

## Short Communication

**CHANGEABLE HAWK EAGLE (*Nisaetus cirrhatus*) PREDATION ON INDIAN GREY MONGOOSE (*Herpestes edwardsi*) IN MUDUMALAI TIGER RESERVE, TAMIL NADU, SOUTHERN INDIA**Samson A<sup>1</sup>, Rameshkumar A<sup>2</sup>, Ramakrishnan B<sup>2</sup>, Leona Princy J<sup>3</sup><sup>1</sup>Vulture Programme, Bombay Natural History Society, Maharashtra, India<sup>2</sup>Naturalist and Wildlife Photography, Coimbatore, Tamil Nadu, India<sup>3</sup>Department of Zoology and Wildlife Biology, Government Arts College, Udthagamandalam, Tamil Nadu, India**Article History:** Received 17<sup>th</sup> July, 2020; Accepted 28<sup>th</sup> July, 2020; Published 03<sup>rd</sup> Aug, 2020**ABSTRACT**

The Changeable Hawk-eagle (*Nisaetus cirrhatus*), is a birds of prey of the family Accipitridae. They were formerly placed in the genus Spizaetus but studies pointed to the group being paraphyletic resulting in the Old World members being placed in *Nisaetus* (Helbig, 2005) and separated from the New World species. Changeable Hawk Eagles breed in southern Asia in India and Sri Lanka and from the SE rim of the Himalaya across Southeast Asia to Indonesia and the Philippines (Naoroji, 2006). This is a bird occurring singly (outside mating season) in open woodland, although island forms prefer a higher tree density. It builds a stick nest in a tree and lays a single egg (Naoroji, 2006). Feeding is the essential activity for all animals (McFarland, 1981). Basically, it involves the behavior to obtain food, diet and food processing. In raptors who are predominant meat eaters, food influences breeding activities. Further it may limit their survival and population number (Newton, 1991). In this note represented that Changeable Hawk Eagle (*Nisaetus cirrhatus*) predation on Indian grey mongoose or (*Herpestes edwardsi*) in Mudumalai Tiger Reserve, Tamil Nadu, Southern India.

The Mudumalai Tiger Reserve (MTR) (688.59 km<sup>2</sup>) which is located in the Nilgiris, Tamil Nadu (110 32' and 110 43' N and 76022' and 76045' E) at the tri-junction of Tamil Nadu, Karnataka and Kerala states. This region consist of Southern Tropical dry thorn forest, Southern Tropical dry deciduous forest, Southern Tropical moist deciduous forest, Southern Tropical semi-evergreen, Moist bamboo brakes, and Riparian forest (Champion and Seth, 1968). It has a high diversity of flora, fauna and also considerable number of Domestic livestock.

On 23<sup>rd</sup> June 2018, 10.30 AM we recorded Changeable Hawk Eagle in Moyar Range of Mudumalai Tiger Reserve (N 76.665315 E 11.585390 Elevation 917ms) roosting on a fallen tree after a keen monitoring we encountered Changeable Hawk Eagle holding Indian grey mongoose on its talons and started



**Figure 1:** Changeable Hawk Eagle (*Nisaetus cirrhatus*) predation on Indian grey mongoose or (*Herpestes edwardsi*) in Mudumalai Tiger Reserve, Tamil Nadu, Southern India.

**Table 1:** Pray item caught by Changeable Hawk Eagle (*Nisaetus cirrhatus*) in India region.

Species	Place	Source
<b>(Birds)</b>		
Indian Peafowl ( <i>Pavo cristatus</i> )	DNA	Narayan & Rosalind Per. Com. (Naoroji 2007)
Junglefowl ( <i>Gallus sp</i> )	DNA	Narayan & Rosalind Per. Com. (Naoroji 2007)
White-breasted waterhen ( <i>Amaurornis phoenicurus</i> )	DNA	Narayan & Rosalind Per. Com. (Naoroji 2007)
pond herons ( <i>Ardeola sp</i> )	DNA	Narayan & Rosalind Per. Com. (Naoroji 2007)
Parakeet ( <i>Psittacula sp</i> )	Gujarat	Naoroji, 2007
Green Pigeons ( <i>Treron sp</i> )	DNA	Naoroji, 2007
Common myna ( <i>Acridotheres tristis</i> )	Gujarat	Naoroji, 2007
Red vented Babbler ( <i>Pycnonotus cafer</i> )	Gujarat	Naoroji, 2007
Red Junglefowl ( <i>Gallus gallus</i> )	DNA	Naoroji, 2007
Wood pecker ( <i>Dinopium and Picus sp</i> )	DNA	Naoroji, 2007

