

BIRDS DIVERSITY IN SIKAR REGION

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ABSTRACT

Global warming, drought and little rain, forest fires, forest destruction, and other human disturbances have had a significant impact on the habitat environment of birds in recent years. These human disturbances have had an effect on the number and quality of bird habitats, which directly threatens the survival and reproduction of birds, resulting in a sharp decline in the variety of bird species. Laos's PKK National Park, which is located in 18°14' to 18°32' North and 102°38' to 102°59' East, served as the study's research location. Research subjects at the park included the birds and the environments in which they lived. Researchers looked at the types of birds, as well as their numbers and where they lived. In addition, the distribution of the park's flora as well as the connections between the different kinds of habitats and the communities of birds that live there were investigated. Between the months of January and December 2018, the point count technique was used to conduct monthly assessments of the species diversity and abundance of birds at PKK National Park. The examination regions yielded a total of 117 different bird species, which were broken down into 43 different families and 18 different orders. In this group, the proportion of Passerine birds (60 species) and Non-Finches (57 species) that made up the total bird species was practically same; respectively, they accounted for 51.3% and 48.7% of all bird species. Once again, Anseriformes birds account for the biggest number of Non-Passeriformes birds, reaching 15 species. This is followed by Falconiformes birds, which account for 20.5% of the total. On the other hand, based on migratory behaviors, we discovered that resident birds were the most common at our study site. These birds account for 35.04% of the total birds, which is followed by Summer Migratory birds (32.28%), Passage Migrant birds (23.93%), and Winter Migratory birds (6.83%). The variety of species of birds that may be found in the park is the subject of the research that involves the quantitative measurement and analysis of numerous criteria. In addition, the factors that can affect species diversity, particularly the survival of birds, such as the pattern of vegetation change, the rate of transformation of green areas, the recruitment and restoration pattern of wild animals, particularly birds, and other beneficial animal populations were emphasized in our research as well. In addition to that, the primary objective of this study was to investigate the scientific foundations for the design and construction of the green space system of the PKK National Park in Laos, which should have a rational structure, comprehensive functions, and attractive values.

Keywords: *birds' diversity, sikar*

INTRODUCTION

The whole collection of ecological processes that are tied to the ecological complexity formed by organisms and the environment in which they exist is referred to as "biodiversity," and the word "biodiversity" is used to refer to this set. Not only does the existence of millions of distinct species of animals, plants, and microbes fall under the umbrella term "biodiversity," but so does the organisms' DNA and the intricate ecological system

that is produced as a result of the interactions between these living things and the environment in which they are able to survive. It is the distinguishing characteristic of all living beings and the systems that make up those organisms. The diversity of the natural environment is essential to people's ongoing ability to maintain their existence and to continue expanding their population. Throughout the process of urbanization, it is of the utmost importance to better people's living environments while simultaneously maintaining ecological balance and making sure that ecological safety is maintained. This is one of the most important objectives of environmentally responsible city planning. When attempting to get an understanding of the importance of biodiversity, one might approach the topic from one of two unique angles: First, the value that can be seen clearly, then the value that can only be seen in part or indirectly, and last, the value that cannot be seen at all. It is primarily connected to the functions of the ecosystem, which are primarily manifested in seven different aspects: fixing solar energy, regulating hydrology, preventing soil and water loss, regulating climate, absorbing and decomposing pollutants, storing nutrient elements, promoting nutrient circulation, and ensuring that the evolutionary process continues to move forward. It is likely that the ability of people to adapt to changes at both the local and global levels will turn out to be the single most important benefit that can be obtained from biodiversity throughout the course of time. This is because humans have been able to adjust to changes at both the local and global levels.

Birds are highly sensitive to the changes that take place in the environment in which they live, and the natural world is home to a diverse collection of avian species. Birds are very sensitive to changes that take place in their environment. They play an important role in the ecosystems in which wild animals live, and it is not difficult to see them on wild animals. They play a significant part in the upkeep of the natural order of the ecosystem and the variety of life that can be found within it, which is a very important function. In addition to this, it is connected to the composition of the surrounding environment, the variety of the flora, the intricacy of the plant life, and a number of other factors. Significant reference indicators for changes in the surrounding environment may now be found in the species structure of bird populations as well as the dynamic development of their populations.

The study of bird variety serves as a focal point for both the field of conservation biology and the field of bird ecology, since it is the major topic of research on bird ecology and the main focus of attention in the subject of conservation biology. The variety of bird life not only reflects the condition of the birds themselves, but it also shows the quality of the habitat in which the birds inhabit, which is a better predictor of the ecological balance and the quality of the environment that surrounds them. This is because the diversity of bird life indicates the quality of the habitat in which the birds reside. This is due to the fact that the standard of the environment has a direct bearing on the overall health of the birds. The diversity index of birds has been shown to have a close relation to the settings in which they are found, as shown by the results of a large number of studies that were carried out in this country as well as in other countries. These investigations were carried out in this nation as well as in other countries. Both the amount of human involvement from the outside world and the natural environment of the habitat have a significant influence on the overall number of birds as well as the total number of birds in the population. When doing research on the relationship between the variety of bird species and the environment of their habitat, it is vital to build a theoretical framework for the preservation of bird habitats and the assessment of the appropriateness of those habitats. This will allow the researchers to better understand the link between the diversity of bird species and the environment of their habitat. This is due to the fact that such a framework will assist in determining whether or not the efforts to save the environment are effective.

