Table S1: Aphid feeding and probing parameters (mean value ± standard error) that were significantly affected by the different plant types (Hsp5 and Concerto). Numbers in parenthesis indicate the total number of individuals which displayed each parameter, the total number of individuals tested is indicated at the top of the column.

Description of Response Variable Assessed (transformation used)	Host plant		Statistical results for each Explanatory Variable					
	Concerto *(max = 24)*	Hsp5 *(max = 25)*	Plant		Endosymbiont		Plant × Endosymbiont	
Minimum recorded time to E1 (salivation into phloem) from first probe (sqrt)	1286.76 s ± 287.82 s *(24)*	3546.65 s ± 572.45 s *(23)*	X^2_1 = 16.69	P = <0.001 ***	X^2_1 = 0.09	P = 0.757	X^2_1 = 0.14	P = 0.699
Mean time to first E1 phase from first probe into plant tissue (sqrt)	3986.44 ± 527.44 s *(24)*	8992.00 ± 1257.19 s *(23)*	X^2_1 = 13.59	P = <0.001 ***	X^2_1 = 0.01	P = 0.945	X^2_1 = 2.22	P = 0.135
Number of E1 phases (sqrt)	4.79 ± 0.60 *(24)*	3.28 ± 0.56 *(23)*	X^2_1 =4.28	P = 0.030 *	X^2_1 = 0.01	P = 0.946	X^2_1 = 0.22	P = 0.635
Mean time from first probe into plant tissue until first E2 phase (sqrt)	5490.25 ± 917.45 s *(24)*	10773.24 ± 1286.41 s *(22)*	X^2_1 = 12.70	P = <0.001 ***	X^2_1 = 0.33	P = 0.565	X^2_1 = 2.41	P = 0.119
Number of E2 phases (sqrt)	2.33 ± 0.24 *(24)*	1.52 ± 0.23 *(22)*	X^2_1 = 6.76	P = 0.009 *	X^2_1 = 0.01	P = 0.975	X^2_1 = 0.01	P = 0.930
Total number of E phases (including E1, E2, and sE2) (sqrt)	4.75 ± 0.61 *(24)*	3.20 ± 0.54 *(23)*	X^2_1 = 4.38	P = 0.036 *	X^2_1 = 0.01	P = 0.993	X^2_1 = 0.18	P = 0.666
Number of sE2 phases (sqrt)	1.20 ± 0.14 *(21)*	0.80 ± 0.15 *(16)*	X^2_1 = 4.13	P = 0.042 *	X^2_1 = 2.25	P = 0.133	X^2_1 = 2.80	P = 0.094

Level of statistical significance: * <0.05, ** <0.01, *** <0.001

Table S2: Aphid feeding and probing parameters which were not significantly affected by any treatment factors.

