Intraspecific and interstage similarities in host-plant preference in the diamondback moth (Lepidoptera: Plutellidae)

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Table S1. Test statistic and *P*-values of Kruskall-Wallis tests comparing differences in oviposition on four different oviposition substrates (cabbage, rape, pea, and aluminium foil) for the strains DBM-W, DBM-NOQA, DBM-C, and DBM-P of *P. xylostella*. The significance values have been adjusted by the Bonferroni correction for multiple tests. Significant *P*-values ($P \leq 0.05$) are shown in bold type.

Strain	**Comparison**	**Test statistic**	***P*-value**
DBM-W	Pea-Aluminium foil	2.81; *P*=0.082	0.08; *P*=0.924
DBM-W	Pea-Cabbage	6.07; ***P*=0.008**	1.41; *P*=0.265
DBM-W	Pea-Rape	6.48; ***P*=0.006**	0.77; *P*=0.476
DBM-W	Aluminium foil-Cabbage	2.19; *P*=0.136	0.12; *P*=0.944
DBM-W	Aluminium foil-Rape	2.11; *P*=0.145	6.81; ***P*=0.033**
DBM-W	Cabbage-Rape	6.11; ***P*=0.008**	1.63; *P*=0.218
DBM-NOQA	Pea-Aluminium foil	5.23; ***P*=0.014**	2.71; *P*=0.258
DBM-NOQA	Pea-Cabbage	12.07; ***P*≤0.001**	1.97; *P*=0.165
DBM-NOQA	Pea-Rape	18.48; ***P*≤0.001**	16.67; ***P*≤0.001**
DBM-NOQA	Aluminium foil-Cabbage	10.33; ***P*≤0.001**	13.89; ***P*≤0.001**
DBM-NOQA	Aluminium foil-Rape	4.25; ***P*=0.027**	3.20; *P*=0.061
DBM-NOQA	Cabbage-Rape	12.52; ***P*≤0.001**	1.47; *P*=0.253
DBM-C	Pea-Aluminium foil	8.76; ***P*=0.002**	7.70; ***P*=0.003**
DBM-C	Pea-Cabbage	6.24; ***P*=0.007**	5.23; ***P*=0.014**
DBM-C	Pea-Rape	5.17; ***P*=0.014**	0.43; *P*=0.659
DBM-C	Aluminium foil-Cabbage	16.00; ***P*≤0.001**	3.44; ***P*=0.050**
DBM-C	Aluminium foil-Rape	9.66; ***P*≤0.001**	1.51; *P*=0.244
DBM-C	Cabbage-Rape	7.12; ***P*≤0.001**	0.11; *P*=0.900
DBM-P	Pea-Aluminium foil	1.55; *P*=0.235	1.17; *P*=0.329
DBM-P	Pea-Cabbage	16.90; ***P*≤0.001**	2.48; *P*=0.107
DBM-P	Pea-Rape	5.52; ***P*=0.011**	6.94; ***P*=0.005**
DBM-P	Aluminium foil-Cabbage	0.92; *P*=0.364	1.32; *P*=0.303
DBM-P	Aluminium foil-Rape	0.25; *P*=0.629	3.75; *P*=0.111
DBM-P	Cabbage-Rape	0.02; *P*=0.894	2.67; *P*=0.163

Table S2. Comparison of the preference between abaxial and adaxial leaf surfaces among the three *P. xylostella* strains reared on cabbage (DBM-C), artificial diet (DBM-G88), and pea (DBM-P). Oviposition preference data were analyzed using a one-tailed, two-sample test of proportions ($P \leq 0.05$) comparing the percentages of the total number of eggs laid on the abaxial side of leaves (n = 3-96, except in the case of *C. papaya* for DBM-C, where n=2).

