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Incidences of bird's population from different fields of Tandojam, Sindh, Pakistan

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Abstract

Birds are considered as most diverse group in nature at the present their incidences have been reported from Tandojam during the year 2015. It was noticed that population of birds species occurring in wheat field was maximum in Malir farm i.e (24.09%) followed by (22.72%) in S.A.U permissive. As for as, vegetable Form is concerned the birds total population were significantly highest i.e (28.57%) in Sindh Agriculture University followed by (19.04%) in Haji M.S Baloch, while least percentage of birds has been reported from L.A farm. Similarly, birds population in fruit field was reported maximum (31.55%) followed by (24.33%) Malir farm and S.A.U respectively, while, the population of birds in sunflowers field was significantly highest (41.24%) in S.A.U, farm followed by (32.20%) in Malir farm. The population of birds in sugar-cane field indicate that maximum population i.e (27.77%) in Haji M.S Baloch followed by (25%) in SAU Horticulture and very least percentage was recorded in Malir farm i-e (11.11%). Opposing to this, population of birds in sugarcane is concerned it was greater such as (26.66%) followed by (23.33%) in L.A farm and S.A.U, Horticulture respectively. It was notice that maximum No. of birds were prevalent in fruit form then other surveyed fields.

Keywords: Birds, incidence, population, vegetable, fruits, horticulture

Introduction

Birds are considered as most diverse group in nature due to its bright coloration, divergent songs and mating calls to their partners. Beside this, they contribute a lot in our life by showing displays and enjoyment. They are very observable, rather general, and offer easy way to monitor them diversity plumage and behaviour activity. They are known as famous group who pursue in wild life watching and monitoring. This fact is also reflects nature mapping's data base beside this, majority of wild life reports given by volunteers stated that birds watching is the quickest growing recreational pursuit in the united states including other countries. Bird's play significant role to control the pest population they aerial acrobats are consumed thousands of insects in their life, many of which were considered pests of rice, sugarcane, wheat, maize, fruits, vegetable etc. in these fields mostly grasshoppers, locusts, mosquitoes, beetles, and moths are in abundance in numbers. Birds also feed on their larvae and nymphs, birds hold huge quantities of adults and larvae including all immature stages which are believe to be having higher protein percentage that is necessary for the growth of birds. Many insect pests destroyed the valued cash crops. Previously many co-workers i.e [2-6, 8-10, 12, 14-24, 26-30] Avian plays very important link with in the maintenance of ecosystem particular food chain and webs exist. Review of literature showed gender differences by appearance in birds is usually not possible when we doing study in field even in lab. Mostly bird's species are in dimorphic in nature. During this study impact of birds on various insect population from different agriculture field i-e Wheat, Cotton, Vegetables, and Fruits were carried out. Most of the insect's functionally dominant folivorous herbivores in grassland system. Present study has been carried out for the first time.

Material and Methods

For the collection and identification of resident and migratory birds methodology and identification keys provided by Ali and Ripley [1] and Roberts [25] were followed.

Birds sampling sites

Birds samples were collected from different Agriculture fields that include wheat field, vegetable field, fruit field, sunflower field, occurring in Haji MS Baloch, SAU Horticulture,

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S.A.U, L.A Farm, Malir Farm were visited time to time during the year 2015. Alive birds were kept in small iron cages of (12 inches height and 12.8 inches in diameter) and large wooden cages of (108 inches length, 36 inches width and height) while small cage were kept under laboratory conditions. Collected birds were migratory as well as resident. The collection of birds samples were made during February to November 2015 the some birds were purchased from local market.

Identification of Birds

Birds are in dimorphic in nature. They show visible differences between male and female. In most cases, male birds sport brighter, bolder colours as a way to attract mates during the breeding season. Female are usually duller, with less distinctive markings that make it easier for them to blend in to the surroundings while they mind a nest or protect young birds. The differences between male and female birds are most apparent during the spring, when brighter colours attract mates more effectively. Genetically the sex difference in bird’s female is heterogametic sex and the homogametic sex is the male (ZZ). After identifying the birds stock of birds transferred to the designate cages for further analysed. Different body parts of birds were measured with scales and dividers.

Results

Localities survey

(Table 1) this table showed the population of birds species occurring in wheat field with maximum population reported from Malir Farm i.e 24.09% followed by 22.72% in S.A.U permissive. As for as vegetable form is concerned the birds total population was significantly highest i.e 28.57% Sindh Agriculture University followed by 19.04% in Haji M.S Baloch, while least percentage of birds has been observed in L.A farm (Table 2). Similarly, bird’s population in fruit form was reported maximum 31.55% in followed by 24.33% from Malir farm and S.A.U respectively while, the population of birds in sunflowers field (Table 4) was significantly highest 41.24% in S.A.U, farm followed by 32.20% in Malir while least percentage i.e 6.21% was observed in L.A farm (Table 3). (Table 5) showing population of birds in sugarcane field indicate that maximum 27.77% in Haji M.S Baloch form followed by 25% in SAU Horticulture and very least percentage was recorded from Malir farm. Contrary to this, population of birds in sugarcane field was 26.66% followed by 23.33% in L.A farm and S.A.U respectively. It seems from (Table 7) different field of Tandojam such as vegetable i.e Cabbage, Carrot, Spinach, Tomato, Leady finger, Turnip, Green bean, Green Chilli, Apple ground and Cluster Bean were significantly effected by 10 important birds species i.e. Common Myna, House Sparrow. Crow, Pigeon, Woodpecker, Jungle Babbler, Yellow throated Sparrow, Jungle Sparrow, Common Babbler and Grey Wagtail.

