Seasonal Distribution of Sri Lanka Bush Warbler (*Elaphrornis palliseri*) in the Horton Plains National Park, Sri Lanka

Fernando R. I. T. K. & Mahaulpatha W. A. D.*
University of Sri Jayewardenepura, Sri Lanka

BENGALURU

INTRODUCTION

- Sri Lanka Bush Warbler - *Elaphrornis palliseri* (Legge, 1879).
- Endemic and Near Threatened Species. [1]
- Confined to elevations above 3000 feet in central highlands of Sri Lanka. [1,2,3,4,5]

- Ash in colour.
- Sexes are alike, except males have red irides while that of females are pale buff. [1,2,3,4,5]

Order – Passeriformes
Family – Locustellidae/ Silviidae
Monotypic Genus - *Elaphrornis*

Distribution of *E. palliseri*

Female *E. palliseri*

Male *E. palliseri*

- Insectivore's bird.
- Seldom ascends more than a yard or two above ground level.
- Breeding season - February to May, with a secondary season in September. [1,2,3,4,5]

- No molecular studies have been done about *E. palliseri* to reveal their phylogeny and origin. [5]
- Cloud forest edges are the most preferable habitats of *E. palliseri* with enough food availability and favourable habitat attributes. [6]
- Although much of its habitat remains secure, it may be declining as a result of habitat loss in some areas, and this situation should be carefully monitored. [1]

OBJECTIVE

To investigate the seasonal distribution of *E. palliseri* in the Horton Plains National Park (HPNP)

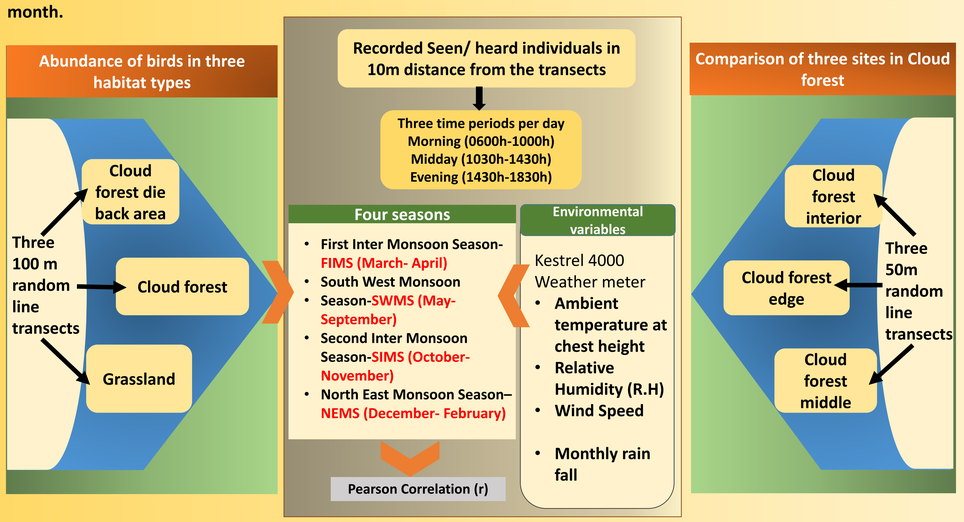
STUDY SITE

Three major habitat types dominate in the Horton Plains National Park,

According to their vegetative composition

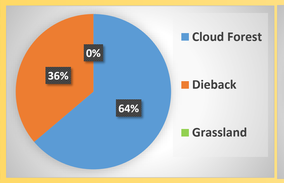
METHODOLOGY

The study was carried out from January to November 2017 in Horton Plains National park for three consecutive days per month.

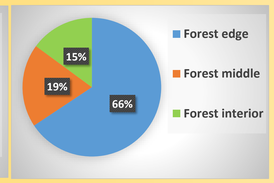


RESULTS AND DISCUSSION

Census of *Elaphrornis palliseri*



Abundance of *E. palliseri* in three habitats

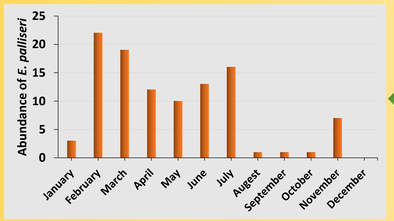


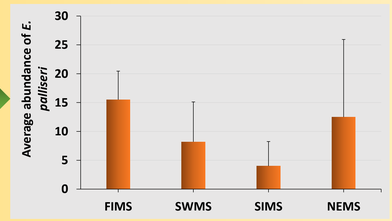
Number of *E. palliseri* recorded in three sites in Cloud forest

