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Supplementary table 1: Record of species (reported in *italics*) and groups (including animal Classes and/or Orders), identified during the camera-trapping survey period, along with the number of independent detections, total detection sites, Relative Abundance Index (RAI) and naïve occupancy

Species/group	Detections	Detection sites	RAI	Naïve occupancy
Acinonyx jubatus	3	3	0.06	0.07
Antidorcas marsupialis	2648	25	48.84	0.60
Birds	933	27	17.21	0.64
Lupulella mesomelas	214	32	3.95	0.76
Caracal caracal	9	5	0.17	0.12
Elephantulus sp.	1	1	0.02	0.02
Equus zebra	903	27	16.65	0.64
Felis lybica	42	19	0.77	0.45
Genetta genetta	40	10	0.74	0.24
Giraffa camelopardalis	1	1	0.02	0.02
Herpestes sp.	281	24	5.18	0.57
Homo sapiens	71	14	1.31	0.33
Hystrix africaeaustralis	51	9	0.94	0.21
Ictonyx striatus	1	1	0.02	0.02
Lepus capensis	339	19	6.25	0.45
Mellivora capensis	18	4	0.33	0.10
Oreotragus oreotragus	251	23	4.63	0.55
Oryx gazella	633	30	11.67	0.71
Panthera pardus	28	13	0.52	0.31
Papio ursinus	462	18	8.52	0.43
Parahyaena brunnea	30	14	0.55	0.33
Procavia capensis	279	15	5.15	0.36
Pronolagus sp.	42	7	0.77	0.17
Proteles cristata	26	8	0.48	0.19
Raphicerus campestris	18	7	0.33	0.17
Rodents	25	5	0.46	0.12
Struthio camelus	408	21	7.52	0.50
Tragelaphus strepsiceros	441	28	8.13	0.67
Unidentified	92	30	1.70	0.71
Vehicles	367	14	6.77	0.33
Vulpes chama	6	3	0.11	0.07
Xerus sp.	132	11	2.43	0.26

Supplementary table 2: Starting models for the occupancy analysis

Null model
p(.), *psi*(.)
Detection models
p(effort + Elevation + TPI + TRI + TWI), *psi*(.)
p(effort + Leopard + Springbok + Leporidae), *psi*(.)
p(effort + Vehicle + Homo), *psi*(.)
Occupancy models
psi(Elevation + TRI + TPI + TWI), *p*(.)
psi(Leopard + Leporidae + Springbok), *p*(.)
psi(Vehicle + Homo), *p*(.)

p*, detection;* psi*, occupancy; TPI, Topographic Position Index; TRI, Topographic Ruggedness Index; TWI, Topographic Wetness Index; Homo,* Homo sapiens

Supplementary table 3: All combinations of fitted models testing for detection (*p*) and occupancy (*psi*) with model ranking realised according to the Akaike Information Criterion (AIC). The null model is reported in **bold.**

Fitted model	**K**	**logLik**	**AIC**	**ΔAIC**	**ωi**
p(effort + Elevation + TPI), psi(.)	5	-106.03	222.06	0.00	0.31
p(effort + Elevation + TPI + TWI), *psi*(.)	6	-105.04	222.09	0.03	0.31
p(effort + Elevation + TPI + TRI), *psi*(.)	6	-105.36	222.73	0.67	0.22
p(effort + Elevation + TPI + TWI + TRI), *psi*(.)	7	-104.97	223.94	1.88	0.12
p(effort + Elevation + TWI + TRI), *psi*(.)	6	-107.72	227.45	5.38	0.02
p(effort + Elevation + TRI), *psi*(.)	5	-109.77	229.54	7.48	0.01
p(effort + Elevation), *psi*(.)	4	-113.63	235.25	13.19	0.00
p(effort + Elevation + TWI), *psi*(.)	5	-113.37	236.73	14.67	0.00
p(.), *psi*(Elevation + TPI)	4	-114.94	237.88	15.81	0.00
p(.), *psi*(Elevation + TPI + TRI)	5	-114.89	239.78	17.71	0.00
p(.), *psi*(Elevation + TPI + TWI)	5	-114.92	239.84	17.78	0.00
p(effort + TPI), *psi*(.)	4	-116.37	240.74	18.67	0.00
p(effort + TRI), *psi*(.)	4	-116.72	241.44	19.38	0.00
p(.), *psi*(Elevation + TPI + TRI + TWI)	6	-114.89	241.77	19.71	0.00
p(effort + TPI + TWI), *psi*(.)	5	-116.04	242.07	20.01	0.00
p(effort + TPI + TRI), *psi*(.)	5	-116.37	242.73	20.67	0.00
p(effort + Leporidae), *psi*(.)	4	-117.40	242.80	20.74	0.00
p(effort + Leopard), *psi*(.)	4	-117.51	243.02	20.95	0.00
p(effort + TRI + TWI), *psi*(.)	5	-116.58	243.15	21.09	0.00

