Journal of Research in Forestry, Wildlife & Environment Vol. 12(4) December, 2020

E-mail: jrfwe2019@gmail.com; jfewr@yahoo.com

http://www.ajol.info/index.php/jrfwe

ISBN: 2141 – 1778

Odiaka et al., 2020

A SURVEY OF BIRD SPECIES IN ABIGI METROPOLIS, OGUN WATER SIDE LGA, OGUN STATE NIGERIA

Odiaka, I. E*., Adebisi-Fagbohungbe, T. A., Ganiyu, O. A., Ogundimu, O. A. and Abdulazeez, F. I.

Forestry Research Institute of Nigeria, PMB 5054, Jericho Hills, Ibadan Oyo State, Nigeria

***Corresponding Author:** *ifyx007@yahoo.com;* +234 806 277 4803

ABSTRACT

Assessment of the bird species diversity and abundance in Abigi metropolis was carried out in this study. Data were collected during the rainy season (May, June, July and August 2018) and dry season (December 2018, January, February and March 2019 -). Eight-point counts were used with a distance of 400 m apart. Birds were recorded by sightings or calls and local abundance status of the birds' species were determined. A total of 28 bird species belonging to 15 families were recorded. Hirundinidae had the highest number of species (six), Ploceidae, Pycynonotidae and Columbidae have three species each while Bucerotidae and Nectaranidae have two species each. All the other families have 1 species each. Fifty percent of the species recorded were classified to be locally rare. The results of this work suggest that a relatively good number of bird species still exist in this community, though human interference like intense farming leading to deforestation has led to the disturbance that caused migration of the bird species within the area. The results obtained from this study will provide information for further research.

Keywords: Birds, Survey, Abigi metropolis

INTRODUCTION

Abigi is a town in Ogun Waterside Local Government Area, of Ogun State, Nigeria. Its geographical coordinates are Latitude 7.416 and Longitude 3.854 It has a coastline on the Bight of Benin and also borders Lagos Lagoon. Other towns and villages in Ogun water side LGA include: Ilushin, Ibiade, Lukogbe, Iwopin,Makun-omi, Ode Omi, Ibu, Itebu Manuwa, Ibiade, Efire, Lomiro, Oni, Ayede, Igele, Ayila and Irokun among others. The whole area, now referred to as Ogun Waterside, was then under the control of a resident District Office (D.O.) at Ijebu Ode. It is bounded in the west by Ijebu East Local Government, in the north and the east by Ondo State and in the south, by Lagos State and Atlantic Ocean. The 2006 estimated population of the Ogun Waterside LGA is 74,222. It covers an area of about 860.32 square kilometers with some towns and villages on the fringes of the Atlantic Ocean (NPC, 2006).

The people of the Local Government Area are Yorubas of Ijebu, Ikale and Ilaje tribes. Major economic activities includes: farming, fishing, trading and lumbering. Major crops are cassava, plantain, maize, and rice. The various tourist centers that abound in the Local Government include: Local Government Guest House; Makun-Omi, Iwopin Boat Estate Regatta Beach, IIusin Rubber Estate Guest House, Awodikora Okun Beach.

Birds' assessment in an ecosystem is very vital to its management (Verma *et al*. 2004). It is a good ecological practice all over the world that makes many species and habitats to be under constant monitoring. The nature of endemism as well as species richness in the ecosystem could be determined (Caldecott *et al*. 1996; Lovett, 1998; Williams *et al*. 2003). The threatening effects of environmental changes and anthropogenic activities on wild fauna require a good documentation

(Caldecott *et al*., 1996; Williams *et al*., 2003; Sodhi *et al.,* 2004).

In bird conservation, the estimate of bird abundance is widely u used. For example, they allow man to measure changes in population size (Buckland *et al.,* 2010) and to assess whether isolated populations are workable (Githiru and Lens, 2006). Information on population of individual species of bird can also be used to set priorities, allowing conservation effort to be focused on species that are threatened with extinction. In places where there are high human population densities, both guarded areas and unprotected forests (community forests) have been encroached and converted to agricultural land and arable cropping.. Dunn (1999) provided an explicit list of birds of the African Savannah Woodlands. Hence, baseline information on the abundance and diversity of birds is important for conservation management and educational purposes. For this reason, there is immediate need to document bird species in Abigi settlement and for the records; no published inventory work on birds has ever been carried out in this settlement.

