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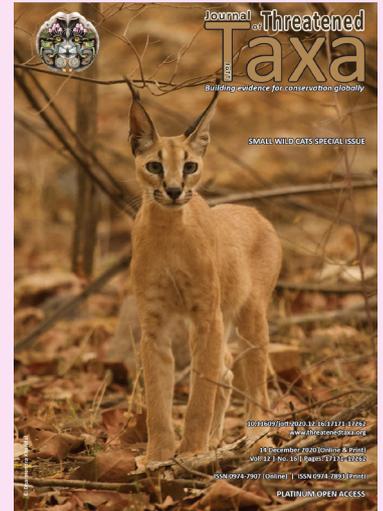
COMMUNICATION

CLOUDED LEOPARD *NEOFELIS NEBULOSA* (GRIFFITH, 1821) (MAMMALIA: CARNIVORA: FELIDAE) IN ILLEGAL WILDLIFE TRADE IN NEPAL

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Clouded Leopard *Neofelis nebulosa* (Griffith, 1821) (Mammalia: Carnivora: Felidae) in illegal wildlife trade in Nepal

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Abstract: We document trade of the Clouded Leopard *Neofelis nebulosa* in Nepal based on pelt seizure reports published in wildlife trade reports and in newspapers. Just 27 cases in three decades seem little to suggest targeted illegal trade of the species, the seizure information in recent years indicate that illegal trade of Clouded Leopard body parts is still taking place. Hence an in-depth assessment is necessary to understand properly the intensity and magnitude of illegal trade on Clouded Leopard in the country.

Keywords: Kathmandu, pelts, seizures, skin trade.

हामीले नेपालमा वन्यजन्तु व्यापारसँग सम्बन्धित प्रतिवेदनहरू साथै पत्र पत्रिकामा आएका ध्वंस चितुवाको छाला जफत गरिएका घटनाहरूको आधारमा नेपालभित्र यस प्रजातिको अवैध व्यापारको अध्ययन गरेका छौं । तिन दशकमा जम्मा २७ वटा मात्र व्यापारका घटनाले यस प्रजातिलाई नै तोकेर व्यापार हुने निश्चाल गर्न गाह्रो भएपनि हालसम्म पनि यस्ता व्यापारका घटनाहरू भएकाले यसको व्यापार भने चल्तिरहेको देखाएको छ । त्यसकारण यस प्रजातिको नेपालमा हुने व्यापारको विविध आयामहरूको बारेमा अध्ययन हुन जरूरी देखिएको छ ।

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Author contribution: YG and RA collected the data and wrote the article.

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INTRODUCTION

The Clouded Leopard *Neofelis nebulosa* is a medium-sized felid native to southern and southeastern Asia from the Himalayan foothills in Nepal to China in the east and the Malay Peninsula in the south (Grassman et al. 2016). It inhabits primary forests (Ghose 2002; Grassman et al. 2005; Borah et al. 2010; Gray & Phan 2011; Shafi et al. 2019), but was also recorded in secondary and logged forests (Azlan & Sharma 2006; Mohamad et al. 2015; Grassman et al. 2016). In the Himalaya, the Clouded Leopard has been recorded up to an elevation of 3,720m (Sathyakumar et al. 2011; Than Zaw et al. 2014; Penjor et al. 2018; Can et al. 2019; Letro & Duba 2019).

In Nepal, the Clouded Leopard was photographed for the first time in Chitwan; the individual was radio collared and monitored for a few days before it was lost (Dinerstein & Mehta 1990). The first camera trap photographs were obtained in Shivapuri Nagarjun National Park in 2010 (Pandey 2012). It was also photographed in Annapurna Conservation Area (Ghimirey et al. 2013, 2019), Chitwan National Park (Lamichhane et al. 2014), Parsa National Park (Poudel et al. 2019), and Langtang National Park (Can et al. 2019).

