

# Local hunting of carnivores in forested Africa: a meta-analysis

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## SUPPLEMENTARY MATERIAL 1

The term used to search Google Scholar beta (Google, Mountain View, USA) in 2012 for articles on carnivores in Africa comprised the phrase:

(bushmeat OR "bush meat") AND (Otocyon OR caracal OR Acinonyx OR cheetah OR Nandinia OR Civettictis OR Viverridae OR civet OR Vulpes OR Cryptoprocta OR Genetta OR genet OR Mellivora OR hyenas OR Hyaenidae OR canis OR jackal OR Panthera OR leopard OR lion OR eupleridae) AND (Angola OR Benin OR Cameroon OR Central African Republic OR Congo OR Côte d'Ivoire OR Ethiopia OR Gabon OR Ghana OR Guinea OR Liberia OR Madagascar OR Mozambique OR Nigeria OR République Centrafricaine OR Sierra Leone OR Zaire OR Zambia)

SUPPLEMENTARY MATERIAL 2 The 62 articles from which records were extracted for analysis (some of these references are also in the main text but all 62 are provided here, for completeness).

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TABLE S1 Research methods mentioned in the 62 articles (Supplementary Material 2), with the frequency of each method, and the percentage of the articles that used the method. The use of interviews and questionnaires is subdivided by who provided responses (some of the articles listed more than one interview/questionnaire type).

Research method	Frequency	% of articles that cite method
Market survey	156	34.8
Catch assessment	58	13.0
Bounty system	4	0.9
Hunter records	10	2.2
Interviews/questionnaires <sup>1</sup>	220	49.1
Hunter	115	
Village/household	90	
Merchant/trader	22	

TABLE S2 All taxa recorded in the 62 articles (Supplementary Material 2), by Family or other grouping, with their IUCN Red List status (IUCN 2012), and number and percentage of reports of each taxa.

Taxon (by Family, Subfamily)	Red List status*	No. of reports	%
<b>Canidae</b>			
Side-striped jackal <i>Canis adustus</i>	LC	2	0.6
Unknown jackal <i>Canis</i> sp.		1	0.3
<b>Eupleridae, Euplerinae</b>			
Fossa <i>Cryptoprocta ferox</i>	VU	2	0.6
Falanouc <i>Eupleres goudotii</i>	NT	2	0.6
Malagasy civet <i>Fossa fossana</i>	NT	2	0.6
<b>Eupleridae, Galidiinae</b>			
Malagasy ring-tailed mongoose <i>Galidia elegans</i>	LC	2	0.6
<b>Felidae, Felinae</b>			
African golden cat <i>Caracal aurata</i>	NT	11	3.3
Wild cat <i>Felis silvestris</i>	LC	5	1.5
Serval <i>Leptailurus serval</i>	LC	4	1.2
<b>Felidae, Pantherinae</b>			
Lion <i>Panthera leo</i>	VU	3	0.9
Leopard <i>Panthera pardus</i>	NT	22	6.6
<b>Herpestidae</b>			
Marsh mongoose <i>Atilax paludinosus</i>	LC	18	5.4
Black-footed mongoose <i>Bdeogale nigripes</i>	LC	17	5.1
Alexander's cusimanse <i>Crossarchus alexandri</i>	LC	1	0.3
Common cusimanse <i>Crossarchus obscurus</i>	LC	18	5.4
Cameroon cusimanse <i>Crossarchus latycephalus</i>	LC	4	1.2
Pousargues' mongoose <i>Dologale dybowskii</i>	DD	1	0.3
Common dwarf mongoose <i>Helogale parvula</i>	LC	1	0.3
Egyptian mongoose <i>Herpestes ichneumon</i>	LC	5	1.5
Long-nosed mongoose <i>Herpestes naso</i>	LC	9	2.7
Slender mongoose <i>Herpestes sanguineus</i>	LC	10	3.0
Unknown mongoose <i>Herpestes</i> sp.		7	2.1
White-tailed mongoose <i>Ichneumia albicauda</i>	LC	5	1.5
Gambian mongoose <i>Mungos gambianus</i>	LC	3	0.9
Branded mongoose <i>Mungos mungo</i>	LC	3	0.9
Brown mongoose (unknown sp.)	LC	1	0.3
Unknown mongoose sp.		6	1.8
<b>Hyaenidae</b>			
Spotted hyaena <i>Crocuta crocuta</i>	LC	2	0.6

