

## Further lion, *Panthera leo senegalensis* Meyer, 1826, sightings in Mole National Park, Ghana, and possible first serval *Leptailurus serval* Schreber, 1776 record after 39 years (Mammalia Felidae)

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### ABSTRACT

In this note we report on two recent sightings of lion, *Panthera leo senegalensis* Meyer, 1826 (Mammalia Felidae), one of which made by the authors, in Mole National Park (Ghana) during our last field research in April, 2015. We also obtained a camera trap picture of a probable serval individual, *Leptailurus serval* Schreber, 1776 (Mammalia Felidae), a species not recorded in the Park since 1976. Our conclusions indicate how the cat status in Mole National Park is very little known.

### KEY WORDS

lion; *Panthera leo*; serval; *Leptailurus serval*; Mole National Park; Ghana.

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### INTRODUCTION

The western African lion population, *Panthera leo senegalensis* Meyer, 1826 (Mammalia Felidae), is Critically Endangered (Henschel et al., 2014) and currently occupies only 1% of its historical range. Currently the presence of this subspecies is confirmed only in some protected areas of Senegal, Burkina Faso, Benin, Niger and Nigeria (Henschel et al., 2014).

A particularly interesting area, due to its strategic position between the above mentioned surviving populations, is the Mole National Park (MNP), Northern Region, Ghana. Here the species has always been present in historical times (Grubb et al., 1998; Angelici et al., 2015), but the last empirical evidence is an adult male shot in 2004 (Burton et al., 2010). Currently, lion is considered functionally extinct or extirpated in the whole Ghana (Henschel

et al., 2010, 2014). Despite this, indirect evidence which seems to indicate the persistence of a small population has been found and published in literature (Angelici & Petrozzi 2010; Angelici et al., 2015).

During this research, we also obtained a camera trap picture of a probable serval individual, *Leptailurus serval* Schreber, 1776 (Mammalia Felidae), a species not recorded in the Park since 1976. The serval is Least Concern in IUCN Red List of Threatened Species (Thiel, 2015).

### MATERIAL AND METHODS

From April 8th to May 5th we carried out our last field research in MNP for the project “The Pride of Ghana” (see Angelici et al., 2015). Here, we investigated a lion’s sighting occurred 18 days before

our arrival. Some day after we have been involved in a direct sighting.

The study area was the Mole National Park (MNP) in Northern Region of Ghana (Fig. 1).

## RESULTS AND CONCLUSIONS

The first sighting ( $09^{\circ}22.719'N$  -  $001^{\circ}50.994'W$  - 128 m a.s.l., see figure 2) took place in March 22, 2015 around midday (12:00) and involved a patrol of five rangers. We personally interviewed the witnesses separately and all of them agreed in their description of an adult male in good health, observed from a distance of about 80 meters. The lion ran away in the bush after noticing the men.

Due to the distance and the extremely hard soil it was not possible for them to take pictures (the rangers don't have cameras, they only own mobile phones able to take poor quality pictures) of the animal or find clear footprints. The witnesses of the

first sighting were interviewed by us after our arrival at MNP. Despite the time elapsed since the sighting, all witnesses were in agreement and described the same details. All the rangers involved are highly experienced and with many years of service and so we believe their sighting to be reliable.

The second sighting ( $09^{\circ}23.340'N$  -  $001^{\circ}56.855'W$  - 165 m a.s.l., see figure 2) took place in April 17, 2015 at 8:20 p.m. and involved five persons: the authors (FMA, LR), two rangers and the driver.

While we were driving from the Mole community to Lovi for a call station session (see Ogutu & Dublin, 1998; Nyanganji et al., 2012) a lioness unexpectedly crossed the road in eastward direction, about 40-50 m from us. The sighting lasted about 15 seconds. We could clearly see the shape and the colour of the animal while it crossed the road because it was illuminated by the car headlights and by a 100 watt spotlight (Lightforce LS240) that was already at hand, because we normally used it during our night patrols by car. Un-

