

DOI No.: <http://doi.org/10.53550/EEC.2024.v30i01s.033>

A Case Study on Breeding Behaviour of Malabar Whistling Thrush (*Myophonus Horsfieldii*; Vigors 1831) in Panval Village, Ratnagiri, M.S., India

Archita A. Khanvilkar¹ and M.N. Jamble²

¹Department of Environmental Science, Mumbai University Subcenter, Ratnagiri 415 612, India

²Department of Zoology, Sant Rawool Maharaj Mahavidyalaya, Kudal, Sindhudurg 416 612, India

(Received 25 June, 2023; Accepted 11 August, 2023)

ABSTRACT

Malabar Whistling Thrush (*Myophonus horsfieldii*; Vigors, 1831) is a very common endemic bird of Western Ghats, peninsular India as well as in parts of Central India (Grimmett *et al.*, 2011). It belongs to the family Muscicapidae of order Passeriformes. Its breeding behaviour was observed as a case study in the Panval village near Hatkhamba, Ratnagiri district for consecutive three years 2020, 2021 and 2022. It was observed that the pairing in the bird starts in early June, right from the onset of monsoon. After a successful courtship, the birds were found to build a nest in a big crevice in the side wall of a domestic well in Panval village. It has been recorded that they are using the same nesting site for the last three consecutive years. The breeding season in Panval was found to be restricted between June to September during the study period. The time required for nest construction was observed to be 5-6 days. Clutch size was either three or four. Mean incubation period was 15 days. The mean parenting period was 18 days till the first flight of chicks. Both the parents perform the parenting duties. Surprisingly, two successive breeding cycles were observed during the years 2020 and 2021 by using the same nest. Success rate of live chicks leaving the nest was 100%.

Key words: Malabar Whistling Thrush, Breeding behaviour, Panval, Ratnagiri.

Introduction

In the overall geographical region of Western Ghats, about 350 species of birds have been recorded by various observers (Pandey, 2013). It has been considered as a bird endemic area by Birdlife International. Bird life in Ratnagiri district represents almost 300 different bird species.

Malabar whistling thrush is a very common endemic bird of India. It is a resident bird and is widely distributed in Western Ghats, peninsular India as well as in parts of Central India Obviously, it

is commonly observed in the geographical range of Ratnagiri district. It belongs to the family Muscicapidae of order Passeriformes. It is a resident of dense vegetations including forests as well as cultivated lands, rich in its food resources and mostly prefers the vicinity of perennial fresh water bodies. It usually avoids to exhibit itself in much open lands, but can be observed using open lands in and around human establishments with sufficient food resources and natural safety. Characteristically, it is a bird with blackish blue body overall with some distinct blue colour patches. It has an oval and a 'V'

(¹ Ph.D. Research Student, ² Assistant Professor and Head)

shaped patch of shining metallic blue colour on its forehead which extends over its eyes. Similar bright blue colour patches are seen on its lesser coverts and tips of its black under parts. Similar blue patches are also distinctly observed on its breast, belly as well as its flank region (Clement and Hathway, 2010). The bird usually feeds on land and actively hops during foraging. But it is also observed frequently jumping on the trees in search of arboreal food resources. It usually feeds on insects, small animals like lizards and worms etc. Even it has been observed feeding on small fruits and berries, usually fallen on the ground. They are not observed directly picking up the fruits or berries from the trees. Flight patterns in the bird are not much varied. Usually, they prefer to fly at lower heights, not extending above 15-20 feet. They usually fly fast enough to hide their existence from any disturbance that occurs at time. The bird is popularly called as whistling schoolboy due to its whistling calls of very human quality. Usually, the male bird sings the mystical and melodious tunes which are usually heard in the early mornings making the day of the listeners. The musical tones of the whistles varied, starting from slow and shy notes and getting gradually amplified gracefully in continuous and almost breathless notes. Sexes in the bird are alike. Females of the species represent dull blue colouration on her underparts, which may not be clearly distinguished from male in instances. Usually, the birds are seen in pair during their breeding season. Otherwise, they are observed singly. They actively interact with the other bird species in their home range during foraging as well as breeding acts. Very less competition is directly observed during the feeding. It may be due to difference in the food size and types as compared to the other bird species in its community. During feeding also, the bird has been observed to avoid direct conflicts and contacts with the other bird species in its community. According to population status, the Malabar Whistling Thrush lies in the list of least concerned species. But if the local scenario is concerned, its habitat and feeding resources are being threatened due to anthropogenic activities. Its migratory status at local level under study is unknown.

