

Supplementary Material

Habitat and Predator Influences on the Spatial Ecology of Nine-Banded Armadillos

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Table S1. Model selection results from single-species detection (p) and occupancy (ψ) analyses evaluating relative support for combinations of correlated variables to establish global models for nine-banded armadillos (*Dasypus novemcinctus*) in the Wichita Mountains Wildlife Refuge, Oklahoma, USA during May–August 2023, with models ranked by Akaike’s Information Criterion adjusted for small samples (AICc) and differences in AICc (ΔAICc , where $\Delta_i = \text{AICc}_i - \text{AICc}_{\min}$), and reported with number of parameters (K), Akaike weight (w_i), and deviance (Dev.).

Model Structure	K	AICc	ΔAICc	w_i	Dev.
<u>Detection</u>					
$p(\text{Effort} + \text{Temp} + \text{Prec})$	5	414.579	0.000	0.48	403.93
$p(\text{Effort} + \text{DOY} + \text{Prec})$	5	415.161	0.583	0.36	404.52
$p(\text{Effort} + \text{Temp} + \text{Temp}^2 + \text{Prec})$	6	416.831	2.252	0.16	403.92
<u>Occupancy</u>					
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Slop} + \text{DistCov})$	7	394.551	0.000	0.60	379.32
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Slop} + \text{DistCov})$	7	395.552	1.001	0.37	380.32
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Elev} + \text{DistCov})$	7	401.985	7.434	0.01	386.75
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Elev} + \text{DistCov})$	7	402.228	7.678	0.01	387.00
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Slop} + \% \text{For})$	7	409.058	14.507	0.00	393.83
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Slop} + \% \text{Cov})$	7	409.072	14.521	0.00	393.84
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Slop} + \% \text{For})$	7	409.966	15.415	0.00	394.74
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Slop} + \% \text{Cov})$	7	409.973	15.422	0.00	394.74
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Elev} + \% \text{For})$	7	411.189	16.638	0.00	395.96
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Elev} + \% \text{Cov})$	7	411.194	16.643	0.00	395.96
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Elev} + \% \text{For})$	7	411.234	16.683	0.00	396.00
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Elev} + \% \text{Cov})$	7	411.244	16.694	0.00	396.01

Notes: Occupancy was held constant at the intercept-only (i.e., null) model when modeling p ; Detection was held constant at the intercept-only model when modeling ψ ; Effort = measure of sampling effort during a survey period; Temp = mean daily minimum temperature; Prec = mean daily precipitation; DOY = day of year; RxB = Burned or not; DistW = Distance to water; DistRd = Distance to roads; DensRd = Road density; Slop = mean Slope; Elev = mean elevation; DistCov = Distance to cover >1-m tall; %Cov = Proportion of site with cover >1-m tall; %For = Proportion of site classified as forest.

Table S2. Model selection results from single-species detection (p) and space use (ψ) analyses evaluating relative support for combinations of correlated variables to establish global models for coyotes (*Canis latrans*) in the Wichita Mountains Wildlife Refuge, Oklahoma, USA during May–August 2023, with models ranked by Akaike’s Information Criterion adjusted for small samples (AICc) and differences in AICc (ΔAICc , where $\Delta_i = \text{AICc}_i - \text{AICc}_{\min}$), and reported with number of parameters (K), Akaike weight (w_i), and deviance (Dev.).

Model Structure	K	AICc	ΔAICc	w_i	Dev.
<u>Detection</u>					
$p(\text{Effort} + \text{Temp} + \text{Prec})$	5	442.097	0.000	0.58	431.45
$p(\text{Effort} + \text{DOY} + \text{Prec})$	5	442.754	0.658	0.42	432.11
<u>Space Use</u>					
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Elev} + \% \text{For})$	7	444.179	0.000	0.14	428.95
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Elev} + \% \text{Cov})$	7	444.184	0.005	0.14	428.95
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Elev} + \% \text{For})$	7	444.189	0.009	0.14	428.96
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Elev} + \% \text{Cov})$	7	444.193	0.014	0.14	428.96
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Elev} + \text{DistCov})$	7	444.821	0.642	0.10	429.59
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Elev} + \text{DistCov})$	7	444.834	0.655	0.10	429.60
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Slop} + \% \text{Cov})$	7	446.315	2.135	0.05	431.08
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Slop} + \% \text{For})$	7	446.319	2.140	0.05	431.09
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Slop} + \% \text{Cov})$	7	446.868	2.689	0.04	431.64
$\psi(\text{RxB} + \text{DistW} + \text{DistRd} + \text{Slop} + \% \text{For})$	7	446.878	2.698	0.04	431.65
$\psi(\text{RxB} + \text{DistW} + \text{DensRd} + \text{Slop} + \text{DistCov})$	7	447.528	3.348	0.03	432.30
$\psi(\text{RxB} + \text{DistW} + \text{DistRD} + \text{Slop} + \text{DistCov})$	7	448.167	3.988	0.02	432.94

Notes: Space use was held constant at the intercept-only (i.e., null) model when modeling p ; Detection was held constant at the intercept-only model when modeling ψ ; Effort = measure of sampling effort during a survey period; Temp = mean daily minimum temperature; Prec = mean daily precipitation; DOY = day of year; RxB = Burned or not; DistW = Distance to water; DistRd = Distance to roads; DensRd = Road density; Slop = mean Slope; Elev = mean elevation; DistCov = Distance to cover >1-m tall; %Cov = Proportion of site with cover >1-m tall; %For = Proportion of site classified as forest.