

CASE REPORT



First report of a partial leucistic spotted dove (*Spilopelia chinensis*) in the Ghodazari Wildlife Sanctuary, Chandrapur, Maharashtra

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A rare plumage anomaly known as leucism is characterized by a partial or whole loss of pigmentation while maintaining normal eye color. The first documented sighting of a leucistic Spotted Dove in Ghodazari Wildlife Sanctuary is described in this publication. The observation was made in the mixed deciduous woodland habitat of the sanctuary during a normal avifaunal survey. The individual's trademark black-and-white spotted collar was still present, but in a fading form, and its distinctive pale whiteness replaced the usual brown and pinkish hues. The leucistic dove behaved normally, vigorously feeding and engaging with conspecifics, suggesting that it was not immediately at a disadvantage in terms of social integration or survival. Even though they are uncommon, these events are important because they help us understand genetic diversity, ecological adaptability, and population health in bird species. This report underscores the significance of on-going field monitoring in biodiversity-rich regions like Ghodazari and contributes to the scant documentation of leucism in wild Columbidae. The discovery also highlights how protected areas support unusual genetic variants in addition to common species. To determine the frequency and ecological consequences of such anomalies in the avifauna of the area, further systematic monitoring is advised.

KEYWORDS

First report; Leucism; Spotted dove; Ghodazari Wildlife Sanctuary; Chandrapur

ARTICLE HISTORY

Received 12 August 2026;

Revised 26 August 2026;

Accepted 30 August 2026

Introduction

Partial leucism is a congenital pigmentation disorder involving a partial loss or reduction of melanin deposition in feathers, leading to localized areas of white, pale or depigmented plumage. Unlike albinism, partial leucism usually does not damage the eye's pigmentation, and the eyes, beak and legs remain normally coloured. Genetic abnormalities in the formation, migration, and distribution of pigment in melanocytes can lead to this disorder. Colouration in birds' feathers is mostly the result of pigment build-up within the feathers [1]. In addition to interspecific colour differences, interspecific pigment-related colour aberrations can also occur [2,3]. Usually the colour in feathers is caused by biological pigments called biochromes. The two primary pigments that determine plumage colour in birds are carotenoids and melanin. Colour aberration in birds is generally attributed to genetic abnormalities affecting synthesis and/or distribution of these biochromes [4]. Environmental and dietary factors can also lead to abnormal bird colour [5]. According to van Grouw the different colour aberrations normally seen on birds are albino, leucism, progressive greying, brown, dilution, ino and melanism. Colour aberrations (albino, leucism, progressive greying, brown and ino) are due to a reduction or total lack of melanin pigments, while dilution and melanism are due to abnormal deposition or abnormal production of melanin [4]. White feathers in birds are generally caused by albinism, leucism or gradual greying [2]. Aberrant white feathers are usually a result of leucism or gradual greying [5]. Leucism is present from birth. It is the total or partial absence of melanin in the entire plumage or in selected feathers. Progressive greying is a slow loss of pigment cells which accumulates with each moult [2]. Cases of leucism were recorded across India, from the Himalayas to the Western Ghats, the Central and Eastern Ghats, and the plains. A large number of observation records from northeastern India. Leucism was defined as partial or total lack of melanin in feathers and skin while maintaining normal eye colour and normally coloured bills and feet [2,6]. We report the behaviour as

normal because leucistic animals are always seen in close proximity to normal individuals and other birds of the same species. According to McCardle, these individuals may be a great target for predators, but they seem to fare pretty well despite their lack of natural coloration [7]. The Spotted Dove (*Spilopelia chinensis*) from Ghodazari Wildlife Sanctuary in Chandrapur, Maharashtra, was found to have partial leucism for the first time. Localized depigmentation with normal pigmentation in other body parts is a rare plumage aberration that is represented by this observation. This record emphasizes the significance of recording rare plumage anomalies inside protected wildlife habitats and provides useful information on avian phenotypic variation.

