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The ecological importance of intraspecific variation

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Category	Description	
Introduction		referenced
Objectives/ research question(s)	Explicit statement of objectives, research questions and scope of study	pp.3-4
Methods		
Scope of study	Clearly identify scope of the study (dates, locations, taxa, type of data)	pp.10-12, Fig.1a, Tab.1
Information sources	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date(s) searched	pp.10-12, Fig.S1
Preregistered protocol	Indicate if a review protocol exists and where it can be accessed (optional)	N/A
Search criteria	Complete and explicit database search terms including all logical connectors and operators sufficient to exactly duplicate search. Also, indicate all other sources of data (e.g. literature cited sections of published reviews, personal unpublished data, collaborative group project data available from cited sources or online).	pp.10-11, Fig.S1
Study inclusion/ exclusion criteria	Document the specific criteria and methods for inclusion of studies at each stage of the selection process	Fig.S1
Duplication of search and selection	State how searches were conducted and coded; did two independent observers conduct searches and code results (desirable if possible)?	pp.10-11 Fig.S1
Effect size measures	State and justify the measures of effect size used (e.g., Z-transform of correlation coefficient, standardized mean difference). If formulas for effect size and its sampling variance are not published elsewhere, provide sufficient information to calculate them and evaluate how they are used in analyses; describe their statistical properties and how the effect sizes were calculated or derived.	pp.12-13
Data extraction process	Describe how data were obtained from published or unpublished sources (e.g. figures digitized using cited software, correspondence with authors), and whether two or more independent observers duplicated data extraction	pp.10-11
Data collection and processing	List and explain what data were collected even if they were not included in the final analysis (e.g. taxa, latitude/longitude, biomass) and any assumptions, simplifications or transformations made	pp.11-12
Assessment of biases	Describe whether potential biases were assessed and if so, how this was done (e.g. publication bias, missing data or selective reporting within studies). Assessment could be formal quantitative analysis or narrative.	pp.14
Weighting	Describe methods of weighting studies (e.g. inverse variance weighting) or statistical justification for not weighting	pp.13
Analysis	Delineate general approach to synthesis used (fixed-effect model, random-effects model or hierarchical/multilevel models), specific details of analyses (e.g., model used in meta-regressions with complete description of covariates, including methods used for calculating random effect variance), and assessment of assumptions of the analyses. Describe model selection if appropriate, and also types of analysis for publication bias and missing data, if applicable. Identify software used for all analyses	pp.13
Code	Describe full model specification and provide code or fully specify choices if software package with GUI is used (with citation)	pp.13
Non-independence among study outcomes	Discuss possible sources of non-independence within and among studies and how they were handled (e.g., phylogenetic, time series, multiple analyses of the same database, same control group for multiple comparisons).	pp.13
Other aspects of analyses	Describe how missing data were handled, full description of imputation methods if used, sensitivity analysis if used, etc.	N/A
Results		
Results of study selection process	Provide numbers of studies screened and selected/excluded at each stage (with brief explanation, e.g., 'wrong field', 'non-experimental') and number of studies/cases included in final analysis, using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)-like flowchart (www.prisma-statement.org)	Fig.S1
Quantitative synthesis results	Summarize and synthesize results across studies, including central tendencies, regression coefficients and heterogeneity as appropriate, specifying confidence/credible intervals (e.g. 95%, 99%) around means and how they were calculated, number of studies included for each meta-analysis or component (e.g. subgroups), evaluation of heterogeneity with statistics reported (e.g. Q , I^2), results of sensitivity or other analyses (e.g., excluding a study with a large effect size) or other analyses (e.g., analysis for detecting publication bias and/or correcting for publication bias).	pp.5-6, 14
Qualitative synthesis results	Summarize and synthesize results across studies; for systematic reviews without meta-analyses, present full categorization and evaluation of the literature and identify areas in which information (original research or published outcomes) is missing	Fig.2, Fig.3
Discussion		
Main findings	Evaluate and interpret the strength of evidence for the outcomes tested, including heterogeneity and contribution of covariates	pp.7-8
Possible biases	Evaluate and interpret potential sources and consequences of bias (e.g. publication bias, research bias in choice of systems studied)	pp.9

