The Use of Bird Species Richness and Abundance Indices to Assess the Conservation Value of Exotic Eucalyptus Plantations

Author(s)
Jasson John
Jonathan Kabigumila

Abstract
The East Usambaras are within the Eastern Afromontane hotspot, which is known for its exceptionally rich biodiversity. The original forest of the East Usambaras has been reduced by human activities, including establishment of Eucalyptus plantations, but little is known about the value of these plantations for biodiversity. Therefore, from July 2003 to June 2004, we studied avifauna in natural forests and plantations using the timed species count (TSC) method, based on which we provide an assessment of the conservation value of Eucalyptus plantations to the local avifauna. From 240 TSCs, 100 species in 79 genera, 32 families and seven orders were recorded. A total of 63 forest species were recorded in forest and 41 forest species in the Eucalyptus plantations with four forest species exclusively in the plantations. The two habitats shared a greater percent of non-forest bird species (85%) than forest bird species (64%). There was some degree of seasonal variation in species richness and relative abundance between habitats. The study shows that 'responsibly managed' plantations could benefit some local avifauna. We recommend proper management of the Eucalyptus plantations, including the retention of some undergrowth and of surviving isolated forest trees, in order to provide hospitable habitats for birds.