SUPPLEMENTAL INFORMATION

REPTILE HOME RANGES REVISITED: A CASE STUDY OF SPACE USE OF SONORAN DESERT TORTOISES (*GOPHERUS MORAFKAI*)

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APPENDIX A. Sampling of Sonoran Desert Tortoises (*Gopherus agassizii*) used to estimate movement and home ranges at Sugarloaf Mountain, Arizona. Cell entries indicate the number of observations, not including periods between the first and last records of hibernation. Tortoises with records consisting solely of opportunistic observations are indicated with an asterisk, and those that dispersed during the study are bolded. "Total" may include observations from partial years in 1996 or 2005.

Tortoise #	1997	1998	1999	2000	2001	2002	2003	2004	Total
Adult Females (CL >220 mm)									
1	31	33	41	40	38	35	30	32	305
3	35	38	22	34	37	33	41	31	313
14		31	33	17	29	26			136
17		37	36	36	38	35	45	32	275
25	36	31							97
29	38	34	36	27	36	31	35		244
46	42	37	34	34	31	44		27	278
51	29	32							75
57	33	26	25	18	21		21	19	174
58	36	37	34	28	37	35	33	33	301
63	35	40	39	39	37	41			245
65	34	43	31	35					158
66		33	32	39	30	37	42	31	257
67		28			29			28	95
68		41	46	34	42	42	39	34	308
69				32	30				71[d]
71				26					52
72				39	42	39	38	35	213
77		26[b]							46[b]
80		29		31					60
81		31	28	25					84
86			28	38	34	38	39	33	222
625							28	27	66
Mean	34.9	33.7	33.2	31.8	34.1	36.3	35.5	30.2	177.2
SD	3.60	5.03	6.38	6.99	5.68	5.00	7.05	4.39	97.77
Immature Females (CL < 220 mm)									
45					33	35	33		132
55	34	24							69
56		34	31	30	31	29	30	32	230
61	29[a]	23							52[a]
73		32	34	31	24[c]	26	28	17[c]	201[e]
91							35	31	68
Mean	31.5	28.3	32.5	30.5	29.3	30.0	31.5	26.7	125.3
SD	3.54	5.56	2.12	0.71	4.73	4.58	3.11	8.39	75.58
Adult Males (CL >220 mm)									
9					33	32	32	29	131
26									47
44*									11
20						42	33	14	103

APPENDIX A. Continued.

Tortoise #	1997	1998	1999	2000	2001	2002	2003	2004	Total
47									34
48						26	34	31	102
54*									10
59						25	21		82
60						25	24		67
62*									24
318*									17
1000*									10
Mean					33	30.0	28.8	24.7	53.2
SD					--	7.31	5.89	9.29	42.66
Immature Males (CL < 210 mm)									
49									28
76		24[f]							24[f]
Mean		24				42	33	14	26.0
SD		--				--	--	--	2.83
Grand Means									
Mean	34.3	32.7	33.1	31.7	33.3	33.8	33.1	28.7	128.6
SD	3.68	5.44	5.97	6.63	5.54	6.17	6.62	6.00	97.59

[a] Excludes "sally" from 17 October 1996 through 17 April 1997

[b] Excludes "sally" from 19 June through 3 September 1998

[c] Excludes dispersal beginning 21 September 2001 and late-season movement beginning 19 August 2004

[d] Excludes "sally" from 19 August through 24 September 1999

[e] 1998-01 (n = 121) and 2002-04 (n = 68) data exclude dispersal event

[f] Excludes dispersive movement beginning 13 July 1998

APPENDIX B. Null hypotheses, final test results after any modifications indicated by model diagnostics, and conclusions in analyses of Sonoran Desert Tortoise (*Gopherus morafkai*) space use at Sugarloaf Mountain, Arizona. 95% CIs are given in parentheses. Clear statistical differences are indicated with an asterisk. GLMM = generalized linear mixed model; HR = home range; dispformula = dispersion formula; MD = Mahalanobis Distance; SPEI = standardized precipitation-evapotranspiration index. "z." indicates a standardized covariate. R packages used are given in footnotes.

Contrast/Coefficient	Conclusion
Dispersal	
1) Difference in proportion of non-range-resident behavior between mature (M) and immature (Im) tortoises = 0. *Barnard's Exact Test*[1]	
Im – M = 54% (18–79%)*	*Immature tortoises were more likely to leave their home ranges than mature tortoises.
2) Difference in movement rate between permanent dispersal (D) movements and temporary "sallies" (S) = 0. *GLMM*[2]*: rate ~ movement + (1 | ID) + (1 | year), family = Gamma(log)*	
D – S = log(0.26) m/d (–0.52–1.04)	Dispersal and sallies did not differ clearly in movement rate.
3) Difference in annual path length between permanent dispersal (D) and temporary "sallies" (S) = 0. *GLMM*[2]*: path ~ movement + (1 | ID), family = Gamma(log), dispformula = ~sex*	
D – S = log(–0.06) km (–1.11–1.00)	Dispersal and sallies did not differ clearly in annual path length.
Cumulative Home Ranges	
4) Differences in $AKDE_C$ home-range size between adult females (F), immature females (IF), and males (M) = 0. *Mixed-effects meta-analysis*[3]*: AKDE ~ sex + z.Fixes*	
$\hat{\beta}_{\text{z.Fixes}}$ = –1.51 (–2.85 to –0.17)*	*HR size decreased with more fixes.
F – IF = 3.7 ha (0.1–7.4)*	*IF had smaller cumulative HRs than F and M.
IF – M = –4.6 ha (–8.6 to –0.6)*	
F – M = –0.9 ha (–4.5–2.8)	No clear difference in HRs between F and M.
5) Differences in home-range crossing time (τ_r) between adult females (F), immature females (IF), and males (M) = 0. *Mixed-effects meta-analysis*[3]*: τ_r ~ sex + z.Fixes*	
$\hat{\beta}_{\text{z.Fixes}}$ = 0.68 (–0.97–2.34)	Number of fixes did not clearly affect τ_r.
F – IF = 2.6 d (–2.1–7.2)	τ_r did not differ clearly among sex/age combinations.
IF – M = –1.5 d (–7.1–4.0)	
F – M = 1.1 d (–3.8–5.9)	

APPENDIX B. Continued.

Contrast/Coefficient	Conclusion
6) Differences in $AKDE_C$ core-area size between adult females (F), immature females (IF), and males (M) = 0. *Mixed-effects meta-analysis*[3]*: core ~ sex + z.Fixes*	
$\hat{\beta}_{\text{z.Fixes}}$ = –0.40 (–0.70 to –0.10)*	*Core-area size decreased with more fixes.
F – IF = 0.9 ha (0.1–1.8)*	*IF had smaller cumulative core areas than F and M.
IF – M = –1.1 ha (–2.0 to –0.2)*	
F – M = –0.1 ha (–1.0–0.7)	Core areas did not clearly differ between F and M.
7) Differences in intensity of core-area use between adult females (F), immature females (IF), and males (M) = 0. *General linear model*[4]*: intensity ~ sex*	
F – IF = –0.32 (–0.94–0.30)	Intensity of core-area use did not differ clearly among sex/age combination.
F – M = 0.19 (–0.29–0.67)	
IF – M = 0.51 (–0.16–1.18)	
Annual Home Ranges	
8) Increasing sample size by sequentially adding subsequent years of data does not affect estimated $AKDE_C$ home-range size (slope of HR vs. $\widehat{N}_{\text{area}}$ = 0). *GLMM*[2]*: HR ~* $\widehat{N}_{\text{area}}$ *+ (1 | ID), family = Gamma(log), dispformula = ~#years +* $\widehat{N}_{\text{area}}$	
$\hat{\beta}_{\widehat{N}_{\text{area}}}$ = –0.0005 (–0.001–0.0001)	Sequentially adding years for each tortoise did not clearly affect HR size.
9) Increasing sample size by sequentially adding subsequent years of data does not affect precision in estimated home-range size (slope of CI vs. $\widehat{N}_{\text{area}}$ = 0). *GLMM*[2]*: CI ~ poly(*$\widehat{N}_{area}$*, 2) + (1 | ID), family = Gamma(log), dispformula = ~#years*	
$\hat{\beta}_{\text{linear } \widehat{N}_{\text{area}}}$ = –3.8 (–4.4 to –3.3)*	*Sequentially adding subsequent years for each tortoise increased precision of HR estimates.
$\hat{\beta}_{\text{poly } \widehat{N}_{\text{area}}}$ = 1.0 (0.6–1.5)*	
10) Fidelity to annual home-range area does not differ between adult females (F), immature females (IF), and males (M) or by the interval (# years) between estimates. *Generalized linear model*[5]*: overlap ~ sex + interval + (1 | ID), sigma.formula = ~sex + interval + (1 | ID), nu.formula = ~sex + interval + (1 | ID), family = one-inflated beta*	
μ (logit link):	
$\hat{\beta}_{\text{\# years}}$ = –0.03 (–0.07–0.02)	Fidelity did not clearly change with time span between annual HRs.
Dyad CIs overlapped in logit[1.45–2.33]	Fidelity did not differ clearly among sex/age combinations.
σ (logit link):	
$\hat{\beta}_{\text{\# years}}$ = –0.02 (–0.07–0.02)	Variation in fidelity did not clearly change with time span between annual HRs.
Dyad CIs overlapped in logit[–1.6 to –0.50]	Variation in fidelity did not differ clearly among sex/age combinations.

APPENDIX B. Continued.

Contrast/Coefficient	Conclusion
11) Differences in annual $AKDE_C$ home-range size between gravid females (G), non-gravid females (NG), immature females (IF), and males (M) = 0, and slope of SPEI = 0. *Mixed-effects meta-analysis*[3]*: AKDE ~ sex + z.SPEI + (1 | ID/row)*	
$\hat{\beta}_{z.SPEI}$ = 0.09 (–0.24–0.42)	Drought did not clearly affect annual HR size.
G – M = –4.4 ha (–7.7 to –1.0)*	*M had larger annual HRs than G, NG, and IF.
NG – M = –5.0 ha (–8.3 to –1.6)*	
IF – M = –6.8 ha (–10.8 to –2.8)*	
G – NG = 0.6 ha (–0.4–1.7)	G and NG, G and IF, and NG and IF did not differ clearly in annual HR size.
G – IF = 2.4 ha (–0.5–5.3)	
NG – IF = 1.8 ha (–1.1–4.7)	
12) Differences in annual home-range crossing time (τ_r) between gravid females (G), non-gravid females (NG), immature females (IF), and males (M) = 0, and slope of SPEI = 0. *Mixed-effects meta-analysis*[3]*: τ_r ~ sex + z.SPEI + (1 | ID/row)*	
$\hat{\beta}_{z.SPEI}$ = 0.77 (–0.49–2.04)	Drought conditions did not clearly affect τ_r.
G – M = 0.1 ha (–3.6–3.8)	τ_r did not differ clearly among sex/age combinations.
NG – M = –1.4 ha (–5.2–2.4)	
IF – M = –1.3 ha (–5.9–3.3)	
G – NG = 1.5 ha (–0.7–3.7)	
G – IF = 1.4 ha (–2.2–5.0)	
NG – IF = –0.8 ha (–3.8–3.6)	
13) Differences in annual core-area size between gravid females (G), non-gravid females (NG), immature females (IF), and males (M) = 0, and slope of SPEI = 0. *Mixed-effects meta-analysis*[3]*: core ~ sex + z.SPEI + (1 | ID/row)*	
$\hat{\beta}_{z.SPEI}$ = 0.02 (–0.05–0.10)	Drought did not clearly affect annual core areas.
G – M = –0.8 ha (–1.6 to –0.01)*	*M had larger annual core areas than G, NG, and IF.
NG – M = –1.0 ha (–1.8 to –0.2)*	
IF – M = –1.4 ha (–2.4 to –0.5)*	
G – NG = 0.2 ha (–0.1–0.4)	G and NG, G and IF, and NG and IF did not differ clearly in annual core areas.
NG – IF = 0.5 ha (–0.2–1.2)	

APPENDIX B. Continued.

Contrast/Coefficient	Conclusion
14) Differences in intensity of core-area use between gravid females (G), non-gravid females (NG), immature females (IF), and males (M) = 0, and difference between drought conditions (yes/no) = 0. *GLMM[2]: intensity ~ sex + drought + (1 | ID) + (1 | year), family = Gamma(log)*	
$\hat{\beta}_{\text{drought}}$ = –0.09 (SE = 0.053; *P* = 0.103)	Drought condition did not clearly affect intensity of core-area use.
G – M = –0.02 (–0.25–0.22)	Intensity of annual core-area use did not differ clearly among sex/age combinations.
NG – M = 0.05 (–0.19–0.29)	
IF – M = 0.08 (–0.20–0.37)	
NG – G = 0.06 (–0.03–0.16)	
G – IF = –0.10 (–0.32–0.12)	
NG – IF = –0.04 (–0.26–0.19)	
15) Differences in overlap of annual $AKDE_C$ home ranges among sex/age dyad combinations = 0, and slope of SPEI = 0. *Generalized linear model[5]: overlap ~ dyad + MD + SPEI, sigma.formula = ~ dyad + MD + SPEI + (1 | year), nu.formula = ~ dyad + MD + SPEI, family = zero-inflated beta (μ link = log)*	
<u>μ (logit link)</u>:	
$\hat{\beta}_{\text{MD}}$ = –0.69 (SE = 0.015; *P* < 0.001)*	*Mean annual HR overlap decreased with increasing MD.
$\hat{\beta}_{\text{SPEI}}$ = 0.001 (SE = 0.004; *P* = 0.812)	Drought did not clearly affect annual HR overlap.
Dyad (*P* > 0.053 for all comparisons)	Annual HR overlap did not differ clearly among sex/age combination.
<u>σ (logit link)</u>:	
$\hat{\beta}_{\text{MD}}$ = –0.18 (SE = 0.031; *P* < 0.001)*	*Variance in HR overlap decreased as the degree of overlap progressively declined with increasing MD.
$\hat{\beta}_{\text{SPEI}}$ = 0.002 (SE = 0.010; *P* = 0.859)	Drought did not clearly affect variance in annual HR overlap.
Dyad (*P* > 0.224 for all comparisons)	Variance in annual HR overlap did not differ clearly among sex/age combinations.
<u>ν (log link)</u>:	
$\hat{\beta}_{\text{MD}}$ = 2.02 (SE = 0.164; *P* < 0.001)*	*Probability that HR overlap = 0 increased with MD.
$\hat{\beta}_{\text{SPEI}}$ = –0.05 (SE = 0.030; *P* = 0.074)	Drought did not clearly affect the probability that HRs did not overlap
$\hat{\beta}_{\nu\text{G:G}}$ = –9.15 (SE = 0.778)*	*G:G pairs were less likely to overlap HRs than were NG:NG pairs (*P* = 0.007) at high MD.
$\hat{\beta}_{\nu\text{NG:NG}}$ = –10.87 (SE = 1.003)*	
$\hat{\beta}_{\nu\text{G:NG}}$ = –9.37 (SE = 0.791)	
$\hat{\beta}_{\nu\text{G:IF}}$ = –8.86 (SE = 0.803)	
$\hat{\beta}_{\nu\text{G:M}}$ = –9.86 (SE = 0.884)	

APPENDIX B. Continued.

Contrast/Coefficient	Conclusion
$\hat{\beta}_{\nu\text{NG:IF}} = -9.08$ (SE = 0.922) $\hat{\beta}_{\nu\text{NG:M}} = -9.97$ (SE = 1.067) $\hat{\beta}_{\nu\text{IF:M}} = -10.61$ (SE = 1.050) $\hat{\beta}_{\nu\text{M:M}} = -10.65$ (SE = 1.346)	

[1]*Exact*: Calhoun, C. 2019. Exact: unconditional exact test. R package version 2.0. https://CRAN.R-project.org/package=Exact.

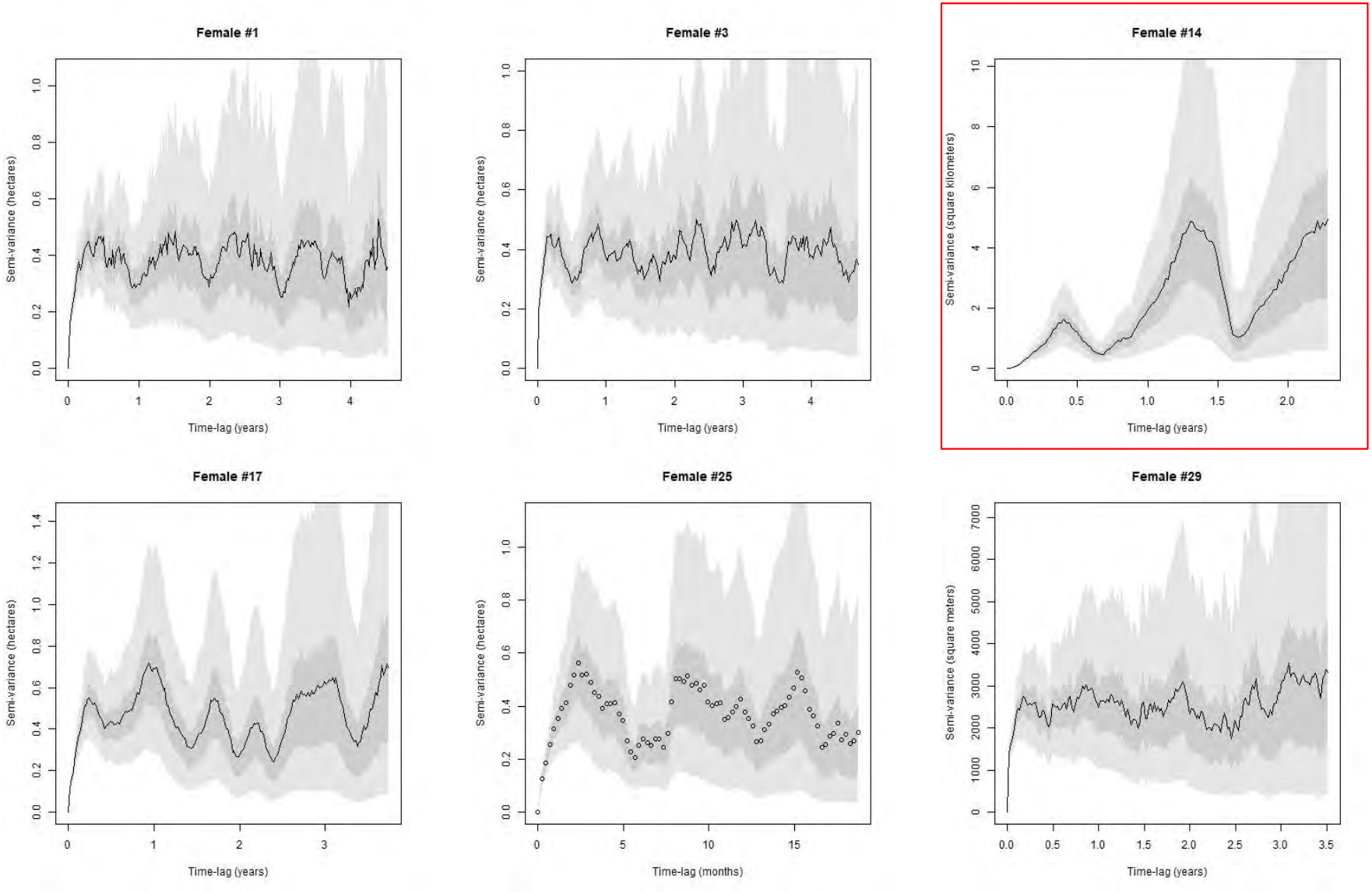
[2]*glmmTMB*: Brooks, M.E., K. Kristensen, K.J. van Benthem, A. Magnusson, C.W. Berg, A. Nielsen, H.J. Skaug, M. Maechler, and B.M. Bolker. 2017. glmmTMB balances speed and flexibility among packages for zero-inflated generalized linear mixed modeling. R Journal 9:378–400.

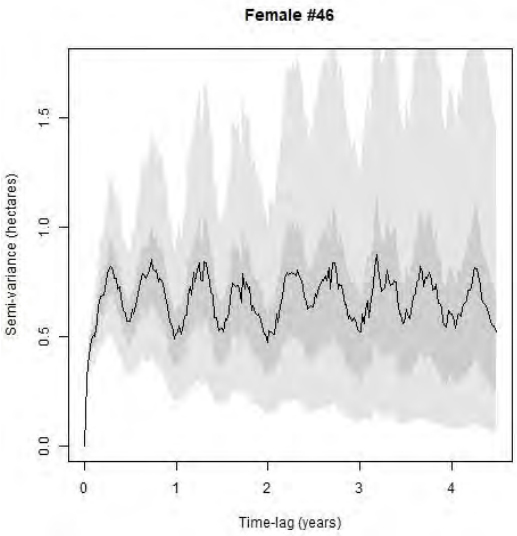
[3]*metafor*: Viechtbauer, W. 2010. Conducting meta-analyses in R with the metafor package. Journal of Statistical Software 36:1–48.

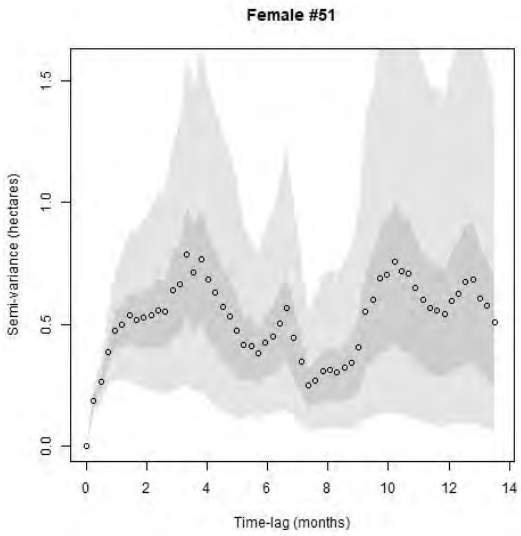
[4]*stats*: R Core Team. 2018. R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. http://www.R-project.org.

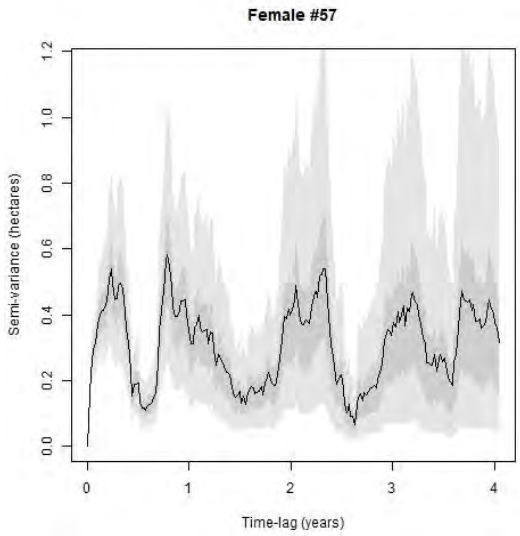
[5]*gamlss*: Rigby, R.A., and D.M. Stasinopoulos. 2005. Generalized additive models for location, scale and shape. Applied Statistics 54:507–554.

