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## URBANIZATION TENDS TO SUPPORT COMMON MYNA DUE TO ITS FOOD AND FEEDING

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**Abstract:** The Common Myna or Mynah (*Acridotheres tristis*) is also known as Talking, Indian Calcutta Myna. It is an omnivorous, scavenger, feeding on fruits, grain, nectar, insect, earthworm, rat, eggs and nestlings of other birds. Regular observations were made in each study area to note the food and feeding of the Common Myna. The Common Myna was encountered during foraging. Food items were listed that have been identified in urban and rural area during foraging by the visual observation. Total 58 types of food items have been identified from 155 observations during study period within that the major food was animal matter. The tendency of this bird is to stay and breed in urban area has become a character favored by the natural selection. The urban environment appears to be appropriate for feeding.

**Keywords :** Common Myna, foraging, omnivorous, scavenger.

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**Introduction :** Different species of Mynas are having different geological origin [3]. Mynas were first introduced to South Africa around 1900 [12]. Indian Mynas originated in India and were introduced to Australia between 1862 and 1872 [2]. The Common Myna or Mynah (*Acridotheres tristis*) is also known as Talking, Indian Calcutta Myna. In Gujarat, it is known as 'Kabar'. Common Myna has been identified as beneficial to man through their eating of locusts, this insect eating behavior led to it being introduced as biological control to crop bearing countries around the world where they quickly established themselves as harmful invasive pests. It is an omnivorous, scavenger, feeding on fruits, grain, nectar, insect, earthworm, rat, eggs nestlings of other birds. It takes food from rubbish bins, dumping stations and is often seen sorting through leaf debris in parks and gardens, at picnic areas, train stations and on roads in seek of food.

Mynas are adapted well to living alongside humans. They preferred the areas that have been heavily disturbed by human activities. In Gujarat, India, there are dovecotes or cotes known as chabutaras. These houses, built on platforms are primarily for Doves and Pigeon but are also used by Peacock, Sparrow and Mynas. The Gujarat believes that human spirit assumes the form of birds and animals after death, so they must be cared for.

However, short notes on its food habits were available from India [4]; [11]; [1]; [9] and [8]. But

yet not such work was done which can compare and determine the feeding of Common Myna in Urban as well as in rural area.

**STUDY AREA :** The study was conducted at Ahmedabad city of Gujarat state. Ahmedabad is located at 23.03°N 72.58°E in west part of an elevation of 53 meters (174 ft) from sea level on the bank of the Sabarmati River in north-central Gujarat. Ahmedabad is divided by the Sabarmati into two physically distinct eastern and western regions. For the feasibility of collecting the data, eastern part of Sabarmati is divided into six sites according to their ecological condition of the sites affects the different activities of the bird like foraging, breeding, roosting etc. Three urban sites: Gita Mandir Area (GMA), Maninagar (MAN), Ghodasar (GH) and three rural sites: Ramol (RAM), Lambha (LAM), Vatva (VAT) have been selected for the study.

Urban area is very much congested and heavy traffic area. It has complicated landscape comprises; bus stand, stalls and shops, road vendors, hospital, municipal slaughter house, garden, public road, Railway Station. Kankaria Lake is one of the biggest lakes in Ahmedabad. A lakefront was developed around it which has many public attractions. Other attractions include One tree hill garden and Kamla Nehru Zoo. The availability of artificial food is more here.

Rural area has agro ecosystem with mixed vegetation and has cultivated as well as natural plants. The site is best for the roosting and

feeding for the Common Myna. Here the insects and grains are available in sufficient number. Cereal crops are cultivated and some vegetables also cultivated in small farms situated near by some residential societies. There are industrial, residential and agricultural areas too. Where, Vatva is one of the largest and oldest industrial estates in the state which is spreading more than about 527 hectares and has over 2500 industrial units.

**MATERIAL AND METHOD :** The study was conducted from January, 2011 to December, 2012. As earlier discussed that study area was divided into urban and rural area. Regular observations were made in each study area to note the food and feeding behaviour and some other aspect on feeding of the Common Myna. The Common Myna was encountered during foraging. It was not possible to capture and killing of birds so little work is carried out on food and feeding.

