

Assessment of Indian Blue Peafowl in Certain Areas

Dr. Gargi

Associate Professor, Department of Zoology, MMH College, Ghaziabad, Uttar Pradesh, India

Corresponding Author: gargirana26@gmail.com

Received: 26-10-2022

Revised: 21-11-2022

Accepted: 30-11-2022

ABSTRACT

There were 247 peafowl in total, which is abundant. In the research regions, there were 61 chicks, 93 fowls, and cocks (sex ratio: 1:1). The abundance of peafowl was seen in a variety of habitats, including rice paddies, sugarcane fields, banana plantations, bamboo vegetation, and bodies of water with aquatic grasses. The bamboo vegetation ($n = 35$) had the lowest abundance, and the banana plantation ($n = 61$) had the maximum abundance. In the meantime, paddy fields ($n = 48$), aquatic grasses ($n = 55$), and sugar cane habitat ($n = 50$) the research was done between October 2021 and April 2022. Peafowl abundance in various areas in and around Innambur village, Kumbakonam Taluk, was examined over the course of seven months. The peafowl abundance showed a monthly fluctuation. The most peafowl sightings—13—were recorded in the month of February. Peafowl sightings were at their lowest in November and March, respectively ($n = 7$). The Eragaram area had the most peafowl sightings ($n = 35$; males 18, females 11, and chicks 6). The number of Indian peafowl sightings per kilometre walked in the study region was used to express the sightings. Paddy, sugarcane, banana plantations, bamboo vegetation, and aquatic grasses are among the ecosystems. There were 247 total reports of Indian peafowl in the study area. The ecosystem of the banana plantation was thought to have the highest sightings. The bamboo vegetation was where the fewest sightings were observed. It demonstrated the average number of Indian peafowl sightings in the different habitats.

Keywords: Indian peafowl, agriculture regions, variety of habitats, croplands

I. INTRODUCTION

The Indian Peafowl, *Pavo cristatus* (henceforth, peafowl), which is India's national bird, is included on Schedule I of the Indian Wild Life (Protection) Act, 1972, and in Appendix I of the CITES convention. It is omnivorous and social and can be found in open, deciduous forests, various plantations, and human settlements. Poaching for its flesh, feathers, and usage in traditional remedies is a threat to it. Another significant risk is accidental poisoning. Peafowl crop depredation is a severe problem that has been documented in various areas of India. Farmers were unable to request an ex-gratia payment from the government because the true economic damage was not evaluated in these studies. When the government puts the needs of people first, the situation will get worse. Human-animal conflict could be reduced by estimating the harm and providing adequate ex-gratia to the victims right away.

Figure 1: The Indian Peafowl



Source: <https://kids.nationalgeographic.com/animals/birds/facts/indian-peafowl>

The Indian peafowl is omnivorous and consumes small animals, reptiles, seeds, insects, and fruits. The peafowl consumes a variety of crops in and around agricultural regions, including red chile, paddy, groundnut, tomato, and even bananas.

As was already indicated, no studies have been done in India to determine how much harm peafowl cause to crops. In this study, an effort has been made to examine the conflict between humans and peafowl in the villages near the Kumbakonam region of Tamil Nadu with the goal of assessing the degree of crop damage caused by peafowl.

Figure 2: International Union for Nature (IUCN)



Source: <https://www.slideshare.net/>

In accordance with the Indian Wildlife Protection Act of 1972, the Indian Peafowl is a protected species and is rated as of least concern (LC) by the International Union for Nature (IUCN). *Pavo cristatus* is the species, according to Bird Life International, and it has to be thoroughly researched. Despite the fact that there are numerous challenges to this species' existence in many of the country's dispersed places, Native to south Asia, the Indian peafowl has been imported to and has become semi-feral in many other parts of the world. The Indian Peafowl belongs to the Phasianidae family, Order Galliformes, and Genus *Pavo*, which is *cristatus*. The requirement for quantitatively accurate and thorough maps of species distribution and abundance is specifically highlighted by many workers. Planning conservation priorities in several fragmented locations won't be viable without such a database. Therefore, it is imperative to conduct a thorough investigation of the population and habitats in the fragmented areas in the southern parts of India. The goals of the current work were to

1. To evaluate the total peafowl abundance in the research region.
2. To calculate the abundance of peafowl in various research regions ecosystems
3. To determine how often peafowl are abundant in the research region.