The Clouded Leopard is listed as Vulnerable in the IUCN Red List (Grassman et al. 2016). In Nepal, it is protected under the National Parks and Wildlife Conservation Act 1973 and Forest Act 1993 (Aryal 2004) and listed as Endangered in the National Red List of Nepal (Jnawali et al. 2011). Until at least 2006, a person found guilty of killing protected wildlife in Nepal was punishable with imprisonment from five to 15 years, a fine of 50,000–100,000 Nepali Rupees, or both (Aryal 2004; Banks et al. 2006). The fine was increased to 500,000–1,000,000 Nepali Rupees in 2017 (Government of Nepal 2017).

Body parts of *Panthera* species felids detected in the illegal wildlife trade between 1996 and 2008 constituted about 26% of mammal product seizures during this period (Rosen & Smith 2010). China was identified as one of the major destinations for the illegal trade in body parts of Tiger *Panthera tigris* and Leopard *P. pardus* (Banks et al. 2006; Oswell 2010; Nijman & Shepherd 2015; Nijman et al. 2019). Body parts of Clouded Leopards were also found in wildlife markets in Myanmar (Oswell 2010; Nijman & Shepherd 2015). In Nepal, occasional seizures of Clouded Leopard skins and other body parts were reported indicating the presence of an illegal trade (Shakya et al. 1999; Shrestha 2012). China is considered to be the possible destination for body parts of many other species (Shakya et al. 1999).

Here we present a compilation of cases of Clouded Leopard pelts found in Nepal.

MATERIALS AND METHODS

We carried out a search of both published and grey literature on illegal wildlife trade in Nepal. Newspapers and digital portals were also searched for relevant information on illegal trade of Clouded Leopards. Photographic evidence was sought to confirm the seizure of the target species. Publications on illegal wildlife trade like Wildlife Conservation Nepal (WCN)'s newsletters and South Asian Wildlife Enforcement Network (SAWEN) Bulletin were also searched. Any information available was cross-checked with available photographs and also by contacting relevant people related with the cases. We also contacted experienced field biologists regarding any possible Clouded Leopard related trade incidents. We were not able to contact the convicted poachers and relevant law enforcement personnel for individual cases due to the logistical difficulty at the time of COVID-19 pandemic.

RESULTS

We found a total of 27 cases of Clouded Leopard traded between November 1988 and March 2020 (Table 1; Figure 1). Eight of these were reported in newspapers and digital news portals, four in trade survey reports and five in trade related newsletters. Two records involved trade of six live cubs, and the remaining cases involved the trade of Clouded Leopard pelts.

Clouded Leopard pelts were seized in a total of nine districts in Nepal, including Dang, Kanchanpur, Kathmandu, Kavrepalanchowk, Lamjung, Sankhuwasabha, Siraha, Tanahu, and Taplejung districts (Figure 2). In two cases (8% of all), Clouded Leopard body parts were offered for sale, and three pelts (12% of all) found in rural houses were not explicitly offered for sale. In 21 cases (80%), body parts were seized, and poachers and traders arrested.

DISCUSSION

Our search yielded 27 cases of body parts encountered in Nepal in 32 years. Assuming that at least three skins were needed to make one coat, we reason that these 27 cases comprised at least 51 individual Clouded Leopards.

