



## Nesting and Egg Laying of Common Myna in Agricultural Landscape

### KEYWORDS

Common Myna, nesting, eggs, landscape

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### ABSTRACT

The nesting and egg laying of Common myna (*Acridotheres tristis*) was studied out in the fields of Punjab Agricultural University, Ludhiana from March 2013 to June 2013. The breeding of myna was observed between March to August. In the breeding season, 35 nests of Common myna was observed out of which 30 were cavity nests and 5 were natural nests. The clutch size varied from 4 to 5, but clutches of 4 eggs were more frequent. First egg was laid during first week of May and last nest was observed last week of July. The egg laying activity peaked around end of May to end of June. The nests were built in roofs of houses, holes of walls, holes of trees. Nesting materials were categorized into twigs, leaves, feathers, paper, plastics, dry stems. From present study, we conclude that common myna preferred those areas which are surrounded with trees and buildings to make nests. The most preferred tree was gulmohar followed by silver oak for making cavity nests and egg laying.

### INTRODUCTION

Birds constitute an important component of agro ecosystems (Ali 1949 and 1971). Common myna is a dark vinaceous brown bird with paler under parts, and a white abdomen and under-tail coverts. Common mynas are 23–26 cm long; weigh 82–143 g and have a wing-span of 120–142 mm. Males are slightly larger and heavier than females. The head, nape and throat are almost black with a slight gloss. The wings and tail are darker than the body with a white wing patch and white terminal bar on the tail. The bill and feet are yellow and there is a conspicuous patch of bare yellow skin below and behind the eyes. The eyes have a brown iris. The white wing patch and tail bar are very conspicuous in flight. They are primarily a ground feeding insectivore which has expanded its diet to include any fruit, grains and/or domestic waste. Common mynas nest under the caves of houses, in thatched roofs and occasionally in holes of trees. They accumulate a considerable quantity of assorted nesting materials, but are particularly fond of plastic bags and polythene strips. Three to four pale blue eggs are laid (Watling 2001).

Both parent mynas help incubate their eggs, with the female incubating the eggs overnight. Nestlings are fed for the first ten days exclusively on invertebrates, primarily insects. Males and females both feed the young, and may continue to feed and protect the young up to three weeks after fledging (Markula et al 2009). Courtship was observed during the breeding season. Nests were occupied by Common myna along with other species such as Rose-ringed Parakeet, Oriental Magpie Robin, and Spotted Owlet. Rose-ringed Parakeet breeds earlier than mynas thus their abundant nests was reused by Common myna, whereas Spotted Owlet does not allow mynas to nest in their occupied nests. Common myna was observed to occupy nests of House Sparrow.

### MATERIALS AND METHODS

The study was carried out from March to August in the Campus of Punjab Agricultural University, Ludhiana. The university is situated in the outskirts of Ludhiana city towards west and lies at latitude of 30°56' N and 247 m above the means sea level. The campus has a large stretch of agricultural fields spread in an area of more than 550 hectares (PAU Handbook 2012). The field area is distributed under different categories of crops such as wheat, maize, rice, vegetables, fodder and orchards. In addition, there is a rich diversity of trees in the University area. The observations on nest building were started in the beginning of the breeding season. The court-

ship behavior was observed visually and also through field binoculars (Nikon Action 10 X 50). All accessible nests were marked and recorded for regular observations on clutch size, incubation period and hatching success. The nests were monitored on alternate days. Observations were taken in each area in morning/evening twice a month during non-breeding season, while daily morning/evening during their breeding season. The areas adjoining the crop fields were surveyed for nests / nesting sites of these birds and the nesting and egg laying of common myna was observed. The birds laid and incubated their eggs in nests and raised young ones. The nests were studied for their structure, nest building material and eggs. The status of nest, i.e. whether active or not, was determined by examining its contents at regular intervals. Numbers of nests, type and quality of nests, nesting material and nesting sites was recorded.

