



ORIGINAL ARTICLE

A Study of Time Budget Activity of Indian Peafowl (*Pavo Cristatus*) with Special Reference to the Keoladeo National Park, Bharatpur

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ABSTRACT

The Indian peafowl, *Pavo cristatus* is a resident breeder of South Asia and found across India. It can easily adapt cultivated regions i.e. agricultural fields, gardens and usually where water is available. It is also celebrated in Indian as well as Greek mythology and became the 'national bird' of India in the year 1963. It is also protected by religious practices. The life cycle activity shows that male Indian peafowls display their magnificent trains to attract females for mating. After mating, the female makes a nest and lays about three to eight eggs in the nest laying one each day. Female alone incubates the eggs, which hatch in 28-30 days. On hatching, chicks are well developed and are able to feed themselves. By four weeks the chicks begin to grow their crests. At the age of two months they resemble the females but are about half their size. Peafowl or attain maturity become mature at two to three years of age. Lifespan of Indian peafowl is about 20 years in the wild and up to 30 years in captivity (Yorzinski and Anoop 2013).

Key words: Time Budget Activity, *Pavo Cristatus*, Keoladeo National Park, Bharatpur

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INTRODUCTION

Birds are highly sensitive to change in their environment especially for habitat destruction and environmental pollution, and produce early warning signals for survival of man in the nature. However, red data book of International Union for Conservation of Nature (IUCN) listed about one third species of pheasants as endangered. Therefore, peafowl are most sensitive birds living nearby human population and may be used as indicators of environment values. Peafowls are widely hunted for their food, plumage, and the live bird trade. Considering the need for conservation initiatives for peafowl, one must look beyond the 'fire-fighting approach' towards 'keeping the common species common' in order to be efficient with conservation investments. Considering the importance of survey of status of Indian Peafowl and to study threats for its survival, present study has been made to achieve the genuine reason for the survival of peafowl at Keoladeo National Park, Bharatpur (Walther 2003, Simmons 1985, Sathyanarayana and Rathinasabapathy 1990-1992 and Deeming and Wadland 2002).

MATERIAL AND METHOD

To study 'time budget activity' of differential activities (i.e., feeding, resting, walking, displaying, calling, preening, flying, soaring, fighting, running, sitting, watching) of Indian

peafowl at various locations (Ghata Sehu, Keoladeo National Park, Padam Villa Colony and Roopbas) in district Bharatpur, the observations were recorded from early morning (7:00 am) to evening (6:00 pm). The differential activities performed by *Pavo cristatus* were recorded up to 13 hours on weekly interval throughout the year. The complete observations on feeding, resting, walking, displaying, calling, preening, flying, soaring, fighting, running, sitting, watching were recorded in minutes and changed in hours by dividing observed value from 60 and data were tabulated in the given table.

To make observations clear, percentage of time was also calculated with respect to activities performed by Indian peafowl at different experimental sites of district Bharatpur. All the experiments were replicated thrice and recorded in three consecutive years from 2010-11, 2011-12 to 2012-13.

Fig. 1: Activities performing for Breeding by *Pavo cristatus*



OBSERVATIONS

During survey of experimental sites *i.e.*, Ghata and Sehu, Keoladeo National Park, Padam Villa Colony and Roopbas, number of nest along with number of clutch was recorded. In all, six nests were observed at Ghata and Sehu, five nests at Keoladeo National Park, fifteen nests at Roopbas, whereas at Padam Villa Colony only one nest was observed in year 2010-11. Similarly, in 2011-12 and 2012-13, five nests was found in Ghata and Sehu, twelve and five nests in Keoladeo National Park, eighteen and twenty nests in Roopbas, and only one nest was recorded in Padam Villa Colony, respectively. On the other hand, number of clutch available in the nests was also recorded. Moreover, data on the morphology of nest *i.e.*, clutch circumference, nest circumference and nest radius were recorded with respect to each nest at every experimental site and tabulated. Nesting success of Indian peafowl at different places was observed by using formula:-

$$\text{Nesting Success: } \frac{\text{Total number of successful nest}}{\text{Total number of nest}}$$

DISCUSSION

The breeding behaviour revealed that peacock performs dance and display to attract peahens for copulation. After mating peahen prepared nest by collecting prosopis bushes in most of the cases. During initial incubation, peahens fly away from nest but as the incubation advanced, they hesitated to move from their nest, or move to a very short distance and returned soon. Usually, peahen came off the nest only once or twice a day to feed during incubation. The highest activity of peahen was recorded as feeding followed by incubation, watching, grass pulling and preening at different experimental sites in

Bharatpur (Moyer, *et al.*, 2003, Madge and McGowan 2002, Harikrishnan, *et al.*, 2010. Delius 1988, Del Hoyo, *et al.*, 1992 and Dakin and Montgomerie 2009.