	Test statistic and *P*-value		
	DBM-C vs. DBM-G88	DBM-C vs. DBM-P	DBM-G88 vs. DBM-P
A. cordifolium	*z*=0.05, *P*=0.478	*z*=0.12, *P*=0.454	*z*=0.17, *P*=0.433
A. argenteum	*z*=0.08, *P*=0.467	*z*=0.41, *P*=0.342	*z*=0.33, *P*=0.370
A. thaliana	*z*=0.47, *P*=0.318	*z*=0.52, *P*=0.302	*z*=0.05, *P*=0.482
A. caucasica	*z*=0.28, *P*=0.390	*z*=1.04, *P*=0.149	*z*=0.77, *P*=0.220
B. vulgaris	*z*=0.07, *P*=0.472	*z*=0.31, *P*=0.377	*z*=0.24, *P*=0.404
B. laevigata	*z*=0.03, *P*=0.486	*z*=0.42, *P*=0.339	*z*=0.45, *P*=0.326
B. juncea	*z*=0.46, *P*=0.324	*z*=0.52, *P*=0.301	*z*=0.97, *P*=0.166
B. napus	*z*=0.24, *P*=0.404	*z*=0.52, *P*=0.301	*z*=0.28, *P*=0.390
B. oleracea (cabba.)	*z*=0.07, *P*=0.471	*z*=0.21, *P*=0.418	*z*=0.14, *P*=0.442
B. oleracea (g. co.)	*z*=0.13, *P*=0.448	*z*=0.49, *P*=0.313	*z*=0.36, *P*=0.360
B. oleracea (w. co.)	*z*=0.85, *P*=0.197	*z*=0.41, *P*=0.342	*z*=0.49, *P*=0.314
B. orientalis	*z*=0.47, *P*=0.321	*z*=0.17, *P*=0.434	*z*=0.61, *P*=0.271
C. bursa-pastoris	n/a	*z*=1.24, *P*=0.107	n/a
C. pratensis	*z*=0.09, *P*=0.466	*z*=0.17, *P*=0.434	*z*=0.23, *P*=0.411
C. papaya	*z*=0.07, *P*=0.472	*z*=0.46, *P*=0.321	*z*=0.63, *P*=0.265
C. spinosa	*z*=0.14, *P*=0.443	*z*=0.25, *P*=0.400	*z*=0.12, *P*=0.454
C. cotinifolius	*z*=0.48, *P*=0.315	*z*=0.03, *P*=0.488	*z*=0.48, *P*=0.316
D. muralis	*z*=0.03, *P*=0.486	*z*=0.31, *P*=0.377	*z*=0.28, *P*=0.390
E. sativa	*z*=0.15, *P*=0.442	*z*=0.26, *P*=0.398	*z*=0.11, *P*=0.455
E. cheiri	*z*=0.64, *P*=0.262	*z*=1.50, *P*=0.067	*z*=0.93, *P*=0.176
I. amara	*z*=0.16, *P*=0.436	*z*=0.41, *P*=0.341	*z*=0.57, *P*=0.285
L. sativum	*z*=0.65, *P*=0.259	*z*=1.56, *P*=0.060	*z*=0.95, *P*=0.170
L. douglasii	*z*=0.45, *P*=0.325	*z*=0.12, *P*=0.453	*z*=0.34, *P*=0.369
M. oleifera	n/a	n/a	n/a
N. officinale	*z*=0.00, *P*=0.500	*z*=0.42, *P*=0.338	*z*=0.42, *P*=0.338
N. paniculata	*z*=0.30, *P*=0.383	n/a	n/a
P. sativum	n/a	n/a	n/a
R. odorata	*z*=0.26, *P*=0.396	*z*=1.21, *P*=0.114	*z*=1.50, *P*=0.066
S. officinale	*z*=0.34, *P*=0.368	*z*=0.27, *P*=0.395	*z*=0.07, *P*=0.471
T. majus	n/a	*z*=0.28, *P*=0.390	n/a

Table S3. Total glucosinolate content (TOT) and content of aliphatic glucosinolates with sulfur-containing side chains (AS), other aliphatic glucosinolates (AO), benzenic glucosinolates (BEN), and indolic glucosinolates (IN) for each of the plant types tested (A). Glucosinolate richness (*S*), Shannon´s diversity index for the four glucosinolate classes (H_A), Shannon´s diversity index for the relative concentrations of all individual glucosinolates (H_B), and chemical complexity index for glucosinolates (CCI) for each of the plant types tested (B). Values based on means across replicates taken from Badenes-Pérez et al. 2020.

