Metadata for

**Hummingbirds budget energy flexibly in response to changing resources**

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**Introduction**

This metadata describes and explains the data and methods that accompany the hummingbird torpor and nighttime energy expenditure study conducted June 2013 – August 2014. The objectives of the study were to measure the parameters of torpor use across either hummingbird species. This study was performed at three sites in the Patagonia and Chiricahua Mountains in south-eastern Arizona, as well as at two sites in the mid-elevation cloud forests of the Ecuadorian Andes.

**Dataset file**

**Identity:** DLW\_TableS1\_final.csv

**Size:** 113 records, not including header row, 15 kilobytes.

**Format and storage mode:** comma delimited

**Header information:** The first row of the file contains the variable names. See below for detailed descriptions of the column contents

**Alphanumeric attributes:** Mixed

**Special characters/fields:** If no information is available for a given record, or if a value is not appropriate, this is indicated by NA. 0’s indicate true zero.

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Variable description** | **Storage type** | **Variable definition** |
| SourceFile | Source file or source in the literature | Character | NA |
| ID | Sample ID | Character | NA |
| Lit\_data | Source of the data, if literature or this study |  | Data\_2016 = 2016 field season  Data = 2013 or 2014 field season  Lit = Literature |
| Site | Local site or group of sites that the data were collected at | Character | SL = Santa Lucia, Ecuador  MQ = Maquipucuna, Ecuador  ELCO = El Coronado, AZ, USA  SWRS = Southwestern Research Station, AZ, USA  HC = Harshaw Creek, AZ, USA  SC = Sonoita Creek, AZ, USA  CR = Costa Rica  AZ = Arizona, USA  CH = Chile |
| Big\_site | Bigger region that the sites were in; to then classify temperate vs. tropical with | Character | EC = Ecuador  AZ = Arizona, USA  CR = Costa Rica  CH = Chile |
| Species | Species code (first two letters of genus and first two letters of species names) | Character | AGCO = *Aglaiocercus coelestis*  AMTZ = *Amazilia tzacatl*  ARAL = *Archilocus colubris*  CAAN = *Calypte anna*  CHUR = *Chalybura urochyrsia*  CYLA= *Cynanthus latirostris*  EUFU = *Eugenes fulgens*  FLME = *Florisuga mellivora*  HEIM = *Heliodoxa imperatrix*  HEJA = *Heliodoxa jacula*  HERU = *Heliodoxa rubinoides*  LACL = *Lampornis clemenciae*  PAGI = *Patagona gigas*  PHYA = *Phaethornis yaruqui*  THCO = *Thalurania colombica colombica*  THFA = *Thalurania fannyi*  URBE = *Urosticte benjamini* |
| Sex | Sex of the individual | Character | M = Male  F = Female  U = Unknown  M\_F = Combination of male and female data |
| Mass\_g | Mass in grams used for further calculations (or capture mass) | Float | NA |
| Release\_mass | Mass at the time the bird was released, in grams | Float | NA = measurement was missing; excluded from plotting and analyses |
| dose\_ml | Dose of doubly labeled water in mL | Float | NA = measurement was missing; excluded from plotting and analyses |
| dose\_g | Dose of doubly labeled water in grams | Float | NA = measurement was missing; excluded from plotting and analyses |
| Co2\_produc\_mol | Moles of CO2 produced, total in measurement period | Float | NA = measurement was missing; excluded from plotting and analyses |
| Co2\_produc\_ml\_hr | mL of CO2 produced per hour | Float | NA = measurement was missing; excluded from plotting and analyses |
| Co2\_produc\_ml\_hrg | mL of CO2 produced per hour, per gram of the bird (i.e. Co2\_produc\_ml\_hr divided by the Mass\_g column) | Float | NA = measurement was missing; excluded from plotting and analyses |
| kJ\_day | CO2 production converted to kiloJoules of energy consumed per day | Float | NA |
| kJ\_dayg | kiloJoules of energy consumed per day, per gram of the bird (i.e. kJ\_day divided by Mass\_g) | Float | NA |
| Comments | Any comments either on the DLW measure or the analyses. | Character | NA |