Fig. 1: TBAP of of Indian Pea fowl, *Pavo cristatus* at KNP in Bharatpur during non breeding period in 2010-11 to 2012-13

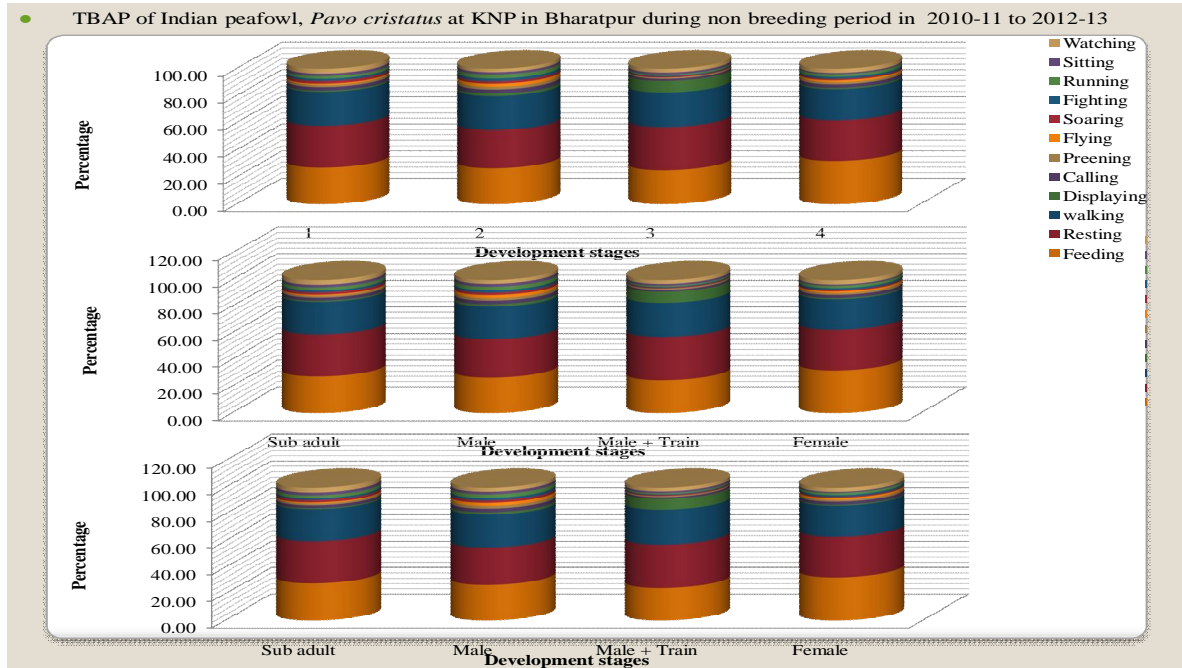


Fig. 2: TBAP of of Indian Pea fowl, *Pavo cristatus* at Ghata-Sehu in Bharatpur during non breeding period in 2010-11 to 2012-13

