**Codebook and Metadata for the Final Data. Raw data descriptors for the meta-analysis.**

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| **Column Name** | **Description** |
| Effect\_Size\_ID | Unique identifiers for individual effect sizes. |
| Study\_ID | Unique identifiers for each paper. |
| Species\_ID | Identifier for each species that a study investigates. |
| Treatment\_ID | Identifier for each treatment that a study imposes. |
| Trait\_ID | Identifier for each biological response a study measures. |
| First\_Author | Initials and surname for the first author of the study. |
| Title | Title of the study. |
| Year | Year of publication. |
| Year\_Z | Z-transformed year of publication. |
| Journal | Name of the journal the study was published. |
| Journal\_Impact\_Factor-2021 | Journal impact factor as of 2021 (most recent records at time of data collection). |
| Kingdom | Kingdom for each species that a study investigates. |
| Phylum | Phylum for each species that a study investigates. |
| Class | Class for each species that a study investigates. |
| Order | Order for each species that a study investigates. |
| Family | Family for each species that a study investigates. |
| Scientific\_Name | Binomial nomenclature for species. |
| Ecosystem | Ecosystem the species is naturally observed (Aquatic and Terrestrial). Amphibians considered aquatic. |
| Plasticity\_Mechanism | Exposure type of the temperature treatments (Acclimation or Development). |
| Developmental\_Exposure\_Time\_Category | Categorisation of Developmental Exposure Time. |
| Developmental\_Exposure\_Time | The period of exposure for treatments imposed during development. |
| Acclimation\_Exposure\_Time | The duration of exposure for acclimation treatments. |
| Exposure\_Units | Units of Acclimation Exposure Time (Days). |
| T1\_constant | Temperature of the constant temperature treatments. |
| T2\_mean | Mean temperature of the fluctuating temperature treatments. |
| T2\_Magnitude | Magnitudes converted to the range (2 x amplitude) of the fluctuating temperature treatments. |
| Fluctuation\_Category | Type of fluctuations imposed (Sinusoidal, Alternating, Stepwise, Stochastic). |
| Fluctuation\_Period | Period of one fluctuation oscillation. |
| Fluctuation\_Unit | Units of Fluctuation Period (Days). |
| Number\_Of\_Fluctuations | Acclimation Exposure Time/Fluctuation Period for acclimation treatments. |
| Acclimation\_Life-History\_Stage | Life-history stage of organisms for acclimation treatments. |
| Acclimation\_Life-History\_Stage\_Category | Categorisation of Acclimation Life-history Stages. |
| Trait\_Category | Categorisation of Measurements. |
| Measurement | Biological responses measured following treatment exposure. |
| Trait\_Unit | Units for measurements. |
| Performance\_Curve | Whether a performance curve was recorded in the study (Yes, No). |
| Complex\_Design | Whether a comparison between constant and fluctuating treatments was made at multiple temperatures (Yes, No). |
| Species\_Overlap | Identifier for effect sizes that use the same species within a study |
| Animal\_Overlap\_T1 | Identifier for effect sizes where the constant treatment was conducted on the same animals within a study. |
| Animal\_Overlap\_T2 | Identifier for effect sizes where the fluctuating treatment was conducted on the same animals within a study. |
| Animal\_Overlap | Identifier for effect sizes that measure biological responses on the same animal within a study. |
| Animal\_Code | Study ID: Species Overlap: Animal Overlap T1: Animal Overlap T2: Animal Overlap. |
| Shared\_Animal\_Number | Unique identifier for shared animal codes across effect sizes. |
| Shared\_Control | Identifier for effect sizes that use the same control treatment within a study. |
| Shared\_Control\_Code | Study ID: Species Overlap: Shared Control: Trait ID. |
| Shared\_Control\_Number | Unique identifier for shared control codes across effect sizes. |
| n\_R1-1 | Sample size of the control treatment. |
| R1-1\_Mean | Mean response of the control treatment. |
| R1-1\_SD\_Final | Standard deviation of the control treatment. |
| n\_R2-2 | Sample size of the fluctuating treatment. |
| R2-2\_Mean | Mean response of the fluctuating treatment. |
| R2-2\_SD\_Final | Standard deviation of the fluctuating treatment. |
| Percentage\_Transformation | Whether the recorded mean was a percentage (Yes, No). |
| Proportion\_Transformation | Whether the recorded mean was a proportion (Yes, No). |
| In\_Transformation | Whether the recorded mean was a natural log (Yes, No). |
| R1-1\_Mean\_Transformed | Control mean transformed for percentages, proportions or natural logs, and with a constant of 0.5 added. |
| R1-1\_Mean\_Add | Untransformed control mean with a constant 0.5 added. |
| R1-1\_SD\_Final\_Transformed | Control standard deviation transformed for percentages, proportions or natural logs, and with a constant 0.5 added. |
| R1-1\_SD\_Final\_Add | Untransformed control standard deviation with a constant 0.5 added. |
| R2-2\_Mean\_Transformed | Fluctuating mean transformed for percentages, proportions or natural logs, and with a constant of 0.5 added. |
| R2-2\_Mean\_Add | Untransformed fluctuating mean with a constant 0.5 added. |
| R2-2\_SD\_Final\_Transformed | Fluctuating standard deviation transformed for percentages, proportions or natural logs, and with a constant 0.5 added. |
| R2-2\_SD\_Final\_Add | Untransformed fluctuating standard deviation with a constant 0.5 added. |
| InRR | Log response ratio. |
| v\_InRR | Log response ratio sampling variance. |
| Precision | Z-transformed inverse of log response ratio sampling variance. |
| InCVR | Log coefficient of variation ratio. |
| v\_InCVR | Log coefficient of variation ratio sampling variance. |
| Precision\_CVR | Z-transformed inverse of log coefficient of variation ratio sampling variance. |
| Reciprocal\_Transformation | Whether biological responses need to be multiplied by -1 so that a negative result represents a negative impact (Yes, No). |
| InRR\_Transformed | Log response ratio transformed to account for reciprocal transformation. |
| InRR\_Untransformed | Log response ratio calculated from untransformed data. |
| v\_InRR\_Untransformed | Log response ratio sampling variance calculated from untransformed data. |
| InCVR\_Untransformed | Log coefficient of variation ratio calculated from untransformed data. |
| v\_InCVR\_Untransformed | Log coefficient of variation ratio sampling variance calculated from untransformed data. |
| SMD | Hedge's g. |
| v\_SMD | Hedge's g sampling variance. |