Materials and Method

Ghodazari Wildlife Sanctuary (N20° 32' 5.91" E79° 38' 9.00"). This is a stunning forest reserve in Maharashtra's Chandrapur district. This landscape consists of dry deciduous forest, predominantly shrubby forest patches, bamboo patches, teak patches, grasslands and agricultural land. Summer is very hot. The area supports rich diversity due to the habitat. It is renowned for its rich biodiversity, picturesque lake, and lush forests. Deer, wild boars, birds, reptiles, and a variety of plant species can all be found in the sanctuary. For those who enjoy the outdoors, photography, and animals, it is an ideal location. The observation of the birds is direct, the photographed was taken with the help of a digital camera, Nikon D800 (500 mm telephoto lens). The present observation was an unusual white colour body of the Dove; after compare with the normal spotted dove, there are noticeable white-tipped dots on the sides of the neck and the back of the wide black collar as in normal spotted dove (Figure 1).

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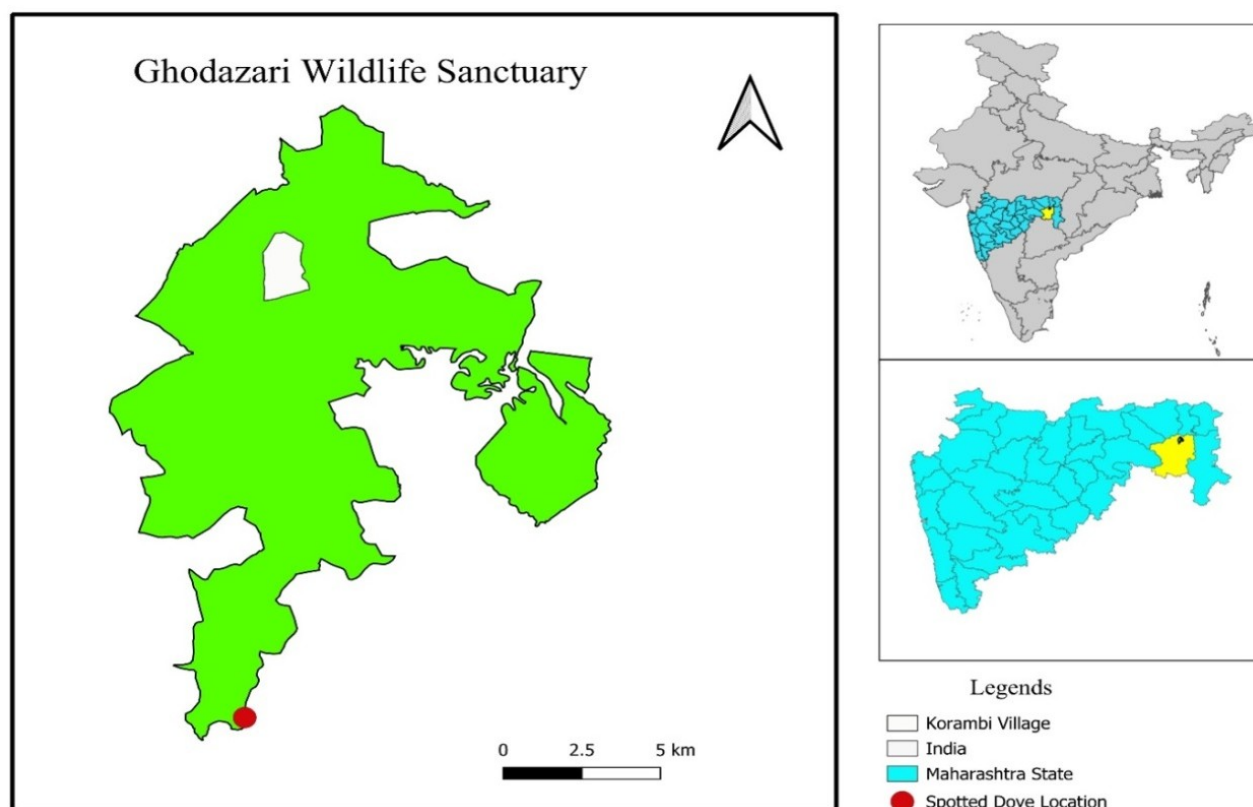


Figure 1. Ghodazari Wildlife Sanctuary, Dist. Chandrapur, Maharashtra.

