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STUDIES ON AVIFAUNAL DIVERSITY OF SRIKAKULAM TOWN, SRIKAKULAM DISTRICT, ANDRAPRADESH, INDIA

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ABSTRACT

Birds are widely recognized as bio-indicators of the quality of the ecosystem. Avifauna plays various roles as scavengers, pollinators, predators of insect pest, bio-indicators of different kind of environment like urbanization and industrialization. They are very sensitive indicators of pollution problems and function as early warning system. The studies have been conducted from November 2013 to October 2014. During the study 52 species birds were recorded. It is a good habitat for feeding and nesting to birds due to river Nagavali, other water ponds and trees are in and around the Srikakulam town. It is the first attempt on avifaunal documentation in Srikakulam town.

KEYWORDS: Avifauna, Srikakulam, Nagavali, Feeding, Nesting, Habitat, Documentation.

INTRODUCTION

Birds play an important role in the maintenance of natural ecosystem. Having realized the importance of birds and wildlife in general, the Government of India has created several protected areas (PAs) such as national parks and sanctuaries where the wildlife including birds receives protection against poaching and destruction of habitat.

The bird's diversity and abundance can reflect ecological treads in other biodiversity. Indian subcontinent supports 1300 plus bird species belonging to 16 orders. Out of these, 900 plus species are resident and rest are migratory. birds, especially Corvidae and parrots, are among the most intelligent animals; several bird species make and use tools, and many social species pass on knowledge across generations, which is considered a form of culture.

Many species annually migrate great distances. Birds are social, communicating with visual signals, calls and songs and participating in such social behaviours as cooperative breeding and hunting, flocking, and mobbing of predators. The vast majority of bird species are socially monogamous, usually for one breeding season at a time, sometimes for years, but rarely for life. Other species have polygynous ("many females") or, rarely, polyandrous ("many males") breeding systems. Eggs are usually laid in a nest and incubated by the parents. Most birds have an extended period of parental care after hatching. Many species are economically important. Domesticated and undomesticated birds (poultry and game) are important sources of eggs, meat, and feathers. Songbirds, parrots, and other species are popular as pets. Guano (bird excrement) is harvested for use as a fertilizer. Birds prominently figure throughout human culture. About 120–130 species have become extinct due to human activity since the 17th century and hundreds more before then. Human activity threatens about 1,200 bird species with extinction, though efforts are underway to protect them. Recreational bird watching is an important part of the ecotourism industry.

MATERIALS AND METHODS

Avifaunal surveys were carried out at regular intervals during Pre-monsoon, monsoon and Post-monsoon periods of the year, in order to cover migratory and resident species. Observations were made November 2013 to October 2014 with an aid of field binoculars (7x35m and 10x50 m). Identification was based on standard scientific procedures, field identification by direct sightings; photographs were taken whenever feasible and possible by using Nikon 35 mm digital camera with appropriate zoom lens. Bird survey was conducted, when the birds are most active during day from 06:00 to 9.30 hrs and from 16:00 to 19:00 hrs. Identification manuals and field guides by Ali & Ripley (1989), Kazmierczak (2000) and Grimmett et al., (2001) were used during survey. Abundance of the recorded species are documented based on the total sightings during the study period as common (more than 10 sightings), uncommon (3-5 sightings) and rare (1-2 sightings). The checklist of species with their status was given.

STUDY AREA

Srikakulam was formally known as chicacole. After independence it was renamed as Srikakulam. It is

believed that srikakulam town was founded by Lord Balaram, the brother of Lord Krishna. There is one more popular story in the puranas narrating the way as to how this place got the name of Srikakulam. Srikakulam is located at $18^{o}.20^{!}$ and $19^{o}.10^{!}$ Northeastern Latitude and $83^{o} – 53^{!}$ and 84^{o}-$50^{!}$ Eastern Longitude in District. The District is skirted to a distance by Kandivalasagedda, Vamsadhara and Bahuda at Certain stretches of their courses while a line of heights of Great Eastern Ghats run from North – East, Viajayanagaram District flanks in the South and west while Orissa bounds it on the North and Bay of Bengal on the East. The Town having an extent of 20.89 Sq.km. including Pedda padu Area. Throughout the year, the climate is characterized by humidity. The South – West monsoon which fallows the summer seasons up to September. North –East monsoon starts from 1st October to the November. The period from December to mid February enjoys generally a fine weather. The annual rain fall is 937.6 mm but during the year 2004-2005 against normal, rainfall was 1162mm. As per rainfall statement it is observed that the highest rainfall occur in the month of June, July and September, October. It can also be observed that the first four months of the year. January to April is particularly rainless. But in the month of May fair amount of the rain may occur. More than half of the annual rainfall is brought by the South – West monsoon while a greater part of the rest occurs in October and November. The South – West monsoon begins in the middle of June. Usually the period between July and October is regarded as the heaviest.