Fitted model	K	logLik	AIC	ΔAIC	ωi
p(effort + Homo), *psi*(.)	4	-117.72	243.43	21.37	0.00
p(effort + TPI + TRI + TWI), *psi*(.)	6	-115.89	243.78	21.71	0.00
p(.), *psi*(TPI)	3	-118.89	243.78	21.72	0.00
p(effort + Leopard + Leporidae), *psi*(.)	5	-117.08	244.17	22.10	0.00
p(effort + Vehicle), *psi*(.)	4	-118.14	244.28	22.22	0.00
p(effort + TWI), *psi*(.)	4	-118.15	244.31	22.25	0.00
p(effort + Leporidae + Springbok), *psi*(.)	5	-117.37	244.73	22.67	0.00
p(effort + Springbok), *psi*(.)	4	-118.37	244.74	22.67	0.00
p(effort + Leopard + Springbok), *psi*(.)	5	-117.44	244.89	22.82	0.00
p(.), *psi*(TPI + TRI)	4	-118.50	245.00	22.93	0.00
p(effort + Vehicle + Homo), *psi*(.)	5	-117.59	245.18	23.12	0.00
p(.), *psi*(Springbok)	3	-119.91	245.82	23.76	0.00
p(effort + Leopard + Leporidae + Springbok), *psi*(.)	6	-116.93	245.86	23.80	0.00
p(.), *psi*(Elevation + TWI)	4	-119.11	246.23	24.16	0.00
p(.), *psi*(Elevation + TRI + TWI)	5	-118.16	246.31	24.25	0.00
p(.), *psi*(Elevation)	3	-120.28	246.56	24.50	0.00
p(.), *psi*(TPI + TRI + TWI)	5	-118.35	246.70	24.63	0.00
***p*(.), *psi*(.)**	**2**	**-121.47**	**246.94**	**24.87**	**0.00**
p(.), *psi*(Leopard + Springbok)	4	-119.68	247.37	25.30	0.00
p(.), *psi*(Leporidae + Springbok)	4	-119.77	247.54	25.48	0.00
p(.), *psi*(Elevation + TRI)	4	-119.95	247.90	25.83	0.00
p(.), *psi*(TWI)	3	-121.07	248.15	26.08	0.00
p(.), *psi*(Leporidae)	3	-121.16	248.33	26.26	0.00
p(.), *psi*(TRI)	3	-121.34	248.68	26.62	0.00
p(.), *psi*(TPI + TWI)	4	-120.40	248.81	26.74	0.00
p(.), *psi*(Leopard)	3	-121.46	248.93	26.86	0.00
p(.), *psi*(Leopard + Leporidae + Springbok)	5	-119.54	249.09	27.02	0.00
p(.), *psi*(TRI + TWI)	4	-120.84	249.68	27.62	0.00
p(.), *psi*(Leopard + Leporidae)	4	-121.13	250.26	28.20	0.00
p(.), *psi*(Vehicle)	3	-124.87	255.75	33.69	0.00
p(.), *psi*(Vehicle + Homo)	4	-124.86	257.71	35.65	0.00
p(.), *psi*(Homo)	3	-126.27	258.55	36.48	0.00

ωi, Akaike's weight; K, number of parameters; logLik, log–likelihood; TPI, Topographic Position Index; TRI, Topographic Ruggedness Index; TWI, Topographic Wetness Index; Homo, Homo sapiens