Observations on some roadkill of snakes and mammals adjacent to Satchari National park, Bangladesh

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Abstract

Satchari National Park is one of the biodiversity rich protected forests in north-east region of Bangladesh which is potentially a biodiversity hotspot of that region. A road passing adjacent to this National Park is the growing concern for wildlife now a day because of accident due to vehicular traffic. About 8 different species of wildlife fauna were found dead due to collision with vehicles. We mainly focused on the mortality of snakes and mammals during the study. The following opportunistic survey was conducted from May 2015 and April 2016 to observe the actual scenario of the roadkills animals.

Keywords: Satchari National Park, Roadkills, King Cobra, Bangladesh

1. Introduction

Accidents with vehicles on road may affect populations of common and threatened species [3]. Roads are known to cause mortality of animals due to accidents with vehicular traffic, habitat loss due to deforestation, affect animal movement, cause change in animal behavior, and cause ecological effects such as fragmentation [4, 5, 6, 10]. Studies related to roadkill animals have been wisely conducted in North America, Europe, Australia and some African countries but in Asia notably Bangladesh very few studies are available. Satchari National Park is a segment of the Raghunandan Hill Reserve Forest under Chunarughat Upazila of Habiganj district, located between 24°5' to 24°10' N latitude and 91°25' to91°30’ E longitude. It was declared as National Park in 2005 with an area of 242.91 hectare [1]. The Park stands on the old Dhaka-Sylhet highway some 130-140 Km northeast of Dhaka city. The forest area is comprised of scattered slopes and hillocks ranging from 10-15 meters in height [10]. The following roadkill observations were sampled adjacent to the road of national park from May 2015 to April 2016. No systematic survey techniques were followed other than opportunistic survey. For identification several field guides were used [2, 7, 9]. We have not preserved any animals during our survey.

2. Methods

To quantify the direct impact of roads on wild animals, the number of roadkills that occurred on road passing near Satchari National Park was counted. The study was restricted to snakes and mammals. To quantify the roadkills, the road was surveyed systematically between 0600 and 0900 hr twice a month at fortnightly intervals for eight months from May 2015 and April 2016. In addition, using opportunistic sampling method, data on roadkills were also collected during incidental visits and based on the information received from other researchers, department staff and local people. At every sighting of a roadkill, information such as place, species name, number and status of the kill was recorded. After recording the above details, the carcass was removed from the road.
3. Results
We observed a total of eight incidents of roadkill animals during our study. Some of the animals are threatened nationally and globally.

3.1 King cobra (Ophiophagus hannah): A single dead specimen was encountered on 21 March 2016. Total length of this snake was 338 cm. According to the recently published IUCN Bangladesh Red List assessment, the species is put in Vulnerable (VU) category [8]. King cobra is also categorized as Vulnerable (VU) globally.

3.2 Phayre’s Leaf-monkey (Trachypithecus phayrei): On 27 March 2016, two Phayre’s Leaf-monkey (a mother and an infant) was found dead some .5 km away from National Park main gate. According to local people the accident occur with a collision with high speed bus. Phayre’s Leaf-monkey is in Critically Endangered (CR) in Bangladesh and Endangered (EN) globally.

3.3 Wild Boar (Sus scrofa): A single animal was seen dead on the road near National park on 12 June 2015. The accident may occur in early morning while the boar was trying to cross the road. The species has been enlisted as Least Concern (LC) both in Bangladesh and Globally according to IUCN.

3.4 Hoary-bellied Squirrel (Callosciurus pygerythrus): On 26 November 2015 a Hoary-bellied Squirrel was seen dead in the road passing adjacent to the National Park. The species has been enlisted as Least Concern (LC) both in Bangladesh and Globally according to IUCN.

3.5 Green Cat Snake (Boiga cyanea): A Green Cat Snake was spotted dead on the road on 13 October 2015. The species is enlisted as Least Concern (LC) according to the IUCN Red List 2015 in Bangladesh.
Fig 5: A roadkills Green Cat Snake in the road near National Park

3.6 Eastern Cat Snake (*Boiga Gokool*): It is a Near Threatened (NT) species in Bangladesh. A single individual was found on the road on 23 April 2015.

![Fig 6: Roadkilled Eastern Cat Snake](image)

3.7 Banded Krait (*Bungarus fasciatus*): Banded Krait is described as a Least Concern (LC) species in Bangladesh and all over the world. A single individual was spotted on 21 January 2016 as a roadkilled.

![Fig 7: Roadkilled Banded Krait](image)

3.8 Ornate Flying Snake (*Chrysopelea ornata*): On 24 may 2015 a dead specimen was spotted near road passing adjacent to National Park. This is a Least Concern (LC) species in Bangladesh.

![Fig 8: A roadkilled Ornate Flying Snake near Satchari National Park](image)

4. Conclusion
The present study is preliminary in nature as it was a short term study and has some drawbacks like actual rate of mortality per day and seasonal variability on the rate of roadkill which could not be worked out. A more detailed year round study will enable us to understand better the impact of vehicular traffic. This study suggests that mortality due to vehicles is noteworthy for wildlife in the study area. Species of conservation concern such as King Cobra and Phayre’s Leaf-monkey were killed by vehicular traffic. Long term studies in this study area as well as other protected and forested areas are required to ascertain the actual
magnitude of roadkills in relation to populations of particular species.

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6. References