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Wetland Bird Diversity of Ransagar (Kheda Kachawasa), Rajasthan.

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Abstract: *Wetlands are one of the significant habitats that are ecologically significant and abode many flora and fauna. The Wetland bird community is considered an excellent bio-indicator of the health of a wetland. Wetland provides a variety of habitats andsupportsa rich diversity of avifauna. Field surveys were conducted from April 2020 to March 2021, following point-transect and direct observations to document avifauna'sdiversityand temporal variation in Ransagar Wetland in Dungarpur. A total of 50 bird species under 21 families and 8 orders were recorded, of which 79 were residents, 14 were winter migrants, and 6 were summer migrants. Bird species richness was highest for the order Passeriformes (46), followed by Pelecaniformes (15) and 13 orders. Ardeidae was the most diverse family in the study area. We also observed Shannon (H) was 2.663, Simpson was 0.8968, Evenness (J) was 0.8747, and species richness was 5.112. This emphasizes that study sites are crucial habitats for bird species of conservation priorities. The present study is expected to provid eabaselineforfutureresearchonmanagingand conserving existing avian species in agricultural landscapes.*

Keywords*: Wetland, Birds diversity, Ransagar, Spices richness, Relative diversity index.*

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I. Introduction:

Birds are potential environmental markers of ecosystem structure and function integrity and stability. The species composition of bird communities is influenced by the available resources and varies over broad geographic regions. A distinctive bird assemblage in an area allows for predictions about ecological health and potential aberrations in ecosystem processes. (Lawson et al., 1998; Gregory et al., 2008; Whelan et al., 2008).

Wetlands (permanent and temporary) are important habitats for endangered bird species in Asia, accounting for at least 20% of all threatened bird species. There are 1340 bird species in India, including 310 species reported to be reliant on wetlands. Waterbirds are the most essential and visible species in many wetland environments. Because they can easily migrate across wetlands and preferentially dwell in the most significant available habitat, their presence or absence may reflect the ecological characteristics of a specific region. Wetland acreage and remoteness substantially impact the organization and variety of wetland bird communities (Sekercioglu, 2012; Hossain & Aditya, 2016 and Mahato et al., 2021). This research aims to study wetland birds in Ransagar (Kheda Kachawasa), specifically in the Dungarpur area. This research was conducted to provide a scientifically sound report on the avifaunal diversity of the Ransagar wetland, Dungarpur.

II. Material and Method

Study Area: - Ransagar (Kheda, Kachwasa) is situated in the Dungarpur district of Rajasthan, India, and the location of Ransagar is 23°52'24" N 73°49'47" E. Bird was watching, and recording was carried out from April 2020 to March 2021.

Birds were identified to species level by consulting the following works: Ali (1990 & 1996), Ali and Ripley (1986), Bhusan et al. (1993), Fleming et al. (2000), Grewal (2000), Inskipp and Inskipp (1999), and Shrestha (2000). Birds were photographed using Nikon D5300 with 70–300 mm zoom, Nikon D 500 with 35–500mm, and a Sony camera with a fixed lens and a 300mm zoom using field binoculars (Olympus 8x40 magnification). Some bird calls were also recorded. Regular surveys utilizing the conventional road transect technique were used to make systematic observations. Birds mainly were seen betweenthehoursof6:00and9:00a.m.and4:00and6:00p.m.,whentheyweremost active. A wetland area was used to correlate population and species richness data.

fig. 1 – Study Area.

III. Result and Discussion

In this present study, field surveys were conducted from April 2020 to March 2021, following point-transect and direct observations to document the diversity and temporal variation of avifauna in Ransagar Wetland in Dungarpur. A total of 50 bird species under 21 families and 8 orders were recorded, of which 79 were residents, 14 were winter migrants, and 6 were summer migrants. Bird species richness was highest for the order Passeriformes (46), followed by Pelecaniformes (15) and 13 orders. Ardeidae was the mostdiversefamilyinthestudyarea.OrderAnseriformeshadthehighestnumberof families, while order Anseriformes, Passeriformes, and Pelecaniformesshowedthe highest count of birds (Figure-1). Shannon's (H) value was 2.663, Simpson's (D) value was 0.8968, Evenness (J) value was 0.8747, and species richness was 5.112 (Table-1). RDi showed that Anatidae and Ardeidae were 22 and 18 (Fig. 3).

Mahato et al. (2021) also studied species richness and seasonal abundance in Purulia, West Bengal. Girmay et al. (2020) observed assessing the bird community's diversity and species composition in Kafta Sheraro National Park, Northern Ethiopia. Mulwaetal. (2021)discoveredthatthefourhabitatcategoriesdifferedinbirdspeciesrichnessand community organization. The species richness of disturbed forest fragments and agricultural land was more significant than near-natural forest blocks and exotic tree plantations. The bird species communities were comparable in both the damaged forest pieces and the adjacent agricultural area.