For this, direct field observation method is applied, Common Myna is habituated to live in human presence and could be close to him so direct observation is most suitable and easier. Binocular (7x50) was used for this purpose. The different statistical parameters like frequency and relative frequency (%F) are estimated for the analysis of the data.

Food items were listed that have been identified in urban and rural area during foraging by the visual observation.

**RESULT :** Total 58 types of food items have been identified from 155 observations during study period within that the major food was animal matter (Figure: 1 A to D). It was estimated 58.74% in urban and 69.19% in rural area (Table: 1).

Out of total animal food insects was the principal diet that was consisted 54.76% in urban and 67.05% in rural area, remaining 3.97% (urban) and 2.12% (rural) were other animals (frog, lizard, earthworm, rat, dead animals and chick of other birds). Insect diet consisted beetles, crickets, grass hopper, butterfly, moth, black ants, house fly and spiders etc. (Table: 1).

Plant matter was estimated as 36.76% in urban and 27.87% in rural area. The plant matter is consisted of grains and flower, berries and fruits. Out of total plant matter 12.58% and 15.40% grains have been observed in urban and rural area respectively, remaining was seeds and berries of Neem, Peepal, Borsali; fruits: Apple, Jamun, Tomato and Palash flower's nector. It was 18.2% in urban and 12.46% in rural area. The major grain food were Wheat and Sorghum and the major fruits and berries were seeds of Borsali, Banyan, Neem, Peepal and *Cordia mixa* (Gundo/ Gond) which was recorded in study area.

The Common Myna is omnivorous bird which feeds on insect as well as on artificial food (ganthiya, chavana, mamra etc.) also. Remaining other food in urban and rural area which includes ganthiya, sev, mamra (parmal), chapati and kitchen garbage etc. were recorded 10.49% and 2.93% respectively.

All the observation resulted that insect is the major food of Common Myna which is abundant in rural area. It has been shown in Table: 1 that Common Myna can get more insect food from rural area than the urban, like that grain food was also higher in rural than urban. Besides this, fruits and berries and other food (includes artificial food) was higher in urban then the rural area.

**Table: 1 Frequency of food and feeding reported in Common Myna in urban and rural area during study period.**

| % Frequency  |            | (No. of observation= 155)<br>Frequency occurrence |            | Food items                 | Sr. no. |
|--------------|------------|---|------------|----------------------------|---------|
| Rural        | Urban      | Rural   | Urban      |                            |         |
| 69.19        | 58.74      | 283   | 252        | Animal matter              | (A)     |
| Plant matter |            |   |            |                            | (B)     |
| 15.40        | 12.58      | 63  | 54         | Grains                     |         |
| 12.47        | 18.18      | 51  | 78         | Flower, berries and fruits |         |
| 2.93         | 10.49      | 12  | 45         | Others                     | (C)     |
| <b>100</b>   | <b>100</b> | <b>409</b>  | <b>429</b> | <b>Grand Total</b>         |         |