This study aimed at providing an inventory of bird species within Abigi community, waterside LGA, Ogun Sate, Nigeria to serve as baseline data for the conservation of bird species in the area.Abigi is surrounded by some trees like *Khaya ivorensis, Cordia millenii*, *Sterculia* sp., *Nauclea diderrichii*, *Mansonia altissima*, *Terminalia* sp., *Celtis* sp., *Brachystegia* sp., *Alstonia congensis* and *Milicia excelsa and chrysophyllum albidum,*. Also fruit crops like *Cocos nucifera, Mangifera indica, Carica papaya and Musca spp.*

MATERIAL AND METHODS

Study Area

This study was carried out in Abigi, one of the major towns in Ogun Waterside Local Government Area, Ogun State, Nigeria. Its geographical coordinates are 6° 29' 0" North, 4° 24' 0" East. It has a coastline on the Bight of Benin and also borders Lagos Lagoon. Other towns and villages Abigi include: Ilushin, Ibiade, Lukogbe, Iwopin,Makun-omi, Ode Omi, Ibu, Itebu Manuwa, Ibiade, Efire, Lomiro, Oni, Ayede, Igele, Ayila and Irokun among others. The whole area now referred to as Ogun Waterside.

Data collection point

The study was carried during rainy and dry seasons in 2018 and 2019. Point count method (Sutherland *et al*., 2009) was used to collect data on bird species. This method was adopted because it allows the observer to travel within the area and stops at predefined spots, allow the birds to settle, and then record all the birds that are seen or heard. Bird count was between 06:30h and 10:00h in the morning. To remove error of double counting, the minimum distance between two counting points of 400 m was maintained. In all, 8 counting points were used. On arrival at the sites, birds were allowed time to settle before recording all the birds that were seen or heard for 15 minutes (Andrew *et al.,* 1997). Bird calls were also recorded with a voice recorder and played back later for confirmation. Bird identification was aided with a pair of Binoculars (8 × 40). Physical features of birds sighted but could not be identified immediately were noted and later identified with field guide book of West African birds (Burrow and Demey, 2011).

RESULTS

Result obtained showed A total number of 28 bird species belonging to 15 families with Hirundinidae having the highest number of species (6), Ploceidae, Pycynonotidae and Columbidae having 3 species each while Bucerotidae and Nectaranidae have 2 species each. All the other families have 1 species each. Fifty percent of the species recorded were classified to be locally rare.

Table below shows some of the birds in different families that are rare such Fanti saw-wing, Mosque swallows, Swamp palm bulbul. Village weaver as expected in any community was very abundant.

Figure 1 shows the Local abundance status of birds' species in Abigi Settlement. About 40% of the species recorded were encountered at least once in all the surveys and so were considered to be locally rare.

Table 1: Birds' species recorded in Abigi

Family	Common Names of Birds	Scientific Names	Local abundance
Accipitridae	Yellow billed kite	*Milvus aegyptius*	common
Bucerotidae	Piping hornbill	*Bycanistes fistula*	Rare
	White-thighed hornbill	*Bycanistes albotibialis*	Occasional
Cisticolidae	Tawny flanked	*Prinia subflava*	Occasional
Columbidae	African green pigeon	*Treron calvus*	Common
	Blue headed wood Dove Red eyed dove	*Turtur brehmeri*	Common
		Streptopelia semitoqout	Common
Cuculidae	Senegal coucal	*Centropus senegalensis*	Rare
Estrildidae	Grey-headed negrofinch	*Nigrita canicapillus*	Rare
Hirundinidae	Fanti saw-wing	*Psalidoprocne obscura*	Rare
	Wire-tailed swallow	*Hirundo smithii*	Rare
	Mosque swallows	*Cecropis senegalensis*	Rare
	Ethiopian swallow	*Hirundo aethiopica*	Rare
	Barn Swallow	*Hirundo rustica*	Rare
	Banded martin	*Riparia cincta*	Rare
Lybiidae	Yellow-throated tinkerbird	*Pogonilus subsulphurus*	Common
Metropidae	Little bee eater	*Metrops pusillus*	Common
Motacillidae	Western-yellow Wagtail	*Motacilla flava*	Rare
Nectarariidae	Green headed sunbird	*Cyanomitra verticalis*	Rare
	Olive sunbird	*Cyanomitra olivacea*	Common
Passeridae	Northern grey headed sparrow	*Passer griseus*	Rare
Phasianidae	Double spurred francolin	*Pternistis bicalcaratus*	Common
Ploceidae	Black necked weaver	*Ploceus nigricollis*	Rare
	Red vented malimbe	*Malimbus scutatus*	Common
	Village weaver	*Ploceus cucullatus*	Abundant
Pycynonotidae	Common bulbul	*Pycnonotus barbatus*	Common
	Simple greenbul	*Chlorocichla simplex*	Common
	Swamp palm bulbul	*Thescelocicha leucopleura*	Rare

