

**Leopard *Panthera pardus* camera trap surveys in the arid environments of northern Namibia**

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**Highlights:**

- First camera trap surveys of leopards in two study areas in northern Namibia.
- Density estimate in the Khaudum National Park was 2.74 leopards/100km<sup>2</sup> using a maximum likelihood approach and 1.83 leopards/100 km<sup>2</sup> using a Bayesian approach, respectively.
- Density estimate in the Lower Hoanib River could not be estimated because only one leopard was photographed. With 25 mm of rainfall, this is the most arid area in which a camera trap survey of leopards has been conducted to date.
- Both study areas are currently under management, potentially affecting leopard density. Our study suggests a long-term monitoring of the leopard populations to assess the management effects.



This article is part of a thematic collection of articles (Special Issue) of *Mammalian Biology* and covers the following topics and taxa (marked with ) addressed in the Special Issue:

Article Type				
<input checked="" type="checkbox"/> Original Research	<input type="checkbox"/> Techniques	<input type="checkbox"/> Review	<input type="checkbox"/> Short Communication	<input type="checkbox"/> Concept Note
Taxon		Topic		
<b>Terrestrial</b>				
<input type="checkbox"/> Bats (Order Chiroptera)	<input type="checkbox"/> Primates : Great Apes (Family Hominidae)	<input type="checkbox"/> Acoustic ID	<input type="checkbox"/> Identification techniques	
<input type="checkbox"/> Carnivores : Bears (Family Ursidae)	<input type="checkbox"/> Primates : Old World monkeys (Family Cercopithecidae)	<input type="checkbox"/> Aerial surveys	<input type="checkbox"/> Life-history	
<input type="checkbox"/> Carnivores : Canids (Family Canidae)	<input type="checkbox"/> Ungulates : Bovids (Family Bovidae)	<input type="checkbox"/> Analytical innovations	<input type="checkbox"/> Machine learning	
<input checked="" type="checkbox"/> Carnivores : Felids (Family Felidae)	<input type="checkbox"/> Ungulates : Deers (Family Cervidae)	<input type="checkbox"/> Automated pattern recognition	<input checked="" type="checkbox"/> Mark-recapture analysis	
<input type="checkbox"/> Carnivores : Hyenas (Family Hyaenidae)	<input type="checkbox"/> Ungulates : Giraffes (Family Giraffidae)	<input type="checkbox"/> Behavioural ecology	<input type="checkbox"/> Morphometrics	
<input type="checkbox"/> Carnivores : Mustelids (Family Mustelidae)	<input type="checkbox"/> Ungulates : Horses (Family Equidae)	<input checked="" type="checkbox"/> Camera-trapping	<input type="checkbox"/> Network analysis	
<input type="checkbox"/> Elephants (Family Elephantidae)	<input type="checkbox"/> Multiple taxa (3 or more Families/Orders)	<input checked="" type="checkbox"/> Conservation management	<input type="checkbox"/> Photogrammetry	
<b>Marine</b>		<input type="checkbox"/> Data management	<input checked="" type="checkbox"/> Population ecology	
<input type="checkbox"/> Baleen whales : Right whales (Family Balaenidae)	<input type="checkbox"/> Large toothed whales (Families Delphinidae & Hyperoodontidae)	<input type="checkbox"/> Demographic parameters	<input type="checkbox"/> Site fidelity & Movement	
<input type="checkbox"/> Baleen whales : Rorquals (Family Balaenopteridae)	<input type="checkbox"/> Pinnipeds : True seals (Family Phocidae)	<input type="checkbox"/> Field methodology	<input type="checkbox"/> Social ecology	
<input type="checkbox"/> Carnivores : Bears (Family Ursidae)	<input type="checkbox"/> Porpoises (Family Phocoenidae)	<input type="checkbox"/> Genetic ID	<input type="checkbox"/> Software/Package development	
<input type="checkbox"/> Carnivores : Mustelids (Family Mustelidae)	<input type="checkbox"/> Sirenians : Manatees (Family Trichechidae)	<input type="checkbox"/> Health conditions	<input type="checkbox"/> Thermal imagery	
<input type="checkbox"/> Dolphins (Family Delphinidae)	<input type="checkbox"/> Multiple taxa (3 or more Families/Orders)	<input type="checkbox"/> Other: (please specify)		

**References**

Karczmarski L, Chan SCY, Rubenstein DI, Chui SYS, Cameron EZ (2022a). Individual identification and photographic techniques in mammalian ecological and behavioural research – Part 1: Methods and concepts. *Mammalian Biology* (Special Issue), 102 (3) <https://link.springer.com/journal/42991/volumes-and-issues/102-3>

Karczmarski L, Chan SCY, Chui SYS, Cameron EZ (2022b). Individual identification and photographic techniques in mammalian ecological and behavioural research – Part 2: Field studies and applications. *Mammalian Biology* (Special Issue), 102 (4) <https://link.springer.com/journal/42991/volumes-and-issues/102-4>