II. MATERIALS AND PROCEDURES

In both developed croplands and uncultivated regions, peafowl estimation was done along transects and footpaths. Variables including the total number of individuals (adult male, adult female, subadult male, and chicks), group size, vegetation, and terrain type were noted for each peafowl observation. The trees and roosting locations for Indian peafowl were inventoried and assessed. The roost tree was verified by watching the birds at dawn and dusk firsthand. There will be notes on the roost tree (n), roost height (m), tree diameter at breast height (cm), habitat, date, and time. The indirect evidence of droppings in the roost tree also shows that the birds have been using the same tree for a long time.

From October 2021 to April 2022, research on the quantity and range of Indian peafowl was conducted. The common line transects approach outlined by Burnham et al. (1980) was chosen and used. The availability of habitats in the research area determined how long each line transect should be. Data on the number of sightings, the perpendicular distance, the date, the time, the habitat type, and the attitude were noted. Using data from distance software [17] and [18], the number of Indian peafowl was approximated. In various habitats and altitudes, the encounter rate ($ER=n/km$ walked) of Indian peafowl sightings was recorded. Microhabitat factors, habitat availability, and Indian peafowl utilisation of habitats were also investigated.

Field of study

The area of study for this study, the Innambur hamlet in Thanjavur District's Kumbakonam taluk was chosen. This region is close to Kumbakonam. 13 kilometres is about how far it is. The study region consists of a number of study locations, including Kalvikudi, Innamur Puliambadi, Uthirai, and Eragarm. This study area and its locations encompass five distinct habitats, including paddy fields, sugarcane fields, banana crop fields, bamboo vegetation, and grasslands with aquatic habitats. From October 2021 to April 2022 (7 months), peafowl abundance was observed at all study locations and habitats.

III. RESULTS AND ANALYSIS

3.1 Results

3.1.1 Overall Abundance of Peafowl

The goal of the current study was to determine peafowl abundance in diverse settings. The study area's peafowl abundance and its monthly variation were tracked. In the study region, peafowl populations from various study locations were examined.

There were 247 peafowl in all discovered in the study region. It contains 61 chicks, 93 fowls, and 93 cocks that were gathered in the research locations with a 1:1 sex ratio (Tables 1 and 2). Peafowl abundance was calculated and expressed as the encounter rate (n/km walked).

3.1.2 Peafowl Abundance by Habitat

Peafowl abundance was measured in a variety of habitats, including rice paddies, sugarcane fields, banana plantations, bamboo groves, and bodies of water with aquatic grasses. The bamboo vegetation (n = 35) had the lowest abundance, and the banana plantation (n = 61) had the maximum abundance.

In the interim, paddy fields (n = 48), aquatic grasses (n = 55), and the habitat for sugar cane (n=50)

3.1.3 Variation by Month

The investigation was conducted from October 2021 to April 2022. Peafowl abundance in various areas in and around Innambur village, Kumbakonam Taluk, was examined over the course of seven months.

The peafowl abundance showed a monthly fluctuation. The most peafowl sightings (n=13) were recorded in the month of February. Peafowl sightings were at their lowest in November and March, respectively (n = 7).

3.1.4 Peafowl Abundance in Various Regions

The Eragaram area had the most peafowl sightings (n = 35; males 18, females 11, and chicks 6). The abundance of peafowl was determined in the other research locations, including the Kalvikudi area (n= 55; male 17; female 23; and chick 15). n= 50 (male: 15; female: 22; and chicks: 13) were detected in the Puliambadi research area. 48 peafowl (n= 48; males: 21, females: 17, and chicks: 10) were obtained for the study region of Innambur. In all of the sites, Indian peafowl were spotted in different populations. The number of sightings per km walked in the study area was used to express the sightings of Indian peafowl. Paddy, sugarcane, banana plantations, bamboo vegetation, and aquatic grasses are some of the environments.

