Status and Distribution Modeling of Endangered Forest Owlet *Heteroglaux blewitii.*

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Background

Introduction

- F. R. Blewitt collected first specimen in 1873. Re-discovered in 1997 from Khandesh after 113 years. Diurnal Owlet species, endemic to India. Known from few and highly scattered locations from central India.
- Recent discoveries from Northern Western Ghats revealed that distribution limit has been over looked and urge to understand it.
- 250-900 mature individuals estimated in wild and now placed in Endangered category.

Figure 1. Forest Owlet habitat (Open deciduous forest) in Dangs District, Gujarat.

Aim and objectives

1. Distribution and status assessment of Forest Owlet in Dangs District, Gujarat, India.
2. Forest Owlet distribution modeling for India.

Status and Survey

Methods:

- Visual scanning,
- Call play-back method 1 min/broadcasting station after 2-5min of silence,
- Interview based survey.

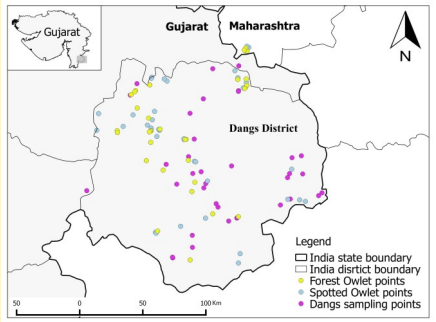

Figure 2. Map showing forest owlet distribution along with its sympatric species-Spotted Owlet in Dangs district, Gujarat. 30 out of 111 Forest Owlet positive sites were been identified along with 51 mature individuals from Dangs District.

56.67% of Forest Owlet positive sites were been identified with the help of tribal knowledge.

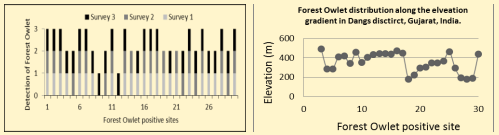

Figure 3. Bar plot of triplicate survey and elevation distribution of +ve sites.

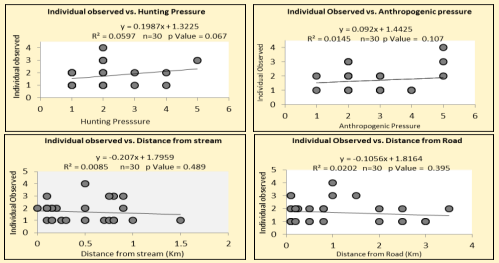

Figure 4. Effect of variables on Number of Individuals observed.

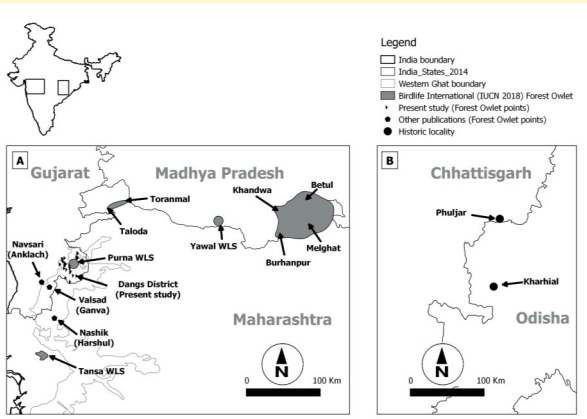

Figure 5. Known forest owlet distribution (till July 2017).

Distribution Modeling

- Maximum Entropy software Version 3.3.3k
- Total 157 occurrence records were used for the modeling.
- 37 layers (1km^2 resolution) were used for modeling.
- Least contributing predictors as shown by Jackknife were step-wise removed. Environmental predictors resulting in an AUC 0.85, 10 runs were performed.
- Final probability map imported in Quantum GIS (QGIS) for map visualization.

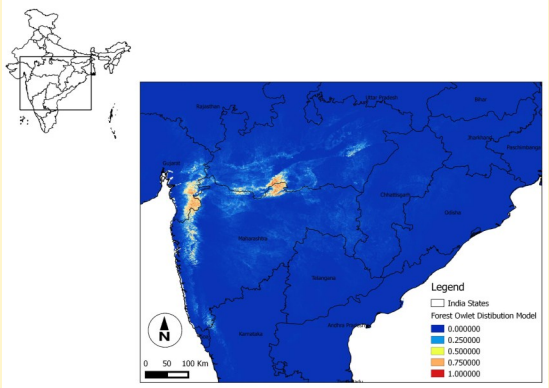

Figure 7. Final visual probability map of Forest Owlet distribution model.

Implementations

- Understanding Distribution limits,
- Population status & regular monitoring,
- Genetic structure of these tiny and highly scattered populations,
- Understanding of Its ecological needs and evaluation of possible threats,
- Country or State level conservation Action Plan

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