

Study of nesting behaviour in common myna (*Acridotheres tristis*)

Anshu, Assistant Professor
Department of Zoology
Government Women P.G. College
Kandhla, Shamli (U.P.) India

Abstract

The common myna are distribute in many part of the world, also known as an Asian starling or Indian myna (family Sturnidae and order Passeriformes). They built their nest in wooden nest boxes, natural holes or cavity of walls, trees, rocks, wells, old building, under pass of highway and under shade of railway station etc. This study was started in March 2020 in Distt. Shamli, U.P. In this study it was observed that nesting materials were twigs of neem, gulmohar, soft and dry grass and leaves of local region, piece of cloths, plastic or transparent polythene strips, metal wire, bird feathers etc. In this study area the total number of eggs laid were twenty one (21) in breeding month from March to June 2020 for a period of four months. Eggs were glossy, pale blue and oval in shape. Selection of nesting sites were depend on completely safe area from predators and presence of adequate amount of food and water, protected from storms and naturally conducive for the development of chicks of common myna. The nesting behaviour of birds have evolved over time in accordance with the climate condition, size of birds, habitat, clutch size, predators, physiological conditions, chick development patterns and longevity conditions of a species.

Key words: Nesting behaviour, nesting material, egg laying, common mynan, natural sites.

Introduction

Nesting behaviour is a important activities of birds because nest provide shelter and protection from predators but also play an important role in brooding. Common myna is a social bird and shows communal roosting. Communal roosting means it roosts together with other species of Myna as well as with other avian species, also known as heterogeneous roosting (Mahabal, A. 1997). Common myna (*Acridotheres tristis*) are passerine birds distributed throughout India (Ali and Ripley, 1983). They belong to the family Sturnidae of order Passeriformes (Chris et.al., 1999). Nest were occupied by common myna along with other species such as rose - ringed parakeet, oriental magpie robin, spotted owlet and house sparrow etc. Panicker (1980) observed that when barbets completed their breeding, the nest was taken over by Brahminy myna at the height of 5 to 7.5 meters. The higher rate of nesting behaviour in the artificial nest box among the common birds in Mizoram is reported in the non forest / disturbed area i.e. 42.40 % other than in the forest / undisturbed area, provides more nesting materials as well as spaces for nest construction, which might not be available for birds in the non forested / disturbed area (Lalremsanga et. al., 2020). It is one of the common birds found all over tropical the Asian countries (Ali et al., 1983). Common myna is a medium sized bird (body length from 23 to 26 cm, weight from 80 to 145 g and wingspan from 120 to 142 mm) with characteristic yellow patch around the eye (King et. al., 1975) plumpy body, brown plumage, brown iris and having yellow bill and leg. The male and female common myna

are monomorphic but males are slightly larger and heavier than female. Body length of male common myna is 239.1 ± 08.8 mm where as body length of female is 227.7 ± 05.3 mm which is slightly smaller than male and tail length of male is 90.7 ± 00.7 mm where as in female is 80.6 ± 01.5 mm. Now it is clear that these two characters are found slightly larger than female Indian myna (Dhandhukia and Patel, 2016). It is reported that they breed naturally in cavities and holes in trees, rocks scraps, building walls, in old nest of other bird species and also in man made nest boxes (Kaur and Khera, 2014; Dhandhukia and Patel, 2012). Previous studies have also indicated that the breeding of Indian myna was observed between March to September (Pell and Tidemann, 1977). Both male and female common myna take participated in nest formation, incubation of eggs and other parental duties. Common myna are ground feeder, omnivorous, feeds on insects, arachnids, crustaceans, small reptiles and mammals and it forages on the ground among grass insects especially the grasshoppers (Genus *Acridotheres*) so known as grasshopper hunter (Rasmussen and Anderton, 2005), also feeds on fruits, grains, domestic edible waste, some orchard fruits, papaya, vegetables, seedlings of wheat and standing cereal crops (Bruggers, 1983). They are picking prey from the surface of small pasture and grain but will also opportunistically feed on flowering nectar, fruiting tendrils, coplids and bushes (Feare and Craig, 1999). Bakhtawar et al., 2016 reported that the frequency of insect, rice, earthworm, dates, papaya and grasshopper were highest in the summer and lowest in winter whereas the frequency of wheat was highest in the winter and lowest in the summer. Some studies also reported that birds breed in nest boxes in comparison to natural sites (East and Perrins, 1988, Robertson and Rendall 1990). Selection of nesting site is considered to be one of the most important factors in reproductive success in many species of birds (Li and martin, 1991) and it has been recorded that in some species, reproductive success has been reduced due to poor nest site selection (Frederick, 1986).