The ecosystem of the banana plantation was thought to have the highest sightings. The bamboo vegetation was where the fewest sightings were observed. It demonstrated the average number of Indian peafowl sightings in the different habitats.

3.2 Analysis

The goal of the current study was to determine the peafowl abundance in the study area's diverse habitats. Peafowl observations in the study area were frequent throughout the research period. Peafowl abundance in the research area varied monthly and was seen to be consistent throughout the year. The month of February saw the highest rate of abundance. The month of April yielded the lowest abundance. Peafowl populations from several locations were evaluated, and abundance was evident in all habitats. The habitats used for banana growth in the research area were very abundant. Bamboo vegetation habitats in the research area had a low abundance. In every habitat in the research area, the distribution of Indian peafowl was discovered. This study also demonstrated that Indian peafowl populations were discovered in greater numbers in a particular habitat as compared to other habitats, with the majority of them being in the open regions of forests in the study area. Indian peafowl are more numerous in scrub jungles, which may be because there are more food plants, insects, roosting trees, and suitable ground cover for nesting and protection. When compared to southern sub-tropical hill forests, peafowl prefer predominantly scrub jungle, which may be why ground litter and fruiting plants are important.

The presence of plenty of food plants, insects, roosting trees, and suitable ground cover for nesting and shelter may be the cause of the Indian peafowls' abundance in scrub jungle. When compared to southern sub-tropical hill forests, Subramanian

et al. claim that grey jungle fowl prefer largely scrub jungle. They also stressed that ground litter and fruiting plants play important roles for grey jungle fowl.

Table 1: shows the total number of peafowl that were present in the study area between October 2021 and April 2022 (ER = n/km walked).

S.NO	MONTHS	MALE			FEMALE			CHICKS		
		ER	UPPER ER	LOWER ER	ER	UPPER ER	LOWER ER	ER	UPPER ER	LOWER ER
1	OCTOBER	15	18	11	15	17	13	7	10	5
2	NOVEMBER	17	20	14	12	14	10	5	7	3
3	DECEMBER	13	15	11	11	12	10	11	14	8
4	JANUARY	12	13	10	13	15	11	9	13	7
5	FEBRUARY	10	12	8	16	18	14	13	16	10
6	MARCH	15	17	11	14	17	15	6	8	5
7	APRIL	11	13	9	12	15	12	10	13	8
	Overall	93	97	91	93	96	89	61	66	61

Table 2: Shows the number of peafowl in each habitat during the course of the study (ER=n/km walked).

HABITAT	MALE			FEMALE			CHICKS		
	ER	UPPER ER	LOWER ER	ER	UPPER ER	LOWER ER	ER	UPPER ER	LOWER ER
PADDY	21	24	18	17	19	14	10	14	8
SUGAR CANE	15	17	13	22	25	19	13	15	10
BANANA CULTIVATION	22	25	19	20	23	17	19	21	15
BAMBOO VEGETATION	18	21	16	11	15	9	6	9	5
AQUATIC GRASSES	17	19	15	23	27	21	15	18	12

IV. CONCLUSION

There were 247 peafowl in total, which is abundant. In the research regions, there were 61 chicks, 93 fowls, and cocks (sex ratio: 1:1). The abundance of peafowl was seen in a variety of habitats, including rice paddies, sugarcane fields, banana plantations, bamboo vegetation, and bodies of water with aquatic grasses. The bamboo vegetation (n = 35) had the lowest abundance, and the banana plantation (n = 61) had the maximum abundance.