RESULTS AND DISCUSSION

Avifauna plays an important link of food chain in ecological unit of nature. Hence, it is very important to know their diversity, migratory status, population size and distribution pattern and conservation status. In my study 52 species birds (Table-4) were recorded. 52 species of birds belonging to 29 families and 15 orders (Table&Fig1). Order Passeriformes is dominant with 6 families followed by Coraciformes with 4 families, Charadiformea with 4 familie, Ciconiformes with 3 families, Pelicaniformies with 2 familes, Ansariformes, Falconiformes, Gruiformes, Apodiformes, Columbiformes, Psittacidiformes, Cuculiformes, Strigiformes, Podicipediformes, Piciformes were represented with 1 family respectively. Residential status wise 10 species were Resident/Local migratory, 16 species were Resident, 12 species were Local migrants and 14 species were winter migratory. As conservation status (IWPA) (Table&Fig-3) wise 51 species were S IV, only one (1) species is under S I. Habitat wise (Table $Fig -2) 28 species were wetland, 20 were terrestrial and 4 species were wetland dependant. The resident birds are observed in most of the months of investigation period but the migratory birds were observed mostly in the winter months. The migratory species were winter visitors. Srikakulam town harbors good number of avian community because the river Nagavali flows margins of the town. Its attract number of birds for feeding site, as well as the number of trees in the town and surroundings are another source to attract the avian community for food and nesting. The anthropogenic pressure and Pollution levels are low so more detailed studies were necessary to reduce the effects and conserve the avian fauna in the Srikakulam town.

FiG-1) Graphical representation of order wise number of families.

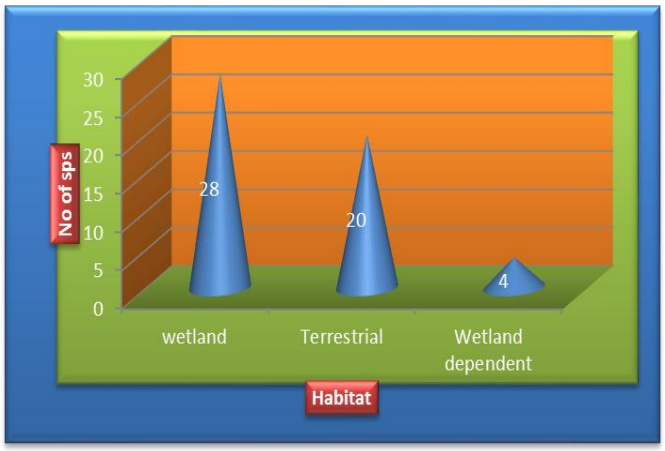

Fig-2) Graphical representation of habitat wise number of species from study area.

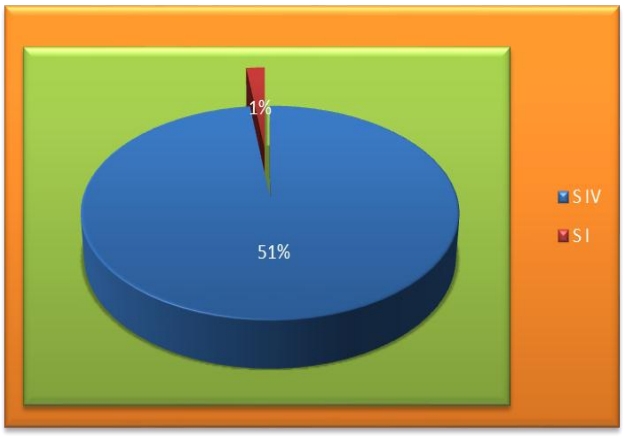

Fig-3) Graphical representation of IWPA status wise birds from study area.

Table-1) Order wise number of families recorded from Srikakulam town.

