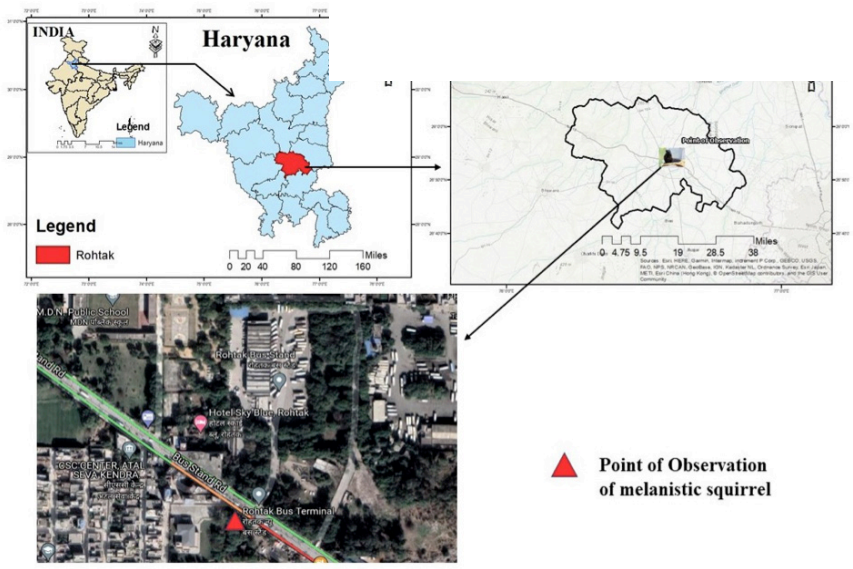
The rare black Northern Palm Squirrel from Haryana, India

The Northern Palm Squirrel *Funambulus pennantii*, also known as the Five-striped Palm Squirrel, is a small rodent which belongs to the family Sciuridae. It is most commonly found in India and according to the IUCN Red List, its conservation status is Least Concern. The bushy tail and bold stripes running down the body are diagnostic characteristics of this sciurid, which can grow to be 250–270 mm, with 110–120 mm tail length and weigh 60–200 g (Long 2003; DPIPWE 2011). A bushy tail, dark rounded eyes, small triangular ears, and long front teeth distinguish it (Menon 2003; Pradhan & Talmale 2012). It is an omnivore and feeds on a variety of fruits and nuts, as well as eggs, small birds, larvae, and insects (Prasad et al. 1966; Malhi & Kaur 1994; Malhi & Khushrupinder 1995).



Map showing the location of sighting of the black Northern Palm Squirrel in district Rohtak, Haryana.

Melanism is the reverse of albinism, in which the dark-colored pigment melanin is produced in the skin or its appendages. Because the melanistic characteristic is a recessive trait, it is not inherited at random; rather, it is favoured when the gene of two parents are too similar (Ramakrishnan et al. 2016). Animals use colour for a variety of adaptive purposes, including camouflage, signalling, defence, and thermoregulation. Melanism is found in a wide range of animals, and two of its main functions are to provide predatory camouflage, as in lizards to provide protection from predators (Rosenblum et al. 2004) and to provide a thermal advantage in some organisms such as in butterflies, ladybirds, snails, and snakes (Bittner et al. 2002; Pardo-Diaz et al. 2012).

Few observations were recorded earlier in different states of India. The first spotting of black palm squirrel in Indian subcontinent was scientifically documented by Dileepkumar et al. (2021). They show the colour change is caused by mutation and can be traced back to the melanocortin-1 receptor (MC1R) gene, where it was discovered to be a

(A) Comparison of Northern Palm Squirrel with and without melanism. (B), (C) Comparison of both squirrel in similar food habits © Parul. (D), (E) Black Northern Palm Squirrel sighted at Rohtak (Haryana) © Amit Kumar.

sequence change causing a frame shift in the wild type's extension locus (Dileepkumar et al. 2021). Other spotting of melanism in Indian Giant Flying Squirrel in India was done by Ramakrishnan et al. (2016) at Sathyamangalam Tiger Reserve, Tamil Nadu. A zoology teacher M. Jayashankar had sighted a melanistic squirrel in Devanahalli taluka, a rural district in Bengaluru, Karnataka (Rupera 2020). Recent sighting of the black coloured Northern Palm Squirrel has been reported in district Vadodara, Gujarat by Karan et al. (2020).

In our photographic documentation, we have described the squirrel as 'black', to which our morph fits in, in accordance with the normal distribution curve for colour possibilities

presented by Singh (1999, 2000) for tiger *Panthera tigris*.

On 24 October 2021, we spotted and photographed a squirrel with fully black coat colour. It was quite a sudden and interesting observation when we were headed mid-way to our homes near the Rohtak District bus-stand. As zoologists and wildlife researchers, we had an idea of its rarity in that locality. Photographic records were taken using Canon Powershot sx70hs camera.

We again surveyed that place on 26 October 2021 and finally spotted the black squirrel and got a good series of photographs. We took coordinates from google maps, observed its feeding activities and noted eatables like biscuits, cooked food, puff corns, coconut etc. Using the coordinates, a map was constructed through Arc GIS 10.8 software showing the point of observation of black squirrel in Haryana.

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