Original Research Paper Zoology

STUDY OF AVIFAUNA FROM THE COASTAL AREA OF PALGHAR TALUKA MAHARASHTRA

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ABSTRACT

In this paper an attempt is made by the authors to quantify the results of their survey of the avifauna from the coastal area of Palghar. This coastal area is located about 10-15 km away from Palghar city. This coastal area is surveyed for avifauna in the last 20 years casually through the nature trails and rigorously in 2016. The authors have recorded 62 species of birds belonging to 8 Orders and 27 Families. The Order Passeriformes was found dominant having 10 families and 28 bird species. In the families the family Ardeidae and Laniidae were found dominant with six and five species respectively. In this paper an attempt is being made to make aware town planers, NGOs and researchers, especially those already working in urban environments, to consider explicitly the role and influence of wild avian populations that share our towns and cities and help to develop this area as the hub of eco tourism. This will open the gate of employment in this Aadivashi district and in turn the living standard of people.

KEYWORDS Avifauna, suburb, planning, Aadivashi.

INTRODUCTION

Birds are found worldwide in most habitats, and as they are generally found in high tropic levels, they are sensitive to environmental change. Additionally, they reflect the trends and distributions of other groups of species such as mammals, reptiles, amphibians, invertebrates, and plants, making them valuable indicators of environmental health, Birdlife International (2013).Some of the world's highest bird diversity are found in coastal habitats. Coastal environments are also host to some of the largest gatherings of migratory and breeding birds, New York Audubon (2013). Coastal birds can be broken down into three distinct categories: shoreline predators, which includes birds of prey and herons; waders, such as sandpipers and plovers; and true seabirds, such as gulls, terns, gannets, and boobies, Richmond (2011). The birds are very important ecological indicators to understand the quality of habitats. The destruction of different types of habitats by cutting food provider's trees and foraging plants for household use of wood and required lands for residential purposes are the main factor responsible for lower down in bird foraging habitat and their nesting sites. Therefore the majority avian species are unknowingly enters to inhabit in the urban areas, Dayan and G (2009). In the western part of the Arabian/Persian Gulf, coastal habitats such as intertidal wetlands and mangroves are scarce and poorly studied, Stamatis Zogaris (2016). Mangroves provide an important habitat for a variety of planktonic and benthic organisms, Nagelkerkan (2008) which attract a myriad of migratory and non-migratory birds that utilize the mangrove ecosystem in varying degrees from feeding, roosting, to breeding, Oswin (2002). The mudflats of the mangrove ecosystems are reported to play a significant role in the conservation of resident birds, migratory and endangered birds, Pawar (2011). Most of the birds that visit mudflats possess long legs and toes, long and sometimes curved bills and are called waders. These adaptations enable the waders to feed in shallow water habitats. It is likely that the factors contributing to high primary ocean productivity inducing the growth of phytoplankton, also contribute to the growth of the benthic macro invertebrate fauna consumed by shorebirds, Butler *et al. (*2001). It is suggested that the avifauna is important for the good health of the ecosystem as these birds play various roles as scavenger, pollinators and predators of insect pests, Padmavati et.al(2010); Bhattacharjee et.al. (1985).

Every day, throughout the Western world, householders place seeds, sugar mixtures, food scraps and meats on trays and in hanging feeders, as supplementary food sources for wild birds. Whether to ameliorate poor foraging conditions, to monitor species richness and Abundance, or simply to enjoy the presence of otherwise free-living wildlife, many people are Passionate participants in the supplementary feeding of wild birds, Dunn and Tessaglia- Hymes (1990), Cannon (2000), Howard and Jones (2004).feeding may enhance populations of some introduced species, such as common starlings *Sturnus vulgaris* and house sparrows *Passer domesticus,* as well as certain larger and more behaviourally dominant species at the expense of native species, Chace and Walsh (2006), Parsons et al. (2006).The Indian subcontinent, a part of the vast Oriental biogeographic regions, is very rich in biodiversity. Out of the more than 9,000 birds of the world, the Indian subcontinent contains about 1,300 species, or over 13% of the world's birds fauna are found in India, Grimmett et.al. (1998). Alterations in the availability and quality of food resources can influence breeding activity. Smaller-scale intensive studies, focusing on specific issues, are also essential, although it is likely that these will also require the cultivation of productive relationships with residents. visitation rates to feeders and broods e.g., Freitag et al. (2001), respectively, providing invaluable insight into how food supplementation influences the nutritional ecology, breeding biology, health and, ultimately, the life history of birds feeding in urban environments.