Order	Number of families
Passeriformes	6
Charadriformes	4
Coraciformes	4
Ciconiformes	3
Pelicaniformes	2
Ansariformes	1
Falconiformes	1
Gruiformes	1
Apodiformes	1
Columbiformes	1
Psittaciformes	1
Cuculiformes	1
Strigiformes	1
Podicipediformes	1
Piciformes	1

Table-2) Habitat wise number of species from study area.

Habitat	No of species
wetland	28
Terrestrial	20
Wetland dependent	4

Table-3) IWPA status wise birds recorded from study area.

IWPA	No of Birds
S IV	51
S I	1

Table-4) check list of birds recorded from srikakulam town.

S.No	Common Name	Scientific Name	Order	Family	status	Habitat	IWPA
1	Little Cormorant	*Phalacrocorax niger*	Pelecaniformes	Phalacrocoracidae	R/LM	W	S IV
2	Darter	*Anhinga melanogaster*		Anhingidae	R/LM	W	S IV
3	Cattle Egret	*Bubulcus ibis*	Ciconiformes	Ardeidae	R/LM	W	S IV
4	Little Egret	*Egretta garzetta*			R	WD	S IV
5	Median Egret	*Mesophoyx intermedia*			R/LM	WD	S IV
6	Large Egret	*Casmerodius albus*			R/LM	W	S IV
7	Night – Heron	*Nycticorax nycticorax*			R	W	S IV
8	Painted Stork	*Mycteria leucocephala*			LM	W	S IV
9	Asian Openbill-Stork	*Anastomus oscitans*		Ciconiidae	LM	W	S IV
10	Indian Pond-Heron	*Ardeola grayii*			R	W	S IV
11	Yellow Bittern	*Ixobrychus sinensis*			R/LM	W	S IV
12	Black Ibis	*Pseudibis papillosa*		Threskiornithidae	LM	W	S IV
13	Spot-bill Duck	*Anas poecilorhyncha*	Anseriformes	Anatidae	LM	W	S IV
14	Northern Pintail	*Anas acuta*			WM	W	S IV
15	Common Teal	*Anas crecca*			LM	W	S IV
16	Shoveller	*Anas clypeata*			WM	W	S IV
17	Black Kite	*Milvus migrans*	Falconiformes	Accipitridae	WM	T	S I
18	Brahminy Kite	*Haliastur indus*			*R*	*T*	S IV
19	Blackwinged Kite	*Elanus caeryuleus*			*R*	*T*	S IV
20	Honey-Buzzard	*Pernis ptilorhynchus*			*WM*	*T*	S IV
21	Purple Moorhen	*Porphyrio porphyrio*	gruiformes	Ralidae	R/LM	W	S IV
22	Water Cock	*Gallicrex cinerea*			R/LM	W	S IV
23	Water Rail	*Rallus aqyaticus*			LM	W	S IV
24	Pheasant-Tailed Jacana	*Hydrophasianus chirurgus*	Charadriformes	Jacanidae	R/LM	W	S IV
25	Black-Winged Stilt	*Himantopus himantopus*		Recurvirostridae	R/LM	W	S IV

