This TETZLAFF\_2022\_DATA\_README.txt file was generated on 2022-06-05 by Sasha Tetzlaff

GENERAL INFORMATION

1. Title of Dataset: Data from: Fission-Fusion Dynamics in the Social Networks of a North American Pitviper

2. Author Information

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3. Date of data collection: 2001–2015

4. Geographic location of data collection: Suizo Mountains (Pinal County, Arizona, USA)

5. Funding sources that supported the collection of the data: U.S. National Science Foundation, Arizona State University West, Arizona State University, Zoo Atlanta, Georgia State University, San Diego State University, The University of Tulsa, David L. Hardy Sr.

6. Recommended citation for this dataset: Tetzlaff, Sasha, et al. (2022), Data from: Fission-Fusion Dynamics in the Social Networks of a North American Pitviper, Dryad, Dataset, <https://doi.org/10.5061/dryad.3xsj3txjr>

DATA & FILE OVERVIEW

1. Description of dataset

These data were generated to investigate the social network structure, individual importance within each network (closeness centrality), and influence of genetic relatedness on social interactions for adult western diamondback rattlesnakes (*Crotalus atrox*).

2. File list:

File 1 Name: Tetzlaff et al. Rattlesnake Networks Data.xlsx

Tab 1 Name: Pairing Network

Tab 1 Description: Matrix data used to analyze pairing network structure

Tab 2 Name: Parentage Network

Tab 2 Description: Matrix data used to analyze parentage network structure

Tab 3 Name: Denning Network

Tab 3 Description: Matrix data used to analyze denning network structure

Tab 4 Name: CC Predictors

Tab 4 Description: Predictor variables for analyses of closeness centrality

Tab 5 Name: Relatedness Matrix

Tab 5 Description: Triangular matrix displaying pairwise relatedness values for individual adult *Crotalus atrox*

METHODLOGICAL INFORMATION

A single population of western diamondback rattlesnakes (*Crotalus atrox*) in the Suizo Mountains (Pinal County, Arizona, USA) was studied for 15 consecutive years from 2001 to 2015. Fifty adults (22 males 28 females) were tracked using radio-telemetry, but pertinent behavioral and genetic data for numerous additional snakes not radio-tracked were also included. Observations related to pairing behavior (associated with reproduction) of males and females were noted throughout the study. The number of offspring produced between unique pair combinations of males and females was determined using DNA-based information from previously published data (Clarke et al. 2014, PLoS ONE 9: e90616). It was also noted which snakes overwintered in the same communal shelter (den) each year of the study. Data for pairing behavior, parentage, denning, and pairwise values for genetic relatedness of all genotyped individuals were compiled into distinct matrices. Sex and spatial and morphometric data were used as predictors of closeness centrality.

DATA-SPECIFIC INFORMATION FOR: Tetzlaff et al. Rattlesnake Networks Data.xlsx Tab 1: Pairing Network

1. Number of variables: 1

2. Number of rows: 80

3. Number of columns: 57

4. Variable list:

Snake ID: Unique identifier for each snake

5. Missing data codes:

None

6. Abbreviations used:

None

7. Other relevant information:

Ids ending in “m” are males (rows) and Ids ending in “f” are females (columns). “1” or “0” indicates whether a male-female pair were observed engaging in pairing behavior or not, respectively.

DATA-SPECIFIC INFORMATION FOR: Tetzlaff et al. Rattlesnake Networks Data.xlsx Tab 2: Parentage Network

1. Number of variables: 1

2. Number of rows: 95

3. Number of columns: 57

4. Variable list:

Snake ID: Unique identifier for each snake

5. Missing data codes:

None

6. Abbreviations used:

None

7. Other relevant information:

Ids ending in “m” are males (rows) and Ids ending in “f” are females (columns). Values indicate the number of offspring produced by a male-female pair.

DATA-SPECIFIC INFORMATION FOR: Tetzlaff et al. Rattlesnake Networks Data.xlsx Tab 3: Denning Network

1. Number of variables: 1

2. Number of rows: 51

3. Number of columns: 51

4. Variable list

Snake ID: Unique identifier for each snake

5. Missing data codes:

None

6. Abbreviations used:

None

7. Other relevant information:

Ids ending in “m” are males and Ids ending in “f” are females. Values indicate the number of times a pair of snakes were observed sharing a winter shelter (den).

DATA-SPECIFIC INFORMATION FOR: Tetzlaff et al. Rattlesnake Networks Data.xlsx Tab 4: CC Predictors

1. Number of variables: 6

2. Number of rows: 137

3. Variable list:

ID: Unique identifier for each snake

Sex: male or female

SVL: snouth to vent length (mm) of each snake

Mass: Mass (g) of each snake

MCP\_ha: Annual home range size (hectares) of each snake

years\_monitored: Number of years each snake was monitored with radio-telemetry

4. Missing data codes:

None

5. Abbreviations used:

SVL; snout-vent length

MCP; minimum convex polygon

ha; hectares

NA; not applicable

6. Other relevant information:

Ids ending in “m” are males and Ids ending in “f” are females. “NA” for MCP\_ha indicates a snake was not radio-tracked.

DATA-SPECIFIC INFORMATION FOR: Tetzlaff et al. Rattlesnake Networks Data.xlsx Tab 5: Relatedness Matrix

1. Number of variables: 1

2. Number of rows: 51

3. Number of columns: 51

4. Variable list

Snake ID: Unique identifier for each snake

5. Missing data codes:

None

6. Abbreviations used:

NA; not available

7. Other relevant information:

Ids ending in “m” are males and Ids ending in “f” are females. Values represent pairwise genetic relatedness among individuals. “NA” indicates pairwise relatedness values were not available for a given pair of snakes.