**Supplementary Material**

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\* Indicates effect size (Hedges’ *d*) could not be calculated – incompatible data.

**Effect Size – Hedge’s *d***

Hedge’s *d* is appropriate for our primary data (means, standard deviations and sample sizes) and is suitable for small sample sizes. Furthermore, Hedges’ *d* is not affected if both treatment and control mean values are negative, nor is it affected by unequal sampling variances in the treatment and control groups. Finally, Hedges’ *d* is able to account for differences across studies in the direction of response (for example foraging is predicted to decrease, while vigilance should increase with higher predation risk).

Hedges’ *d* could not be calculated for three tests (one paper) due to unclear predicted directions of response. Similarly, Hedges’ *d* could not be calculated where prey response was measured by movement as the direction could not be predicted; for example, both an increase (fleeing) and a decrease (freezing) in movement may be representative of anti-predator behaviour. These were all part of experiments with multiple prey response measures however and thus no replicates were lost.

**Publication Bias**

A normal quantile plot was constructed to test for publication bias and the assumption of normality, upon which most meta-analytic procedures are based [1]. No evidence of publication bias was observed (Figure s1). The file-drawer problem [2], where non-significant studies remain unpublished is unlikely in our meta-analysis, as studies that showed no effect of predator cues on prey behaviour are likely to conclude naiveté, which is an attractive result for publication. In addition, these types of manipulation experiments are often costly and require a large number of resources, hence it is unlikely that the results from these studies, whether significant or not, remain unpublished.



**Figure s1:** **Normal quantile plot testing for publication bias and the assumption of normality.**

Spearman rank-order correlation: *r*s = 0.189, *p* = 0.068, *n* = 94.

Nb. Removing the two outliers does not change the results of the meta-analysis.

**Table s1: Homogeneity test results for predator local familiarity with respect to each predator type.** Effect size is calculated as Hedges’ *d*. 95% confidence intervals are bias-corrected.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |
| Predator | Variable levels | Mean effect size d | Lower 95% CI | Upper 95% CI | n | QM | d.f. | p |
|  |  |  |  |  |  |  |  |  |
| Introduced cat |  |  |  |  |  | 0.01 | 1 | 0.91 |
|  | Familiar | -0.05 | -0.85 | 0.85 | 4 |  |  |  |
|  | Novel | 0.01 | -0.57 | 0.38 | 3 |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Introduced fox |  |  |  |  |  | 0.02 | 1 | 0.90 |
|  | Familiar | 0.80 | 0.53 | 1.15 | 19 |  |  |  |
|  | Novel | 0.77 | 0.52 | 1.07 | 9 |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Dingo/dog |  |  |  |  | 0.20 | 1 | 0.66 |
|  | Familiar | 0.49 | 0.25 | 0.86 | 9 |  |  |  |
|  | Novel | 0.37 | -0.07 | 0.80 | 8 |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Native marsupial |  |  |  |  |  | 0.62 | 1 | 0.43 |
|  | Familiar | 0.58 | 0.38 | 0.80 | 13 |  |  |  |
|  | Novel | 0.44 | 0.23 | 0.65 | 6 |  |  |  |
|  |  |  |  |  |  |  |  |
| Native raptor |  |  |  |  | 0.06 | 1 | 0.81 |
|  | Familiar | 0.41 | -0.13 | 0.87 | 9 |  |  |  |
|  | Novel | 0.54 | -0.33 | 1.05 | 3 |  |  |  |
|  |  |  |  |  |  |  |  |  |

Nb. Native reptile was excluded from the analyses as there were fewer than 2 valid studies for locally novel predators.

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