

Abstract

This study was carried out on Taita White-eye, *Zosterops (poliogaster) silvanus*, an Endangered bird species endemic to the fragmented forests of the Taita Hills and Mt Kasigau in southeast Kenya. Before the present study, little was known about its ecology and current population status. The main objectives of this study were to estimate the population size and distribution of Taita White-eye in its range, to determine its habitat utilisation and preferences, and to document any information that could lead to a better understanding of its ecology. The study was conducted in all the eleven forest fragments of Taita Hills and the virtually undisturbed Mt Kasigau forest, 50 km from the main Taita Hills massif. Data were collected between November 1998 and September 1999. Line transects (119 in total, covering 56.3 km) were used for white-eye censuses and for sampling habitat parameters. General ecological information was gathered by opportunistic observations during censuses.

The total global population of Taita White-eyes was estimated to be c. 7,100 birds. Mt Kasigau was shown to be the species' main stronghold, housing 80 % of the entire population and at a very high density (26 birds/ha). In the Taita Hills forests densities were consistently higher in the small than in the large fragments. According to this study there may be no interchange between the white-eye populations on Mt Kasigau and the Taita Hills forests, which are isolated from each other by a 50 km stretch of dry woodland habitat at 500 m altitude.

At macro-habitat level, white-eyes were shown to prefer forest-edge habitats to forest-interior. Epiphytic moss density and other variables related to it, such as % canopy cover above 15 m height were positive predictors of white-eye presence and abundance. Taita White-eyes fed mainly by gleaning for insects but also took small fruits. The birds used a wide range of plant species, but there were clear preferences for some over others. Taita White-eyes were generalised foragers and opportunistically switched between food sources based on availability. Mt Kasigau forest, which is the least disturbed, had the highest abundance of habitat resources selected as important for white-eyes compared to the Taita Hills forests. This could explain the birds' high density at this site.

Breeding activities were only observed in the larger fragments (> 50 ha), including Mt Kasigau. Nest predation rates were very high, with two predators: African Goshawk *Accipiter tachiro* and Twig Snake *Thelatornis kartlandii* being identified. *Erica mannii* was the most commonly used nesting tree (50% of 10 sighted nests) though exotic trees (e.g. *Eucalyptus* and *Cupressus*) were also used.

Comprehensive conservation and management interventions that take into account the local socio-economic forces driving land-use changes in the Taita Hills and Mt Kasigau are urgently needed in order to maintain and possibly restore the status of these forest fragments, which are the only habitats for Taita White-eyes and other unique biodiversity.