

# A NOTE ON THE OBSERVATION OF ROOSTING AND AWAKENING BEHAVIOUR OF PIED MYNA (*Sturnus contra* L)

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## **Abstract:**

The present work was carried out during April 2016 to March 2017 at the remote village namely Adalgaj at Chopra Block under Islampore Sub-Division, Uttar Dinajpur , West Bengal. The study was mainly made on the Roosting and Awakening behavior of Pied Myna which made colonial roosts on clumps of bamboo plants. Three roosting sites have been studied. They prefer the bamboo plants (*Bambusa arundinacea*) for roosting. A behavioural study of Pied Myna in respect to time of arrival, awakening and departure of roost, average time spent at roost sites and other determining factors time of sun rise, sun set have been detailed in this paper. The colonial roost shows a systematic diurnal and seasonal changes in relation to the time of sunset and sunrise.

**Key words:** Pied Myna, roosting and awakening behaviour, proximate factor influencing roosting.

## **Introduction :**

The Indian pied Myna *Sturnus contra*, Linnaeus is a species of starling found in Indian sub-continent. A meagre information is available on the roosting behavior of Pied Myna. However, some scattered information is reported in India on other species of Mynas. So far,

no such detailed observation on roosting and awakening behavior of Pied Myna has been reported.

A bird chooses a roosting site, a place to sleep and rest, with care. Birds quit coming to feed about a half hour before dusk. In the dim twilight, birds find a roost site and hunker down for the evening. Of course, nocturnal birds like owls have a topsy-turvy schedule so go to roost around dawn<sup>6</sup>.

An awakening is the act of waking up from sleep. Something is important & life changing. It can be called an awakening.

Studies on roosting behaviour of birds have constituted a popular subject in ornithological research. Some birds prefer solitary roosting while others roost communally (Davis, 1955). Gadgil (1972) reported that the mixed roost was made by Mynas, House Crows and Jungle Crows for their safety from predators. Thus, an attempt has been made for observation of roosting and awakening behaviour of Pied Myna.

### **Materials and Methods:**

The roosting and awakening behavior of Pied Myna on three roost sites were observed fortnightly on 2<sup>nd</sup> and 17<sup>th</sup> instar of the respective month on clumps of bamboo plants during the period from April 2016 to March, 2017. Study is conducted during three main seasons' viz. winter, summer and monsoon. Duration of resting in the roost and awakening time are noted and detailing are made accordingly in the observation and discussion part.

No such specific method for observation of roosting and awakening behavior has been followed for the present study. It is a preliminary observation of such behavior of birds. The time recoded for arrival of birds at roost sites and departure from thereof is recorded by ordinary clock. Observation is conducted from 3.30 am to 6-30 am in the morning and from 4.30 pm to 7-30 pm in the evening. The data so collected is noted in field note book. Three roosting sites were chosen in this area. Observation of roosting behavior started at least one hour prior to the sunset and continued even after forty-five minutes of sunset on the days of observation. Similar observation of awakening behavior is also started at least one hour prior to sunrise and followed even after thirty minutes of sunrise.

### **Study Area:**

The Village like Adalgaj is situated on the western side of 31 NH (National Highway) which is about 15 km away from the Islampur Sub-Division town. The place is about 542 KM away from Kolkata. The Pied Myna (*Sturnus contra* Linnaeus, 1758) is very common and widely distributed bird species. This village is occupied with growth of variety of main associated trees like mango (*Mangifera indica*), gulmohar (*Delonix regia*), sissoo (*Dalbergia sissoo*), radhachura (*Peltophorum pterocarpum*), plenty of clump of bamboo (*Bambusa arundinacea*), the dominant and also various type of shrubs & herbs. During rainy season the low fallow lands were flooded with water. It comprises of area about 11 sq. km. There are about forty houses, mostly thatched. Plenty of cultivated land with mainly paddy and jute crop are also found in this village.

## **Results and Discussions:**

### **On Roosting behavior:**

Pied Mynas have colonial roosts on clumps of bamboo plants in the study area. It is observed that Pied Myna mainly preferred bamboo plants as they have good density in clump with high canopy. The bamboo plants provide the good and comparatively undisturbed shelter to Pied Mynas. So, it may be said that they prefer the bamboo plants to hide themselves from predators.

There are three roosting sites are observed. No roosting is observed in other plants.

Some species of bird's roost alone, in pairs or in small groups and in many other instances, it has been noticed that hundreds or thousands of birds gather at a communal roosting place like Pied Myna both during and after the breeding season (Gadgil,1972). So, they prefer and choose the *Bambusa arundinacea* as roosting sites in that habitat. No other birds roost colonially with Pied Myna in that area.

It has been observed that Pied Myna started to reach to the roost site on and average 10-20 minutes before sunset throughout the year (Table - 1). They arrive group after group from all possible direction and are gathered near the roost site and gradually take position in respective shelter on the foliage of bamboo plant. The cacophony continues about 20- 25 minutes even after sunset. Then they fly among the foliage's of the roosting tree to select their respective position in the night shelter. This is always accompanied by a great deal of

cacophony and suddenly all sounds end and a pin drop silence prevails in the roost. It has also been found that Pied Myna come to return in roost site well in advance the sunset particularly during the rainy day.

