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Record of Himalayan Serow (*Capricornis sumatraensis* ssp. *thar* Hodgson, 1831) in Manas Tiger Reserve, Assam, India

Himalayan Serow (*Capricornis sumatraensis* ssp. *thar* Hodgson, 1831) a sub-species of Mainland Serow as per the latest re-assessment by IUCN (2020) following the taxonomy of Mori *et al.* (2019) which recently and firstly used the total mitochondrial genome of all taxa and confirmed the existence of four species of *Capricornis*. The Mainland Serow is known to occur in east and southeast Bangladesh, Himalayas (Bhutan, northern India including Sikkim and Nepal), China (eastern Tibet only), northeast India (provinces east of Bangladesh), and probably into western Myanmar (Grubb, 2005). On the other hand, the sub-species Himalayan Serow which is restricted to the Himalayan range only and sparsely distributed from Jammu and Kashmir through Nepal and Bhutan till the eastern side of Arunachal Pradesh (Choudhury, 1997; Fox and Johnsingh, 1997; Wollenhaupt *et al.*, 1997; Menon, 2014; Pawar *et al.*, 2018).

Locally, the Himalayan Serow is known as *Deo-Sagoli* in Assamese. This is a threatened species and listed in Schedule-I species under the Wildlife

(Protection) Act (1972) of India, listed in Appendix I by CITES and classified as "Vulnerable" by IUCN's Red Data Book (Giri *et al.*, 2011; IUCN, 2020). It belongs to the genus *Capricornis* under the subfamily Caprinae of family Bovidae. Though protected, its population is declining due to habitat loss and poaching/hunting (Green, 1987; Mishra and Johnsingh 2015; WII, 2016; Phan *et al.*, 2020, Mammals of South Asia). Like other mountain ungulates, Himalayan Serow also forms a part of the prey base for carnivores such as leopard (*Panthera pardus*) and tiger (*P. tigris*) (Aryal, 2008; Chetri *et al.*, 2017; Pawar *et al.*, 2018). Prater (1980) gives a good description of the serow.

Generally, the individuals of serow lead a solitary existence although there have been few occasions when as many as five individuals have been seen feeding in the same slope (Prater, 1965; Schaller, 1977; Prater, 1993). It is known to occur at altitudes between 300m and 3,000m in all the Himalayan states (Green, 1987; Menon, 2014; Mishra and Johnsingh, 2015).



Fig. 1: Global Distribution of Mainland Serow (*Capricornis sumatraensis*) [Source : IUCN red data book].