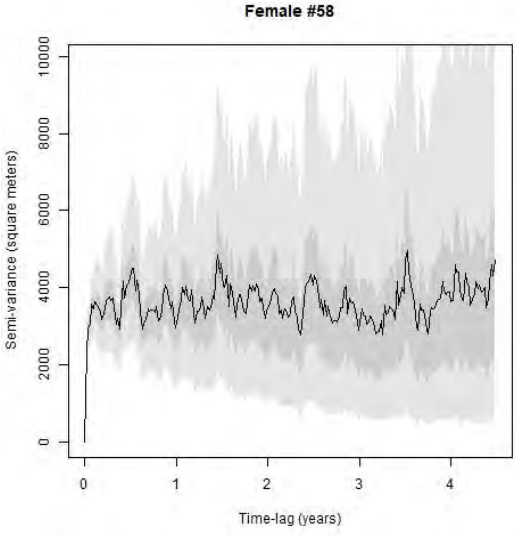
Appendix C. Variograms for cumulative home range analysis of each Sonoran Desert Tortoise at Sugarloaf Mountain, Arizona, 1996–2005. Variogram figures indicative of non-range resident individuals are outlined in red.
Adult Females

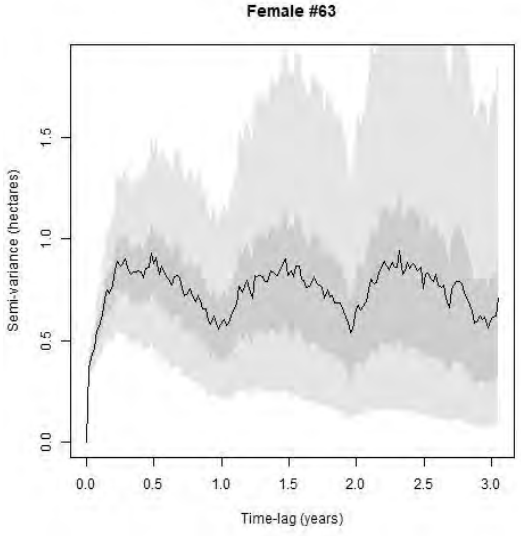


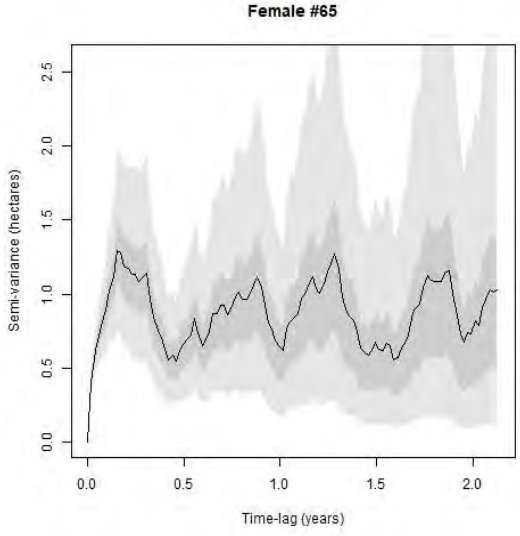

Female #46
Semi-variance (hectares)
Time-lag (years)

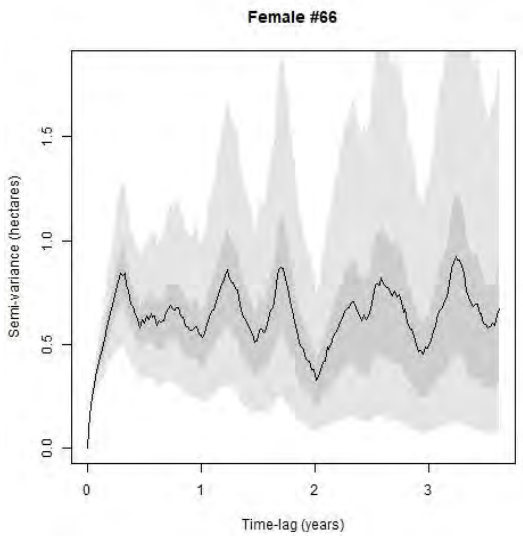

Female #51
Semi-variance (hectares)
Time-lag (months)

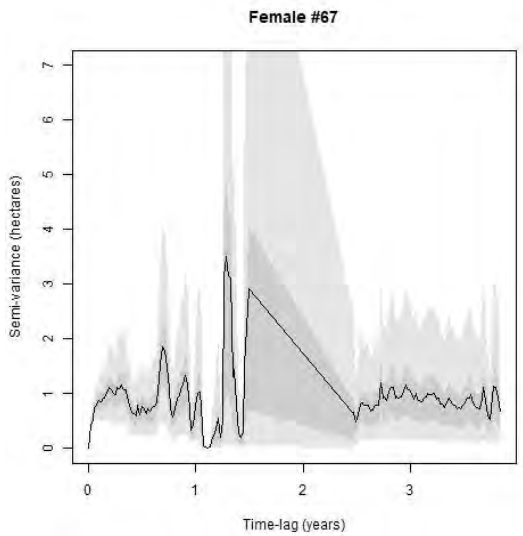

Female #57
Semi-variance (hectares)
Time-lag (years)

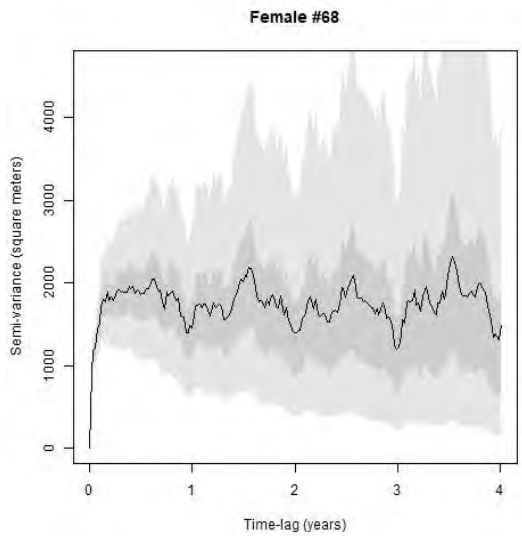

Female #58
Semi-variance (square meters)
Time-lag (years)

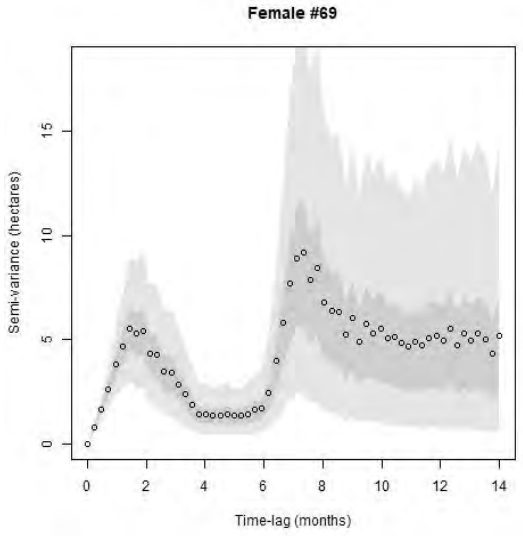

Female #63
Semi-variance (hectares)
Time-lag (years)

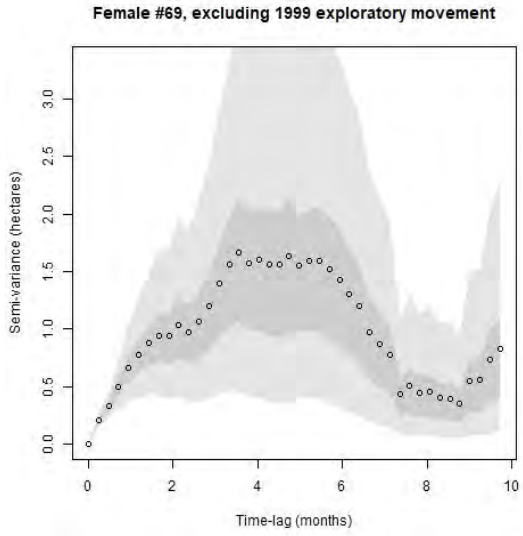

Female #65
Semi-variance (hectares)
Time-lag (years)

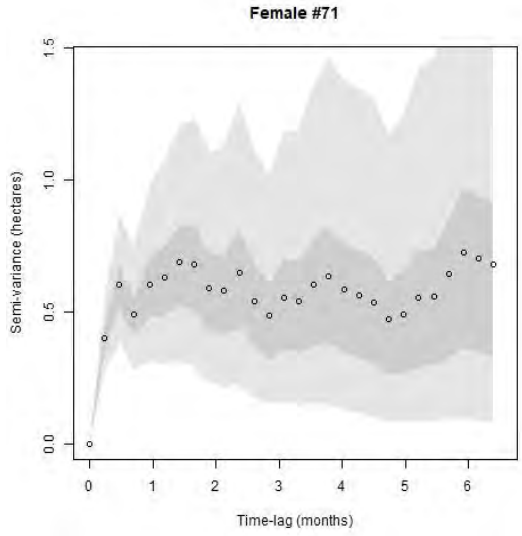

Female #66
Semi-variance (hectares)
Time-lag (years)

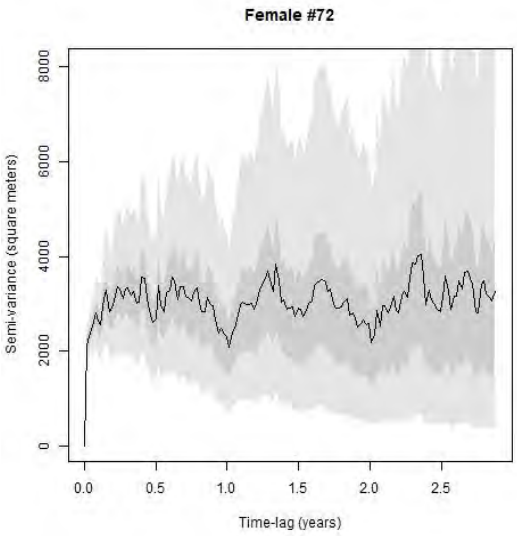

Female #67
Semi-variance (hectares)
Time-lag (years)

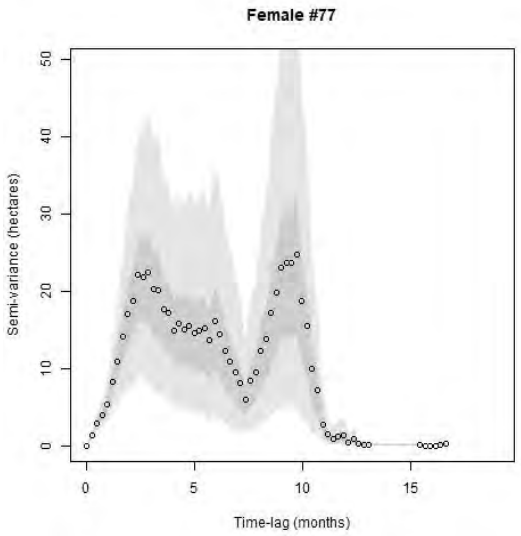

Female #68
Semi-variance (square meters)
Time-lag (years)

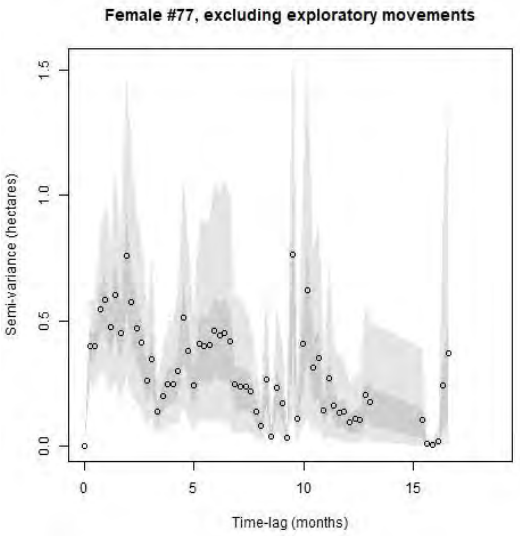

Female #69
Semi-variance (hectares)
Time-lag (months)

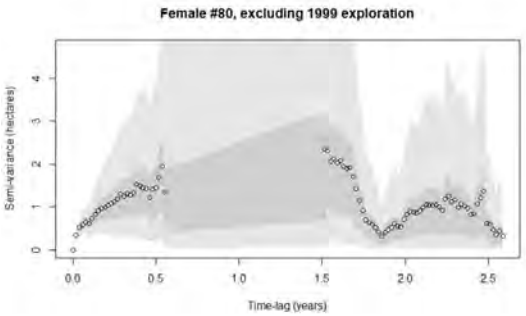

Female #69, excluding 1999 exploratory movement
Semi-variance (hectares)
Time-lag (months)

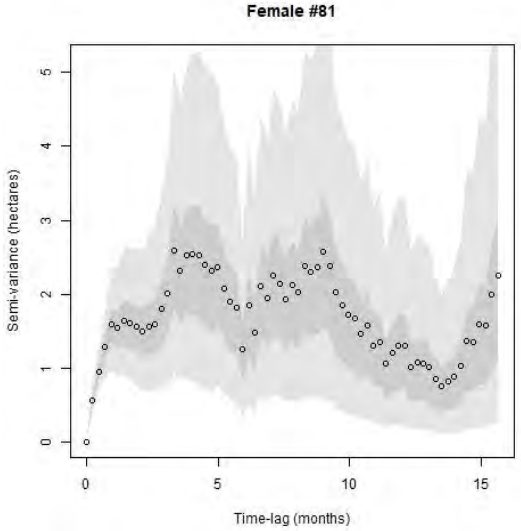

Female #71
Semi-variance (hectares)
Time-lag (months)

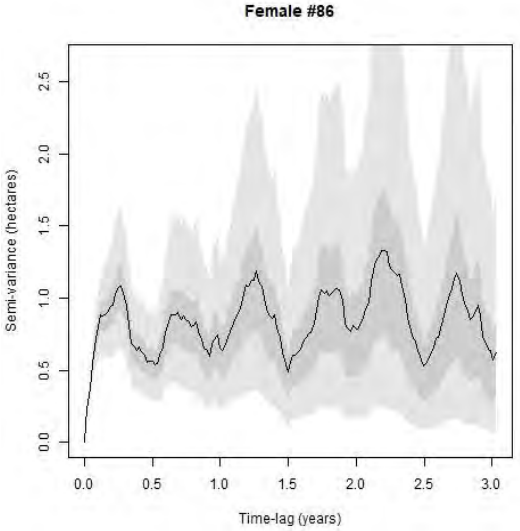

Female #72
Semi-variance (square meters)
0
2000
4000
6000
8000
0.0
0.5
1.0
1.5
2.0
2.5
Time-lag (years)

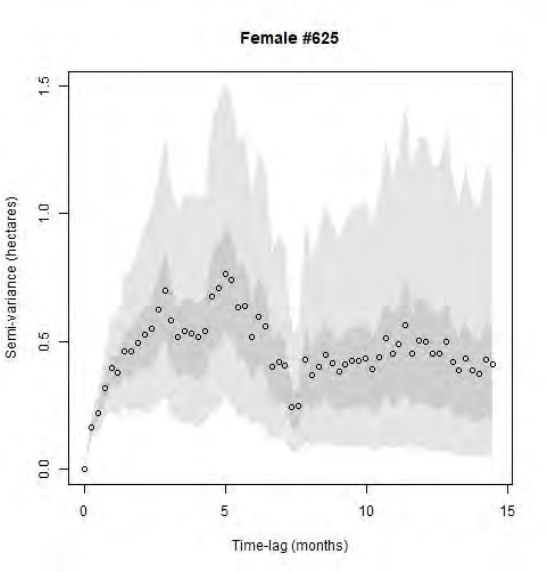

Female #77
Semi-variance (hectares)
0
10
20
30
40
50
0
5
10
15
Time-lag (months)


Female #77, excluding exploratory movements
Semi-variance (hectares)
0.0
0.5
1.0
1.5
0
5
10
15
Time-lag (months)

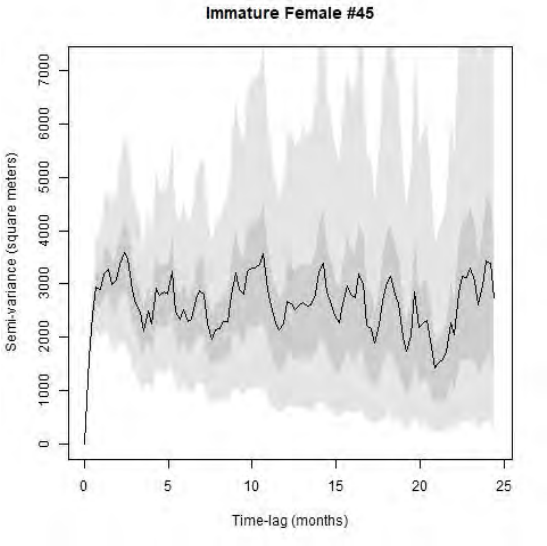

Female #80, excluding 1999 exploration
Semi-variance (hectares)
0
1
2
3
4
0.0
0.5
1.0
1.5
2.0
2.5
Time-lag (years)

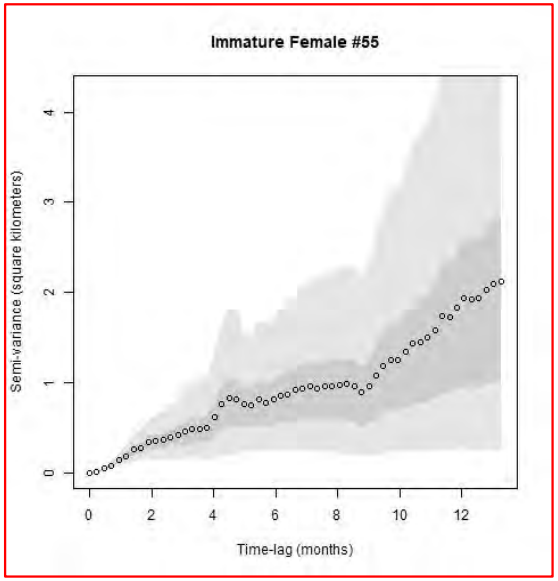

Female #81
Semi-variance (hectares)
0
1
2
3
4
5
0
5
10
15
Time-lag (months)

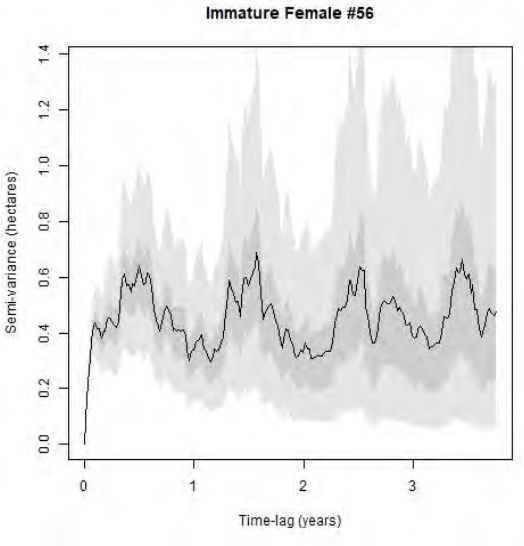

Female #86
Semi-variance (hectares)
0.0
0.5
1.0
1.5
2.0
2.5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Time-lag (years)

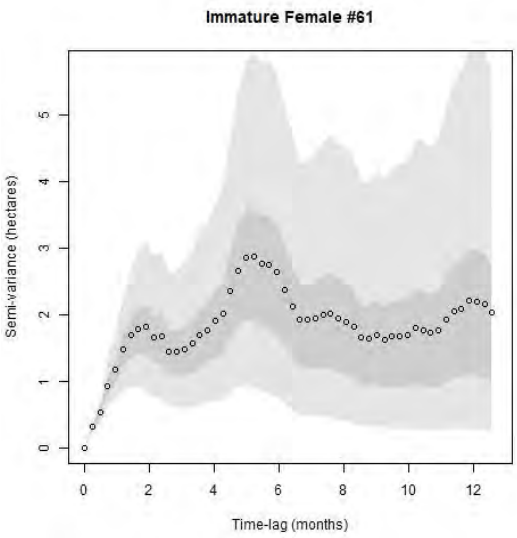


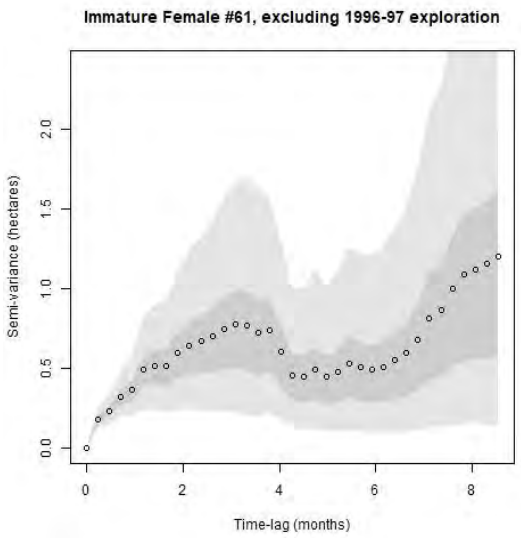
Immature Females

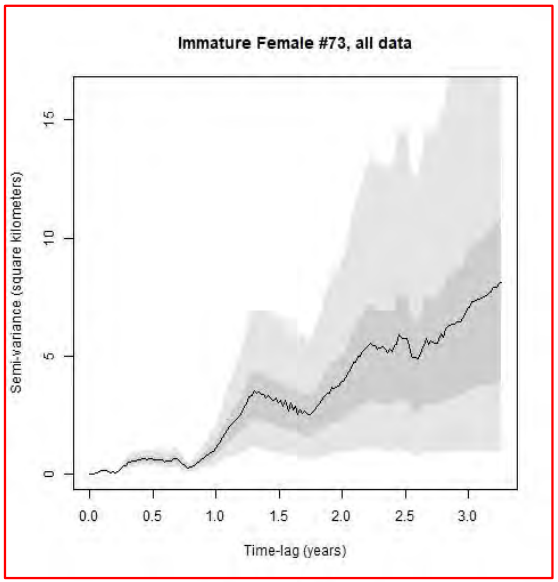


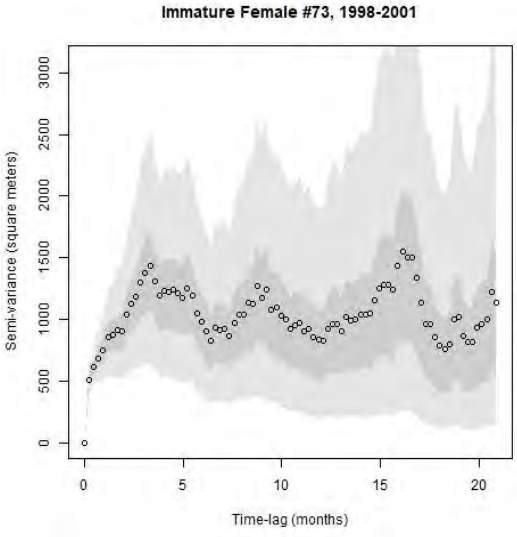


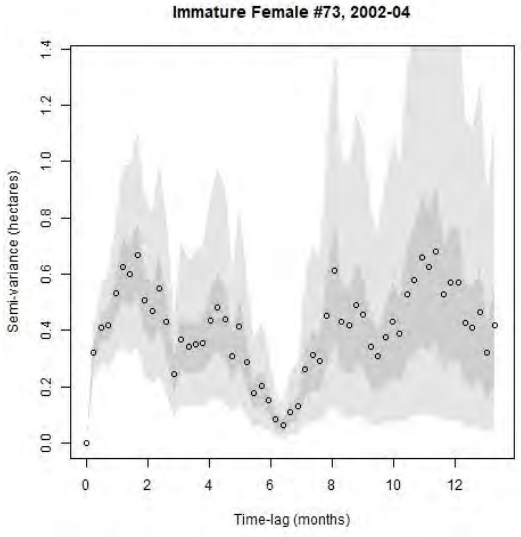


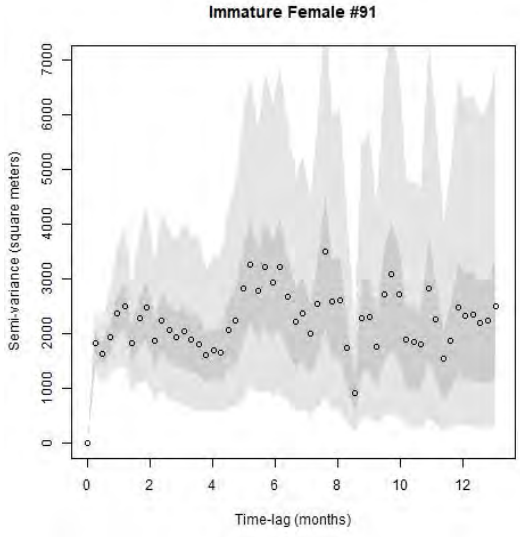

Immature Female #61
Semi-variance (hectares)
Time-lag (months)


Immature Female #61, excluding 1996-97 exploration
Semi-variance (hectares)
Time-lag (months)

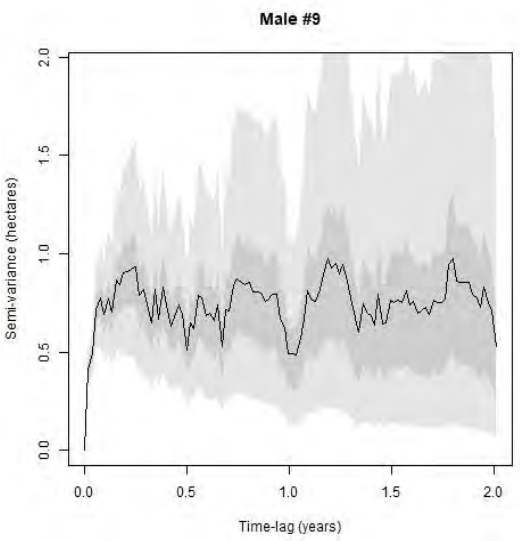

Immature Female #73, all data
Semi-variance (square kilometers)
Time-lag (years)

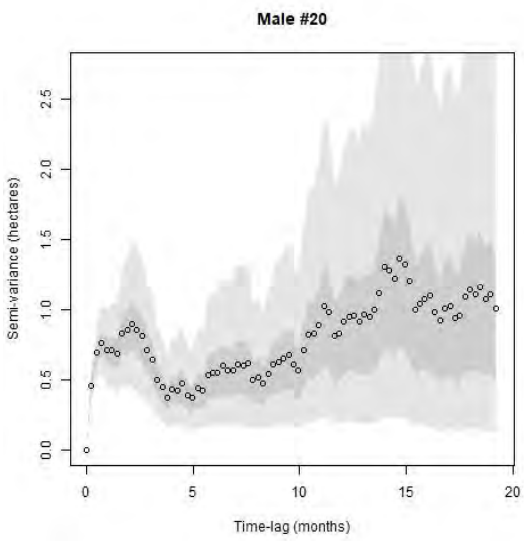

Immature Female #73, 1998-2001
Semi-variance (square meters)
Time-lag (months)

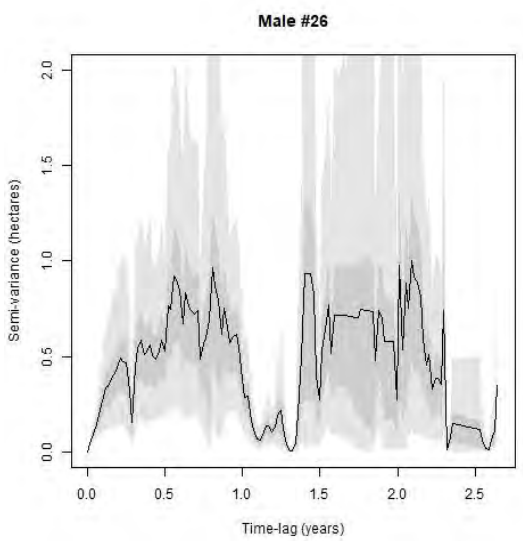

Immature Female #73, 2002-04
Semi-variance (hectares)
Time-lag (months)

