Key to supplementary data and code for “Social dominance status is associated with differences in spatial cognitive flexibility in wild mountain chickadees”

**eth12720-sup-0001-Code.R**

Function used to extract displacement events.

Duplicated from: Evans JC, Devost I, Jones TB, Morand-Ferron J. 2018 Inferring dominance interactions from automatically recorded temporal data. Ethology 124, 188–195. (doi:10.1111/eth.12720)

**01\_DetectDisplacement.R**

Code to detect displacement events from timestream data, then calculate David’s scores and within-community rank.

**02\_Analysis.R**

Code for statistical analysis and generating figures.

**SingleFeederVisits\_19-20.csv**

**SingleFeederVisits\_20-21.csv**

Visits to single RFID feeders from each season.

Tag: unique identification code from a bird’s PIT tag

Elevation: which elevation the feeder was placed at; H (high) or L (low)

Location: ID of recording feeder

startTime: time bird arrived at feeder; ymd\_hms format.

endTime: time bird departed feeder; ymd\_hms format.

**Communities\_19-20.csv**

**Communities\_20-21.csv**

Community membership for birds in each season.

tag: unique identification code for each bird

elevation: which elevation the bird lives at; H (high) or L (low)

finalcommunity: code identifying community membership

**DisplacementEvents.csv**

Partial output from the first half of 01\_DetectDisplacement.R. Contains only within-group displacement events.

win: RFID tag of the winning bird

loss: RFID tag of the losing bird

date: Day of interaction

Site: feeder where interaction occurred

dt: POSIX time of interaction

group: community ID for both winners and losers

season: which season the interaction occurred in. (S19-20 or S20-21).

**Ranks\_CogScores.csv**

Within-community rankings for each bird, cognitive testing scores, and demographic information.

season: which season this entry is from (S19-20 or S20-21).

Tag: unique identification code for each bird

elevation: which elevation the bird lives at; H (high) or L (low)

group: community membership for each bird

arrayTested: location where cognitive testing occurred

DS: David’s Score, calculated from displacement events

normDS: normalized David’s Score, calculated from displacement events

rank: within-group rank, based on DS

ints: Number of displacement interactions the bird participated in

InitTrials: Number of trials the bird completed in the spatial learning and memory test.

InitScore\_Total: Mean number of location errors for all completed trials

InitScore\_20: Mean number of location errors for the first 20 trials

InitScore\_10: Mean number of location errors for the first 10 trials

InitScore\_5: Mean number of location errors for the first 5 trials

InitScore\_3: Mean number of location errors for the first 3 trials

RevTrials: Number of trials the bird completed in the reversal spatial learning test

RevScore\_Total: Mean number of location errors for all completed trials

RevScore\_20: Mean number of location errors for the first 20 trials

RevScore\_10: Mean number of location errors for the first 10 trials

RevScore\_5: Mean number of location errors for the first 5 trials

RevScore\_3: Mean number of location errors for the first 3 trials

age: Age class of bird (adult or juvenile)

sex: Sex of bird, if known

winglength: Length of longest primary feather at time of banding, in mm