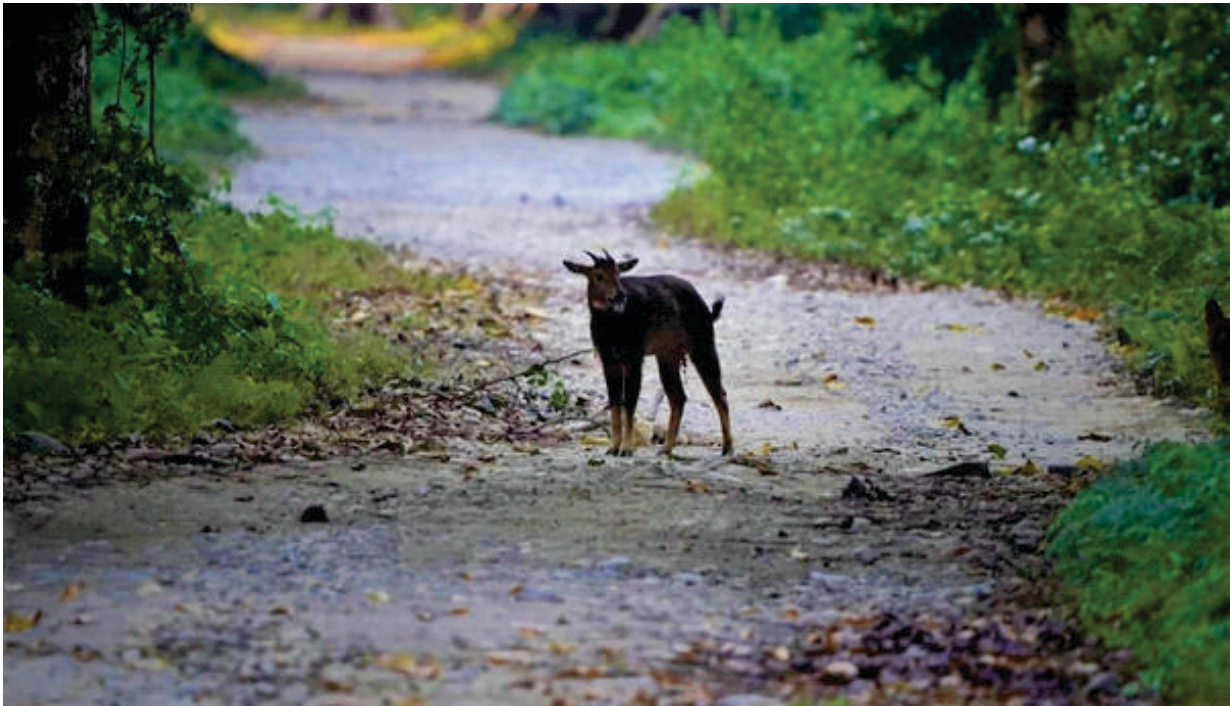


Fig. 2: The Himalayan Serow photographed in Manas Tiger Reserve, Assam



Fig. 3: Serow was seen harassed by a Dhole in Manas Tiger Reserve

On 3rd December 2020, a young male Serow was seen on the Bansbari-Mathanguri forest path in the Bansbari Range of Manas National Park, the core area of Manas Tiger Reserve. Manas NP is located (26°35' - 26°50' N and 90°45' - 91°15' E) at the southern foothills of Eastern Himalaya within the administrative boundary of Baksa and Chirang districts of Bodoland Territorial Area Districts (BTAD) in Assam. This highly rich landscape in terms of biodiversity has been accorded with five different conservation status both nationally and internationally such as Tiger Reserve (1973), World Natural Heritage Site (1985), Biosphere Reserve (1989), National Park (1990) and Elephant Reserve (2003).

The entire Manas landscape is noted for its spectacular scenic beauty with a variety of habitat types

in the *Bhabar-Terai* belt at the southern foothills of Eastern Himalaya which support a diverse group of wildlife, making it the richest amongst the Indian wildlife areas. Variety in wildlife habitats of Manas National Park harbors the largest number (22) Schedule-I mammalian fauna of the Wildlife (Protection) Act 1972, amongst the protected areas of the country (Nath, 2010). This protected area falls in the Burma Monsoon Forests, on the borders between the Indo-Gangetic, Indo-Malayan and Indo-Chinese bio-geographical realms and is part of Brahmaputra Valley Bio-geographic Province with Assam Valley Semi-evergreen forests and alluvial grasslands. The elevation of the park ranges from 55 m above sea level in the southern boundary to about 300 m above sea level in the north which is contiguous with the Royal Manas National Park of Bhutan.