Table 1. Details of Clouded Leopard trade documented between 1988 and 2020

Year	Parts	Circumstance and location of case	Source of information
1988	Four coats and one hat	Shop catering to tourists in Thamel, Kathmandu	Barnes (1989)
1991	One pelt	Discovered with a hunter in Sunumla, Sankhuwasabha District	Ghimirey & Acharya (2017)
1992	Two coats	Shop catering to tourists in Thamel, Kathmandu	Van Gruisen et al. (1992)
1994	Three live cubs	Confiscated at Tribhuvan International Airport, Kathmandu; trader was arrested.	Shakya et al. (1999)
03.iii.1996	Three live cubs	Confiscated at Bagbazar, Kathmandu; offender was sentenced to five years prison and a fine of 100,000 Nepali Rupees.	Shakya (2004)
2006	One pelt	Killed in retaliation at Zhongim, Taplejung District; skin was kept in private house.	Badri Vinod Dahal in litt. 04 February 2010
2007	One pelt	Kathmandu	Wildlife Conservation Nepal Seizure Database (2017)
13.vi.2008	One pelt	Seized in Malekhu on the highway to Kathmandu; three people were arrested.	WCN (2008)
2009	One pelt	Kathmandu	WCN (2017)
xii.2009	One pelt	Found in a local house in Chyamtang, Sankhuwasabha District	Ghimirey et al. (2012)
xii.2009	One pelt	Found in a local house in Hatiya Village, Sankhuwasabha District (Image 1)	Ghimirey et al. (2012)
2011	One pelt	Confiscated in Shuklaphanta, Kanchanpur District; four traders were arrested.	DNPWC (2011)
2011	One pelt	Seized in Kathmandu; one person was arrested.	Shrestha (2012)
2012	One pelt	Seized in Manamaiju, Kathmandu; one person was arrested.	WCN (2017)
2013	One pelt	Seized in Khadbari, Sankhuwasabha District; one person was arrested.	Prabhat Pal in litt. 13 February 2014
10.vi.2014	One pelt	Seized in Bhakundebesi, Kavrepalanchowk District; two poachers were arrested.	Adhikari (2014)
2014	One pelt	Kathmandu	WCN (2017)
06.i.2015	One pelt	Confiscated in Gongabu, Kathmandu; poacher was arrested.	Baral (2015)
19.x.2016	One pelt	Seized in Kirtipur, Kathmandu; one person was arrested.	Baral (2016)
2017	One pelt	Seized in Besisahar, Lamjung District; one person was arrested.	Mahesh Paudel pers. comm. 28 July 2020
18.i.2018	Three pelts and bones	Seized in Aabukhaireni, Tanahu District; two people were arrested	Paudyal (2018)
iii.2018	One pelt	Found in a local house in Topke Gola, Taplejung District	Sandesh Lamichhane pers. comm. 27 October 2020
21.ix.2018	One pelt	Seized in Boudha, Kathmandu; three people were arrested	Baral (2018)
23.ix.2018	One pelt	Seized in Mhepi, Kathmandu; trader was arrested.	Koirala (2018)
26.ix.2019	Two pelts	Seized from poacher in Lahan, Siraha District; one person was arrested.	Yadav, S. (2019)
12.v.2019	One pelt	Seized in Bhalubang, Dang District; three people were arrested.	Sharma (2019)
09.iii.2020	Two pelts	Seized in Phaktanglung, Taplejung District; one man was arrested.	Koirala (2020)

This result indicates that the Clouded Leopard may be threatened in the country by illegal hunting. The figure is not extremely high, however, it is thought that seizures happen only in less than 9% of total cases in wildlife trade (Niraj 2009), which points to the fact that the actual number in the trade might be much higher than the cases presented. While our collation of data seems to be a small sample size, the true number of Clouded Leopards poached in Nepal is possibly grossly under-estimated. Furthermore, it is difficult to assess the temporal trend of this trade as the seizure data is dominantly consistent across most years. In view of three pelts detected in

rural houses, we surmise a lack of awareness among rural people about the Clouded Leopard's legal status as protected species and the penalties in place against poachers and traders.