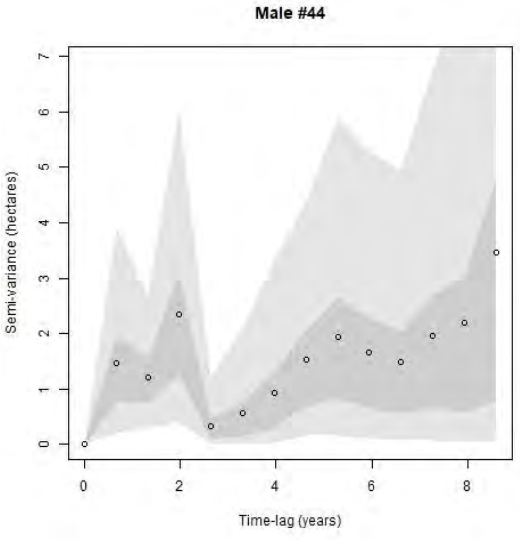

Immature Female #91
Semi-variance (square meters)
Time-lag (months)

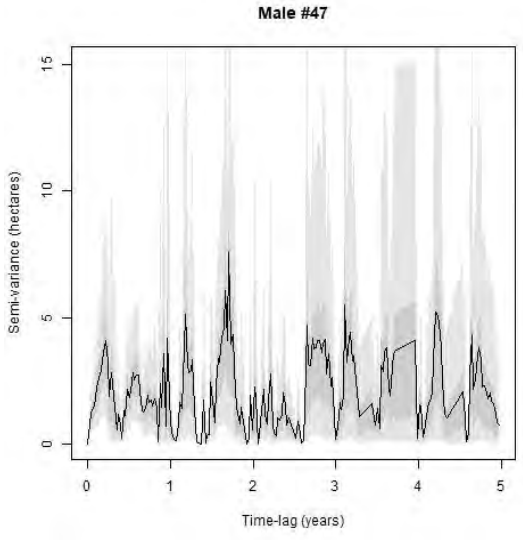
Adult Males

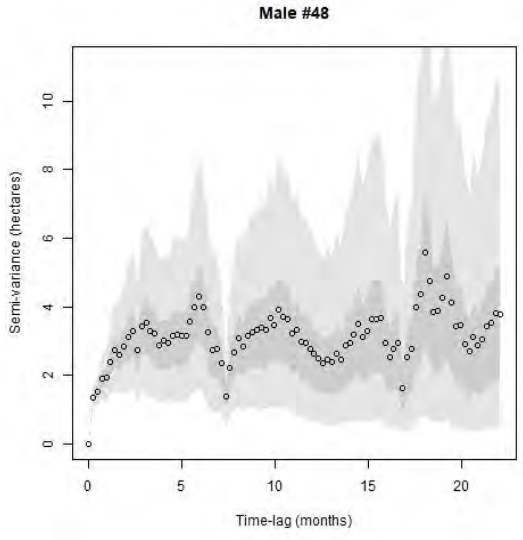

Male #9
Semi-variance (hectares)
Time-lag (years)

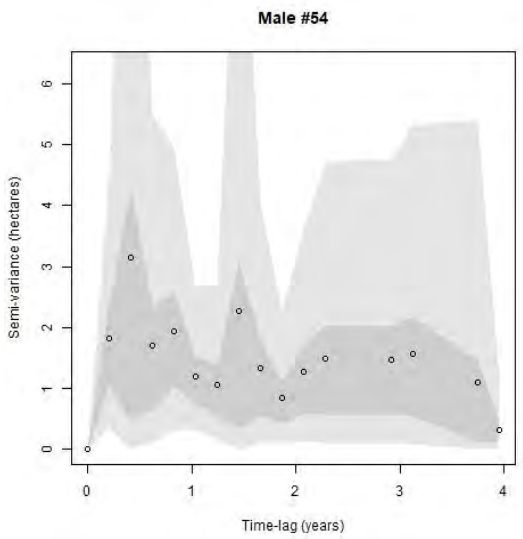

Male #20
Semi-variance (hectares)
Time-lag (months)

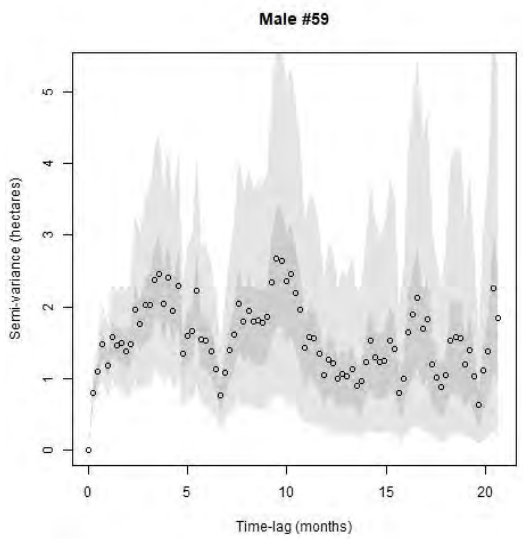

Male #26
Semi-variance (hectares)
Time-lag (years)

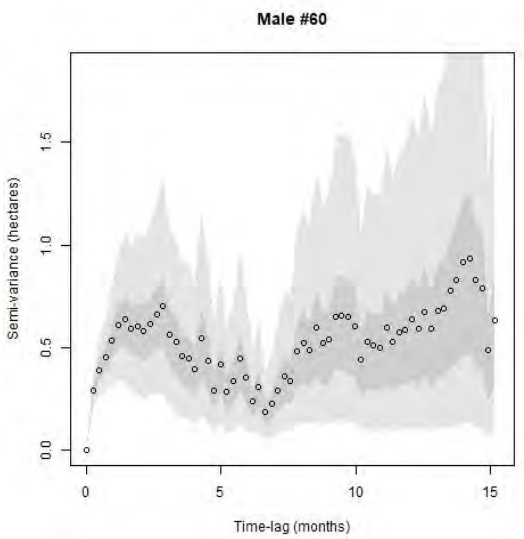

Male #44
Semi-variance (hectares)
Time-lag (years)

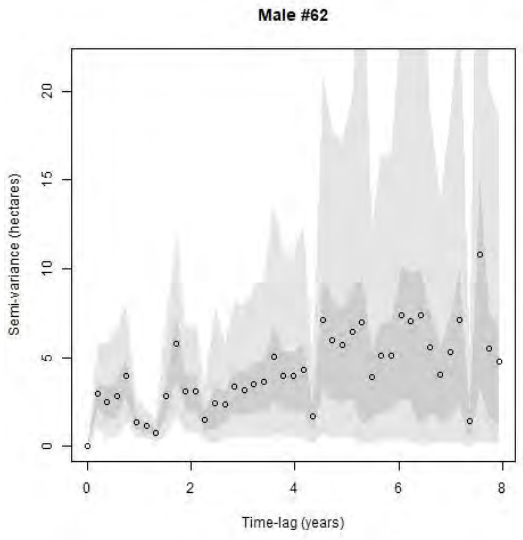

Male #47
Semi-variance (hectares)
Time-lag (years)

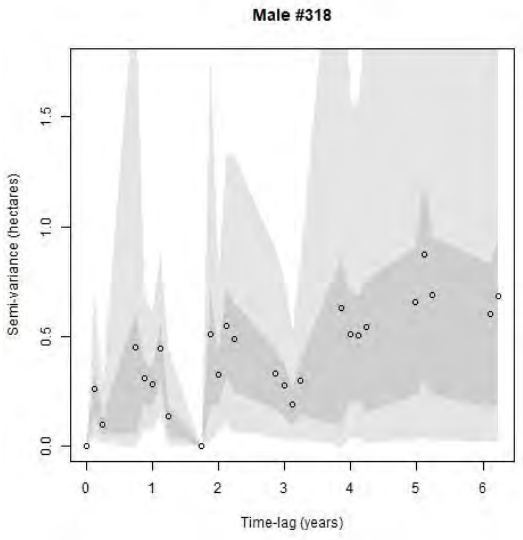

Male #48
Semi-variance (hectares)
Time-lag (months)

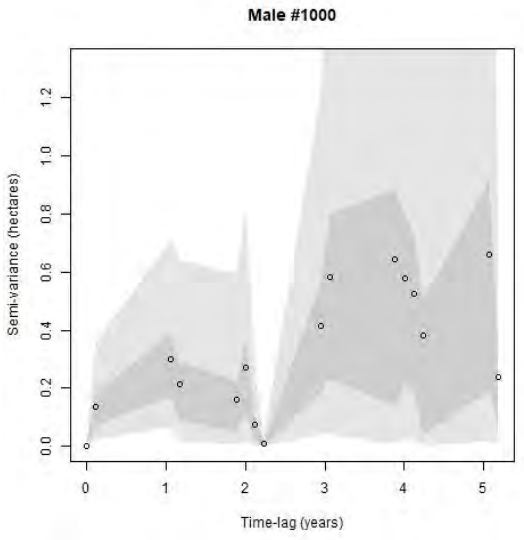

Male #54
Semi-variance (hectares)
Time-lag (years)


Male #59
Semi-variance (hectares)
Time-lag (months)

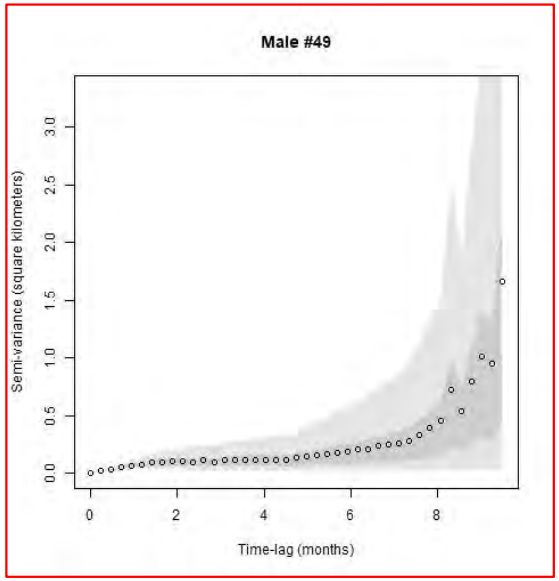

Male #60
Semi-variance (hectares)
Time-lag (months)

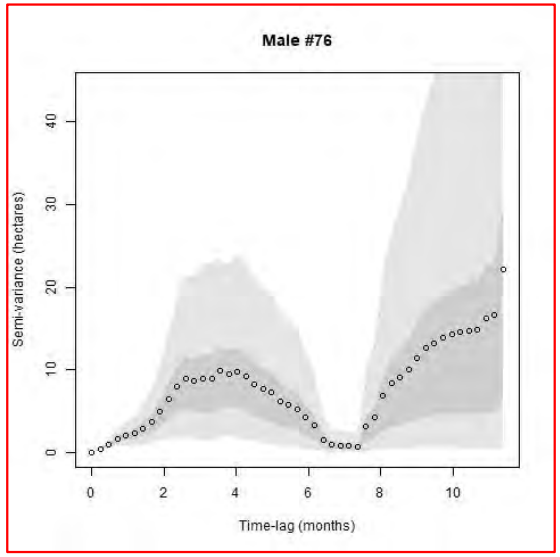

Male #62
Semi-variance (hectares)
Time-lag (years)

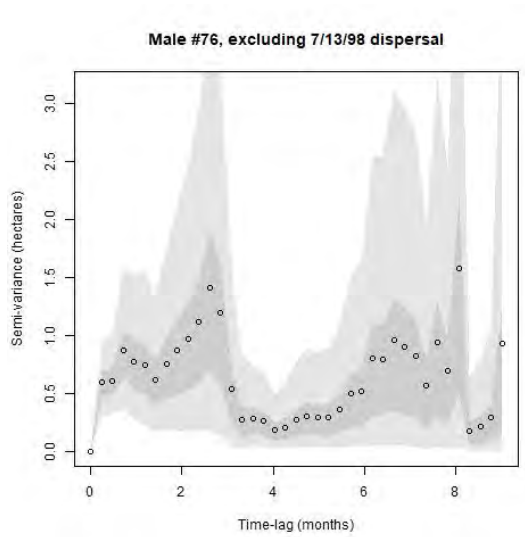

Male #318
Semi-variance (hectares)
Time-lag (years)


Male #1000
Semi-variance (hectares)
Time-lag (years)

Immature Males







APPENDIX D. Movement models and cumulative home-range estimates for Sonoran Desert Tortoises (*Gopherus morafkai*) at Sugarloaf Mountain, Arizona. $\widehat{N}_{area}$ = effective sample size; τ_r = home range crossing time; $AKDE_C$ = autocorrelated kernel density estimate; CI = confidence interval; MCP = minimum convex polygon; PA = proportion area of HR within core $AKDE_C$; I = intensity of use within core $AKDE_C$; iF = immature female (CL < 220 mm) and iM = immature male (CL < 210 mm).

Sex/ID	No. fixes, Years[1]	Top Model	$\widehat{N}_{area}$	τ_r (d)	95% $AKDE_C$ (ha)	95% $AKDE_C$ 95% CI	95% MCP (ha)	Core $AKDE_C$ (ha)	Core $AKDE_C$ 95% CI	PA	I
F#1	305, 10	OU	139.8	15	3.4	2.9–4.0	2.7	0.8	0.7–0.9	0.23	2.17
F#3	313, 10	OU	186.9	11	6.2	5.3–7.1	5.8	0.9	0.8–1.1	0.15	3.31
F#17	275, 8	OU	90.2	23	5.6	4.5–6.8	4.8	1.1	0.9–1.4	0.20	2.48
F#25	97, 4	OU	45.6	14	4.3	3.1–5.6	2.5	1.1	0.8–1.4	0.25	2.01
F#29	244, 8	OU	162.5	9	3.6	3.1–4.2	2.2	0.7	0.6–0.8	0.19	2.64
F#46	278, 10	OU	162.2	11	7.6	6.4–8.8	5.5	1.9	1.6–2.2	0.25	2.02
F#51	75, 3	OU	36.8	14	8.8	6.2–11.8	5.2	2.3	1.6–3.2	0.27	1.87
F#57	174, 8	OU[2]	102.5	12	4.5	3.7–5.4	2.7	0.7	0.6–0.9	0.16	3.10
F#58	301, 10	OU[2]	240.0	6	4.9	4.3–5.6	4.1	0.8	0.7–1.0	0.17	2.91
F#63	245, 7	OU	152.7	9	10.5	8.9–12.2	8.0	2.3	1.9–2.6	0.21	2.33
F#65	158, 5	OU	118.6	6	8.9	7.3–10.5	7.0	1.7	1.4–2.1	0.20	2.56
F#66	257, 8	OU	110.5	16	6.1	5.0–7.2	3.6	1.2	1.0–1.4	0.19	2.57
F#67	95, 4	OU	39.8	15	15.1	10.8–20.2	6.2	4.0	2.8–5.3	0.26	1.90
F#68	308, 9	IID	308.0	--	2.5	2.2–2.7	2.0	0.3	0.26–0.33	0.12	4.16
F#69	71, 3	OU[3]	18.4	29	19.6	11.7–29.6	9.4	4.8	2.9–7.3	0.25	2.04
F#71	52, 2	OU	46.5	5	11.0	8.1–14.4	6.5	2.5	1.8–3.2	0.22	2.23
F#72	213, 7	OU	158.7	7	4.1	3.5–4.8	2.0	1.1	0.9–1.3	0.27	1.87
F#77	46, 5	OU[4]	40.1	6	7.9	5.6–10.5	5.1	1.5	1.1–1.5	0.14	3.48
F#80	60, 2	OU	28.5	13	11.5	7.7–16.1	4.3	3.2	2.2–4.5	0.28	1.78
F#81	84, 3	OU	51.4	9	11.2	8.4–14.5	5.4	2.1	1.6–2.7	0.19	2.69
F#86	222, 7	OU	115.4	13	6.3	5.2–7.4	4.2	1.2	1.0–1.4	0.19	2.60
F#625	66, 3	OU	30.5	16	7.8	5.3–10.8	4.6	1.4	0.9–1.9	0.18	2.82
Mean F	182 (98.0)			12.3	7.8		4.7	1.7		0.21	2.52
(SD)	6 (2.8)			5.83	4.14		1.98	1.13		0.045	0.603

APPENDIX D. Continued.

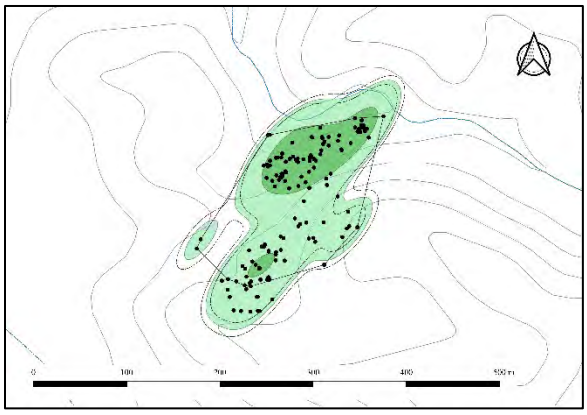
Sex/ID	No. fixes, Years	Top Model	$\widehat{N}_{area}$	τ_r (d)	95% AKDE$_C$ (ha)	95% AKDE$_C$ 95% CI	95% MCP (ha)	Core AKDE$_C$ (ha)	Core AKDE$_C$ 95% CI	PA	I
iF#45	132, 5	OU	94.8	8	3.9	3.2–4.7	2.0	0.8	0.6–0.9	0.19	2.60
iF#56	230, 9	OU	126.3	11	3.7	3.1–4.4	5.0	0.6	0.5–0.7	0.17	2.95
iF#61	52, 2	OU[5]	18.5	21	9.8	5.9–14.7	4.5	2.4	1.4–3.6	0.25	2.02
iF#73 (98–01)	121, 4	OU[6]	75.5	10	1.8	1.4–2.2	1.1	0.4	0.3–0.5	0.23	2.20
iF#73 (02–04)	68, 3	OU[6]	59.4	6	6.2	4.7–7.9	4.4	1.0	0.7–1.2	0.15	3.25
iF#91	68, 3	OU	63.4	4	3.6	2.8–4.5	1.6	0.4	0.3–0.6	0.12	4.03
Mean iF	112 (65.8)			10.0	4.8		3.1	0.9		0.19	2.84
(SD)	4 (2.5)			5.97	2.81		1.72	0.76		0.049	0.740
M#9	131, 5	OU	96	8	10.5	8.5–12.8	7.1	2.1	1.7–2.5	0.20	2.55
M#26	47, 6	OU	17.8	2	7.7	4.6–11.7	2.3	2.3	1.4–3.5	0.30	1.69
M#44	11, 7	IID	10.0	--	9.1	4.4–15.6	2.7	2.4	1.2–4.2	0.27	1.87
M#47	34, 6	OU	26.7	11	16.1	10.6–22.8	7.9	3.6	2.4–5.1	0.22	2.24
M#48	102, 5	OU	73	8	12.3	9.6–15.2	7.6	2.1	1.6–2.6	0.17	2.98
M#54	10, 5	IID	9.0	--	3.0	1.3–5.2	0.4	0.7	0.3–1.3	0.24	2.05
M#59	82, 4	OU	62.4	8	14.7	11.3–18.6	10.9	3.0	2.3–3.8	0.21	2.44
M#60	67, 3	OU	45.1	10	8.6	6.2–11.2	4.3	2.0	1.4–2.6	0.23	2.18
M#62	24, 9	IID[2]	23.0	--	15.6	9.9–22.5	6.1	3.0	1.9–4.3	0.19	2.63
M#1000	10, 5	IID	9.0	--	6.0	2.7–10.4	0.6	1.3	0.6–2.2	0.21	2.36
Mean M	52 (42.4)			7.8	10.4		5.0	2.3		0.22	2.30
(SD)	6 (1.6)			3.13	4.32		3.48	0.84		0.038	0.379
iM#20	103, 4	OU	59.5	12	16.8	12.6–21.6	9.8	2.6	1.9–3.3	0.15	3.26
iM#76	24, 2	IID[7]	23.0	--	10.8	6.9–15.7	2.6	2.4	1.5–3.5	0.22	2.26
iM#318	17, 7	IID	16.0	--	6.2	3.6–9.6	2.4	1.7	1.0–2.6	0.27	1.84
Mean iM	64 (55.9)			12.0	11.3		4.9	2.2		0.21	2.45
(SD)	4 (2.5)			--	5.32		4.22	0.47		0.060	0.729

APPENDIX D. Continued.

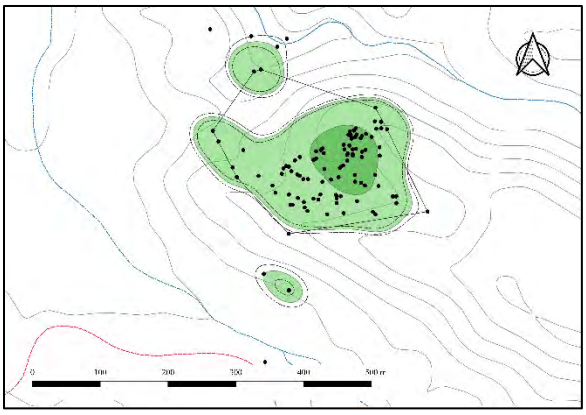
Sex/ID	No. fixes, Years	Top Model		95% AKDE$_C$ (ha)	95% AKDE$_C$ 95% CI	95% MCP (ha)	Core AKDE$_C$ (ha)	Core AKDE$_C$ 95% CI	PA	I
Non-range-residents										
F#14	136, 5	IOU	τ_v = 3 d, speed = 50 m/d			1578.2				
iF#55	69, 3	BM								
iF#73	201, 7	IOU[6]	τ_v = 4 d, speed = 43 m/d			514.7				
iM#49	28, 2	BM				45.3				
iM#76	34, 2	BM				19.1				

[1]Total number of years with $\geq$ 1 observation
[2]Top model OUF τ_v CI included 0
[3]F#69: Excludes "sally", 19 August – 24 September 1999
[4]F#77: Excludes "sallies", 19 June – 3 September 1998 and beginning 13 June 2005
[5]iF#61: Excludes "sally" from 17 October 1996 – 17 April 1997
[6]iF#73: Dispersed in September–October 2001; 1998–01 and 2002–04 data exclude dispersal event; also excludes late-season movement beginning 19 August 2004
[7]iM#76: Excludes dispersal beginning 13 July 1998

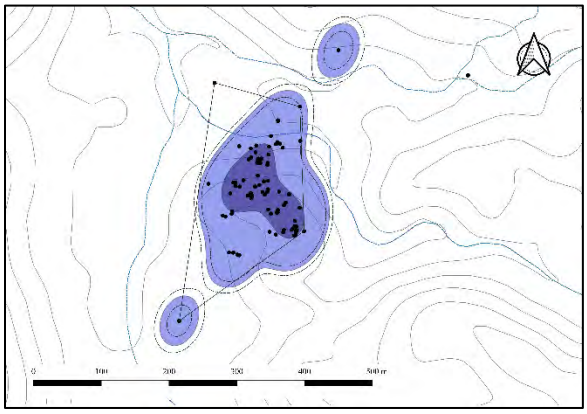
APPENDIX E. Maps of cumulative 95% AKDE home ranges (light shading; dashed lines indicate 95% confidence intervals), 50% core areas (darker shading), 95% MCP polygons, and observed locations for Sonoran Desert Tortoises at Sugarloaf Mountain, Arizona. Topographic contour interval = 12.2 m.



