

## Recent Publications & Research

### Avian diversity flourishes in Bukit Kiara Federal Park: A comprehensive study reveals ecological insights for the park

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#### Highlights:

**Bird Diversity:** The study found 62 bird species across 7 sites in Bukit Kiara Federal Park, showcasing impressive avian diversity.

**Ecotone Site:** Site 7, the "Recreational Circuit," is a biodiversity hotspot within the park functioning as a transition zone between the forested areas and neighbouring suburban spaces. It has the highest species richness (38 of 62 species) but lowest evenness due to dominance of 2 urban bird species.

**Habitat Disturbance:** Habitats with higher disturbance led to increased species richness but decreased evenness. Managing habitat disturbance levels can promote the spread of avian diversity within the park.

**Potential Regeneration:** The presence of sensitive species like the Hooded Pitta Pitta sordida (also known as the Chestnut-crowned Pitta) and Asian Emerald Dove Chalcopaps indica offers hope for increased bird diversity as the park continues to regenerate. Increased environmental management measures are recommended for a thriving avian community.



Plate 1: Hooded Pitta (above) & Asian Emerald Dove foraging (below)

Malaysia's avian diversity is renowned, and despite the impacts of habitat loss and urbanisation, Peninsular Malaysia's urban greenspaces continue to support a diverse range of bird species. Bukit Kiara Federal Park, located in Kuala Lumpur, stands as a regenerating secondary forest with a rich assortment of birdlife. This comprehensive study was conducted to understand Bukit Kiara's species diversity and ecological dynamics. This article presents the key findings of this study, shedding light on the importance of preserving green spaces like Bukit Kiara for avian diversity.

#### Bird Diversity Abounds

The study identified a remarkable 62 bird species belonging to 31 families, distributed across 7 sites within Bukit Kiara Federal Park. From sensitive species like the Hooded Pitta and Asian Emerald Dove (see Plate 1), to urban-adapted species like Asian Glossy Starling *Aplonis panayensis* and Javan Myna *Acridotheres javanicus* (see Plate 2), the park's avifauna showcases

an impressive level of avian diversity. This is notable considering the park's history as a regenerating secondary forest that, less than 50 years ago, was managed as a rubber plantation after primary forest was all but cleared.

### **Ecotone Site- the Transition Zone**

Site 7, known as the 'Recreational Circuit,' stands out as a biodiversity hotspot within the park, functioning as an ecotone — a transitional zone between the park's forested areas and adjacent suburban spaces. This unique environment fosters the highest species richness among the sites, with 38 out of 62 species found (belonging to 17 of the 19 guilds identified). However, Site 7 displays the lowest species evenness compared to the other sites, largely due to the dominance of a few urban bird species, particularly the resident Asian Glossy Starling and the feral Javan Myna. Evenness is a measure of how individuals are distributed across various species in a community. It considers both the number of species, and the relative abundance (commonness or rarity) of these species in the community. A value of 0 indicates that one species dominates the community while a value of 1 indicates that all species are equally abundant.



Plate 2: Asian Glossy Starling (left), Javan Myna (right)

Ecotone sites are affected by edge effects (unique environmental conditions at the boundary between two different ecosystems) that can increase exposure to ecological disturbances (see Figure). Despite ecotone sites attracting a wide array of species that exploit the varied conditions of the neighbouring habitats, the study reveals that the resource gradient within the ecotone site doesn't support all species present in the park. Preserving and expanding urban green spaces with reduced disturbance levels hence becomes critically important for conserving avian diversity.

### **Habitat Disturbance Impacts Avian Diversity**

The study observed that species richness increased in areas with higher habitat disturbance, while species evenness decreased. This suggests that certain species benefit from disturbed

habitats, but a balanced approach is necessary to promote overall avian diversity. Environmental management practices that reduce disturbances and increase suitable habitat can further foster the growth of avian diversity within the park.

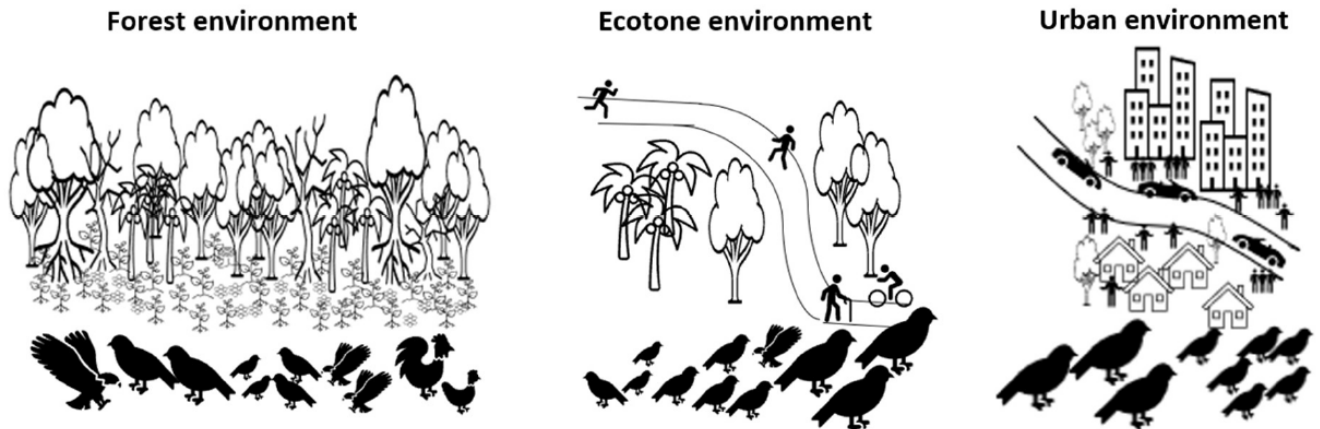


Figure: The diagram highlights the notable features of the 3 environments discussed. The forest environment has more diverse bird species due to suitable habitat and resource availability for forest birds. The ecotone environment similarly has a high diversity, but few opportunistic species dominate. The urban environment has fewer species resulting in a lower diversity than the forest and ecotone environments despite similar numbers of individuals.

### Potential for Ongoing Regeneration

As the regenerative processes continue within Bukit Kiara Federal Park, there is hope for an increase in bird diversity. Sensitive bird species like the Hooded Pitta and Asian Emerald Dove indicate the potential for further ecological success. Additional measures are recommended to enhance regrowth and protect sensitive species, contributing to a thriving avian community within the park.

Bukit Kiara Federal Park stands as a testament to the resilience of nature in the face of urbanisation. This comprehensive survey has revealed a diverse and vibrant avian community right in the bounds of Kuala Lumpur. The study showcases the park's ecological significance and the importance of preserving green spaces within rapidly developing urban areas. As urbanisation continues, fostering avian diversity requires a delicate balance between habitat conservation, ecological management practices, and awareness among the local community. By nurturing the regenerative processes and promoting the park's preservation we can ensure that Bukit Kiara's avian diversity thrives for generations to come.

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The **full Bukit Kiara Bird Report** is available by sending a request to:  
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