



Avifaunal diversity in the University Campus of Kurukshetra, Haryana

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Birds are common denizens of the ecosystem and are considered indicator species (Blair 1999). They serve as monitors to examine the long term effects of habitat fragmentation. The Indian subcontinent has 1340 bird species (Ali & Ripley 1987; Manakadan & Pittie 2001). Recent developmental activities in the urban areas have led to large scale reduction in the quality of natural habitats. This has prompted us to make a survey of birds in Kurukshetra university campus.

Study Area: Kurukshetra University (29°57'44.62"N & 76°49'10.80"E) is located in Haryana, at a distance of 4km. from Kurukshetra Railway Station and 8kms. from Pipli. Kurukshetra is very hot in summer and remarkably cold in winter, with atmospheric temperature varying from 45°C in summer and 2°C in winter. The 160ha university campus is situated on the western bank of the holy tank, Brahm Sarovar. A channel connecting Bhakra canal with Brahm Sarovar passes through the campus. The campus is surrounded by agricultural lands where wheat and paddy are cultivated. The important vegetation of the campus includes trees like *Mangifera indica*, *Syzygium cumini*, *Eucalyptus hybrida*, *Syzygium fruticosum*, *Morus alba*, *Citrus jambhiri*, *Eriobotrya japonica*, *Psidium quajava*, *Ficus carica*, *Azadirachta indica*, *Alstonia scholaris*, *Ficus bengalensis*, *Tectona grandis*, *Aegle marmelos*, *Emblica officinalis*, *Polyalthia longifolia*, *Thuja compacta*, *Delonix regia*, *Plumeria acutifolia*, *Terminalia arjuna*, *Bauhinia variegata*, *Kigelia* sp., *Ficus religiosa*, *Cassia fistula*, *Populus* sp., *Grevillea robusta*, *Mimusops elengi* etc. The dominant shrubs are *Cassia javanica*, *Ervatamia coronaria*,

Bougainvillea sp., *Thevetia peruviana*, *Murraya exotica*, *Hibiscus rosa sinensis*, *Lagerstromia parviflora*, *Hamelia patens*, *Zizyphus jujuba*, *Zizyphus numularia*, *Acacia arabica*, *Capparis deciduas*, *Jasminum* sp., *Calotropis procera*, *Euphorbia* sp., *Nerium oleander*, *Lantana chamaera*, *Clerodendron* sp. etc. while *Parthenium*, *Amaranthus spinosus*, *Chenopodium ambrosioides*, *Canbis sativa* are the prominent weeds.

Methods: The study was carried out in the campus for four years, i.e., January 2005 to December 2008. Regular surveys were done by walking on fixed routes through the study area. Birds were observed from 0600 to 1000 hr and from 1600 to 1800 hr and details on habitat type, season, feeding habit and status (resident/migrant, breeding/nonbreeding) and frequency of occurrence were recorded. Ali & Ripley (1987) and Grimmet et al. (1999) were followed for identification. Breeding status was assigned after observing a standard protocol. The check list was prepared following Manakadan & Pittie (2001). Occurrence criteria were, Common recorded 9-10 times out of 10 visits, Fairly common recorded 6-8 times out of 10 visits, Uncommon recorded 3-5 times out of 10 visits, Rare recorded 0-2 times out of 10 visits, and Irregular.

Results and Discussion: A total of 92 bird species belonging to 67 genera and 37 families were recorded which comprised 46 non passerine and 46 passerine species (Table 1). In this study Passeriformes was dominant with 18 families. Of all, family Turdinae dominated with 07 species. Out of total 92 species, 71 were resident and 21 were migrant species. Most of the migratory species were winter visitors except Pied Crested Cuckoo, Brainfever Bird and Eurasian Golden Oriole which were summer visitors. Out of 71 resident species, 60 species have been observed to be positively breeding in the campus. Grey Francolin, Rose-ringed Parakeet, Spotted Owlet, Blue Rock Pigeon, Spotted Dove, Red-wattled Lapwing, House Crow, Black Drongo, Common Myna, Jungle Babbler, Purple

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Figure 1. Location of the study area

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Table 1. List of birds recorded in the university campus of Kurukshetra