The majority of wetland birds observed during this study were resident species, migratory and palearctic species. Some of the palearctic species recorded includes the yellow wagtail, the warblers, northern shoveler, the sandpipers and the migrants and

residents were also of a considerable number. The species that are winter migrants used the wetlands area for rest and other activities while waiting for the favorable condition of their home range. They involved in activities that afford them opportunity to store enough fats for the journey back to Europe, Manu (2000). Thus, habitat has long been used as a predictor of bird species abundance, and variety of birds has developed different preferences for habitat, Huston (1994). Birds select vegetation variables in manner in which an individual habitat may have important effect on its access to food, mates or its vulnerability to predators, Manu (2000). Water birds, being generally at or near the top of most wetland food chains are highly susceptible to habitat disturbances and are therefore good indicators of general condition of aquatic habitats .Paddy fields with stray trees and scattered vegetation cover might have extended comfortable shelter and suitable foraging grounds for the wetland birds. The number of occasionally birds found is more here because the climate condition, food and shelter are suitable in those particular wetlands.,Anurag et al. (2014). Singh *et al*. (2016) studied the avifauna of Devkhop lake of Palghar and enumerated 20 families .Coastal area of Palghar taluka is comprising of and different types of ecosystem and allowing the interaction of different habitat bird's population seen in this area which in turn contributing to rising graph of bird biodiversity.

Present study will help to prepare a baseline data on avifauna diversity with their relative abundance and occurrence records of resident and migratory birds in different ecological sites. This study will also make aware the government and its constituents in particular and NGO's, students and local inhabitants in general about the richness of this coastal area which in turn will participate in planning for the better conservation and management of this beautiful area for the future of our next generation.

MATERIAL AND METHODS

Study area:

This study was conducted in Palghar Taluka of Maharashtra state which is situated between geographic coordinate of latitude 19.697029°N 72.771249°E Palghar Taluka is starching between Satpati to Kelva and covering around 25 kilometer distance (Map 1). This coastal area is lush green and covering different types of habitat such as terrestrial, wetland, mangroves and marine ecosystem. (Fig. 1.aand b) Agriculture and fishing in this area are mainly dependent on monsoon rain. Palghar is the administrative capital of the newly formed Palghar district and 10-15 km away from study area. The semi-industrialized Palghar has good connectivity with western railway and Mumbai- Ahmadabad highway.

Fig. 1. a. and b. Study sites of coastal area of Palghar

Method:

Nature trails were carried out year throughout the area casually in the last 20 years and rigorous screening in this and observations were made with the aid of binocular. Identification was done with the help of field guides given by by Ali & Ripley (1969, 1995), Ali (1996, 2002) .Nature trails were conducted by systematically walking on fixed routes through the study area. Birds were mostly observed during the most active period of the daytime (early morning and late evening).

RESULT:

In the present study a total of 62 birds belonging to 8 Orders and 27 Families were recorded from this coastal area of Palghar Taluka. (Table 1). This is the first record of avian biodiversity from coastal area of Palghar Taluka of Maharashtra state. This coastal area exhibits qualitative variation in avifauna.

Table 1: Scientific check list of Avifauna of coastal area of Palgahr.

