

# DHOLE

## Snake in the diet of *Cuon alpinus* (Pallas, 1811) in Kalakad-Mundanthurai Tiger Reserve, Tamil Nadu



Dead specimen of *Uropeltis* sp. showing its dorsal and ventral view recovered from the scat of *Cuon alpinus*

**IUCN Red List:**  
Endangered  
(Kamler et al. 2015)

**Mammalia**  
[Class of Mammals]

**Carnivora**  
[Order of Carnivores]

**Canidae**  
[Family of canids]

***Cuon alpinus***  
[Dhole]

Species described by  
Pallas in 1811

Dhole or Asiatic Wild Dog *Cuon alpinus* is a pack-living, social carnivore of Asian forests. As stated by the International Union for Conservation of Nature (Kamler et al. 2015) only about 949-2215 mature–3000 individuals of the species are left in the wild and its population is under severe threat due to anthropogenic pressure, prey availability, habitat loss and retaliation (Acharya 2007). Despite its endangered status, this splendid canid receives less conservation attention, unlike its sympatric felids. It is distributed in various habitats from scrub jungle to alpine meadows and eats a number of prey items (Selvan et al. 2013). Food habits of the Dhole were studied in some of the ranges where it is distributed. The species selects larger prey such as Gaur *Bos gaurus* and Sambar *Rusa unicolor* and medium-sized prey such as Chital *Axis axis* and Wild Boar *Sus scrofa* (Johnsingh 1992; Karanth & Sunquist 1995, 2000; Ramesh et al. 2012; Selvan et al. 2013). Dholes are experts in relying on hunting techniques wherein they coordinate with

each other to exhaust the prey before it is eaten alive (Durbin et al. 2004). A study from Pakke Tiger Reserve emphasized that the Dhole's major preferred prey is Wild Boar, which is extremely challenging and risky to handle (Selvan et al. 2013); however, southern (Kumaraguru et al. 2010) and central Indian studies (Acharya 2007) stated that the species does not prefer risky prey.

Here we report the first observation of snake in the diet of Dhole. The observation was made in Kalakad-Mundanthurai Tiger Reserve in Tamil Nadu (KMTR), located at the southernmost end of the Western Ghats in the Ashambu hills (Johnsingh 2001) in India. We were collecting scat samples in the region as part of a preliminary study that is underway to understand the ecology of sympatric large carnivore interactions, and their prey selection and food habits.

On 5 March 2016, we collected the scat of an Asian Wild Dog in Naalumukku Tea Plantation of Bombay Burma Trading Corporation of Ambasamuthiram range of KMTR (N08°32'25.0"/E 077°21'14.5"; 319m elevation). This is the largest and prominent estate in KMTR with tea, cardamom, coffee, and eucalyptus plantation in an area of 3,391ha (Ali & Pai 2001). The Asian Wild Dog scat was confirmed based on its size, shape, and ancillary signs such as scratch and pugmark. Dholes generally consume grass and other vegetation (Barnett et al. 1980; Johnsingh

1983; Durbin et al. 2004; Bashir et al. 2013). It seems that the individual was suffering from digestive problems as the scat contained no remains of birds or mammals such as feathers, fur, teeth, bones, and claws; it contained only grass and the remains of a snake. As the snake was partially digested, we couldn't identify the species beyond the genus *Uropeltis* (total length c. 16.18cm). The present observation was corroborated with previous literature. Rice (1986) stated that Dholes obviously, occasionally, and opportunistically feed on lizards or snakes. He also observed a reptile in Dhole scat collected at Eravikulam National Park in Kerala, though it was uncertain whether it was a lizard or a snake. In the present observation, it is not clear whether the Dhole purposefully consumed the snake or it was accidentally

#### Global Distribution :

Native: Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Thailand  
Possibly extinct: Viet Nam  
Regionally extinct: Afghanistan, Kazakhstan, Korea, Kyrgyzstan, Mongolia, Russia, Singapore, Tajikistan, Uzbekistan  
(Kamler et al. 2015)



Fresh scat of Dhole *Cuon alpinus* found in a tea estate at Kalakad-Mundanthurai Tiger Reserve, Tamil Nadu

consumed while the individual was feeding on grass. Further investigations are required to have a better understanding of the role of snakes in the diet of the endangered canid.