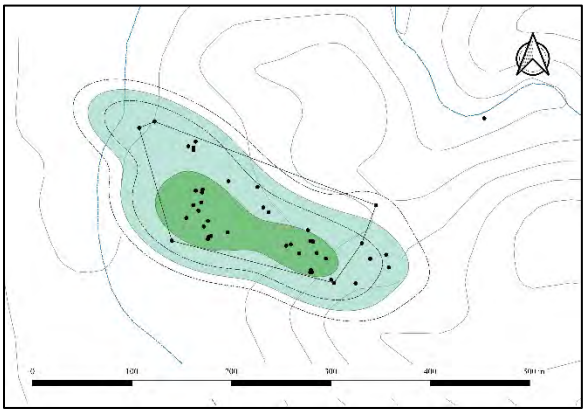
Female #1 (n = 305)



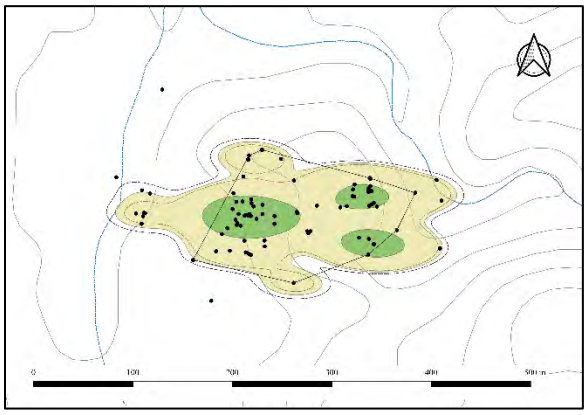
Female #3 (n = 313)



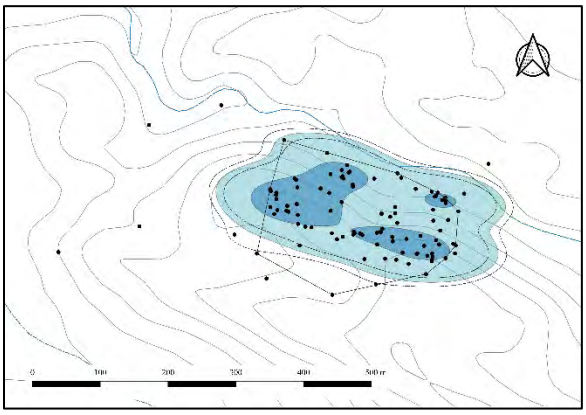
Female #17 (n = 275)



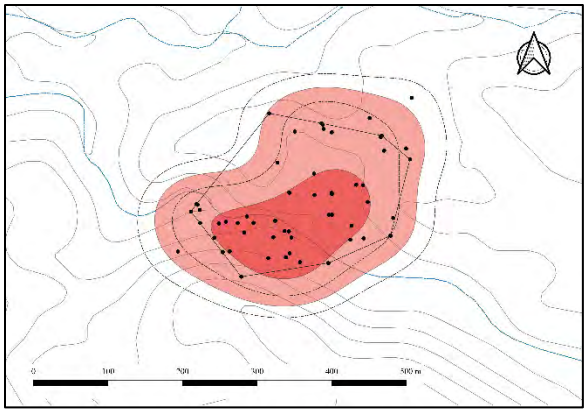
Female #25 (n = 97)



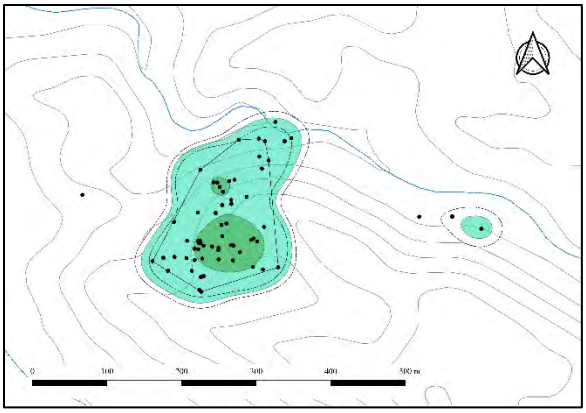
Female #29 (n = 244)



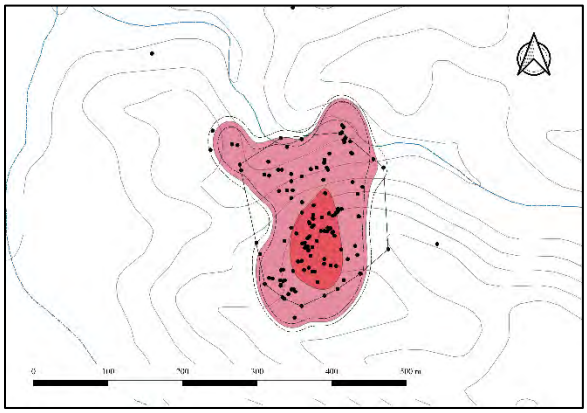
Female #46 (n = 278)



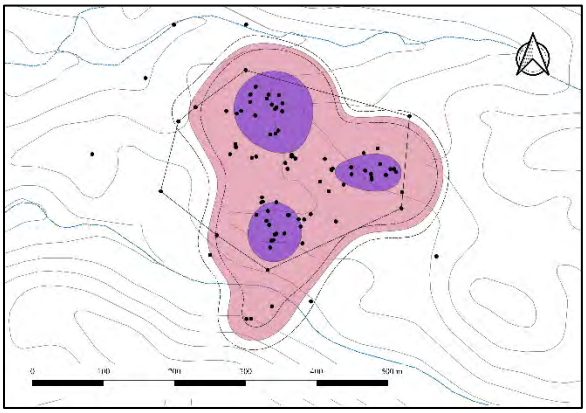
Female #51 (n = 75)



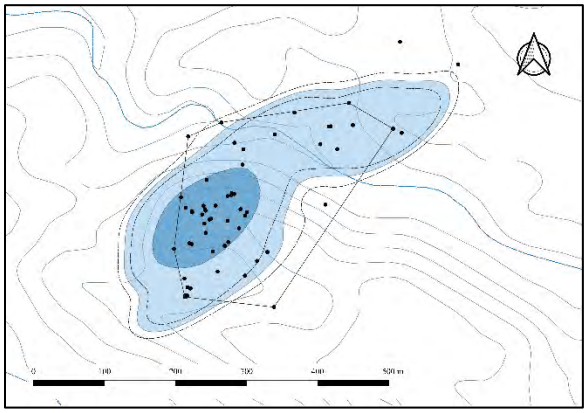
Female #57 (n = 174)



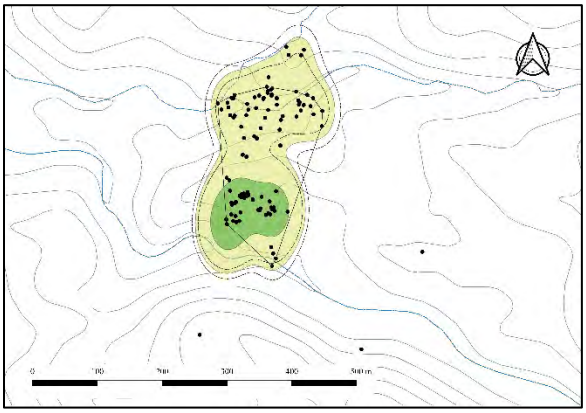
Female #58 (n = 301)



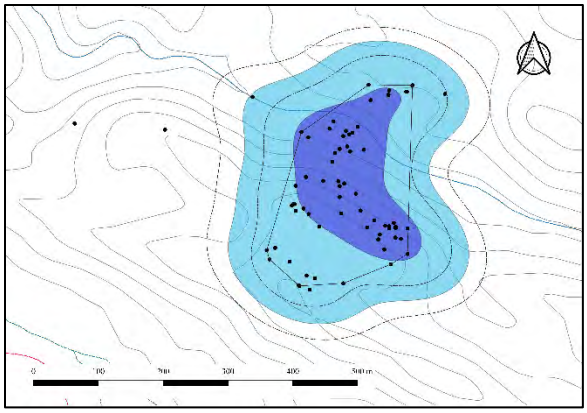
Female #63 (n = 245)



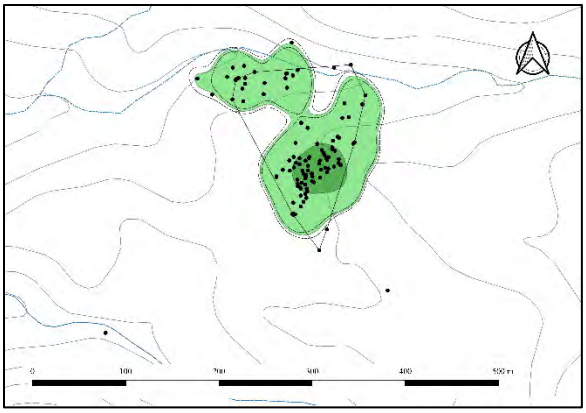
Female #65 (n = 158)



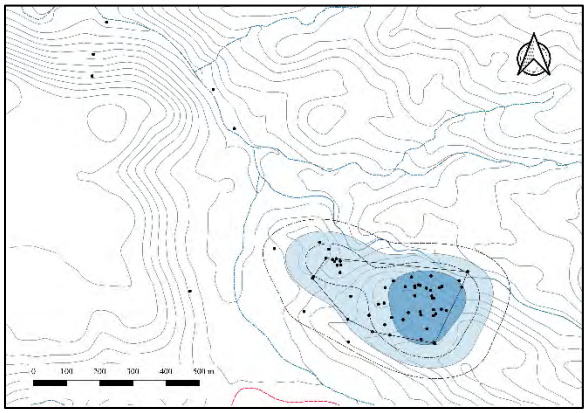
Female #66 (n = 257)



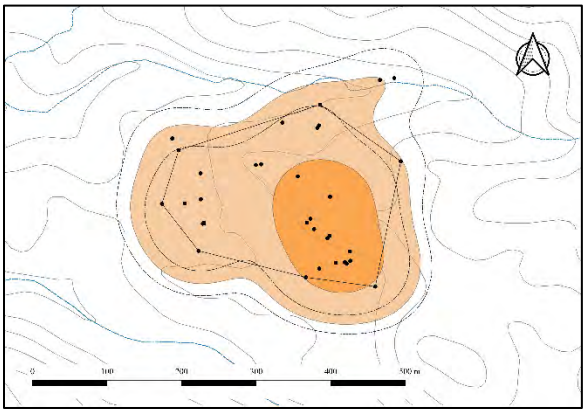
Female #67 (n = 95)



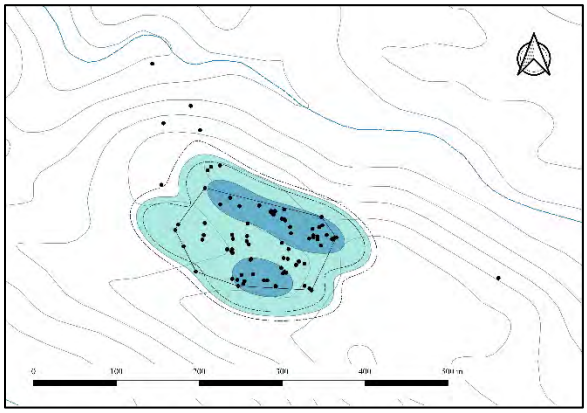
Female #68 (n = 308)



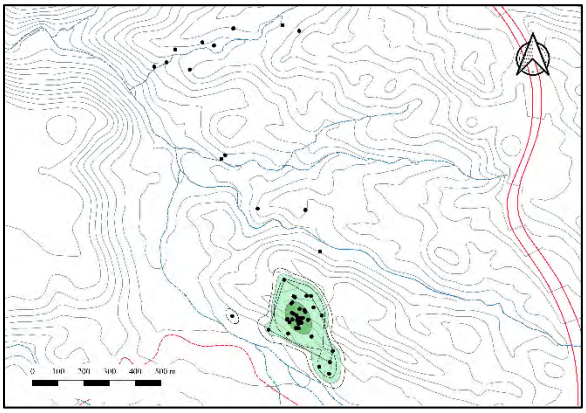
Female #69 (n = 71)



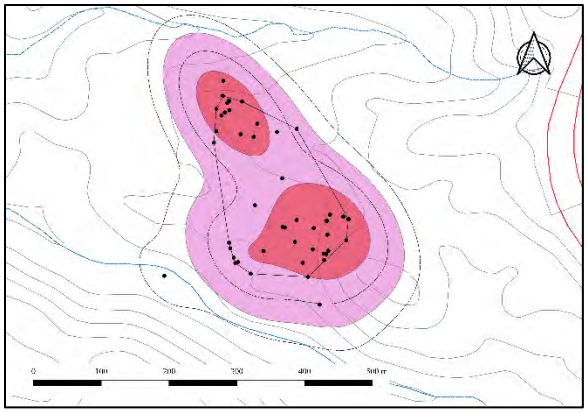
Female #71 (n = 52)



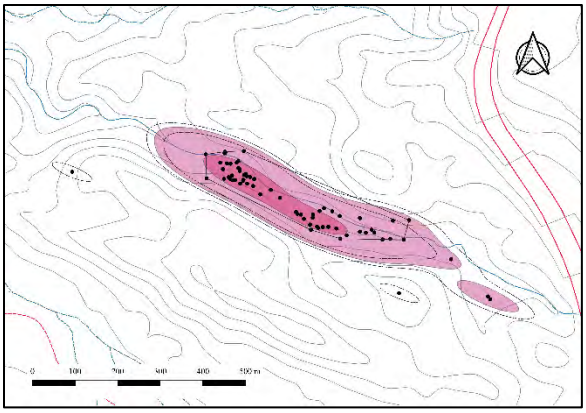
Female #72 (n = 213)



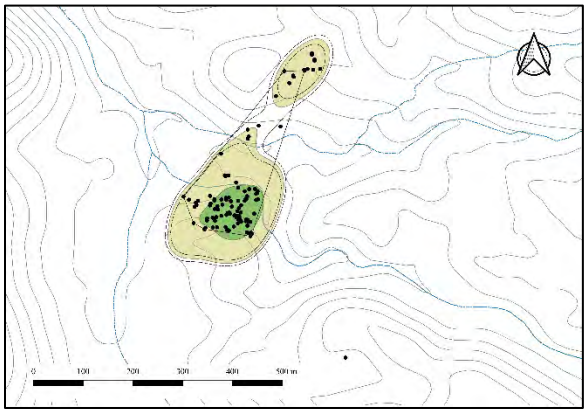
Female #77 (n = 46)



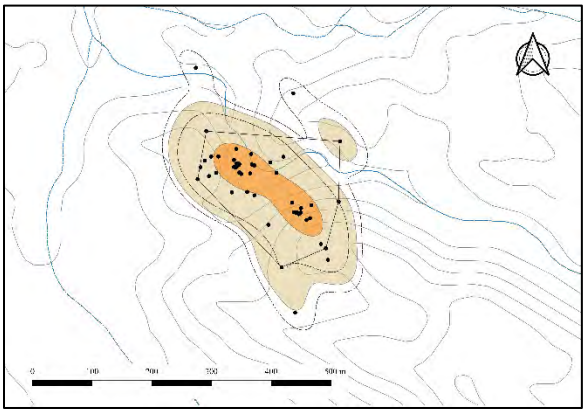
Female #80 (n = 60)



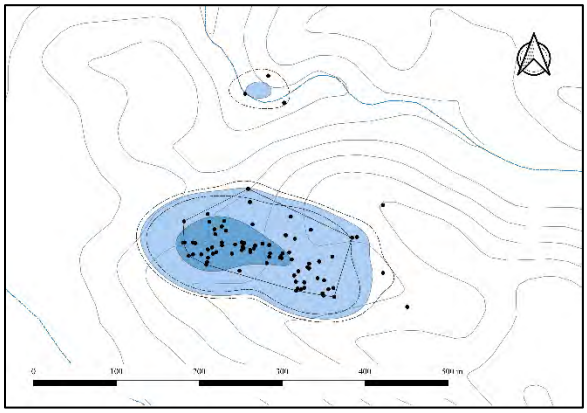
Female #81 (n = 84)



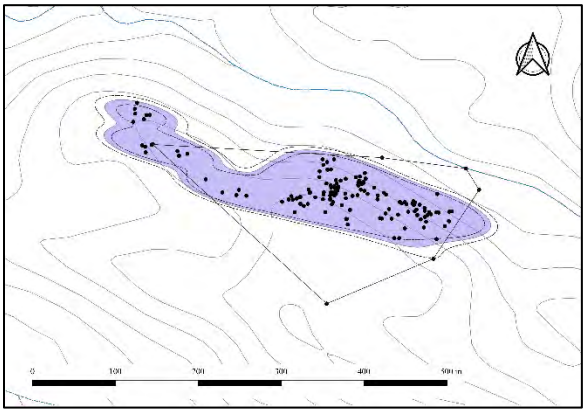
Female #86 (n = 222)



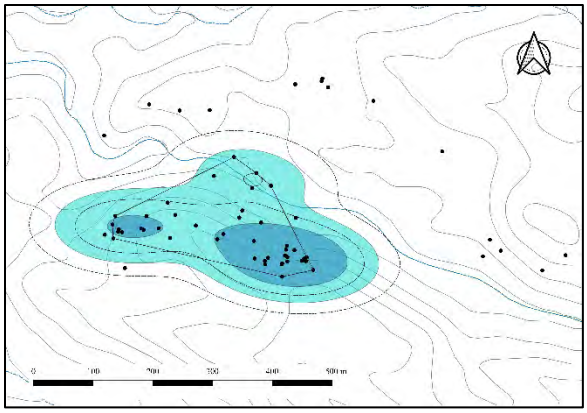
Female #625 (n = 66)



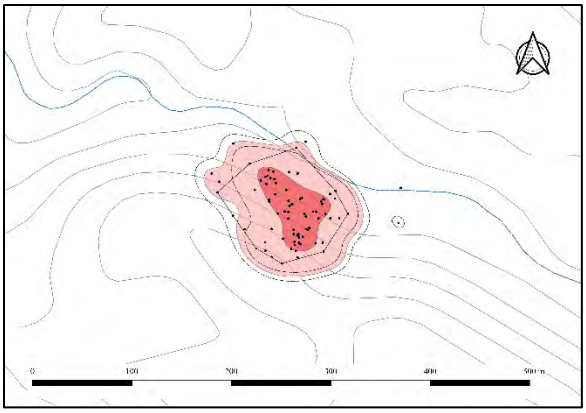
Subadult Female #45 (n = 132)



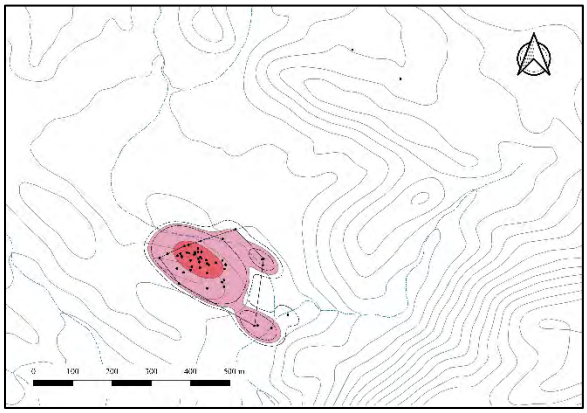
Subadult Female #56 (n = 230)



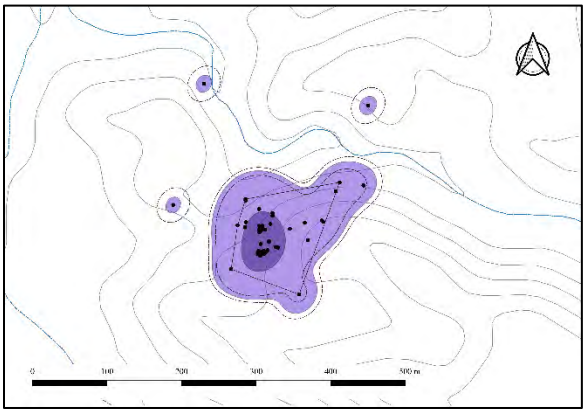
Subadult Female #61 (n = 52)



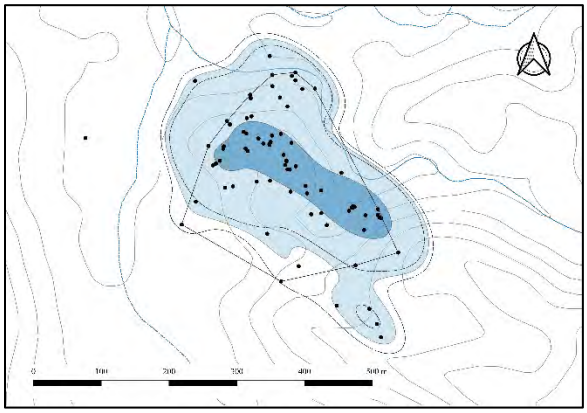
Subadult Female #73 (1998–2001; n = 121)



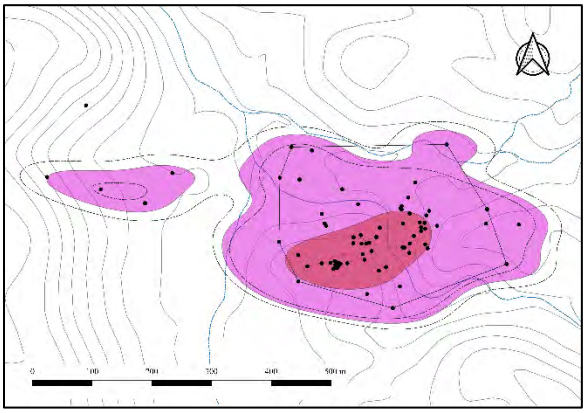
Subadult Female #73 (2002–2004; n = 68)



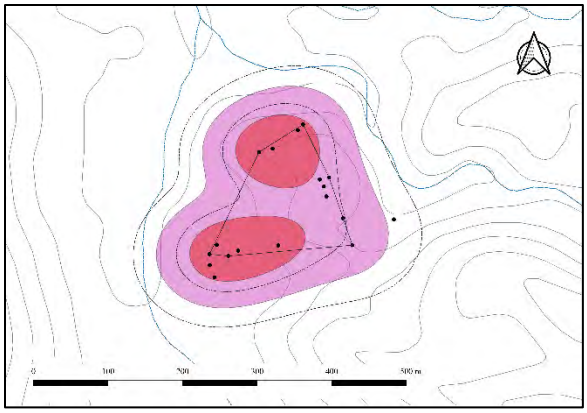
Subadult Female #91 (n = 68)



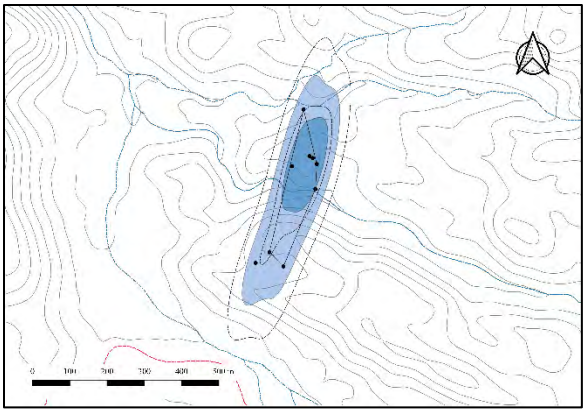
Male #9 (n = 131)



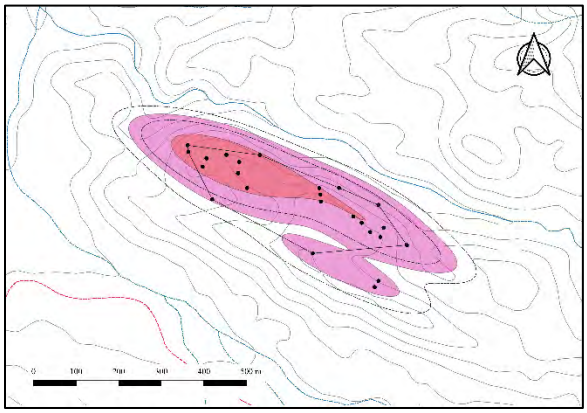
Male #20 (n = 103)



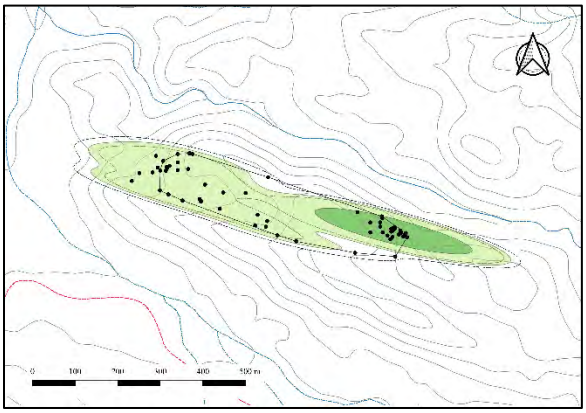
Male #26 (n = 47)



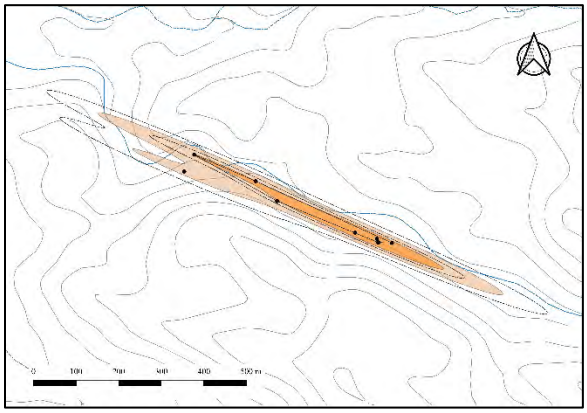
Male #44 (n = 11)



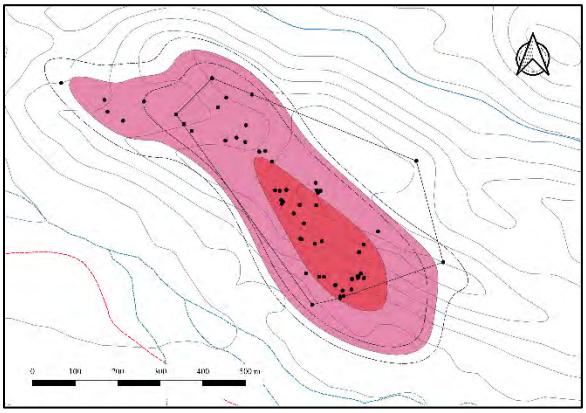
Male #47 (n = 34)



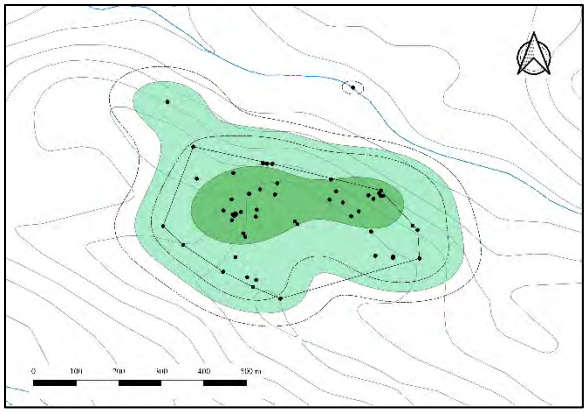
Male #48 (n = 102)



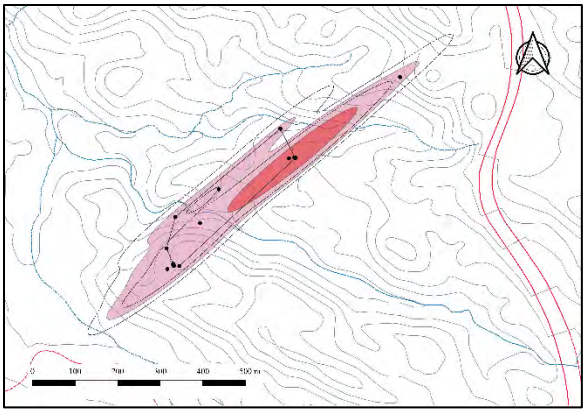
Male #54 (n = 10)



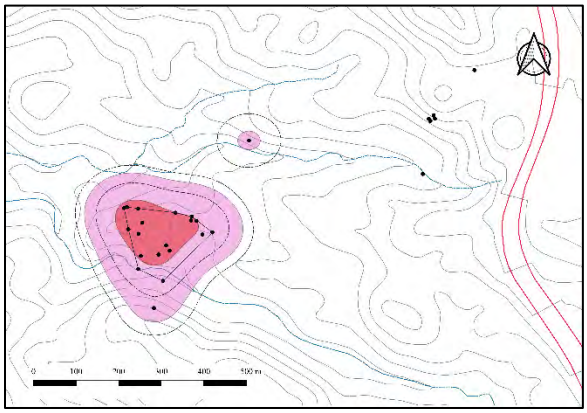
Male #59 (n = 82)



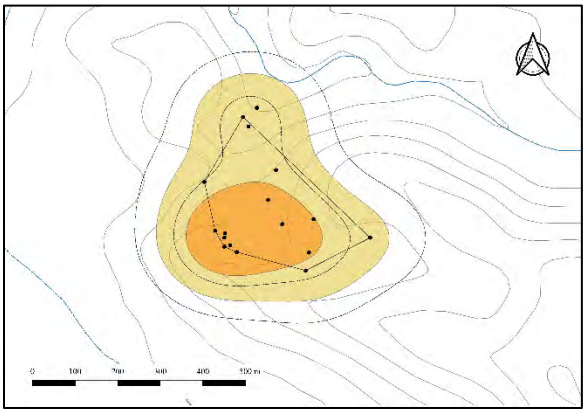
Male #60 (n = 67)



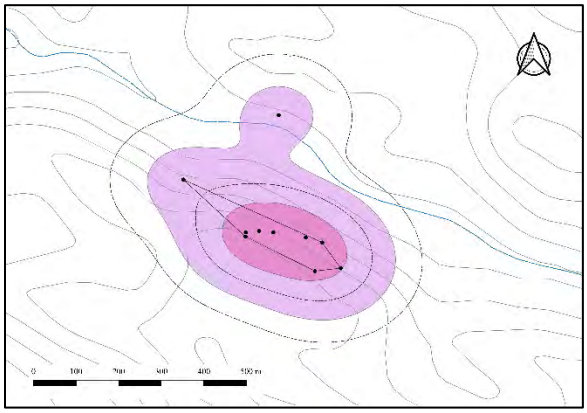
Male #62 (n = 24)



Male #76 (n = 24)



Male #318 (n = 17)



Male #1000 (n = 10)

Appendix F. Annual movement models for Sonoran Desert Tortoises at Sugarloaf Mountain, Arizona.

