Appendix S1. Checklist of the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) Statement.

Checklist item	Item score	Sub-item number	Sub-item	Reported by authors?	Notes
Title and abstract		1.1	Identify the review as a systematic review, meta-analysis, or both	Yes	
		1.2	Summarise the aims and scope of the review	No	
		1.3	Describe the data set	No	
		1.4	State the results of the primary outcome	No	
		1.5	State conclusions	No	
		1.6	State limitations	No	
Aims and questions		2.1	Provide a rationale for the review	Yes	
		2.2	Reference any previous reviews or meta-analyses on the topic	Yes	
		2.3	State the aims and scope of the review (including its generality)	Yes	
		2.4	State the primary questions the review addresses (e.g. which moderators were tested)	Yes	
		2.5	Describe whether effect sizes were derived from experimental and/or observational comparisons	Yes	
Review registration		3.1	Register review aims, hypotheses (if applicable), and methods in a time-stamped and publicly accessible archive and provide a link to the registration in the methods section of the manuscript. Ideally registration occurs before the search, but it can be done at any stage before data analysis.	No	

Checklist item	Item score	Sub-item number	Sub-item	Reported by authors?	Notes
		3.2	Describe deviations from the registered aims and methods	No	
		3.3	Justify deviations from the registered aims and methods	No	
Eligibility criteria		4.1	Report the specific criteria used for including or excluding studies when screening titles and/or abstracts, and full texts, according to the aims of the systematic review (e.g. study design, taxa, data availability)	Yes	
		4.2	Justify criteria, if necessary (i.e. not obvious from aims and scope)	Yes	
Finding studies		5.1	Define the type of search (e.g. comprehensive search, representative sample)	Yes	
		5.2	State what sources of information were sought (e.g. published and unpublished studies, personal communications)	Yes	
		5.3	Include, for each database searched, the exact search strings used, with keyword combinations and Boolean operators	Yes	
		5.4	Provide enough information to repeat the equivalent search (if possible), including the timespan covered (start and end dates)	Yes	
Study selection		6.1	Describe how studies were selected for inclusion at each stage of the screening process (e.g. use of decision trees, screening software)	Yes	
		6.2	Report the number of people involved and how they contributed (e.g. independent parallel screening)	Yes	

Checklist item	Item score	Sub-item number	Sub-item	Reported by authors?	Notes
Data collection process		7.1	Describe where in the reports data were collected from (e.g. text or figures)	Yes	
		7.2	Describe how data were collected (e.g. software used to digitize figures, external data sources)	Yes	
		7.3	Describe moderator variables that were constructed from collected data (e.g. number of generations calculated from years and average generation time)	Yes	
		7.4	Report how missing or ambiguous information was dealt with during data collection (e.g. authors of original studies were contacted for missing descriptive statistics, and/or effect sizes were calculated from test statistics)	No	
		7.5	Report who collected data	Yes	
		7.6	State the number of extractions that were checked for accuracy by co-authors	No	
Data items		8.1	Describe the key data sought from each study	Yes	
		8.2	Describe items that do not appear in the main results, or which could not be extracted due to insufficient information	No	
		8.3	Describe main assumptions or simplifications that were made (e.g. categorising both 'length' and 'mass' as 'morphology')	Yes	
		8.4	Describe the type of replication unit (e.g. individuals, broods, study sites)	Yes	

Checklist item	Item score	Sub-item number	Sub-item	Reported by authors?	Notes
Assessment of individual study quality		9.1	Describe whether the quality of studies included in the systematic review or meta-analysis was assessed (e.g. blinded data collection, reporting quality, experimental versus observational)	No	
		9.2	Describe how information about study quality was incorporated into analyses (e.g. meta-regression and/or sensitivity analysis)	No	
Effect size measures		10.1	Describe effect size(s) used	Yes	
		10.2	Provide a reference to the equation of each calculated effect size (e.g. standardised mean difference, log response ratio) and (if applicable) its sampling variance	Yes	
		10.3	If no reference exists, derive the equations for each effect size and state the assumed sampling distribution(s)	Yes	
Missing data		11.1	Describe any steps taken to deal with missing data during analysis (e.g. imputation, complete case, subset analysis)	Yes	
		11.2	Justify the decisions made to deal with missing data	No	
Meta-analytic model description		12.1	Describe the models used for synthesis of effect sizes	Yes	
		12.2	The most common approach in ecology and evolution will be a random-effects model, often with a hierarchical/multilevel structure. If other types of models are chosen (e.g. common/fixed effects model, unweighted model), provide justification for this choice	Yes	