### RESULTS AND DISCUSSION

The breeding of myna was observed between March to August in the present study. Previous studies have also indicated that myna commonly breeds between March to September and can lay up to three clutches of eggs in one season (Pell and Tidemann 1997). Natural nests was also found in tree hollows, which are used by native birds. In addition open nests were also observed in branches of trees at the height of 7-12 feet. Courtship was seen in early March. This phenomenon was frequently observed in pre-laying period when nest site selection was well underway. They mated several times during the day, mainly in early morning. This courtship behavior and mating continued until the day before the last egg was laid. The courtship display of the male was characterized by head bowing and bobbing, with fluffed plumage, accompanied by calls during the breeding season as also reported in another study (Kannan and James 2001).

It was observed that Common myna preferred cavity nests on the roofs of houses, holes of walls, holes of trees as compared to natural nests. Common myna was also observed to occupy cavity nests of parrot, owl etc. However, a few natural nests were also preferred on different sites such as trees, wall, etc (Dhandhukia and Patel 2012). Nests were occupied by common myna along with other species such as Rose-ringed Parakeet, Oriental Magpie Robin, and Spotted Owlet. Since Rose-ringed Parakeet breeds earlier than mynas their nests in some areas were reused by Common myna, whereas Spotted Owlet does not allow mynas to nest in their occupied nests (Dhandhukia and Patel 2012). Both male and female

participated in nest formation, incubation and other parental duties. Females were seen sitting in nests 5-6 days prior to egg laying. However, nests have been also reported in walls where air-conditioners, water drain pipes, open-ended steel rafters, narrow ledges, traffic lights, palm trees etc. are also present (Cousilman 1974). Mynas also build nests in roofs of houses and even old wells, in the earthen riverine banks that in some parts, the natives hang out for their use though very rarely (Pell and Tidemann 1997). Nesting materials used by mynas included twigs, roots, polythene, plastic etc. In another study, nesting materials were categorized and identified into different groups such as twigs, grass, feathers of birds, plastic, cloth, rubber rings, metal wire and snake slough, which was found in nest cavity (Lamba 1963). Colored and transparent pieces of plastic were observed in each nest. The polythene pieces are chiefly used to line the egg chamber. The reason behind this may be protection of eggs from edged twigs as plastic provide smooth surface which remain in contact with eggs. In addition to that plastic acts as insulator decreasing heat exchange, which is helpful in incubation (Panicker 1980). Mynas started constructing their nest in the first week of March as also observed by (Dhandhukia and Patel 2012). It was observed that Common myna made nests in the cavity of a building, tree-hollow or as a bulky, open nest in dense foliage of a tree. According to Cousilman 1974, they build bulky nests in tree cavities, pockets in buildings, and in heavy vegetation.

Common myna preferred that areas which were surrounded by trees and buildings rather than grassy land, shrubs farms and crop fields for nest building. They prefer red trees of gulmohar and silver oak for nesting as compared to saptaparni, safed champa, neem etc. Cavity nests were more preferred than natural nests. The depth of the cavity ranged between 6 inches to 1 foot. They usually made their nests at the height of 7.5 feet within a range of 7-9 feet (Table 1). Earlier studies of (Cousilman 1971) have also shown that Common mynas are hole-nesters and, in natural areas, nest at a range of heights varying from 1.8 to 25 m, average height about 7 m. It was observed that natural nests were preferred on different sites such as trees, wall, etc. Nests were occupied by Common Myna along with other species such as Rose-ringed Parakeet, Oriental Magpie Robin, and Spotted Owlet (Dhandhukia and Patel 2012). The Common myna uses the nests of woodpeckers, parakeets, etc. and easily takes to nest boxes; it has been recorded evicting the chicks of previously nesting pairs by holding them in the beak and later sometimes not even using the emptied nest boxes. This aggressive behaviour is considered to contribute to its success as an invasive species (Pande et al 2003). Mynas laid 4-5 eggs in one clutch and they were glossy, pale-blue and oval in shape. They can breed twice a year and will build and defend several nests at a time. Generally the number of eggs observed vary from region to region and the commonly observed clutches have been of 4-6 eggs (3.1 x 2.2 cm) that are glossy and pale-blue in color (Perkins 2000). First egg was laid during first week of May and last nest was observed last week of July. The egg laying activity peaked around end of May to first week of July. The total number of eggs laid was 129 in breeding season, of these 83 young ones recorded out of 129 eggs laid. Hatching success was 64.34 % in a breeding season (Table 2). Similar trends have been observed in which first clutches were heavier and larger eggs were more successful for hatching.