1997

Sex/ID	No. fixes	Selected Model	DOF area	HR crossing time (days)	95% AKDE (ha)	95% AKDE 95% CI	Core AKDE (ha)	Core AKDE 95% CI	PA	I	Notes
F#1	31	OU	19.2	9	2.7	1.6-4.0	0.7	0.4-1.1	0.27	1.88	
F#3	35	OU	23.3	9	5.6	3.5-8.0	1.3	0.8-1.8	0.23	2.19	
F#25	36	OU	16.8	14	3.2	1.9-4.9	0.8	0.5-1.3	0.26	1.91	
F#29	38	OU	20.6	11	3.4	2.1-5.0	0.8	0.5-1.2	0.23	2.14	
F#46	42	OU	23.8	11	6.6	4.2-9.5	1.8	1.2-2.6	0.28	11.79	
F#51	29	OU	24.9	5	4.8	3.1-6.8	1.3	0.8-1.9	0.27	1.82	
F#57	33	OU	17.4	14	12.2	7.1-18.5	2.3	1.3-3.5	0.19	2.65	1
F#58	36	IID	35.0		4.5	3.1-6.0	1.2	0.8-1.6	0.27	1.86	
F#63	35	OU	32.4	4	7.9	5.4-10.8	2.1	1.4-2.9	0.27	1.88	1
F#65	34	OU	15.1	10	10.8	6.1-16.9	2.6	1.4-4.0	0.24	2.11	
Mean,	34.9			9.7	6.2		1.5		0.25	3.02	
SD	3.60			3.46	3.24		0.67		0.028	3.090	
IF#61	29	IID	28.0		2.9	1.9-4.0	0.4	0.3-0.6	0.16	3.21	2
IF#55	34	BM									

1	Isometric movement model
2	IF#61: Excl. 'exploratory' movement from 10/17/96 through 4/17/97

1998

Sex/ID	No. fixes	Selected Model	DOF area	HR crossing time (days)	95% AKDE (ha)	95% AKDE 95% CI	Core AKDE (ha)	Core AKDE 95% CI	PA	I	Notes
F#1	33	OU	11.2	17	1.9	0.9-3.1	0.5	0.2-0.8	0.25	2.02	
F#3	38	OU	18.5	11	6.7	4.0-10.0	1.7	1.0-2.6	0.26	1.95	1
F#17	37	OU	8.4	36	16.8	7.4-29.8	4.0	1.8-7.2	0.24	2.07	2
F#25	31	OU	14.6	15	7.1	3.9-11.1	1.6	0.9-2.5	0.23	2.20	2
F#29	34	OU	29.2	5	1.3	0.9-1.9	0.3	0.2-0.3	0.19	2.66	
F#46	37	OU	13.6	19	6.5	3.5-10.4	1.9	1.0-3.0	0.29	1.73	
F#51	32	OU	13.4	15	10.9	5.9-17.5	3.1	1.7-4.9	0.28	1.77	
F#57	26	OU	19.4	7	3.4	2.1-5.1	0.7	0.4-1.0	0.20	2.46	1, 2
F#58	37	OU	24.0	8	3.7	2.4-5.4	0.7	0.5-1.0	0.19	2.65	
F#63	40	OU	31.5	6	9.9	6.7-13.6	2.8	1.9-3.9	0.29	1.75	2
F#65	43	OU	22.4	12	6.9	4.4-10.1	1.5	1.0-2.2	0.22	2.24	1
F#66	33	OU	9.8	26	6.2	2.9-10.6	1.6	0.8-2.8	0.26	1.89	1
F#67	28	OU	8.4	26	17.9	7.9-31.9	4.7	2.1-8.4	0.26	1.90	2
F#68	41	OU	29.0	8	2.3	1.5-3.2	0.5	0.3-0.7	0.21	2.34	
F#77	26	OU	23.0	6	5.8	3.7-8.4	1.0	0.6-1.4	0.17	2.99	2, 3

F#80	29	OU	15.5	11	13.1	7.4-20.4	3.8	2.1-5.9	0.29	1.73	
F#81	31	OU	17.7	12	9.5	5.6-14.3	1.9	1.1-2.9	0.21	2.43	
Mean,	33.9			14.1	7.6		1.9		0.24	2.16	
SD	5.13			8.53	4.89		1.34		0.039	0.378	
IF#56	34	OU	24.0	7	4.2	2.7-6.0	1.0	0.7-1.5	0.25	2.04	
IF#61	23	OU	4.2		9.7	6.1-14.2	2.3	1.4-3.3	0.23	2.15	4
IF#73	32	OU	29.5	5	1.1	0.8-1.6	0.3	0.2-0.4	0.24	2.05	
Mean,	29.7			6.0	5.0		1.2		0.24	2.08	
SD	5.86			1.41	4.36		1.01		0.010	0.061	
F#14	31	IOU	tau(velocity) = 6 days, speed = 42 m/day								
IF#55	24	BM									

1	Top model OUF tau(velocity) CI included 0
2	Isometric movement model
3	F#77: Excl. exploratory movement in 1998 (6/19 - 9/3)
4	Model OU tau(position) CI included 0

1999

Sex/ID	No. fixes	Selected Model	DOF area	HR crossing time (days)	95% AKDE (ha)	95% AKDE 95% CI	Core AKDE (ha)	Core AKDE 95% CI	PA	I	Notes
F#1	41	OU	18.0	15	2.8	1.6-4.3	0.7	0.4-1.1	0.26	1.91	
F#3	22	IID	21.0		1.7	1.1-2.5	0.4	0.2-0.6	0.22	2.27	
F#17	36	OU	9.8	26	8.1	3.8-13.9	2.4	1.1-4.1	0.30	1.68	
F#29	36	OU	15.3	14	2.4	1.4-3.7	0.6	0.3-0.9	0.24	2.05	1
F#46	34	OU	15.1	11	11.1	6.2-17.4	2.6	1.4-4.0	0.23	2.15	
F#57	25	OU	20.0	6	2.9	1.8-4.4	0.7	0.4-1.0	0.23	2.20	
F#58	34	OUF	31.1	5	3.3	2.1-4.8	0.8	0.5-1.2	0.25	2.00	2
F#63	39	OU	31.4	5	16.7	11.4-23.1	3.5	2.4-4.9	0.21	2.36	1
F#65	31	IID	30.0		10.4	7.0-14.5	1.7	1.1-2.3	0.16	3.12	3
F#66	32	OU	9.7	24	5.2	2.5-9.0	1.1	0.5-1.9	0.22	2.32	
F#68	46	IID	45.0		4.7	3.4-6.1	0.6	0.4-0.8	0.13	3.87	3
F#81	28	IID	27.0		6.5	4.3-9.2	1.3	0.8-1.8	0.20	2.56	
F#86	28	OU	26.8	3	2.5	1.7-3.6	0.7	0.5-1.0	0.28	1.76	3
Mean,	33.2			12.1	6.0		1.3		0.23	2.33	
SD	6.64			8.43	4.45		0.96		0.046	0.593	
IF#56	31	OU	16.1	10	3.9	2.3-6.1	1.1	0.6-1.7	0.28	1.81	

IF#73	34	OU	20.2	10	2.5	1.5-3.7	0.6	0.4-0.9	0.25	2.00	3
Mean,	32.5			10.0	3.2		0.9		0.27	1.91	
SD	2.12			0.00	0.99		0.35		0.021	0.134	
F#14	33	IOU	tau(velocity) = 5 days, speed = 81 m/day								

1	Top model OUF tau(velocity) CI included 0
2	F#58: Top model OUF tau(velocity) = 3.1 days; speed = 30.4 m/day; DOF area = 21.7
3	Isometric movement model

2000

Sex/ID	No. fixes	Selected Model	DOF area	HR crossing time (days)	95% AKDE (ha)	95% AKDE 95% CI	Core AKDE (ha)	Core AKDE 95% CI	PA	I	Notes
F#1	40	OU	18.0	15	2.6	1.5-4.0	0.8	0.5-1.2	0.30	1.67	
F#3	34	IID	33.0		3.4	2.3-4.6	0.6	0.4-0.8	0.18	2.84	
F#14	17	IID	17.0		2.5	1.4-3.9	0.4	0.3-0.7	0.17	2.86	
F#17	36	OU	18.8	13	3.8	2.3-5.7	1.1	0.6-1.6	0.28	1.79	1
F#29	27	OU	19.9	6	1.5	0.9-2.3	0.3	0.2-0.5	0.20	2.51	
F#46	34	OU	14.5	15	8.1	4.5-12.7	2.2	1.2-3.5	0.28	1.81	1
F#57	18	IID	17.0		0.9	0.5-1.3	0.1	0.1-0.2	0.15	3.23	1
F#58	28	OU	13.9	14	5.7	3.1-9.1	1.3	0.7-2.1	0.23	2.21	1
F#63	39	OU	20.1	11	9.0	5.5-13.4	2.4	1.5-3.6	0.27	1.86	
F#65	35	OU	29.5	5	7.0	4.7-9.8	1.4	1.0-2.0	0.21	2.43	2
F#66	39	OU	9.5	30	8.0	3.8-13.9	1.9	0.9-3.4	0.24	2.06	3
F#68	34	OU	16.7	15	2.6	1.5-4.0	0.4	0.2-0.6	0.15	3.24	1, 2
F#69	32	OU	19.8	10	8.2	5.0-12.2	2.2	1.4-3.3	0.27	1.84	1
F#71	26	OU	22.8	5	6.1	3.9-8.9	1.2	0.8-1.8	0.20	2.45	1
F#72	39	OU	23.8	10	4.4	2.8-6.3	1.3	0.8-1.8	0.29	1.74	

F#80	31	OU	12.6	16	10.7	5.7-17.4	3.1	1.6-5.0	0.29	1.74	
F#81	25	OU	14.9	8	16.5	9.2-25.9	2.8	1.6-4.4	0.17	2.92	
F#86	38	OU	34.6	4	2.1	1.5-2.9	0.4	0.3-0.6	0.21	2.44	
Mean, SD	31.8 6.99			11.8 6.55	5.7 3.95		1.3 0.92		0.23 0.05	2.31 0.533	
IF#56	30	OU	17.8	9	2.6	1.6-4.0	0.7	0.4-1.1	0.27	1.87	
IF#73	31	OU	16.1	14	1.1	0.6-1.7	0.3	0.2-0.4	0.24	2.05	1
Mean, SD	30.5 0.71			11.5 3.54	1.9 1.06		0.5 0.28		0.26 0.02	1.96 0.127	

1	Isometric movement model
2	Top model OUF tau(velocity) CI included 0
3	F#66: HR crossing time = 1.00 mo

2001

Sex/ID	No. fixes	Selected Model	DOF area	HR crossing time (days)	95% AKDE (ha)	95% AKDE 95% CI	Core AKDE (ha)	Core AKDE 95% CI	PA	I	Notes
F#1	38	OU	11.8	22	5.2	2.7-8.5	1.4	0.7-2.4	0.28	1.80	
F#3	37	OU	18.8	11	8.7	5.2-13.0	1.9	1.2-2.9	0.22	2.25	
F#17	38	OU	12.3	20	3.0	1.6-5.0	0.9	0.5-1.5	0.29	1.71	
F#29	36	OU	30.5	5	2.3	1.6-3.2	0.3	0.2-0.4	0.13	3.81	1
F#46	31	OU	22.9	7	7.6	4.8-11.0	1.5	0.9-2.1	0.20	2.56	
F#57	21	IID	20.0		0.5	0.3-0.7	0.1	0.0-0.1	0.12	4.03	1
F#58	37	OU	24.9	8	1.8	1.2-2.6	0.4	0.3-0.6	0.21	2.37	
F#63	37	OU	20.0	11	8.4	5.2-12.5	1.7	1.0-2.5	0.20	2.54	
F#66	30	OU	20.6	9	6.0	3.7-8.9	1.2	0.7-1.8	0.20	2.49	
F#67	29	OU	21.1	7	11.2	6.9-16.4	2.2	1.4-3.3	0.20	2.50	
F#68	42	IID	41.0		1.2	0.9-1.6	0.2	0.1-0.2	0.12	4.05	2
F#69	30	OU	4.9	2	24.2	7.7-49.9	6.4	2.1-13.2	0.27	1.88	3
F#72	42	OU	31.5	7	3.5	2.4-4.8	1.1	0.7-1.5	0.30	1.64	
F#86	34	OU	13.9	17	9.4	5.1-15.0	2.6	1.4-4.1	0.27	1.84	
Mean,	34.4			10.5	6.6		1.6		0.22	2.53	
SD	5.71			6.13	6.08		1.59		0.062	0.84	

IF#45	33	OU	26.5	6	1.9	1.3-2.7	0.5	0.3-0.7	0.24	2.05	
IF#56	31	OU	9.2	22	4.6	2.1-8.1	0.9	0.4-1.6	0.20	2.51	
Mean,	32.0			14.0	3.3		0.7		0.22	2.28	
SD	1.41			11.31	1.91		0.28		0.028	0.33	
M#9	33	OU	19.7	10	8.0	4.9-11.9	1.8	1.1-2.7	0.23	2.18	
F#14	29	BM									
IF#73	24	BM									4

1	F#29: Top model OUF tau(velocity) CI included 0
2	Isometric movement model
3	F#69: Top model OU (isometric) tau(position) CI included 0
4	IF#73: Excludes dispersal in Sep–Oct 2001

2002

Sex/ID	No. fixes	Selected Model	DOF area	HR crossing time (days)	95% AKDE (ha)	95% AKDE 95% CI	Core AKDE (ha)	Core AKDE 95% CI	PA	I	Notes
F#1	35	OU	17.2	12	3.9	2.3-6.0	0.9	0.5-1.4	0.23	2.22	
F#3	33	OU	23.4	8	4.1	2.6-5.9	0.8	0.5-1.1	0.19	2.70	1
F#17	35	OU	24.4	8	2.0	1.3-2.9	0.4	0.3-0.6	0.20	2.49	2
F#29	31	OU	22.6	8	3.9	2.5-5.7	1.0	0.6-1.4	0.25	1.97	
F#46	44	OU	7.5	2	6.4	2.7-11.7	1.7	0.7-3.0	0.26	1.93	
F#58	35	OU	30.4	5	2.4	1.6-3.4	0.4	0.3-0.6	0.18	2.85	
F#63	41	OU	14.1	19	12.3	6.8-19.5	3.4	1.9-5.5	0.28	1.79	
F#66	37	OU	19.8	9	10.4	6.3-15.5	2.6	1.6-3.9	0.25	1.99	
F#68	42	OU	19.2	14	3.1	1.8-4.6	0.5	0.3-0.8	0.18	2.80	
F#72	39	OU	19.7	11	4.9	3.0-7.4	1.4	0.9-2.1	0.29	1.75	
F#86	38	OU	9.2	28	8.3	3.8-14.5	2.0	0.9-3.5	0.24	2.04	
Mean,	37.3			11.3	5.6		1.4		0.23	2.23	
SD	3.98			7.14	3.37		0.97		0.039	0.409	
IF#45	35	OU	29.0	6	2.5	1.7-3.4	0.6	0.4-0.8	0.24	2.10	
IF#56	29	IID	28.0		1.2	0.8-1.7	0.2	0.2-0.3	0.19	2.63	
IF#73	26	OU	17.5	9	6.3	3.7-9.6	1.3	0.8-2.0	0.20	2.45	

Mean, SD	30.0 4.58			7.5 2.12	3.3 2.65		0.7 0.56		0.21 0.026	2.39 0.270	
M#9	32	OU	15.2	15	10.2	5.7-15.9	2.6	1.5-4.1	0.26	1.94	2
M#20	42	OU	25.1	10	8.3	5.0-12.6	1.7	1.0-2.6	0.21	2.39	
M#48	26	OU	18.1	8	14.4	8.5-21.7	3.3	1.9-4.9	0.23	2.21	
M#59	25	OU	14.0	12	19.1	10.5-30.3	4.0	2.2-6.3	0.21	2.39	
M#60	25	OU	19.9	8	8.2	5.0-12.2	2.0	1.2-3.0	0.25	2.02	2
Mean, SD	30.0 7.31			10.6 2.97	12.0 4.68		2.7 0.94		0.23 0.023	2.19 0.207	
F#14	26	IOU	tau(velocity) = 3 days, speed = 21 m/day								

1	F#3: Top model OUF tau(velocity) CI included 0
2	Isometric movement model

2003

Sex/ID	No. fixes	Selected Model	DOF area	HR crossing time (days)	95% AKDE (ha)	95% AKDE 95% CI	Core AKDE (ha)	Core AKDE 95% CI	PA	I	Notes
F#1	30	OU	9.8	26	3.2	1.5-5.5	0.8	0.4-1.4	0.25	1.97	
F#3	41	OU	21.0	13	3.2	2.0-4.7	0.8	0.5-1.1	0.23	2.13	
F#17	45	OU	24.2	12	3.0	1.9-4.2	0.7	0.5-1.0	0.24	2.09	
F#29	35	IID	34.0		2.8	2.0-3.9	0.4	0.2-0.5	0.12	4.04	
F#57	21	IID	20.0		2.5	1.5-3.8	0.4	0.2-0.6	0.16	3.16	1
F#58	33	IID	32.0		6.4	4.4-8.8	0.9	0.6-1.2	0.14	3.69	
F#66	42	OU	24.8	10	3.1	2.0-4.4	0.6	0.4-0.9	0.20	2.46	
F#68	39	OU	22.7	11	1.8	1.1-2.6	0.3	0.2-0.5	0.18	2.82	
F#72	38	OU	34.8	4	3.9	2.7-5.3	1.3	0.9-1.7	0.20	2.48	1
F#86	39	OU	23.2	11	4.3	2.7-6.2	1.1	0.7-1.5	0.25	2.03	2
F#625	28	OU	12.0	14	11.1	5.7-18.2	2.2	1.1-3.6	0.20	2.54	
Mean,	35.5			12.6	4.1		0.9		0.20	2.67	
SD	7.05			6.19	2.60		0.54		0.044	0.693	
IF#45	33	OU	27.7	6	5.0	3.3-7.1	1.0	0.6-1.3	0.19	2.65	1
IF#56	30	OU	10.0	21	2.9	1.4-4.9	0.6	0.3-1.0	0.21	2.41	
IF#73	28	IID	27.0		5.8	3.8-8.2	1.1	0.7-1.5	0.18	2.76	

IF#91	35	IID	34.0		2.6	1.8-3.5	0.4	0.3-0.5	0.15	3.41	
Mean,	31.5			13.5	4.1		0.8		0.18	2.81	
SD	3.11			10.61	1.57		0.33		0.025	0.427	
M#9	32	OU	23.8	9	10.3	6.6-14.8	2.5	1.6-3.7	0.25	2.02	1
M#20	33	OU	23.9	9	9.9	6.1-14.7	2.2	1.4-3.3	0.22	2.23	1
M#48	34	OU	26.6	6	13.9	9.2-19.7	3.1	2.0-4.3	0.22	2.27	
M#59	21	OU	10.2	19	7.9	3.8-13.4	1.7	0.8-2.8	0.21	2.35	
M#60	24	OU	13.6	12	8.3	4.5-13.2	1.9	1.0-3.1	0.23	2.16	
Mean,	28.8			11.0	10.1		2.3		0.23	2.21	
SD	5.89			4.95	2.38		0.55		0.015	0.125	

1	Isometric movement model
2	F#86: Top model OUF tau(velocity) CI included 0

2004

Sex/ID	No. fixes	Selected Model	DOF area	HR crossing time (days)	95% AKDE (ha)	95% AKDE 95% CI	Core AKDE (ha)	Core AKDE 95% CI	PA	I	Notes
F#1	32	OU	6.5	48	8.3	3.2-15.8	2.2	0.9-4.2	0.27	1.87	1, 2
F#3	31	IID	30.0		3.6	2.4-4.9	0.8	0.5-1.0	0.21	2.36	1
F#17	32	OU	10.4	25	4.3	2.1-7.3	1.2	0.6-2.1	0.29	1.74	
F#46	27	OU	8.5	28	9.5	4.2-16.9	2.6	1.1-4.6	0.27	1.84	1
F#57	19	IID	18.0		3.4	2.0-5.2	0.5	0.3-0.8	0.16	3.16	3
F#58	33	OU	26.6	7	2.8	1.9-4.0	0.8	0.5-1.1	0.27	1.83	
F#66	31	OU	11.0	21	7.0	3.5-11.6	1.9	0.9-3.2	0.27	1.84	
F#67	28	OU	21.8	7	11.3	7.1-16.6	2.8	1.7-4.0	0.24	2.06	
F#68	34	OU	30.0	5	2.6	1.8-3.7	0.4	0.3-0.5	0.15	3.39	1
F#72	35	IID	34.0		6.3	4.4-8.6	1.3	0.9-1.7	0.20	2.48	4
F#86	33	OU	14.1	15	18.2	10.0-28.9	2.9	1.6-4.7	0.16	3.09	
F#625	27	IID	26.0		6.0	3.9-8.6	1.3	0.8-1.8	0.21	2.33	1, 3
Mean,	30.2			19.5	6.9		1.6		0.23	2.33	
SD	4.39			14.44	4.49		0.90		0.050	0.586	
IF#56	32	IID	31.0		2.8	1.9-3.9	0.5	0.4-0.8	0.19	2.57	
IF#73	17	IID	13.0		4.6	2.4-7.4	0.7	0.4-1.2	0.16	3.07	1

IF#91	31	OU	20.0	8	3.7	2.3-5.5	0.6	0.4-1.0	0.17	2.88
Mean,	26.7			8.0	3.7		0.6		0.17	2.84
SD	8.39				0.90		0.10		0.015	0.252
M#9	29	IID	28.0		14.5	9.7-20.4	3.2	2.1-4.4	0.22	2.30
M#20	14	IID	13.0		16.8	9.8-25.6	2.9	1.7-4.4	0.17	2.94
M#48	31	OU	22.4	7	8.3	5.2-12.0	1.1	0.7-1.5	0.13	3.91
Mean,	24.7			7.0	13.2		2.4		0.17	3.05
SD	9.29				4.40		1.14		0.045	0.811

1	Isometric movement model
2	F#1: HR crossing time = 1.6 mo
3	Top model OU tau(position) CI included 0
4	OU not included in model set

Appendix G. Bhattacharyya coefficient estimates of AKDE home range overlap. The top panel includes lower 95% confidence limits, with those < 0.01 highlighted. The middle and lower panel includes the maximum likelihood estimates and upper 95% confidence limits, respectively.

