



International Journal of Fauna and Biological Studies

Available online at www.faunajournal.com

I
J
F
B
S

International
Journal of
Fauna And
Biological
Studies

E-ISSN 2347-2677

P-ISSN 2394-0522

www.faunajournal.com

IJFBS 2021; 8(4): 01-03

Received: 01-05-2021

Accepted: 03-06-2021

MI Dahya

BKM Science College,
Valsad, Gujarat, India

AB Thakor

BKM Science College,
Valsad, Gujarat, India

KM Patel

BKM Science College,
Valsad, Gujarat, India

Avian diversity of BKM science college campus, Valsad, Gujarat

MI Dahya, AB Thakor and KM Patel

DOI: <https://doi.org/10.22271/23940522.2021.v8.i4a.835>

Abstract

Study on bird diversity in the campus of BKM Science College, Valsad was done, over a period of six months from June 2020 to May 2021. A total number of 63 bird species belonging to 23 families were recorded during the study covering an area of about 1,011 sq km. College campus has 15.2 % of the total bird species reported in Valsad region. The study was divided into different regions: Botanical Garden, Arts faculty, Law department, Science department and Cricket ground. Out of the 63 bird species observed, 4 were migratory namely, Yellow-footed green pigeon, Rosy-starling, Indian Pitta, Ashy drongo. The common bird species were Oriental Magpie robin, Jungle babbler, Common myna, spotted dove, Blue rock pigeon, House crow, Black drongo etc. The campus has wide variety of trees, which may be one of the major contributing factors for the richness of bird species.

Keywords: Birds diversity, college campus, Valsad, botanical garden, rosy starling, Indian pitta

Introduction

Birds are chordate belonging to class Aves. Aves is the Latin name for birds - feathered winged, bipedal, warm-blooded, egg laying vertebrate animal. They inhabit all the ecosystem across the globe ^[1]. There has been a wide range in size of birds that is from Bee humming bird of 5 cm long to Ostrich of 2.5 m tall. Birds are some of the most prominent species of the Earth's biodiversity and being sensitive to environmental changes. They act as a key indicator for assessing the status of ecosystem health. They are integral part of food chain and food web. Birds play a vital role in keeping balance of nature. They also help in pollination of flowers and dispersal of seeds. Richness, abundance and community composition of birds are often used by ecologists to understand the diversity of species in natural occurrence ^[2].

The major factor affecting the bird diversity is habitat destruction. Therefore, the majority of avian species are unknowingly entering to inhabit the urban area. The change in vegetation composition could impact the quantity and quality of habitat for birds in terms of food, water and cover, which can further affect diversity, abundance and distribution of birds ^[3, 4].

According to new research led by American Museum of Natural History suggest that there are about 18,000 bird species in the world ^[5]. A check-list of bird of India authored by Praveen et al., published by the Indian Birds 2016, there are about 1,263 species of bird present in India, which is 12% of total bird species in the world ^[6, 8]. According to Birds of Gujarat there are about 480 bird species in Gujarat. as per A checklist of the birds of Gujarat (2020) there are about 414 species of bird found in Valsad region ^[9, 10].

This study aims to investigate the bird diversity in the campus as no work on bird diversity was carried out in BKM Science College, Valsad campus. The study will be helpful in preparing a baseline data on bird diversity since it assesses the difference in avian community among these areas ^[11, 12].

Materials and Methods

Site selection

The study was done in the BKM Science College, Valsad campus which is confined within the area of 1,011 sq km. The Arabian Sea is approximately 2.7 km away from the campus, so birds get different ecosystems to fulfil their basic requirements. The College campus consists of more than 500 trees which can also provide wide range of habitats for the birds. Furthermore, some areas within in the campus is quite silent which indirectly promote the bird diversity.

Corresponding Author:

MI Dahya

BKM Science College,
Valsad, Gujarat, India

Instrument Used

Olympus 10 × 40 DPS Binoculars was used for the study. Binoculars is a field glasses are two telescopes mounted side-by-side and aligned to point in same direction. The most importance criterion is comorting. The must be comfortable to hold. All binoculars have a set of two figures, indicating their specification, sometime followed by letter code as B or GA. The first figures refer to magnification, which is generally between 7X and 10X. The second figures refer to diameter of larger lens, the objective lens, in mm. The size of binocular is governed by this second figure GA or RA shows that the binocular is rubber covered, offering some protection against knock and wear. For general bird watching lower magnification 7X or 8X are used. The lower the magnification the brighter the image, the wider the field view.

Area Search

The area search is a quantitative, habitats specific survey method that is widely applicable in most habitats, which is useful for diversity measurement such as species richness, bird community composition and relative abundance; as well as providing simple avian-habitat relationship, natural history and reproductive information. The method is also well suited for public education and training observer. The method involves a time-constrained survey of a defined area, during which the observer records all birds seen or heard,

differentiating those detected inside, outside, and flying over the search area. The birds were observed by sitting and standing from a hiding place.

