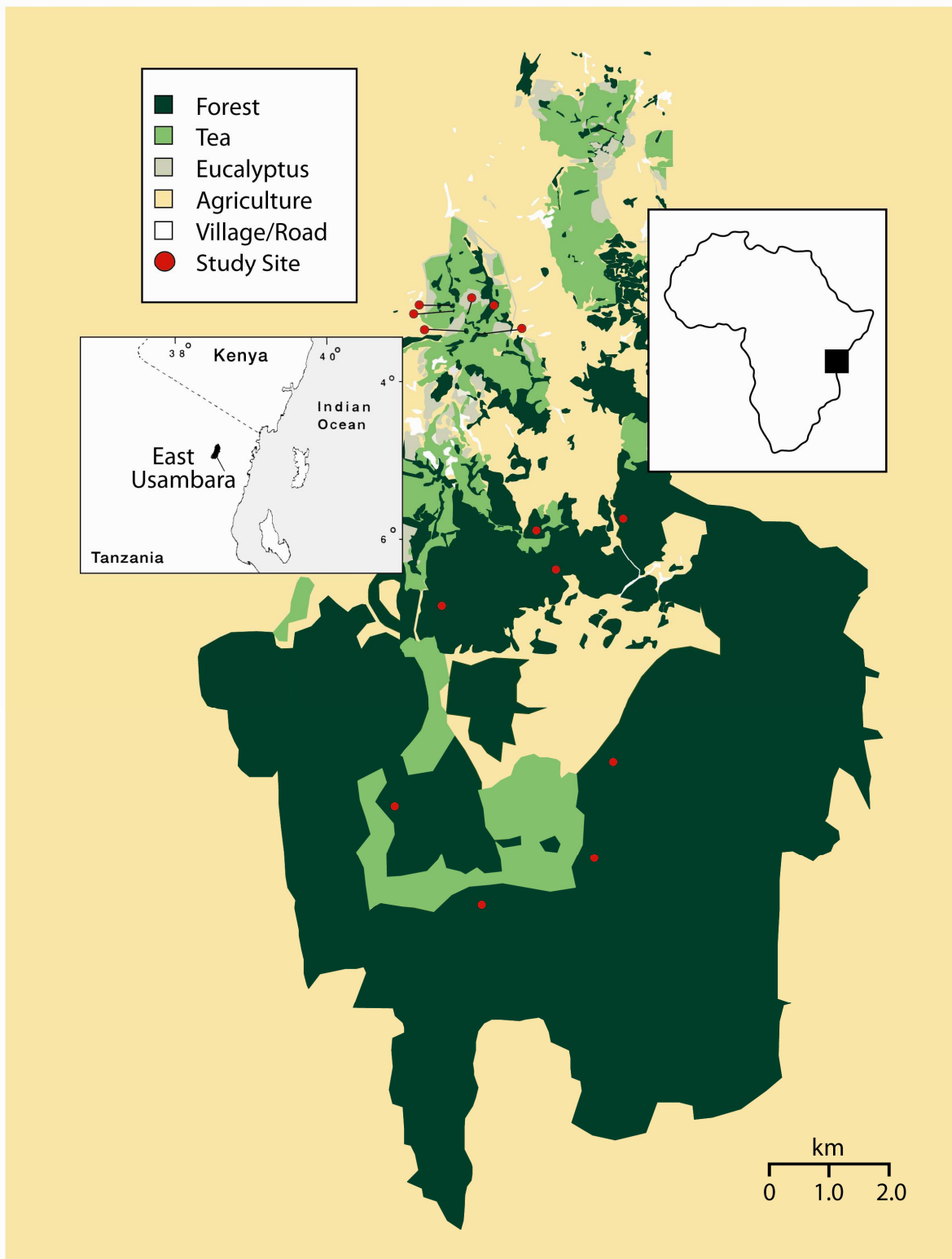**Fig. S1.** Relation between daily survival rate (DSR) of nests and nest height, distance to edge, and area for four nest types. Solid lines represent the estimated DSR obtained by back transforming the appropriate logit-linear model with all covariates except the selected set to their mean value. Dashed lines represent upper and lower 95% confidence intervals.

Fig. S2. Map of study area in the East Usambara Mountains, Tanzania.

Table S1. Number of nests (*N*) in continuous and fragmented forest, nest type, and incubation and nestling length (mean ± 1 SE) for eight common understory bird species monitored during the 2004 breeding season.

