

Supplementary information for the manuscript

“Intraspecific variability in herbivore response to elemental defences is caused by the metal itself”

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Tables S1 to S3

Figure S1

Table S1. Origin of spider-mite populations. Species identity, location and date of collection of all spider-mite populations used in this study, and the test in which they were used (A=artificial feeding; P=plant).

Species	Name tag	Origin	Tests
<i>T. evansi</i>	Te QL	2013, Carregado, Portugal	P and A
<i>T. evansi</i>	Te 6M1	2017, Lagos, Portugal	P and A
<i>T. evansi</i>	Te PBS	2017, Lisboa, Portugal	P and A
<i>T. evansi</i>	Te QG	2017, Lisboa, Portugal	P and A
<i>T. evansi</i>	Te VIT	2017, Almada, Portugal	P and A
<i>T. evansi</i>	Te CG	2017, Lisboa, Portugal	P
<i>T. evansi</i>	Te ER	2017, Ericeira, Portugal	P
<i>T. evansi</i>	Te VC	2017, Lisboa, Portugal	P
<i>T. evansi</i>	Te OUT	2018, laboratory	P and A
<i>T. urticae</i> (green morph)	Tu ALP	2017, Alpiarça, Portugal	P and A
<i>T. urticae</i> (green morph)	Tu DEF	2017, Lisboa, Portugal	P and A
<i>T. urticae</i> (green morph)	Tu HFM	2017, Montemor-o-Novo, Portugal	P and A
<i>T. urticae</i> (green morph)	Tu MON	2017, Montemor-o-Novo, Portugal	P and A
<i>T. urticae</i> (green morph)	Tu OUT	2018, laboratory	P and A
<i>T. urticae</i> (red morph)	Tu 6M2	2017, Lagos, Portugal	P
<i>T. urticae</i> (red morph)	Tu LIM	2017, Lagoa, Portugal	P
<i>T. urticae</i> (red morph)	Tu LNEC	2017, Lisboa, Portugal	P

Table S2. Comparison of models fitting the oviposition of spider mites feed on whole plants exposed to different cadmium concentrations. Model selection was performed using drc R package “mselect” function (Ritz et al. 2010). Original model: drm (oviposition rate ~ dose, population, fct=LL.4), where dose represents de concentration of cadmium and population the population of spider mites.

Model	LogLik	IC	Lack of fit (P-value)	Response variance
CRS.4b	-4220.8	8579.595	1.70E-16	3.54543
BC.4	-4223.6	8585.175	1.62E-17	3.554982
CRS.4c	-4226	8590.002	2.11E-18	3.563266
LL.4	-4590.1	9318.184	1.76E-164	5.06208
W1.4	NA	NA	NA	NA
CRS.4a	NA	NA	NA	NA
BC.5	-4193.6	8559.219	NaN	3.483203
LL.5	NA	NA	NA	NA
CRS.5c	NA	NA	NA	NA
CRS.5a	NA	NA	NA	NA
CRS.5b	NA	NA	NA	NA

NA – Model did not converge

Table S3. Comparison of models fitting the oviposition of spider mites feed on an artificial diet with different cadmium concentrations. Model selection was performed using drc R package “mselect” function (Ritz et al. 2010). Original model: drm(oviposition rate ~ dose, population, fct=LL.4), where dose represents de concentration of cadmium and population the population of spider mites.

Model	LogLik	IC	Lack of fit (P-value)	Response variance
BC.4	-7874.2	15838.41	3.10E-04	3.447496
CRS.4a	-7905.2	15900.4	3.04E-14	3.503096
CRS.4b	-7915.8	15921.57	4.73E-18	3.522285
W1.4	-7944.0	15978.03	1.20E-28	3.573982
LL.4	-8639.8	17369.66	2.516222e-317	5.118239
CRS.4c	NA	NA	NA	NA
BC.5	-7870.6	15853.13	5.28E-06	3.450939
CRS.5a	-7893.1	15898.25	2.40E-14	3.491356
CRS.5b	-7909.6	15931.2	8.55E-21	3.521169
CRS.5c	-7921.5	15954.96	1.56E-25	3.542825
LL.5	NA	NA	NA	NA

NA – Model did not converge

Figure S1 Average oviposition rate ($\pm$ s.e.) of the spider mite populations not used on the artificial diet test on plants with different cadmium concentrations. 3 to 5 spider mites of each population were tested on each plant (N= 7 to 10 per concentration).

