



Appendix A Maturation success (mean ±SE) of *Plutella xylostella* after 3rd-instar larval exposures at 40°C.

Maturation success was measured as the proportion of emerged adults from larvae surviving after heat treatments.

Different letters above each bar indicate significant differences between exposure times at 40°C ($P < 0.05$) based

on post hoc tests. Adapted from Zhang *et al.*, 2015.

	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
Bath 1	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Bath 2	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Bath 3	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red

Appendix B Experimental details of heat treatment by water bath. Before treatment, every 24 tubes (together

with tested individuals) from the same treatment were inserted into a 24-well plate. A water bath could maximally

heat 6 plates meanwhile. Total number of 19 plates were heated by three water baths. Immersing a plate into the

water bath for a certain duration was showed by the number of cells (each cell represent 0.5 h heat exposure) filled

in red color.

References

1. Zhang, W., Chang, X.Q., Hoffmann, A.A., Zhang, S., Ma, C.S., 2015. Impact of hot events at

different developmental stages of a moth: the closer to adult stage, the less reproductive output. *Scientific Reports* **5**, 10436.