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ARRIVAL OF INDIAN PEAFOWL *Pavo cristatus* TO THE HORTON PLAINS NATIONAL PARK COULD IT BE A RISK TO THE ENDEMIC FAUNA?

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ABSTRACT : Present study was conducted at the Horton Plains National Park which is located on the southern plateau of the central highlands of Sri Lanka at an altitude of 2,100–2,300 m (6,900–7,500 feet). The Horton Plains National Park is one of the most important national parks of Sri Lanka. Its flora is represented by 57 species of vascular plants. The vertebrate fauna of the region includes 24 species of mammals, 87 species of birds, 9 species of reptiles and 15 species of amphibians. Most of these species are endemic to Sri Lanka. The integrity of the indigenous flora and fauna of the Horton Plains National Park has been jeopardized to varying extents by deliberate introductions of exotic species. Introduced Gorse (*Ulex europaeus*) is expanding its range in grassland areas. Common carp and predatory rainbow trout, both introduced during the colonial period is causing havoc among endemic crustaceans, including endemic *Caridina singhalensis* which is now restricted to only a stretch of 10 km of one stream. According to the previous studies observed that massive increment of Jungle crow (*Corvus leuiscornis*) populations due to garbage disposal by visitors has become a major threat to endemic animals of Horton Plains National Park. In addition to these threats, Indian Peafowls (*Pavo cristatus*) were recorded on four occasions at the Horton Plains National Park on 22nd January in Cloud forest habitat, 25th March in Grassland habitat, 5th April and 7th July 2017 in the Cloud forest habitats. The Indian peafowl is known to inhabit drier lowland areas of Sri Lanka and it has never been recorded at the Horton Plains National Park hitherto. Therefore, the present study evaluated the potential threat they may pose to the endemic fauna of the Horton Plains National Park.

KEY WORDS : Horton Plains National Park, Indian Peafowl, endemic fauna, threats

INTRODUCTION

When new species migrate into an ecosystem where it doesn't occur naturally the new arrivals can have far-reaching repercussions and do permanent damage. This may result in something special become lost forever. In the distant past, the earth's mountains and oceans represented formidable natural barriers to all but the hardiest of species. Ecosystems evolved in relative isolation. Introduction of Nile perch, resulted in the extinction of more than 200 other fish species (Lowe *et al.*, 2000). Variety of species have the ability, to travel in ingenious ways, establish, thrive and dominate in new places. Invasion by

species such as velvet tree (*Miconia calvescens*) can change entire habitats, making them unsuitable for the original native community (Lowe *et al.*, 2000). The Indian peafowl is a resident breeder across the Indian subcontinent and is found in the drier lowland areas of Sri Lanka. In South Asia, it is found mainly below an altitude of 1,800 meters (1.1 mi) and in rare cases seen at about 2,000 meters (1.2 mi). It is found in moist and dry-deciduous forests, but can adapt to live in cultivated regions and around human habitations. It is a least concern species (IUCN Red List, 2016) and has become feral in some areas. Peafowl are omnivorous

and eat seeds, insects, fruits, small mammals, small snakes and reptiles. In isolated cases, the Indian peafowl has been known to be able to adapt to harsher climates, such as those of northern Canada (Long and John, 1981).

Indian peafowls have never been recorded from the Horton Plains National Park situated at on the southern plateau of the central highlands of Sri Lanka at an altitude of 2,100–2,300 m (6,900–7,500 feet). Present study recorded their presence in small numbers at the park for the first time. In immediate action is not taken to eradicate them from the Horton Plains National Park their populations may become uncontrollable with drastic consequences to the endemic fauna and flora of the National Park.