Result and Discussion

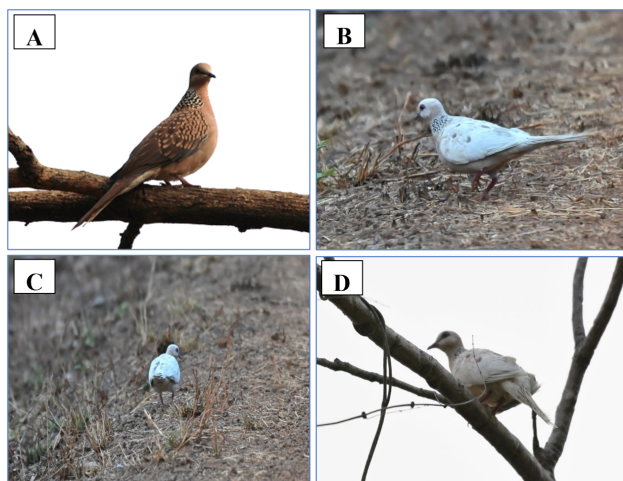


Figure 2. A-The Normal Spotted Dove (*Spilopelia chinensis*); From B to D- Leucistic Spotted Dove in engaging various activities during the observation.

The study is based on the finding of a Spotted Dove (*Spilopelia chinensis*) on April 20, 2026, while conducting routine fieldwork adjacent to the canal side of the reservoir at Ghodazari Wildlife Sanctuary (GWS) (20° 26' 31.17", 79° 33.99"). Atypical plumage coloration suggestive of a leucistic state was seen in the Spotted Dove. In the present observation, the typical grey-brown pigmentation in the Spotted Dove had been significantly reduced, as evidenced by the wings' predominant white colour. The bland beige to cream-coloured

body plumage stood in stark contrast to the typical coloration of the species. The characteristic black-and-white spotted collar on the back of the neck was still plainly apparent despite the overall decrease in pigmentation, making it easy to identify the bird as a Spotted Dove. On either wing, there was no discernible spot. Compared to those of normal colour, the eyes were pale and the beak showed less pigmentation. Additionally, the legs were lighter than usual. The creature was seen nibbling on the ground before taking off for the closest tree. During the observation period, no irregularities in movement, flying, or interactions with other doves were seen, and its behaviour appeared regular. A partial leucistic plumage aberration is suggested by the combination of large white wing feathers, pale body coloration, and the preservation of the distinctive neck collar (Figure 2).

Leucism is a plumage anomaly that results in white or pale coloration due to partial or total melanin loss in feathers [2]. Leucistic birds may still have pigmentation in some body parts, in contrast to albinism, which is characterized by a total lack of melanin and causes red or pink eyes [2]. Although they are still rare in natural populations, similar colour aberrations have been documented in a number of bird species, including doves [8]. Long-term observation of these individuals may shed light on the ecological effects of pigmentation anomalies as well as survival rates and reproductive success. Bora et al. found a similar colour-aberrant Spotted Dove (*Streptopelia chinensis*) from Deobali Jalah, Nagaon District, Assam, India. Bora et al. hypothesized that the aberration was probably a sort of dilution rather than leucism because the Assam individual had generally pale plumage, normal eyes, and kept distinctive neck patterns. Similarly, despite significant depigmentation of the wings and body, the current individual sustained the distinctive spotted collar around the neck, suggesting a partial loss of pigmentation [9]. Recent plumage aberration reports validate the rarity and scientific relevance of this observation. Field photography is increasingly documenting plumage colour anomalies because it can reveal genetic variation and melanin expression in wild bird populations. Kumar