	Common Name	Scientific Name	Status	Abundance	Feeding habit
Family Phasianidae					
1	Grey Francolin	<i>Francolinus pondicerianus</i>	R,B	C	O
2	Black Francolin	<i>Francolinus francolinus</i>	R,B	R	O
3	Indian Peafowl	<i>Pavo cristatus</i>	R,B	FC	O
Family Picidae					
4	Lesser Golden-backed Woodpecker	<i>Dinopium benghalense</i>	R,B	FC	O
5	Eurasian Wryneck	<i>Jynx torquilla</i>	WM	I	In
Family Capitonidae					
6	Brown-headed Barbet	<i>Megalaima zeylanica</i>	R,B	FC	F
7	Coppersmith Barbet	<i>Megalaima haemacephala</i>	R,B	FC	F
Family Bucerotidae					
8	Indian Grey Hornbill	<i>Ocyrceros birostris</i>	R,B	FC	F
Family Upupidae					
9	Common Hoopoe	<i>Upupa epops</i>	R,B	FC	In
Family Alcedinidae					
10	White-breasted Kingfisher	<i>Halcyon smyrnensis</i>	R,B	FC	Cv
Family Coraciidae					
11	Indian Roller	<i>Coracias benghalensis</i>	R	UC	Cv
Family Meropidae					
12	Small Bee-Eater	<i>Merops orientalis</i>	R,B	FC	In
Family Cuculidae					
13	Pied Crested Cuckoo	<i>Clamator jacobinus</i>	SM	UC	O
14	Brainfever Bird	<i>Hierococcyx varius</i>	SM	FC	O
15	Drongo Cuckoo	<i>Surniculus lugubris</i>	R	UC	O
16	Asian Koel	<i>Eudynamys scolopacea</i>	R,B	FC	O
17	Greater Coucal	<i>Centropus sinensis</i>	R,B	FC	O
Family Psittacidae					
18	Alexandrine Parakeet	<i>Psittacula eupatria</i>	R	UC	G,F
19	Rose-ringed Parakeet	<i>Psittacula krameri</i>	R,B	C	G,F
20	Slaty-headed Parakeet	<i>Psittacula himalayana</i>	WM	UC	G,F
21	Plum-headed Parakeet	<i>Psittacula cyanocephala</i>	WM	UC	G,F
Family Apodidae					
22	House Swift	<i>Apus affinis</i>	R,B	FC	In
Family Tytonidae					
23	Barn Owl	<i>Tyto alba</i>	R	R	Cv
Family Strigidae					
24	Collared Scops-Owl	<i>Otus bakkamoena</i>	R	R	Cv
25	Spotted Owlet	<i>Athene brama</i>	R,B	C	Cv
Family Columbidae					
26	Blue Rock Pigeon	<i>Columba livia</i>	R,B	C	G
27	Little Brown Dove	<i>Streptopelia senegalensis</i>	R,B	UC	G
28	Spotted Dove	<i>Streptopelia chinensis</i>	R,B	C	G
29	Red Collared-Dove	<i>Streptopelia tranquebarica</i>	R,B	FC	G
30	Eurasian Collared-Dove	<i>Streptopelia decaocto</i>	R,B	FC	G
31	Yellow-legged Green-Pigeon	<i>Treron phoenicoptera</i>	R,B	UC	F
Family Rallidae					
32	White-breasted Water Hen	<i>Amauromis phoenicurus</i>	R,B	FC	O
Family Charadriidae					
33	Red-wattled Lapwing	<i>Vanellus indicus</i>	R,B	C	In
Family Accipitridae					
34	Oriental Honey-Buzzard	<i>Pernis ptilorhynchus</i>	R	UC	Cv
35	Black-shouldered Kite	<i>Elanus caeruleus</i>	R,B	UC	Cv
36	Black Kite	<i>Milvus migrans</i>	R,B	FC	Cv
37	Brahminy Kite	<i>Haliastur Indus</i>	WM	UC	Cv
38	Shikra	<i>Accipiter badius</i>	R,B	FC	Cv
Family Phalacrocoracidae					
39	Little Cormorant	<i>Phalacrocorax niger</i>	R	FC	Cv
40	Indian Shag	<i>Phalacrocorax fuscicollis</i>	R	UC	Cv
41	Great Cormorant	<i>Phalacrocorax carbo</i>	R	UC	Cv
Family Ardeidae					
42	Little Egret	<i>Egretta garzetta</i>	R,B	FC	Cv
43	Large Egret	<i>Casmerodius albus</i>	R	UC	Cv
44	Median Egret	<i>Mesophoyx intermedia</i>	R	UC	Cv
45	Cattle Egret	<i>Bubulcus ibis</i>	R,B	C	Cv
46	Indian Pond-Heron	<i>Ardeola grayii</i>	R,B	FC	Cv

