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| **Data** | **Description** |
| initials | Initials of the researcher who performed the data extraction. |
| es\_ID | Unique identifier for each effect size. |
| study\_ID | Unique identifier for each study. |
| species\_ID | Unique identifier for each species. |
| population\_ID | Unique identifier for each population (collection site). In such case, we refer to distinctions between populations made by the authors; or consider animals taken from the same location or born from the same parents as the same population. |
| family\_ID | Unique identifier for the family-level non-independence. Animals originating from the same clutch, or the same parents were assigned the same family\_ID. When not presented, animals from the same population were considered the same family. |
| shared\_trt\_ID | Unique identifier for comparisons involving the same data (e.g., comparisons between 15-17°C, 17-20°C and 20-23°C acclimation treatments). |
| cohort\_ID | Unique identifier for each cohort. By “cohort”, we designate independent groups of animals. In some cases, different data can be estimated on the same cohorts of animals (e.g., by using different endpoints). We, however, differentiate this identifier from shared\_trt\_ID, meaning that treatments re-used in multiple comparisons were not necessarily considered the same cohorts to reduce the overlap between these factors. |
| note\_ID | General notes about the columns above. |
| data\_source | Where the heat tolerance data is reported (e.g., text, figure, published data). |
| data\_url | If the data was published, the url link to the repository containing the data. |
| fig\_file\_name | If the data is presented in a figure, the name of the file containing the figure. |
| data\_type | Whether the data was published or obtained from authors. Factor with two levels: published or obtained. |
| data\_file\_name | Name of the published (or obtained) data file. |
| peer\_reviewed | Whether the publication was peer-reviewed (i.e. published in a journal) or not (i.e. thesis). Factor with two levels: “peer-reviewed” or “not peer-reviewed”. |
| ref | Abbreviated reference for the study. References are listed in the *Data sources* section of the manuscript. |
| title | Title of the paper. |
| pub\_year | Publication year of the paper. |
| journal | Journal the paper was published in. If the study is a thesis, indicate “thesis”. |
| thesis\_chapter | If the study is a thesis, the chapter included. |
| doi | DOI of the paper. |
| citation | Citation for the paper. |
| phylum | Phylum. |
| class | Class. |
| order | Order. |
| family | Family. |
| genus | Genus. |
| species | Species. |
| genus\_species | Species name. |
| age\_maturity | Age at sexual maturity. ADW: Animal Diversity Web; AnAge: Animal Ageing and Longevity Database. |
| ref\_age\_maturity | Reference source for the age at sexual maturity. References are in the *Data sources* section of the manuscript. |
| habitat | The habitat. Factor with two levels: “terrestrial” or “aquatic”. For animals inhabiting different habitats during their life cycle, we used the habitat the life stage was inhabiting when tested for heat tolerance. |
| taxonomic\_group | The taxonomic group of the species. Factor with five levels: “reptile”, “fish”, “amphibian”, “terrestrial invertebrate” and “aquatic invertebrate” (following Morley et al., 2019). |
| reproduction\_mode | Whether the embryos were exposed to their thermal environment independently (oviparous), or through their parents (viviparous). Factor with two levels: “oviparous” or “viviparous”. External fertilizers were considered “oviparous”, mouth-breeders “viviparous”, and ovoviviparous animals were considered “viviparous”. |
| life\_stage\_manip | The life stage subjected to manipulations of developmental temperatures. Factor with three levels: “embryo”, “juvenile” or “embryo\_and\_juvenile”. |
| life\_stage\_tested | The life stage assessed for heat tolerance. Factor with three levels: “embryo”, “juvenile”, or “adult”. |
| brought\_common\_temp | Whether animals were brought to a common garden temperature after manipulating developmental temperature. Factor with two levels: “yes” or “no”. |
| mobility\_life\_stage\_manip | The mobility status of the life stage subjected to manipulations of developmental temperatures. Factor with two levels: “mobile” or “immobile”. Embryos and pupae were considered “immobile”. |