	F.1.low	F.3.low	F.25.low	F.29.low	F.46.low	F.51.low	F.57.low	F.58.low	F.63.low	F.65.low	IF.61.low
F#1	1.000	0.247	0.010	0.099	0.017	0.057	0.552	0.493	0.000	0.152	0.004
F#3	0.247	1.000	0.034	0.014	0.121	0.005	0.477	0.242	0.000	0.552	0.009
F#25	0.010	0.034	1.000	0.020	0.000	0.000	0.024	0.000	0.000	0.005	0.000
F#29	0.099	0.014	0.020	1.000	0.001	0.012	0.125	0.289	0.000	0.003	0.000
F#46	0.017	0.121	0.000	0.001	1.000	0.129	0.312	0.068	0.004	0.394	0.524
F#51	0.057	0.005	0.000	0.012	0.129	1.000	0.332	0.067	0.040	0.453	0.035
F#57	0.552	0.477	0.024	0.125	0.312	0.332	1.000	0.426	0.006	0.611	0.051
F#58	0.493	0.242	0.000	0.289	0.068	0.067	0.426	1.000	0.000	0.334	0.020
F#63	0.000	0.000	0.000	0.000	0.004	0.040	0.006	0.000	1.000	0.150	0.001
F#65	0.152	0.552	0.005	0.003	0.394	0.453	0.611	0.334	0.150	1.000	0.067
IF#61	0.004	0.009	0.000	0.000	0.524	0.035	0.051	0.020	0.001	0.067	1.000

1997	F.1.ML	F.3.ML	F.25.ML	F.29.ML	F.46.ML	F.51.ML	F.57.ML	F.58.ML	F.63.ML	F.65.ML	IF.61.ML
F#1	1.00	0.35	0.06	0.23	0.04	0.14	0.72	0.68	0.00	0.29	0.03
F#3	0.35	1.00	0.18	0.09	0.27	0.02	0.60	0.44	0.00	0.68	0.07
F#25	0.06	0.18	1.00	0.10	0.00	0.00	0.07	0.00	0.00	0.02	0.00
F#29	0.23	0.09	0.10	1.00	0.00	0.05	0.24	0.50	0.00	0.01	0.00
F#46	0.04	0.27	0.00	0.00	1.00	0.34	0.47	0.19	0.02	0.56	0.73
F#51	0.14	0.02	0.00	0.05	0.34	1.00	0.46	0.20	0.10	0.54	0.15
F#57	0.72	0.60	0.07	0.24	0.47	0.46	1.00	0.80	0.05	0.79	0.33
F#58	0.68	0.44	0.00	0.50	0.19	0.20	0.80	1.00	0.00	0.48	0.09
F#63	0.00	0.00	0.00	0.00	0.02	0.10	0.05	0.00	1.00	0.26	0.01
F#65	0.29	0.68	0.02	0.01	0.56	0.54	0.79	0.48	0.26	1.00	0.27
IF#61	0.03	0.07	0.00	0.00	0.73	0.15	0.33	0.09	0.01	0.27	1.00

Excludes IF#61's range shift in spring (3/6 - 4/17)

	F.1.high	F.3.high	F.25.high	F.29.high	F.46.high	F.51.high	F.57.high	F.58.high	F.63.high	F.65.high	IF.61.high
F#1	1.00	0.48	0.22	0.44	0.08	0.30	0.86	0.85	0.00	0.49	0.15
F#3	0.48	1.00	0.55	0.33	0.50	0.09	0.72	0.67	0.00	0.81	0.27
F#25	0.22	0.55	1.00	0.33	0.00	0.00	0.16	0.01	0.00	0.09	0.00
F#29	0.44	0.33	0.33	1.00	0.01	0.15	0.40	0.74	0.00	0.05	0.01
F#46	0.08	0.50	0.00	0.01	1.00	0.65	0.65	0.42	0.08	0.73	0.91
F#51	0.30	0.09	0.00	0.15	0.65	1.00	0.59	0.46	0.22	0.63	0.44
F#57	0.86	0.72	0.16	0.40	0.65	0.59	1.00	0.99	0.27	0.93	0.86
F#58	0.85	0.67	0.01	0.74	0.42	0.46	0.99	1.00	0.00	0.64	0.29
F#63	0.00	0.00	0.00	0.00	0.08	0.22	0.27	0.00	1.00	0.42	0.03
F#65	0.49	0.81	0.09	0.05	0.73	0.63	0.93	0.64	0.42	1.00	0.66
IF#61	0.15	0.27	0.00	0.01	0.91	0.44	0.86	0.29	0.03	0.66	1.00

	F.1.low	F.3.low	F.17.low	F.25.low	F.29.low	F.46.low	F.51.low	F.57.low	F.58.low	F.63.low	F.65.low	F.66.low	F.67.low	F.68.low	F.77.low	F.80.low	F.81.low	IF.55.low	IF.56.low	IF.61.low	IF.73.low
F#1	1.000	0.257	0.102	0.048	0.006	0.004	0.094	0.152	0.191	0.000	0.013	0.052	0.000	0.000	0.000	0.000	0.001	0.000	0.013	0.215	0.000
F#3	0.257	1.000	0.066	0.048	0.023	0.065	0.085	0.596	0.586	0.000	0.519	0.008	0.016	0.000	0.050	0.000	0.000	0.000	0.052	0.525	0.001
F#17	0.102	0.066	1.000	0.030	0.003	0.000	0.004	0.001	0.002	0.000	0.000	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000
F#25	0.048	0.048	0.030	1.000	0.034	0.000	0.003	0.006	0.010	0.000	0.004	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.089	0.000
F#29	0.006	0.023	0.003	0.034	1.000	0.000	0.004	0.001	0.020	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000
F#46	0.004	0.065	0.000	0.000	0.000	1.000	0.234	0.020	0.017	0.009	0.199	0.009	0.306	0.000	0.005	0.008	0.084	0.000	0.360	0.466	0.131
F#51	0.094	0.085	0.004	0.003	0.004	0.234	1.000	0.037	0.045	0.124	0.303	0.184	0.058	0.012	0.001	0.011	0.065	0.000	0.026	0.201	0.009
F#57	0.152	0.596	0.001	0.006	0.001	0.020	0.037	1.000	0.884	0.000	0.518	0.064	0.002	0.000	0.014	0.000	0.000	0.000	0.081	0.511	0.000
F#58	0.191	0.586	0.002	0.010	0.020	0.017	0.045	0.884	1.000	0.000	0.439	0.087	0.001	0.000	0.008	0.000	0.000	0.000	0.077	0.536	0.000
F#63	0.000	0.000	0.000	0.000	0.000	0.009	0.124	0.000	0.000	1.000	0.038	0.008	0.207	0.192	0.000	0.487	0.028	0.000	0.000	0.014	0.000
F#65	0.013	0.519	0.000	0.004	0.000	0.199	0.303	0.518	0.439	0.038	1.000	0.034	0.067	0.000	0.013	0.005	0.057	0.000	0.133	0.636	0.059
F#66	0.052	0.008	0.011	0.001	0.001	0.009	0.184	0.064	0.087	0.008	0.034	1.000	0.001	0.000	0.000	0.000	0.007	0.000	0.001	0.017	0.000
F#67	0.000	0.016	0.000	0.000	0.000	0.306	0.058	0.002	0.001	0.207	0.067	0.001	1.000	0.000	0.008	0.130	0.375	0.000	0.192	0.069	0.000
F#68	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0.192	0.000	0.000	0.000	1.000	0.000	0.153	0.000	0.000	0.000	0.000	0.000
F#77	0.000	0.050	0.000	0.000	0.000	0.005	0.001	0.014	0.008	0.000	0.013	0.000	0.008	0.000	1.000	0.000	0.000	0.000	0.002	0.013	0.000
F#80	0.000	0.000	0.000	0.000	0.000	0.008	0.011	0.000	0.000	0.487	0.005	0.000	0.130	0.153	0.000	1.000	0.053	0.000	0.002	0.003	0.000
F#81	0.001	0.000	0.000	0.000	0.000	0.084	0.065	0.000	0.000	0.028	0.057	0.007	0.375	0.000	0.000	0.053	1.000	0.000	0.019	0.075	0.006
IF#55	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
IF#56	0.013	0.052	0.000	0.000	0.000	0.360	0.026	0.081	0.077	0.000	0.133	0.001	0.192	0.000	0.002	0.002	0.019	0.000	1.000	0.272	0.028
IF#61	0.215	0.525	0.007	0.089	0.006	0.466	0.201	0.511	0.536	0.014	0.636	0.017	0.069	0.000	0.013	0.003	0.075	0.000	0.272	1.000	0.048
IF#73	0.000	0.001	0.000	0.000	0.000	0.131	0.009	0.000	0.000	0.000	0.059	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.028	0.048	1.000

1998	F.1.ML	F.3.ML	F.17.ML	F.25.ML	F.29.ML	F.46.ML	F.51.ML	F.57.ML	F.58.ML	F.63.ML	F.65.ML	F.66.ML	F.67.ML	F.68.ML	F.77.ML	F.80.ML	F.81.ML	IF.55.ML	IF.56.ML	IF.61.ML	IF.73.ML
F#1	1.00	0.41	0.15	0.17	0.05	0.02	0.22	0.34	0.33	0.00	0.05	0.18	0.00	0.00	0.00	0.00	0.01	0.00	0.05	0.32	0.00
F#3	0.41	1.00	0.19	0.16	0.18	0.20	0.18	0.79	0.75	0.00	0.69	0.03	0.05	0.00	0.19	0.00	0.00	0.00	0.22	0.67	0.02
F#17	0.15	0.19	1.00	0.27	0.38	0.00	0.05	0.05	0.10	0.00	0.01	0.12	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.07	0.00
F#25	0.17	0.16	0.27	1.00	0.17	0.00	0.04	0.10	0.11	0.00	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.21	0.00
F#29	0.05	0.18	0.38	0.17	1.00	0.00	0.02	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
F#46	0.02	0.20	0.00	0.00	0.00	1.00	0.47	0.12	0.09	0.03	0.43	0.06	0.52	0.00	0.04	0.05	0.34	0.00	0.61	0.69	0.67
F#51	0.22	0.18	0.05	0.04	0.02	0.47	1.00	0.26	0.28	0.33	0.62	0.52	0.15	0.15	0.02	0.06	0.17	0.00	0.14	0.50	0.35
F#57	0.34	0.79	0.05	0.10	0.00	0.12	0.26	1.00	0.99	0.00	0.71	0.20	0.01	0.00	0.06	0.00	0.01	0.00	0.18	0.62	0.00
F#58	0.33	0.75	0.10	0.11	0.07	0.09	0.28	0.99	1.00	0.00	0.65	0.23	0.00	0.00	0.03	0.00	0.01	0.00	0.15	0.64	0.00
F#63	0.00	0.00	0.00	0.00	0.00	0.03	0.33	0.00	0.00	1.00	0.12	0.03	0.38	0.56	0.00	0.64	0.09	0.00	0.00	0.05	0.00
F#65	0.05	0.69	0.01	0.04	0.00	0.43	0.62	0.71	0.65	0.12	1.00	0.11	0.12	0.00	0.07	0.03	0.11	0.00	0.26	0.73	0.22
F#66	0.18	0.03	0.12	0.03	0.00	0.06	0.52	0.20	0.23	0.03	0.11	1.00	0.01	0.02	0.00	0.00	0.04	0.00	0.02	0.13	0.02
F#67	0.00	0.05	0.00	0.00	0.00	0.52	0.15	0.01	0.00	0.38	0.12	0.01	1.00	0.02	0.18	0.58	0.57	0.00	0.43	0.29	0.14
F#68	0.00	0.00	0.01	0.00	0.00	0.00	0.15	0.00	0.00	0.56	0.00	0.02	0.02	1.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00
F#77	0.00	0.19	0.00	0.00	0.00	0.04	0.02	0.06	0.03	0.00	0.07	0.00	0.18	0.00	1.00	0.00	0.00	0.00	0.02	0.05	0.00
F#80	0.00	0.00	0.00	0.00	0.00	0.05	0.06	0.00	0.00	0.64	0.03	0.00	0.58	0.26	0.00	1.00	0.20	0.00	0.04	0.03	0.00
F#81	0.01	0.00	0.00	0.00	0.00	0.34	0.17	0.01	0.01	0.09	0.11	0.04	0.57	0.00	0.00	0.20	1.00	0.00	0.10	0.18	0.11
IF#55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
IF#56	0.05	0.22	0.01	0.01	0.00	0.61	0.14	0.18	0.15	0.00	0.26	0.02	0.43	0.00	0.02	0.04	0.10	0.00	1.00	0.47	0.14
IF#61	0.32	0.67	0.07	0.21	0.01	0.69	0.50	0.62	0.64	0.05	0.73	0.13	0.29	0.00	0.05	0.03	0.18	0.00	0.47	1.00	0.33
IF#73	0.00	0.02	0.00	0.00	0.00	0.67	0.35	0.00	0.00	0.00	0.22	0.02	0.14	0.00	0.00	0.00	0.11	0.00	0.14	0.33	1.00

F#77 includes exploratory movement from 6/19 through 9/3

	F.1.high	F.3.high	F.17.high	F.25.high	F.29.high	F.46.high	F.51.high	F.57.high	F.58.high	F.63.high	F.65.high	F.66.high	F.67.high	F.68.high	F.77.high	F.80.high	F.81.high	IF.55.high	IF.56.high	IF.61.high	IF.73.high
F#1	1.00	0.59	0.23	0.44	0.24	0.05	0.44	0.60	0.51	0.00	0.14	0.43	0.00	0.00	0.00	0.00	0.03	0.00	0.16	0.46	0.00
F#3	0.59	1.00	0.42	0.39	0.64	0.46	0.32	0.94	0.89	0.00	0.85	0.10	0.13	0.00	0.48	0.00	0.01	0.00	0.57	0.80	0.15
F#17	0.23	0.42	1.00	0.83	1.00	0.09	0.29	0.56	0.73	0.08	0.13	0.54	0.00	0.54	0.02	0.00	0.03	0.00	0.51	0.37	0.21
F#25	0.44	0.39	0.83	1.00	0.49	0.04	0.21	0.51	0.48	0.00	0.20	0.28	0.00	0.00	0.01	0.00	0.02	0.00	0.10	0.41	0.05
F#29	0.24	0.64	1.00	0.49	1.00	0.00	0.05	0.01	0.19	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
F#46	0.05	0.46	0.09	0.04	0.00	1.00	0.75	0.40	0.33	0.10	0.73	0.27	0.75	0.00	0.19	0.21	0.78	0.00	0.86	0.89	1.00
F#51	0.44	0.32	0.29	0.21	0.05	0.75	1.00	0.78	0.77	0.64	0.91	0.89	0.32	0.65	0.14	0.24	0.38	0.00	0.46	0.84	1.00
F#57	0.60	0.94	0.56	0.51	0.01	0.40	0.78	1.00	1.00	0.00	0.88	0.45	0.02	0.00	0.19	0.00	0.12	0.00	0.33	0.74	0.03
F#58	0.51	0.89	0.73	0.48	0.19	0.33	0.77	1.00	1.00	0.00	0.85	0.47	0.01	0.00	0.11	0.00	0.11	0.00	0.28	0.73	0.04
F#63	0.00	0.00	0.08	0.00	0.00	0.10	0.64	0.00	0.00	1.00	0.29	0.09	0.61	0.93	0.00	0.80	0.23	0.00	0.00	0.12	0.01
F#65	0.14	0.85	0.13	0.20	0.00	0.73	0.91	0.88	0.85	0.29	1.00	0.28	0.21	0.04	0.27	0.13	0.19	0.00	0.46	0.82	0.54
F#66	0.43	0.10	0.54	0.28	0.02	0.27	0.89	0.45	0.47	0.09	0.28	1.00	0.02	0.47	0.01	0.00	0.13	0.00	0.17	0.48	0.68
F#67	0.00	0.13	0.00	0.00	0.00	0.75	0.32	0.02	0.01	0.61	0.21	0.02	1.00	0.69	0.83	0.99	0.77	0.00	0.74	0.69	1.00
F#68	0.00	0.00	0.54	0.00	0.00	0.00	0.65	0.00	0.00	0.93	0.04	0.47	0.69	1.00	0.00	0.41	0.00	0.00	0.00	0.00	0.00
F#77	0.00	0.48	0.02	0.01	0.00	0.19	0.14	0.19	0.11	0.00	0.27	0.01	0.83	0.00	1.00	0.00	0.00	0.00	0.07	0.13	0.01
F#80	0.00	0.00	0.00	0.00	0.00	0.21	0.24	0.00	0.00	0.80	0.13	0.00	0.99	0.41	0.00	1.00	0.52	0.00	0.27	0.19	0.19
F#81	0.03	0.01	0.03	0.02	0.00	0.78	0.38	0.12	0.11	0.23	0.19	0.13	0.77	0.00	0.00	0.52	1.00	0.00	0.35	0.35	0.57
IF#55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
IF#56	0.16	0.57	0.51	0.10	0.01	0.86	0.46	0.33	0.28	0.00	0.46	0.17	0.74	0.00	0.07	0.27	0.35	0.00	1.00	0.70	0.42
IF#61	0.46	0.80	0.37	0.41	0.01	0.89	0.84	0.74	0.73	0.12	0.82	0.48	0.69	0.00	0.13	0.19	0.35	0.00	0.70	1.00	0.86
IF#73	0.00	0.15	0.21	0.05	0.00	1.00	1.00	0.03	0.04	0.01	0.54	0.68	1.00	0.00	0.01	0.19	0.57	0.00	0.42	0.86	1.00

	F.1.low	F.3.low	F.17.low	F.29.low	F.46.low	F.57.low	F.58.low	F.63.low	F.65.low	F.66.low	F.68.low	F.81.low	F.86.low	IF.56.low	IF.73.low
F#1	1.000	0.004	0.000	0.051	0.051	0.162	0.202	0.002	0.108	0.100	0.000	0.000	0.000	0.002	0.000
F#3	0.004	1.000	0.000	0.000	0.262	0.410	0.324	0.000	0.561	0.002	0.000	0.000	0.000	0.113	0.008
F#17	0.000	0.000	1.000	0.179	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.288	0.000	0.000
F#29	0.051	0.000	0.179	1.000	0.001	0.003	0.002	0.000	0.002	0.001	0.000	0.000	0.002	0.000	0.000
F#46	0.051	0.262	0.002	0.001	1.000	0.099	0.094	0.029	0.253	0.001	0.000	0.172	0.000	0.420	0.107
F#57	0.162	0.410	0.000	0.003	0.099	1.000	0.816	0.001	0.575	0.079	0.000	0.000	0.000	0.034	0.000
F#58	0.202	0.324	0.000	0.002	0.094	0.816	1.000	0.003	0.556	0.146	0.000	0.000	0.000	0.027	0.000
F#63	0.002	0.000	0.000	0.000	0.029	0.001	0.003	1.000	0.049	0.053	0.455	0.036	0.000	0.006	0.006
F#65	0.108	0.561	0.000	0.002	0.253	0.575	0.556	0.049	1.000	0.078	0.014	0.008	0.000	0.059	0.090
F#66	0.100	0.002	0.000	0.001	0.001	0.079	0.146	0.053	0.078	1.000	0.003	0.001	0.000	0.000	0.000
F#68	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.455	0.014	0.003	1.000	0.001	0.000	0.000	0.002
F#81	0.000	0.000	0.000	0.000	0.172	0.000	0.000	0.036	0.008	0.001	0.001	1.000	0.000	0.086	0.052
F#86	0.000	0.000	0.288	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000
IF#56	0.002	0.113	0.000	0.000	0.420	0.034	0.027	0.006	0.059	0.000	0.000	0.086	0.000	1.000	0.054
IF#73	0.000	0.008	0.000	0.000	0.107	0.000	0.000	0.006	0.090	0.000	0.002	0.052	0.000	0.054	1.000

1999	F.1.ML	F.3.ML	F.17.ML	F.29.ML	F.46.ML	F.57.ML	F.58.ML	F.63.ML	F.65.ML	F.66.ML	F.68.ML	F.81.ML	F.86.ML	IF.56.ML	IF.73.ML
F#1	1.00	0.04	0.00	0.17	0.11	0.35	0.40	0.01	0.21	0.28	0.00	0.00	0.00	0.01	0.00
F#3	0.04	1.00	0.00	0.00	0.33	0.56	0.50	0.00	0.67	0.01	0.00	0.00	0.00	0.25	0.03
F#17	0.00	0.00	1.00	0.46	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.00
F#29	0.17	0.00	0.46	1.00	0.01	0.03	0.02	0.00	0.02	0.01	0.00	0.00	0.01	0.00	0.00
F#46	0.11	0.33	0.02	0.01	1.00	0.24	0.22	0.10	0.43	0.03	0.01	0.36	0.00	0.81	0.54
F#57	0.35	0.56	0.00	0.03	0.24	1.00	0.94	0.01	0.73	0.21	0.01	0.00	0.00	0.10	0.00
F#58	0.40	0.50	0.00	0.02	0.22	0.94	1.00	0.01	0.69	0.32	0.00	0.00	0.00	0.09	0.01
F#63	0.01	0.00	0.00	0.00	0.10	0.01	0.01	1.00	0.14	0.18	0.73	0.11	0.00	0.04	0.05
F#65	0.21	0.67	0.00	0.02	0.43	0.73	0.69	0.14	1.00	0.23	0.10	0.03	0.00	0.20	0.21
F#66	0.28	0.01	0.00	0.01	0.03	0.21	0.32	0.18	0.23	1.00	0.04	0.00	0.00	0.00	0.02
F#68	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.73	0.10	0.04	1.00	0.00	0.00	0.00	0.03
F#81	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.11	0.03	0.00	0.00	1.00	0.00	0.20	0.15
F#86	0.00	0.00	0.70	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
IF#56	0.01	0.25	0.00	0.00	0.81	0.10	0.09	0.04	0.20	0.00	0.00	0.20	0.00	1.00	0.18
IF#73	0.00	0.03	0.00	0.00	0.54	0.00	0.01	0.05	0.21	0.02	0.03	0.15	0.00	0.18	1.00

	F.1.high	F.3.high	F.17.high	F.29.high	F.46.high	F.57.high	F.58.high	F.63.high	F.65.high	F.66.high	F.68.high	F.81.high	F.86.high	IF.56.high	IF.73.high
F#1	1.00	0.24	0.01	0.41	0.20	0.62	0.66	0.04	0.37	0.59	0.04	0.00	0.00	0.06	0.00
F#3	0.24	1.00	0.00	0.00	0.40	0.71	0.69	0.00	0.77	0.05	0.00	0.00	0.00	0.48	0.08
F#17	0.01	0.00	1.00	0.81	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
F#29	0.41	0.00	0.81	1.00	0.05	0.15	0.10	0.00	0.08	0.06	0.00	0.00	0.06	0.00	0.00
F#46	0.20	0.40	0.10	0.05	1.00	0.47	0.43	0.25	0.65	0.34	0.50	0.62	0.00	1.00	0.98
F#57	0.62	0.71	0.00	0.15	0.47	1.00	1.00	0.02	0.86	0.45	0.17	0.01	0.00	0.24	0.03
F#58	0.66	0.69	0.00	0.10	0.43	1.00	1.00	0.04	0.82	0.56	0.06	0.00	0.00	0.24	0.07
F#63	0.04	0.00	0.00	0.00	0.25	0.02	0.04	1.00	0.34	0.44	0.94	0.29	0.00	0.18	0.23
F#65	0.37	0.77	0.00	0.08	0.65	0.86	0.82	0.34	1.00	0.50	0.39	0.07	0.00	0.48	0.42
F#66	0.59	0.05	0.00	0.06	0.34	0.45	0.56	0.44	0.50	1.00	0.27	0.01	0.00	0.06	0.28
F#68	0.04	0.00	0.00	0.00	0.50	0.17	0.06	0.94	0.39	0.27	1.00	0.02	0.00	0.00	0.18
F#81	0.00	0.00	0.00	0.00	0.62	0.01	0.00	0.29	0.07	0.01	0.02	1.00	0.00	0.40	0.35
F#86	0.00	0.00	0.99	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
IF#56	0.06	0.48	0.00	0.00	1.00	0.24	0.24	0.18	0.48	0.06	0.00	0.40	0.00	1.00	0.42
IF#73	0.00	0.08	0.00	0.00	0.98	0.03	0.07	0.23	0.42	0.28	0.18	0.35	0.00	0.42	1.00

