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Aquatic Avifaunal Diversity of Gavier Lake, Dist.L: Surat Gujarat, India

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ABSTRACT

The gavier lake is located in southern west part of Surat city. It is a perennial lake, rich in aquatic vegetation, therefore harbours several kinds of avifauna throughout the year. The present work has been carried out from January 2015 to December 2015, for determining the species diversity of aquatic avifauna which is inhabited by a variety of smaller birds, resident birds, migratory birds and wading birds. The study revealed occurrence of 57 avifaunal species belonging to 08 orders; 15 families, out of which 26 species were residential, 10 were residential migratory and 21 species were found to be migratory. Among these, Charadriiformes and Anseriformes are the dominating orders of the aquatic birds. During winter season, avifaunal diversity was maximum, so it was found that the avifauna of this Gavier lake utilizes maximum water body in winter while minimum in monsoon season.

Keywords: Avifauna, Gavier lake, Migratory species, Wetlands, Residential species

ABOUT THE STUDY

Avifauna are the ideal biological indicators for all kinds of habitats and constitutes an important link in any food chain of an ecosystem [1]. Apart from all habitats, highest number of water bird diversity is supported by “Wetland” because this habitat is ecologically important with its high nutritive value and productivity [2,3]. In a wetland, water and vegetations are the two major factors influencing the abundance of ducks and other waterfowls therefore verities of avifauna use wetland habitat either throughout their lifetime or during certain part of their life [4,5].

Identification and census

To study the avifauna of Gavier lake, weekly observations were conducted from January 2015 to December 2015. During each visit, the census of birds was carried during morning hours and evening hours, half an hour after sunrise and before sunset. The avifauna, observed was identified with the help of pertinent literatures: “Birds of the Indian Subcontinent” and “The Book of Indian Birds” [6,7].

Study area

Gavier lake is a perennial freshwater lake rich in aquatic vegetation. It is located about 17 kilometers from Surat railway station at the southern west part of city. It is situated on 21° 07'38.07” N and 72° 44'03.03” E and Water covered area of the Lake is approximately with 1 kilometer circumference. It receives rain water from surrounding villages (Figure 1).



Figure 1: Google satellite image of Gavier lake

The water birds of Gavier lake were studied with an objective to evaluate the diversity, abundance and distribution of these species. Total 57 different species of water birds belonging to 08 orders and 15 families, including 26 residential species, 21 migratory species and 10 residential migratory species were documented. The most representative families noted during the study were *Anatidae* with 11 species, *Ardeidae* (09 species), *Scolopacidae* (07 species), *Rallidae* (05 species) and *Laridae*, *Motacitidae* (04 species each). *Phalacrocoracidae*, *Alcedinidae* each was represented by 03 species and *Jacaniidae*, *Hirundinidae* were represented by 02 species each during the entire study period. The families like *Podicipedidae*, *Charadriidae* and *Threskiornithidae* were represented by only single species. Community composition varied in response to change in season and climatic variations (Figure 2). The greater number of species, abundance and density of aquatic birds were observed during peak winter months (November to February), followed by the moderate population in summers (March to May), and the least abundance during monsoons (June to September). This corroborates with the findings of certain researchers [8,9], who have noted minimum diversity of water birds in monsoons to heavy rain, increased flow of water leads to deep water body, non-availability of food and return of migratory birds (Figure 3) [8,9].

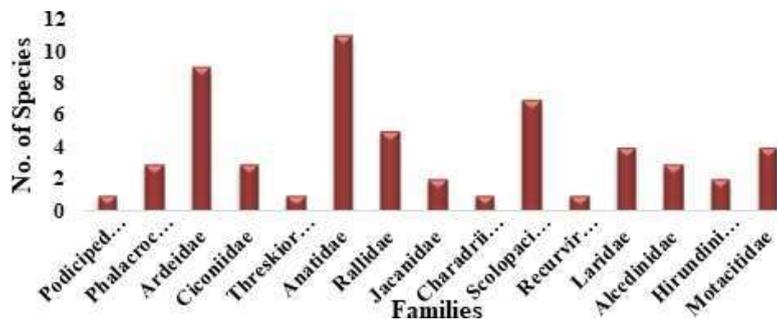


Figure 2: Family wise contribution of avifaunal species in Gavier lake (in %)



Figure 3: Temporal changes in species composition at Gavier lake

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