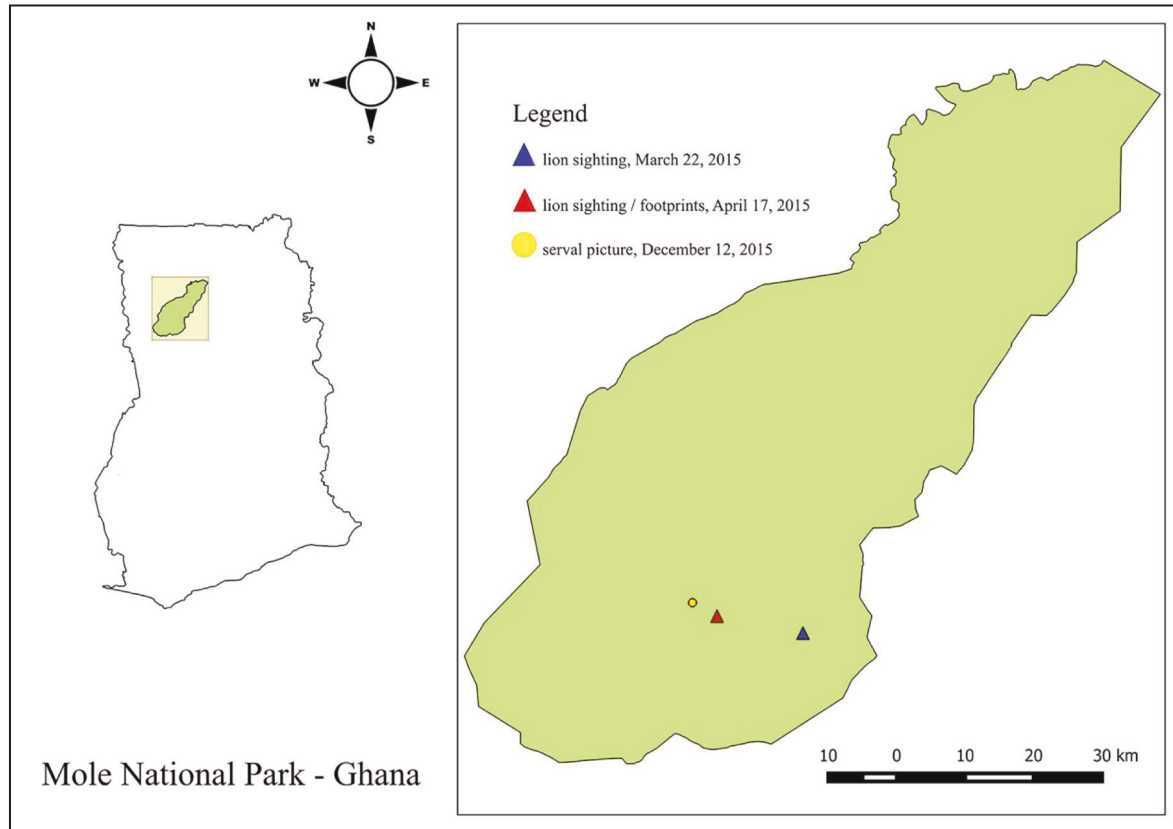


Figure 1. The study area and lion sightings recorded in Mole National Park, Ghana, during 2015.

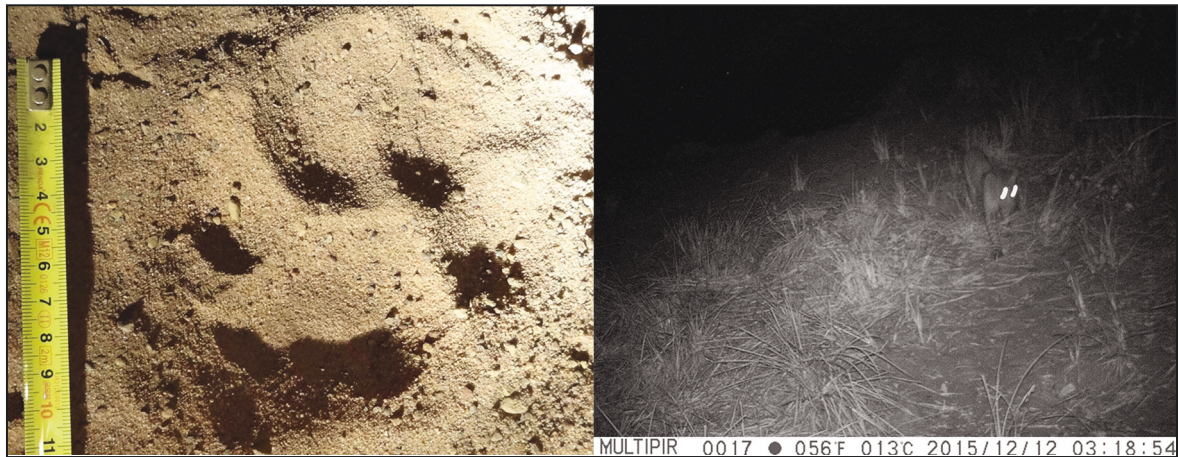


Figure 2. Footprint of the lioness spotted on April 17, 2015.

Figure 3. probable serval picture taken on December 12, 2015.

fortunately, we had no time to extract our reflex camera from the bag and to set it to take pictures before the lioness disappeared into the bush. With the help of the headlights we found some felid footprints, discovering two distinct trails crossing the road almost perpendicularly. One trail was characterized by footprints about 10 cm long, and the second one by footprints 7.8 cm long. The trails crossed each other only in one point, and belonged to two different animals. We attributed the larger one to the lioness we saw (see Fig. 3).

The project “The Pride of Ghana” ended on 30th June 2016 and sadly we did not obtain independent verifiable evidence on the presence of lions in the Park. Despite that we believe that such investigation should continue and we invite zoologists who in future will conduct research in the Park to continue to investigate this possibility, hoping to finally get strong evidence.

According to Burton et al. (2010) some characteristics of MNP (limited access, low visibility and poor tracking substrate), make ineffective methodologies like call in station and spoor searches.

We also experienced the same issues and we believe that the best way to investigate the MNP is the use of camera traps. But even the latter doesn't avoid issues, such as theft of some camera traps by poachers and the wearing out of sensors and batteries performance due the harsh field conditions.

In date December 12th 2015, a camera trap of the project shot an intriguing, despite not perfectly

clear, picture of a felid which is not a lion nor a leopard (see Fig. 1). The other two candidate species recorded in MNP are the caracal (*Caracal caracal* Schreber 1776) and the serval (*Leptailurus serval*) and appear evident to us that the identity of the animal in the picture belongs to one of these latter.

Being caracal largely unmarked (i.e. Hunter, 2015), we believe that the most likely hypothesis is a serval. Servaline individuals, characterized by faint, speckled spotting are known mainly from West Africa (Hunter, 2015). We submitted the picture and our hypothesis to some leading cat authorities and, despite the quality and the angle of the picture can't permit a 100% accurate attribution, they agreed that the serval identity is plausible although not definitive (P. Henschel pers. comm., L. Hunter pers. comm.). Since the last serval record for the MNP dates back to 1976 (Robertson, 1977), this picture could confirm how an elusive species could be reappear even after years of gap since the last record (e.g. Ahmed et al., 2016) and could a further quest for future researches of the yet so little known biodiversity of the MNP.

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