METHODOLOGY

Study Site:

The study was carried out in Horton Plains National Park located on the southern plateau of the central highlands of Sri Lanka at the coordinates 6° 48' 0" North, 80° 48' 0" East (maplandia.com, 2016). It lies in the Nuwara Eliya District at the eastern extremity of the Central Highlands, 32 km from south of Nuwara Eliya. It was established on 16th March 1969 as a Nature Reserve and designated as a National park on 5th December 1988. It occupy an area of 3,160 ha which is contiguous with Peak Wilderness Sanctuary to the west (De Alwis *et al.*, 2007- Biodiversity Baseline Survey). Horton Plains National Park experiences a subtropical monsoon climate. Mean annual temperature is 15°C and mean annual rainfall of 2150 mm. The weather is dominated by continuous wind and persistent cloud cover. The number of hours with bright sunshine average at 5.3 hours per day for the year. The driest months are January and February, when temperatures may reach 27°C. Vegetation consists of Upper Montane Rain Forest (Cloud Forest), Wet Patana Grassland and in between them a narrow ecotone belt which comprises shrubs and herbs. Cloud Forest occupies an area about 1,236 ha (39.7% of total area of HPNP) extended with undisturbed old growth forest of canopy trees which are low in stature (15-20m). Cloud die

back can be seen in about 956 ha (30.7% of total area) of the park due to death of trees. Gaps in the canopy may be 500-1000 m² and occasionally exceed 1 ha. Ecotone between forest and grassland found in between the Cloud Forest and Wet Patana Grassland extended 45 ha (1.5% of total area) throughout the Horton Plains. (De Alwis *et al.*, 2007- Biodiversity Baseline Survey) Its flora is represented by 57 species of vascular plants. The vertebrate fauna of the region includes 24 species of mammals, 87 species of birds, 9 species of reptiles and 15 species of amphibians. (De Alwis *et al.*, 2007- Biodiversity Baseline Survey)

Census:

Opportunistic observations of the Indian peafowl was made using 10 × 50 Nikon binocular. When Indian peafowls were observed their number, sex, location and activity was recorded. The location was recorded on a map of the Horton Plains National Park.

RESULTS

Indian Peafowls were recorded on four occasions at the Horton Plains National Park on 22st January in Cloud forest habitat, 25th March in Grassland habitat, 5th April and 7th July 2017 in the Cloud forest habitats. Five males and 16 females were recorded in six locations at the Horton Plains National Park in January, March, April, and July 2017 (Figure 1). Peafowls were observed flying and perching on trees up to 5-10m height from the ground (Figure 2). They were observed foraging on the grassland, grassland-forest Ecotone and inside the forest patches in small groups. No chicks or juveniles were observed during this period. These small groups moved into the cloud forests while foraging on ground and nearby vegetation (Figure 3).

DISCUSSION

The range of the peafowls extends from eastern Pakistan through Nepal and India south of the Himalayas down to Sri Lanka. It is rare in Bhutan and probably extinct in Bangladesh (Ramesh and McGowan, 2009). It is found in the drier lowland areas of Sri Lanka. In South

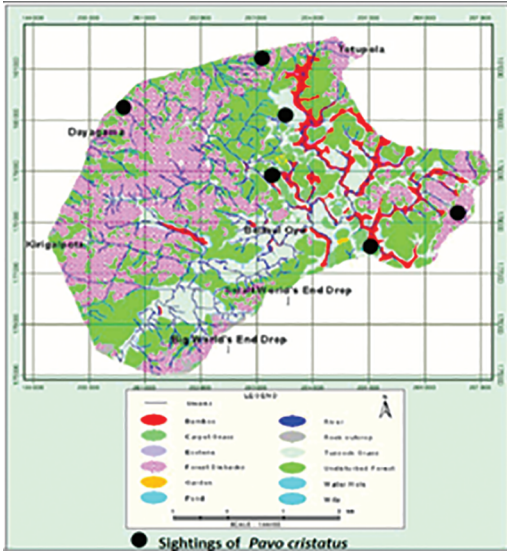


FIGURE 1: The sites where the Indian peafowls were located inside the Horton Plains National Park.



FIGURE 2: *Pavo cristatus* male perched inside the cloud forest of Horton Plains National Park.