Taxon (by Family, Subfamily)	Red List status*	No. of reports	%
<b>Mustelidae, Lutrinae</b>			
African clawless otter <i>Aonyx capensis</i>	LC	5	1.5
Spotted-necked otter <i>Lutra maculicollis</i>	LC	8	2.4
Otter (unknown sp.)		3	0.9
<b>Mustelidae, Mustelinae</b>			
Zorilla <i>Ictonyx striatus</i>	LC	2	0.6
Honey badger <i>Mellivora capensis</i>	LC	5	1.5
African striped weasel <i>Poecilogale albinucha</i>	LC	1	0.3
<b>Nandiniidae</b>			
African palm civet <i>Nandinia binotata</i>	LC	33	9.9
<b>Viverridae, Viverrinae</b>			
African civet <i>Civettictis civetta</i>	LC	45	13.4
Civet (unknown sp.)		2	0.6
Ethiopian genet <i>Genetta abyssinica</i>	LC	1	0.3
Bourlon's genet <i>Genetta bourloni</i>	NT	1	0.3
Crested genet <i>Genetta cristata</i>	VU	1	0.3
Common genet <i>Genetta genetta</i>	LC	2	0.6
Johnston's genet <i>Genetta johnstoni</i>	VU	1	0.3
Central-African large-spotted genet <i>Genetta maculata</i>	LC	2	0.6
West-African large-spotted genet <i>Genetta pardina</i>	LC	5	1.5
Aquatic genet <i>Genetta piscivora</i>	DD	1	0.3
King genet <i>Genetta poensis</i>	DD	2	0.6
Rusty-spotted genet <i>Genetta rubiginosa</i>	DD	1	0.3
Servaline genet <i>Genetta servalina</i>	LC	11	3.3
Unknown genet <i>Genetta</i> sp.		15	4.5
South-African large-spotted genet <i>Genetta tigrina</i>	LC	7	2.1
Giant genet <i>Genetta victoriae</i>	LC	3	0.9
Leighton's linsang <i>Poiana richardsonii</i>	DD	7	2.1
Small Indian civet <i>Viverricula indica</i>	LC	2	0.6
Viverrid (unknown sp.)		1	0.3
<b>Unknown</b>			
Small carnivore (unknown sp.)		1	0.3

\*LC, Least Concern; NT, Near Threatened; VU, Vulnerable; DD, Data Deficient

TABLE S3 Purposes, and sub-purposes, for hunting of carnivores mentioned in the 62 articles (Supplementary Material 2), with the number of reports of each. Consumption includes consumption by hunter and sale for consumption in local and urban markets. Fetish includes both local use and sale for fetish use.

Hunting purpose	Sub-purpose	Number
Consumption		301
Culture	Fetish	26
	Skins used	49
	General cultural use	39
	Kept as pet	1
Pest	Bycatch kill	2
	Negative taboo	4
	Local fear	2
	Nuisance	31
Unknown	Personal use	1
	Sale use	28
	Unlisted use	4

TABLE S4 Hunting methods recorded in the 62 articles (Supplementary Material 2), with the number of reports of each method/sub-method.

Hunting method/time	Sub-method	Number
Dogs		76
Guns		160
Hand combat	Archery	26
	Blades (knives, cutlasses, etc.)	15
	Sling-shots, rocks, sticks, etc.	24
At night		28
Passive	Fire	4
	Poison	6
	Nets	15
Traps	Snares	78
	Other traps	131
Unknown		112



TABLE S5 Studies (Supplementary Material 2) specifically citing a species as either locally rare or extinct, with country in which study was located.

Study	Species	Country
<b>Rare</b>		
Abugiche (2008)	<i>C. civetta</i>	Cameroon
Ige et al. (2011)	<i>C. civetta</i>	Nigeria
Ige et al. (2011)	<i>H. ichneumon</i>	Nigeria
Ige et al. (2011)	<i>C. platycephalus</i>	Nigeria
Djagoun & Gaubert (2009)	<i>C. civetta</i>	Benin
Djagoun and Gaubert 2009	<i>L. maculicollis</i>	Benin
Jeffrey (1975)	<i>M. capensis</i>	Ghana
Jeffrey (1975)	<i>C. aurata</i>	Ghana
Jeffrey (1975)	<i>P. pardus</i>	Ghana
Maisels et al. (2001)	<i>L. serval</i>	Cameroon
Maisels et al. (2001)	<i>Genetta spp.</i>	Cameroon
Maisels et al. (2001)	<i>H. sanguineus</i>	Cameroon
Maisels et al. (2001)	<i>N. binotata</i>	Cameroon
Maisels et al. (2001)	<i>C. civetta</i>	Cameroon
Carpaneto & Germe (1989)	<i>G. piscivora</i>	D.R. Congo
De Luca & Mpunga (2005)	<i>P. leo</i>	Tanzania
Laurent (1992)	<i>C. civetta</i>	Cameroon
<b>Extinct</b>		
Abugiche (2008)	<i>P. pardus</i>	Cameroon
Anadu et al. (1988)	<i>P. pardus</i>	Nigeria
Bassett (2005)	<i>P. pardus</i>	Côte d'Ivoire
Nzouango & Willcox (2000)	<i>P. pardus</i>	Cameroon
Ryan & Attuquayefio (2000)	<i>P. pardus</i>	Ghana
Ryan & Attuquayefio (2000)	<i>C. crocuta</i>	Ghana
Ryan & Attuquayefio (2000)	<i>C. civetta</i>	Ghana
Maisels et al. (2001)	<i>P. leo</i>	Cameroon
Maisels et al. (2001)	<i>P. pardus</i>	Cameroon
Maisels et al. (2001)	<i>A. capensis</i>	Cameroon
Pollard (1997)	<i>P. pardus</i>	Cameroon