

## Chapter 8

### POPULATION AND HABITAT PREFERENCE

#### Introduction

This chapter deals with the population studies of Malabar Trogons with their habitat preference. In India, year round seasonal abundance and variation of birds were studied by Ali (1987), Ali and Vijayan (1986), Johnsing et al (1987), Joshua and Johnsing (1988), Gaston (1978), Price (1979), Natarajan (1990), and Ripley (1978), and. Kannan (1998) made some studies in the abundance and seasonal changes of birds in Anamalais. Jayson (2002) also studied the monthly occurrence of birds at Silent Valley. Apart from this studies no other work was carried out on the population of trogons. The relationship between bird communities and forest structure were described by the workers like Beedy (1981), Karr (1971), Karr and Roth (1971), and Rice *et al.*(1984 ).

The objective was to study the abundance and population of trogons in the selected study sites and to evaluate whether Malabar Trogon show any preference to particular habitat among the selected localities.

#### Methodology

The method used to study the population of Malabar Trogon was the line transects method. For this a straight-line transect of 1000m with a width of

20 m on either side were used. The transects were laid in the Bhoothathankettu, Marottichal, Urulanthanny, and Chelamala forests, and they are represented as (no.) T1, T2, T3, and T4 respectively. The transects covered with fixed speed (in one hour) and recording the birds seen or heard, following the method of Emlen (1977). Censuses was carried out twice in a month in each selected site. As the trogons are skulking birds, it was more often heard than seen, hence the birds heard and seen were grouped together for analysis. Care should taken to detect all birds inside the fixed width. Chi-square test of independence used to find out any seasonal changes or significant variation between different habitats/transects.

### **Results and discussion**

As the Trogons are skulking birds and their territories very large it was very difficult to locate them in the transects. Most of the time, hardly any birds were recorded from the transects. Because of this, the sightings were pooled seasonally for the analysis. The number of individual Trogons recorded from each transect are described in the Table15. The Trogon population recorded least in T4 (Fig 10). The transect T3 harbor highest number of individuals. Fig 11 indicates that there were no significant population changes between the years 1997, 1998 and 1999. To evaluate the seasonal changes, the entire year is divided into three different seasons, June to September (monsoon), October-January (post monsoon), and February to May (summer). These seasons were

represented by S.I, S.II and S.III respectively. No seasonal fluctuation were found in the population of trogons in the four selected transects(Fig 12). The Chi-square test showed there is no significant relation between Trogon population in different seasons in different habitats.

The values of density, tree height, and canopy cover of trees were recorded higher in T3 which was laid in the evergreen forest of Urulanthanny than the other three sites. In this transect 69.6% of trees are in the height class <10 meter. While considering the vegetation parameters of T3 transect (details in chapter 2), it is evident that the vegetation characters influence the population and abundance Trogons. The Malabar Trogon prefers the habitats with high tree density, thick and high canopy cover, and with thick under strata.

Table 15

Seasonal abundance of Malabar trogon in different transects during the study period (1997-1999)

Transect No:	1997				1998				1999			
	Season				Season				Season			
	I	II	III	T	I	II	III	T	I	II	III	T
T1	8	8	8	24	7	9	4	20	9	6	10	25
T2	12	5	9	26	6	18	9	33	8	12	4	24
T3	16	14	16	46	18	19	14	51	13	12	17	42
T4	2	1	2	5	1	1	1	3	2	1	2	5

T: Total, T1: Bhoothathankettu, T2: Marottichal, T3: Urulanthanny, T4: Chelamala

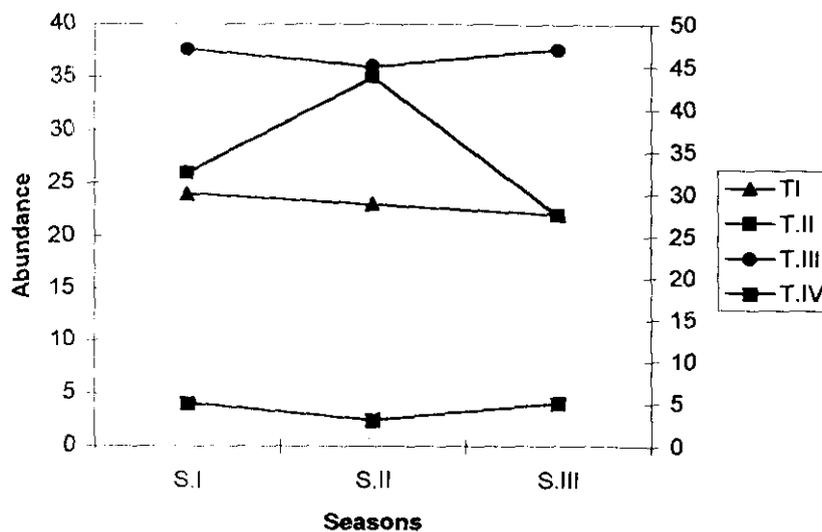
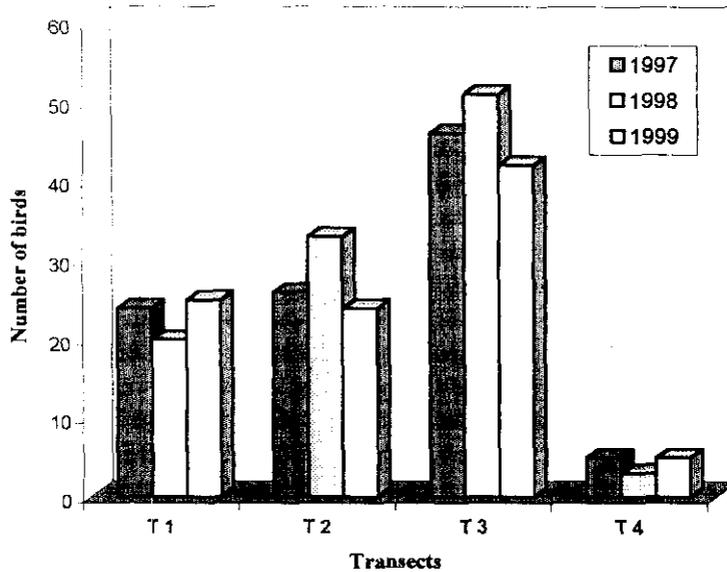


Fig 10 Transect wise abundance of Malabar Trogon in different seasons during the study



**Fig. 11: Abundance of Malabar Trogon in the transects during 1997- 1999**

### **Conclusion**

In the study area, trogons preferred the Urulanthanny area of Thattakad Bird sanctuary than the other study sites selected. There was no seasonal fluctuation in the population of trogons in the habitats studied. From the analysis, it was evident that the populations of trogons remain unchanged from 1997-1999 in the sites selected. Above all, the vegetation characteristics like density, thick and high canopy cover, and thick under strata determine the abundance of Trogons

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