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Animal Diversity in the British Residency, Hyderabad (Telangana), India

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Abstract: The flora and the fauna of a particular ecosystem, along with biotic and abiotic factors coordinate together, to form life. The economics and richness of a nation, relies upon its biodiversity. Rich biodiversity contributes to good agriculture and development of successful pharmaceutical industries. Maintaining rich biodiversity is key for sustenance of life on planet earth. Rapid urbanization, human interference and excessive mining activities, have cost heavily, upon the existence of flora and fauna, which has either caused transient disappearance of certain species, or at times led to total extinction. Not many studies, are documented about rich animal diversity of British residency of Hyderabad, which is located amidst buzzing hustle of urban activities. This monument dates back to year 1803, and due to its sprawling green landscape in the campus, it houses many rare flora and fauna. The present study was an attempt to collect, identify and analyze the diverse animal species in British residency of Hyderabad, India. The study has revealed the presence of different species of insects, birds and mammals. The maintenance and preservation of rich biodiversity of animal species, in British residency may be attributed to maintenance of greenery in the campus and there is not much of destruction of trees thereby preserving their precious habitat and creating a conducive atmosphere for coexistence of distinct fauna.

Keywords: Biodiversity, British residency, Hyderabad, Parakeet, Golden oriole, Squirrel

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Introduction

Planet earth, not just belongs to humans, but also belongs to diverse plant and animal life. Earth houses a vast variety of flora and fauna in various different climatic conditions. The rich biodiversity of a particular continent or a region, contributes greatly to the economic growth of that particular region. (Marcelino Fuentes, 2011). Rapid industrialization, increase in human population, mechanized agriculture, increased mining activities and deforestation are some of

the factors which have contributed greatly to the loss of bio diversity. In recent times over use of resources and excessive human intervention in the ecosystems, have resulted in loss or sometimes caused extinction of many beneficial species of plants and animals, thus causing loss to biodiversity (Claude Gascon *et al.*, 2015). The present day scenario of population explosion and high rate of consumerism might result in loss of a habitat and also result in near extinction of some

species (Raven and Wackernagel, 2020). Ceballos *et al.* (2015) have reported that some 60% of the populations of Mexican terrestrial vertebrates have been lost since 1950. Grooten and Almond (2018) suggested that species extinction is proceeding rapidly than thought earlier. These studies clearly illustrate that rapid industrialization, over population and extreme consumerism have taken a toll upon habitats, impairing the biodiversity and thereby leading to either total extinction of a species or some species may have become endangered. In this context the present study, was taken up to study and understand the biodiversity of British residency, which is located in the heart of Hyderabad city and is also a heritage site. This study was intended to know if urbanization, environmental pollution and human habitation and congestion have any impact upon the rich animal biodiversity of this proud monumental structure and its huge green landscape of British era.

Materials and Methods

Field trips were organized during different seasons in the landscape gardens of British residency, Hyderabad so that various invertebrates and vertebrates could be collected and studied. Camera of high resolution of the make, Sanyo 24 mega pixel (VPCS1275) was used to take high end quality photographs. A simple microscope was used to analyze and identify the invertebrate insect species.

Results

The present study revealed the presence of quite a number of invertebrates and vertebrates. They were identified and analyzed. No harm was caused while taking the photographs of these animals. They were rightly identified in their natural habitat. Their presence revealed that there was not so much of drastic loss caused to their ecological niche.

The lush green patches of the landscape provided much needed habitat for the diverse insect populations. Huge trees provided a safe haven to birds and mammals. They were

frequently seen building nests. Photographs of the diverse fauna of the British residency are represented in Figures 1-10.

Though British residency, is located in the middle of Hyderabad city which is surrounded by buildings and thickly populated, the greenery of this area is not so much affected. But in recent times, due to construction activity, certain insects and birds species are rarely found.

Discussion

In the present study, biodiversity of British residency was explored. Quite a broad diversity of animals belonging to different phyla during different seasons are listed and discussed. Importantly diversity of insects was quite rich as there was different insect species, such as *Dysdercus cingulatus* (cotton bug)(Fig. 2), *Eumorphus quadriguttatus* (fungus beetle)(Fig. 3) and female wasp of the species, *Amata huebneri* (Fig. 1). Wasps act as good indicators for ecological changes in the environment, specifically with reference to metal pollution as suggested by Skladina *et al.* (2020). The same authors also suggested that invertebrate species can be better indicators to affirm the changes in the environment when compared to soil samples. Apart from wasps, there was a species of beetle, *Eumorphus quadriguttatus* (fungus beetle) frequently found in the muddy soil of British residency. This is commonly called as yellow spotted beetle. These beetles, feed upon, plants and fungi and help in degrading the debris. They are also known to feed upon certain invertebrate pests. These beetles feed upon the debris and maintain the proper balance of nutrient cycle in nature. Apart from these insects, the commonly occurring cotton pest, *Dysdercus cingulatus* was found in abundance in this habitat. These insects are cosmopolitan in distribution and known to cause a great amount of damage to many crops in particularly to the cotton crops (Peter, 2022). These insects were widely distributed and there was a huge population of them, all throughout the year, which may be due to their success in