Description of Response Variable Assessed (transformation used)	Statistical results for each Explanatory Variable					
	Plant		Endosymbiont		Plant x Endosymbiont	
Mean duration of each non-probing period (sqrt)	$X^2_1 = 0.11$	P = 0.732	$X^2_1 = 1.19$	P = 0.274	$X^2_1 = 1.19$	P = 0.273
Duration of the second probe into plant tissue (log)	$X^2_1 = 0.01$	P = 0.999	$X^2_1 = 0.01$	P = 0.935	$X^2_1 = 0.555$	P = 0.456
Number of stylet probes into plant tissue in the first hour (not transformed)	$X^2_1 = 0.09$	p = 0.758	$X^2_1 = 0.63$	p = 0.424	$X^2_1 = 2.32$	p = 0.127
Number of stylet probes into plant tissue in the third hour (not transformed)	$X^2_1 = 0.50$	p = 0.477	$X^2_1 = 0.01$	p = 0.993	$X^2_1 = 2.81$	p = 0.093
Number of stylet probes into plant tissue in the fourth hour (not transformed)	$X^2_1 = 2.49$	p = 0.114	$X^2_1 = 1.05$	p = 0.304	$X^2_1 = 0.01$	p = 0.971
Number of stylet probes into plant tissue in the fifth hour (not transformed)	$X^2_1 = 2.25$	p = 0.132	$X^2_1 = 0.82$	p = 0.365	$X^2_1 = 0.01$	p = 0.898
Number of stylet probes into plant tissue in the sixth hour (not transformed)	$X^2_1 = 0.15$	p = 0.694	$X^2_1 = 1.77$	p = 0.182	$X^2_1 = 0.146$	p = 0.226
Number of brief probes into plant tissue (< 3 mins) following first phloem contact (not transformed).	$X^2_1 = 0.80$	p = 0.368	$X^2_1 = 0.52$	p = 0.466	$X^2_1 = 2.09$	p = 0.147
Total duration of all C (mesophyll pathway) phases (not transformed)	$X^2_1 = 0.49$	P = 0.482	$X^2_1 = 0.77$	P = 0.379	$X^2_1 = 1.20$	P = 0.277
Mean number of pd: potential drop (intracellular punctures) per probe into plant tissue (log)	$X^2_1 = 2.53$	P = 0.111	$X^2_1 = 2.89$	P = 0.088	$X^2_1 = 1.08$	P = 0.298
Number of pd in second hour (sqrt)	$X^2_1 = 0.18$	P = 0.665	$X^2_1 = 0.50$	P = 0.479	$X^2_1 = 2.47$	P = 0.115
Number of pd in fifth hour (sqrt)	$X^2_1 = 3.02$	P = 0.082	$X^2_1 = 1.08$	P = 0.296	$X^2_1 = 0.16$	P = 0.685
Number of pd in sixth hour (sqrt)	$X^2_1 = 0.16$	p = 0.684	$X^2_1 = 2.35$	p = 0.125	$X^2_1 = 1.25$	p = 0.261
Total duration of all pd's (sqrt)	$X^2_1 = 0.11$	p = 0.739	$X^2_1 = 0.21$	p = 0.646	$X^2_1 = 1.95$	p = 0.162
Mean duration of each pd in third hour (not transformed)	$X^2_1 = 1.29$	P = 0.255	$X^2_1 = 1.50$	P = 0.219	$X^2_1 = 0.64$	P = 0.420
Mean duration of each pd in fourth hour (not transformed)	$X^2_1 = 0.03$	P = 0.860	$X^2_1 = 0.04$	P = 0.832	$X^2_1 = 1.44$	P = 0.228
Mean duration of each pd in fifth hour (not transformed)	$X^2_1 = 0.34$	p = 0.554	$X^2_1 = 2.97$	p = 0.084	$X^2_1 = 0.01$	p = 0.999
Total duration of pd sub-phase 1 (not transformed)	$X^2_1 = 3.25$	P = 0.071	$X^2_1 = 0.50$	P = 0.477	$X^2_1 = 0.55$	P = 0.457
Total duration of pd sub-phase 2 (sqrt)	$X^2_1 = 2.65$	P = 0.103	$X^2_1 = 0.131$	P = 0.717	$X^2_1 = 0.143$	P = 0.705
Total duration of pd sub-phase 3 (sqrt)	$X^2_1 = 2.11$	P = 0.145	$X^2_1 = 0.90$	P = 0.342	$X^2_1 = 0.98$	P = 0.321
Number of xylem ingestion phases (not transformed)	$X^2_1 = 0.30$	p = 0.577	$X^2_1 = 0.01$	p = 0.982	$X^2_1 = 3.02$	p = 0.081
Number of (phloem) E phases which only contain E1	$X^2_1 = 1.55$	P = 0.212	$X^2_1 = 0.01$	P = 0.899	$X^2_1 = 0.95$	P = 0.328
Total duration of all E phases which only contain E1 (salivation into phloem)	$X^2_1 = 0.15$	P = 0.697	$X^2_1 = 0.17$	P = 0.679	$X^2_1 = 1.47$	P = 0.224
Combined duration of E1 (sqrt)	$X^2_1 = 0.03$	p = 0.852	$X^2_1 = 0.25$	p = 0.611	$X^2_1 = 0.21$	p = 0.639
Mean duration of each E1 phase (log)	$X^2_1 = 0.78$	p = 0.375	$X^2_1 = 0.01$	p = 0.899	$X^2_1 = 0.01$	p = 0.981
Mean duration of E1 phase when followed by E2 (phloem ingestion) phase (log)	$X^2_1 = 0.39$	p = 0.530	$X^2_1 = 0.01$	p = 0.946	$X^2_1 = 0.05$	p = 0.806
Mean duration of E1 phase when followed by sE2 (sustained phloem ingestion) phase (log)	$X^2_1 = 0.02$	p = 0.867	$X^2_1 = 0.04$	p = 0.823	$X^2_1 = 0.33$	p = 0.561
Total duration of all E1 phases before first E2 (log)	$X^2_1 = 0.59$	p = 0.442	$X^2_1 = 0.137$	p = 0.710	$X^2_1 = 1.56$	p = 0.221
Total duration of all E1 phases before first sE2 (sqrt)	$X^2_1 = 0.76$	p = 0.383	$X^2_1 = 0.115$	p = 0.734	$X^2_1 = 0.01$	p = 0.992
Duration of first E phase (log)	$X^2_1 = 0.01$	p = 0.899	$X^2_1 = 0.34$	p = 0.554	$X^2_1 = 3.19$	p = 0.073
Duration of first E2 phase (log)	$X^2_1 = 0.12$	p = 0.722	$X^2_1 = 0.01$	p = 0.889	$X^2_1 = 1.09$	p = 0.295
Mean duration of each E2 phase (sqrt)	$X^2_1 = 0.01$	P = 0.979	$X^2_1 = 0.01$	P = 0.984	$X^2_1 = 1.80$	P = 0.178
Percentage of probe spent in C phase (not transformed)	$X^2_1 = 0.15$	p = 0.689	$X^2_1 = 0.38$	p = 0.537	$X^2_1 = 3.15$	p = 0.075
Percentage of probe spent in E1 phase (sqrt)	$X^2_1 = 0.19$	p = 0.661	$X^2_1 = 0.27$	p = 0.597	$X^2_1 = 0.98$	p = 0.320