Species	Continuous (*N*)	Fragmented (*N*)	Nest type	Incubation length (days)	Nestling length (days)
African Broadbill *Smithornis capensis*	24	7	Pouch	19.1 ± 1.37 [*]	17.7 ± 1.62 [*]
Orange Ground Thrush *Zoothera gurneyi*	5	1	Cup	15 [†]	19 [†]
Cabanis's Greenbul *Phyllastrephus cabanisi*	27	13	Cup	13.2 ± 1.11 [*]	15.5 ± 2.08 [*]
Little Greenbul *Andropadus virens*	30	26	Cup	9.6 ± 1.63 [*]	21.2 ± 0.62 [*]
White-tailed Crested Flycatcher *Trochocercus albonotatus*	67	2	Cup	21.8 ± 1.29 [*]	13.9 ± 0.31 [*]
Forest Batis *Batis mixta*	15	16	Cup	15.8 ± 1.22 [*]	18.0 ± 0.95 [*]
Collared Sunbird *Anthreptes collaris*	18	2	Dome	15.9 ± 3.39 [‡]	16.6 ± 1.77 [‡]
Olive Sunbird *Nectarinia olivacea*	62	13	Dome	14.6 ± 1.18 [*]	18.4 ± 1.50 [*]

[*] Source: (21).
[†] Source: (53).
[‡] Estimates derived from the 2003 – 2008 breeding season data using the methodology described in (21).

Supporting References

53. Clement R (2000) *Thrushes. (*Princeton University Press, Princeton).

Table S2. Nest type and number of active nests (*N*) monitored across all study sites and breeding seasons in the East Usambara Mountains.

Family/ Species	Nest type	*N*
Columbidae (Pigeons & Doves)		
Tamborine Dove *Turtur tymanistria*	Plate	52
Lemon Dove *Aplopelia larvata*	Plate	17
Picidae (Woodpeckers)		
Cardinal Woodpecker *Dendropicos fuscescens*	Cavity	3
Eurylaimidae (Broadbills)		
African Broadbill *Smithornis capensis*	Pouch	57
Pycnonotiidae (Bulbuls)		
Little Greenbul *Andropadus virens*	Cup	174
Striped-cheeked Greenbul *Andropadus milanjensis*	Cup	5
Shelley's Greenbul *Andropadus masukuensis*	Cup	214
Cabanis's Greenbul *Phyllastrephus cabanisi*	Cup	54
Tiny Greenbul *Phyllastrephus debilis*	Cup	19
Yellow-streaked Greenbul *Phyllastrephus flavostriatus*	Cup	5
Turdidae (Thrushes)		
White-chested Alethe *Alethe fuelleborni*	Cup	7
Sharpes's Akalat *Sheppardia sharpei*	Cup	10
Usambara Thrush *Turdus roehli*	Cup	2
Orange Ground Thrush *Zoothera gurneyi*	Cup	9
Sylviidae (Warblers)		
Evergreen Forest Warbler *Bradypterus barratti*	Cup	2
Yellow-throated Woodland Warbler *Phylloscopus ruficapilla*	Dome	2
Muscicapidae (Flycatchers)		
White-tailed Crested Flycatcher *Trochocercus albonotatus*	Cup	120
African Paradise Flycatcher *Terpsiphone viridis*	Cup	142
Forest Batis *Batis mixta*	Cup	73
Nectariniidae (Sunbirds)		
Collared Sunbird *Anthreptes collaris*	Dome	76
Amani Sunbird *Anthreptes pallidigaster*	Dome	2
Green-banded Sunbird *Anthreptes rubritorques*	Dome	1
Purple-banded Sunbird *Nectarinia bifasciata*	Dome	1
Olive Sunbird *Nectarinia olivacea*	Dome	265
Zosteropidae (White-eyes)		
Yellow White-eye *Zosterops senegelensis*	Cup	1
Estrildidae (Waxbills)		
Red-faced Crimsonwing *Cryptospiza reichenovii*	Dome	1
Green-backed Twinspot *Mandingoa nitidula*	Dome	1

Table S3. Top-ranked models assessing the influence of area, distance to edge, nest height, habitat disturbance, and breeding season on daily survival rate of nests for 13 understory bird species. Results are presented for competing models with $\Delta AIC_c \leq 2$ and their associated parameter estimates and standard errors. K is total number of parameters and w_i is the Akaike weight.