| % Frequency |       | (No. of observation = 155)<br>Frequency occurrence |       | Food items                                 | Sr. no. |
|-------------|-------|--|-------|--|---------|
| Rural       | Urban | Rural  | Urban |  |         |
|             |       |  |       | <b>Animal matter</b>                       | (A)     |
| 1.22        | 0.70  | 05   | 03    | Ground beetles                             | 1.      |
| 0.49        | 0.23  | 02   | 01    | Red pumpkin beetles                        | 2.      |
| 0.73        | 0.23  | 03   | 01    | Dung roller beetles                        | 3.      |
| 2.44        | 1.63  | 10   | 07    | Beetle larvae and pupae                    | 4.      |
| 1.47        | 1.86  | 06   | 08    | Unidentified beetle                        | 5.      |
| 0.98        | 0.47  | 04   | 02    | Click beetle                               | 6.      |
| 0.73        | 0.93  | 03   | 04    | Weevils                                    | 7.      |
| 2.44        | 1.63  | 10   | 07    | Crickets                                   | 8.      |
| 3.42        | 1.40  | 14   | 06    | Short horned grass hopper                  | 9.      |
| 2.93        | 2.33  | 12   | 10    | Long horned grasshopper                    | 10.     |
| 4.89        | 2.80  | 20   | 12    | Other grass hopper                         | 11.     |
| 6.60        | 3.50  | 27   | 15    | Butterfly                                  | 12.     |
| 4.65        | 2.56  | 19   | 11    | Moth                                       | 13.     |
| 1.71        | 0.93  | 07   | 04    | Larvae and Pupae                           | 14.     |
| 1.96        | 1.63  | 08   | 07    | Dragonfly                                  | 15.     |
| 2.20        | 1.63  | 09   | 07    | Leaf hopper                                | 16.     |
| 1.96        | 0.70  | 08   | 03    | Bugs                                       | 17.     |
| 2.20        | 1.40  | 09   | 06    | Tree hopper                                | 18.     |
| 0.98        | 5.59  | 04   | 24    | Wasp                                       | 19.     |
| 5.13        | 3.96  | 21   | 17    | Winged ants                                | 20.     |
| 4.40        | 6.29  | 18   | 27    | Black ants<br>( <i>Monomorium idicum</i> ) | 21.     |
| 6.85        | 7.46  | 28   | 32    | House fly<br>( <i>Muska domesticus</i> )   | 22.     |
| 0.98        | 0.70  | 04   | 03    | Maggots                                    | 23.     |

|              |              |            |            |  |            |
|--------------|--------------|------------|------------|--|------------|
| 2.20         | 1.63         | 09         | 07         | Termite  | 24.        |
| 1.22         | 0.47         | 05         | 02         | Stick insects  | 25.        |
| 0.73         | 0.23         | 03         | 01         | Leaf sticks  | 26.        |
| 00           | 1.17         | 00         | 05         | Cockroach<br>( <i>Periplanata Americana</i> )        | 27.        |
| 00           | 0.47         | 00         | 02         | Mantis   | 28.        |
| 0.49         | 1.40         | 02         | 06         | Spider   | 29.        |
| 0.24         | 0.47         | 01         | 02         | Millipedes   | 30.        |
| 1.47         | 00           | 06         | 00         | Earthworm  | 31.        |
| 00           | 0.23         | 00         | 01         | Frog   | 32.        |
| 0.49         | 1.17         | 02         | 05         | Lizard (garden lizard)                               | 33.        |
| 0.24         | 0.47         | 01         | 02         | Chick of other birds<br>( <i>Passer domesticus</i> ) | 34.        |
| 0.24         | 0.23         | 01         | 01         | Rat  | 35.        |
| 0.49         | 0.23         | 02         | 01         | Scavenges on dead animals                            | 36.        |
| <b>69.17</b> | <b>58.73</b> | <b>283</b> | <b>252</b> | <b>Total</b>   |            |
|              |              |            |            | <b>Plant matter</b>                                  | <b>(B)</b> |
|              |              |            |            | <b>Grains</b>  | <b>(a)</b> |
| 1.47         | 1.40         | 06         | 06         | Maize  | 1.         |
| 4.89         | 3.03         | 20         | 13         | Bajra  | 2.         |
| 4.40         | 3.73         | 18         | 16         | Wheat  | 3.         |
| 3.42         | 2.33         | 14         | 10         | Jawar  | 4.         |
| 1.22         | 2.10         | 05         | 09         | Rice   | 5.         |
| <b>15.4</b>  | <b>12.59</b> | <b>63</b>  | <b>54</b>  | <b>Total</b>   |            |
|              |              |            |            | <b>Berries and fruits</b>                            | <b>(b)</b> |
| 2.44         | 3.03         | 10         | 13         | Neem seed  | 1.         |
| 1.96         | 2.33         | 08         | 10         | Peepal seed  | 2.         |
| 1.71         | 3.26         | 07         | 14         | Borsali ,,   | 3.         |
| 4.40         | 4.90         | 18         | 21         | Banyan ,,  | 4.         |
| 0.98         | 0.47         | 04         | 02         | <i>Albizia laback</i>                                | 5.         |
| 00           | 0.47         | 00         | 02         | Apple  | 6.         |
| 00           | 0.23         | 00         | 01         | Pear   | 7.         |
| 00           | 0.47         | 00         | 02         | Tomato   | 8.         |
| 0.24         | 0.70         | 01         | 03         | Jamun  | 9.         |
| 00           | 0.47         | 00         | 02         | Watermelon pieces                                    | 10.        |
| 0.49         | 1.40         | 02         | 06         | Cordia mixa  | 11.        |
| 0.24         | 0.47         | 01         | 02         | Flower nector  | 12.        |
| <b>12.46</b> | <b>18.2</b>  | <b>51</b>  | <b>78</b>  | <b>Total</b>   |            |
|              |              |            |            | <b>Others</b>  | <b>(C)</b> |
| 0.49         | 1.63         | 02         | 07         | Kitchen garbage                                      | 1.         |
| 1.22         | 2.80         | 05         | 12         | Ganthiya- Sev  | 2.         |
| 00           | 3.73         | 00         | 16         | Mamra (Parmal)                                       | 3.         |
| 00           | 0.47         | 00         | 02         | Cooked food  | 4.         |
| 1.22         | 1.86         | 05         | 08         | Chapati  | 5.         |
| <b>2.93</b>  | <b>10.49</b> | <b>12</b>  | <b>45</b>  | <b>Total</b>   |            |
| <b>100</b>   | <b>100</b>   | <b>409</b> | <b>429</b> | <b>Grand total</b>                                   |            |