Common Name	Scientific Name	Status	Abundance	Feeding habit	
Family Lannidae					
47	Bay-backed Shrike	<i>Lanius vittatus</i>	R,B	UC	Cv
48	Rufous-backed Shrike	<i>Lanius schach</i>	R,B	UC	Cv
Family Corvidae					
49	Indian Treepie	<i>Dendrocitta vagabunda</i>	R,B	FC	O
50	House Crow	<i>Corvus splendens</i>	R,B	C	O
51	Jungle Crow	<i>Corvus macrorhynchos</i>	WM	UC	O
Family Campephagidae					
52	Long-tailed Minivet	<i>Pericrocotus ethologus</i>	WM	FC	In
53	Small Minivet	<i>Pericrocotus cinnamomeus</i>	WM	UC	In
Family Monarchinae					
54	Asian Paradise-Flycatcher	<i>Terpsiphone paradisi</i>	WM	R	In
Family Rhipidurinae					
55	White-browed Fantail-Flycatcher	<i>Rhipidura aureola</i>	WM	FC	In
Family Dicruridae					
56	Black Drongo	<i>Dicrurus macrocercus</i>	R,B	C	O
Family Turdinae					
57	Dark-Throated Thrush	<i>Turdus ruficollis</i>	WM	I	In
58	Bluethroat	<i>Luscinia svecica</i>	WM	UC	In
59	Oriental Magpie Robin	<i>Copsychus saularis</i>	R,B	FC	O
60	Indian Robin	<i>Saxicoloides fulicata</i>	R,B	FC	In
61	Common Stonechat	<i>Saxicola torquata</i>	WM	FC	In
62	Pied Bushchat	<i>Saxicola caprata</i>	R,B	FC	In
63	Indian Chat	<i>Cercomela fusca</i>	R,B	UC	In
Family Sturnidae					
64	Brahminy Starling	<i>Sturnus pagodarum</i>	R,B	FC	O
65	Asian Pied Starling	<i>Sturnus contra</i>	R,B	FC	O
66	Common Myna	<i>Acridotheres tristis</i>	R,B	C	O
67	Bank Myna	<i>Acridotheres ginginianus</i>	R,B	FC	O
68	Jungle Myna	<i>Acridotheres fuscus</i>	WM	UC	O
Family Oriolidae					
69	Eurasian Golden Oriole	<i>Oriolus oriolus</i>	SM	FC	O
Family Hirundinidae					
70	Plain Martin	<i>Riparia paludicola</i>	R,B	FC	In
71	Common Swallow	<i>Hirundo rustica</i>	R,B	FC	In
72	Wire-tailed Swallow	<i>Hirundo smithii</i>	R,B	FC	In
Family Pycnonotidae					
73	Red-vented Bulbul	<i>Pycnonotus cafer</i>	R,B	C	In
Family Zosteropidae					
74	Oriental White-Eye	<i>Zosterops palpebrosus</i>	R,B	UC	O
Family Sylviinae					
75	Ashy Prinia	<i>Prinia socialis</i>	R,B	FC	In
76	Common Lesser Whitethroat	<i>Sylvia curruca</i>	WM	FC	In
77	Paddyfield Warbler	<i>Acrocephalus agricola</i>	R,B	UC	In
78	Common Chiffchaff	<i>Phylloscopus collybita</i>	WM	FC	In
79	Common Tailorbird	<i>Orthotomus sutorius</i>	R,B	FC	In,N
Family Timaliinae					
80	Common Babbler	<i>Turdoides caudatus</i>	R,B	FC	O
81	Large Grey Babbler	<i>Turdoides malcolmi</i>	R,B	FC	O
82	Jungle Babbler	<i>Turdoides striatus</i>	R,B	C	O
Family Nectariniidae					
83	Purple Sunbird	<i>Nectarinia asiatica</i>	R,B	C	In,N
Family Motacillidae					
84	White Wagtail	<i>Motacilla alba</i>	WM	FC	In
85	Large Pied Wagtail	<i>Motacilla maderaspatensis</i>	R,B	FC	In
86	Citrine Wagtail	<i>Motacilla citreola</i>	WM	UC	In
87	Yellow Wagtail	<i>Motacilla flava</i>	WM	UC	In
88	Paddyfield Pipit	<i>Anthus rufulus</i>	R,B	UC	In
Family Ploceinae					
89	Baya Weaver	<i>Ploceus philippinus</i>	R,B	UC	I,G
90	Streaked Weaver	<i>Ploceus manyar</i>	R,B	UC	I,G
Family Estrildidae					
91	White-throated Munia	<i>Lonchura malabarica</i>	R,B	FC	G
92	Spotted Munia	<i>Lonchura punctulata</i>	R,B	FC	I,G

R - Resident; SM - Summer migrant; WM - Winter migrant; B - Breeding; C - Common; FC - Fairly common; UC - Uncommon; R - Rare; I - Irregular; In - Insectivore; O - Omnivore; Cv - Carnivore; G - Granivore; F - Frugivore; N - Nectarivore.

Sunbird and Red Vented Bulbul were common residents. Eurasian Wryneck and Dark-throated Thrush were irregular visitors. Surprisingly the House Sparrow (*Passer domesticus*), a very common breeding resident, could not be recorded even once in the university campus during the entire span of the survey. The campus avifauna is composed of insectivores (33) followed by omnivores (25), carnivores (20), granivores (13), frugivores (8) and nectarivores (2). The campus calls for more efforts in biodiversity and ecology conservation.

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