Materials and Methods

Geographical location of the study area

Ratnagiri district is located in the southwest part of Maharashtra and Arabian Sea is adjoining to the district. Its total geographical area is 8326 Sq. km. It

extends between 16.980N and 73.30E. Over 85% of the land in district is hilly. The habitat types include forests, cultivated lands, open arid lands, agricultural lands, human establishments etc.

The area selected for the present study is the Basin of Panval River flowing through the naturally endowed Hatkhamba village, 13 km away from the actual Ratnagiri city. It flows from east to west and meets the Arabian Sea near Ratnagiri. The overall length of the basin selected for the study was about 3 km. The study area is a thin belt of mixed dense forest lined by a village road. It also bears cultivated lands of mango, cashew, jackfruits and all that. There is a weir built across the river just at the end of the human establishments in Panval village. The weir is well heightened and hence stores a significant volume of water throughout the year.

Methodology

The selected study area was visited at a regularly to observe the breeding behaviour of the selected bird. The observations were done by using binoculars of 10 x 35 capacities. The observations were made at different times every day to make correct records of the said behaviour. The study was done mainly during three breeding seasons of consecutive three years as 2020, 2021 and 2022. Photography of the nests, eggs and chicks was done by using a standard digital camera – Nikon Coolpix P900 with 83X zoom from a quite safe distance to avoid any disturbance to the birds during the process.

Results and Discussion

According to references all over India, the breeding period of this bird occurs between March to December. But it mainly initiates from the onset of monsoon. In the study area, the breeding period was observed starting from June and ending by the end of August in all three successive years of the study.

Courtship behaviour in Malabar Whistling Thrush is quite conspicuous. Male chases the female on land as well as in the air by delivering specific mating calls and delicate fluttering of the wings. The courtship display was observed to be continued for one or two days depending on the situation. After that, the mating occurs.

Actual act of mating in these birds in the study area was not observed as it might be taking place in the thick canopy and usually the act of mating in

birds lasts only for few seconds. Mating time may also be varying throughout the day. It may also occur somewhere during the actual act of nest construction.

There were few surprising observations made in connection to the breeding behaviour of the bird in the selected study area. During all the three years of observations, it was noted that the nesting site remained the same. It was a small crevice in the side wall of a domestic well, which has sufficient water and is always under use of the people who owned it. The same crevice was observed to be used for all consecutive years of the study. The crevice has been observed to be 15-20 feet deep from the ground level and almost 25-30 feet above the water level in the well. The nest construction was observed to be starting along with the onset of monsoon in the June. The nest is a well-designed big bowl constructed by using available material in the premises. The material used for nest construction was mainly slender sticks, grass, cobwebs and similar material in all the three years. Use of mud from all sides as well as at the base was also distinct, so as to fix the nest and avoid any dismantling of the nesting material. As the nest site was not directly reachable, it was obviously not possible to measure the nest dimensions correctly. But still, if the size of the incubating parent birds, overall area available in the crevice and photographic evaluation is concerned, the nest width on its inner margin was approximately ranging between 10-12cm in all the study years. The nest width on its outer periphery was slightly varying; may be between 15-18cm. Depth of the nest was possibly not extending 5-6cm. The overall average period required for the complete construction of the nest was between 6-8 days after its initiation.

As soon as the nest building and mating is completed, the female lays the eggs. The egg laying process is also typical. In the year 2020, the first egg was laid by the female in the early morning on 12th June. On the same day, she laid second egg after a period of 3-4 hours. The third egg was laid in the early morning of 13th June. The eggs were bright white when laid and they were of the size of a duck's eggs. The eggs were continuously incubated by either of the parents for first 5-6 days after laying. It was observed that the non-incubating bird lingers in the nearby premises and keeps a keen watch on the area. Any threat is immediately informed to the incubating bird by specific medium loud alarm calls. The time of every incubation installment period by

a parent bird was minimum 5 minutes and maximum 25 minutes during these days. After that, the incubating bird leaves for feeding and the other birds takes on the job. But for most of the time, female performs the duty of incubation. Roosting of female bird was also observed in the nest itself throughout the night till they hatch. The male bird was found to be roosting on any nearby tree during all these days. On 16th June, 2020, the eggs turned dull yellow and on 24th June, 2020, they turned brown in colour indicating proper growth of the embryos inside. Of them, two eggs hatched in the morning of 29th June, 2020 and the third egg hatched in the evening on the same day. Initially, the chicks were perfectly black in colour. Chicks of this bird are of altricial type. Obviously, they need a long period feeding and care taking by their parents.