Bird Identification Technique

Identifying a bird can be a challenging process. Birds are active, energetic animals. Quick eye spotting is required in order to get possible detail in short span of time. The following techniques were used for identifying the birds.

Birds were recognized by fixing eye on them. Continuous observations were made regarding their movement, songs, feeding habit and size. Simultaneously specific calls and songs were also identified. General size, shape, distinctive strips and patches of color including crown strips, eye lines, nape color, eye arcs or rings and birds bill size were noted. Wing bars, color patches, and marking on bird body during stationary stage or flying stage were noted. Leg color and length were also noted in each observation. Observations was confirmed with the help of Airbase bird count (2013) and eBird.

Results and Discussion

After our continuous observation of 365 days that is from June 2020 to May 2021, we have identified 63 bird species which are listed in Table-1.

Table 1: Checklist of Birds of BKM Science College, Valsad

| Sr. No. | Common Name | Zoological Name | Status in Campus |
|---------|----------------------------|------------------------------------|------------------|
| 1. | Ashy Drongo | <i>Dicrurus leucophaeus</i> | Seasonal |
| 2. | Asian Brown Flycatcher | <i>Muscicapa daurica</i> | Widespread |
| 3. | Asian Koel | <i>Eudynamis scolopaceus</i> | Widespread |
| 4. | Asian Koel-FEMALE | <i>Eudynamis scolopaceus</i> | Widespread |
| 5. | Asian palm swift | <i>Cypsiurus balasiensis</i> | Widespread |
| 6. | Asian Pied Starling | <i>Gracupica contra</i> | Seasonal |
| 7. | Bank Myna | <i>Acridotheres ginginianus</i> | Widespread |
| 8. | Barn Owl | <i>Tyto alba</i> | Widespread |
| 9. | Baya weaver | <i>Ploceus philippinus</i> | Widespread |
| 10. | Black Drongo | <i>Dicrurus macrocerus</i> | Widespread |
| 11. | Black headed Ibis | <i>Threskiornis melanocephalus</i> | Widespread |
| 12. | Black Kite | <i>Milvus migrans</i> | Widespread |
| 13. | Black-winged Kite | <i>Elanus caeruleus</i> | Rare |
| 14. | Blue Rock Pigeon | <i>Columba livia</i> | Widespread |
| 15. | Brahminy starling | <i>Sturnia pagodarum</i> | Seasonal |
| 16. | Brown-headed Barbet | <i>Megalaima zeylanica</i> | Seasonal |
| 17. | Cattel Egret | <i>Bubulcus ibis</i> | Widespread |
| 18. | Common Hawk Cuckoo | <i>Hierococcyx varius</i> | Rare |
| 19. | Common Myna | <i>Acridotheres tristis</i> | Widespread |
| 20. | Common stonechat | <i>Saxicola torquatus</i> | Widespread |
| 21. | Common Tailorbird | <i>Orthotomus sutorius</i> | Rare |
| 22. | Coppersmith barbet | <i>Megalaima haemacephala</i> | Seasonal |
| 23. | Flameback woodpecker | <i>Dinopium benghalense</i> | Rare |
| 24. | Greater Coucal | <i>Centropus sinensis</i> | Widespread |
| 25. | Green-Bee Eater | <i>Merops orientalis</i> | Widespread |
| 26. | Grey Francolin | <i>Francolinus pondicerianus</i> | Widespread |
| 27. | House Crow | <i>Corvus splendens</i> | Widespread |
| 28. | House Sparrow | <i>Passer domesticus</i> | Widespread |
| 29. | House swift | <i>Apus nipalensis</i> | Widespread |
| 30. | Indian Golden Oriole | <i>Oriolus kundoo</i> | Seasonal |
| 31. | Indian Gray Hornbill | <i>Ocyeros birostris</i> | Rare |
| 32. | Indian Hoopoes | <i>Upupidae</i> | Rare |
| 33. | Indian paradise flycatcher | <i>Terpsiphone paradisi</i> | Widespread |
| 34. | Indian Pitta | <i>Pitta brachyura</i> | Rare |
| 35. | Indian Robin | <i>Saxicoloides fulicatus</i> | Widespread |
| 36. | Indian Roller | <i>Coracias benghalensis</i> | Rare |

