

## Edge responses of birds in an isolated lowland tropical rainforest in Peninsular Malaysia

### ABSTRACT

There has been no published research on how Malaysian birds respond to the creation of a forest edge. In this study we evaluated bird species composition, distribution and diversity along edge-interior gradient in an isolated lowland tropical rainforest in Peninsular Malaysia. There was a significant difference in overall species abundance among different distances from edge. Among the four super-abundant species, two showed a significant decrease in the numbers observed from the edge to interior, namely striped tit-babbler, and yellow-vented bulbul. Among the five trophic guilds, the Insectivore/Frugivore guild showed a significant decrease from the forest edge to the interior, while the Insectivore guild showed a significant increase from edge to the interior. The rarefaction curve showed that the expected number of bird species is highest at 400 m from edge, and lowest at 25 m and 1200 m from edge. The diversity indices were lowest at the edge. Many of the edge species were most common in a band 200 m-wide along the edge. We found that several of the forest-interior species increased in diversity starting 400 m from edge to the forest interior. Our findings indicate that habitat fragmentation and habitat isolation affect bird communities and that these factors threaten many species. With continued deforestation and habitat isolation in peninsular Malaysia, we predict many more bird species will be adversely affected.

**Keyword:** Composition; Distribution; Diversity; Edge effect; Isolated rainforest