Order	Family	Scientific name	Common name
Passeriformes	Alaudidae	*Mirafra assimica*	Bush lark
		Galerida cristata magna	Creasted lark
	Muscicapidae	*Orthotomus sutorius*	Tailer bird
		Prinia sylvatica	Jungle wren warbler
		Saxicolodies fulicata	Indian Robin
		Copsychus saularis	Magpie Robin
	Motacillida	*Motacilla cinere cinere*	Grey wagtail
		Anthus rufulus	Paddy field pipit
		Motacilla flava	Yellow wagtail
	Sturnidae	*Acridotheres tristis*	Common myna
		Sturnus malabaricus	Grey headed myna
		Sturnus pagodarum	Brahmny myna
		Acridotheres ginginianus	Bank myna
	Nectariniidae	*Nectarinia minima*	Small sun bird
		Nectarinia asiatica	Purple sunbird
		Nectarinia zeylonica	Purple rumped sunbird
		Nectarinia lotenia	Loten's sunbird
	Hirundinidae	*Hirundo daurica daurica*	Redrumped swallows
		Hirundo concolor	Dusky crag martin
	Pycnonotidae	*Pycnonotus cafer*	Red vented Bulbul
		Pycnonotus jocosus	Redwhiskered bulbul
	Dicruridae	*Dicrurus macrocecur*	Black drongo
	Corvidae	*Corvus splendens*	House crow
		Corvus macrorhynchos	Jungle crow
	Ploceidae	*Passer domesticus indicus*	House sparrow
		Lonchura punchulata	Spotted muniya
		Estrilda amandava	Red muniya
		Ploceus spe.	Baya bird -?
Charadriiformes	Charadriidae	*Charadrius hiaticula*	Ring plover
		Tringa stagnatilis	Marsh sand piper
		Tringa tetanus	Common red shank
	Monarchidae	*Terpsiphone paradise*	Asian paradise flycatcher
	Artamidae	*Artamus fuscus*	Ashy swallow shrike
	Oriolidae	*Oriolus oriolus*	Golden orioles
	Laniidae	*Sterna aurantia*	Indian river tern
		Larus argentatus heaglini	Herring gull
		Chadadrius alexanderinus	Kentish plover
		Tringa glareola	Wood sand piper
		Lanius schach	Rufousbacked shrike
	Columbidae Jacanidae	*Streptopelia chinensis*	Spotted dove
		Columba livia	Blue rock pigeon
		Streptopelia senegalensis	Little brown dove
		Hydrophasianus chirurgus	Pheasant–tailed jacana
Ciconiiformes	Ardeidae	*Ardeola grayii*	Pond heron
		Butorides striatus	Littile green heron
		Nycticorax nycticorax	Blackcrawn night heron
		Ardea alba	Large egret
		Mesophoyx intermedia	Median egret
		Egretta garzrtta	Little Egrets
		Bubulcus ibis	Cattle egrete

	Phalacrocoracidae	*Phalacrocorax niger*	Little cormorant
		Tringa totanus	Common red shank
	Ciconiidae	*Anastomus oscitans*	Asian openbill stork
Coraciiformes	Alcedinidae	*Pelargopsi scapensis*	Whitebreasted Kingfisher
		Alcedo atthis	Small blue kingfisher
	Coraciidae	*Tockus birostris*	Grey hornbill
Gruiformes	Apodidae	*Cypsiurus parvus*	Palm swift
	Rallidae	*Gallinula chloropus*	Cmmon moorhen
Psittaciformes	Psittacidae	*Psittacula krmeri*	Roseringed parakeet
Strigiformes	Stringidae	*Athene broma*	Spotted owlet
Cuculiformes	Cuculidae	*Centropus sinensis*	Greater coucal
		Eudynamys scoiopacea	Asian koel

The order Passeriformes was found dominant having 10 families followed by orders Charadriiformes(7),Ciconiiformes(3), Coraciformes (2), Gruiformes(1),Psittaciformes(1),Strigifomes(1) and Cuculiformes (1),).Fig.1.

