

## Chapter 1

### INTRODUCTION

Trogon are the gorgeous birds with glittering metallic plumage. They are found in the tropical forests, southern half of Africa, Asia, Philippines, Arizona, extreme south Texas, Mexico, Central America, West Indies and three quarters of South America (Berger and Josselyn, 1958).

The discovery of the fossil Trogon Gallicus in the lower Miocene of France showed that these birds are ancient forms (Evans and College, 1900). They have a number of anatomical peculiarities, chief among is their foot formation. Their legs are small and weak, their tarsi are feathered, and their first and second toes are turned backward, a unique feature of Trogons where as in other birds the first and fourth toes are turned backward (Austin, 1961).

The word Trogon came from the Greek word 'Gnawer' (Gruson, 1972) refers to their hooked, dentate bill, used for grasping insects and fruits. They are usually solitary and strictly arboreal. Flight undulating, rapid but not prolonged. Rarely walk or hop. Feed by darting from perch and snatching insects from air or from foliage or small fruits from stem.

Trogon are non-migratory, but move locally. Trogon are birds of the forests, ranging from humid lowlands to mountain cloud forests. Although splendidly colored, they are much easier to hear than to see. Their hollow

hoots have a ventriloquial quality, and it can be very hard to locate a perched bird until it moves. Length varies between 228 to 337 mm. Plumage soft and dense. Back tail coverts, and central rectrices brilliant metallic green (chestnut in a few species; coverts red in one species); head, neck and chest varied green, black, gray, blue, violet, chestnut, rose, and red. Wings and outer rectrices black with white markings; abdomen and lower tail coverts red, yellow or orange. Upper tail coverts extremely elongate in the Quetzal. Crest or tufts behind eyes in some species brightly coloured. The bill is broad and surrounded by bristles. The neck is short and the eyes are large. Wings short rounded; tail long, broad and truncate. The colors of the male are usually brilliant and contrasting (Berger and Josselyn, 1958).

Under the family, Trogonidae 6 genera are included. They are *Apaloderma* (three species), *Pharomachrus* (five species), *Euptilotis* (one species), *Priotelus* (two species), *Trogon* (seventeen species), and *Harpactes* (eleven species). 39 species of Trogons are described under the family Trogonidae and all are listed in appendix-VII.

Several studies were conducted on the family Trogonidae. Early natural history accounts are by Skutch (1942,1944,1948,1956,1959,1962) on several species occurring in Mexico and Central America. Allen (1944), Hakes (1983), Gould (1935), Rigway (1987a, 1987b), and Taylor (1979, 1980a, 1980b, 1994), and have conducted studies on the Coppery- tailed Trogon. Works on Elegant

Trogons were conducted by Cully (1986), Goodman (1986,1988), Hall (1996), and Hall & Karubian (1996). Miller (1918) made studies on the length of the intestinal caeca in Trogons.

The members of the genus *Harpactes* are the only oriental Trogons, which are wide spread in Malaysia where eight of the eleven species are found. In India, three species of Trogons are seen. They are *Harpactes fasciatus*, *Harpactes erithrocephalus*, and *Harpactes wardii* (Ali and Ripley, 1987).

In India the studies on Trogons are meager. Very little is known about the species with regard to its ecology, behavior, distribution, as well as breeding biology. The available literature mainly deals with the taxonomy and to some extent distribution, status, and breeding of Malabar Trogon (Ali 1936,1949, and 1969, Abdul Ali 1972, Baker 1927, Biswas 1959, Bingham 1877, and Bourdillon 1878).

Several races of the species *Harpactes fasciatus* have been reported. They are *Harpactes fasciatus fasciatus* (Pennant), *Harpactes fasciatus malabaricus* (Gould) and *Harpactes fasciatus legerli* Koelz. Of these *Harpactes fasciatus fasciatus* is peculiar to Sri Lanka. *Harpactes fasciatus legerli* affects the moist deciduous and semi- evergreen forests. It is seen in southern Gujarat (Surat Dangs) and Northern Maharashtra (Kandesh) and presumably over the Satpura, through Madhya Pradesh (Bastar dist.) to Chota

Nagpur and Orissa (Mahendragiri); its altitudinal distribution ranges from plains level to 1200 m above MSL (Ali and Ripley, 1983).

**Malabar Trogon (*Harpactes fasciatus malabaricus*)**

A brilliantly colored bird with a relatively long broad and curiously square ended tail. Male: head, neck and breast blackish brown; underparts brilliant crimson pink with a white gorget, dividing them from the breast. Back and upper parts yellowish brown; wings blackish with fine wavy white barring.

Female: duller with under parts orange brown instead of crimson. Both males and females show a greater amount of variation in colour. Some of the males from north Canara are pink rather than red below (Ali and Ripley, 1983).

Measurements recorded by different authors are given in the Table. 1

**Colors of the bare parts:**

Iris dark brown; bill blue black on culmen and tips of both mandibles; mouth pink; orbital and suborbital skin bright cobalt blue; legs and feet paler blue (dusky sky blue); claws horny brown (Ali and Ripley, 1987).



**Adult Malabar Trogon, *Harpactes fasciatus malabaricus*,  
female (above) & male (below)**

Plate No. 1

**Table.1**  
**Measurements of Malabar Trogon**

Number of Male(♂) and Female(♀)	Bill from skull (mm.)	Wing (mm.)	Tarsus (mm.)	Tail (mm.)	Authority
8 ♂♂ 4 ♀♀	20-23 20-21	122-129 122.5- 127.5	13-15 14.5	156-179.5 162-167	Salim Ali (1969)
5 ♂♂ 1 ♀	21.5-23 20	122-128.5 127.5	13-15 14.5	160-179.5 166	Hung Whistler

The Malabar Trogon, a typical forest bird locally known as *Theekakka* has not been attracted the attention of avian Biologists so far. Therefore, a detailed study of this species has been found to be worthy.

### **Objectives**

The main objectives of the present study are:

1. To study the population, abundance, habitat preferences, and food preference of Malabar Trogon in the selected areas.
2. To study the breeding biology of the bird.
3. To study the inter and intra relationship between the individuals and their behavioral patterns during their life cycle.

4. To assess the current distribution of Trogon in the study area.

The study is located in the Idamala- Pooyamkutty Valley (latitude 10° N and longitude 76° to 77° E). The extent of the study area is approximately 40 sq. Km. The present study on Malabar Trogon was carried out for a period of three years from September 1996 to September 1999. Prior to this, two months were spent for a thorough literature survey on Trogons and other birds in the Library of Indian Institute of Science, Bangalore and Bombay Natural History Society, Mumbai.

Out of the 36 months, 8 months were spent for the study of distribution of Trogon in the forest areas of Idukki and Ernakulam Districts, Kerala. The remaining 18 months were used to study the ecology and behavior of Malabar Trogon in the study area.

Along with the bird studies, vegetation studies were also carried out. During each visit birds, butterflies, plants, mammals, and amphibians were observed and listed in the appendix (I-VI).

As no single method of study could be considered enough to deal with different aspects of the bird, details of methodology are described in the beginning of each chapter. In general, all the chapters except the first start with an introduction, methodology, results and discussion, and conclusion.

A pair of Berkut, 10 x 50 binoculars was used regularly for field observations. The following materials were also used for the study: Pentax 1000 SLR camera, Altimeter, stopwatch, Tape recorder, graduated steel scale, fine-tipped divider, common balance, measuring tape, search light, and numbered aluminium rings of BNHS.

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