Larger the number of eggs hatched, longer was the hatching period. For 3-4 egg clutches, hatching continued for 2-3 days. The newly hatched chicks were pinkish with closed eyes. Eyes opened within 6 to 7 days. Nestling period considered, here as the interval between the hatching of egg to the day chicks leave the nest (Bollinger et al 1990). First hatching was observed in first week of May and last hatching was observed in third week of July. It was concluded that common myna preferred those areas which are surrounded with trees and buildings to make nests. The most preferred

tree was gulmohar followed by silver oak for making cavity nests and egg laying.

**Table 1: Nesting and tree species of Common myna**

S. No.	Surrounding area	Tree species	Type of nest	Height (feet)
1	Building and trees	<i>Delonix regia</i> (Gulmohar), <i>Grevillea robusta</i> (Silver Oak), <i>Alstonia scholaris</i> (Saptaparni), <i>Azadirachta indica</i> (Neem)	Cavity	8
2	Trees	<i>Delonix regia</i> (Gulmohar) <i>Grevillea robusta</i> (Silver Oak) <i>Azadirachta indica</i> (Neem)	Cavity	7
3	Dairy farm and trees	<i>Ficus religiosa</i> (Peepal)	Natural	8
4.	Shrubs and grassy land	<i>Delonix regia</i> (Gulmohar)	Cavity	6
5.	Crop field	<i>Delonix regia</i> (Gulmohar)	Cavity	9

**Table 2: Time of Egg laying, Tree species, Clutch size and Hatching success of Common myna**

S. No.	Egg laying	Tree species	Clutch size	Eggs Hatched
1	1 <sup>st</sup> week of May	<i>Delonix regia</i> (Gulmohar), <i>Grevillea robusta</i> (Silver Oak), <i>Delonix regia</i> (Gulmohar)	12	6
2	2 <sup>nd</sup> week of May	<i>Alstonia scholaris</i> (Saptaparni), <i>Delonix regia</i> (Gulmohar), <i>Delonix regia</i> (Gulmohar), <i>Michelia champaca</i> (Safed Champa)	16	9
3	3 <sup>rd</sup> week of May	<i>Delonix regia</i> (Gulmohar), <i>Delonix regia</i> (Gulmohar)	8	4
4	4 <sup>th</sup> week of May	<i>Delonix regia</i> (Gulmohar), <i>Ficus bengalensis</i> (Barota), <i>Delonix regia</i> (Gulmohar), <i>Delonix regia</i> (Gulmohar)	16	10
5	1 <sup>st</sup> week of June	<i>Ficus religiosa</i> (Peepal), <i>Delonix regia</i> (Gulmohar), <i>Alstonia scholaris</i> (Saptaparni), <i>Delonix regia</i> (Gulmohar), <i>Delonix regia</i> (Gulmohar), <i>Grevillea robusta</i> (Silver Oak)	24	15
6	2 <sup>nd</sup> week of June	<i>Azadirachta indica</i> (Neem), <i>Delonix regia</i> (Gulmohar), <i>Grevillea robusta</i> (Silver Oak)	12	9
7	3 <sup>rd</sup> week of June	<i>Grevillea robusta</i> (Silver Oak)	4	3
8	4 <sup>th</sup> week of June	<i>Grevillea robusta</i> (Silver Oak)	5	3
9	1 <sup>st</sup> week of July	<i>Delonix regia</i> (Gulmohar), <i>Grevillea robusta</i> (Silver Oak), Cemented shelf, <i>Azadirachta indica</i> (Neem), <i>Delonix regia</i> (Gulmohar), <i>Azadirachta indica</i> (Neem)	24	18
10	2 <sup>nd</sup> week of July	<i>Delonix regia</i> (Gulmohar)	4	3
11	3 <sup>rd</sup> week of July	<i>Grevillea robusta</i> (Silver Oak), <i>Michelia champaca</i> (Safed champa)	8	6

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