#### References

- Acharya, B.B. (2007).** The ecology of the Dhole or Asiatic Wild Dog (*Cuon alpinus*) in Pench Tiger Reserve, Madhya Pradesh. PhD Thesis, Department of Wildlife science, Saurashtra University, India, p.115.
- Ali, R. & A. Pai (2001).** Human use areas in the Kalakad-Mundanthurai Tiger Reserve. *Current Science* 80(3): 448–452.
- Bashir, T., T. Bhattacharya, K. Poudyal, M. Roy & S. Sathyakumar (2013).** Precarious status of the Endangered Dhole *Cuon alpinus* in the high elevation eastern Himalayan habitats of Khangchendzonga Biosphere Reserve, Sikkim, India. *Oryx* 48(1): 125–132; <https://doi.org/10.1017/S003060531200049X>.
- Barnett, B.D., J.A. Cohen, A.J.T. Johnsingh & M.W. Fox (1980).** Food habits of the Indian Wild Dog (*Cuon alpinus*): a preliminary analysis. *Journal of the Bombay Natural History Society* 77(2): 313–316.
- Durbin, L.S., A. Venkataraman, S. Hedges & W. Duckworth (2004).** Dhole (*Cuon alpinus*), pp210–219. In: Sillero-Zubiri, C., M. Hoffman & D.W. Macdonald (eds.). *Canids: Foxes, Wolves, Jackals, and Dogs. Status Survey and Conservation Action Plan*. IUCN Canid Specialist Group, Gland, Switzerland & Cambridge, UK. X + 430 pp.
- Johnsingh, A.J.T. (1983).** Large mammalian prey-predator in Bandipur, India. *Journal of the Bombay Natural History Society* 80(1): 1–57.
- Johnsingh, A.J.T. (1992).** Prey selection in three large sympatric carnivores in Bandipur. *Mammalia* 56(4): 517–526; <http://doi.org/10.1515/mamm.1992.56.4.517>.
- Johnsingh, A.J.T. (2001).** The Kalakad-Mundanthurai Tiger Reserve: a global heritage of biological diversity. *Current Science* 80(3): 378–388.
- Kamler, J.F., N. Songsasen, K. Jenks, A. Srivathsa, L. Sheng & K. Kunkel (2015).** *Cuon alpinus*. The IUCN Red List of Threatened Species; <http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T5953A72477893.en>.
- Karanth, K.U. & M.E. Sunquist (1995).** Prey selection by Tiger, Leopard and Dhole in tropical forests. *Journal of Animal Ecology* 64(4): 439–450;
- Karanth, K.U. & M.E. Sunquist (2000).** Behavioural correlates of predation by Tiger (*Panthera tigris*), Leopard (*Panthera pardus*) and Dhole (*Cuon alpinus*) in Nagarhole, India. *Journal of Zoology* 250(2): 255–265; <https://doi.org/10.1111/j.1469-7998.2000.tb01076.x>.
- Kumaraguru, A., R. Saravanamuthu, K. Brinda & S. Asokan (2011).** Prey preference of large carnivores in Anamalai Tiger Reserve, India. *European Journal of Wildlife Research* 57(3): 627–637; <http://doi.org/10.1007/s10344-010-0473-y>.
- Ramesh, T., R. Kalle, K. Sankar & Q. Qureshi (2012).** Dietary partitioning in sympatric large carnivores in a tropical forest of Western Ghats, India. *Journal of Mammal Study* 37(4): 313–321; <https://doi.org/10.3106/041.037.0405>
- Rice, C.G. (1986).** Observation on predators and prey at Eravikulam National Park, Kerala. *Journal of the Bombay Natural History Society* 83: 283–305.
- Selvan, K.M., G.V. Gopi, S. Lyngdoh, B. Habib, S. Ainul & H. Hussain (2013).** Prey selection and food habits of three sympatric large carnivores in a tropical lowland forest of the Eastern Himalayan Biodiversity Hotspot. *Mammalian Biology* 78 (4): 296–303; <http://doi.org/10.1016/j.mambio.2012.11.009>

**Acknowledgements:** This study was funded by the DST– INSPIRE program. We are grateful to Principal Chief Conservator of Forest of Tamil Nadu and Chief Conservator Forest & Field Director of KMTR for granting us permission to work. We thank the the Administrative of the Department of Ecology & Environmental Science, Pondicherry University, for facilitating our research. We thank all forest officers of KMTR for their cooperation and, in particular, Mr. Velladhurai (Former Additional Ranger of Mundanthurai Range) for his kind hospitality. We also thank Mr. Manikandan and Mr. Radhakrishnan for field assistance and invaluable field expertise.

**B.M. Krishnakumar<sup>1</sup>, R. Nagarajan<sup>2</sup>, K. Muthamizh Selvan<sup>3</sup> & T. Thinesh<sup>4</sup>**

<sup>1</sup> Junior Research Fellow, Salim Ali School of Ecology and Environmental Science, Pondicherry University, R.V. Nagar, Kalapet, Puducherry 605014, India.

<sup>1,2</sup> PG and Research Department of Zoology and Wildlife, Mannampandal, Mayiladuthurai, Tamil Nadu 609305, India.

<sup>3</sup> Scientist D/Joint Director, Project Elephant, Ministry of Environment Forest and Climate Change, Indira Paryavaran Bhawan, New Delhi 110003, India

<sup>4</sup> Kotharik Post-Doctoral Fellow, Department of Microbiology, Pondicherry University, R.V. Nagar, Kalapet, Puducherry 605014, India

Emails: <sup>1</sup>krishnakumarnympha@gmail.com, <sup>2</sup>Oystercatcher@rediffmail.com; <sup>3</sup>tamildove@gmail.com (Corresponding author)

Citation: Krishnakumar, B.M., R. Nagarajan, K.M. Selvan & T. Thinesh (2019). Dhole: snake in the diet of *Cuon alpinus* (Pallas, 1811) in Kalakad-Mundanthurai Tiger Reserve, Tamil Nadu. *Mammal Tales* #9. In: *Zoo's Print* 34(3): 38–40