Table. 1. Time of sun set and arrival of Pied Myna at roost and duration of roosting period

<b>Period from April 2016 to March 2017</b>					
<b>Month</b>	<b>Date</b>	<b>Time of Sunset (hrs.)</b>	<b>Time of Arrival at Roost (hrs.)</b>	<b>Average Time spent at Roost</b>	
				<b>Hours</b>	<b>Minutes</b>
April,16	02.04.16	17.48	17.30 -17.55	10	55
	17.04.16	17.58	17.35 -18.10		
May, 16	02.05.16	18.02	17.50 -18.20	10	30
	17.05.16	18.11	18.00 -18.25		
June,16	02.06.16	18.13	18.10 -18.25	10	10
	17.06.16	18.22	18.10 -18.30		
July,16	02.07.16	18.19	18.05 -18.25	10	35
	17.07.16	18.22	18.10 -18.35		
August,16	02.08.16	17.57	17.40-18.00	11	00
	17.08.16	18.14	18.00 -18.23		
September,16	02.09.16	17.25	17.15 –17.30	11	40
	17.09.16	17.56	17.40 -18.00		
October,16	02.10.16	16.56	16.45-17.05	12	30
	17.10.16	17.24	17.10 -17.30		
November,16	02.11.16	16.45	16.30 -16.50	12	50
	17.11.16	16.57	16.45 -17.05		
December,16	02.12.16	16.49	16.35 -16.55	12	55

	17.12.16	16.58	16.40-17.05		
January,17	02.01.17	16.57	16.45-17.00	13	00
	17.01.17	17.17	17.00-17.10		
February,17	02.02.17	17.20	17.00-17.20	12	10
	17.02.17	17.32	17.15-17.45		
March,17	02.03.17	17.18	17.05-17.25	11	35
	17.03.17	17.20	17.10-17.40		

Many authors like Elliot (1932), Hinde (1952), Thomson and Coutlee (1963) have suggested that light is the most important factor influencing roosting in birds. The present observation also supports the findings of the above workers. In this regard it may be mentioned that Nice (1935) has reported that extreme humidity and temperature often affect roosting of birds.

In the evening, Pied Mynas slowly start their return journey towards the colonial roost. But when they arrive at the roosting place, some of the Pied Mynas fly directly into the roosting trees. However, some of them take temporary shelter in and around bamboo plants before flying to roost.

The male Pied Myna roosts colonially throughout the year. The brooding females spend their night in the nest. During fledgling period, the female Pied Mynas and their young roost on trees in the territory or sometimes just outside. After that the young Pied Myna joins the near roost.

#### **On Awakening Behavior:**

Observation on three such roost sites at different seasons indicate that the Pied Myna abandon true sleep position about 45 minutes before sunrise and wait alert for the coming of dawn. It has been noted that Pied Myna awaken well before the sun rise and start to cacophony, thus gradually increases their loud call and ultimately left the roost site about 20- 25 minutes before sun rise for feeding (Table –2).

Table.2. The time of sunrise and hour of awakening of Pied Myna

<b>Month</b>	<b>Date</b>	<b>Time of Sunrise (hrs.)</b>	<b>Hour of Awakening (hrs.)</b>
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April, 16	02.04.16	5.09	4.30 - 4.50
	17.04.16	5.35	5.00 - 5.15
May, 16	02.05.16	4.55	4.20 - 4.50
	17.05.16	5.08	4.35 - 5.00
June,16	02.06.16	4.56	4.30 - 4.35
	17.06.16	4.57	4.25 - 4.40
July, 16	02.07.16	4.58	4.25 - 4.45
	17.07.16	5.09	4.40 - 5.05
August, 16	02.08.16	5.10	4.45 - 5.05
	17.08.16	5.20	4.50 - 5.10
September, 16	02.09.16	5.22	4.50 - 5.15
	17.09.16	5.30	4.55 - 5.15
October, 16	02.10.16	5.33	5.00 - 5.10
	17.10.16	5.44	5.10 - 5.30
November,16	02.11.16	5.42	5.15 - 5.20
	17.11.16	6.03	5.25 - 6.00
December,16	02.12.16	6.04	5.30 - 5.45
	17.12.16	6.21	6.00 - 6.10
January ,17	02.01.17	6.22	5.45 - 6.10
	17.01.17	6.24	5.50 - 6.20
February, 17	02.02.16	6.04	5.35 - 5.50
	17.02.17	6.22	6.05 - 6.15
March, 17	02.03.16	5.35	5.10 - 5.25
	17.03.17	6.03	5.40 - 5.55

It has been reported by Counsilman (1974) that intensity of light controls the awakening in the other species of Myna. Palmgreen (1949) has contended that awakening in birds is controlled by an endogenous rhythm. Kluijver (1950) has opined that making fuller use of light in gathering food is the ultimate factor responsible for the awakening behavior in birds. The time of departure of the first and the last Pied Myna changes according to the time of sunrise in all the seasons. The duration between the time of sunrise and that of departure of the first and the last Pied Myna was however not constant.

**Conclusion:**

So, it may be concluded from the above observation that photo period is the only prime factor which regulate the roosting behavior of Pied Myna. Similar observation has also been noted in case of awakening behavior in this study. Other factors as temperature and humidity may have secondary influence on roosting of Pied Mynas. Further study is required in these aspects.

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