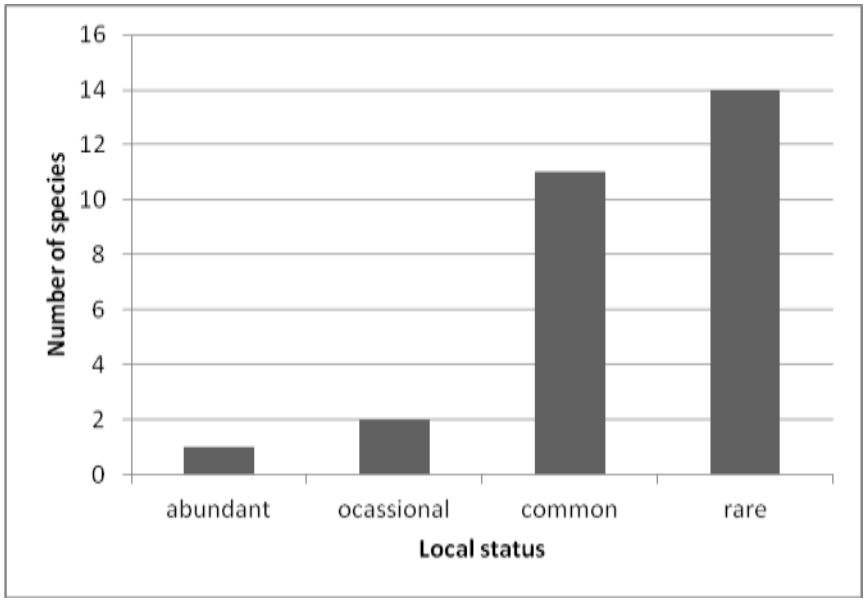

Figure1: Status of Birds in Abigi Metropolis,Ogun State.

DISCUSSION

During the period of survey, a total of 28 bird species belonging to 15 families were recorded. Hirundinidae had the highest number of species six), Ploceidae, Pycynonotidae and Columbidae have 3 species each, and Bucerotidae and Nectaranidae have 2 species each. All the other families have only a species each. About 50% of the species recorded were classified to be locally rare.In terms of seasons, birds in Abigi settlement were more in the rainy season than in the dry season. Possible reasons could have been:

Food availability: foods because of rains are usually much hence birds would be more, also fecundity rate would increase. There are harsh weather conditions during the dry season leading to reduction in food availability and fecundity. So, most birds would migrate to regions with favourable weather conditions. The species composition of a specific area or a community is interlinked to the available resources of the area, which includes physical structure of the habitat, food availability and biotic interactions (Terdalkar *et al.,* 2005).

Farming could also have contributed to the increase in birds' number due to availability of food during the rainy season. Birds, especially the insectivorous have several roles on fields by way of feeding on insect pests of agricultural crops. Birds have been described as the only natural and eco-friendly saviour of crops (Sandilyan, 2013). Salim (1972. 2003), reported that birds are friends of farmers and not their foes. This is because they normally destroy insects pest of crops. Urbanization could reduce bird population, Herkert, (2009) reported that the loss of habitat due to urbanization reduces the quality of the remaining vegetation thus affect the population of avian species in the area.

The Barn swallow is a migratory bird. It flew thousands of miles from Europe to Nigeria; hence it is understandable why it is a rare species in this community and Nigeria as a whole. The species is evaluated as least concern on the 2007 IUCN Red List, (Birdlife 2012) and has no special status under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which regulates international trade in specimens of wild animals and plants (Dewey *et al.* 2002).

During the survey, 50% of the birds' species were considered locally rare, based on the frequency at which they were sighted. 11 species of birds were considered common example is the Yellow billed Kite. This is expected especially among residents because of the presence of chicks. They feed on a wide range of small vertebrates and insects, much of which is scavenged.

Two were considered occasional and only one considered Abundant. The Abigi residents are majorly garri manufacturers, farmers of cocoa, maize, cassava the possible reason of the abundance of Weaver birds.

That 28 species of birds were recorded implies that human interference may be threatening the continued habitation of previously abundant bird species in the area. Although there seem to be no records currently existing on bird diversity in Abigi, the topography of the area show that the area has good agricultural land mass as well as potential habitats for wildlife. The area has huge urbanization due to increasing human population leading to changes in land-use that has significantly affect biodiversity globally (Bibby & Burgess, 1992; Brooks et al. 1999a, 1999b). The rate of deforestation occurring within the area potentially suggests that the area may experience continual loss of biodiversity. However, the bird species diversity suggests that the location is still able to retain some of its forest potentials in spite of the harmful human impacts,

CONCLUSION

Based on our findings, a total of 28 bird species belonging to 15 families were recorded. Hirundinidae had the highest number of species (six), Ploceidae, Pycynonotidae and Columbidae have three species each while Bucerotidae and Nectaranidae have two species each. All the other families have a species each. Fifty percent of the

species recorded were classified to be locally rare. This suggests that a relatively good number of bird species still exist in this community, despite man's activities such as intense farming that has led to deforestation and consequently led to the migration of the birds' species within the area.

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Documentation of species in any habitat is a good technique in the management of global biodiversity. There is global challenge in protecting plants and animal species that are exposed to man's interference. Therefore, it is imperative to update records of species within localities to curb these challenges.

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