

## Recent records of the elusive Ratel *Mellivora capensis* (Schreber, 1776) in Morocco and case of human persecution

Sidi Imad CHERKAOUI<sup>1\*</sup> & Adel BOUAJAJA<sup>2</sup>

<sup>1</sup>. Université Moulay Ismail, Ecole Supérieure de Technologie de Khénifra, BP 170 Khénifra 54000, Khénifra, Morocco.

<sup>2</sup>. Association Marocaine pour la Protection de l'Environnement et du Climat (ASMAPEC), B.P 6202 Madinat Al Irfane, Rabat, Morocco.

### Correspondence:

Sidi Imad Cherkaoui  
imad.cherkaoui@gmail.com

### Associate editor:

Emmanuel Do Linh San

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### Abstract.

Ratel *Mellivora capensis* is a rare and localized Mustelidae in a large part of its range in Morocco which is home to the largest Mediterranean population, if not almost the only one in this ecoregion. We discovered an important area for the species with probably a high density of its population given the number of records reported by the local human population interviewed during a recent survey in Guelmim region. We also report a new case of human persecution by local beekeepers.

### Observations récentes du mystérieux Ratel *Mellivora capensis* (Schreber, 1776) au Maroc et cas de persécution humaine

### Résumé.

Le Ratel *Mellivora capensis* est un Mustélide rare et localisé sur une grande partie de son aire de distribution au Maroc, pays qui abrite la population méditerranéenne la plus large de cette espèce, si ce n'est pratiquement la seule dans cette écorégion. Nous avons découvert une zone importante pour l'espèce avec probablement une grande densité de sa population étant donné le nombre d'observations reportées par la population humaine locale interviewée lors d'une enquête récente dans la région de Guelmim. Nous reportons aussi un nouveau cas de persécution humaine par des apiculteurs locaux.

**Keywords:** Aferkat Sanctuary, Guelmim region, beekeepers, illegal killing, persecution.

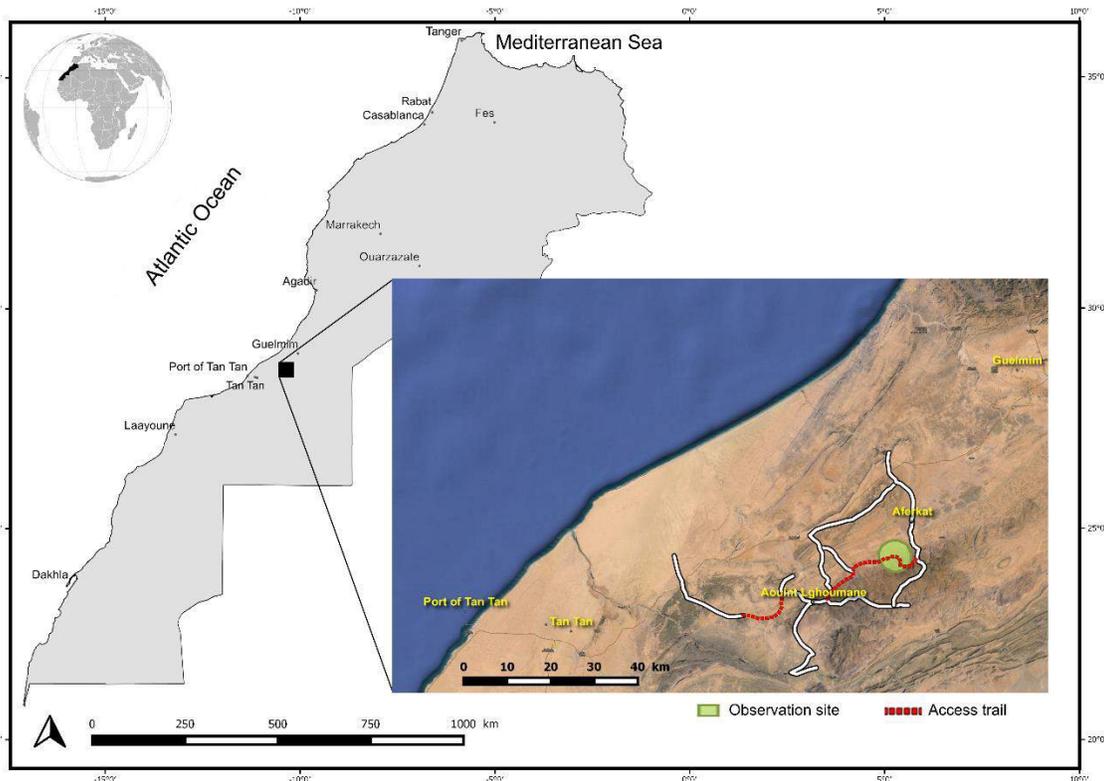
Ratel (or Honey Badger) *Mellivora capensis* is a medium-sized mustelid (6–14 kg) that has a wide distribution range, which extends from southern Morocco and south-western Algeria through most of sub-Saharan Africa to South Africa's Western Cape, and outside of Africa through Arabia and central Asia to the Indian peninsula (Proulx *et al.* 2016), typically exhibiting low population densities (Vanderhaar & Hwang 2003, Do Linh San *et al.* 2016).

In Morocco, the Ratel is a rare and threatened mammal (Cuzin, 2003) that exists mainly in Central and Eastern High Atlas, along Dra'a river and in Tafilat as well as in Moroccan Atlantic Sahara (Aulagnier & Thévenot 1986, Cuzin 2003) where we know very little about its ecology and social behavior (Cuzin 1996). Cuzin (2003). The species occurs in different habitat types from high mountains, where it reaches 3,000 m asl, to sea level plains in the Atlantic Sahara in arid and semi-arid areas. Habitats with scattered vegetation and encompassing rocky hills are preferably used by this carnivore species.

