



ORIGINAL ARTICLE

Food and Feeding Habits of Indian Peafowl (*Pavo Cristatus*) With Special Reference to different sites of Bharatpur, Rajasthan**Sangeeta Chaturvedi¹, Ashok Mittal¹ and Rajeev Sharma²**¹Department of Zoology, M.S.J. College, Bharatpur²Department of Zoology, R.B.S. College, AgraEmail: geetishi@gmail.comReceived: 6th March 2017, Revised: 24th March 2017, Accepted: 16th April 2017**ABSTRACT**

Blue Peafowl (*Pavo cristatus*) is a polygamous avian species also known as common peafowl of India. These birds stay in small flocks (harems) of 1 peacock (male) and 3-5 peahens (females) and tend to remain close together during feeding (Mushtaq-ul-Hassan, 2012; Grimmett et al., 1999). The chicks are precocial and follow their mother soon after hatching. The mother leads them to good food sources and the chicks learn to feed themselves, imitating their mother. Initially peafowl are herbivorous and become omnivorous on maturity. They can eat seeds, insects, fruits, small mammal etc. They also feed on small snakes but keep distance from larger ones (Johnsingh, 1976). Around cultivated areas, peafowl feed on a wide range of crops such as cabbage, cauliflower, groundnut, tomato, paddy, bajra, chilli, wheat (Johnsingh and Murali, 1978). Around human habitations, they feed on a variety of food scraps and even human excreta (Ali and Ripley, 1980).

Key words: Food and Feeding Habits, *Pavo cristatus*, Bharatpur

INTRODUCTION

Birds are most essential part of our ecosystem and a source of endless fascination and inspiration. They are highly sensitive to change in their environment i.e., habitat destruction, environmental pollution due to the human activities. Problems of bird survival are thus early warning or signals to man for their own survival in 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 which live nearby human population and may be used as sign of environmental evaluation. The Indian Peafowl, *Pavo cristatus* is a resident breeder of South Asia and found across India and also in Sri Lanka. Distribution of peafowl in India is patchy but ranges from the Himalayas in the north to the peninsular India in south. They belong to family Phasianidae of order Galliformes, which is a group of more than 250 bird species including peafowls, jungle fowls, pheasants, partridges, turkeys, grouse, chickens, quails etc (Johnsgard, 1986).

METHODOLOGY

To observe feeding preference of Indian Peafowl, observations were made at two experimental sites i.e., Ghata-Sehu and Keoladeo National Park in district Bharatpur. Different plant derivatives used by peafowl as food including tree, grass and crops along with animal foods were collected and identified by available literature. Moreover, the tree species commonly known as babul, jamun, ber, khejra, vilayati khejra, pilu, banyan, pippal, neem, guava, bougainvillea, gular, imali, karanj, safed khair, pakar, shisham and aam were identified as *Acacia nilotica*, *Syzygium cumini*, *Zizyphus mauritiana*, *Prosopis cineraria*, *Prosopis juliflora*, *Salvadora oleoides*, *Ficus bengalensis*, *Ficus religiosa*, *Azadirachta indica*, *Psidium guajava*, *Bougainvillea glabra*, *Ficus glomerata*, *Tamarindus indica*, *Pongamia pinnata*, *Acacia senegal*, *Ficus lacor*, *Dalbergia sissoo* and *Mangifera indica*, respectively from every experimental site.

OBSERVATION

Moreover, Fourteen species of grasses collected as a food of Indian Peafowl at two experimental site were identified as dhoob (*Cynodon dactylon*), knot/ginger (*Paspalum distichum*), tumbling

