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JIMMY BORAH¹, TRIDIP SHARMA², SALVADOR LYNGDOH³ AND TANA TAPI⁴

First photograph of a clouded leopard at Pakke Tiger Reserve, India

The clouded leopard *Neofelis nebulosa* which is reported from countries of South East Asia is a rare felid and very little information is available from its geographic range. We present here the first instance of photo-capturing clouded leopard by camera traps in Assam Valley tropical semi-evergreen forest of Pakke Tiger Reserve, Arunachal Pradesh, India. Habitat destruction and hunting are the main threats that these animals face and strict regulations is needed to save these beautiful felid.

The clouded leopard, which is reported from the forests of Nepal, Bhutan, India, Myanmar, southern China and Malayan countries (Prater 1980, Sanderson et al. 2008), is a rare and endangered felid. It is listed as a Scheduled I species under the Wildlife (Protection) Act of India, 1972 and classified as vulnerable by IUCN (Sanderson et al. 2008). Clouded leopard have been reported from primary evergreen forests (Sunquist & Sunquist 2002), secondary logged forests (Rabinowitz et al. 1987), coastal hardwood forests and coniferous forests (Rabinowitz 1988) and grasslands (Santiapillai & Ashby 1988). It has been reported in India from the northeastern states of Assam, Meghalaya, Arunachal Pradesh, Tripura, Mizoram, Sikkim and northern parts of West Bengal (Katti et al. 1990, Choudhury 1993, Ghose 2002), and it is widely held that the wild populations are declining and in need of protection. Looking like a big cat in miniature, the clouded leopard has the powerful, robust build of a large cat, with a long tail typically equivalent to head-body length,

and the legs are short, with broad paws. The fur is instantly recognizable, with its distinctive cloud shaped markings and coat color varies from dark grey to pale yellowish brown.

Study area

Pakke Tiger Reserve (Pakke TR), 92°36' – 93°09' E and 26°54' – 27°16' N, is situated in the East and West Kameng District of Arunachal Pradesh at the foothills of Lesser Himalayas. Being declared as a sanctuary in 1977, the conservation focus in Pakke has been the tiger as the flagship species. Pakke TR is spread over 862 km². The area has great biological significance due to the richness of its flora and fauna, a result of its location at the Oriental and the Indo-Malayan realm and has been considered as one of hot-spots for biodiversity (Myers 1991). The area has subtropical climate with cold weather from November to March. It receives rainfall from both south-west (May-September) and north-east monsoons (November-April). Temperature in the summer goes up to 30° C and goes down

to 2° C in the winter. The general vegetation type of the Pakke is classified as Assam Valley tropical semi-evergreen forest (Champion & Seth 1968) dominated by species of Euphorbiaceae, Lauraceae, Meliaceae, Anacardiaceae and Annonaceae and made up of tropical evergreen, tropical semi-evergreen and secondary moist bamboo tracts.

Methods

WWF-India's North Bank Landscape Conservation Programme carried out a study on monitoring tigers, co-predators, prey and its habitat in Pakke TR in association with the State Forest Department, Arunachal Pradesh. As a part of the study, we used passive camera traps (Moultrie D-40, Moultrie Feeders, Alabama) to gather direct evidence of the different target species. Camera traps were deployed in systemic grid based manner to cover a uniform area across the tiger reserve. The distance between each camera trap station was kept at 2-3 km while ensuring that one trap station was present in each grid of 4 km². Each camera trap was running 24 hours continuously for 54 days yielding a total effort of 1080 camera trap nights.

Result and discussion

On the 3rd sampling night, we photo captured a clouded leopard (Fig. 1) in our 5th trap station (27° 00' 20.2" N / 92° 52' 05.3" E, 144 m asl), at 2334 h. The habitat near the trap was of mixed type with *Altingia excelsa*, *Dillenia indica* and *Canarium strictum* being the major trees near the trap station.

A clouded leopard was sighted by Shri Pratap Singh, (a senior forest officer from Arunachal Pradesh Forest Department) in 1994, about one km away from Seijusa town in reserved forest at the border of Arunachal Pradesh and Assam. Athreya & Johnsingh (1995) found evidence of clouded leopard in Pakke, although no photographic evidence of a live animal could be obtained by them in camera traps, which may be attributed to relatively short trapping duration with limited number of cameras. Two male clouded leopard cubs were found in forests of the Lower Subansiri district in 1995, which are still alive now at Itanagar Zoo (Dey 1995). Datta (1998) also found evidences of clouded leopard in the area. We also found evidence of clouded leopard in the form of skins in nearby villages namely Pakke Kessang near Pakke TR. Some of the forest staff also accounted sighting the animal inside the reserve which we confirmed by showing the pictures of the animal



Fig. 1. Clouded leopard photo-captured in Pakke Tiger Reserve, Arunachal Pradesh, India

to them. None of them had any confusion in identifying the clouded leopard from the pictures that we showed to them.

The main threat to the clouded leopard in the region is hunting by local villagers for its beautiful pelt and canines, and proper measures are required to minimize these threats as well as to establish a regional management plan.

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