Materials and methods

The study was carried out from March to June 2020 in the 01 km. radius of Govt. Women P.G. College, Kandhla, Shamli (U.P.) Indian. Which latitude is 29.3841°N and longitude is 77.2017°E and 241 meters above the sea level. Indian myna search site for nest building were started in the beginning of the breeding season. The courtship behaviour was observed visually by binoculars (GOR Standard 10×50). Data was collected from the nest by the help of 11 feet wood leader. The observations were recorded in the early morning and evening hours. All material of nests were monitored every day before the egg laying period. Each female laid one egg in a day. During this study, the nesting sites, nesting material, eggs, chicks and adult birds were not harmed in any way.

Result and Discussion

Common mynas are monogamous and show territorial behaviour for protection of nesting sites during the breeding season. Generally myna started construction of their nest in the second week of March. At the time of site selection, courtship behaviour was seen in mid march of 2022. In male and female of common myna mated many times in early morning. It is continued until the day before the last egg was laid. Also reported in head bowing and bobbing by Kannan and James 2001. Common myna commonly breeds between March to September of every year and lay three clutches of eggs in one season (Pell and Tidemann, 1997). Common myna prefer red trees of Gulmohar followed by silver oak for making cavity nests and egg laying in comperision to other trees (Kaur and Khera, 2014). In this study we observed that twigs and leaves of Neem (*Azadirachta indica*) was used in nesting material, neem work as insecticidal and antipathogenic agents, also has been reported by

Sengupta, 1982; Clark and Mason, 1985; Dhandhukia and Patel, 2012. Green leaves in nest play an important role to provide soft bed for the nestlings and also maintain humidity in the nest (Sengupta, 1982). Common myna preferred those areas which are surrounded with trees and buildings to make nests. Generally Common myna laid 4 to 5 eggs ($L \times W = 3.20 \times 2.17$ cm and average weight was 5.74 g) in one clutch and they were glossy, pale blue and oval in shape (Perkins, 2000). Egg volume was recorded with the help of mathematical equation (Borad, 1999). In this study period the total number of eggs laid were twenty one (21) in breeding month from April to June 2020. In this study it was observed that they usually made their nests at height range of 9 to 10 feet, also same result were found by (Kaur and Khera, 2014) and also noticed that due to safety of chicks, food availability or unfavourable condition, they evicting the chicks by holding them in the beak to shift in favourable area or another nest. This behaviour is considered to contribute to its success as an invasive species (Pande et al., 2003). The nesting behaviour of birds have evolved over time in accordance with the climate condition, size of birds habitat, clutch size, predators, physiology and chick development patterns, longevity conditions. Any physical measurement of nests (size or nesting materials used) should be done after the nestlings have fledged from the nest (Brave et al., 2020). In this study we noticed that material used in nest construction were shown as twigs, dry grass, leaves and roots, feathers of birds, piece of cloths, rubber ring, stem of local plant species, also found plastic bags, transparent polythene strips, snake slough, metal wire (Lamba 1963) and 3-4 pale blue eggs are laid (Watling 2001). Maximum nest material act as insulator that is help in decreasing heat exchange result play an important role in eggs incubation (Panicker 1980). Distance between breeding and feeding sites (abiotic and biotic components) also played an important role in the selection of breeding sites, along with safety from predators and inter-specific competition (Dhandhukia and Patel, 2012).

