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Road-kill record of a rusty-spotted cat in Shuklaphanta National Park, Nepal

The rusty-spotted cat *Prionailurus rubiginosus* is the smallest felid in the world and is found only in Sri Lanka, India and Nepal. The first record of rusty-spotted cat in Nepal dates back to 2016 from the protected areas of western Terai. Very little is known about this elusive cat all over its distribution range owing to very few targeted studies. Here we present the opportunistic road kill record of a rusty-spotted cat near Arjuni Phanta in Shuklaphanta National Park, Nepal.

The rusty-spotted cat is the smallest cat weighing 1.5 to 1.6 kg for males and 1.1 kg for females when adult (Philips 1935). At birth they weigh nearly the same as a chicken's egg. Despite of its small size the cat is known to be an excellent hunter and feeds on rodents and birds; the cats are frequently seen after heavy rain when they come to feed on frogs (Philips 1935). The cat is found in moist and dry deciduous forest as well as in scrub and grassland. Rusty-spotted cats prefer dense vegetation (Nayak et al. 2017). Previously, the known distribution of the rusty-spotted cat was restricted to Sri Lanka and India, but recently Lamichhane et al. (2016) claimed the first records of the cat's presence in Nepal from the protected areas of the western terai, Shuklaphanta National Park and Bardia National Park. However, a long coat made from the fur of rusty-spotted cats had already been recorded for sale in Kathmandu (Van Gruisen & Sinclair 1992) in the 1990s, but the claim of Lamichhane et al. (2016) could still be true because nothing is known about the origin of the fur.

Rusty-spotted cats inhabit moist and dry deciduous forests, including montane habitat, in Sri Lanka. They are mostly recorded in the southern part of India but occasionally also in the north as far as Kashmir including the Terai Arc landscape of Nepal and India (Mukherjee et al. 2016, Lamichhane et al. 2016). Deforestation and spread of cultivation are considered to be the major threats to the cat in India and Sri Lank (Patel 2011). In addition, rusty-spotted cats have been known to be hunted for the fur trade, as livestock pests and occasionally for consumption (Van Gruisen & Sinclair 1992). In Nepal, they are recorded only from protected areas and hence the threats are largely unknown (Lamichhane et al. 2016). Here we present the record of a road kill of a rusty-spotted cat near Arjuni phanta (phanta = grassland) of Shuklaphanta National Park.

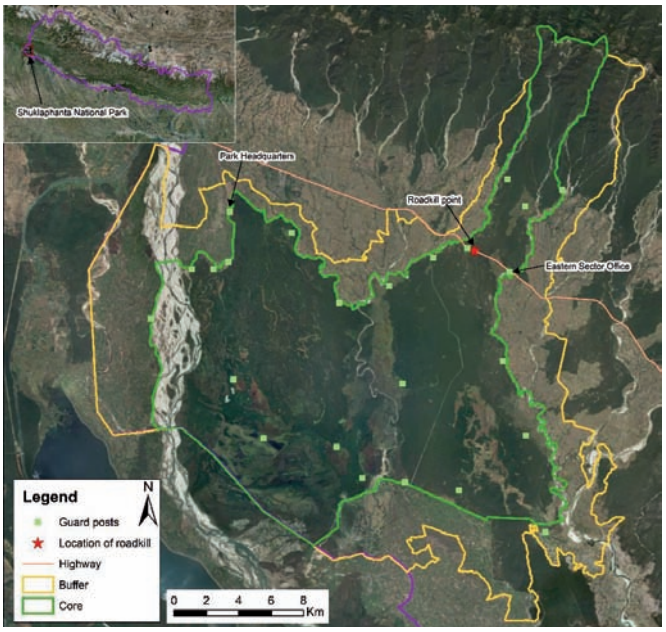

Fig. 1. Location of the road kill (rusty-spotted cat) in Shuklaphanta National Park.

Fig. 2. Rusty-spotted cat killed by a vehicle (Photo P. R. Joshi).

Observation

We photographed a carcass of a rusty-spotted cat after it was hit by a vehicle near Arjuni Phanta in Shuklaphanta National Park on 19 March 2018 (Fig. 1, 2). The dead cat was found on the highway 466 m east of the nearest Champhapur guard post and 1 km west of the Arjuni grassland (80°19'8.00" E / 28°55'17.00" N; 208 m). The road kill location is in the dry sal forest and was discovered in the early morning by local people who later informed park officials. The site of the road kill was in an open meadow surrounded by sal forest with other associated tree species and dominated by short grass species like *Cynodon dactylon* and *Imperata cylindric*a. Water sources include the Syali River in the east and a constructed waterhole. The nearest cultivated area to the site of the road kill is about 1 km to the east.

The head body length of the cat was 63.5 cm with its tail extending up to 23 cm (Fig. 2). The height of the cat was 25.4 cm, and the hind limbs 17.8 cm. At the time of the observation (06:00 h) the road kill was fresh and the animal was readily identified from its morphological characteristics. The coat was brownish-grey and had rusty spots arranged longitudinally over the body except on the forehead that had large and round eyes. The carcass was buried after identification and measurements.

Discussion

Since a couple of years the information on rusty-spotted cat has been regularly published from western lowland Nepal suggesting prime habitat. During a survey in Shuklaphanta Wildlife Reserve in 2016, a rusty-spotted cat was photographed with a camera trap (B. Bista, pers. comm.). During a camera trap study for tigers in Shuklaphanta Wildlife Reserve, Lamichane et al. (2016) recorded 22 photos of rusty-spotted cats during 1,317 camera trap nights using 85 camera grids. We can assume that the cats were there for many years but nobody was interested in searching for them. Our observation suggests that these cats are being killed on roads and possibly in many other ways without being noticed. Rusty-spotted cat are declining due to habitat loss and spread of cultivation (Mukherjee et al. 2016) and road kills (Menon 2003). An additional threat might be hybridisation with domestic cats (Kittle & Watson 2004). There are previous reports of these cats being found dead near roads and human settlements (Dubey 1999). We assume that road networks can be a major threat to the survival of these cats. Hence, it is important to systematically collect information on mortalities along roads leading through protected areas, especially if the protected areas are habitat islands.

Acknowledgements

We are grateful to the staffs of Shuklaphanta National Park and the ZSL-Nepal field staffs who helped us in taking measurements of the carcass and safely burying it.

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