



To Monitor the Population of House Sparrow (*Passer domesticus*) In Rural Areas of Kupwara District, Jammu & Kashmir, India

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ABSTRACT

House sparrow is a little gregarious flying creature that is emphatically connected with human habitation. Throughout the world the population of house sparrow has now indicated a stamped decrease in its number because of habitat loss. The main purpose behind this investigation was to assess the population size of house sparrow in selected rural sites of District Kupwara, Jammu and Kashmir, India. For this purpose monthly periodic visits were made from May 2017 to April 2019 in nine selected rural sites Viz. Tikker, Batergam, Magrypora, Gulgam, Bohipora, Zangli, Dudwan, Bumhama and Regipora. Sampling was done from 6.00 to 7.00 am in the morning and 5.00 to 7.00 pm in the evening. For counting the numbers of house sparrow Point count method was used. From the results it was found that there is a high abundance of sparrows was observed in Tikker, Batergam, Magrypora, Gulgam, Bohipora and Zangli respectively as compared to the other rural sites. Therefore, it is concluded that in order to conserve the population of house sparrow in the Kupwara District, it is essential to secure its natural habitat or make it artificially by installing the artificial boxes and by providing them water and food.

Key words: Abundance, Population of House sparrow, rural areas, Kupwara District

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INTRODUCTION

House sparrow belongs to the Passeriformes and Passeridae family group. It exists in many oceanic islands, all continents and has been spread worldwide. Occurrence of house sparrow near human dominated landscapes such as villages, parks, gardens, agricultural areas, feedlots and suburban areas is well documented over the globe [1, 2]. It is usually absent from deserts, forests, grasslands and extensive wetlands. The house sparrow built its nests mainly in holes of structures under the tiles or around the roof area of houses. Nests are mainly built from feathers, strings, paper and dried vegetation. House sparrows are normally found in flocks outside the breeding season that associate in many activities, ranging from feeding to communal roosting, social singing, dust and water bathing when the birds collect the bushes and they call together [3]. House sparrow usually feeds on cereal grains and these birds primarily forage on ground apart from in autumn when the proportion of weed and grass seeds increases [4]. A high reduction in the population of house sparrow has been reported in various countries over the globe particularly in urbanized habitats including Brussels, Berlin, Spain and Dublin [5, 6 and 7]. According to a survey on the occurrences of house sparrow in India, the population of this species has been declined considerably in recent years [8, 9 and 10]. Therefore, the main purpose behind this investigation was to estimate the population size of house sparrow in selected rural sites of District Kupwara, Jammu and Kashmir, India.

MATERIAL AND METHODS

Kupwara is an active District which is situated in Indian state of Jammu and Kashmir and is approximately 90 kms away from the capital city of Srinagar. From east to west the river Kishenganga flows through the outer areas of the district. It has a total geographical area of 2,379 km² having 34.17 to 34.21 North Latitude and 73.10 to 73.16 East Longitude. The district has an average altitude of 5300 feet

from the mean sea level. This study was carried out from May 2017 to April 2019 in nine rural areas i.e. Dudwan, Regipora, Bohipora, Tikker, Bategam, Magrypora, Zangli, Bumhama and Gulgam falling in Kupwara District, Jammu & Kashmir, India. Sampling was done from 6.00 to 9.00 am in the morning because during this time house sparrow are most active and from 5.00 to 7.00 pm in the evening when they come back to their nesting places. Throughout this period field visits were made at regular interims of one or two days on monthly basis. For counting the numbers of house sparrow Point count method was used [11].

RESULTS

The results of our study revealed that the population of house sparrow during May 2017-April 2018 was found to be maximum in the Tikker (25.08±7.56), Bategam (25±9.14), Magrypora (23.25±7.74), Gulgam (22.75±7.05), Bohipora (22.41±8.11), Zangli (21.75±6.21) and minimum number of house sparrows was observed in the Dudwan (16.6±4.78), Bumhama (16.5±5.44) and Regipora (13.08±4.52) (Table 1).

Similarly during May 2018-April 2019 the maximum number of house sparrows was observed in the Tikker (19.08±7.99), Bategam (18.33±6.23), Magrypora (18±7.47), Gulgam (15.91±6.65), Bohipora (15.75±6.23), Zangli (15.83±7.14) and minimum number of house sparrows was recorded in Dudwan (11.58±4.99), Bumhama (11.41±5.69) and Regipora (9.91±5.23) (Table 1). It was also observed that during the first year May 2017-April 2018 more number of house sparrows was recorded in comparison to the second year May 2018-April 2019 (Table 1).

Table 1. Mean±SD number of house sparrow population in rural areas of Kupwara District (J & K) during the study period May 2017- April 2019.

S.No.	Name of Rural Sites	May 2017- April 2018	May 2018- April 2019
		Mean±SD	Mean±SD
1	Tikker	25.08±7.56	19.08±7.99
2	Bategam	25±9.14	18.33±6.23
3	Magrypora	23.25±7.74	18±7.47
4	Gulgam	22.75±7.05	15.91±6.65
5	Bohipora	22.41±8.11	15.75±6.23
6	Zangli	21.75±6.21	15.83±7.14
7	Dudwan	16.6±4.78	11.58±4.99
8	Bumhama	16.5±5.44	11.41±5.69
9	Regipora	13.08±4.52	9.91±5.23

DISCUSSION

The high abundance of house sparrow population in Tikker, Bategam, Magrypora, Gulgam, Bohipora and Zangli may be due to the availability of suitable nesting and foraging sites because of the presence of old-fashioned houses that are having holes due to which house sparrows are able to build their nests. Same kind of observations were observed by Singh *et al.*, [12] in rural habituation of Jammu region, who stated that the population of house sparrow was found to be more because of the availability of more nesting sites in the old-fashioned houses. Similarly, Robinson *et al.*, [13] who found highest density of house sparrows in rural housing areas in northern part of state Delhi. In comparison to other rural sites the population of house sparrow was found to be less in Dudwan, Regipora and Bumhama may be due to mainly new concrete type of buildings that lack holes because of which house sparrow face a shortage of nesting sites [14, 15]. Another reason might be due to the extra use of various types of pesticides and insecticides in home gardens and parking lawns which diminishes adequate quality of insect food which they use for rearing their nestlings. Similar kind of findings were supported by Crick *et al.*, [16] who reported that the use of higher levels of insecticides in gardens be a possible reason behind the population decline of house sparrow. We also noticed that the population of house sparrow was more in the year 2017-2018 than the year 2018-2019 which might be due to impact of various environmental factors such as temperature, rainfall, photoperiod and other organic elements [17 and 18].

CONCLUSION

There is no doubt that due to increasing rate of globalization that has a negative impact on biodiversity, but in case of house sparrows they are closely associated with human dominated landscapes. The present study found that the rural sites like Bategam, Tikker, Magrypora, Gulgam, Bohipora and Zangli

considerably host a good population of house sparrow in comparison to the other rural sites is because of the accessibility of suitable habitat for its living. Therefore it is recommended that for better management and conservation of house sparrow in the study area there is a need of long term monitoring activities and conservation awareness programmes with the association of local people that might be a prolific approach for maintaining the house sparrow population. There is a dire need of further studies in Kupwara district to track the real status of this species and other avifauna of the area as well.

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