<i>Black-hooded Oriole (Oriolus xanthornus)</i>	Tamil Nadu	Gokula & Vijayan Per. Com. (Naoroji 2007)
<i>Domestic Cock and Hens (Gallus gallus domesticus)</i>	Gujarat	Naoroji, 2007
<i>Pheasant Sp</i>	DNA	Narayan & Rosalind Per. Com. (Naoroji 2007)
<i>Partridges sp</i>	DNA	Narayan & Rosalind Per. Com. (Naoroji 2007)
<i>Quails (Coturnix sp)</i>	DNA	Narayan & Rosalind Per. Com. (Naoroji 2007)
<i>Small Game Birds sp</i>	Gujarat	Naoroji, 2007
<b>Mammals</b>		
<i>Black napped Hare (Lepus nigricollis)</i>	Assam	Narayan & Rosalind Per. Com. (Naoroji 2007)
<i>Hispid Hare (Caprolagus hispidus)</i>	Assam	Narayan & Rosalind Per. Com. (Naoroji 2007)
<i>Palm Squirrel (Funambulus sp)</i>	Gujarat	Naoroji, 2007
<i>Flying Squirrel</i>		
<i>Indian Giant Squirrel (Ratufa indica)</i>	Tamil Nadu	Gokula & Vijayan Per. Com. (Naoroji 2007), Datta, 1998
<i>Indian Flying Fox (Pteropus giganteus)</i>	DNA	Thejaswi Shivanand Per. Com. (Naoroji 2007)
<i>Jungle Cat (Felis chaus)</i>	Maharashtra	Kasambe, 2004
<i>Indian grey mongoose or (Herpestes edwardsi)</i>	Tamil Nadu	Present Study
<i>Domestic Cat (Kitten)(Felis catus)</i>	DNA	Vidal (1880)
<i>Indian Bush Rat (Golunda ellioti)</i>	Gujarat	Naoroji, 2007
<b>Reptiles</b>		
<i>Monitor Lizard</i>	Corbett	Jaggi Singh Negi Pers. Comm (Naoroji, 2007)
<i>Indian Chameleon (Chamaeleon zeylanicus)</i>	Gujarat,	Naoroji, 2007
<i>Common Garden Lizard (Calotes versicolour)</i>	Gujarat	Naoroji, 2007
<i>Lizard Sp</i>	Gujarat	Naoroji, 2007
<i>Common Indian Bronzeback Snake (Dendrelaphis tristis)</i>	Tamil Nadu	Gokula & Vijayan Per. Com. (Naoroji 2007)
<i>Viper sp</i>	DNA	Naoroji 2007

to feeding (Figure 1). Feeding behavior of Changeable Hawk Eagle is consist different kinds of species including mammals, birds and reptiles. According to the literature birds species were accounted more numbers of pray item of Changeable Hawk Eagle followed by Mammals and Reptiles (Table 1) as well as prey preferences would differ depending on seasonal prey availability and different localities (Naoroji, 2007; Fam and Nijman, 2011). Especially in Mammals prey items of Changeable Hawk Eagle mostly prefer herbivores prey like Black napped Hare (*Lepus nigricollis*), Hispid Hare (*Caprolagushispidus*) Palm Squirrel (*Funambulassp*) Flying Squirrel, Indian Giant Squirrel (*Ratufaindica*), Indian Flying Fox (*Pteropusgiganteus*) and Indian Bush Rat (Naoroji, 2006). In India region very rarely found small carnivores in their diet, Kasambe (2004) recorded that Changeable Hawk Eagle attack on Jungle Cat (*Felischaus*) in Melghat Tiger Reserve. This present record shows that second known record of Changeable Hawk Eagle predation on small carnivore of Indian grey mongoose. This present record envisages that occasionally Changeable Hawk Eagle predation on small carnivores in Indian region more scientific study is highly warranted to understand the feeding ecology and prey preference of Changeable Hawk Eagle in the Indian region.

## REFERENCES

1. Champion, H. G. Seth, S.K. (1968). A Revised Survey of Forest Types of India, Govt. of India Press, New Delhi, 404.
2. Fam, S.D. Nijman, V. (2011). Spizaetus hawk-eagles as predators of arboreal colobines. Primates., 52:105-110.
3. Helbig, A.J., Kocum, A., Seibold, I. Braun, M.J. (2005). A multi-gene phylogeny of aquiline eagles (Aves: Accipitriformes) reveals extensive paraphyly at the genus level. Mol. Phylog. Evol., 35:147-164
4. Kasambe, R. (2004). Crested Hawk Eagle (*Spizaetus cirrhatus*) foraging on Jungle Cat (*Felis chaus*). Newsletter for Birdwatchers, 44:14-15
5. Mc. Farland, D. (1981). The Oxford companion to animal behavior. Oxford University Press.
6. Naoroji, R. (2006). Birds of prey on the Indian subcontinent. Om Books International, New Delhi. 520-530
7. Newton, I. (1991). Population limitation in birds of prey: A comparative approach. In: Perrins, C.M., Lebereton, J.D. Hiron, G.J.M (edits). Birds Population Studieis: Revelence to Conservation and Management. Oxford University Press; 3-21.