| time\_common\_temp | If animals were brought to a common temperature, the time (days) animals were maintained at this common temperature until tested for heat tolerance. |
| common\_temp | The mean temperature of the common garden temperature (°C). |
| exp\_design | The type of experimental design, as described in Fig. XXX. |
| origin\_hatching | Origin of the studied animals (where they hatched). |
| latitude | Latitude from which animals were collected (decimal degrees). If animals were collected at various latitudes and the data is not reported separately for each population (or the raw data is not published), we took the mean of the different latitudes reported. |
| longitude | Longitude from which animals were collected (decimal degrees). If animals were collected at various longitudes and the data is not reported separately for each population (or the raw data is not published), then we took the mean of the different longitude reported. |
| elevation | Elevation from which animals were collected (meters above sea level), as reported in the study. If not reported, it was estimated from Google Earth. |
| season | Season from which animals were collected. Factor with four levels: “spring”, “summer”, “fall” or “winter”. If the sampling spanned two seasons, we took the season spanning most of the sampling period. |
| year | Year from which the animals were collected. If the sampling spanned two years, we took the year spanning most of the sampling period. |
| body\_length | Mean body length of the animals (mm). |
| body\_mass | Mean body mass of the animals (g). |
| age\_tested | The age (days-post-hatching) at which the animals were tested for heat tolerance. |
| sex | The sex of the animals. Factor with four levels: “male”, “female”, “mixed” or “unknown”. The “mixed” category was used when authors clearly stipulate that they mixed males and females. |
| housing\_temp | The mean temperature of laboratory housing prior to acclimation (°C). |
| incubation\_independent | Whether the temperatures of incubation compared are independent from housing\_temp. |
| metric | The metric used to assess thermal tolerance. Factor with two levels: “CTmax” or “LT50”. |
| endpoint | The endpoint that was used for assessing heat tolerance (loss of righting response, loss of equilibrium, onset of spasms, death, other). Factor with four levels: “LRR”, “LOE”, “OS”, “death”, “other”. If “other”, indicate details in “notes\_moderators”. |
| acc\_temp\_low | Mean temperature of acclimation of the experimental group acclimated to the lower temperature (°C). |
| acc\_temp\_high | Mean temperature of acclimation of the experimental group acclimated to the higher temperature (°C). |
| acc\_temp\_var | Variability in acclimation temperature expressed as the standard deviation around the mean acclimation temperature (°C). |
| is\_acc\_temp\_fluctuating | Whether the acclimation temperature is highly variable (± > 0.5°C) or relatively constant (± ≤ 0.5°C). Factor with two levels: “fluctuating” or “constant”. When not reported, the temperature was considered “constant”. |
| acc\_duration | Duration of acclimation (days). |
| ramping | If the metric was CTmax, the ramping (heating) rate applied to the animals (°C/min). |
| set\_time | If the metric was LT50, the time the animals spent at the test temperature (the time after which the animals the survival was assessed, in hours). If the authors report e.g. 96h-LT50, then set\_time would be 96. |
| n\_test\_temp | If the metric was LT50, the number of temperatures tested to assess heat tolerance. E.g., if authors measured survival at 36, 38, 39, and 41°C, n\_test\_temp = 4. |
| n\_replicates\_per\_temp | If the metric was LT50, the number of replicates used at each test temperatures. E.g., if authors used 5 test temperatures and measured the survival of three independent cohorts of animals at each test temperature, then n\_replicates\_per\_temp = 3. |
| n\_animals\_per\_replicate | If the metric was LT50, the number of animals in each replicate. |
| humidity | Humidity at which animals were acclimated or tested (% relative humidity). If the humidity during the acclimation and the test were different, priority was given to the conditions of the test. |