In the meantime, paddy fields (n = 48), aquatic grasses (n = 55), and sugarcane habitat (n = 50) The research was done between October 2021 and April 2022. Peafowl abundance in various areas in and around Innambur village, Kumbakonam Taluk, was examined over the course of seven months. The peafowl abundance showed a monthly fluctuation. The most peafowl sightings(n=13) were recorded in the month of February. Peafowl sightings were at their lowest in November and March, respectively (n = 7). The Eragaram area had the most peafowl sightings (n = 35; males 18, females 11, and chicks 6).

The number of sightings per km walked in the study area was used to express the sightings of Indian peafowl. Paddy, sugarcane, banana plantations, bamboo vegetation, and aquatic grasses are among the ecosystems. There were 247 total reports of Indian peafowl in the study area. The ecosystem of the banana plantation was thought to have the highest sightings. The bamboo vegetation was where the fewest sightings were observed. It demonstrated the average number of Indian peafowl sightings in the different habitats.

REFERENCES

1. Chakkaravarthy, Q. A. (2002). Call to save our national bird, Indian Peafowl (*Pavo cristatus*). Proceedings of the National Symposium on Galliformes, Division of Wildlife Biology, AVC College, Bharathidasan University, Tamil Nadu.
2. Nyhus, P. J., Fischer, H., Madden, F., & Osofsky, S. (2003). Taking the bite out of wildlife damage: The challenges of wildlife compensation schemes. *Conservation in Practice*, 4, 37–40.
3. Ogra, M., and Badola, R., (2008): Compensating human-wildlife conflict in Protected Area communities: Ground level perceptions from Uttarakhand, India. *Human Ecology* 36, 717–729.
4. Ramesh, K., and McGowan, P. (2009). On the current status of Indian Peafowl *Pavocristatus* (Aves: Galliformes: Phasianidae): keeping the common species common. *Journal of Threatened Taxa*, 1(2), 106–108.
5. Grimmett, R., Inskipp, C., & Inskipp, T. (2011): Birds of the Indian Subcontinent. (2ed.). London: Oxford University Press & Christopher Helm. pp. 1–528.
6. Pradhan, V., Dar, M. A., Rather, M. M., Panwar, M., & Pala, N. A. (2012). Human-wildlife conflict in Kitam Bird Sanctuary: Perceptions and possible solutions. *The Indian Forester*, 138, 915–920.
7. Bird Life International. (2012). *Pavocristatus* IUCN Red list of threatened species. *International Union for Conservation of Nature*.
8. <https://kids.nationalgeographic.com/animals/birds/facts/indian-peafowl>.
9. Karanth, K. K., Gopalaswamy, A. M., Defries, R., and Ballal, N. (2012). Assessing patterns of human-wildlife conflicts and compensation around a central Indian protected area. *PLoS ONE* 7, 1–13.
10. Veeramani, A. (2013). Ecological study of the Indian Peafowl (*Pavocristatus*) in Mudumalai Wildlife Sanctuary, Nilgiri Biosphere Reserve. Abstract, NBR SJ held in Government Arts College-Udhamanadalam, Tamil Nadu. pp 80.
11. Panda S., Panigrahi G.K., & Padhi S. (2016). Wild Animals of India. Hamburg: Anchor Academic Publishing. 67p.
12. Rameshkumar, C kalaiyarasi, G, & Subramanian, C. (2017). density and distribution of indian peafowl (*pavo cristatus*) in the meghamalai forests, Tamil Nadu, western ghats of southern India. *International journal of Advanced Research*. <http://dx.doi.org/10.21474/IJAR01/5120>, 5(8), 789-794.
13. Thapa, A., Singh, P.K. Pradhan, B.B. Joshi, M. Thakur, L.K. Sharma, & K. Chandra. (2020). Is the Indian Peafowl *Pavo cristatus*.
14. <https://www.slideshare.net>.
15. Rajpoot, A., V.P. Kumar, K. Arunachalam, & S.S. Rasaily (2021): National bird Indian Peafowl (*Pavo cristatus*): Using DNA technology for species identification from degraded sample from Uttarakhand, India. *Forensic Sci. Int.: Animals and Environments* 1: 100004.