References

1. Baeve, S., Raman, T. R. S., Datta, A. And Jathar, G. (2020). Guidelines for conducting research on the nesting biology of Indian Birds. Indian Birds. Vol. 16: 10-11.
2. Lalremsanga, H. T., Gurusubramanian, G. And Zohlupuii, J. (2020). A case study on the nest occupations of Birds in the artificial nest boxes in Mizoram. Thesis, September 2020. DOI: 10.13140/RG.2.2.17411.73769; <http://www.researchgate.net/publication/344237792>.
3. Chudasama, P. and Dodia, P. (2017). Comparative study on clutch size and morphometry of eggs in common myna (*Acridotheres tristis*) and bank myna (*Acridotheres ginginianus*) in Bhavnagar city, Gujarat, India. Vol. 6(1) 28-33.
4. Bakhtawar, S., Ghulam, S. G., Yusuf S. and Naeem, N. (2016). Seasonal food and feeding diversification in common myna, (*Acridotheres tristis*), Linnaeus, 1776 in Larkana district, Sindh, Pakistan. International Journal of Founa and Biological Studies. 3 (5): 41-43.
5. Dhandhukia S. N. and Patel K. B. (2016). Morphometric study of three species of myna at Junagadh, Gujarat, India, Indian Journal of Research, Volume: 05, Issue:04, 401-403.
6. Kaur S. and Khera K. S. (2014). Nesting and egg laying of common myna in agricultural landscape. Indian Journal of Applied Research, Volume: 04, Issue 02, 31-33.

7. Dhandhukia S. N. and Patel K. B. (2012). Selection of nesting sites and nesting material in common myna (*Acridotheres tristis*), in an urban area. International Journal of pharmacy & life science. Volume: 03, Issue 8, 1897-1904.
8. Rasmussen, P. C. and Anderton, J. C. (2005). Birds of South Asia, The Ripley Guide. Smithsonian Institution and Lynx Edicions. 2: 584.
9. Kannan, R. And James, D. (2001). The birds of North America Online: Common Myna.
10. Watling, D. (2001). A guide to the birds of Fiji and Western Polynesia: including American Samoa, Niue, Samoa, Tokelau, Tonga, Tuvalu and Wallis and Futuna. Environmental Consultants Fiji Limited.
11. Borad C. K. (1999). The avian egg, national tree growers cooperative federation ltd. Anand (Training programme on field ornithology).
12. Chris F, Craig A and Shields C (1999). Starlings and Mynas, (Princeton University Press, New Jersey, USA) New Addition. ISBN 13: 978-0691.
13. Feare, C. and Craig, A. (1999). Starlings and mynas. Illustrated by Barry Croucher, Chris Shields and Kamol Komolphalin. Princeton University Press Princeton New Jersey.
14. Mahabal, A. (1997). Communal roosting in common myna *Acridotheres tristis* and its functional significance. J. Bombay Nat. Hist. Soc. 94 (2): 342-349.
15. Pell, A. S. and Tidmann, C.R. (1997). The ecology of the common myna in urban nature reserves in the Australian Capital Territory. Emu 97: 141-149.
16. Li, P. and Martin, T. E. (1991). Nest site selection and nesting success of cavity nesting birds in high elevation forest drainage. Auk 108: 405-418.
17. East, M. I. and Perrins, C.M. (1988). The effect of nest boxes on breeding populations of birds in broad leaved temperate woodlands. Ibis 130: 393-401.
18. Frederick, P. C. (1986). Conspecific nest takeovers and egg destruction by White Ibises. Wilson Bull 98: 156-157.
19. Clark, L. and Mason, J. R. (1985). Use of nesting material as insecticidal and antipathogenic agents by the European Starling. Oecologia 67: 169-176.
20. Ali. S and Ripley D. (1983). Handbook of the Birds of India and Pakistan, (Oxford University Press, Bombay, India).
21. Bruggers, R. L. (1983). Vertebrate damage control research in agriculture. Annual Report. DWRC/USAID. 101 p.
22. Sengupta, S. (1982). Studies in the life history of the common myna (*Acridotheres tristis*). Proc. Zool, Soc. Calcutta. 21: 1-27.
23. Panicker, K. N. (1980). Ecology of hole nesting bird. J. Bombay Nat. Hist. Soc 75: 1227-1237.
24. King B, Woodcock M and Dickinson EC (1975). A Field Guide to the Birds of South East Asia, (Collins, London, United Kingdom) 480.
25. Limba, B. S. (1963). The nidification of some common Indian myna (*Acridotheres tristis*) Linn. Res Bull Punjab Univ 14: 11-20.
26. Robertson, R. J. and Rendell, W.B. 1990. A comparison of the breeding ecology of a secondary cavity nesting bird, the tree swallow in nest boxes and natural cavity. Can. J. Zool. 68: 1046-1052.