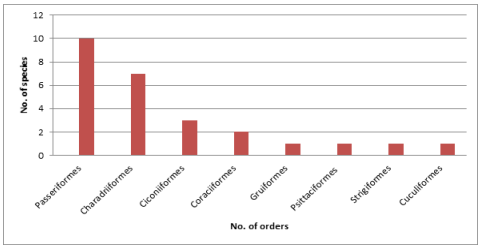

Fig. 2. The Order wise distribution of bird families of coastal area of Palgahr.

The family Ardeidae and Laniidae were found dominant with six and five species respectively indicating the coastal area moderately support birds life followed by Muscicapidae (4), Sturnidae (4), Nectariniidae (4), Ploceidae (4), Motacillida (3), Charadriidae(3), Columbidae (3),Alaudidae(2),Hirundinidae(2), Pycnonotidae(2),Corvidae(2),Phalacrocoracidae(2),Alcedinidae(2) , Cuculidae(2), Dicruridae (1), Monarchidae (1), Artamidae (1), Oriolidae (1), Ciconiidae (1),Coraciidae(1),Jacanidae (1), Apodidae (1), Rallidae(1),Psittacidae(1) and Stringidae(1).Fig.2.

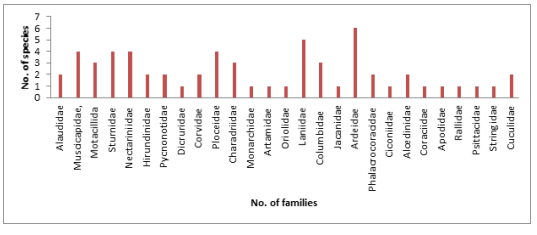

Fig. 3. The Family wise distribution of bird species of Palghar coastal side.

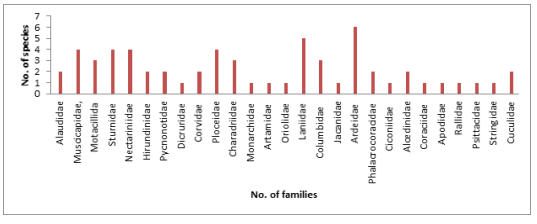

Fig.4.The Order wise distribution of bird species of coastal area of Palgahr.

DISCUSSION:

Similar type of study was carried out by Singh *et al*. (2016), where they observed beneficial aspect of garbage dump of Palghar in terms of avifauna and recorded 33 species of birds belonging to 21 families. Singh (2016) studied the avifauna of Waghoba forest of Palghar and recorded 77 species belonging to 31 families. Singh (2016- in press) studied the avifauna of suburb of Mumbai, Palghar and recoded 676 species belong to 33 Families. Vikas kumar (2015) recorded 99 birds' species in Vansda National Park, Gujarat. Terdalkar *et al*. (2005) listed 45 species of birds belonging to 18 families around Bhatye estuary, Ratnagiri. Prashant *et al*. (1994) in their study of coastal area of Nellore district recorded 78 species of birds. Kurhade (1991) recorded 51 bird species in Ahmednagar district. Vyawahare (1991) listed 245 bird species in Dhule district of Maharashtra.

CONCLUSION:

The present study shows 62 different types of birds belonging to 8 orders and 27 families from the coastal area of palghar taluka. The richness of avifauna is an excellent indicator of ecological health of Palghar. Proper awareness, regarding the importance of birds and their vital role in daily life, to the local peoples through different massive programs will ultimately help the protection of birds of this region. Many human induced unplanned activities such as industrialization, urbanization. Have also destroyed vast habitats of many species.

We strongly encourage town planers, NGOs and researchers, especially those already working in urban environments, to consider explicitly the role and influence of wild avian populations that share our towns and cities and help to develop this area as the hub of eco tourism. This will open the gate of employment in this Aadivashi district and in turn the living standard of people.

ACKNOWLEDGEMENT:

We are thankful to Dr. Hemant M. Pednekar, Principal and management of S.D.S.M. College, Palghar-401404(M.S.) India, for motivation and help during this study.

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