| oxygen | Oxygen at which animals were acclimated or tested (mg.L-1 dissolved oxygen). If the oxygen concentration during the acclimation and the test were different, priority was given to the conditions of the test. |
| salinity | Salinity at which animals were acclimated or tested (parts per thousands). If the salinity during the acclimation and the test were different, priority was given to the conditions of the test. |
| pH | pH at which animals were acclimated. If the pH during the acclimation and the test were different, priority was given to the conditions of the test. |
| photoperiod | Photoperiod at which animals were acclimated (number of hours of light per day) |
| gravidity | Gravidity status of females. Factor with four levels: “non-gravid”, “gravid” (egg-bearing), “spent” (recently spawned), or “mixed”. |
| starved | Whether the animals were starved or fed before the heat tolerance assessment. Factor with two levels: “starved” or “fed”. |
| minor\_concern | Potential minor concerns regarding the data (e.g. approximate latitude). A concern is considered “minor” when it may influence the moderator data or slightly influence the heat tolerance estimates. |
| major\_concern | Potential major concerns about the data (e.g. heat tolerance measured in a peculiar way). A concern was considered major when it may significantly influence the heat tolerance estimate. |
| notes\_moderators | Comments and details about the moderator variables. |
| mean\_HT\_low | Mean heat tolerance of the animals acclimated to the lower temperature (°C). |
| sd\_HT\_low | Standard deviation or standard error of mean\_HT\_low (see error\_type). |
| n\_HT\_low | Sample size of mean\_HT\_low. For LT50 data, the sample size was taken as n\_test\_temp \* n\_replicates\_per\_temp. |
| mean\_HT\_high | Mean heat tolerance of the animals acclimated to the higher temperature (°C). |
| sd\_HT\_high | Standard deviation of mean\_HT\_high (see error type). |
| n\_HT\_high | Sample size of mean\_HT\_high. For LT50 data, the sample size was taken as n\_test\_temp \* n\_replicates\_per\_temp. |
| error\_type | Whether the measure of dispersion of sd\_HT\_low and sd\_HT\_high is standard deviation (sd) or standard error (se). |
| notes\_es | Comments and details about the heat tolerance data. |
| exclude | Whether the observation should be excluded. Were excluded only the observations for which the standard error was missing and could not be imputed. |
| n\_trt | The number of cases the observation shares the same shared\_trt\_ID with other observations. |
| n\_cohort | The number of cases the observation shares the same cohort\_ID with other observations. |
| within\_study\_mean\_low | The mean heat tolerance at the lowest acclimation temperature (mean\_HT\_low) for a given study. |
| within\_study\_mean\_high | The mean heat tolerance at the highest acclimation temperature (mean\_HT\_high) for a given study. |
| within\_study\_sd\_low | The mean standard deviation at the lowest acclimation temperature (sd\_HT\_low) for a given study. |
| within\_study\_sd\_high | The mean standard deviation at the lowest acclimation temperature (sd\_HT\_high) for a given study. |
| between\_study\_mean\_low | The mean heat tolerance at the lowest acclimation temperature (mean\_HT\_low) across studies. |
| between\_study\_mean\_high | The mean heat tolerance at the highest acclimation temperature (mean\_HT\_high) across studies. |
| between\_study\_sd\_low | The mean standard deviation at the lowest acclimation temperature (sd\_HT\_low) across studies. |
| between\_study\_sd\_high | The mean standard deviation at the lowest acclimation temperature (sd\_HT\_high) across studies. |
| imputed | Whether the standard deviation was presented or calculated from information presented in the original study (“no”) or imputed (“yes”). |
| imputed\_sd\_low | Imputed or original standard deviation at the lowest acclimation temperature. |
| imputed\_sd\_high | Imputed or original standard deviation at the highest acclimation temperature. |
| dARR | Developmental acclimation response ratio. Calculated using Equation 1. |
| Var\_dARR | Sampling variance of dARR. Calculated using Equations 2, 3, 4, or 5; depending on the nature and dependence of the data (see main text for details). |
| precision | Precision (inverse of the standard error) of dARR estimates. |
| is\_concern | Whether the data has a risk of bias. Factor with two levels: “yes” or “no”. |