saltbush (*Atriplex rosea*), common orache (*Atriplex patula*), khus khus (*Vetiveria zizanioides*), big cord (*D. bipinnata*), savannah grass (*Savannah grass*), nut grass (*Cyperus rotundus*), Dak (*Desmostachya bipinnata*), Kans (*Saccharum spontaneum*), Kodra (*Paspalum scrobiculatum*), Kodo (*Paspalidium flavidium*), Munj (*Saccharum munja*) and drop seed (*Sporobolus* spp), respectively. The field crops commonly used for feeding by Indian Peafowl are wheat, gram, millet, mustard, pea, cauliflower, cabbage, brinjal, sweet potato, mint, potato, chilli, tomato, pumpkin, melon, water melon, cucumber, carrot, bathua were denoted as *Triticum aestivum*, *Cicer arietinum*, *Pennisetum glaucum*, *Brassica juncea*, *Pisum sativum*, *Brassica oleracea* var botrytis, *Brassica oleracea* var capitata, *Solanum melongena*, *Ipomoea batatas*, *Mentha spicata*, *Solanum tuberosum*, *Capsicum annum*, *Lycopersicon esculentum*, *Cucurbita moschata*, *Cucumis melo*, *Citrullus lanatus*, *Cucumis sativus*, *Daucus Carota*, *Chenopodium album*, respectively.

On the other hand, animal food was also consumed by peafowl which included insects, ants, grasshoppers, termites, grubs, cockroach, spider, snakes, bugs, small rodents, small lizards, scorpions, earthworms. Moreover, some foods also remained unknown and were denoted as unidentified at both experimental sites of district Bharatpur. To estimate the preference of feeding on different food, visit of peafowl was counted and categorized in four groups *i.e.*, feeding, moderate feeding, significant feeding and highest feeding. The data were tabulated by use of frequencies of plus (+).

1. + = feeding
2. ++ = moderate feeding
3. +++ = significant feeding
4. ++++ = highest feeding

DISCUSSION

The observations revealed that Indian Peafowl showed feeding on plant products *i.e.*, trees, crops, grasses, and also on animal foods, which changed with the experimental months and experimental sites (Ghata-Sehu and Keoladeo National Park in district Bharatpur).

GHATA-SEHU

In the present study, eighteen tree species was observed as food of *Pavo cristatus*, among them highest feeding was observed on jamun (*Syzygium cumini*), ber (*Zizyphus mauritiana*) and gular (*Ficus glomerata*). Earlier workers Baker (1930), Dilger and Wallen (1966), Johansgard (1986) and Ali and Ripley (1987) also reported peafowl as herbivorous and supports the present findings. Beside trees they also feed on different grass and showed preference to dhoob (*Cynodon dactylon*) among nine species of grasses. In this connection, some authors believe that peafowl consume grasses only in the absence of other food options such as crops (Stokes and Warrington, 1971 and Johansingh and Murali, 1980).

KEOLADEO NATIONAL PARK

At Keoladeo National Park rich diversity of trees were found but peafowl showed significant and highest feeding on jamun (*Syzygium cumini*), ber (*Zizyphus mauritiana*) and banyan (*Ficus bengalensis*). The observations of Chopra and Kumar (2014) showed complete agreement with above statement and reported jamun, ber and *Ficus* as suitable food for feeding of peafowl in Kurukshetra, Harayana. Furthermore, peafowl was also observed to feed on *Cynodon dactylon*, *Savannah grass*, *Cyperus rotundus* and *Sporobolus* spp, possibly due to absence of crop in this area (Prusty *et al.*, 2010-11; Singh and Laura, 2012; Chopra and Kumar, 2014). Moreover, Brickle *et al.*, (2008), Han *et al.*, (2009) and Liu *et al.*, (2009) also reported feeding preference of savannah grass by green peafowl *Pavo muticus* in China.

RESULT

The food and feeding preference of Indian Peafowl *Pavo cristatus* was recorded at different places *viz.*, Ghata-Sehu and Keoladeo National Park in district Bharatpur. To assess feeding preferences, observations were taken on different plants including trees, grasses, crops and also on animal foods.