	F.1.low	F.3.low	F.14.low	F.17.low	F.29.low	F.46.low	F.57.low	F.58.low	F.63.low	F.65.low	F.66.low	F.68.low	F.69.low	F.71.low	F.72.low	F.80.low	F.81.low	F.86.low	IF.56.low	IF.73.low
F#1	1.000	0.093	0.000	0.000	0.006	0.002	0.007	0.506	0.000	0.060	0.047	0.000	0.032	0.000	0.005	0.000	0.031	0.000	0.000	0.000
F#3	0.093	1.000	0.000	0.000	0.001	0.159	0.404	0.575	0.000	0.541	0.021	0.000	0.363	0.000	0.373	0.000	0.076	0.000	0.001	0.000
F#14	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
F#17	0.000	0.000	0.000	1.000	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.524	0.000	0.000
F#29	0.006	0.001	0.000	0.023	1.000	0.000	0.000	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000
F#46	0.002	0.159	0.000	0.000	0.000	1.000	0.001	0.075	0.003	0.096	0.012	0.000	0.558	0.000	0.328	0.000	0.239	0.000	0.175	0.043
F#57	0.007	0.404	0.000	0.000	0.000	0.001	1.000	0.433	0.000	0.408	0.012	0.000	0.137	0.000	0.155	0.000	0.066	0.000	0.000	0.000
F#58	0.506	0.575	0.000	0.000	0.009	0.075	0.433	1.000	0.000	0.525	0.085	0.000	0.226	0.000	0.154	0.000	0.075	0.000	0.000	0.005
F#63	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	1.000	0.008	0.001	0.276	0.000	0.512	0.000	0.464	0.008	0.000	0.000	0.000
F#65	0.060	0.541	0.000	0.000	0.000	0.096	0.408	0.525	0.008	1.000	0.158	0.010	0.303	0.005	0.168	0.002	0.086	0.000	0.000	0.012
F#66	0.047	0.021	0.000	0.000	0.000	0.012	0.012	0.085	0.001	0.158	1.000	0.000	0.008	0.000	0.002	0.000	0.005	0.000	0.000	0.000
F#68	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.276	0.010	0.000	1.000	0.000	0.086	0.000	0.189	0.000	0.000	0.000	0.000
F#69	0.032	0.363	0.000	0.000	0.000	0.558	0.137	0.226	0.000	0.303	0.008	0.000	1.000	0.000	0.716	0.000	0.096	0.000	0.038	0.040
F#71	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.512	0.005	0.000	0.086	0.000	1.000	0.000	0.714	0.003	0.000	0.000	0.000
F#72	0.005	0.373	0.000	0.000	0.000	0.328	0.155	0.154	0.000	0.168	0.002	0.000	0.716	0.000	1.000	0.000	0.028	0.000	0.061	0.006
F#80	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.464	0.002	0.000	0.189	0.000	0.714	0.000	1.000	0.023	0.000	0.000	0.000
F#81	0.031	0.076	0.000	0.001	0.003	0.239	0.066	0.075	0.008	0.086	0.005	0.000	0.096	0.003	0.028	0.023	1.000	0.000	0.063	0.002
F#86	0.000	0.000	0.000	0.524	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000
IF#56	0.000	0.001	0.000	0.000	0.000	0.175	0.000	0.000	0.000	0.000	0.000	0.000	0.038	0.000	0.061	0.000	0.063	0.000	1.000	0.001
IF#73	0.000	0.000	0.000	0.000	0.000	0.043	0.000	0.005	0.000	0.012	0.000	0.000	0.040	0.000	0.006	0.000	0.002	0.000	0.001	1.000

2000	F.1.ML	F.3.ML	F.14.ML	F.17.ML	F.29.ML	F.46.ML	F.57.ML	F.58.ML	F.63.ML	F.65.ML	F.66.ML	F.68.ML	F.69.ML	F.71.ML	F.72.ML	F.80.ML	F.81.ML	F.86.ML	IF.56.ML	IF.73.ML
F#1	1.00	0.19	0.00	0.00	0.05	0.01	0.08	0.65	0.00	0.15	0.15	0.00	0.06	0.00	0.01	0.00	0.09	0.00	0.00	0.00
F#3	0.19	1.00	0.00	0.00	0.01	0.25	0.71	0.70	0.00	0.62	0.04	0.00	0.46	0.00	0.50	0.00	0.12	0.00	0.00	0.00
F#14	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F#17	0.00	0.00	0.00	1.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.00
F#29	0.05	0.01	0.00	0.11	1.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
F#46	0.01	0.25	0.00	0.00	0.00	1.00	0.09	0.29	0.03	0.30	0.06	0.00	0.85	0.00	0.67	0.01	0.38	0.00	0.54	0.51
F#57	0.08	0.71	0.00	0.00	0.00	0.09	1.00	0.56	0.00	0.50	0.02	0.00	0.19	0.00	0.23	0.00	0.10	0.00	0.00	0.00
F#58	0.65	0.70	0.00	0.00	0.03	0.29	0.56	1.00	0.00	0.73	0.22	0.00	0.43	0.00	0.35	0.00	0.16	0.00	0.02	0.12
F#63	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	1.00	0.08	0.01	0.69	0.00	0.77	0.00	0.67	0.07	0.00	0.00	0.00
F#65	0.15	0.62	0.00	0.00	0.00	0.30	0.50	0.73	0.08	1.00	0.28	0.07	0.42	0.04	0.29	0.01	0.16	0.00	0.00	0.11
F#66	0.15	0.04	0.00	0.00	0.00	0.06	0.02	0.22	0.01	0.28	1.00	0.02	0.07	0.00	0.04	0.00	0.04	0.00	0.00	0.03
F#68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.07	0.02	1.00	0.00	0.20	0.00	0.28	0.00	0.00	0.00	0.00
F#69	0.06	0.46	0.00	0.00	0.00	0.85	0.19	0.43	0.00	0.42	0.07	0.00	1.00	0.00	0.88	0.00	0.18	0.00	0.15	0.49
F#71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.04	0.00	0.20	0.00	1.00	0.00	0.79	0.01	0.00	0.00	0.00
F#72	0.01	0.50	0.00	0.00	0.00	0.67	0.23	0.35	0.00	0.29	0.04	0.00	0.88	0.00	1.00	0.00	0.11	0.00	0.22	0.07
F#80	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.67	0.01	0.00	0.28	0.00	0.79	0.00	1.00	0.13	0.00	0.00	0.00
F#81	0.09	0.12	0.00	0.00	0.03	0.38	0.10	0.16	0.07	0.16	0.04	0.00	0.18	0.01	0.11	0.13	1.00	0.00	0.37	0.15
F#86	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
IF#56	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.02	0.00	0.00	0.00	0.00	0.15	0.00	0.22	0.00	0.37	0.00	1.00	0.02
IF#73	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.12	0.00	0.11	0.03	0.00	0.49	0.00	0.07	0.00	0.15	0.00	0.02	1.00

	F.1.high	F.3.high	F.14.high	F.17.high	F.29.high	F.46.high	F.57.high	F.58.high	F.63.high	F.65.high	F.66.high	F.68.high	F.69.high	F.71.high	F.72.high	F.80.high	F.81.high	F.86.high	IF.56.high	IF.73.high
F#1	1.00	0.35	0.00	0.00	0.25	0.01	0.41	0.80	0.00	0.30	0.38	0.00	0.11	0.00	0.04	0.00	0.20	0.00	0.00	0.00
F#3	0.35	1.00	0.00	0.02	0.05	0.36	0.95	0.81	0.00	0.70	0.06	0.00	0.56	0.00	0.64	0.00	0.18	0.00	0.02	0.02
F#14	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F#17	0.00	0.02	0.00	1.00	0.36	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.88	0.00	0.00
F#29	0.25	0.05	0.00	0.36	1.00	0.00	0.00	0.08	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.01	0.00	0.00
F#46	0.01	0.36	0.00	0.00	0.00	1.00	0.77	0.68	0.13	0.64	0.22	0.00	1.00	0.02	0.95	0.08	0.54	0.00	0.94	1.00
F#57	0.41	0.95	0.00	0.00	0.00	0.77	1.00	0.69	0.00	0.59	0.03	0.00	0.25	0.00	0.32	0.00	0.15	0.00	0.00	0.00
F#58	0.80	0.81	0.00	0.01	0.08	0.68	0.69	1.00	0.00	0.90	0.47	0.00	0.68	0.00	0.63	0.00	0.29	0.00	0.18	0.70
F#63	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	1.00	0.36	0.07	0.98	0.01	0.96	0.00	0.85	0.31	0.00	0.01	0.03
F#65	0.30	0.70	0.00	0.00	0.01	0.64	0.59	0.90	0.36	1.00	0.44	0.30	0.55	0.19	0.45	0.06	0.27	0.00	0.01	0.45
F#66	0.38	0.06	0.00	0.00	0.00	0.22	0.03	0.47	0.07	0.44	1.00	0.54	0.33	0.02	0.27	0.01	0.17	0.01	0.00	0.61
F#68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.30	0.54	1.00	0.00	0.40	0.00	0.39	0.00	0.00	0.00	0.00
F#69	0.11	0.56	0.00	0.00	0.00	1.00	0.25	0.68	0.01	0.55	0.33	0.00	1.00	0.00	0.98	0.00	0.30	0.00	0.42	1.00
F#71	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.96	0.19	0.02	0.40	0.00	1.00	0.00	0.85	0.05	0.00	0.00	0.00
F#72	0.04	0.64	0.00	0.00	0.00	0.95	0.32	0.63	0.00	0.45	0.27	0.00	0.98	0.00	1.00	0.00	0.32	0.00	0.52	0.34
F#80	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.85	0.06	0.01	0.39	0.00	0.85	0.00	1.00	0.44	0.00	0.15	0.00
F#81	0.20	0.18	0.00	0.01	0.20	0.54	0.15	0.29	0.31	0.27	0.17	0.00	0.30	0.05	0.32	0.44	1.00	0.00	0.89	0.93
F#86	0.00	0.00	0.00	0.88	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
IF#56	0.00	0.02	0.00	0.00	0.00	0.94	0.00	0.18	0.01	0.01	0.00	0.00	0.42	0.00	0.52	0.15	0.89	0.00	1.00	0.12
IF#73	0.00	0.02	0.00	0.00	0.00	1.00	0.00	0.70	0.03	0.45	0.61	0.00	1.00	0.00	0.34	0.00	0.93	0.00	0.12	1.00

	F.1.low	F.3.low	F.17.low	F.29.low	F.46.low	F.57.low	F.58.low	F.63.low	F.66.low	F.67.low	F.68.low	F.69.low	F.72.low	F.86.low	IF.45.low	IF.56.low	M.9.low
F#1	1.000	0.116	0.000	0.002	0.053	0.001	0.121	0.000	0.013	0.004	0.000	0.478	0.001	0.000	0.104	0.000	0.409
F#3	0.116	1.000	0.000	0.000	0.160	0.002	0.162	0.000	0.004	0.016	0.000	0.398	0.151	0.000	0.142	0.018	0.050
F#17	0.000	0.000	1.000	0.288	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.238	0.000	0.550	0.000	0.000	0.502
F#29	0.002	0.000	0.288	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.285	0.000	0.244	0.000	0.000	0.299
F#46	0.053	0.160	0.000	0.000	1.000	0.008	0.112	0.034	0.028	0.397	0.000	0.502	0.143	0.001	0.034	0.287	0.034
F#57	0.001	0.002	0.000	0.000	0.008	1.000	0.613	0.000	0.000	0.011	0.000	0.176	0.034	0.000	0.120	0.027	0.068
F#58	0.121	0.162	0.000	0.000	0.112	0.613	1.000	0.000	0.010	0.017	0.000	0.305	0.025	0.000	0.179	0.013	0.142
F#63	0.000	0.000	0.000	0.000	0.034	0.000	0.000	1.000	0.000	0.041	0.109	0.043	0.000	0.000	0.000	0.002	0.000
F#66	0.013	0.004	0.000	0.000	0.028	0.000	0.010	0.000	1.000	0.017	0.000	0.159	0.002	0.000	0.000	0.009	0.000
F#67	0.004	0.016	0.000	0.000	0.397	0.011	0.017	0.041	0.017	1.000	0.000	0.244	0.032	0.000	0.000	0.454	0.001
F#68	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.109	0.000	0.000	1.000	0.016	0.000	0.000	0.000	0.000	0.000
F#69	0.478	0.398	0.238	0.285	0.502	0.176	0.305	0.043	0.159	0.244	0.016	1.000	0.026	0.012	0.000	0.013	0.099
F#72	0.001	0.151	0.000	0.000	0.143	0.034	0.025	0.000	0.002	0.032	0.000	0.026	1.000	0.000	0.026	0.226	0.003
F#86	0.000	0.000	0.550	0.244	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.000	1.000	0.000	0.000	0.262
IF#45	0.104	0.142	0.000	0.000	0.034	0.120	0.179	0.000	0.000	0.000	0.000	0.000	0.026	0.000	1.000	0.001	0.056
IF#56	0.000	0.018	0.000	0.000	0.287	0.027	0.013	0.002	0.009	0.454	0.000	0.013	0.226	0.000	0.001	1.000	0.001
M#9	0.409	0.050	0.502	0.299	0.034	0.068	0.142	0.000	0.000	0.001	0.000	0.099	0.003	0.262	0.056	0.001	1.000

2001	F.1.ML	F.3.ML	F.17.ML	F.29.ML	F.46.ML	F.57.ML	F.58.ML	F.63.ML	F.66.ML	F.67.ML	F.68.ML	F.69.ML	F.72.ML	F.86.ML	IF.45.ML	IF.56.ML	M.9.ML
F#1	1.00	0.26	0.00	0.05	0.17	0.19	0.39	0.00	0.11	0.03	0.00	0.65	0.01	0.01	0.44	0.03	0.59
F#3	0.26	1.00	0.00	0.00	0.34	0.37	0.55	0.00	0.02	0.08	0.00	0.62	0.40	0.00	0.43	0.18	0.14
F#17	0.00	0.00	1.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.70	0.00	0.00	0.66
F#29	0.05	0.00	0.63	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.34	0.00	0.00	0.45
F#46	0.17	0.34	0.00	0.00	1.00	0.17	0.23	0.08	0.09	0.55	0.00	0.70	0.29	0.01	0.16	0.50	0.09
F#57	0.19	0.37	0.00	0.00	0.17	1.00	0.71	0.00	0.00	0.02	0.00	0.22	0.05	0.00	0.22	0.05	0.09
F#58	0.39	0.55	0.00	0.00	0.23	0.71	1.00	0.00	0.05	0.04	0.00	0.37	0.06	0.00	0.32	0.07	0.21
F#63	0.00	0.00	0.00	0.00	0.08	0.00	0.00	1.00	0.00	0.16	0.61	0.15	0.00	0.00	0.00	0.02	0.00
F#66	0.11	0.02	0.00	0.00	0.09	0.00	0.05	0.00	1.00	0.07	0.00	0.32	0.01	0.00	0.00	0.08	0.00
F#67	0.03	0.08	0.00	0.00	0.55	0.02	0.04	0.16	0.07	1.00	0.00	0.53	0.14	0.00	0.00	0.70	0.02
F#68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	1.00	0.02	0.00	0.00	0.00	0.00	0.00
F#69	0.65	0.62	0.46	0.48	0.70	0.22	0.37	0.15	0.32	0.53	0.02	1.00	0.61	0.29	0.35	0.61	0.71
F#72	0.01	0.40	0.00	0.00	0.29	0.05	0.06	0.00	0.01	0.14	0.00	0.61	1.00	0.00	0.13	0.44	0.01
F#86	0.01	0.00	0.70	0.34	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	1.00	0.00	0.00	0.50
IF#45	0.44	0.43	0.00	0.00	0.16	0.22	0.32	0.00	0.00	0.00	0.00	0.35	0.13	0.00	1.00	0.00	0.09
IF#56	0.03	0.18	0.00	0.00	0.50	0.05	0.07	0.02	0.08	0.70	0.00	0.61	0.44	0.00	0.00	1.00	0.03
M#9	0.59	0.14	0.66	0.45	0.09	0.09	0.21	0.00	0.00	0.02	0.00	0.71	0.01	0.50	0.09	0.03	1.00

	F.1.high	F.3.high	F.17.high	F.29.high	F.46.high	F.57.high	F.58.high	F.63.high	F.66.high	F.67.high	F.68.high	F.69.high	F.72.high	F.86.high	IF.45.high	IF.56.high	M.9.high
F#1	1.00	0.48	0.04	0.43	0.41	0.99	0.79	0.00	0.44	0.15	0.00	0.81	0.10	0.08	0.90	0.36	0.78
F#3	0.48	1.00	0.00	0.02	0.59	1.00	0.95	0.00	0.10	0.29	0.00	0.83	0.75	0.00	0.82	0.67	0.32
F#17	0.04	0.00	1.00	0.94	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00	0.83	0.01	0.00	0.81
F#29	0.43	0.02	0.94	1.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.45	0.01	0.00	0.62
F#46	0.41	0.59	0.05	0.21	1.00	0.79	0.41	0.18	0.21	0.71	0.00	0.87	0.51	0.06	0.48	0.74	0.20
F#57	0.99	1.00	0.00	0.00	0.79	1.00	0.81	0.00	0.00	0.03	0.00	0.27	0.07	0.00	0.37	0.08	0.11
F#58	0.79	0.95	0.00	0.00	0.41	0.81	1.00	0.00	0.18	0.10	0.00	0.44	0.12	0.00	0.51	0.25	0.30
F#63	0.00	0.00	0.00	0.00	0.18	0.00	0.00	1.00	0.03	0.44	1.00	0.39	0.00	0.00	0.00	0.12	0.00
F#66	0.44	0.10	0.00	0.00	0.21	0.00	0.18	0.03	1.00	0.20	0.13	0.53	0.08	0.00	0.00	0.38	0.01
F#67	0.15	0.29	0.00	0.00	0.71	0.03	0.10	0.44	0.20	1.00	0.00	0.84	0.39	0.00	0.30	0.91	0.27
F#68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.13	0.00	1.00	0.04	0.00	0.00	0.00	0.00	0.00
F#69	0.81	0.83	0.73	0.71	0.87	0.27	0.44	0.39	0.53	0.84	0.04	1.00	1.00	0.96	1.00	1.00	1.00
F#72	0.10	0.75	0.00	0.00	0.51	0.07	0.12	0.00	0.08	0.39	0.00	1.00	1.00	0.00	0.40	0.71	0.03
F#86	0.08	0.00	0.83	0.45	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.00	1.00	0.20	0.00	0.78
IF#45	0.90	0.82	0.01	0.01	0.48	0.37	0.51	0.00	0.00	0.30	0.00	1.00	0.40	0.20	1.00	0.02	0.14
IF#56	0.36	0.67	0.00	0.00	0.74	0.08	0.25	0.12	0.38	0.91	0.00	1.00	0.71	0.00	0.02	1.00	0.23
M#9	0.78	0.32	0.81	0.62	0.20	0.11	0.30	0.00	0.01	0.27	0.00	1.00	0.03	0.78	0.14	0.23	1.00

	F.1.low	F.3.low	F.17.low	F.29.low	F.46.low	F.58.low	F.63.low	F.66.low	F.68.low	F.72.low	F.86.low	IF.45.low	IF.56.low	IF.73.low	M.9.low	M.20.low	M.48.low	M.59.low	M.60.low
F#1	1.000	0.074	0.000	0.075	0.006	0.131	0.000	0.054	0.000	0.006	0.000	0.147	0.000	0.000	0.309	0.011	0.079	0.017	0.000
F#3	0.074	1.000	0.000	0.016	0.146	0.532	0.000	0.001	0.000	0.351	0.000	0.302	0.000	0.000	0.069	0.000	0.300	0.134	0.029
F#17	0.000	0.000	1.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.483	0.000	0.000	0.000	0.450	0.400	0.000	0.000	0.000
F#29	0.075	0.016	0.013	1.000	0.001	0.018	0.000	0.000	0.000	0.001	0.166	0.001	0.000	0.000	0.525	0.033	0.005	0.007	0.000
F#46	0.006	0.146	0.000	0.001	1.000	0.011	0.049	0.019	0.000	0.189	0.000	0.001	0.019	0.000	0.004	0.000	0.069	0.024	0.283
F#58	0.131	0.532	0.000	0.018	0.011	1.000	0.000	0.008	0.000	0.128	0.000	0.311	0.000	0.000	0.157	0.000	0.168	0.066	0.001
F#63	0.000	0.000	0.000	0.000	0.049	0.000	1.000	0.027	0.126	0.001	0.000	0.000	0.003	0.000	0.000	0.000	0.004	0.001	0.021
F#66	0.054	0.001	0.000	0.000	0.019	0.008	0.027	1.000	0.007	0.001	0.002	0.000	0.000	0.000	0.005	0.048	0.000	0.000	0.003
F#68	0.000	0.000	0.000	0.000	0.000	0.000	0.126	0.007	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
F#72	0.006	0.351	0.000	0.001	0.189	0.128	0.001	0.001	0.000	1.000	0.000	0.042	0.004	0.000	0.006	0.000	0.383	0.205	0.398
F#86	0.000	0.000	0.483	0.166	0.000	0.000	0.000	0.002	0.000	0.000	1.000	0.000	0.000	0.000	0.302	0.431	0.001	0.000	0.000
IF#45	0.147	0.302	0.000	0.001	0.001	0.311	0.000	0.000	0.000	0.042	0.000	1.000	0.000	0.000	0.040	0.000	0.319	0.111	0.002
IF#56	0.000	0.000	0.000	0.000	0.019	0.000	0.003	0.000	0.000	0.004	0.000	0.000	1.000	0.000	0.000	0.000	0.119	0.035	0.383
IF#73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000
M#9	0.309	0.069	0.450	0.525	0.004	0.157	0.000	0.005	0.000	0.006	0.302	0.040	0.000	0.000	1.000	0.339	0.019	0.007	0.000
M#20	0.011	0.000	0.400	0.033	0.000	0.000	0.000	0.048	0.000	0.000	0.431	0.000	0.000	0.000	0.339	1.000	0.000	0.000	0.000
M#48	0.079	0.300	0.000	0.005	0.069	0.168	0.004	0.000	0.000	0.383	0.001	0.319	0.119	0.000	0.019	0.000	1.000	0.238	0.432
M#59	0.017	0.134	0.000	0.007	0.024	0.066	0.001	0.000	0.000	0.205	0.000	0.111	0.035	0.000	0.007	0.000	0.238	1.000	0.144
M#60	0.000	0.029	0.000	0.000	0.283	0.001	0.021	0.003	0.000	0.398	0.000	0.002	0.383	0.000	0.000	0.000	0.432	0.144	1.000

2002	F.1.ML	F.3.ML	F.17.ML	F.29.ML	F.46.ML	F.58.ML	F.63.ML	F.66.ML	F.68.ML	F.72.ML	F.86.ML	IF.45.ML	IF.56.ML	IF.73.ML	M.9.ML	M.20.ML	M.48.ML	M.59.ML	M.60.ML
F#1	1.00	0.18	0.00	0.18	0.03	0.33	0.00	0.15	0.00	0.03	0.00	0.25	0.00	0.00	0.42	0.03	0.14	0.05	0.00
F#3	0.18	1.00	0.00	0.07	0.30	0.77	0.00	0.00	0.00	0.56	0.00	0.51	0.00	0.00	0.19	0.01	0.42	0.27	0.08
F#17	0.00	0.00	1.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.58	0.49	0.00	0.00	0.00
F#29	0.18	0.07	0.04	1.00	0.00	0.08	0.00	0.00	0.00	0.00	0.27	0.01	0.00	0.00	0.65	0.08	0.07	0.04	0.00
F#46	0.03	0.30	0.00	0.00	1.00	0.16	0.23	0.06	0.00	0.59	0.00	0.05	0.29	0.00	0.06	0.00	0.26	0.12	0.64
F#58	0.33	0.77	0.00	0.08	0.16	1.00	0.00	0.03	0.00	0.20	0.00	0.46	0.00	0.00	0.26	0.00	0.28	0.13	0.00
F#63	0.00	0.00	0.00	0.00	0.23	0.00	1.00	0.12	0.60	0.02	0.00	0.00	0.12	0.00	0.00	0.00	0.04	0.02	0.13
F#66	0.15	0.00	0.00	0.00	0.06	0.03	0.12	1.00	0.07	0.01	0.01	0.00	0.00	0.00	0.02	0.15	0.00	0.00	0.02
F#68	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.07	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F#72	0.03	0.56	0.00	0.00	0.59	0.20	0.02	0.01	0.00	1.00	0.00	0.19	0.14	0.00	0.04	0.00	0.48	0.39	0.62
F#86	0.00	0.00	0.60	0.27	0.00	0.00	0.00	0.01	0.00	0.00	1.00	0.00	0.00	0.00	0.68	0.74	0.01	0.01	0.00
IF#45	0.25	0.51	0.00	0.01	0.05	0.46	0.00	0.00	0.00	0.19	0.00	1.00	0.00	0.00	0.09	0.00	0.43	0.22	0.01
IF#56	0.00	0.00	0.00	0.00	0.29	0.00	0.12	0.00	0.00	0.14	0.00	0.00	1.00	0.00	0.00	0.00	0.16	0.08	0.49
IF#73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
M#9	0.42	0.19	0.58	0.65	0.06	0.26	0.00	0.02	0.00	0.04	0.68	0.09	0.00	0.00	1.00	0.62	0.09	0.03	0.00
M#20	0.03	0.01	0.49	0.08	0.00	0.00	0.00	0.15	0.00	0.00	0.74	0.00	0.00	0.00	0.62	1.00	0.00	0.00	0.00
M#48	0.14	0.42	0.00	0.07	0.26	0.28	0.04	0.00	0.00	0.48	0.01	0.43	0.16	0.00	0.09	0.00	1.00	0.43	0.54
M#59	0.05	0.27	0.00	0.04	0.12	0.13	0.02	0.00	0.00	0.39	0.01	0.22	0.08	0.00	0.03	0.00	0.43	1.00	0.42
M#60	0.00	0.08	0.00	0.00	0.64	0.00	0.13	0.02	0.00	0.62	0.00	0.01	0.49	0.00	0.00	0.00	0.54	0.42	1.00

