



International Journal of Allied Practice, Research and Review

Website: www.ijaprr.com (ISSN 2350-1294)

Habitat wise and Guild wise Bird Distribution in Manoli Reserve Forest, Kolhapur, Maharashtra, India

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Abstract - The Amba reserve forest is located in Kolhapur district, Maharashtra state. This is situated in Western Ghats UNESCO world heritage site. Point count method is used for bird census. Habitat types were made for understanding distribution of birds in that forest area; different diet habits also showed distribution in forest area. The categorised habitats and guilds then classified bird distribution which show highest percentage of birds found in semi evergreen forest habitat also highest percentage of insectivorous birds were found in Manoli forest so it showed that insectivorous birds like flycatchers, robins, bulbuls.

Keywords- Bird diversity, Western Ghat, Amba, Endemic, Manoli Reserve Forest, Habitat, guild

I. Introduction

The Amba Reserve Forest is located in Kolhapur district, Maharashtra state. This is situated in Western Ghats UNESCO world heritage site. The district of Kolhapur lies in the south-west of Maharashtra between 150 to 170 North latitude and 730 to 740 East longitude and spreads across the Deccan Plateau in the rain shadow region of the Sahyadri mountain ranges on the southernmost tip of the state of Maharashtra. The Sangli district lies to the north, the Belgaum district of Karnataka State is to the east and south, Ratnangiri and Sindhudurg districts of Maharashtra are to the West. The Manoli region is situated in the Tehsil Shahuwadi. (S. R. Aland 2012). The area lies in between buffer zone of Sahyadri Tiger Reserve. The birds are sighted throughout the year. The area is having 3 types of ecosystem first is forest, Grassland and water (Aquatic). The plant species of forest are *Mangifera indica* (Amba), *Lagerstroemia microcarpa* (Nana), *Dalbergia sisoo* (Sissum), *Bridelia retusa* (Asana), *Careya arborea* (Kumbhi), *Cassia fistula* (Bahava), *Terminalia paniculata* (Kinjal), *Terminalia elliptica* (Ain), *Albizia procera* (Kinnai), *Ficus racemosa*

(Umber), *Semecarpus anacardium* (Biba) *Syzigium cumini* (Jambul), *Memecylon umbellatum* (Anjan), *Mammea suriga* (Surangi), *Artocarpus heterophyllus* (Jackfruit) etc. (Mahajan 2010)

II. Materials and methods

Survey carried for ecological sampling was done by using Field guides, binoculars and Camera. Point count survey conducted for sampling during Mar 2015 to Jan 2018. The morning time (6.30 to 10.30 a.m.) was chosen for sampling. The total 15 point counts in forest area for bird survey also habitat types categorised by 4 different habitats. H 1: Semi evergreen forest patch, H 2: Rocky Plateaus, H 3: Natural streams and H 4: Open forest.

III. Result and Discussion

The total 70 bird species found in Manoli forest area and around 40 families were found in the Manoli forest.