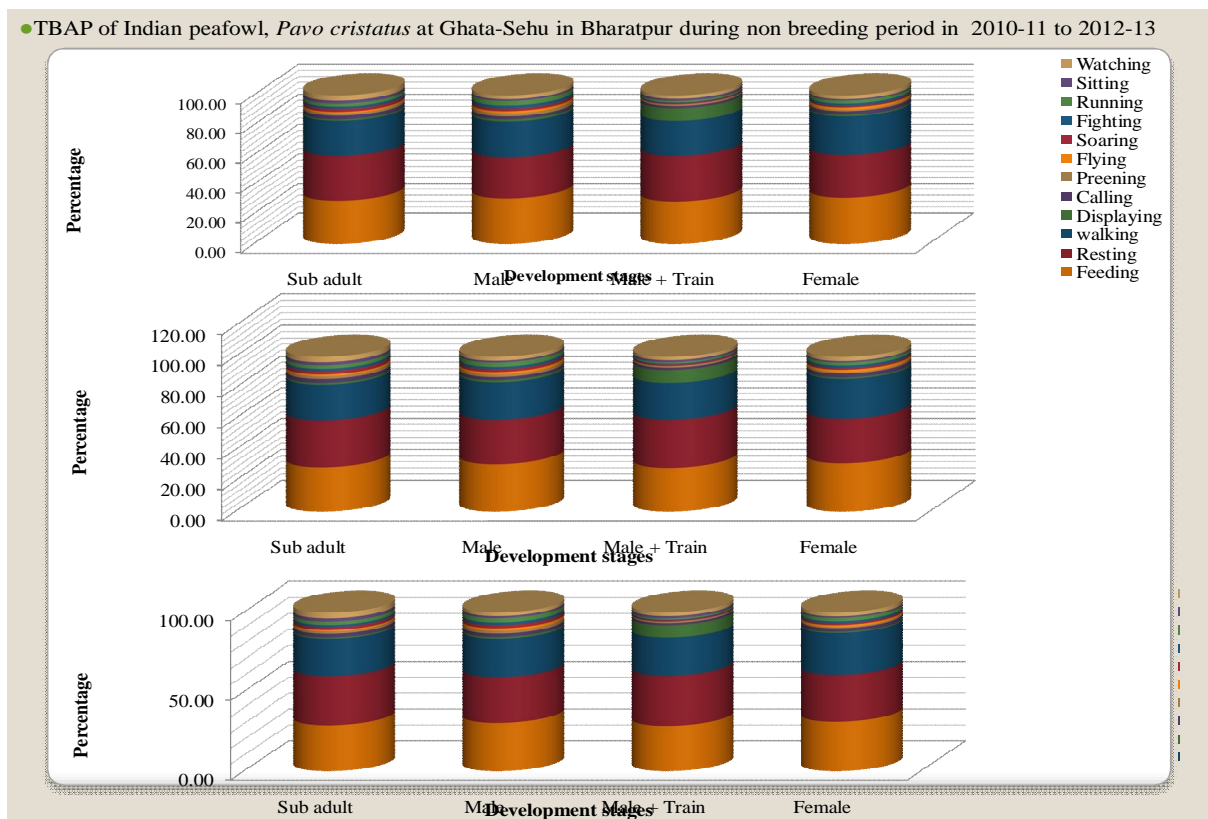


Fig. 3: TBAP of of Indian Pea fowl, *Pavo cristatus* at Padam Vill Colony in Bharatpur during non breeding period in 2010-11 to 2012-13

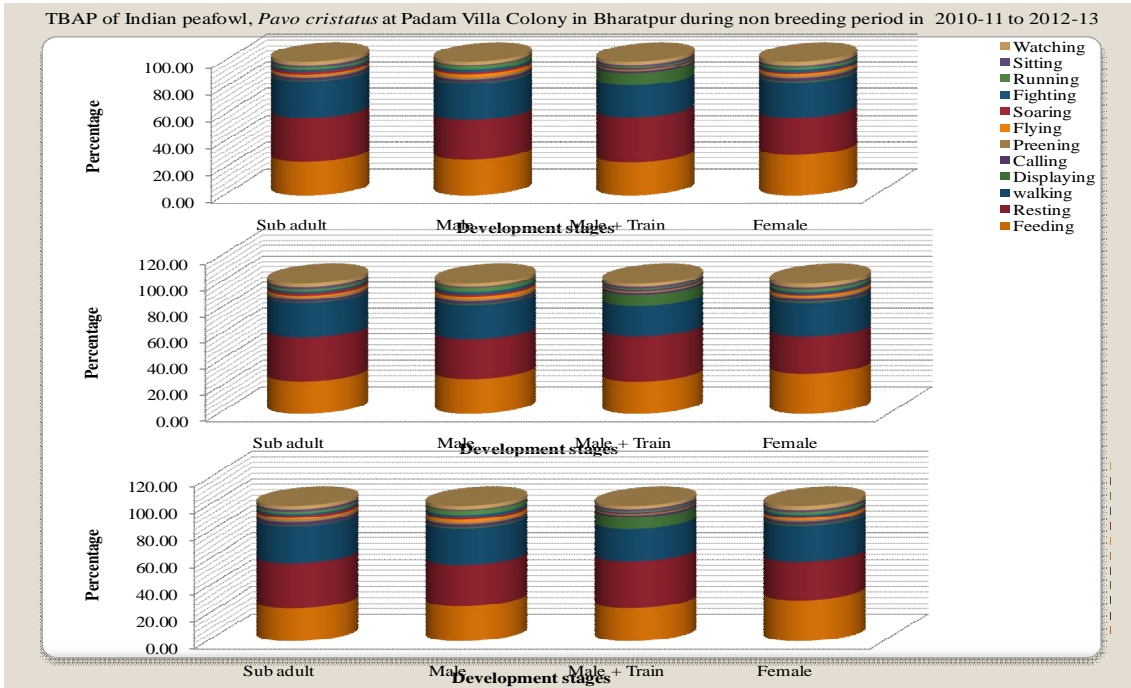
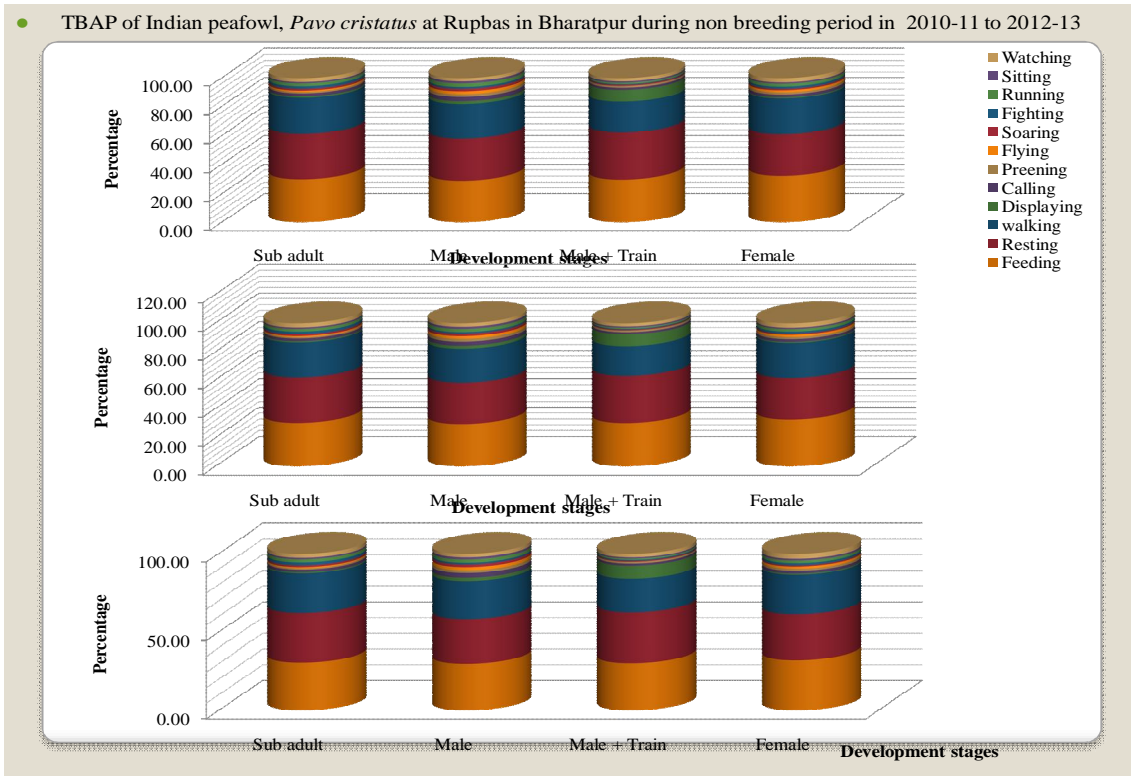


