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Unusual resting places of sand cat in Moroccan Sahara?

In autumn 2018 during a naturalist prospecting trip in the Dakhla-Aousserd region of the Moroccan Sahara, we discovered several sand cats *Felis margarita* resting in bird nests built in acacia trees *Acacia raddiana*. This original behaviour – not previously documented we believe – is described here.

On 29 October 2018 at 21:30 h, during a night spotlighting drive along the Dakhla-Aousserd road, Moroccan Sahara, we discovered a sand cat resting in a brown-necked raven *Corvus ruficollis* nest in an acacia tree about 3.5 m above the ground (Fig. 1, Cat A).

Following this discovery, we investigated several acacias holding brown-necked raven nests and quickly found another two cats resting during the day in the same way; one on 30 October 2018 at 18:00 h (Fig. 1, Cat B), another on 31 October 2018 at 11:00 h (Fig. 1, Cat C). The distance from tree A to trees B and C was 43 km while the distance between trees B and C was only 1.6 km. Considering these distances and sand cat habits, Cat A is considered as different from Cats B and/or C (Breton et al. 2016; A. Sliwa, pers. obs.). Despite paying close attention about facial marks, it was impossible to determine if Cats B and C were different individuals or not.

The trees holding up the ravens' nests inhabited by cats were all acacias. These trees were quite big (at least 4 m high), isolated (no other tree within a 100 m radius), and with clear trunks holding few or no low branches (Fig. 2).

The discovery, in just a few hours of non-systematic effort, of three identical cases several kilometres apart from each other, leads us to believe that this situation is neither unusual for Sahara sand cats, nor due to the particular habits of a single individual. Surprisingly, we are not aware of any publication that mentions sand cats resting in birds' nests. The literature seems only to report the species resting in the shelter of bushes, rocks, or at the entrance of – or inside – burrows, but never in trees (Cunningham 2002, Russell Cole & Wilson 2015, Sliwa 2013).

For instance, during a twelve days radio-tracking survey led by Breton et al. (2016) in the same area and nearly at the same time of the

year (the study – in early December – was only a few weeks later in the year than our visit), none of the tracked cats were seen hiding in a burrow but only in the vegetation or among the rocks. These authors suggest that this behavior could be explained by the absence of burrows in the area. We are unable to confirm this hypothesis. Indeed several suitable burrows were found less than 300 m from the resting trees. Because the strong wind erased most of the prints of the numerous visitors (small-mammals, spiny-tailed lizard *Uromastyx dispar*, fennec fox *Vulpes zerda*, Rüppell's fox *Vulpes rueppelli* and others) it was impossible to determine whether a sand cat occupied these burrows at all.

Watching at a distance of 150 m from tree B (Fig. 2), we could observe the cat climbing down the tree and slowly moving away at 20:12 h, just before sunset.

Because our three observations were all made in less than 48 hours, we can only formulate a few hypotheses concerning the cats' interest of using such resting places. Since raven nests can only offer a limited shelter from weather hazards, one might imagine that they are occupied only during periods without extreme high or low temperatures, and when there is no rain. However, for much of the year, the nests, which are sunny, ventilated and without humidity, may also provide some shade and some comfort to the small felid.

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Fig. 1. The three sand cats resting in brown-necked raven nests. Cat A: 29.10.2018; Cat B: 30.10.2018; Cat C: 31.10.2018 (Photos J. M. Bompar and co-authors).

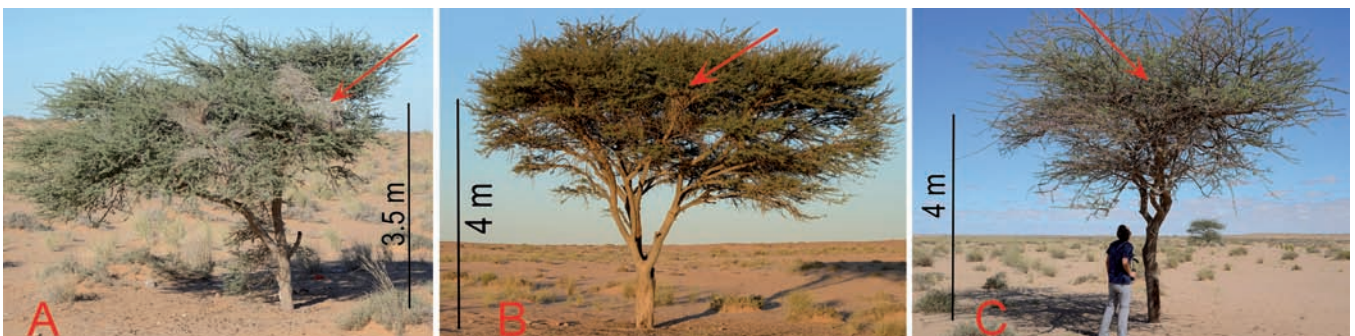


Fig. 2. The three resting acacia trees. The red arrow shows the place of the nest chosen for resting. Elevation is given from ground to nest level. A: nest with Cat A; B: nest with Cat B; C: nest with Cat C (Photos J. M. Bompar and co-authors).

Furthermore, the nests used by the cats were all supported by trees without low branches and, placed in the foliage, they are protected by sharp acacia thorns. As a consequence, these nests seem safe from disturbances by all those species we observed in the area during our visit. The nests are unreachable for middle-sized ground carnivorous (such as stray dogs and shepherd dogs, African golden Wolf *Canis anthus*), and they are well protected from either both diurnal raptor (golden eagle *Aquila chrysaetos*) and nocturnal raptor (Pharaoh eagle-owl *Bubo ascalaphus*).

Although our observations were in exactly the same research area as Breton et al.

(2016), none of the observed cats were wearing a radio-collar transmitter.

Post-scriptum: *On 10 January 2019 and 24 March 2019, a sand cat was observed resting in "nest B". Another or the same cat was resting in "nest C" on 12 January 2019. On 24 March 2019, "tree A" has completely lost its foliage and "nest A" was empty*

References

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