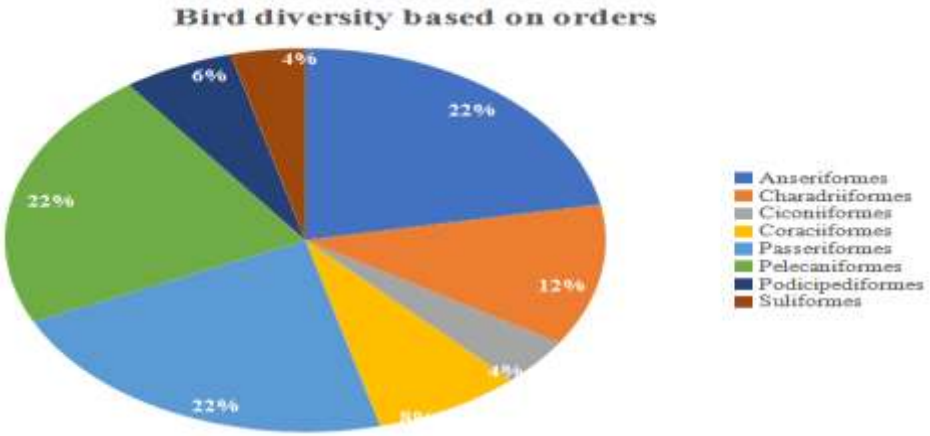

Fig.-1. Shows bird diversity of various orders.

Taxa_S	21
Individuals	50
Dominance_D	0.1032
Simpson_1-D	0.8968
Shannon_H	2.663
Evenness_e^H/S	0.6829
Margalef	5.112
Equitability_J	0.8747

Table -1. Shows different values of bird species.

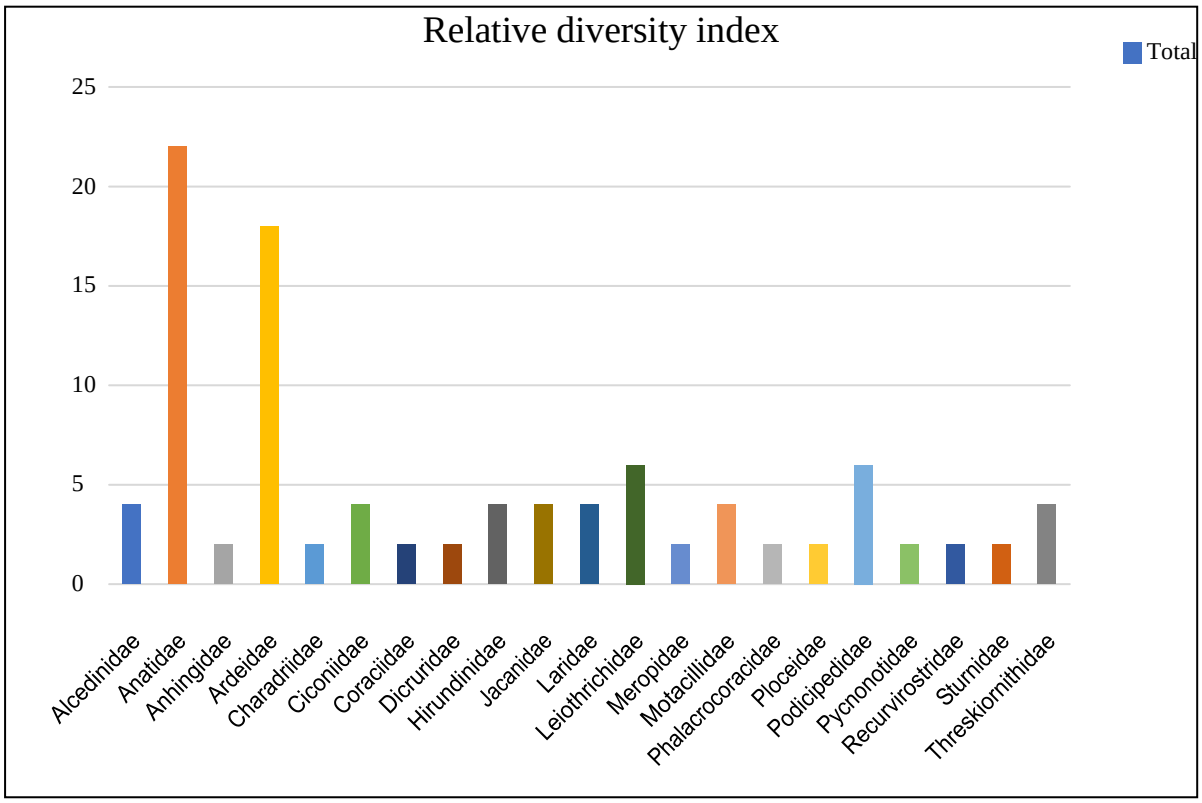

Fig.-2. Shows RDI of birds various families of Ransagar (Kheda Kachawasa).

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