Avian predation

During the field survey it was noticed that avian predation was important factor effecting the significant No. of insect species in the field. Experimental studies demonstrate a negative impact from birds include a depression of many Lepidopteran species from forest. Some understory vegetation with greater No. of grasshoppers species were eaten by birds and grasshoppers are often the functionally dominant due to folivorous herbivores in grass land system.

During field surveys it was observed that avian predators have important effect on insects population resulted in increased densities, increased species diversity. It was also noted that avian predators significantly decreasing insects population in field i.e. wheat, sugar cane, rice, vegetable, and fruits. It was necessary to demonstrate similar result in grass lands. It was also noted that insectivorous birds were more dominant in grassland compared to forest habitats.

Discussion

During present study we have reported Crow, Common Myna, Pigeon, Sparrow, Parrot, Woodpecker, Jungle Babbler, and Grey Wagtail in the varieties of plantation. I have observed that Indian Wren Warbler and Jungle Babbler were of special significance as they were feeding directly on insect’s population. It was thoroughly observed that these species could have higher threaded from the prevailing risk of pesticides similar observation was also reported by [7, 11, 13] reported 32 bird’s species including 31 Passeriformes and 01 Coraciiformes from the cropland of Multan of them 23 were resident while the remaining was migrant. During present survey we have recorded 10 species among them 07were resident i-e common Myna, Woodpecker, Crow, Parrot, Jungle Babbler, House sparrow and Pigeon. While three migrant birds species i.e Yellow throated Sparrow, Grey Wagtail and Rosy Poster were found more frequently than the other. Outcome of this study support to implement conservational tactics to increase the bird’s populations in the vegetables, fruit field, sunflower field, wheat field, and sugarcane field so that they could function as biological control agent of insect pests, an essential component of (IPM) strategies [24] reported that insects’ population significantly decrease in forest system. It was necessary to demonstrate similar results in grasslands. Insecticides birds found more in grassland compare to any other habitat so the present study recommends that it is very good planning to control different type of insects through their predatory behaviour. Beside this, during present study it was observed that predation on insect by birds at MS Baloch and Sindh Agriculture horticulture site is greater compare to Latif farm and Malir farm to sites. Present study suggests that it might be availability of food plants therefore, birds were dements.

Population of birds in various fields of Tandojam during the year 2015

Table 1: Wheat field

S. No.	Site	Total Sampling (n=220)	Total Percentage
1.	Haji MS Baloch	35	15.90%
2.	SAU Horticulture	40	18.18%
3.	S.A.U	50	22.72%
4.	L.A Farm	42	19.09%
5.	Malir farm	53	24.09%

Table 2: Vegetables field

S. No.	Site	Total Sampling(n=210)	Total Percentage
1.	Haji MS Baloch	40	19.04%
2.	SAU Horticulture	45	16.66%
3.	S.A.U	60	28.57%
4.	L.A Farm	30	14.28%
5.	Malir farm	35	16.66%

Table 3: Fruits field

S. No.	Sites	Total Sampling(n=263)	Total Percentage
1.	Haji MS Baloch	46	17.49%
2.	SAU Horticulture	37	14.06%
3.	S.A.U	64	24.33%
4.	L.A Farm	33	12.54%
5.	Malir farm	83	31.55%

Table 4: Sunflower field

S. No.	Site	Total Sampling(n=177)	Total Percentage
1.	Haji MS Baloch	13	7.34%
2.	SAU Horticulture	23	12.99%
3.	S.A.U	73	41.24%
4.	L.A Farm	11	6.21%
5.	Malir farm	57	32.20%

Table 5: Sugarcane field

S. No.	Sites	Total Sampling (n=180)	Total Percentage
1.	Haji MS Baloch	50	27.77%
2.	SAU Horticulture	45	25%
3.	S.A.U	40	22.22%
4.	L.A Farm	25	13.88%
5.	Malir farm	20	11.11%

Table 6: Association of birds species in different vegetables grown in Tandojam during the year 2015

S. No.	Vegetables name	Scientific name	Birds
1.	Cabbage	<i>Brassica oleraceavar capitata</i>	House Sparrow
2.	Carrot	<i>Daucus carota subsativates</i>	Common Myna
3.	Spinach	<i>Spinacia Oleracea</i>	Jungle Babbler
4.	Tomato	<i>Solanum lycopersicum</i>	Jungle Sparrow
5.	Lady finger	<i>Abelmoschus Esculentus</i>	Indian wren warbler
6.	Turnip	<i>Brassica rapa subsp. rapa</i>	Grey wagtail
7.	Green bean	<i>Phaseolus vulgaris</i>	Crow
8.	Green chilli	<i>Capsicum annum</i>	Rosy poster
9.	Apple ground	<i>Praecitrullus fistulosus</i>	Yellow throated sparrow
10.	Cluster Bean	<i>Parkia speciosa</i>	Parrot

Table 7: Showing the presence of birds species in different vegetables occurring in Tandojam during the year 2015

Birds	Carrot	Cabbage	Tomato	Turnip	Lady finger	Green Bean	Green Chilli	Apple ground	Cluster Bean
Common Myna	+	+	+	+	+	+	+	-	+
House Sparrow	+	+	+	+	+	-	+	+	+
Crow	-	+	+	-	-	+	-	-	+
Pigeon	-	-	-	+	-	-	+	-	-
Woodpecker	-	-	-	+	-	+	-	+	+
Jungle Babbler	+	-	+	-	+	+	+	+	+
Yellow Throated Sparrow	+	+	-	+	+	-	+	-	+
Jungle Sparrow	+	-	+	-	+	+	+	+	+
Common Babbler	+	+	-	+	-	+	-	+	+
Grey Wagtail	+	-	+	-	-	-	-	-	-

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