

# Mapping Review on Paradise-Flycatchers: Expedition, Breeding Plumage, and Natural Threats

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## Abstract

In the order Passeriformes, the paradise-flycatchers (*Terpsiphone* sp.) have an impact to study on their behaviour and colour morphs. It is an uncommon and summer migratory bird. Many articles were available on the internet on this significant bird. A well-established research methodology could help to understand its breeding activities. Based on many results, in all paradise-flycatchers, males exhibited two colour morphs—rufous and white (Plates 1-3). Due to sympatric speciation, males can be focused themselves with rufous or white morph.

**Keywords:** Paradise-flycatcher, behaviour, colour morphs, breeding, predators

## 1. INTRODUCTION

Monarchidae is a family of insectivorous songbirds include shrike bills, magpie-larks, and paradise-flycatchers. It is uncommon passerine bird and a summer visitor of Bangladesh found in thick forests (Bhuiyan, 2009). The total length of the male bird is 50 cm with 30 cm tail streamer, and female is 20 cm. This is a least concerned (LC) bird in global and national status (IUCN Bangladesh, 2015). It is native to the Indian Subcontinent, central Asia, and Myanmar (Bird Life International, 2019). In a broad sense, this bird is available in China, Japan, Afghanistan, Myanmar, Thailand, Malaysia, and Indonesia. Also, this a group of noisy bird and has sharp skreek call (Bhuiyan, 2009). This bird is the state bird of Madhya Pradesh (Kushwah, 2001). In Bangladesh, the noted paradise-flycatcher is Indian paradise-flycatcher, *Terpsiphone paradisi paradisi* (Ali and Ripley, 2001). Out of 16 subspecies, *T. p. paradisi*, *T. p. leucogaster*, and *T. p. saturator* occur in Bangladesh (Haque and Chakma, 2008). The objective of this study is to understand especially the male plumages on the basis of their natural breeding. The intent of this write-up, is to clarify the colour morphs of paradise-flycatchers in both sexes.

## 2. CLASSIFICATION

|                  |                                       |
|------------------|---------------------------------------|
| Phylum:          | Chordata                              |
| Class:           | Aves                                  |
| Order:           | Passeriformes                         |
| Family:          | Monarchidae                           |
| Genus:           | <i>Terpsiphone</i>                    |
| Species:         | <i>paradisi</i>                       |
| Scientific name: | <i>Terpsiphone paradisi</i> (L. 1758) |

## 3. BEHAVIOURS

Occasionally, this bird seen in pairs but unevenly distributed. Flight is swift-like and undulating. Its migratory movements not observed well. Northern birds are probably more migratory, and southern birds prone to erratic winter movements (Ali and Ripley, 2001). This bird is resident in some localities

but migratory in others (Ali, 2002). On the other hand, this is widespread resident and like forest and well-wooded areas (Grimmett *et al.*, 2007). It is migratory bird and spends the winter season in tropical Asia (Owen, 1963).

#### 4. COLOUR MORPHS

The first-year bird has ashy breast until second autumn moult comes. Intermediate individuals are most white in plumage or white with rusty traces. Male has two colour morphs: rufous morph with white underparts and white with black primaries. Female is similar to rufous male but with much shorter graduated tail (Khan, 2008) (Plates 1-3). Male requires long tail within 2-3 years. Males maybe polymorphic for rufous and white plumage colour; rufous birds' may be the sub-adults, and their two sympatric species distinguishable only in the male (Owen, 1963). Juveniles are rufous, and after second-year they turn into white morphs. Many males remain a rufous morph for their entire lives (Plate 2). The rufous morph is more common than the white morph. Rufous birds are rare in the extreme southeastern part. The white morph is more common in the southern areas of their range than in the north (Deeds, 2020) (Plate 3). Some rufous-coloured males do not have long central feathers (Ali and Ripley, 1972; Lekagul and Round, 1991). Three types of males, rufous-coloured with short tail, rufous-coloured with long tail, and white-coloured with long tail, can exist in the same population. Females and rufous (Plate 1) and short-tailed males resemble each other in plumage colouration (Mizuta and Yamagishi, 1998).



**Plate 1.** Rufous female



**Plate 2.** Rufous male



**Plate 3.** White male

#### 5. BREEDING BIOLOGY

In general, most of the studies showed lower breeding success in tree cavities compared to nest boxes (van Balen *et al.*, 1982; Nilsson, 1986; East and Perrins, 1988; Alatalo *et al.*, 1990; Lundberg and Alatalo, 1992). Contrary of these studies, Mitrus (2003) and Czeszczewik (2004) reported higher breeding success in tree cavities than in nest boxes. Reproductive success was 100% as we could observe the juveniles grow up to their adulthood, though finding was not carried out sufficiently. In the case of monogamous species, the long tail in males is not mandatory because male can require only one female (Mizuta and Yamagishi, 1998). The function of long tail of male assumed to be related to sexual selection (Bhuiyan, 2009). The breeding season is from March to August, chiefly May and June. Nest is cup-like and 15 metres from the ground. Eggs are generally 4, often 3, pink to nearly white. Incubation period are 15-16 days, and fledging 12 days. A study suggested 44.4% young can survived in this bird (Ngoenjun and Sitasuwan, 2009). Interspecific feeding noted with paradise-flycatcher chicks fed by oriental white-eye (Tehsin and Tehsin, 1998).

#### 6. NATURAL PREDATORS

Treepies and drongos are the major threats to the chicks of paradise-flycatchers (Nolan, 1963; Ricklefs, 1969).

## 7. CONCLUSION

The Genus *Terpsiphone* has two colour morphs—rufous and white but mostly they found rufous. The sexual selection allows their morphs when same types of males are around them. This selection depends on the struggle between males to access females (Brennan, 2010). Sometimes, the colour morphs focused with difficulties for understanding other species or subspecies of the same genus. Year-wise seasonal data on their breeding activities could solve such queries.

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