Table 1: Feeding of Indian Peafowl *Pavo cristatus* on Different Grasses at Ghata-Sehu, Bharatpur

Sr. No.	Food item/ Common name	Scientific name	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April
1	Dhoob	<i>Cynodon dactylon</i>	-	+	+++	+++	+++	++	+	+	+	+	-	-
2	Dak	<i>Desmostachya bipinnata</i>	-	-	+	+	-	-	-	-	-	-	-	-
3	Kans	<i>Saccharum spontaneum</i>	-	-	+	+	+	-	-	-	-	-	-	-
4	Kodra	<i>Paspalum scrobiculatum</i>	-	-	+	+	-	-	-	-	-	-	-	-
5	Khus Khus	<i>Vetiveria zizanioides</i>	-	+	++	++	+	-	-	-	-	-	-	-
6	Kodo	<i>Paspalidium flavidium</i>	-	-	+	+	-	-	-	-	-	-	-	-
7	Munj	<i>Saccharum munja</i>	-	-	+	+	+	+	+	+	+	-	-	-
8	Drop seed	<i>Sporobolus</i> spp.	-	-	-	+	+	+	-	-	-	-	-	-

Data presented in table is pooled analysis of three successive years (2010-11, 2011-12 & 2012-13)

- = not feed on the respective food, + = feeding, ++ = moderate feeding, +++ = significant feeding, ++++ = highest feeding

Table 2: Feeding of Indian Peafowl *Pavo cristatus* on Different Crops at Ghata-Sehu, Bharatpur

Sr. No.	Food item/ Common name	Scientific name	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April
1	Cauliflower	<i>B. oleracea</i> var botrytis	-	-	-	-	-	+	+	+	+	+	-	-
2	Cabbage	<i>B. oleracea</i> var capitata	-	-	-	-	-	+	+	+	+	+	+	-
3	Brinjal	<i>Solanum melongena</i>	-	-	-	-	-	+	+	+	+	+	-	-
4	Sweet Potato	<i>Ipomoea batatas</i>	-	-	-	-	-	+	+	+	+	+	-	-
5	Mint	<i>Mentha spicata</i>	+	+	+	-	-	-	-	-	-	-	+	+
6	Potato	<i>Solanum tuberosum</i>	-	-	-	-	-	-	-	+	+	+	+	-
7	Chilli	<i>Capiscum Annuum</i>	-	-	-	-	-	-	+	+	+	+	+	-
8	Tomato	<i>Lycopersicon esculentum</i>	-	-	-	-	-	-	+	+	+	+	-	-
9	Pumpkin	<i>Cucurbita moschata.</i>	-	-	+	+	+	-	-	+	+	+	-	-
10	Melon	<i>Cucumis melo</i>	+	+	+	+	-	-	-	-	-	-	-	+
11	Water Melon	<i>Citrullus lanatus</i>	+	+	+	+	-	-	-	-	-	-	-	+
12	Cucumber	<i>Cucumis sativus</i>	+	+	+	+	+	-	-	+	+	-	-	-
13	Carrot	<i>Daucas carota</i>	-	-	-	-	-	-	-	+	+	+	+	+
14	Wheat	<i>Triticum aestivum</i>	-	-	-	-	-	-	-	++	++	+++	+	-
15	Gram	<i>Cicer arietinum</i>	-	-	-	-	-	-	-	++	++	++	+	-
16	Millet	<i>Pennisetum glaucum</i>	++	++	++++	++++	+	-	-	-	-	-	-	-
17	Mustard	<i>Brassica juncea</i>	-	-	-	-	-	+	++++	++++	+++	+	-	-
18	Pea	<i>Pisum sativum</i>	-	-	-	-	-	-	-	++	++	++	+	+
19	Bathua	<i>Chenopodium album</i>	-	-	-	-	-	-	+	+	+	+	+	-

Data presented in table is pooled analysis of three successive years (2010-11, 2011-12 & 2012-13)

- = not feed on the respective food, + = feeding, ++ = moderate feeding, +++ = significant feeding, ++++ = highest feeding

Table 3: Feeding of Indian Peafowl *Pavo cristatus* on Different Tree Plants at Keoladeo National Park, Bharatpur