Species	Model	ΔAIC_c	w_i	K	intercept	1	2	3	4	5	6	7	8
Tamborine Dove	S(HEIGHT)	0.000	0.465	2	-0.342 (0.748)	0.660* (0.245)							
Lemon Dove[†]	S(DISTEDGE)	0.000	0.471	2	1.802 (0.717)	-0.006 (0.004)							
African Broadbill	S(AREA)	0.000	0.309	2	2.910 (0.173)	0.165 (0.180)							
	S(DISTEDGE)	0.532	0.237	2	2.894 (0.170)	0.101 (0.172)							
	S(HEIGHT)	0.848	0.203	2	2.891 (0.170)	0.026 (0.176)							
Little Greenbul	S(AREA + HEIGHT + BRSEASON)	0.000	0.672	8	2.691 (0.498)	1.15×10^{-4}* (4.57×10^{-5})	-0.255 (0.167)	-0.715* (0.351)	0.152 (0.402)	1.598* (0.635)	0.770* (0.310)	0.511 (0.417)	
Shelley's Greenbul	S(AREA)	0.000	0.189	2	2.818 (0.107)	-0.294 (0.262)							
	S(HEIGHT)	0.178	0.173	2	2.432	0.140 (0.139)							
	S(AREA + DISTEDGE + BRSEASON)	0.764	0.129	8	2.213 (0.283)	2.92×10^{-4} (1.93×10^{-4})	0.001 (0.001)	-2.167 (1.438)	0.126 (0.304)	0.744 (0.433)	0.507 (0.305)	0.692 (0.372)	
	S(DISTEDGE)	1.149	0.106	2	2.720 (0.141)	2.49×10^{-4} (9.01×10^{-4})							
	S(AREA + DISTEDGE + HEIGHT + BRSEASON)	1.219	0.102	9	1.737 (0.474)	2.99×10^{-4} (1.89×10^{-4})	0.002 (0.001)	0.180 (0.147)	-2.216 (1.413)	0.209 (0.311)	0.712 (0.434)	0.587 (0.313)	0.733* (0.374)
	S(AREA + HEIGHT + BRSEASON)	1.393	0.094	8	2.039 (0.431)	3.43×10^{-4} (2.38×10^{-4})	0.150 (0.146)	-2.492 (1.774)	0.141 (0.307)	0.619 (0.429)	0.469 (0.301)	0.571 (0.358)	
	S(AREA + DISTEDGE)	1.421	0.092	3	2.743 (0.143)	-3.81×10^{-5} (2.85×10^{-5})	7.53×10^{-4} (9.92×10^{-4})						

Species	Model	ΔAICc	w	K								
Cabanis's Greenbul[†]	S(AREA + DISTEDGE)	0.000	0.480	3	2.475 (0.436)	9.75×10⁻⁵* (4.53×10⁻⁵)	-0.003 (0.002)					
	S(AREA)	1.035	0.286	2	1.900 (0.239)	8.28×10⁻⁵ (4.42×10⁻⁵)						
Tiny Greenbul[‡]	S(DISTEDGE + DISTURB)	0.000	0.275	4	1.777 (0.820)	0.005 (0.003)	-1.525* (0.707)	-0.346 (0.790)				
	S(DISTURB)	0.332	0.233	3	2.880 (0.514)	-1.407* (0.676)	-0.810 (0.747)					
	S(AREA)	0.910	0.174	2	1.809 (0.369)	1.08×10⁻⁴ (7.96×10⁻⁵)						
	S(DISTEDGE)	0.925	0.173	2	1.426 (0.580)	0.004 (0.003)						
Orange Ground Thrush[§]	S(DISTEDGE)	0.000	0.485	2	3.536 (0.986)	-0.007 (0.006)						
	S(HEIGHT)	1.153	0.273	2	2.014 (0.877)	0.288 (0.482)						
	S(AREA)	1.388	0.242	2	2.674 (0.644)	-3.83×10⁻⁵ (1.09×10⁻⁴)						
White-tailed Crested Flycatcher	S(DISTEDGE)	0.000	0.350	2	2.305 (0.279)	0.001 (0.001)						
	S(HEIGHT)	0.823	0.232	2	2.658 (0.303)	-0.067 (0.181)						
	S(AREA)	0.960	0.217	2	2.553 (0.194)	6.11×10⁻⁷ (3.42×10⁻⁵)						
African Paradise Flycatcher	S(AREA + HEIGHT + BRSEASON)	0.000	0.479	8	1.732 (0.543)	3.31×10⁻⁴* (1.47×10⁻⁴)	0.164 (0.162)	-2.283* (1.103)	-0.210 (0.390)	0.173 (0.378)	1.145* (0.470)	-0.257 (0.564)
	S(AREA + DISTEDGE + BRSEASON)	0.094	0.457	8	2.479 (0.303)	3.81×10⁻⁴ (2.00×10⁻⁴)	-0.001 (0.001)	-2.674 (1.476)	-0.409 (0.403)	0.038 (0.343)	0.929 (0.461)	-0.286 (0.564)
Forest Batis	S(AREA + DISTEDGE + BRSEASON)	0.000	0.477	8	1.712 (0.446)	7.78×10⁻⁶ (6.02×10⁻⁵)	0.004* (0.002)	-0.018 (0.493)	0.312 (0.646)	1.071 (0.698)	2.385* (0.813)	0.171 (0.601)
	S(BRSEASON)	1.226	0.258	6	2.296 (0.373)	0.073 (0.431)	0.253 (0.641)	1.076 (0.696)	2.114* (0.803)	0.245 (0.597)		

