STRIPED HYAENA

The recent record of road kill of *Hyaena hyaena* in Central Terai of Nepal



IUCN Red List: Near Threatened (AbiSaid & Dloniak, 2015)

Road kill Striped Hyaena on the side of Highway

Mammalia

[Class of Mammals]

Carnivora

[Order of Carnivores]

Hyaenidae

[Family of Cat-like Carnivorans]

Hyaena hyaena [Striped Hyaena]

Species described by Linnaeus in 1758

Globally, there are four members of the Hyaenidae family; Striped Hyaena (*Hyaena Hyaena*), Spotted Hyaena (*Crocuta crocuta*), Brown Hyaena (*Parahyaena brunnea*), and Aardwolf (*Proteles cristata*). The Striped Hyaena is large sized scavenging carnivorous mammal extending from Africa to central Tanzania, Arabian Peninsula, Turkey, Central Asia, and the Indian subcontinent expanding up to Nepal. These magnificent animals are playing an important role for maintaining forest and grassland ecosystem (Mills & Hofer 1998; AbiSaid & AbiSaid 2007). Historically, Striped Hyaenas were distributed in Sudan, Eritrea, Somalia, Qatar, Kuwait, and the United Arab Emirates (Mills & Hofer 1998; Cunningham 2004).

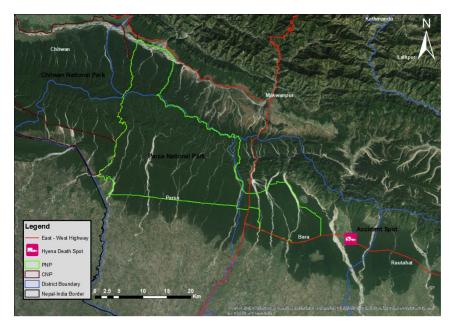
Striped Hyaena is one of the least known large carnivore species (Hofer & Mills 1998; Jnawali et al. 2011; Sharma et al. 2011). The large carnivore preferring rocky and open landscapes (Hofer 1998) within arid to semiarid ecosystems in the tropical region (Leakey et al. 1999; Mendelssohn & Yom-Tov 1999; Wagner 2006). The species has a restricted distribution and are limited to protected areas of lowlands of Nepal. The threats to species includes depleting prey populations, persecution especially poisoning, retaliatory killings, and habitat fragmentation (Baral & Shah 2008; Jnawali et al. 2011).

Global Distribution:

Afghanistan, Algeria, Armenia, Azerbaijan, Burkina Faso, Cameroon, Chad, Djibouti, Egypt, Ethiopia, Georgia, India, Iran, Iraq, Israel, Jordan, Kenya, Lebanon, Libya, Mali, Mauritania, Morocco, Nepal, Niger, Nigeria, Oman, Pakistan, Saudi Arabia, Senegal, Syria, Tajikistan, Tanzania, Tunisia, Turkey, Turkmenistan, Uganda, Uzbekistan, Western Sahara, Yemen (AbiSaid & Dloniak, 2015)

Striped Hyaena has been classified as 'Near Threatened' on the IUCN Red List of Threatened Species and in Nepal it has been nationally assessed as 'Endangered' with estimated population of lesser than 100 individuals only (Jnawali et al. 2011). It has been classified under protected species by Government of Nepal "National Park and Wildlife Conservation Act (NPWCA)" (1973)

In context to Nepal, only single species; Striped Hyaena is a member of hyaenidae. Few studies have been carried out on this carnivore and is recorded from the altitude below 1,000m (Baral & Shah 2008) in Nepal. It has nocturnal habit with solitary behaviour. The abundance, distribution and population structure of the Striped Hyaena in Indian subcontinent are stable and populations are considered to be declining (Singh et al. 2010; Akay et al. 2011; Jnawali et al. 2011; Sharma et al. 2011). Few researches conducted has



Location site of incident in Bara

confirmed out the presence record of Striped Hyaena from Sarlahi and Rautahat (Bhandari et al. 2015) in Central Terai and from Dang district (Khanal et al. 2017) in Western Terai. However, little is known about its past and present occurrence in Nepal (Mills & Hofer 1998). Furthermore, its distribution pattern is less known.

We report here the recent record of road kill of Striped Hyaena from Central Terai, Nijhgadh, Bara District, after an event of record of dead Striped Hyaena in Udaypur District in August 2003 (Jnawali et al. 2003). At 05:00hr on 05 May 2017, a matured male was found dead in Bhamara Bridge near Nijhgadh (Pathlaiya-Chandranigahapur) section of East West Highway which is around 1km east from Nijhgadh; a small town of Province 2 of Nepal. The event of road kill was obtained from the officials of Nijgadh Sector Office, under Bara District Forest Office. It seems the animal was crossing the road and was killed by vehicle on the mid highway. At the meantime, it was uncared as it was quite early morning and later after an hour, local people around the accidental area found it to be Striped Hyaena and reported to forest officials.