Asia, it is found mainly below an altitude of 1800 m (Johnsingh & Murali, 1980). Up until now they have never been reported from the Horton Plains National Park which lies at an altitude of 2,100–2,300 m (6,900–7,500 feet). The lack of natural predators and ample prey found at the Horton Plains National Park may result in their population to explode. Since it is



FIGURE 3: *Pavo cristatus* females feeding inside the Horton Plains National Park

an omnivores, relatively large bird species it may cause extensive ecological damage. It may even cause extermination of slow moving *Cophotis ceylanica* which is an endangered and rare endemic lizard species (The National Red List of Sri Lanka, 2012).

This species may become a competitor for other ground feeding birds such as jungle fowl, blackbirds, thrushes etc. They may also introduce zoonotic diseases and pathogens from dry low lands to the wet hill country bird communities as Indian Peafowls are known to frequent cultivated areas around human habitations and may feed on a variety of food scraps and even human excreta.

In time *Pavo cristatus* may also become a serious threat to the biological diversity of the whole national park. They may decimating the reptile populations and may feed on the chicks of endemic birds unique to the park. They may also prey on, or interfere in, the reproduction of a variety of arthropods, reptiles, birds and mammals on the forest floor and canopy. Although less than 6 sightings were made so far, wildlife department should be concerned that endangered birds such as the Dull-blue Flycatcher (*Eumyias sordidus*), Yellow-eared Bulbul (*Pycnonotus penicillatus*), Lanka Bush Warbler (*Elaphrornis palliseri*) which nests nowhere else in the world and endemic Montane Frog (*Fejervarya greenii*) and

endemic endangered agamid lizard (*Calotes nigrilabris*), could eventually be driven to extinction through habitat alteration and direct attack by this voracious bird.

Management Implications

The management of the Department of Wildlife should take decisive and prompt action to eradicate Indian Peafowl (*Pavo cristatus*) from the Horton Plains National Park to safe guard the endemic fauna and flora of the park.

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REFERENCES

- Chandrasiri, P., W.D.S.C. Dharmarathne, W.A.D. Mahaulpatha, and S. Lakmal, (2015). DISTRIBUTION OF THE JUNGLE CROW (*Corvus leuallantii* LESSON, 1831) AND THEIR POTENTIAL THREATS TO BIODIVERSITY IN HORTON PLAINS NATIONAL PARK, SRI LANKA. Forest, 2016, p.2017.
- DWC (2007) , Biodiversity Baseline Survey: Horton Plains National Park. Consultancy Services Report prepared by Green, M.J.B. (ed.), De Alwis, S.M.D.A.U., Dayawansa, P.N., How, R., Singhakumara, B.M.P., Weerakoon, D. and Wijesinghe, M.R. ARD Inc in association with Infotech IDEAS and GREENTECH Consultants. Sri Lanka Protected Areas Management and Wildlife Conservation Project (PAM&WCP/CONSULT/02/BDBS), Department of Wildlife Conservation, Ministry of Environment and Natural Resources, Colombo. 40 pp.
- Johnsingh, A.J.T., and S. Murali, (1980). The ecology and behaviour of the Indian peafowl (*Pavo cristatus*) Linn. of Injar. J. Bombay Nat. Hist. Soc, 75, pp.1069-1079.
- Long, John L. (1981). Introduced Birds of the World. Agricultural Protection Board of Western Australia, 21-493
- Lowe S., M. Browne, S. Boudjelas, M. De Poorter (2000) 100 of the World's Worst Invasive Alien Species A selection from the Global Invasive Species Database. Published by The Invasive Species Specialist Group (ISSG) a specialist group of the Species Survival Commission (SSC) of the World Conservation Union (IUCN), 12pp. First published as special lift-out in Aliens 12, December 2000. Updated and reprinted version: November 2004.
- Ramesh, K. and P. McGowan, (2009). On the current status of Indian Peafowl *Pavo cristatus* (Aves: Galliformes: Phasianidae): keeping the common species common. *Journal of the Threatened Taxa*, **1(2)**: 106-108.

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