

RESEARCH ARTICLE

POST EMBRYONIC DEVELOPMENT OF RED-VENTED BULBUL (*PYCNONOTUS CAFER*)AS OBSERVED LOCALLY IN ATIGRE, KOLHAPUR, WESTERN MAHARASHTRA, INDIA

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..... Manuscript Info Abstract Manuscript History The post embryonic development and observation of the nest-building Received: 31 January 2023 behavior and breeding performance, parental care of the red-vented Final Accepted: 28 February 2023 bulbul was made locally in Atigre , kolhapur at two different sites, one Published: March 2023 in between human habitation and the other in natural habitat. The male and female bird took active participation in choosing the site and nest Key words:building process. The parental care was very carefully studied in these Red-Vented Bulbul, Post Embryonic birds. Breeding activity was observed from egg laying to first flight in Nesting Behavior. Development, Parental Care, Atigre, Kolhapur, India the study area from 05 October 2020 to19 October 2020. Nest was constructed with in 5 to 6 days on small branch triangular area of Annona squamosa custard apple. The height of nest was 1 meter from ground. Incubation period of Red Vented Bulbul was 9 to 10 days and

growth period required 14 days respectively.

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Introduction:-

Red Vented Bulbul is a bird common found in open forests, Grass land, desert areas and plains. The single most important factor that determines the distribution of the species is different vegetation (Robert, 1991; Lepage, 2007). It belongs to order Passeriformes and Picnonotidae family. It is found in tropical Asia from Pakistan and India, to South West Asia and China. Its habitat includes Open areas in bushes and scrubs, in thickets, near cultivated areas and gardens close to human populations. It is common, least concerned and widespread in its range. It is one of the most common and important seed dispersal agents in anthropogenic open habitats in tropical Asia. There is not much information regarding its breeding behavior in kolhapur. Previous attempts have been taken to gather information on nesting ecology in P. jocosus at Lucknow⁴ and China⁵.

Many factors influences the breeding biology of birds such as availability of food, predation risk, selection of site for the nest, nesting materials and land scape (Newton,1998). Many investigations have been carried out on breeding aspects of Red Vented Bulbul (Ali, 1930; McCann, 1931; Baker,1932; Dutt,1932; Dixit,1963; Dhondt, 1977; Lamba, 1968;Vijayan, 1980;Watling,1983). This study was aimed to collect basic information about its development of post embryonic and behavioral study.

Study area

The study was conducted in Atigre $(16.7364^{0} \text{ N Latitude and } 74.3616^{0}\text{E Longitude})$ at mainly two areas. One was in the middle of human habitation at Atigre (locality near Kolhapur – Rukadi road). Other area chosen was residential house. The study was conducted during the winter seasons of October 2020 and at the same time the next year, i.e., 2021.

Method of study and Results:-

Nest monitoring-

Nests were found at different stages (nest building, egg laying, and nestling period) in the open field, whereas the entire nest-building process was observed twice during the first year (2020) and thrice during the second year(2021) at Atigre. In the first year of our observation, interestingly the whole process of nest building was twice observed indoors and once outdoor. In the field, once the nest was located, nest characteristics (height of plant, nest size, plant species etc) were recorded. It was found that most of the nests were built on thorny bushes, shrubs of height around 1.5-3.0 ft, but in the open field area nests on 8-9 feet high Arjuna trees were also noticed.

Materials and Methods:-

The present investigation was conducted in Atigre, Hatkanangle , Kolhapur , Maharashtra. Nest and nesting site were observed from 01 October 2020 (before egg laying). Nesting behavior in terms of nesting characteristics like nesting plant, nest height from ground were recorded with measuring tape. During observations photographs were taken with the help of Vivo 19 mobile camera. Post embryonic development was recorded daily early morning for about 14 days from day of egg laying to first flight. Breeding behaviors like hatching time period and fledging time period were recorded. Other activities of red vented bulbul were also observed during study period.

Results:-

Results of present study showed that the post embryonic development activity of Red Vented Bulbul was observed from 05 October 2020 to19 October 2020. in Atigre ,kolhapur, Maharashtra, India .In present investigation red vented bulbul preferred leafy Annona squamosa custard applefor the nest construction at height of one meter from ground. Breeding activity and post embryonic development of red vented bulbul was observed for total 22 days daily.

- Tracking Time line- 05 October 2020 to 19 October 2020
- Eggs of Bulbul- 3 October
- Young ones hatched 08 October 2020
- Growth tracking and Duration 08 October 2020 to 19 October 2020 .
- Day of First Flight- 20 October .

1. Breeding season

In present study breeding season starts from 03 October (2020) to end of 19 October (2020).

2. Nesting plant, nest height and site

The observed nest of Red vented bulbul was bowl shaped and constructed of twigs and rootlets. The height of nest was recorded one meter from ground in leafy Annona squamosa custard apple. The nest was constructed both sides indoor and outdoor within 4 days. Both male and female have contributed to construction of the nest during breeding season.

3. Incubation and Growth Period

Total three pale pink eggs marked with large irregular red brown blotches were observed in nest. Eggs were incubated by both male and female. According to present investigation the incubation period of the Red Vented bulbul was 8 to 10 days depend upon environment factors and growth of young ones from hatching to first flight requires 11 days

Plate- I (FIGURE-a to h)

- a) Constructed Nest of Bulbul.
- b) Eggs of Bulbul observed (3 October)
- c) First Day after hatching(8 October)

Discussion:-

The changes in breeding biology are due to changes in abiotic factors like temperature and humidity (Hughes, 2000). For detection of changes in breeding biology long term observations are necessary (Sutherland, 1996; Newton, 1998; Thiollay, 2000). Breeding season of Red Vented Bulbul were reported by many studies reported from February to August (Balakrishnan, 2007), March to May in Harayana (Manju & Sharma, 2013), March to October in Sikar region, India (Rao et al., 2013), May to August at Tehsil Mansehra, Pakistan (Awais et al., 2015). Earlier

reported study only the days of development, the present investigation shows that their morphological characters like wings development, eyes opened after hatching, feeding development, flight wings development observation.

Plate- II (FIGURE- i to o)

d) Second Day after hatching	(09 October)
e) Third Day after hatching	(10 October)
f) Fourth Day after hatching	(11 October)
g) Fifth Day after hatching	(12 October)
h) Sixth Day after hatching	(13 October)
i) Seventh Day after hatching	(14 October)
j) Eighth Day after hatching	(15 October)
k) Ninth Day after hatching	(16 October)
l) Tenth Day after hatching	(17 October)
m) Eleventh day after hatching	(18 October)
n) Twelfth day after hatching	(19 October)
o) Ready for First Flight	(20 October)
	and the second se



Original photograph by :- Dr.Kavane R.P Plate no.1 :- (Fig .a to h) a. female in nest, b.eggs c. 1st day, d. Second day, e. third day, f.fifth day, g.sixth day, h.Seventh day.



Original photography by .Dr.Kavane R.P **Plate II.** (Fig.i to o) ., Fig.i. eigth day, fig.j. Nineth day fig. k. tenth day , fig.l.elevnth day , fig.m. twelth day , fig.n.Adult for fight flight, fig.o. empty nest after development.

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Conflict of Interests:-

The author declare that there is no conflict of interests regarding the publication of this paper.

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