

# Nest-site selection and nest characteristics of endemic Dull-blue Flycatcher (*Eumyias sordidus*) in the tropical montane cloud forests of Horton Plains National Park and surrounding habitats, Sri Lanka.

Presented by

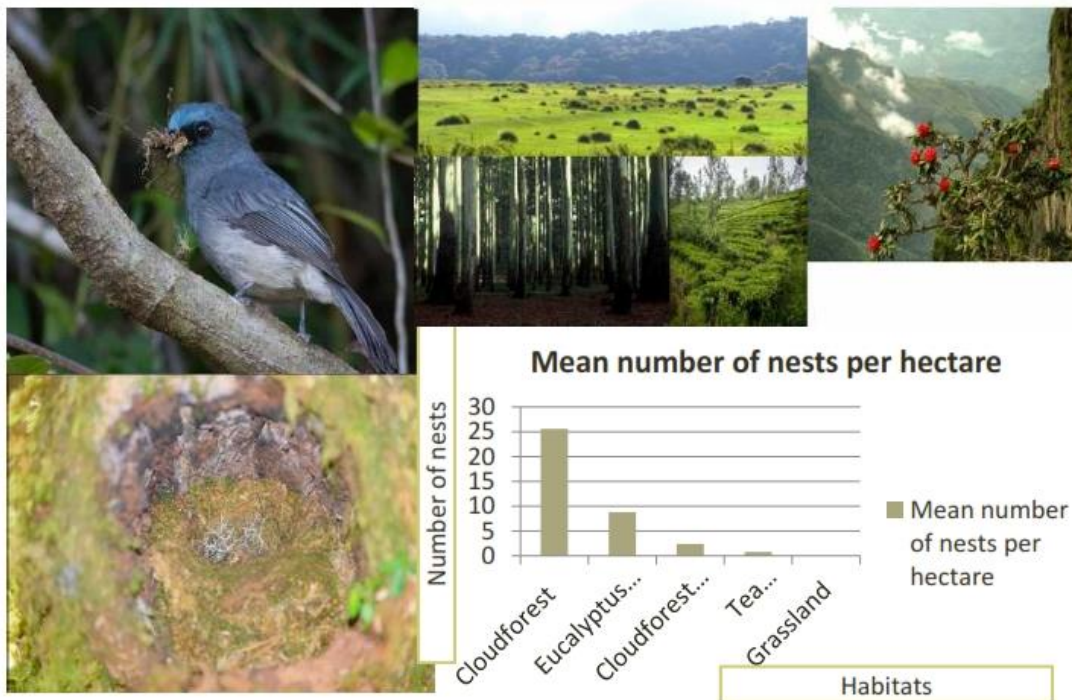
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**What is the Nest-site selection and nest characteristics of endemic Dull-blue Flycatcher (*Eumyias sordidus*) in the tropical montane cloud forests ?**



**Keywords:** Sri Lanka Dull-blue Flycatcher ; Endemic Birds; Horton Plains; Breeding ;Tropical Montane Cloud Forest

**Introduction:** When considering Sri Lanka Dull-blue flycatcher (*Eumyias sordidus*) is a small passerine bird in the flycatcher family Muscicapidae . This species is an endemic resident breeder in the hills of central Sri Lanka. Which has a very small global range, and although it remains common in suitable habitats and can tolerate modified habitats, its distribution and population size are likely to have been negatively affected by habitat loss and degradation. Moreover, it is considered as a Near Threatened species (Birdlife International, 2013). Though the global population size has not been quantified, but the species is described as abundant in the central provinces of Sri Lanka. Breeding ecology

of this species is not study thoroughly. Identification of the breeding habitats and nest characteristics were the main objective of this study.

### **Methods/ Materials/Methodology: What were the main research methods you used?**

Study was done at the Montane Cloud Forests of Horton Plains National Park and surrounding habitats, situated in the highland plateau of the Nuwara Eliya District of Sri Lanka from January 2015 to June 2016. Five main habitats were identified as Cloud Forest habitat, Cloud Forest Die-back habitat, Grassland habitat, Eucalyptus plantation habitat and Tea plantation habitat. Five 25mx25m quadrats were marked in each habitat using a global positioning system device (GPS). Nest sites were searched on three consecutive days from March to May from 06.00h to 16.00h. Approachable nests were observed directly. Unapproachable nests were observed through a 10 x 50 binocular. Pole and mirror method was used to check the nest contents. Opportunistic data and incidental observations were used to supplement the nest data.

### **Results/ Findings/Argument Development: What are the main results/findings of your study**

A total of 47 nests were recorded during the study period. 32 (62%) nests were recorded in cloud forest habitat, 11 (22%) nests were recorded in Eucalyptus plantation habitat, 3 (12%) nests were recorded in cloud forest die-back habitat, and 1 (4%) nest was recorded in Tea plantation habitat. No nests were recorded in the grassland habitat. Sri Lanka Dull-blue Flycatcher used the cavities in road banks (72.34%) and Tree holes (27.66%) as nest sites. Hanging epiphytes (mosses) were used heavily to construct the nests. Mean external diameter of the nests were  $93.5 \pm 14.7$ mm and the internal diameter was  $59.5 \pm 10.5$ mm. The mean depth of the incubating chamber was  $41.0 \pm 9.1$ mm. The total length of the external wall of the nest was  $90.9 \pm 20.1$ mm. For the nests located in the banks, average bank height was  $2.08 \pm 0.6$ m, average nest height from the ground was  $1.86 \pm 0.5$ m and average canopy cover was  $45\% \pm 16\%$  (N=30). For the nests located in the trees, the average tree height was  $4.86 \pm 1.9$ m, average nest height from the ground was  $1.73 \pm 1.2$ m and average canopy cover was  $81\% \pm 13\%$  (N=12). Tree hole nesters preferred used the cavities of *the Neolitsea fuscata*, *Cinnamomum ovalifolium*, *Rhododendron arboretum*, *Glochidion pycnocarpum* and dead tree roots of *Eucalyptus sp* and *Pinus caribaea*. Nests mostly comprised of epiphytic plant fragments of *Meteoriopsis sp* and *Thuidium sp*. Plant fragments of *Selaginella brachystachya*, *Lycopodiella caroliniana*, leaf fragments of *Sinarundinaria densifolia*, *Garnotia exaristata*, *Pteridium aquilinum*, *Eucalyptus sp*, and *Camellia sinensis sp* were also utilized to construct nests. The nest cups were lined with black fern roots and incubating chambers were lined with the smooth ramenta of *Cyathea crinita* (Tree fern). 38.3% nesting sites were reused by the species and 20% of them used the old nests as a substrate for the new nests. However, there was no reuse of the same nest for the second brood.

### **Discussion/Synthesis and conservation relevance: Discuss and synthesise your results and the relevance of your findings for conservation practice/science.**

The study revealed that Cloud Forest is the preferred nesting habitat of *E.sordidus*. Forest on Sri Lanka has suffered rapid degradation and fragmentation in the past decades through excessive gathering of fuel wood, clearance for permanent agriculture, shifting cultivation, fire, urbanization and logging. It is feared that habitat loss will continue in the hills and the status of this species therefore requires monitoring. There is no known targeted conservation actions for this species. Therefore Conservation of breeding habitats are recommended to protect this species.

**Study location GPS co-ordinates: 6° 48' 0" N, 80° 48' 0" E**