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Short Communication

A RECORD ON LEUCISM IN THREE-STRIPED PALM SQUIRREL (*FUNAMBULUS PALMARUM*) IN UPPER NILGIRIS, TAMIL NADU, INDIA

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ABSTRACT

Leucism is expressed as the almost total decoloration of certain or whole parts of the body, but preserving the typical color of eyes, nails, and skin. This note highlights the occurrence of leucism in three-stripes palm squirrel in Upper Nilgiris region, Tamil Nadu, India

Keywords: Color aberration, Squirrel, Leucism

INTRODUCTION

Abnormal coloration in mammals and other animals is considered as a hypopigmentary congenital disorder that reflects low genetic diversity levels; these chromatic aberrations are expressed mainly as albinism and leucism (Phillips et al.1954) (Bensch et al. 2000). Leucism is expressed as the almost total decoloration of certain or whole parts of the body, but preserving the typical color of eyes, nails and skin (Bensch et al. 2000), (Miller et al. 2005). The occurrence of leucism is associated with factors such as pollution, environmental alterations (Moller et al. 2001), low-quality diet (Owen et al.1992), (Peles et al. 1995), or follicular damage (Phillips et al. 1954), (Hafner et al.1987). Individuals with leucism are more frequent in small and isolated populations due to inbreeding, which causes recessive alleles to be expressed (Holyoak et al. 1978), (Bensch et al. 2000). Leucism is relatively rare in small mammals (Steen et al. 2012). This note highlights the occurrence of leucism in Three-stripes palm squirrel in Upper Nilgiris region, Tamil Nadu, India.

The Three-striped palm squirrel (*Funambulus palmarum*) is a small rodent species that belongs to the family Sciuridae. There are four subspecies of Indian palm squirrels that are native to India and Sri Lanka; the species studied is endemic to southern India and Sri Lanka (Nameer et al.2008), (Thorington et al.2005). It is widely distributed, from sea level up to 2,000 m asl (Nameer et al.2008).

On 03 February 2021, at 11:30 hours we observed three leucistic Three-striped palm squirrel specimens (two adult and one juvenile) in the human dominated areas of Coonor, The Nilgiris, Tamil Nadu, Southern India (N 11.355885°, E 76.784217°); it was totally white, with pinkish snout, ears and limbs, but its eyes were normal colored (Figure 1). In Indian region there were few records observed on leucism in three striped and five striped palm squirrels. (Samson et al. 2017) recorded the first known case of leucistic three striped palm squirrel in India (Gudalur, The Nilgiris, Tamil Nadu). (Sayyed et al. 2016) has observed similar characters of leucism in the five striped palm squirrel (*Funambulus pessnnantii*) from Satara District of Maharastra, India and it was the first report of leucism from the central part of India. (Ramesh Singh Yadav et al.2019) recorded the leucistic five striped palm squirrel from the partial man made forest at Zamania, Gahzipur Uttar Pradesh, North India. (Kamalakannan et al.2019) recorded the leucistic five striped palm squirrel from IIRS campus, near the Golden Jubilee hostel, IIRS, Dehradun, Uttarakhand, India. These five records were observed on semi forest as well human habitation areas, this conclusive evidences are clearly stated that habitat fragmentation are plays a crucial role for occurrences of leucism in these species. The Upper Nilgiris is a highly fragmented landscape the movement of wild animals is highly disturbed due to habitat fragmentation and Habitat alterations, especially agricultural and tea plantations. This situation is likely influencing the emergence of species with leucism, in agreement with (Holyoak et al.1978), (Bensch et al. 2000), (Lopucki et al.2010), (Samson et al, 2017) who state that the frequency of occurrence of Individuals with atypical colorations in a wild population is affected mainly by the isolation of populations. The fragmentation of natural habitats in upper Nilgiris could be preventing gene flow between three striped squirrel populations, even in Nilgiris, a arboreal species that inhabits forests and shrub, and which is usually tolerant to habitat modification. However three striped palm squirrel are a semi arboreal rodent associated only with forests, also showed leucism, although in smaller numbers. The present is the first report of leucism in three numbers of three striped palm squirrel in India in a same place altogether. The museological reviews, field reports and studies on population genetics will contribute to understand the existence of spatial and temporal patterns or demonstrate the indirect causes of these aberrations in natural populations.

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Figures 1. *Leucistic Three Striped Palm Squirrel in Coonoor, The Nilgiris, Tamil Nadu, India.*

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