| | | | |
|-----|----------------------------|----------------------------------|------------|
| 37. | Indian silverbill | <i>Euodice malabarica</i> | Seasonal |
| 38. | Jungle Babbler | <i>Turdoides striata</i> | Widespread |
| 39. | Jungle Crow | <i>Corvus macrorhynchos</i> | Widespread |
| 40. | Jungle Myna | <i>Acridotheres fuscus</i> | Seasonal |
| 41. | Little Cormorant | <i>Microcarbo niger</i> | Widespread |
| 42. | Little Egret | <i>Egretta garzetta</i> | Widespread |
| 43. | Long-billed Pipit | <i>Anthus similis</i> | Rare |
| 44. | Marsh Harrier | <i>Circus aeruginosus</i> | Rare |
| 45. | Oriental Magpie Robin | <i>Copsychus saularis</i> | Widespread |
| 46. | Peacock | <i>Pavo cristatus</i> | Widespread |
| 47. | Pond Heron | <i>Ardeola</i> | Widespread |
| 48. | Purple Sunbird | <i>Cinnyris asiaticus</i> | Seasonal |
| 49. | Racket Tailed Drongo | <i>Dicrurus paradiseus</i> | Rare |
| 50. | Red naped Ibis | <i>Pseudibis papillosa</i> | Rare |
| 51. | Red Vented Bulbul | <i>Pycnonotus cafer</i> | Widespread |
| 52. | Red Whiskered Bulbul | <i>Pycnonotus jocosus</i> | Widespread |
| 53. | Red-wattled Lapwing | <i>Vanellus indicus</i> | Widespread |
| 54. | Rose-ringed Parakeet | <i>Psittacula krameri</i> | Rare |
| 55. | Rosy Starling | <i>Pastor roseus</i> | Migratory |
| 56. | Rufous Treepie | <i>Dendrocitta vagabunda</i> | Rare |
| 57. | Scaly-breasted munia | <i>Lonchura punctulata</i> | Seasonal |
| 58. | Shikra | <i>Accipiter badius</i> | Rare |
| 59. | Spotted Dove | <i>Spilopelia chinensis</i> | Widespread |
| 60. | Spotted Owlet | <i>Athene brama</i> | Widespread |
| 61. | White-browed Wagtail | <i>Motacilla maderaspatensis</i> | Seasonal |
| 62. | Yellow wagtail | <i>Motacilla flava</i> | Rare |
| 63. | Yellow-footed Green Pigeon | <i>Treron phoenicoptera</i> | Migratory |

The most frequently found birds are: House Sparrow, Jungle Babbler, Common Myna, Blue Rock Pigeon, Spotted Dove, Black Drongo, Indian Paradise Flycatcher, Black Kite and Bulbul. There are also some birds which were rarely sighted during the study period such as- Common Hoopoe, Indian Grey Hornbill, Flameback Woodpecker, Marsh Harrier, Shikra, Spotted Owlet, Barn Owl, Indian Golden Oriole, Indian Roller etc. Also, there were some migratory birds such as Yellow-footed Green Pigeon, Rosy Starling etc.

Conclusion

Comparative data clearly indicate that campus has recorded highest diversity in botanical garden area and lowest diversity at cricket ground as compare to other selected areas of the campus, this study helps to notice a positive relationship between healthy ecosystem with recorded species of birds. Further studies are recommended to study bird's relationships in the campus premises.

Acknowledgement

The authors are thankful to Dr. T.G. Gohil, Head of Biology Department, BKM Science College, Valsad for providing necessary help during the work. Thanks to all members of the faculty of the college for their moral support, kind co-operation and help in all way. We are highly thankful to Dr. Aadil kazi, Mr. Mohammad Jat and Mr. Priyank Kapdi for their help.

References

1. Abdar MR. Diversity and Richness of bird species in newly formed habitats of Chandoli National Park in Western Ghats, Maharashtra State, India. Biodiv J 2013;4:235-242.
2. Aggrawal A, Tiwari G, Harsh SA. Diversity and Density Estimation of Birds of the Indian Institute of Forest Management Campus, Bhopal, India. J Threat Tax 1998;7:2-12.

3. Asad R. Rahamsni director. Bombay Natural History Society: bird diversity lecture- ENVIS Center on Avian Ecology 2011.
4. Bird checklist: Second update of Gujarat Check list 2020.
5. Joshi PP. Assessment of Avian Population in different habitat around Amolakchand Mahavidyalaya Campus, Yavatmal, Maharashtra, India. J Biosci 2001;4:11.
6. Khan, MMH. Protected Areas of Bangladesh-A Guide to Wildlife. Nishorgo Program, Bangladesh Forest Department, Dhaka, Bangladesh 2008, 304.
7. Main streaming conservation of migratory soaring birds in key productive sector along the rift valley/red sea flyway, bird identification manual, ministry of environment.
8. Mohsanin S, Khan MMH. Status and seasonal occurrence of the birds in Jahangirnagar University Campus. Ban J Life Sci 2009;21:29-37.
9. Reza AMS, Hasan MA, Hossain M, Parween S. Annotated checklist of birds of Rajshahi University Campus: an update. Univ J Zool, Rajshahi University 2012;31:39-47.
10. Salim Ali. The Book of Indian Birds 1984, 11th edn.
11. Salim Ali. The Book of Indian Birds 1996, 12th edn.
12. Salim Ali. The pictorial guide to the birds of Indian Subcontinent 1996.