Percentage of probe spent in E2 phase	$X^2_1 = 0.90$	P = 0.340	$X^2_1 = 0.44$	P = 0.503	$X^2_1 = 1.22$	P = 0.268
Percentage of probe spent in xylem phase	$X^2_1 = 1.37$	P = 0.241	$X^2_1 = 0.41$	P = 0.517	$X^2_1 = 0.78$	P = 0.376
Total duration of all E phases (sqrt)	$X^2_1 = 1.15$	P = 0.283	$X^2_1 = 0.06$	P = 0.792	$X^2_1 = 1.84$	P = 0.174
Total time spent ingesting xylem (sqrt)	$X^2_1 = 1.17$	P = 0.278	$X^2_1 = 1.31$	P = 0.252	$X^2_1 = 1.14$	P = 0.283
Mean duration of each xylem ingestion phase (sqrt)	$X^2_1 = 1.24$	P = 0.265	$X^2_1 = 0.20$	P = 0.652	$X^2_1 = 0.341$	P = 0.559

Feeding and probing parameter abbreviations: np (non-probing), C (stylet penetration/pathway phase), pd (potential-drop/intercellular punctures), the pd sub-phases (pd-II1, pd-II2, pd-II3), E1e (extracellular saliva secretion), E1 (saliva secretion into phloem) E2 (saliva secretion and passive phloem ingestion), F (penetration difficulty) or G (xylem ingestion).

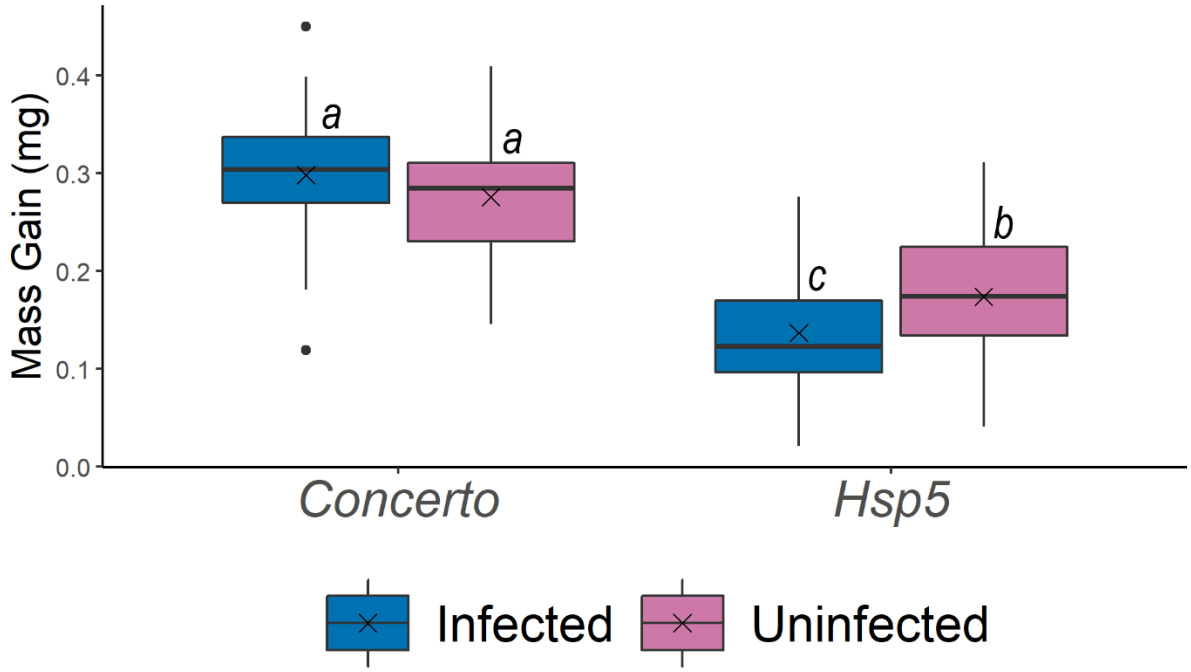

Fig. S1: Juvenile *R. padi* mass gain over a 96 h period in the presence (infected) and absence (uninfected) of *Hamiltonella defensa* infection on Concerto and Hsp5. Box plots indicate the median as a thick line, the interquartile range (IQR) as a box, 1.5 IQR as whiskers and the outliers as points outside the whisker range. Infected reports the combined data for both *H. defensa*-infected lines (DL 16/04; DL 16/05) and Uninfected reports the combined data for both *H. defensa*-uninfected lines (DL 16/06; DL 16/13). Letters indicate which groups are similar to each other using Least Squares Means *post-hoc* analysis. The black cross ("×") on each plot shows the mean value. The number of replicates for each experimental group was 14 and comprised two experimental blocks, each containing seven replicates. Each replicate was taken from a unique aphid and represents a single biological replicate. See methods for details of the statistical analysis.