**Figure: 1 Feeding on different food items by Common Myna.**



**(B) Supplementary Feeding**



**(A) Small Insect**

**(Ganthiya, chavana, parmal)**



**(D) Cockroach**



**(C) Lizard**

**Discussion :** Results favor that urbanization tends to support the Common Myna which is a granivorous, insectivorous and ground foraging (omnivores) bird. As per the data of feeding, Animal matter and supplementary food is higher in urban environment than rural which is sufficient for nestling's diet

Detailed study on Common Mynas feeding was studied by [2]. They recorded grasshoppers, termites, beetles, bugs and variety of insects, earthworm, fruit, frog and lizard and flower nectar as food of Indian Myna. It is ground feeder and can eat anything (viz; insect, fruit, vegetables, flower, scavenge etc. [10]. Food which is offered to the nestlings, evident that it depends upon the age of the parents and availability of food in the vicinity of the nest during the particular time. Insect is the major food of Indian Myna. It feeds on dead birds in addition to insect [11]. Narang and Lamba (1984) studied feeding habits of Mynas and found that mainly it consists of vegetables. Sengupta, (1968) reported that during the first five or six day nestlings of Indian Myna were fed on soft insects and their larvae, from the sixth or seventh day onwards they offered them earthworm, than vegetable food from tenth day onwards.

They are chiefly a ground feeding insectivore which has expanded its diet to include fruit, berries, grains, kitchen waste, garbage, and small animals such as baby mice, frogs, lizards, crabs and flower nectar [5]. At now Common Myna is the first class species in birds' scavenger. It is common in both, in city and village. It is omnivorous [9] and occasionally feeds on eggs and nestlings of other birds

[6]. In the open countryside, it keeps to irrigated fields, sewage farms and grazing ground usually in attendance on cattle. Flocks follow the plough for the insects and grubs turned up with the soil.

**CONCLUSION :** The Common Myna is evolved in closed association with man, and it is still continued in many places. This bird has an undoubted success and its association with man is unique. It has feed itself from the agricultural background and is now seen associated with urban man. The tendency of this bird is to stay and breed in urban area has become a character favored by the natural selection. The urban environment appears to be appropriate for feeding. The bird lives as a commensal and has become thoroughly acclimatized to loud noise and almost resistant to energetic activities of urban man.

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