A forest park is not only an essential piece of green space in urban areas, but it is also an important venue for inhabitants to go to in order to participate in recreational activities and enjoy themselves in other ways. This is because forest parks tend to be larger than other types of urban parks. It provides birds with food, space, water, and a place to shelter themselves, which are the four primary criteria that are vitally important for the survival of urban birds. As a result of this, it offers vital habitat for the birds who live in urban environments. The Urban Park, which is the primary component of urban landscaping, makes it possible to create settings and provides chances that are beneficial to the upkeep and extension of the species diversity that already exists in an urban context. This is accomplished via urban landscaping. Urban landscaping is also known as urban design. In addition to this, it serves as a significant ecological habitat, a clearinghouse for the movement and activity of biological species, and a carrier of urban biodiversity. All of these roles are very essential for the health of the environment. In recent years, the focus of study in the field of conservation biology has switched from the protection of individual species to the defense of ecosystems and habitats that are home to various species. This change came about as a consequence of an adjustment that was made to the primary focus of the field. This modification came about as a direct result of a modification to the weight that was put on the significance of this specific domain. The creation of nature reserves and the vigilant protection of such reserves by knowledgeable individuals are two crucially significant strategic initiatives that must be taken in the battle to preserve the different living forms that exist on our planet. There is the possibility for local biodiversity to be preserved in areas that have been designated as nature reserves.

OBJECTIVE OF THE STUDY

1. To conduct research on and investigate the connection between the various plant species' compositions.
2. To conduct research on the relationship between elevation and forest environment and bird diversity

CONCLUSION

The purpose of this research was to investigate the connection between the variety of birds and the composition of plant species, elevation gradient, and forest habitat at PKK National Park in the Lao People's Democratic Republic. The data indicate that there was a diversified population of birds in terms of species, number, and dispersion. Based on the analysis of the data, we conducted research at PKK National Park to determine the types of birds that live there, the number of birds that live there, the condition of the distribution of vegetation, and the link that exists between the bird community and the habitat type. Between the months of January and December of 2018, the point count technique was used to conduct monthly assessments of the species diversity and abundance of birds within PKK National Park. There were 117 different species of birds, which were divided among 43 families and 18 orders. According to the findings of the research, the park has a few bodies of water as well as rural villages, and the people who live in the areas around the park are reliant, at least to some degree, on the park's resources for their means of subsistence. It is possible to assert that there is a close connection between human habitats, environmental conditions, and ecological problems. As a result, the government need to adopt policies that are commensurate with the situation in order to safeguard not just the natural resources but also the ecosystems, biodiversity, and other aspects unique to this forest.

REFRENCRS

1. Bibby, C. J., Burgess, N. D., & Hill, D. A. (1992). *Bird Census Techniques*. Cambridge: Cambridge Univ. Press.
2. Carrascal, L. M. (1987). Relacio'n entre avifauna y estructura de la vegetacio'nen las repoblaciones de con'iferas de Tenerife (Islas Canarias). *Ardeola* 34
3. Costa, M., & Furness, J. B. (1982). Nervous Control of Intestinal Motility. *Handbook of Experimental Pharmacology*, 59, 279-382.
4. El-Ghani, M. A., Mobarak, A., & Bakr, R. J. (2012). Factors Affecting the Diversity and Distribution of Synanthropic Vegetation in Urban Habitats of the Nile Delta, Egypt. *RendicontiLincei. ScienzeFisiche e Naturali*, 23, 327-337.
5. FAO (2001). *International Action in the Management of Forest Genetic Resources: Status and Challenges*. Forest Genetic Resources Working Papers, Working Paper FGR/1, Rome: Forest Resources Development Service, Forest Resources Division, FAO of the United Nations.
6. Hooper, D. U., & Vitousek, P. M. (1997). The Effects of Plant Composition and Diversity on Ecosystem Processes. *Science*, 277, 1302-1305.
7. James, F. C., & Wamer, N. O. (1982). Relationships between Temperate Forest Bird Communities and Vegetation Structure. *Ecology*, 63, 159-171.
8. Leigh, E. G. (1999). *Tropical Forest Ecology: A View from Barro Colorado Island* by E. G. Leigh. Oxford and New York: Oxford Univ. Press.
9. Li, Y. M., He, G. J., Wang, W., Ding, S. L., Jia, X., & Yan, Z. G. (2001). Remote Sensing Research on Relationship between Urban Heat Island and Vegetation Covering. In *National Symposium on Remote Sensing Technology*. Fuzhou.
10. Martin, T. E. (1993). Nest Predation among Vegetation Layers and Habitat Types: Revising the Dogmas. *The American Naturalist*, 141, 897-913.
11. Mcgarigal, K., & Mccomb, W. C. (1995). Relationships between Landscape Structure and Breeding Birds in the Oregon Coast Range. *Ecological Monographs*, 65, 235-260.
12. Mitchell, M. S., Lancia, R. A., & Gerwin, J. A. (2001). Using Landscape-Level Data to Predict the Distribution of Birds on a Managed Forest: Effects of Scale. *Ecological Applications*, 11, 1692-1708.