Species	Model			K									
Collared Sunbird	S(DISTEDGE + DISTURB)	0.000	0.606	4	2.566 (0.348)	-0.050* (0.022)	-0.096 (0.388)	0.972 (0.580)					
Olive Sunbird	S(DISTEDGE + DISTURB)	0.000	0.290	4	3.052 (0.187)	-0.002 (8.04×10^{-4})	-0.102 (0.204)	-0.485* (0.215)					
	S(DISTURB)	1.580	0.132	3	2.877 (0.159)	-0.011 (0.198)	-0.469* (0.214)						
	S(HEIGHT + DISTURB + BRSEASON)	1.858	0.115	9	3.045 (0.320)	-0.178 (0.092)	-0.084 (0.208)	-0.555* (0.222)	0.162 (0.223)	0.375 (0.304)	0.508 (0.295)	0.130 (0.247)	0.656* (0.317)
	S(DISTEDGE)	1.878	0.114	2	2.889 (0.105)	-0.002* (7.69×10^{-4})							

* Estimated 95% confidence interval for the parameter does not overlap zero.

[†] Restricted to candidate models with ≤ 6 estimated parameters because of sample size.

[‡] Restricted to candidate models with ≤ 4 estimated parameters because of sample size.

§ Restricted to candidate models with ≤ 2 estimated parameters because of sample size.

Table S4. Top-ranked models assessing the influence of area, distance to edge, nest height, habitat disturbance, and breeding season on daily survival rate of nests for four nest types. Results are presented for competing models with $\Delta AIC_c \leq 2$ and their associated parameter estimates and standard errors. K is total number of parameters and w_i is the Akaike weight.

Nest type	Model	ΔAIC_c	w_i	K	Parameter estimates (1 SE)							
					intercept	1	2	3	4	5	6	7
Plate	S(HEIGHT)	0.000	0.496	2	-0.313 (0.606)	0.635* (0.205)						
Cup	S(AREA + HEIGHT + BRSEASON)	0.000	0.524	8	2.694 (0.120)	0.447* (0.076)	-0.033 (0.046)	-0.864* (0.183)	0.031 (0.169)	0.591* (0.214)	0.597* (0.156)	0.393* (0.197)
	S(AREA + DISTEDGE + BRSEASON)	0.321	0.446	8	2.667 (0.117)	0.441* (0.077)	0.022 (0.050)	-0.837* (0.180)	0.072 (0.164)	0.616* (0.213)	0.633* (0.156)	0.431* (0.199)
Dome	S(HEIGHT)	0.000	0.597	2	2.672 (0.068)	-0.212* (0.063)						
	S(HEIGHT + DISTURB + HEIGHT × DISTURB)	1.809	0.242	6	2.654 (0.069)	-0.307* (0.081)	-0.117 (0.088)	-0.152 (0.088)	-0.133 (0.084)	-0.012 (0.071)		
Pouch	S(AREA)	0.000	0.309	2	2.910 (0.173)	0.165 (0.180)						
	S(DISTEDGE)	0.532	0.237	2	2.894 (0.170)	0.101 (0.172)						
	S(HEIGHT)	0.848	0.203	2	2.891 (0.170)	0.026 (0.176)						

* Estimated 95% confidence interval for the parameter does not overlap zero.

Table S5. Candidate models for assessing influence of landscape structure and nest location on daily survival rate of nests for species and nest types.

Model	No. model parameters
$S_{(AREA + DISTURB + DISTEDGE + HEIGHT + BRSEASON)}$	11
$S_{(AREA + DISTEDGE + HEIGHT + BRSEASON)}$	9
$S_{(DISTURB + HEIGHT + BRSEASON)}$	9
$S_{(AREA + HEIGHT + BRSEASON)}$	8
$S_{(AREA + DISTEDGE + BRSEASON)}$	8
$S_{(HEIGHT + DISTURB + HEIGHT \times DISTURB)}$	6
$S_{(BRSEASON)}$	6
$S_{(AREA + DISTURB + AREA \times DISTURB)}$	6
$S_{(DISTURB + DISTEDGE)}$	4
$S_{(AREA + DISTEDGE)}$	3
$S_{(DISTURB)}$	3
$S_{(AREA)}$	2
$S_{(HEIGHT)}$	2
$S_{(DISTEDGE)}$	2