Not like grassland, Cloud forest and its edges represent as the most preferable habitats of *E. palliseri.*

E. palliseri's preferable cloud forest edges

Seasonal variation of *E. palliseri*' s abundance

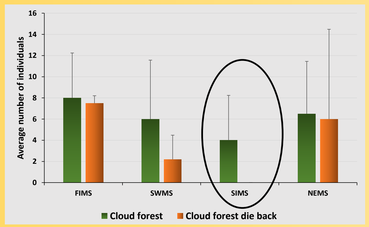


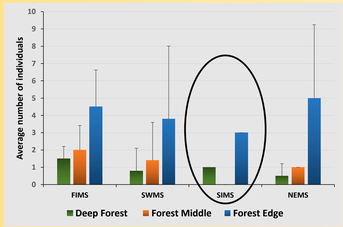


- Recorded abundance was not significantly different among four climatic seasons (Kruskal-Wallis Test, p> 0.05).

- *E. palliseri* occurred throughout the year in the Horton Plains National Park.
- Onset of the breeding season in February-March (FIMS and NEMS) most of the breeding couples were encountered.
- Juvenile feeding was observed in June- July (SWMS).
- Sudden increment of *E. palliseri* abundance in November (SIMS) - can be predicted the starting of secondary breeding season in September (SWMS)

Seasonal variation of *E. palliseri* number in different habitats/ sites





- There was a difference in the seasonal distribution of *E. palliseri* within and between the habitats during the study period.

Seasonal variation of environmental variables

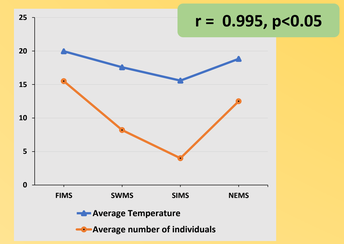
Seasons	Temperature (°C)	Relative Humidity (%)	Wind Speed (Km/h)	Rainfall (mm)
FIMS	19.96 ± 0.01	90.69 ± 0.08	6.22 ± 2.36	168.8 ± 97.44
SWMS	17.58 ± 0.68	95.51 ± 1.37	7.307 ± 2.64	146.64 ± 83.94
SIMS	15.58 ± 0.55	99.4 ± 0.32	15.25 ± 5.71	221.8 ± 32.81
NEMS	18.83 ± 0.44	88.84 ± 0.06	5.03 ± 1.02	42.45 ± 24.96

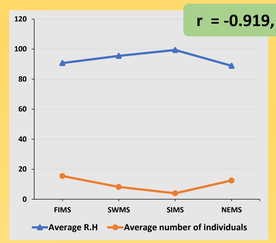
Second Inter Monsoon Season was identified as the season with harsh environmental conditions in 2017 at Horton Plains National Park.

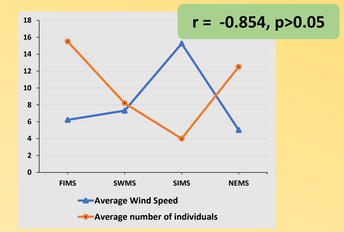
- Lowest Temperature
- Highest Relative Humidity
- Highest Wind speed
- Highest Rain fall

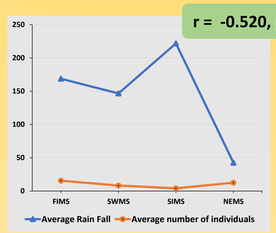
- Harsh climatic conditions in SIMS might be affected to their secondary breeding season.
- However many individuals reached to cloud forest edges (preferable habitat) which support successful breeding [6] in SIMS.
- In SIMS, *E. palliseri* was not encountered within die back habitat (lower canopy cover) but only in the cloud forest, because only the cloud forests provide them the most favourable habitat to escape from strong winds.

Pearson correlation (r) between seasonal abundance and seasonal variation of environmental variables









- Only the temperature variable positively correlate with the abundance of *E. palliseri.*

- There is a global trend in declining of forest understory insectivore birds in tropical forests [7] and among them sedentary birds in forest fragments can be unfavourably affected. [8]
- Fragmentation, Climate changes and microclimatic fluctuations are some of the reasons for their disappearance from tropical forests. [8]

- *E. palliseri* may perform local migration during the seasons with harsh environmental conditions.
- Further research need to be conducted to determine how they will react to harsh climatic conditions and whether they will perform local migration with respect to the unfavourable conditions.
- Conservation of their preferable fragile cloud forest edge habitats is much more needed to warrant their survival in montane forests.

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