As soon as the chicks were born, the parents were observed to start their feeding. The chicks were found to be voracious. The frequency of feeding by both the parents was quite high. They were observed to bring the food for chicks at regular intervals of 3-4 minutes; even less than that for some times. Both the parents were found to feed the chicks. Besides feeding, cleaning of the nest by removing the egg shells after hatching and removal of droppings of the chicks was also observed to be done from time to time by the parents to avoid invasion of any insect pest like ants and any viral or bacterial infection to the chicks. All the chicks grew rapidly and were turned to their adult colouration till 15th July, 2020. After 23 days of hatching, on 21st July, 2020, all the chicks came out of the nest and took their first successful flight. One of the chicks was attempted to be caught by a stray dog, but it was successfully rescued by the parents. So, in that incidence, survival rate of the new generation was 100%.

After successful completion of this breeding cycle, the pair of parents undergone second cycle of breeding in succession, using the same nest. Three eggs were laid again by the female on 3rd and 4th August, 2020. Due to lowering of atmospheric temperature due to heavy rains, it was observed that the mean time of every incubation installment period was slightly raised by 5-10 minutes. Again, continuous incubation was observed by shifting of incubation duties among both the parents. Similar behaviour was observed throughout. But here in this case, only two eggs hatched on 24th August, 2020 and the third egg never hatched. Later on, it

was abandoned by the parents. Parental care of both the chicks was observed just like the previous cycle. Both the chicks took their first flight on 9th September, 2020. The period of complete growth of the chicks and their first flight was observed to be 16 days in this case which is quite less as was noted to be 23 days during the previous cycle.

In the next year 2021, the courtship and nesting were observed to occur in between the first and second week of June. Just like the previous year, the actual egg laying took place on 14th of June. The female laid three eggs in two consecutive days. The overall period of incubation required till hatching of the eggs was 16 days. All the eggs were found hatched on 29th June, 2021. The parents reared the chicks in the same way as seen in last year. The overall period for the complete growth of the chicks recorded this time was 21 days. All the chicks took their first flight in the early morning of 19th July, 2021. Survival rate till coming out of the nest was 100%.

Surprisingly in this year also, the parent birds immediately underwent the second successive

breeding cycle from 21st July, 2021. Again, the same nest was used. Three eggs were laid on the day and on 24th July 2021, fourth egg was laid by the female. The total incubation period in that year was observed to be similar as observed to be again 16 days. All the eggs hatched on 8th August and the chicks took their first flight on 26th August. The total period for growth and parental care was noted to be 19 days. Unfortunately, due to heavy rains in the period, survival rate was not recorded properly. But if the situations at that time are concerned, there were least chances of predation of the chicks by any predator like cats, dogs or crows.

In the year 2022, the courtship and nesting were observed in the second week of June. The nest construction on the same place was completed by 26th June and female laid three eggs and on 28th June, she laid the fourth one. The overall incubation act was just like the previous years and the eggs hatched on 13th July, 2022. After proper parenting in the same way for 17 days, two chicks took their first flight on 30th July while remaining two left the nest on 31st July, 2022. Here also, noting of the sur-



Nest With Four Eggs



Female Incubating the Eggs



Hatchlings



Ready for the first Flight

vival rate was not possible due to weather conditions. Besides, it was not possible to note it as all the chicks didn't leave the nest on the same day. In this year, the second successive breeding cycle was not observed.

Thus, coming to conclusion, the overall breeding period in Malabar Whistling Thrush was found to be extending up to 4 to 5 weeks including nest construction period. The incubation period ranges between 15 to 17 days and the period of parenting ranges between 16 to 23 days. Survival rate is almost 100% till the first flight of the chicks is concerned. No predation was observed on eggs, parent birds or even chicks till they go at a farther distance from the nest.

Interestingly, two successive breeding cycles by the same pair of birds were recorded in the year 2020 and 2021 using the same nest.

Acknowledgements

Authors are grateful to Department of Environmental Sciences, Ratnagiri Subcenter of University of Mumbai.

Conflict of interest: Nil

References

- Ali Salim, 2002. *The Book of Indian Birds*, BNHS, 13th Reprint
- Jamble, M.N. 2010. *Survey of the Avifauna of the Sindhudurga District in Maharashtra in relation to the Biology of Some important Bird Species*. Ph. D. Thesis, University of Mumbai.
- Pande Satish, Pramod Deshpande and Niranjana Sant, 2013. *Birds of Maharashtra*, Ela Foundation publication, Pune.
- Wikipedia – Malabar Whistling Thrush