A

	TOT	AS	AO	BEN	IN
A. cordifolium	1.41	1.06	0.00	0.00	0.35
A. argenteum	20.81	8.16	12.49	0.00	0.16
A. thaliana	97.95	0.12	93.74	0.00	4.09
A. caucasica	6.11	0.00	1.73	0.00	4.38
B. vulgaris	0.00	0.00	0.00	0.00	0.00
B. laevigata	4.12	0.00	0.00	4.11	0.01
B. juncea	39.95	0.00	38.92	0.00	1.02
B. napus	10.42	0.00	1.00	0.00	8.94
B. oleracea (cabba.)	30.72	27.54	1.31	0.00	0.18
B. oleracea (g. co.)	37.41	33.78	1.56	0.00	0.17
B. oleracea (w. co.)	16.34	16.34	0.00	0.00	0.00
B. orientalis	53.79	53.76	0.00	0.00	0.03
C. bursa-pastoris	120.51	0.06	0.00	120.44	0.00
C. pratensis	27.96	0.00	0.00	27.96	0.00
C. papaya	0.00	0.00	0.00	0.00	0.00
C. spinosa	89.83	0.00	0.00	84.33	5.50
C. cotinifolius	33.81	0.00	31.72	0.00	2.08
D. muralis	27.97	0.00	0.00	27.97	0.00
E. sativa	1.41	1.06	0.00	0.00	0.35
E. cheiri	20.81	8.16	12.49	0.00	0.16
I. amara	97.95	0.12	93.74	0.00	4.09
L. sativum	6.11	0.00	1.73	0.00	4.38
L. douglasii	0.00	0.00	0.00	0.00	0.00
M. oleifera	4.12	0.00	0.00	4.11	0.01
N. officinale	39.95	0.00	38.92	0.00	1.02
N. paniculata	10.42	0.00	1.00	0.00	8.94
P. americana	30.72	27.54	1.31	0.00	0.18
P. sativum	37.41	33.78	1.56	0.00	0.17
R. odorata	16.34	16.34	0.00	0.00	0.00
S. officinale	53.79	53.76	0.00	0.00	0.03
T. majus	120.51	0.06	0.00	120.44	0.00
V. faba	27.96	0.00	0.00	27.96	0.00

B

	S	H_A	H_B	$CCI=H_A+H_B$
A. cordifolium	8	0.693	0.958	1.651
A. argenteum	4	0.693	0.724	1.417
A. thaliana	9	0.693	1.240	1.933
A. caucasica	9	1.099	1.209	2.308
B. vulgaris	5	0.693	0.568	1.261
B. laevigata	2	0.693	0.681	1.374
B. juncea	6	1.099	0.238	1.337
B. napus	6	0.693	1.243	1.936
B. oleracea (cabba.)	8	1.099	1.283	2.382
B. oleracea (g. co.)	10	1.099	1.232	2.331
B. oleracea (w. co.)	10	1.099	1.370	2.469
B. orientalis	5	0.693	0.167	0.860
C. bursa-pastoris	0	n/a	n/a	0
C. pratensis	4	0.693	0.273	0.966
C. papaya	2	0.693	0.019	0.712
C. spinosa	4	0.693	0.139	0.832
C. cotinifolius	14	0.693	0.802	1.495
D. muralis	12	1.099	1.568	2.667
E. sativa	12	1.099	1.610	2.709
E. cheiri	4	0.000	0.970	0.970
I. amara	4	0.693	0.431	1.124
L. sativum	2	0.693	0.004	0.697
L. douglasii	5	0.693	0.240	0.933
M. oleifera	3	0.000	0.414	0.414
N. officinale	4	0.693	0.329	1.022
N. paniculata	0	n/a	n/a	0
P. americana	0	n/a	n/a	0
P. sativum	0	n/a	n/a	0
R. odorata	3	0.693	0.282	0.975
S. officinale	4	0.693	0.553	1.246
T. majus	2	0.000	0.023	0.023
V. faba	0	n/a	n/a	0

Reference Cited

Badenes-Pérez, F.R.; Gershenzon, J.; Heckel, D.G. Plant glucosinolate content increases susceptibility to diamondback moth (Lepidoptera: Plutellidae) regardless of its diet. *Journal of Pest Science* **2020**, *93*, 491–506.