

This Cornelsen_etal_2021_readme.pdf file was generated on 13-10-2021 by Kate A. Cornelsen

GENERAL INFORMATION

1. Title of Dataset: Data for: Telemetry tails: a practical method for attaching animal-borne devices to small vertebrates in the field

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4. Date of data collection:

09-06-2017 to 20-04-2021 (non-continuous as described in associated paper)

5. Locations of data collection:

(A) Arid Recovery Reserve (**ARR**) (30°23'S 136°54'E), South Australia, Australia
(B) Currawinya National Park (**CNP**) (28°50'S, 144°29'E), Queensland, Australia
(C) Taronga Western Plains Zoo (**TWPZ**) (32°17'S 148°35'E), New South Wales, Australia
(D) Taronga Zoo Sydney (33°50'37"S 151°14'36"E) and Sydney Harbour National Park (**TZS**) (33°51'05"S 151°16'05"E), New South Wales, Australia.

SHARING/ACCESS INFORMATION

1. Licenses/restrictions placed on the data:

Appropriate citation is required (as given below), and the corresponding author must be notified via the above email for reuse of this data.

2. Was data derived from another source?

Data from ARR was sourced from Ross *et al.* (2019), doi:
<https://doi.org/10.5061/dryad.gv7827s>

Some of the raw weather data was sourced from the Bureau of Meteorology (2021), 'Climate Data Online'. Available at: <http://www.bom.gov.au/climate/data>

3. Recommended citation for this dataset:

Cornelsen, K. A., Arkinstall, C. M., van Weenen, J., Ross, A. K., Lawes, J. C., Moseby, K. E., Elphinstone, A., Jordan, N. R. (2021). Data from: Telemetry tails: a practical method for attaching animal-borne devices to small vertebrates in the field, Dryad, Dataset, <https://doi.org/10.5061/dryad.vq83bk3sm>

DATA & FILE OVERVIEW

1. File Structure:

```
Cornelsen_etal_2021_Tailattach_Dataset.zip
| - Data
| | -Cornelsen_etal_2021_captures.csv
| | -Cornelsen_etal_2021_envttnd.csv
| | -Cornelsen_etal_2021_weather.csv
| | -Cornelsen_etal_2021_wt.csv
```

Cornelsen_etal_2021.mp4

Cornelsen_etal_2021_Supplementary_Code.rmd

2. Data Description:

Cornelsen_etal_2021_captures.csv - contains all information regarding animal captures and recaptures at sites where capture data is available (ARR, TWPZ and TZS). Each row corresponds to an independent capture or attachment/reattachment event for animals (animal.ID) of known sex (M,F). If the device naturally dropped from the tail before animal recapture the date.dropped is indicated. The date.removed is provided instead when devices did not naturally drop, and were manually removed from the animals after recapture. As invasive predators were present within the fenced area at ARR (Ross *et al.* 2019) some animals were predated on, and their date of death is indicated. Some devices were still attached up to the end of the ARR study (40 days) and so attachment longevity was not recorded (indicated as 'NA'). Some animals at TZS were not recaptured (n = 2) and some devices at TWPZ (n = 5) were never recovered and attachment longevity is unknown (indicated as 'NA'). The type of device attached (either very-high frequency (VHF) transmitters only; VHF, or bundled global positioning system (GPS) sensors and VHF transmitters; VHF/GPS) is indicated for each attachment event. days.removed or date animal was recaptured was used to calculate the recapture rate for sites with multiple reattachments (TWPZ and TZS) in the associated paper.

Cornelsen_etal_2021_envttnd.csv - contains summarised weather data (mean daily maximums and minimums in temperature (°C), mean rainfall (mm), and rainfall frequency (number of days with rain over total days attached)) and time to natural detachment (TTND) of devices. Rainfall frequency was adjusted (rain.freq.adj) to account from some days (n=2) where weather data was missing. Time to natural detachment was calculated by subtracting the date the device was attached from the date the device dropped (inclusive of the day attached and day dropped). Each row corresponds to one attachment that naturally detached from an animal's tail (i.e. was not manually removed).

Cornelsen_etal_2021_captures.csv - contains info on longevity for devices that were manually removed). The site (TWPZ, ARR or TZS), animal ID, sex (M,F), device type attached (VHF or VHF/GPS), method of tail-mount attachment used (either the method described for long-nosed bandicoots (*Perameles nasuta*); B or greater bilbies (*Macrotis lagotis*); A), and the type of glue used to seal the attachment (superglue only; SG or superglue and 90 sec Araldite; SG/AR) is provided. Data is used for attachment longevity analyses described in the associated paper.

Cornelsen_etal_2021_weather.csv - contains raw daily weather data (daily maximums and minimums in temperature (°C), daily rainfall (mm), and days with moisture (Y/N)) obtained from the Bureau of Meteorology Australia (2021) and the TWPZ weather station (for TWPZ records). The index is used to delineate each attachment event so that mean values can be calculated over each attachment period. Each row corresponds to one day of device (either VHF or VHF/GPS) attachment. The local 'TWPZ Weather Station' was used for TWPZ data, but due to some malfunctions with the recording device there was missing data for some dates. The Bureau of Meteorology data was used to supplement missing data, where possible (indicated in comments at "BOM Rainfall Data" if only rainfall data was supplemented or 'BOM-65070' as the station.ID if all data was supplemented). Data were used to generate the weather variables present in the 'Cornelsen_etal_2021_envttnd.csv' dataset

Cornelsen_atal_2021_wt.csv - contains data on animal body weight (kg) for animals (animal.ID) of known sex (M,F), and at sites (TWPZ, ARR, TZS, CNP), and represents the average body weight (kg) for each animal over the number of available records. If different device types were attached (VHF and VHF/GPS) to animals, weight records were split by the type of device attached and averages were calculated separately. The weight of the device attached (kg) is also given. The data is used for calculating mean % ABD weight relative to male and female weights for each site, and the % ABD weight for the lightest and heaviest male and female (% range) across all species and sites (as in Table 1 in the associated paper).

Note: dates are all in the format DD-MM-YY

3. Software/Code Description

Cornelsen_etal_2021_Supplementary_Code.rmd - annotated R code is provided for replicating the attachment longevity analyses in the associated paper. You will need to have the 'Cornelsen_etal_2021_envttnd.csv' file in your working directory in order for the code to run.

4. Supplemental Information Description

Cornelsen_etal_2021.mp4 - this is footage of a tail-mount attachment being completed by Kate A. Cornelsen and Neil R. Jordan, in July, 2020. Footage was kindly supplied by the Taronga Conservation Society Australia and edited by Kate A. Cornelsen. Footage can be used to supplement the written method description for bilbies in the associated paper.