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## Study of selection of site for nest construction by Brahminy Starling

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### Abstract

Brahminy myna also known as Brahminy Starling. The body colour is pale reddish – fawn plumage. The beak is yellow with a bluish base. In both the sexes black crest is present on head. In male the crest are more prominent than female crest. This species built nest in cavity or holes in tree or boughs, in wall or roof of house, rocks, old building, railway station and wells. The brahminy starling is a single breeding bird in a breeding season. In this study it was observed that construction of nests were completed from March to the end of the April of 2016 and average height for nesting was 12.5 feet. Generally eggs were observed from April to May of 2016. In this study it was observed that nesting materials were twigs of neem, gulmohar, dry grass and leaves of local region, piece of cloths, plastic or transparent polythene strips, metal wire, bird feathers etc found in their nest. Selection of nesting site were depend on many factors such as completely safe from predators, adequate amount of food and water, protected from storms and naturally conducive for the development of chicks or reproductive success of brahminy myna.

**Key words:** Nesting material, Brahminy myna, Selection of sites, *Sturnus pagodarum*

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### Introduction

The genus *Sturnus* belongs to the family Sturnidae (a family of starling and mynas) of order Passeriformes (class - Aves). It is widely distributed in India from southern Kashmir to Kanyakumari up to 88°E longitudes in the east and Rajasthan, northern Gujrat, Kutch in the west (Bolger et. al., 2005). In Indian subcontinent, this genus is represented by as many as 9 species and 19 subspecies (Ali and Ripley, 1983, 1987). It was also recorded in Pakistan, Cylon, Nepal and Thailand (Kazmierczak, 2008) and mainly resident. Their habitat are open areas, farmland, dry deciduous forest etc. It is locally common but capricious and subject to seasonal movements in monsoons visiting northern cold-winter parts (as high as 1400-1600 m) in summers. Birds are the most important ecological indicator of the environment (Bibby et. al., 1992).

The brahminy myna measures about 19 - 22 cm in length. The body has beautiful garb, which is combination of reddish, brown and black colours with a distinguished black crest. The bill and the legs are bright yellow and there are yellow wattles (loose folds of skin) on the gape. Both sexes are similarly garbed, but crest is slightly smaller in females. Juveniles have dull coloration and no distinct crest, but with black patch of feathers on head. Brahminy

mynas are generally found in grasslands, fields and gardens i.e. in wild as well as near to human habitation. Brahminy mynas are ground feeder, omnivorous, feed chiefly on fruits, berries, vegetables, nectar and insects (Bruggers, 1983; Feare and Craig, 1999; Rasmussen and Anderton, 2005), but in captivity are easily maintainable on soft and proteinaceous diets and thus suitable for laboratory investigations. They are sociable species and move in company of 4 to 7 members and have communal roosts. 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). Usually, brahminy myna is noticed in company of other species of myna, although they do not belong to the same genus like Parakeets.

The breeding season extends from March to September, but the main reproductive period varies with the locality (earlier in south and later in north India) (Ali and Ripley, 1987). Common myna commonly breeds between March to September of every year and lay three clutches of eggs in one season (Pell and Tidemann, 1997). Both sexes share the responsibilities of nest building, incubation and caring of youngs (Ali and Ripley, 1987). Nest is made from a collection of grass, dead leaves, feathers and rubbish stuffed in a hole or tree-trunk or artificial cavities, railway station and wells (Dhandhukia et. al, 2012), sometime has colonial nesting and nesting in steel anchor pipe also been reported by Sharma 1996. The normal clutch is 3 to 6 eggs are laid which are pale bluish green in colour. The eggs hatch in about 11 to 15 days. 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). Nest were occupied by common myna along with other species such as rose - ringed parakeet, oriental magpie robin, spotted owl 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.

## **Materials and methods**

The study was carried out from March to May 2016 in and near the Govt. Degree College, Nanouta, Saharanpur, U.P., India under natural condition. Which latitude is 29.7141°N and longitude is 77.4157°E and 255 meters above the sea level. Data were collected from the nest by the help of wood leader and binoculars (GOR Standard 10×50). Nest searching was done on alternate days during the study period of four months. The observation on nest building were started in the beginning of the breeding season. The nests were studied for their structure and nest building material.

## **Result and Discussion**

This species also have a single annual breeding season of about six month from March to August (Ali and Ripley 1972). In early breeding season, both male and female brahminy myna bird were responsible for the selection of nesting site. Both birds take 15 to 25 days in the selection of nesting site (Lamba, 1963g). 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). 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). Any physical measurement of nests (size or nesting materials used) should be done after the nestlings have fledged from the nest (Mayer Gross et al., 1997). Artificial wooden nest boxes, a hole in a tree trunk or in a wall is the usual nesting site for the brahminy myna. Male brahminy myna bird appears to select a possible nesting site but the final selection is done by the female brahminy myna bird. Both male and female bird completes its nest with in 12-25 days (Lamba, 1963f).

It was observed that the nesting materials are stem of small plants, stem of creepers, thin and paliable twigs, small piece of cloth and papers or rag, feather of local birds, leaves of neem, pepal, other local plants and threads etc. All materials are used in the construction of the base and outer lining of the nest. The egg cavity is slight depression in the platform like nest is constructed by softer material like very thin grasses, stem and green leaves. The completed nest is a rough circular pad shaped structure with a central depression. The size of the nest depends upon the size of the hole in which it is located. Measurement of diameter of pad is 10 to 14 cm and the thickness of the pad measured from 10 to 12 cm. Depression of egg chamber measured about 4 to 6 cm in diameter and 2 to 3 cm in depth. Green leaves in nest play an important role to provide soft bed for the nestlings and also maintain humidity in the nest (Sengupta, 1982). Maximum nest material act as insulator that is help in decreasing heat exchange result play an important role in eggs incubation (Panicker 1980). When the nest construction activity completed then egg laying process start. Generally in one clutch brahminy myna laid four to five eggs at regular intervals of 24 hours.

Brahminy 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 2016. 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. Brahminy myna preferred those areas which are surrounded with trees and buildings to make nests. 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). Distance between breeding and feeding sites (abiotic and biotic components) also played an important role in the slection of breeding sites, along with safety from predators and inter-specific competition (Dhandhukia and Patel, 2012). Male and female Brahminy myna breed during the period when suitable food for their young ones is in abundance.

### **Conclusion**

In this study it was concluded that generally Brahminy myna selected those areas for nest construction which is completely safe from predators, adequate amount of food and water, protected from storms and naturally conducive for the development of eggs and chicks of Brahminy myna. Nest is constructed by small twigs, pieces of small stem, stem of creepers, stem of grass, feather, pieces of small cloths, plastic and papers, skin of snake, cigarettes wrappers etc. Nest cavity of egg chamber is lined with comparatively softer material like fine stem, fresh grass, green leaves of local plants and cotten etc. Brahminy myna completes their nest with in 15 to 25 days.

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