The low frequency of observations of Clouded Leopard body parts might be due to our opportunistic survey or to actual low intensity of trade in Clouded Leopard in Nepal. Nepal Police only recently established a special wing that exclusively deals with illegal wildlife trade. The non-existence of an enforcement agency in the past decades might explain the low frequency of Clouded Leopard seizures in the past. In contrast, open sales of Clouded

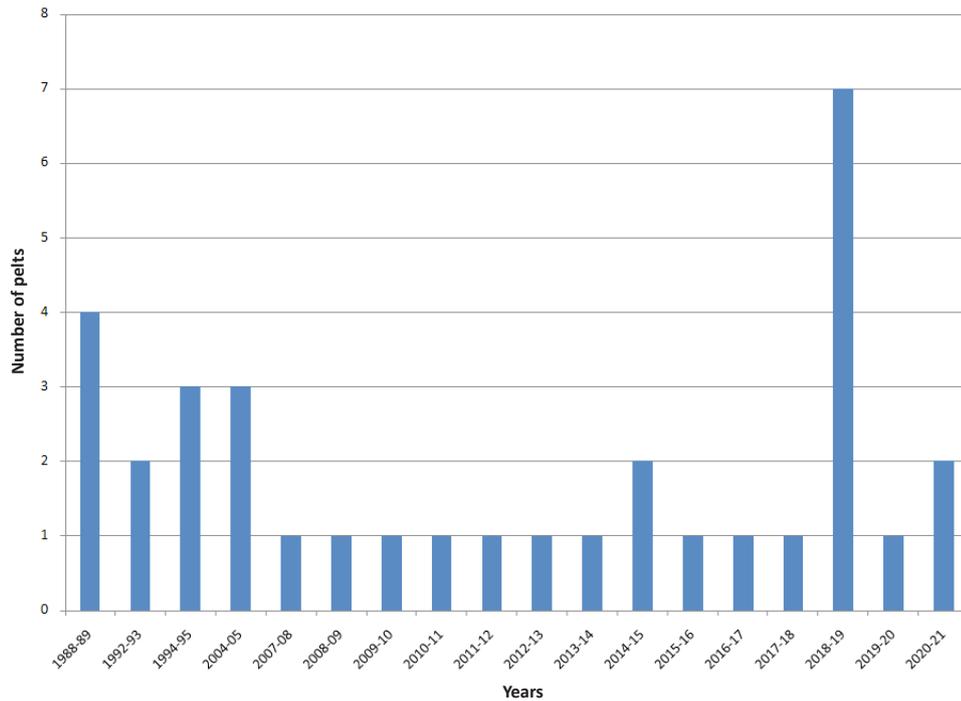


Figure 1. Clouded Leopard body parts encountered in Nepal between 1988 and 2020.

