingobacteriaceae; g__Pedobacter; s__



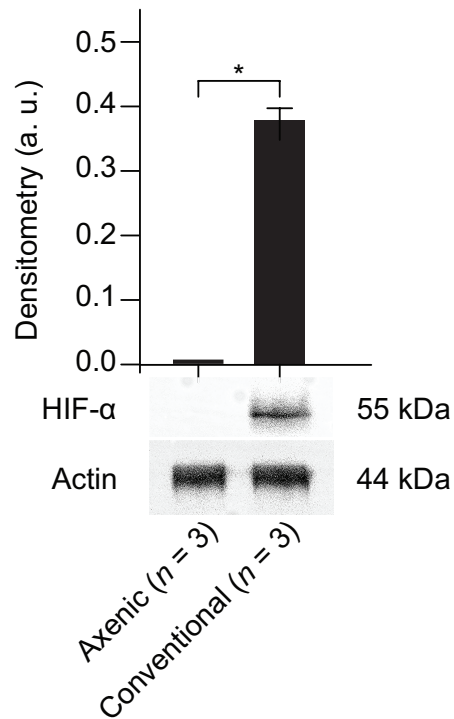
**Supplementary Figure 1.** Rarefaction data from Illumina sequencing experiment. Reads from six *T. amboinensis* (orange), *A. aegypti* (green), and water (yellow) libraries were sampled starting at 100 sequences per step and increased in increments of 50 until the total number of reads per sample was reached. Each step was sampled 10 times. Each line represents the smoothed mean across each increment for OTUs clustered at a sequence similarity threshold of 99%. Lines for each biological replicate are shown.



**Supplementary Figure 2.** Representative agarose gel showing colonization of axenic *T. amboinensis* larvae (L) by bacteria from conventional or gnotobiotic prey (P). For each treatment, DNA was isolated from individual larvae or pools and used as template for PCR analysis with universal or taxon-specific primers. Lane 1, molecular mass marker; Lanes 2-3, universal primers plus DNA from axenic first instars; Lanes 4-5, universal primers plus DNA from conventional first instars; Lanes 6-8, *Comamonas*-specific primers plus template from *Comamonas* (control) or gnotobiotic fourth instars. The same treatments are then shown for *E. coli* (Lanes 9-11). At least 10 individuals were examined for each treatment with all outcomes being identical to what is presented in the figure.



**Supplementary Figure 3.** The number of axenic or conventional first instar larvae remaining after consumption of a defined quantity of prey. All conventional larvae moulted to the second instar after consuming at least ten prey larvae. In contrast, all axenic larvae remained first instars even after consuming very large (>100) quantities of prey. A total of 85 (30 axenic and 55 conventional) larvae were assayed to produce the data presented.



**Supplementary Figure 4.** Representative immunoblot of extracts from axenic and conventional first instars. Three pools of five larvae were collected for each treatment group at 18 h post egg hatching and probed with anti-HIF- $\alpha$  or anti-actin, which served as a loading control. Molecular masses of each protein are indicated to the right. The graph above the immunoblot shows mean density ( $\pm$  SE) in arbitrary units (a. u.) of the 55 kDa HIF- $\alpha$  splice variant relative to the actin loading control from three independently generated immunoblots. The asterisk (\*) indicates a significant difference between axenic and conventional larvae (Student's *t*-test,  $P < 0.0001$ ).