Checklist item	Item score	Sub-item number	Sub-item	Reported by authors?	Notes
Software		13.1	Describe the statistical platform used for inference (e.g. R)	Yes	
		13.2	Describe the packages used to run models	Yes	
		13.3	Describe the functions used to run models	Yes	
		13.4	Describe any arguments that differed from the default settings	No	
		13.5	Describe the version numbers of all software used	Yes	
Non-independence		14.1	Describe the types of non-independence encountered (e.g. phylogenetic, spatial, multiple measurements over time)	Yes	
		14.2	Describe how non-independence has been handled	Yes	
		14.3	Justify decisions made	Yes	
Meta-regression and model selection		15.1	Provide a rationale for the inclusion of moderators (covariates) that were evaluated in meta-regression models	Yes	
		15.2	Justify the number of parameters estimated in models, in relation to the number of effect sizes and studies (e.g. interaction terms were not included due to insufficient sample sizes)	No	
		15.3	Describe any process of model selection	No	
Publication bias and sensitivity analysis		16.1	Describe assessments of the risk of bias due to missing results (e.g. publication, time-lag, and taxonomic biases)	Yes	
		16.2	Describe any steps taken to investigate the effects of such biases (if present)	Yes	

Checklist item	Item score	Sub-item number	Sub-item	Reported by authors?	Notes
		16.3	Describe any other analyses of robustness of the results, e.g. due to effect size choice, weighting or analytical model assumptions, inclusion or exclusion of subsets of the data, or the inclusion of alternative moderator variables in meta-regressions	Yes	
Clarification of post hoc analyses		17.1	When hypotheses were formulated after data analysis, this should be acknowledged.	No	
Metadata, data, and code		18.1	Share metadata (i.e. data descriptions)	Yes	
		18.2	Share data required to reproduce the results presented in the manuscript	Yes	
		18.3	Share additional data, including information that was not presented in the manuscript (e.g. raw data used to calculate effect sizes, descriptions of where data were located in papers)	Yes	
		18.4	Share analysis scripts (or, if a software package with graphical user interface (GUI) was used, then describe full model specification and fully specify choices)	Yes	
Results of study selection process		19.1	Report the number of studies screened	Yes	
		19.2	Report the number of studies excluded at each stage of screening	Yes	
		19.3	Report brief reasons for exclusion from the full text stage	Yes	

Checklist item	Item score	Sub-item number	Sub-item	Reported by authors?	Notes
		19.4	Present a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)-like flowchart (www.prisma-statement.org).	Yes	
Sample sizes and study characteristics		20.1	Report the number of studies and effect sizes for data included in meta-analyses	Yes	
		20.2	Report the number of studies and effect sizes for subsets of data included in meta-regressions	Yes	
		20.3	Provide a summary of key characteristics for reported outcomes (either in text or figures; e.g. one quarter of effect sizes reported for vertebrates and the rest invertebrates)	Yes	
		20.4	Provide a summary of limitations of included moderators (e.g. collinearity and overlap between moderators)	No	
		20.5	Provide a summary of characteristics related to individual study quality (risk of bias)	No	
Meta-analysis		21.1	Provide a quantitative synthesis of results across studies, including estimates for the mean effect size, with confidence/credible intervals	Yes	
Heterogeneity		22.1	Report indicators of heterogeneity in the estimated effect (e.g. I2, tau2 and other variance components)	Yes	
Meta-regression		23.1	Provide estimates of meta-regression slopes (i.e. regression coefficients) and confidence/credible intervals	Yes	

Checklist item	Item score	Sub-item number	Sub-item	Reported by authors?	Notes
		23.2	Include estimates and confidence/credible intervals for all moderator variables that were assessed (i.e. complete reporting)	Yes	
		23.3	Report interactions, if they were included	Yes	
		23.4	Describe outcomes from model selection, if done (e.g. R2 and AIC)	No	
Outcomes of publication bias and sensitivity analysis		24.1	Provide results for the assessments of the risks of bias (e.g. Egger's regression, funnel plots)	Yes	
		24.2	Provide results for the robustness of the review's results (e.g. subgroup analyses, meta-regression of study quality, results from alternative methods of analysis, and temporal trends)	Yes	
Discussion		25.1	Summarise the main findings in terms of the magnitude of effect	Yes	
		25.2	Summarise the main findings in terms of the precision of effects (e.g. size of confidence intervals, statistical significance)	Yes	
		25.3	Summarise the main findings in terms of their heterogeneity	Yes	
		25.4	Summarise the main findings in terms of their biological/practical relevance	Yes	
		25.5	Compare results with previous reviews on the topic, if available	Yes	

Checklist item	Item score	Sub-item number	Sub-item	Reported by authors?	Notes
		25.6	Consider limitations and their influence on the generality of conclusions, such as gaps in the available evidence (e.g. taxonomic and geographical research biases)	Yes	
Contributions and funding		26.1	Provide names, affiliations, and funding sources of all co-authors	Yes	
		26.2	List the contributions of each co-author	Yes	
		26.3	Provide contact details for the corresponding author	Yes	
		26.4	Disclose any conflicts of interest	Yes	
References		27.1	Provide a reference list of all studies included in the systematic review or meta-analysis	Yes	
		27.2	List included studies as referenced sources (e.g. rather than listing them in a table or supplement)	Yes	