Sr. No.	Food item/ Common name	Scientific name	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April
1	Babul	<i>Acacia nilotica</i>	-	-	-	+	+	+	+	+	+	-	-	-
2	Kadam	<i>Mitragyna parvifolia</i>	-	-	+	+	+	+	+	+	+	+	-	-
3	Jamun	<i>Syzygium cumini</i>	-	++	++	++	+	+	+	-	-	-	-	-
4	Ber	<i>Zizyphus mauritiana</i>	-	-	-	-	-	-	-	+	++	++	++	-
5	Juliflora	<i>Prosopis juliflora</i>	+	+	+	+	+	-	-	-	-	-	-	-
6	Baryan	<i>Ficus bengalensis</i>	++	++	++	-	-	-	-	-	-	-	+	+
7	Pippal	<i>Ficus religiosa</i>	+	+	+	-	-	-	-	-	+	+	-	-
8	Neem	<i>Azadirachta indica</i>	-	+	+	+	+	-	-	-	+	+	-	-
9	Bougainvillea	<i>Bougainvillea glabra</i>	+	+	+	+	+	-	-	-	-	-	+	+

Data presented in table is pooled analysis of three successive years (2010-11, 2011-12 & 2012-13)

- - not feed on the respective food, + - feeding, ++ - moderate feeding, +++ - significant feeding, ++++ - highest feeding

Table 4: Feeding of Indian Peafowl *Pavo cristatus* on Different Grasses at Keoladeo National Park, Bharatpur

Sr. No.	Food item/ Common name	Scientific name	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April
1	Dhoob	<i>Cynodon dactylon</i>	-	++	+++	+++	+++	+++	+	+	+	+	+	-
2	Knot/Ginger	<i>Paspalum distichum</i>	-	-	+	+	+	+	+	+	+	-	-	-
3	Tumbling saltbush	<i>Atriplex rosea</i>	+	+	+	+	+	-	-	-	-	-	-	-
4	Common Orache	<i>Atriplex patula</i>	-	+	+	+	+	-	-	-	-	-	-	-
5	Khus Khus	<i>Vetiveria zizanioides</i>	-	+	+	+	+	+	+	+	+	-	-	-
6	Big cord	<i>D. bipinnata</i>	-	+	+	+	+	+	+	+	+	-	-	-
7	Savannah grass	<i>Savannah grass</i>	-	+	++	++	++	+	+	+	+	+	+	-
8	Nut grass	<i>Cyperus rotundus</i>	-	+	++	++	++	++	+	+	+	+	-	-
9	Drop seed	<i>Sporobolus spp.</i>	-	+	++	++	++	+	+	+	+	+	-	-

Data presented in table is pooled analysis of three successive years (2010-11, 2011-12 & 2012-13)

- - not feed on the respective food, + - feeding, ++ - moderate feeding, +++ - significant feeding, ++++ - highest feeding

GHATA-SEHU

At Ghata-Sehu, feeding preference of Indian Peafowl revealed that they often visit eighteen tree species viz., babul (*Acacia nilotica*), jamun (*Syzygium cumini*), ber (*Zizyphus mauritiana*), khejra (*Prosopis cineraria*), vilayati khejra (*Prosopis juliflora*), pilu (*Salvadora oleoides*), banyan (*Ficus bengalensis*), pippal (*Ficus religiosa*), neem (*Azadirachta indica*), guava (*Psidium guajava*), bougainvillea (*Bougainvillea glabra*), gular (*Ficus glomerata*), imali (*Tamarindus indica*), karanj (*Pongamia pinnata*), safed khair (*Acacia senegal*), pakar (*Ficus lacor*), shisham (*Dalbergia sissoo*), aam (*Mangifera indica*) for feeding. Among them significant and maximum feeding was observed on jamun (*Syzygium cumini*), ber (*Zizyphus mauritiana*) and gular (*Ficus glomerata*) from the month of June to August, February to March and also May to July, respectively (Table 1, 2).

KEOLADEO NATIONAL PARK

At Keoladeo National Park, only nine trees viz., babul (*Acacia nilotica*), kadam (*Mitragyna parvifolia*), jamun (*Syzygium cumini*), ber (*Zizyphus mauritiana*), juliflora (*Prosopis juliflora*), banyan (*Ficus bengalensis*), pippal (*Ficus religiosa*), neem (*Azadirachta indica*) and bougainvillea (*Bougainvillea glabra*) were found to be used by Indian Peafowl for their feeding. Among them, significant feeding was observed on jamun (*Syzygium cumini*), ber (*Zizyphus mauritiana*) and banyan (*Ficus bengalensis*) in the month of June to August, January to March and May to July, respectively (Table 3, 4).

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