Table S1: TOP (Transparency and Openness Promotion) checklist for meta-analyses in ecology and evolutionary biology from Nosek, B. A. *et al.* (2015). *Science* **348**, 1422–1425

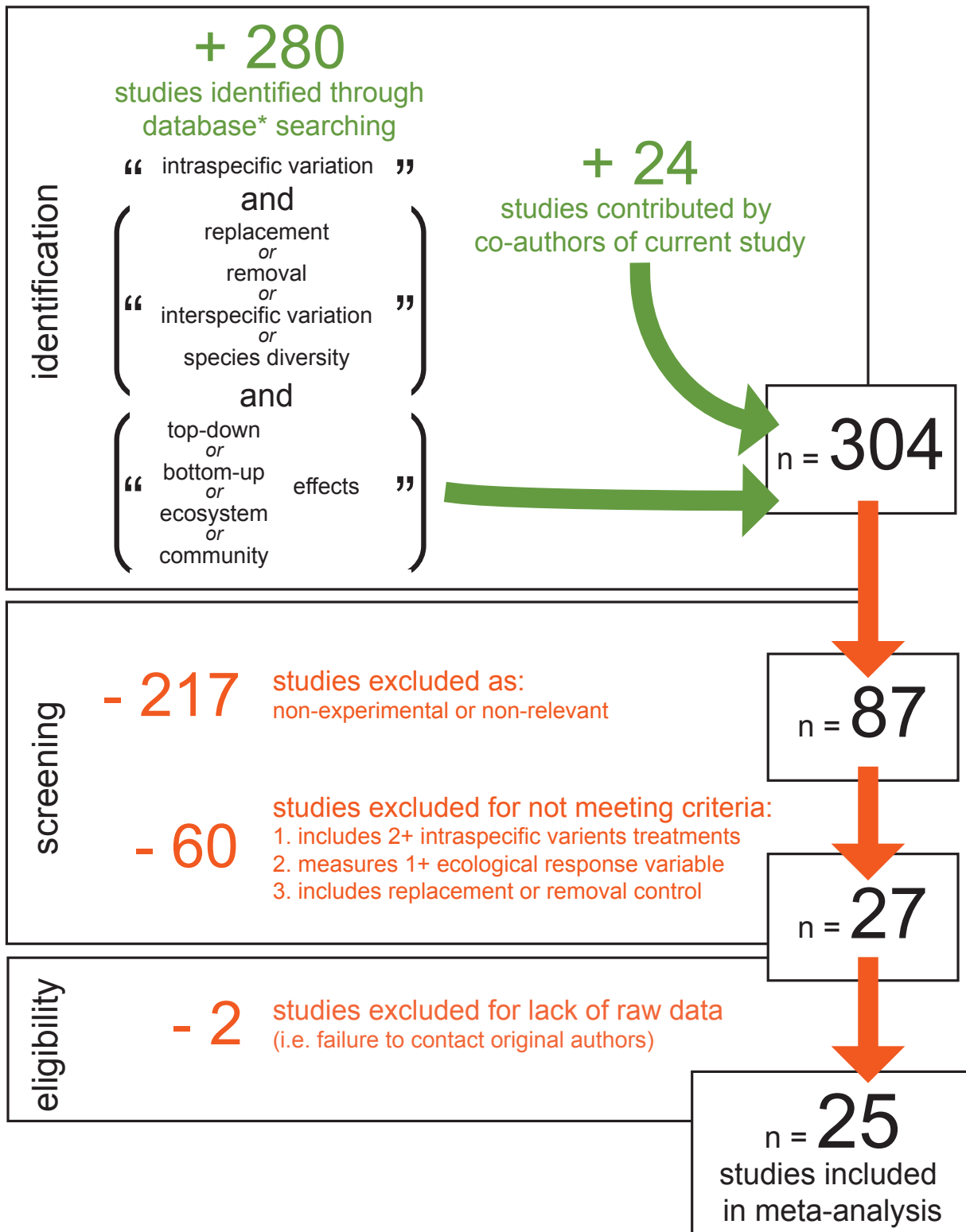


Figure S1: Flowchart showing selection process for studies included in the meta-analysis. Chart format is based on Moher D *et al.* (2009) *PLoS Med* 6(7): e1000097.

*Boolean search terms for Web of Science search shown