Manoli forest had 4 different habitats:-

1. H 1- Semi evergreen forest patch
2. H 2- Rocky Plateaus
3. H 3 - Natural streams
4. H 4 -Open forest.

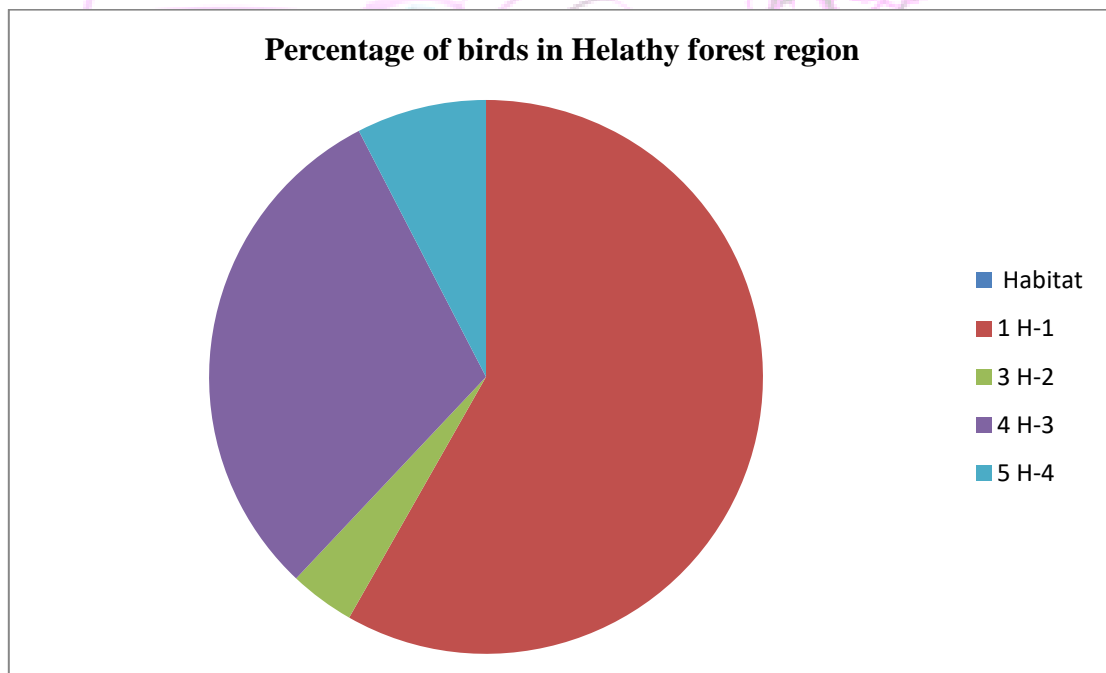


Figure 1 : Percentage of birds in region of Manoli

It is evident from fig 1 The Habitat 1 (H-1) which was belongs to semi evergreen forest patch. The patch showed highest bird diversity was 65%. The semi evergreen forest having different types of trees e.g. *Mangifera indica*, *Gaurga pinnata*, *Memelocyton umbellatum*, *Terminalia bellierica*, *Terminalia pannicualta*, *Ficus Racemosa*, *Ficus hispida*.(Sardesai 2002).These trees were fruiting trees so availability of food for birds was more than any other habitats. The Habitat 1(H-1) showed forest bird species who mostly fed on fruits. The Habitat 2 (H-2) was from rocky plateaus. The 4 % of birds from healthy regions found in Habitat 2 (H-2).The rocky plateaus were open grasslands of Western Ghats (Yadav 2012, Watve 2013, Aphale 2018). The lowest percent found in habitat 2 (H-2). The habitat 2 (H-2) was showed grasslands birds. These birds were different from forest birds. The birds were mostly ground birds or grasslands birds e.g. Malabar lark, Jungle quail etc. The habitat 3 (H-3) was natural streams or aquatic habitat. The 34% birds found in habitat 3 (H-3). The Habitat 3 was natural stream and Manoli Dam Reservoir. The Pond heron, River lapwing, Common Sandpiper found in habitat 3 (H-3). These birds were Aquatic birds. (Ali 1989, Grimmet 1997). The habitat 4 (H-4) was open and Bushy forest. The 8% birds were found in habitat 4 (H-4) this is adjoining area of forest so mostly bulbul, Munia birds were found in this habitat

Raman (2005) studied on effect of habitat structure and adjacent habitats on birds. The point count method used for bird observations. 106 birds were found in Anamalai hills of southern Western Ghats. More number of surveys showed importance of bird habitats. (Stouffer 1995, Dairy 2001, Rehjifo 2001, Luck 2003). The percentage of birds in different habitats like rainforest and open forest was 66% and 34% respectively. The percentage of Birds of Manoli also showed same results with Raman (2005) but Manoli reserve forest had 2 different habitats i.e. Natural streams and rocky plateaus so number of bird species increased in Manoli forest.

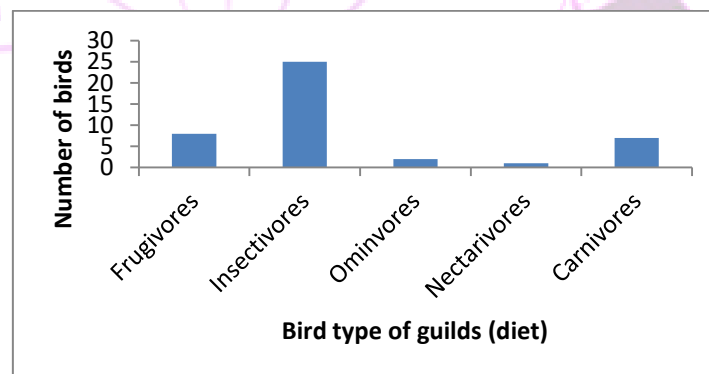


Figure 2: Bird guild (diet) wise distribution of Manoli region

The figure 2 showed that distribution of bird species according to feeding types. The bird diet categorised into different types e.g. frugivores (fruit eating birds), insectivores (insect eating birds), Omnivores (preferred all types foods e.g. seeds, insects, fruits, food waste) Necatrivores (flower nectar eating birds), Carnivores (meat or flesh eating birds). The fig 2 showed that out of 44 (table 5.2) forest birds speices 8 were frugivores, 25 were insectivores, 2 omnivores birds, 1 were necatrivores and last 7 birds were carnivores. The highest number was Insectivores birds. The second highest was Frugivores birds and then carnivores last minimum number i.e. 1 was nectarivores. The forest had different wild

fruit trees so it showed second highest number of frugivores birds. The forest was place of predator birds like eagles, kestrel so carnivore's birds were third highest. These birds were hunting all other birds so called as carnivores birds were also more than omnivores. The important observation regarding this bird diet there was no single Grainvores bird (Grain eating bird). This observation helps to understand the bird diet habits showed clear result for indication of particular region.(Ali, 1989) If we found particular diet preferred birds so its closed association of that region. The more number of frugivores birds showed forest indication.

IV. Conclusion

The study of birds in Manoli forest shows the habitat semi ever green forest had highest percentage of bird diversity. Study showed insects were more preferable diet birds in forested area and second most preferable diet was fruits, seeds and berries so it showed clearly about forest birds depend on very particular diet.

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