Detail morphometric measurements of the road kill Hyaena

Recorded at the accidental site at 11:00hr, i.e., nearly after 5–6 hours of road accident.

Head-tail length: 121cm, head body length (without tail): 101cm

Head length: 121cm, tail length: 22cm, shoulder height: 68.5cm

Neck girth: 49cm, upper canine teeth (I): 2.6cm, lower canine teeth (I): 2.2cm

Details of fore limb: pad length: 5cm, pad width: 5cm, total length: 8.5cm, total width: 6cm

Details of hind limb: pad length; 4cm, pad width: 3.6cm, total length: 7.4cm, total width:

5cm

Some recommendations are put forward to reduce the road kill of hyaena in Central Terai:

- Imparting awareness to the vehicle staff particularly drivers and passengers about existence of this locally rare species.
- Arrangement of under pass system for the animal to cross the road.
- Placing highway hoarding boards with conservation messages to sensitize the public.

References

AbiSaid, M.R. & D.M. AbiSaid (2007). Distribution of the Striped Hyaena (*Hyaena hyaena syriaca* Matius, 1882) (Carnivora: Hyaenidae) in urban and rural areas of Lebanon. *Zoology of the Middle East* 42(1): 3–14. AbiSaid, M. & S.M.D. Dloniak (2015). *Hyaena hyaena*. The IUCN Red List of Threatened Species 2015: e.T10274A45195080. http://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T10274A45195080.en. Downloaded on 20 October 2018.

Akay, A.E., S. Inac & I.C. Yildirim (2011). Monitoring the local distribution of Striped Hyaenas (*Hyena hyena* L.) in the eastern Mediterranean Region of Turkey (Hatay) by using GIS and remote sensing technologies. *Environmental Monitoring and Assessment* 181: 145–455.

Baral, H.S. & K.B. Shah (2008). *Wild Mammals of Nepal*. Himalayan Nature, Kathmandu, Nepal, 188pp. Bhandari, S., R. Rijal & S. Khanal (2015). Status of Striped Hyaena (*Hyena hyena* Linnaeus, 1758) and their conservation approaches in Rautahat and Sarlahi forests, Nepal. *Journal of Natural History Museum*, 29: 49–59.

Cunningham, P.L. (2004). Checklist and status of the terrestrial mammals from the United Arab Emirates. *Zoology of the Middle East* 33(1): 7–20.

Hofer, H. (1998). Species accounts: Striped Hyaena (*Hyaena hyaena*) (Linnaeus, 1758), pp. 21–26. In: Mills, G. & H. Hofer (comps.). *Hyaenas: Status Survey and Conservation Action Plan*. IUCN/SSC Hyaena Specialist Group, IUCN, Gland, Switzerland, and Cambridge, United Kingdom.

Hofer, H. & G. Mills (1998). Population size, threats and conservation status of hyenas, pp. 64–79. In: Mills, G. & H. Hofer (comps.) *Hyenas Status, Survey and Conservation Action Plan*. IUCN/SSC hyena specialist Group. IUCN, Gland, Switzerland and Cambridge, UK.

Jnawali, S.R., H.S. Baral, S. Lee, K.P. Acharya, G.P. Upadhyay, M. Pandey, R. Shrestha, D. Joshi, B.R. Laminchhane, J. Griffiths, A.P. Khatiwada, N. Subedi & R. Amin (compilers) (2011). *The Status of Nepal Mammals*. The National Red List Series, Department of National Parks and Wildlife Conservation Kathmandu, Nepal, vii+266pp.

Khanal, C., S. Baniya & M. Acharye (2017). First confirmed record of Striped Hyaena (*Hyaena hyaena*) den in Nepal. *Journal of Biodivers Endanger Species* 5: 195; https://doi.org/10.4172/2332-2543.1000195

Leakey, L.N., S.A.H. Milledege, S.M. Leakey, P. Haynes, D.K. Kiptoo & A. McGeorge (1999). Diet of Striped Hyaena in Northern Kenya. *African of Journal of Ecology* 34: 314–326.

Mendelssohn, H. & Y. Yom-Tov (1999). Fauna Palaestina: Mammalia of Israel. Israel Academy of Sciences and Humanities, Keterpress Enterprises, Jerusalem, Israel.

Sharma, G., P. Vijay, L.S. Rajpurohit & C. Ram (2011). Ecobehaviour study and status of Striped Hyaena (*Hyaena Hyaena* Linnaeus, 1758) in south western Rajasthan, India. *Journal of Evolutionary Biology Research* 3(4): 44–46.

Singh, P., A.M. Gopalaswamy & K.U. Karanth (2010). Factors influencing densities of Striped Hyaenas (*Hyena hyena*) in arid regions of India. *Journal of Mammalogy* 91(5): 1152–1159.

Wagner A.P. (2006). Behavioral ecology of Striped Hyaena (*Hyaena hyaena*). PhD Dissertation, Montana State University, Bozeman, Montana.

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