Singh reported a leucistic Indian Spot-billed Duck (*Anas poecilorhyncha*) from Ludhiana, Punjab, showing that generally healthy wild animals can have pigment anomalies [10]. In India, Parab reported a Rufous-bellied Woodpecker (*Dendrocopos hyperythrus*) that appeared leucistic. Recent findings suggest that leucistic traits are rare [11]. Some of the recent records in India show that partial leucism may affect localized plumage patches. Singh et al. found partial leucism in Uttarakhand's Large-billed Crow (*Corvus macrorhynchos*) with white tail feathers standing out against its black plumage [12]. Despite its obvious deformity, the bird behaved normally in foraging, vocalization and socializing. Such observations are pertinent to the Spotted Dove because localized depigmentation may not interfere with normal behavior. Normal behaviour in leucistic birds suggests that loss of partial pigmentation may not have immediate physiological effects; although predator visibility and possible effects on social interactions or partner choice cannot be ruled out. Other recent examples include the Jungle Babbler (*Turdoides striatus*) in central India. Singh reported a slightly leucistic Jungle Babbler from Bandhavgarh Tiger Reserve, Madhya Pradesh. The study stressed the necessity of properly diagnosing plumage abnormalities because anomalies like leucism, albinism, dilution, progressive greying, and other colour aberrations can look like similar, therefore this is very important for the current leucistic spotted dove, subsequently a bird with general white or light feathers should not be considered leucistic without evaluating its eye pigmentation. Contemporary literature emphasizes that leucism differs from albinism. In leucism, feather pigmentation is reduced or absent while eye pigmentation is intact [13]. Recent Burrowing Owl research emphasizes that colour-aberration terminology can be unreliable and that progressive greying, leucism, dilution, and albinism may look alike. Locatelli et al. described a family group of Burrowing Owls with leucistic plumage and stressed the significance of using diagnostic features rather than "white" or "pale." The present observation, The Spotted Dove's normal eye colour and localized distribution of depigmented feathers supports its understanding as partial leucism, and white feathers were not caused by the injury, feather replacement, or progressive greying [14]. These findings suggest that colour aberrations in Spotted Doves could take many various forms and needed more research from the entire range of the species in India. The current observation adds to the few records of colour anomalies in Spotted Doves (*Streptopelia chinensis*) and helps document plumage aberrations in wild birds. The occurrence, distribution, and potential causes of plumage colour aberrations in Spotted Doves may be clarified with more thorough surveys conducted throughout the species' geographic range in India.

Conclusion

The current observation of a leucistic Spotted Dove (*Spilopelia chinensis*) from Maharashtra's Ghodazari Wildlife Sanctuary adds significantly to the scant information on plumage colour abnormalities in wild birds in India. Along with widespread wing depigmentation and pale beige body plumage, the survival of the distinctive spotted collar suggests a partial melanin loss compatible with leucism rather than total albinism. Given the species' extensive range and the comparatively small number of recorded pigmentation abnormalities, the finding is especially significant. Thus, this finding adds to our understanding of *S. chinensis* phenotypic variation and emphasizes the significance of recording such uncommon anomalies in wild populations. To ascertain the ecological relevance of leucism, including its possible impacts on camouflage, predator avoidance, social interactions, survival, and reproductive success, long-term research and ongoing field observation are advised.

Data Availability Statement

The data generated and analyzed during the present study, including species occurrence records, field observations, habitat characteristics, and associated ecological information, are available from the corresponding author upon reasonable request. The data are not publicly deposited in a repository because they are part of an ongoing biodiversity research programme. Additional information required to

reproduce the findings of this study may also be obtained from the corresponding author, subject to appropriate scientific and conservation considerations.

Ethics Declaration

The present study was conducted in accordance with applicable ethical standards and guidelines for wildlife research and conservation. Field observations of species was primarily carried out through non-invasive methods, without intentional injury, killing, or unnecessary disturbance to the animals or their habitats. No specimens were collected or sacrificed during the study. Field surveys within Ghodazari Wildlife Sanctuary were conducted with due consideration of wildlife protection regulations and the conservation status of the study area. All observations and photographic records were obtained responsibly, ensuring minimal disturbance to the fauna and their natural habitats. Necessary permissions from the competent forest and wildlife authorities were obtained wherever required.

Authors Contribution

Lalit Urkude: Observation of the species, Photographed, collection of primary data

Gopal Paliwal: Identification and Confirmation of the species, collection of primary data

Sudhir Bhandarkar: Manuscript writing and corresponding author

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