26	Kentish Plover	*Charadrius alexandrinus*		*charadridae*	WM	W	S IV
27	Little Ringed Plover	*Charadrius dubius*			LM	W	S IV
28	Sand Plover	*Charadrius leschenaultii*			LM	W	S IV
29	Painted snipe	*Rostratual benghlensis*		Rostratulidae	R	W	S IV
30	House Swift	*Apus affinis*	apodiformes	Apodidae	R	WD	S IV
31	Small Blue Kingfisher	*Alcedo atthis*	Coraciformes	Alcedinidae	R	WD	S IV
32	Common Redshank	*Tringa tetanus*			WM	W	S IV
33	Common Snipe	*Gallinago gallinago*		Scolopacidae	WM	W	S IV
34	Small Indian Pratinicole	*Glareola iactea*		Glariolidae	WM	W	S IV
35	Blue Rock Pigeon	*Columba livia*	Collumbiformes	Columbidae	R	T	S IV
36	Ring dove	*Streptopelia decaocta*			LM	T	S IV
37	Rose-ringed Parakeet	*Psittacula krameri*	Psittaciformes	Psittacidae	LM	T	S IV
38	Asian Koel	*Eudynamys scolopacea*	cuculiformes	Cuculidae	LM	T	S IV
39	Barn owl	*Tyto alba*	strigiformes	Strigidae	LM	T	S IV
40	Small Bee-eater	*Merops orientalis*	coraciformes	Meropidae	WM	T	S IV
41	Rosy pastor	*Sturnus roseus*	Passeriformes	Alaudidae	WM	T	S IV
42	Indian Treepie	*Dendrocitta vagabunda*		Corvidae	R	T	S IV
43	Common babbler	*Turdoides caudatus*		muscicapidae	R	T	S IV
44	Tailor bird	*Orthotomus sutorius*			R	T	S IV
45	Magpie robin	*Copsychus saularis*			WM	T	S IV
46	Paddyfield Pipit	*Anthus rufulus*		motacillidae	R	T	S IV
47	Yellow Wagtail	*Motacilla flava*			WM	T	S IV
48	Purple Sunbird	*Nectariniaasiatica*		Nectarinnidae	LM	T	S IV
49	Spotted Munia	*Lonchura punctulata*		Ploceidae	R	T	S IV
50	Baya Weaver	*Ploceus philippinus*			WM	W	S IV
51	Little Grebe	*Tachybaptus ruficolis*	Podicipediformes	Podicipedidae	R	W	S IV
52	Greater Golden-backed woodpecker	*Chrysocolaptes lucidus*	piciformes	Picidae	R	T	S IV

T - Terrestrial
W - Wetland
WD - Wetland Dependent
R - Resident
LM - Local Migrant
WV - Winter Visitor.

IMAGES) INDIAN TREE PIE **A) MEDIAN EGRET**

CONCLUSION

The study documents the rich avifauna diversity showing the area still provides some potential habitats for the declining population of the threatened birds. Therefore, It can be achieved only through public participation. The

study could effectively provide the baseline for research which could be used for conservation purpose of birds.

REFERENCES

1. Ali, S., (1943), The Birds of Mysore. Part V. J. The Bombay Natural History Society, 44: 206-202.
2. Arvinda, N.A., Rao Dinesh, Madhusudhan, P.S., (2001), Additions of the birds of the Biligiri Rangaswamy temple wild life Sanctuary, Western Ghats, India, Zoos Print, 16: 541-547.
3. Donar, A.S., Reddy, K.R., Deshpande, D.P., (2012), Avifaunal diversity of Nippani reservoir, Belgaum district, Karnataka, The Ecoscan, Special Issue, 1: 27-30.
4. Furness, R.W., Greenwood, J.J.D., (1993), Birds as a monitor of Environmental change. Chapman and Hall, London.
5. Gill, F.B., (1994), Ornithology, 2nd edition, New York.
6. Grimmette, K., Inskipp, C., Inskipp, T., (1999), Birds of Indian sub continent, Oxford University press, New Delhi.
7. Harisha, M.N., Hosetti, B.B., Shahnawaz Ahamad, (2011), Wetland avifauna of Kundavada Lake, Davangere, Karnataka, Current biotica, 5: 351-358.
8. Kulkarni, A.N., Kanwate, V.S., Deshapande, V.D., (2006), Checklist of birds of Shikachi Wadi reservoir, Nadend, Maharashtra, J. Aqua. Biology, 21: 80-85.
9. Malhotra, M.M., Prakash, Pawar, K.K., (2005), Diet variation in water fowl during winter at tank Indore, India, J. Environment and Ecoplan, 10: 129-138.
10. Manohara, P., Saxena, G., (2005), Population dynamics of water fowl at Kishanpura Talava, Indoor, India, J. Life Science, 2: 45-48.
11. Nazneen, K., Gururaja, K.V., Manjunatha Reddy, A.H., Krishnamurty, S.V., (2001), Birds of Kuvempu University Campus, Shivamogga district, Karnataka, Zoos Print, 16: 557-560.
12. Patil, M, S., Hiragond, (2013), Avifauna diversity along the Ghattaprabha river in Shettihalli, Hukkeri taluk, North Karnataka. The Ecoscan, 7: 79-82.
13. Srinivasa, T.S., Karthekeyan, S., Prasad, J.N., (1997), Faunal survey of Biligiri Rangaswamy temple wildlife Sanctury. Merlin Nature club, Bangalore.