	F.1.high	F.3.high	F.17.high	F.29.high	F.46.high	F.58.high	F.63.high	F.66.high	F.68.high	F.72.high	F.86.high	IF.45.high	IF.56.high	IF.73.high	M.9.high	M.20.high	M.48.high	M.59.high	M.60.high
F#1	1.00	0.35	0.00	0.37	0.10	0.62	0.00	0.34	0.00	0.11	0.00	0.39	0.00	0.00	0.55	0.08	0.22	0.14	0.00
F#3	0.35	1.00	0.04	0.24	0.51	0.95	0.00	0.01	0.00	0.77	0.06	0.74	0.10	0.00	0.40	0.07	0.56	0.46	0.17
F#17	0.00	0.04	1.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.72	0.59	0.00	0.00	0.00
F#29	0.37	0.24	0.12	1.00	0.02	0.26	0.00	0.02	0.00	0.02	0.40	0.04	0.00	0.00	0.77	0.19	0.42	0.13	0.00
F#46	0.10	0.51	0.00	0.02	1.00	0.71	0.63	0.17	0.00	0.96	0.00	0.50	0.93	0.00	0.35	0.00	0.62	0.41	0.95
F#58	0.62	0.95	0.00	0.26	0.71	1.00	0.00	0.08	0.00	0.30	0.00	0.64	0.00	0.00	0.41	0.02	0.43	0.25	0.01
F#63	0.00	0.00	0.00	0.00	0.63	0.00	1.00	0.37	0.99	0.19	0.00	0.00	0.80	0.00	0.00	0.01	0.22	0.16	0.45
F#66	0.34	0.01	0.00	0.02	0.17	0.08	0.37	1.00	0.33	0.04	0.05	0.00	0.00	0.00	0.08	0.34	0.01	0.00	0.11
F#68	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.33	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F#72	0.11	0.77	0.00	0.02	0.96	0.30	0.19	0.04	0.00	1.00	0.00	0.53	0.81	0.00	0.14	0.00	0.59	0.63	0.83
F#86	0.00	0.06	0.71	0.40	0.00	0.00	0.00	0.05	0.00	0.00	1.00	0.03	0.00	0.00	0.97	0.97	0.10	0.06	0.00
IF#45	0.39	0.74	0.00	0.04	0.50	0.64	0.00	0.00	0.00	0.53	0.03	1.00	0.00	0.00	0.16	0.00	0.55	0.39	0.03
IF#56	0.00	0.10	0.00	0.00	0.93	0.00	0.80	0.00	0.00	0.81	0.00	0.00	1.00	0.00	0.00	0.00	0.22	0.16	0.60
IF#73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
M#9	0.55	0.40	0.72	0.77	0.35	0.41	0.00	0.08	0.00	0.14	0.97	0.16	0.00	0.00	1.00	0.88	0.28	0.12	0.05
M#20	0.08	0.07	0.59	0.19	0.00	0.02	0.01	0.34	0.00	0.00	0.97	0.00	0.00	0.00	0.88	1.00	0.01	0.01	0.00
M#48	0.22	0.56	0.00	0.42	0.62	0.43	0.22	0.01	0.00	0.59	0.10	0.55	0.22	0.00	0.28	0.01	1.00	0.67	0.65
M#59	0.14	0.46	0.00	0.13	0.41	0.25	0.16	0.00	0.00	0.63	0.06	0.39	0.16	0.00	0.12	0.01	0.67	1.00	0.81
M#60	0.00	0.17	0.00	0.00	0.95	0.01	0.45	0.11	0.00	0.83	0.00	0.03	0.60	0.00	0.05	0.00	0.65	0.81	1.00

	F.1.low	F.3.low	F.17.low	F.29.low	F.57.low	F.58.low	F.66.low	F.68.low	F.72.low	F.86.low	F.625.low	IF.45.low	IF.56.low	IF.73.low	IF.91.low	M.9.low	M.20.low	M.48.low	M.59.low	M.60.low
F#1	1.000	0.013	0.000	0.000	0.112	0.609	0.016	0.000	0.001	0.000	0.554	0.178	0.000	0.000	0.609	0.258	0.023	0.027	0.006	0.000
F#3	0.013	1.000	0.000	0.000	0.210	0.386	0.008	0.000	0.123	0.000	0.171	0.297	0.001	0.000	0.018	0.011	0.000	0.286	0.082	0.016
F#17	0.000	0.000	1.000	0.128	0.000	0.030	0.000	0.000	0.000	0.578	0.215	0.000	0.000	0.000	0.001	0.494	0.654	0.000	0.000	0.000
F#29	0.000	0.000	0.128	1.000	0.000	0.001	0.000	0.000	0.000	0.104	0.034	0.001	0.000	0.000	0.001	0.416	0.246	0.000	0.000	0.000
F#57	0.112	0.210	0.000	0.000	1.000	0.689	0.035	0.000	0.016	0.000	0.291	0.325	0.000	0.000	0.229	0.081	0.001	0.214	0.074	0.001
F#58	0.609	0.386	0.030	0.001	0.689	1.000	0.031	0.000	0.025	0.019	0.569	0.377	0.000	0.000	0.454	0.222	0.079	0.211	0.030	0.002
F#66	0.016	0.008	0.000	0.000	0.035	0.031	1.000	0.000	0.002	0.000	0.104	0.005	0.000	0.000	0.024	0.007	0.016	0.001	0.002	0.000
F#68	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
F#72	0.001	0.123	0.000	0.000	0.016	0.025	0.002	0.000	1.000	0.000	0.045	0.030	0.165	0.000	0.002	0.003	0.000	0.362	0.329	0.388
F#86	0.000	0.000	0.578	0.104	0.000	0.019	0.000	0.000	0.000	1.000	0.220	0.000	0.000	0.000	0.000	0.351	0.643	0.000	0.000	0.000
F#625	0.554	0.171	0.215	0.034	0.291	0.569	0.104	0.000	0.045	0.220	1.000	0.104	0.000	0.000	0.194	0.485	0.305	0.029	0.004	0.001
IF#45	0.178	0.297	0.000	0.001	0.325	0.377	0.005	0.000	0.030	0.000	0.104	1.000	0.000	0.000	0.267	0.098	0.015	0.370	0.031	0.004
IF#56	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.165	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.156	0.009	0.601
IF#73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000
IF#91	0.609	0.018	0.001	0.001	0.229	0.454	0.024	0.000	0.002	0.000	0.194	0.267	0.000	0.000	1.000	0.275	0.020	0.074	0.003	0.000
M#9	0.258	0.011	0.494	0.416	0.081	0.222	0.007	0.000	0.003	0.351	0.485	0.098	0.000	0.000	0.275	1.000	0.557	0.054	0.001	0.000
M#20	0.023	0.000	0.654	0.246	0.001	0.079	0.016	0.000	0.000	0.643	0.305	0.015	0.000	0.000	0.020	0.557	1.000	0.002	0.000	0.000
M#48	0.027	0.286	0.000	0.000	0.214	0.211	0.001	0.000	0.362	0.000	0.029	0.370	0.156	0.000	0.074	0.054	0.002	1.000	0.113	0.529
M#59	0.006	0.082	0.000	0.000	0.074	0.030	0.002	0.000	0.329	0.000	0.004	0.031	0.009	0.000	0.003	0.001	0.000	0.113	1.000	0.082
M#60	0.000	0.016	0.000	0.000	0.001	0.002	0.000	0.000	0.388	0.000	0.001	0.004	0.601	0.000	0.000	0.000	0.000	0.529	0.082	1.000

2003	F.1.ML	F.3.ML	F.17.ML	F.29.ML	F.57.ML	F.58.ML	F.66.ML	F.68.ML	F.72.ML	F.86.ML	F.625.ML	IF.45.ML	IF.56.ML	IF.73.ML	IF.91.ML	M.9.ML	M.20.ML	M.48.ML	M.59.ML	M.60.ML
F#1	1.00	0.12	0.00	0.00	0.46	0.75	0.12	0.00	0.02	0.00	0.71	0.43	0.00	0.00	0.86	0.46	0.06	0.20	0.05	0.00
F#3	0.12	1.00	0.00	0.00	0.40	0.52	0.05	0.00	0.23	0.00	0.28	0.52	0.01	0.00	0.07	0.02	0.00	0.35	0.24	0.04
F#17	0.00	0.00	1.00	0.30	0.00	0.13	0.00	0.00	0.00	0.70	0.37	0.00	0.00	0.00	0.01	0.67	0.77	0.00	0.00	0.00
F#29	0.00	0.00	0.30	1.00	0.00	0.02	0.00	0.00	0.00	0.16	0.10	0.00	0.00	0.00	0.01	0.51	0.33	0.06	0.00	0.00
F#57	0.46	0.40	0.00	0.00	1.00	0.80	0.09	0.00	0.03	0.00	0.37	0.43	0.00	0.00	0.36	0.13	0.00	0.28	0.13	0.00
F#58	0.75	0.52	0.13	0.02	0.80	1.00	0.14	0.00	0.06	0.11	0.69	0.50	0.00	0.00	0.60	0.34	0.16	0.32	0.12	0.01
F#66	0.12	0.05	0.00	0.00	0.09	0.14	1.00	0.00	0.02	0.00	0.26	0.03	0.00	0.00	0.14	0.02	0.05	0.02	0.02	0.00
F#68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F#72	0.02	0.23	0.00	0.00	0.03	0.06	0.02	0.00	1.00	0.00	0.08	0.07	0.34	0.00	0.01	0.01	0.00	0.38	0.43	0.51
F#86	0.00	0.00	0.70	0.16	0.00	0.11	0.00	0.00	0.00	1.00	0.35	0.00	0.00	0.00	0.00	0.56	0.77	0.00	0.00	0.00
F#625	0.71	0.28	0.37	0.10	0.37	0.69	0.26	0.00	0.08	0.35	1.00	0.31	0.00	0.00	0.49	0.80	0.63	0.16	0.07	0.01
IF#45	0.43	0.52	0.00	0.00	0.43	0.50	0.03	0.00	0.07	0.00	0.31	1.00	0.01	0.00	0.40	0.18	0.04	0.43	0.11	0.01
IF#56	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.01	1.00	0.00	0.00	0.00	0.00	0.31	0.09	0.79
IF#73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
IF#91	0.86	0.07	0.01	0.01	0.36	0.60	0.14	0.00	0.01	0.00	0.49	0.40	0.00	0.00	1.00	0.36	0.04	0.25	0.04	0.00
M#9	0.46	0.02	0.67	0.51	0.13	0.34	0.02	0.00	0.01	0.56	0.80	0.18	0.00	0.00	0.36	1.00	0.79	0.13	0.02	0.00
M#20	0.06	0.00	0.77	0.33	0.00	0.16	0.05	0.00	0.00	0.77	0.63	0.04	0.00	0.00	0.04	0.79	1.00	0.01	0.00	0.00
M#48	0.20	0.35	0.00	0.06	0.28	0.32	0.02	0.00	0.38	0.00	0.16	0.43	0.31	0.00	0.25	0.13	0.01	1.00	0.23	0.65
M#59	0.05	0.24	0.00	0.00	0.13	0.12	0.02	0.00	0.43	0.00	0.07	0.11	0.09	0.00	0.04	0.02	0.00	0.23	1.00	0.27
M#60	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.51	0.00	0.01	0.01	0.79	0.00	0.00	0.00	0.00	0.65	0.27	1.00

	F.1.high	F.3.high	F.17.high	F.29.high	F.57.high	F.58.high	F.66.high	F.68.high	F.72.high	F.86.high	F.625.high	IF.45.high	IF.56.high	IF.73.high	IF.91.high	M.9.high	M.20.high	M.48.high	M.59.high	M.60.high
F#1	1.00	0.48	0.02	0.00	0.92	0.88	0.46	0.00	0.14	0.00	0.86	0.75	0.00	0.00	0.99	0.71	0.15	0.67	0.23	0.00
F#3	0.48	1.00	0.00	0.00	0.65	0.66	0.20	0.00	0.39	0.00	0.42	0.76	0.10	0.00	0.22	0.05	0.00	0.42	0.53	0.09
F#17	0.02	0.00	1.00	0.55	0.00	0.38	0.00	0.00	0.00	0.82	0.56	0.01	0.00	0.00	0.08	0.83	0.87	0.03	0.00	0.00
F#29	0.00	0.00	0.55	1.00	0.00	0.11	0.00	0.00	0.00	0.23	0.24	0.01	0.00	0.00	0.10	0.61	0.42	0.79	0.00	0.00
F#57	0.92	0.65	0.00	0.00	1.00	0.90	0.22	0.00	0.07	0.00	0.45	0.54	0.00	0.00	0.51	0.20	0.01	0.36	0.21	0.00
F#58	0.88	0.66	0.38	0.11	0.90	1.00	0.42	0.00	0.15	0.40	0.80	0.63	0.02	0.00	0.75	0.49	0.29	0.44	0.36	0.03
F#66	0.46	0.20	0.00	0.00	0.22	0.42	1.00	0.00	0.09	0.00	0.52	0.13	0.00	0.00	0.45	0.05	0.14	0.22	0.10	0.00
F#68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F#72	0.14	0.39	0.00	0.00	0.07	0.15	0.09	0.00	1.00	0.00	0.14	0.15	0.59	0.00	0.06	0.02	0.00	0.40	0.54	0.65
F#86	0.00	0.00	0.82	0.23	0.00	0.40	0.00	0.00	0.00	1.00	0.50	0.01	0.00	0.00	0.00	0.78	0.88	0.01	0.00	0.00
F#625	0.86	0.42	0.56	0.24	0.45	0.80	0.52	0.00	0.14	0.50	1.00	0.65	0.30	0.00	0.84	0.99	0.92	0.50	0.44	0.07
IF#45	0.75	0.76	0.01	0.01	0.54	0.63	0.13	0.00	0.15	0.01	0.65	1.00	0.08	0.00	0.55	0.30	0.11	0.50	0.29	0.04
IF#56	0.00	0.10	0.00	0.00	0.00	0.02	0.00	0.00	0.59	0.00	0.30	0.08	1.00	0.00	0.00	0.00	0.00	0.54	0.40	0.93
IF#73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
IF#91	0.99	0.22	0.08	0.10	0.51	0.75	0.45	0.00	0.06	0.00	0.84	0.55	0.00	0.00	1.00	0.46	0.07	0.57	0.26	0.00
M#9	0.71	0.05	0.83	0.61	0.20	0.49	0.05	0.00	0.02	0.78	0.99	0.30	0.00	0.00	0.46	1.00	0.95	0.28	0.11	0.00
M#20	0.15	0.00	0.87	0.42	0.01	0.29	0.14	0.00	0.00	0.88	0.92	0.11	0.00	0.00	0.07	0.95	1.00	0.03	0.01	0.00
M#48	0.67	0.42	0.03	0.79	0.36	0.44	0.22	0.00	0.40	0.01	0.50	0.50	0.54	0.00	0.57	0.28	0.03	1.00	0.42	0.76
M#59	0.23	0.53	0.00	0.00	0.21	0.36	0.10	0.00	0.54	0.00	0.44	0.29	0.40	0.00	0.26	0.11	0.01	0.42	1.00	0.60
M#60	0.00	0.09	0.00	0.00	0.00	0.03	0.00	0.00	0.65	0.00	0.07	0.04	0.93	0.00	0.00	0.00	0.00	0.76	0.60	1.00

	F.1.low	F.3.low	F.17.low	F.46.low	F.57.low	F.58.low	F.66.low	F.67.low	F.68.low	F.72.low	F.86.low	F.625.low	IF.56.low	IF.73.low	IF.91.low	M.9.low	M.20.low	M.48.low
F#1	1.000	0.115	0.008	0.048	0.401	0.193	0.026	0.016	0.000	0.021	0.141	0.438	0.000	0.000	0.515	0.523	0.047	0.010
F#3	0.115	1.000	0.008	0.379	0.735	0.541	0.011	0.050	0.000	0.272	0.130	0.228	0.001	0.000	0.289	0.261	0.027	0.151
F#17	0.008	0.008	1.000	0.000	0.019	0.000	0.000	0.000	0.000	0.000	0.530	0.106	0.000	0.000	0.002	0.527	0.306	0.000
F#46	0.048	0.379	0.000	1.000	0.182	0.034	0.015	0.313	0.000	0.366	0.014	0.032	0.039	0.000	0.017	0.033	0.021	0.076
F#57	0.401	0.735	0.019	0.182	1.000	0.412	0.001	0.021	0.000	0.104	0.059	0.187	0.000	0.000	0.474	0.336	0.002	0.012
F#58	0.193	0.541	0.000	0.034	0.412	1.000	0.098	0.029	0.000	0.089	0.062	0.265	0.000	0.000	0.439	0.258	0.051	0.066
F#66	0.026	0.011	0.000	0.015	0.001	0.098	1.000	0.001	0.003	0.006	0.011	0.031	0.000	0.000	0.007	0.007	0.130	0.000
F#67	0.016	0.050	0.000	0.313	0.021	0.029	0.001	1.000	0.000	0.262	0.004	0.008	0.381	0.000	0.010	0.013	0.000	0.463
F#68	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
F#72	0.021	0.272	0.000	0.366	0.104	0.089	0.006	0.262	0.000	1.000	0.025	0.054	0.114	0.000	0.028	0.034	0.002	0.250
F#86	0.141	0.130	0.530	0.014	0.059	0.062	0.011	0.004	0.000	0.025	1.000	0.188	0.000	0.000	0.022	0.424	0.564	0.000
F#625	0.438	0.228	0.106	0.032	0.187	0.265	0.031	0.008	0.000	0.054	0.188	1.000	0.000	0.000	0.401	0.623	0.251	0.011
IF#56	0.000	0.001	0.000	0.039	0.000	0.000	0.000	0.381	0.000	0.114	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.171
IF#73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000
IF#91	0.515	0.289	0.002	0.017	0.474	0.439	0.007	0.010	0.000	0.028	0.022	0.401	0.000	0.000	1.000	0.447	0.027	0.020
M#9	0.523	0.261	0.527	0.033	0.336	0.258	0.007	0.013	0.000	0.034	0.424	0.623	0.000	0.000	0.447	1.000	0.318	0.017
M#20	0.047	0.027	0.306	0.021	0.002	0.051	0.130	0.000	0.000	0.002	0.564	0.251	0.000	0.000	0.027	0.318	1.000	0.000
M#48	0.010	0.151	0.000	0.076	0.012	0.066	0.000	0.463	0.000	0.250	0.000	0.011	0.171	0.000	0.020	0.017	0.000	1.000

2004	F.1.ML	F.3.ML	F.17.ML	F.46.ML	F.57.ML	F.58.ML	F.66.ML	F.67.ML	F.68.ML	F.72.ML	F.86.ML	F.625.ML	IF.56.ML	IF.73.ML	IF.91.ML	M.9.ML	M.20.ML	M.48.ML
F#1	1.00	0.41	0.12	0.28	0.85	0.54	0.24	0.11	0.00	0.15	0.32	0.84	0.00	0.00	0.87	0.79	0.26	0.15
F#3	0.41	1.00	0.09	0.52	0.83	0.64	0.02	0.07	0.00	0.37	0.19	0.38	0.01	0.00	0.40	0.33	0.06	0.22
F#17	0.12	0.09	1.00	0.00	0.24	0.00	0.00	0.01	0.00	0.00	0.81	0.27	0.00	0.00	0.05	0.69	0.49	0.00
F#46	0.28	0.52	0.00	1.00	0.62	0.29	0.16	0.64	0.00	0.71	0.08	0.31	0.46	0.00	0.25	0.14	0.08	0.28
F#57	0.85	0.83	0.24	0.62	1.00	0.63	0.16	0.21	0.00	0.51	0.23	0.63	0.16	0.00	0.78	0.60	0.05	0.28
F#58	0.54	0.64	0.00	0.29	0.63	1.00	0.21	0.06	0.00	0.14	0.10	0.38	0.00	0.00	0.58	0.32	0.11	0.13
F#66	0.24	0.02	0.00	0.16	0.16	0.21	1.00	0.01	0.09	0.07	0.03	0.12	0.00	0.00	0.09	0.04	0.27	0.00
F#67	0.11	0.07	0.01	0.64	0.21	0.06	0.01	1.00	0.00	0.46	0.03	0.08	0.74	0.00	0.12	0.07	0.01	0.63
F#68	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F#72	0.15	0.37	0.00	0.71	0.51	0.14	0.07	0.46	0.00	1.00	0.08	0.15	0.27	0.00	0.08	0.08	0.06	0.35
F#86	0.32	0.19	0.81	0.08	0.23	0.10	0.03	0.03	0.00	0.08	1.00	0.48	0.00	0.00	0.21	0.76	0.71	0.03
F#625	0.84	0.38	0.27	0.31	0.63	0.38	0.12	0.08	0.00	0.15	0.48	1.00	0.00	0.00	0.56	0.75	0.36	0.05
IF#56	0.00	0.01	0.00	0.46	0.16	0.00	0.00	0.74	0.00	0.27	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.28
IF#73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
IF#91	0.87	0.40	0.05	0.25	0.78	0.58	0.09	0.12	0.00	0.08	0.21	0.56	0.00	0.00	1.00	0.56	0.12	0.09
M#9	0.79	0.33	0.69	0.14	0.60	0.32	0.04	0.07	0.00	0.08	0.76	0.75	0.00	0.00	0.56	1.00	0.52	0.09
M#20	0.26	0.06	0.49	0.08	0.05	0.11	0.27	0.01	0.00	0.06	0.71	0.36	0.00	0.00	0.12	0.52	1.00	0.00
M#48	0.15	0.22	0.00	0.28	0.28	0.13	0.00	0.63	0.00	0.35	0.03	0.05	0.28	0.00	0.09	0.09	0.00	1.00

	F.1.high	F.3.high	F.17.high	F.46.high	F.57.high	F.58.high	F.66.high	F.67.high	F.68.high	F.72.high	F.86.high	F.625.high	IF.56.high	IF.73.high	IF.91.high	M.9.high	M.20.high	M.48.high
F#1	1.00	0.83	0.61	0.76	1.00	0.92	0.80	0.43	0.00	0.53	0.58	1.00	0.07	0.00	1.00	0.97	0.71	0.67
F#3	0.83	1.00	0.47	0.68	0.91	0.75	0.04	0.10	0.00	0.48	0.27	0.57	0.03	0.00	0.53	0.40	0.12	0.32
F#17	0.61	0.47	1.00	0.00	0.85	0.00	0.00	0.08	0.00	0.00	0.98	0.53	0.00	0.00	0.35	0.84	0.70	0.02
F#46	0.76	0.68	0.00	1.00	0.99	0.84	0.63	0.93	0.00	0.97	0.30	0.88	0.99	0.00	0.87	0.40	0.22	0.65
F#57	1.00	0.91	0.85	0.99	1.00	0.85	0.94	0.74	0.00	0.97	0.59	0.99	0.99	0.00	0.98	0.86	0.33	0.95
F#58	0.92	0.75	0.00	0.84	0.85	1.00	0.40	0.12	0.00	0.21	0.15	0.52	0.00	0.00	0.71	0.38	0.21	0.24
F#66	0.80	0.04	0.00	0.63	0.94	0.40	1.00	0.04	0.60	0.39	0.09	0.34	0.00	0.00	0.46	0.19	0.47	0.03
F#67	0.43	0.10	0.08	0.93	0.74	0.12	0.04	1.00	0.00	0.69	0.15	0.35	0.98	0.00	0.54	0.26	0.08	0.79
F#68	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F#72	0.53	0.48	0.00	0.97	0.97	0.21	0.39	0.69	0.00	1.00	0.19	0.33	0.52	0.00	0.20	0.15	0.46	0.46
F#86	0.58	0.27	0.98	0.30	0.59	0.15	0.09	0.15	0.00	0.19	1.00	0.84	0.54	0.00	0.75	0.98	0.84	0.40
F#625	1.00	0.57	0.53	0.88	0.99	0.52	0.34	0.35	0.00	0.33	0.84	1.00	0.02	0.00	0.73	0.87	0.49	0.15
IF#56	0.07	0.03	0.00	0.99	0.99	0.00	0.00	0.98	0.00	0.52	0.54	0.02	1.00	0.00	0.00	0.00	0.00	0.42
IF#73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
IF#91	1.00	0.53	0.35	0.87	0.98	0.71	0.46	0.54	0.00	0.20	0.75	0.73	0.00	0.00	1.00	0.67	0.38	0.29
M#9	0.97	0.40	0.84	0.40	0.86	0.38	0.19	0.26	0.00	0.15	0.98	0.87	0.00	0.00	0.67	1.00	0.73	0.32
M#20	0.71	0.12	0.70	0.22	0.33	0.21	0.47	0.08	0.00	0.46	0.84	0.49	0.00	0.00	0.38	0.73	1.00	0.01
M#48	0.67	0.32	0.02	0.65	0.95	0.24	0.03	0.79	0.00	0.46	0.40	0.15	0.42	0.00	0.29	0.32	0.01	1.00