Fig. 4: TBAP of of Indian Pea fowl, *Pavo cristatus* at Rupbas in Bharatpur during non breeding period in 2010-11 to 2012-13



The nesting morphology showed an ambiguous difference in nest radius, nest and clutch circumference with changing experimental site. The nesting success revealed that *Pavo*

cristatus selected maximum sites for nesting at Roopbas, which was followed by Keoladeo National Park. The total number of successful eggs was ranged from 3.52 to 6.00 eggs per nest. The eggs were smooth; drab to pale brown in colour, with thick glossy shall closely pit over the surface. Furthermore, highest nesting success was observed at Padam Villa Colony but number of nest was quite low and not significant. Moreover, it was observed as most destructible site due to maximum interference of human. In contrast, highest percent hatching along with nesting success was recorded at Keoladeo National Park followed by Roopbas and Ghata Sehu due to availability of natural habitat for their survival and less interference of man.

RESULT

1. The findings showed that breeding season started from the month of June and continued up to October. The breeding behaviour revealed that peacock performs dance and display to attract peahens for copulation.
2. Thereafter, for nesting, peafowl preferred *Prosopis* bushes in most of the cases.
3. During incubation, peahens fly away from nest but as the incubation advanced, they hesitated to move from their nest, or moved to a very short distance and returned soon.
4. Usually, peahen came off the nest only once or twice a day to feed during incubation.
5. The highest activity of peahen was recorded as feeding followed by incubation watching, grass pulling and preening at different experimental sites.
6. The nesting morphology showed an ambiguous difference in nest radius, nest and clutch circumference with changing experimental site.
7. The nesting success revealed that *Pavo* selected maximum sites for nesting at Roopbas, followed by Keoladeo National Park.
8. The total number of successful eggs ranged from 3.52 to 6.00 eggs per nest. The eggs were smooth, drab to pale brown in colour, with thick glossy shall closely pitted over the surface.
9. Furthermore, highest nesting success was observed at Padam Villa Colony but number of nest was quite low and not able to considerable. Moreover, it was observed as most destructible site due to maximum interference of human.

In contrast, highest percent hatching along with nesting success was also recorded at Keoladeo National Park followed by Roopbas, Ghata Sehu and Padam Villa Colony due to availability of natural habitat for their survival and less interference of man.

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