Regarding the interaction with human populations, it is commonly reported that Ratels are regularly persecuted by beekeepers and farmers throughout their distribution range (Do Linh San *et al.* 2016) due to their diet that includes honey and some farm animals (Do Linh San *et al.* 2016). To a smaller extent, they are also hunted by bushmeat traders in some sub-Saharan African countries (Do Linh San *et al.* 2016). This mustelid is also killed inadvertently by the non-selective use of poisons and gin traps set for other similar-sized carnivores (Begg & Begg 2002).

In Morocco, like elsewhere in their distribution range (Begg & Begg 2002), Ratels are occasionally persecuted for attacks on beehives; for instance, in the region of Aouinet Loughmane in southern Morocco (Cuzin 2003).

In 2015, a seasonal survey that included transects ( $n = 10$ ) with a total length of 122 km and interviews of local human population (farmers, beekeepers, hunters, shepherds and others) was carried out in the region of Aferkat in Guelmim Province (Figure 1) to (i) draw up a preliminary list of local biodiversity (fauna and flora), and (ii) investigate the distribution of local fauna and its interaction with humans via interviews with farmers, shepherds and hunters.



**Figure 1.** Location of the study area with Ratel records in Morocco.

The site provides habitats that attract a rich diversity of mammals observed during our survey like Ratel, Golden Jackal *Canis aureus*, Barbary Wild Boar *Sus scrofa*

*barbarus*, Red Fox *Vulpes vulpes*, African Wild Cat *Felis silvestris lybica* or Cuvier's Gazelle *Gazella cuvieri*. We found that Barbary Fig *Opuntia ficus-indica* cultivations, that are extensive in the study area, provide an ideal shelter locally for terrestrial fauna (Figure 2).

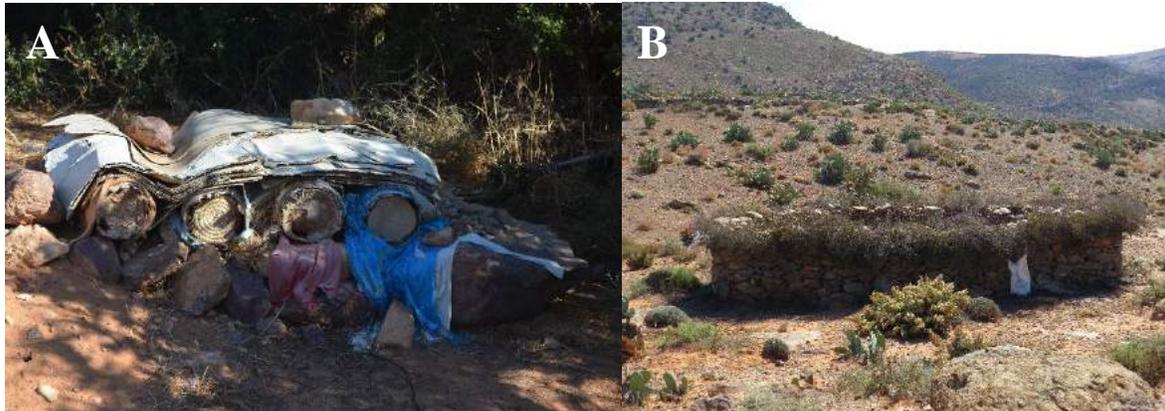


**Figure 2.** Habitat of Ratel *Mellivora capensis* in the study area (Photo: S. I. Cherkaoui).

According to the interviewed beekeepers ( $n = 8$ ), Ratel is a fairly common animal in Aferkat. Indeed, two to five attacks per year were reported during the last decade which made this predator the main enemy for beekeepers in that area. Traditional beehives are located on the ground (Figure 3A) which makes them very vulnerable to a number of predators. Ratel's presence in the area probably would have gone unnoticed (because of its nocturnal habits) if the local human populations had not practiced beekeeping.

In October 2015, a male adult Ratel was killed by local beekeepers after being trapped (Figure 4), confirming the existing conflict with this carnivore. Two to three traps are systematically placed around the fence in order to catch the Ratels attracted by honey. However, given the high density of Wild Boars in this region, they are more regularly caught. Beekeepers do try to protect hives from Ratels' assaults by putting them within a fenced-off area (Figure 3B). This technique may reduce conflict but does not provide total protection. According to beekeepers up to five Ratels were killed in the last decade. The

number of sightings of Ratels in the past decade ( $\geq 2$  observations per year between 2005 and 2015) in this area compared to only 28 observations in the whole country between 1986 and 2000 (Cuzin 2003) suggest that the Guelmim Sanctuary may be one of the most important stronghold for the species in Morocco.



**Figure 3.** (A) Traditional beehives; (B) Fence used to protect beehives against Ratel (Photos: S. I. Cherkaoui).



**Figure 4.** Male Ratel killed by local beekeepers in October 2015 in the area of Aferkat (Photo: S. I. Cherkaoui).

Although Ratel is listed by IUCN in the Least Concern category (Do Linh San *et al.* 2016), it could be undergoing localized declines in common with many predators over the world. Insufficient data on this species make it very difficult to assess Ratel's population trends and consequently its conservation status. The very restricted distribution of Ratel sightings in both the Mediterranean and North Africa regions combined with evidence of species persecution by local populations in this area suggests that an extensive study to determine Ratel's population extent and status in this area is severely needed.

A specific awareness-raising program is, therefore, important to advocate for human population willingness and participation in Ratel's conservation as well as that of other threatened mammals living in Aferkat region. Local wildlife authorities in association with civil societies could support measures such as reinforcing fences around traditional beehives in order to reduce human–Ratel conflicts

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