Metadata for **MasterMonarchOEdata.csv** to accompany

Parasite dynamics in North American monarchs predicted by host density and seasonal migratory culling

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A. Data set identity: North American monarch infection data (MasterMonarchOEdata.csv)

1. Format: Comma-separated values text files, not compressed.

B. Data set description: Aggregated infection data on the North American monarch butterfly (*Danaus plexippus*) by year (from 1968 to 2019), subpopulation, and migration phase along with population size estimates and environmental variables.

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**Table 1:** Variable definitions for MasterMonarchOEdata.csv.

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| **Variable** | **Definition** |
| Year | Year of monarch infection sampling. For sampling at overwintering sites from January to March, we subtracted 1 to associate these samples with the year during which migrating and summer breeding monarchs were sampled. |
| Subpopulation | Subpopulation of the North American monarchs (Eastern or Western). Monarchs sampled east of the Rocky Mountain range are Eastern and those sampled west of the Rocky Mountain range are Western. |
| MigrationPhase | Timing of sampling in relation to monarch’s annual cycle: summer breeding, migrating, or overwintering |
| TotalSampledInf | Total number of samples for proportion of heavily infected monarchs |
| TotalSampledCont | Total number of samples for proportion of contaminated monarchs |
| Contaminated | Number of contaminated monarchs |
| Infected | Number of heavily infected monarchs |
| PropInfected | Proportion of heavily infected monarchs |
| PropCont | Proportion of contaminated monarchs |
| NDVI | Normalized difference vegetation index |
| SpringTEMP | Average spring temperature C for the given region |
| SummerTEMP | Average summer temperature C for the given region |
| BreedLength | Cumulative number of days for which average temperature was greater than 12°C between April-October for a given region |
| NABA | North American Butterfly Association monarch abundance estimate |
| OverwintPopEst | Estimate of overwintering monarch population size in Mexico (for Eastern monarchs) and in California (for western monarchs) |
| DataSubset | Subset of data: main or St. Marks migrating |