Fig. 1: *Amata huebneri* (Wasp)



Fig. 2: *Dysdercus cingulatus* (Cotton bug)



Fig. 3: *Eumorphus quadriguttatus* (fungus beetle)



Fig. 4: Millipede

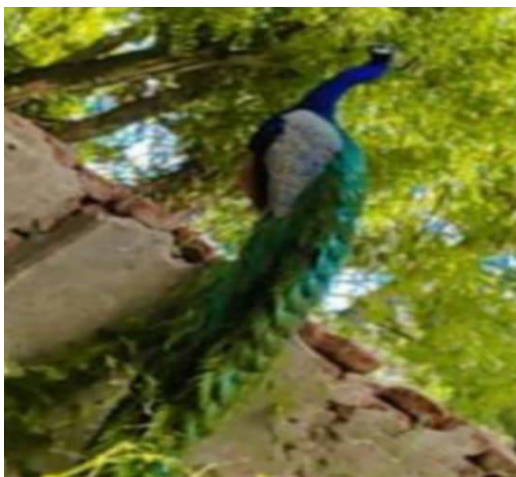


Fig. 5: *Pavo cristatus* (Peacock)



Fig.6: *Pavo cristatus* (Pea Fowl)



Fig. 7: *Psittacula krameri* (Parakeet)



Fig. 8: *Oriolus kundo* (Golden oriole)



Fig. 9: *Alcedo atthis* (King Fisher)



Fig. 10: *Funambulus palmarum* (Squirrel)

evolution which may be attributed to their survival skill and reproductive ability (Neeraja, 2022). In addition to these insect populations, quite a number of birds species were frequently observed. These include, orioles, parakeets, and king fisher, to name a few. The presence of green parakeet (*Psittacula krameri*) in vast green landscape of this heritage site clearly indicated that the environment here is very conducive for these birds. It is quite amazing to see these birds in sizeable numbers in this location, which otherwise have almost disappeared in the urban landscape. Golden oriole, *Oriolus kundo* is another bird frequently recorded on the greenery of this area. This bird was mostly found on timbered trees and was migratory in nature. (<http://natureconservation.in/eurasian-golden->

[oriole-oriolus-oriolus-complete-detail/](http://natureconservation.in/eurasian-golden-oriole-oriolus-oriolus-complete-detail/)). The bird feeds upon seeds and insects and often found in orchards and parks and was solitary in nature. Presence of these birds in this area, clearly illustrated that the environment was very conducive for the existence of these species. In addition to these birds, king fisher (*Alcedo atthis*) and peacocks can also be seen. King fisher belongs to the order, Coraciiformes, feeds upon small invertebrates and is also known to hunt fishes. This species mostly occurred close to water bodies, but some time observed on the trees too. Due to heavy urbanization, these birds are threatened to extinction, but is fortunate to see them frequently in British residency. It is a feast to the eyes to see the national bird of India, peacock and pea fowls (*Pavo cristatus*) in this vast

greenery of the campus. Population of peafowl is generally considered to be the ecological indicators which seem to detect changes in the climate (Jose and Nameer, 2019) and their presence in this area may represent changing environmental conditions due to carbon emissions.

Apart from birds and insects, mammals such as squirrels were frequently found on the trees. These squirrels, were comparatively big and huge in size compared to the regular species found elsewhere in the city. This observation is in accordance with that of the Bergman's rule in ecology about mammals (Ashton *et al.*, 2000). These were Indian palm squirrels (*Funambulus palmarum*) typically represented by three stripes present on their dorsal surface, belonging to Sciuridae family of mammals. Their population seems to be balanced, in this location, as their natural habitat of British residency has not been drastically impaired. This habitat seems to be quite amicable for their survival and their food which includes nuts, plants, fungi and they also some time feed upon young snakes (<https://www.livescience.com/28182-squirrels.html>) which are available quite effortlessly seen in this location.

In summary, the vast greenery and rich flora of British residency has contributed extensively in maintaining and nurturing rich biodiversity of fauna which includes variety of insects, birds, and mammals. The present study, restricts only to certain species of fauna present in the campus, but there are a large category of invertebrates and vertebrates, which thrive and coexist with other species, have not been included. Their study and description is beyond the scope of this paper and will be studied and documented in future.

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