Record of melanistic Leopard in Nepal

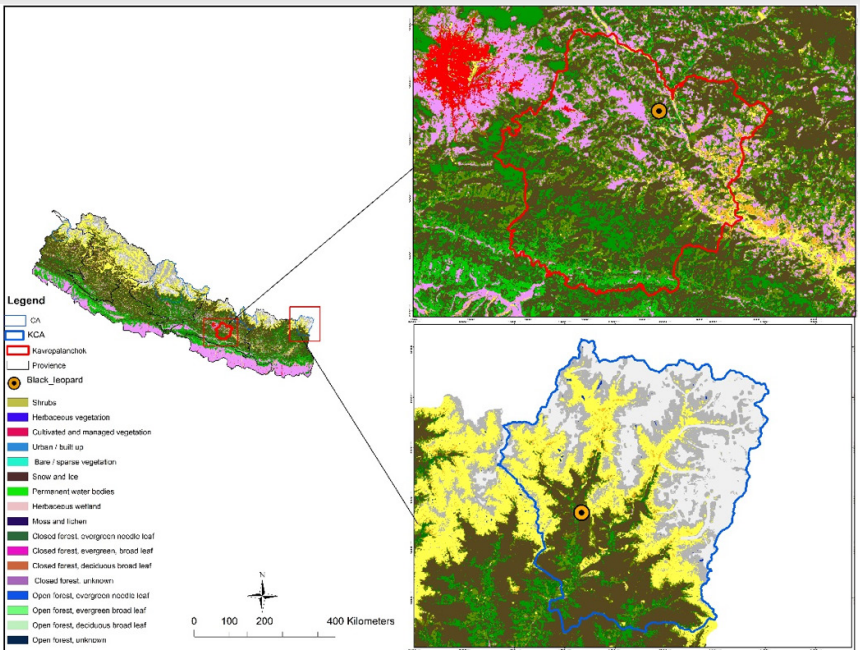
Leopards *Panthera pardus* (Linnaeus, 1758) are extant and generalist across Africa and Asia, but unfortunately the populations have been diminishing, fragmented and even extinct from large portions of their historic range (Stein et al. 2020). In Nepal, the National Red List shows this species as 'Vulnerable' with regular incidences of conflict with humans in different parts of the country. Unlike other large carnivores, Leopards have thrived in human dominated landscapes because of their highly adaptable nature with varied habitats and wide range of wild and domestic prey species (Hunter 2011).

A dead melanistic leopard found in Kavrepalanchok district of Central Nepal (Source: Division Forest Office, Kavrepalanchok, 2021).

However, this species has been sharply reduced due to increased anthropogenic activities such as habitat fragmentation, unsustainable trophy hunting, poaching, illegal body parts trade, prey base decline, and negative interactions with humans (Jacobson 2016). Report of IUCN mentions, of nine sub-species of leopards, three subspecies are Critically Endangered and two are Endangered, though as a species it is considered as Vulnerable on the IUCN Red List (Stein et al. 2020).

Melanism, dark external pigmentation which is associated with thermoregulation, camouflage, aposematism, susceptibility or response to disease, sexual selection and reproductive success is commonly recorded in different groups of animals (Cook et al. 2013). A gene named Agouti Signaling Protein plays a vital role in melanism of leopards (Schneider et al. 2015) and is inherently recessive (Robinson 1970). The importance of melanism is not specified yet but suggestion was made that environmental factor especially associated with tropical and humid condition could favor it (da Silva et al. 2017).

Several studies have been conducted with regard to melanistic leopard which was observed in nine different countries, viz., Thailand (Kawanishi et al. 2010), Ethiopia, India, Nepal, Indonesia, Bhutan, Malaysia,



Locations of melanistic leopards found in Kavrepalanchok District (this study) (red boundary) and Kangchenjunga Conservation Area (blue boundary).

Table 1. Details of melanistic leopard observed in Kavrepalanchok District of Nepal.

	Features	Details
1.	Sex	Male
2.	Length	6 feet
3.	Weight	50 kg
4.	Height	3 feet
5.	Age	10 years (Approx.)
6.	Location	Human dominated landscape (near to a community forest)
Source: Division Forest Office, Kavrepalanchok 2021.		

Sri-Lanka (da silva et al. 2017), and Kenya (Pilfold et al. 2019). Melanism is a rare event as the sightings are very few in forested habitats. da Silva et al. (2017) mentioned that in 11 different biomes, melanism was only observed in four of them and was most common in tropical and subtropical moist forests, Javan forests, Kayah-Karen/ Tenasserim forests and Peninsular Malaysian rain forests. In Nepal, the recent sighting was made in hilly region of Nepal where human settlements are nearby.

Previously, melanistic leopard was observed in Nepal inside protected area with an altitude of 4,300m (Thapa et al. 2013). Studies show human-leopard interaction and illegal trade on its body parts are increasing specially in mid-hilly region of Nepal. With these context, melanistic leopard may possess augmented threat due to its unaccustomed appearance (Hindu mythos reckon black colour as unfortunate or dangerous or risky) coupled with conflict with humans and its illegal trade. So, to conserve this species, community awareness, effective law enforcement and appropriate human-leopard interaction mitigation measures should be adopted in an integrated approach.

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