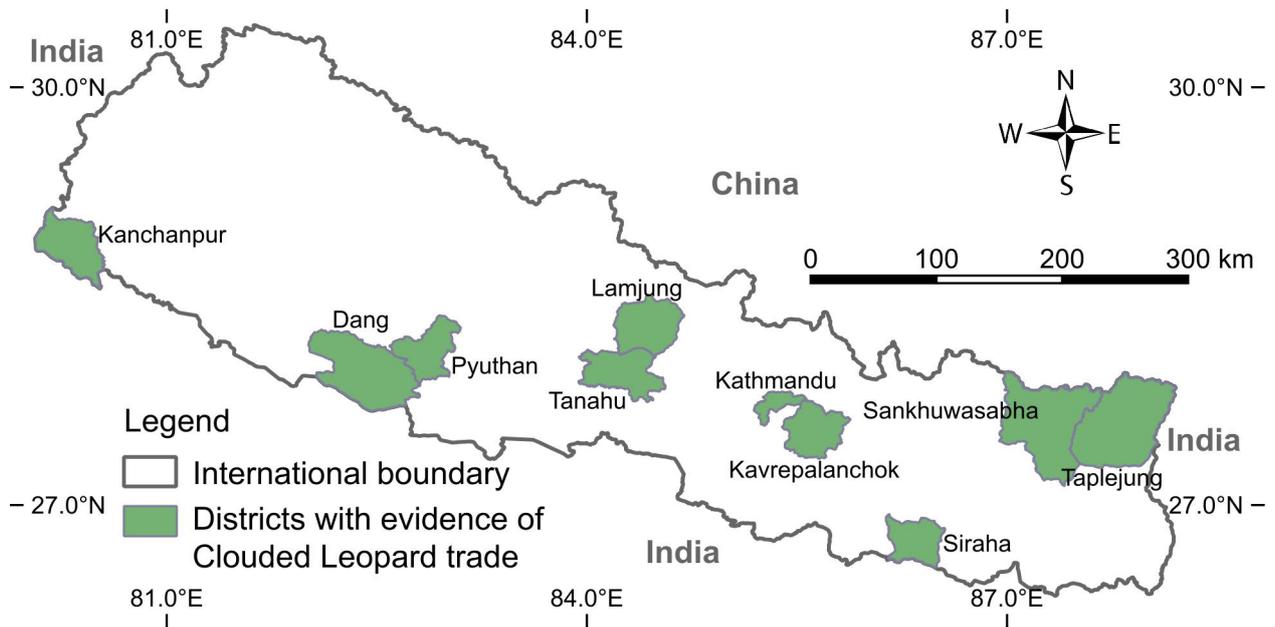


Figure 2. Districts where Clouded Leopard body parts were traded.

Leopards and pelts in wildlife markets of Myanmar and Laos are fairly common (Shepherd & Nijmann 2008; Oswell 2010). During surveys in 1991 to 2006, Shepherd & Nijman (2008) observed 301 Clouded Leopard parts in wildlife markets in Myanmar. Oswell (2010) observed 149 Clouded Leopard pelts at Mong La and Tachilek markets in Myanmar between 2001 and 2010.

We did not find any report of a Clouded Leopard pelt and body part openly displayed for sale in a market or in the vicinity of an international border. Banks et al. (2006) neither reported a case of Clouded Leopard parts confiscated in India, Nepal and Tibet. We, however, stress that the lack of evidence for cross-border smuggling of Clouded Leopard parts between Nepal and Tibet is not

a proof for the absence of such a trade. As described by Li et al. (2000), illegal trade of body parts of mammals and birds continued in China's Himalayan region across the borders with Pakistan, India, Nepal, and Myanmar at least until the late 1990s.

The detection of Clouded Leopard cubs apparently brought from India seems to be an exceptional case. However, with only two incidences of live trade and no live seizures after 1996, we assume that the trade in live Clouded Leopard is opportunistic. Understanding the origin of pelts will be an important step forward in understanding the spatial pattern of the trade in the country. The origin of most pelts, however, is difficult to trace due to the logistical difficulty to track down convicted poachers. One pelt seized in Dang District in 2019 was supposedly brought from Pyuthan District based on the statement provided by the person arrested with the pelt. Provided this statement is true, the westernmost occurrence of the Clouded Leopard in Nepal would be around 100km farther west of Annapurna Conservation Area. This protected area is currently the northwesternmost known area with photographic records of the species in Nepal (Ghimirey et al. 2018). In 2011, one pelt was confiscated in Kanchanpur District, the southwesternmost district in Nepal, but the origin of the pelt could not be determined. One pelt observed in Sankhuwasabha District was presumably bought in a village of the same district, which indicates a possible trade within Nepal. We do not have any information regarding price dynamics of Clouded Leopard pelts and body parts.

Illegal trade on Clouded Leopard and its body parts is not a well-researched topic in Nepal. In 2017, all seized wildlife trophies were destroyed including two Clouded Leopard pelts, 4.5kg decayed pelts and 0.19kg of bones (Dhakal et al. 2018). This action was supposed to ensure that these products do not enter the market in any way and served as a message to wildlife traders that wildlife derivatives have no value (Dhakal et al. 2018).

Other aspects of this trade like origin, price range of pelts and body parts and people involved in the trade are equally important to understand the dynamics of this trade. Hence, we strongly recommend to keep track of trade related records of Clouded Leopard to understand the trend of this trade, possible trade routes and destinations in order to guide strategic enforcement efforts on the species in the future. Further concerted effort on status survey of the species is also essential.



Image 1. Clouded Leopard skin found in December 2009 in Sankhuwasabha District. © Binod Ghimire

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