

Influence of landscape matrix on urban bird abundance: evidence from Malaysian citizen science data

ABSTRACT

Large cities in the tropics often comprise a myriad of manmade and natural elements that influence wildlife composition. Based on a citizen science–based project conducted in 2015, this study examined the combined effects of landscape factors on the bird assemblages in Kuala Lumpur and its conurbation, Peninsular Malaysia. A total of 48 species including 2,599 individual birds were recorded; the majority of which (>80%) were species of open habitat. Generalized linear mixed model indicated that the area of green cover had the strongest influence on number of individuals. Specifically, the abundance of individuals was increased by the presence of river corridors and roadside reserves. Areas located further away from water bodies and with less green cover had fewer birds. Our findings highlight the importance of incorporating a varied landscape matrix into urban planning so as to maintain urban bird diversity and demonstrate the usefulness of citizen science in biodiversity monitoring.

Keyword: Generalized linear mixed model; Green cover; Kuala Lumpur; Urbanization; Urban bird habitat