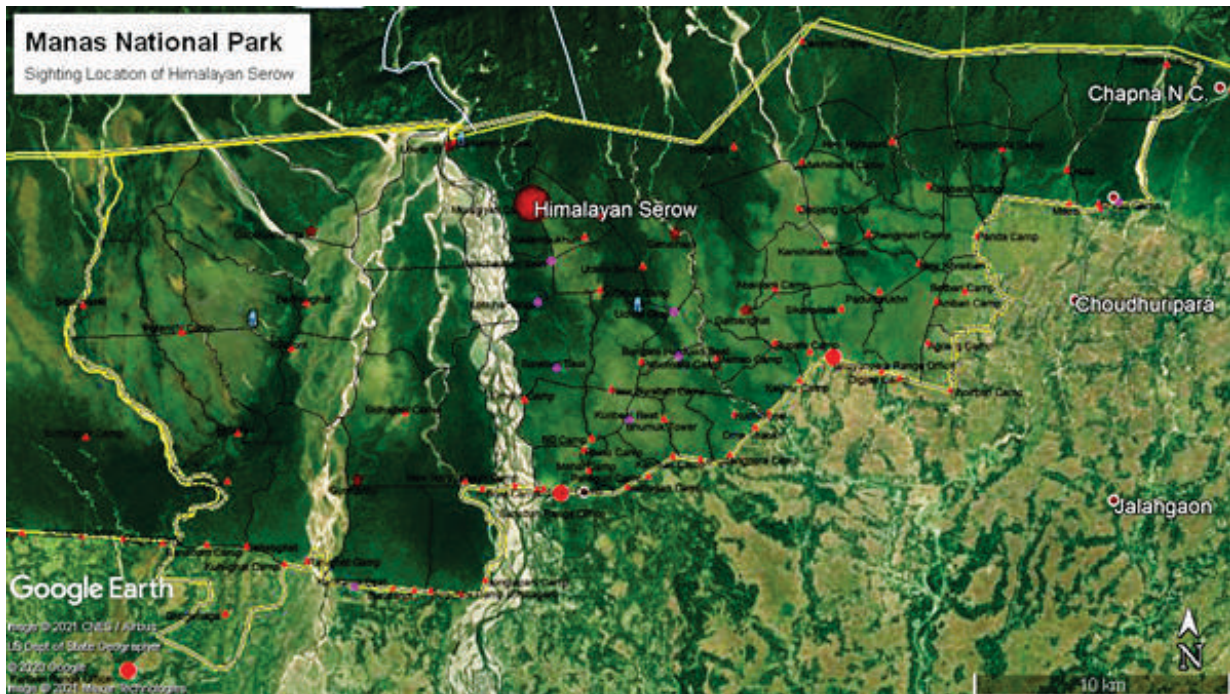


Fig. 4: Sighting Location of Himalayan Serow in Manas NP

The authors were going to Mathanguri area under Banskari Range of Manas National Park by Gypsy vehicle during the morning hours at about 8 o'clock on 3rd December 2020. It was a clear and sunny day with pleasant weather of winter season. After crossing the Mora Gyati anti-poaching camp area, suddenly they saw a solitary goat-like animal running out from the thickly forest habitat to the Banskari-Mathanguri forest path at a distance of about 50 meter in front of us. Authors observed that the animal was tired having fast breathing and standing on the road without any movement for a few moments. After a few seconds, they saw a Dhole (*Cuon alpinus*) running towards the animal in a chasing mode and stopped nearby it but suddenly realizing their presence at a closer distance it run away from the spot inside the dense forest without any delay. After a few minutes, the ungulate also ran away to the opposite direction and disappeared from the area in a while. The habitat type was East Himalayan Moist Mixed Deciduous Forest (3C/C3b) with the elevation of 80m above mean sea level. The authors were fortunate to take some good photographs which led to identify this ungulate animal as a young male individual of Himalayan Serow (Menon, 2014).

Presence of Himalayan Serow is mentioned in the Tiger Conservation Plan of Manas Tiger Reserve (2014-2024) and also considered as a major prey of carnivore species like tiger, leopard etc. in the Manas landscape. Though, sufficient record is not available about its distribution, but the Himalayan Serow had also been recorded in Bhutan's Jigme Singye Wangchuck National Park and Royal Manas National Park on the southern

border areas which is contiguous with the Manas National Park of Assam (Wollenhaupt *et al.*, 1997). Hence, there is great possibility of occurring the population of Himalayan Serow in the Manas National Park. Record of stray individual of Himalayan Serow in the Nameri National Park was also mentioned in the book "Checklist of the Mammals of Assam" by Choudhury in 1997. This opportunistic sighting of Himalayan Serow as a stray individual from higher elevation of Manas as it was chasing by a Dhole (a case of interrupted hunt). Being an understudied species, the direct sighting and photographic evidences for the presence of this threatened ungulate prey species opens up scope for further studies and highlights the need for comprehensive conservation efforts in the entire Manas landscape.

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