
SHORT NOTE

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Pavan Chikkanarayanawamy^{1*}, Basavaraj Mulage²

¹ Esthur Hosahalli, Bendiganahalli, Hosakote, Bengaluru Rural 562129, Karnataka, India

² Department of Animal Ecology and Conservation Biology, Wildlife Institute of India, Chandrabani, Dehradun 248001, Uttarakhand, India

* Corresponding author's address: Esthur Hosahalli, Bendiganahalli, Hosakote, Bengaluru Rural 562129, Karnataka, India, Phone: +919110441837, Email: pavangaddenna@gmail.com

ORCID: 0000-0001-8082-8841

FADING FEATHERS: DOCUMENTING THE PROGRESSIVE GREYING HOUSE SPARROW (*PASSER DOMESTICUS*) FROM KARNATAKA, INDIA

Color aberrations in birds are relatively common (Guay et al., 2012; van Grouw, 2013). Such aberrations may arise due to reduced genetic diversity stemming from population isolation and inbreeding (Bensch et al., 2000; van Grouw, 2014), exposure to chemical mutagens or radiation (Ellegren et al., 1997; Bonisoli-Alquati et al., 2006), as well as environmental conditions, nutritional deficiencies, diseases, parasitic infestations, injuries, or aging (Guay et al., 2012). One such aberration, progressive greying, is characterized by the gradual loss of melanin pigment with each successive molt. In its early stages, progressive greying manifests as randomly distributed white feathers, often on the head, back, and flanks. Over time, the entire plumage may turn white (van Grouw, 2013). This is the most prevalent color aberration and is frequently misidentified as leucism (van Grouw, 2012, 2013). These color aberrations are hypothesized to negatively impact individual fitness, as evidenced by reduced mating success and heightened predation risk, among other factors (Parsons & Bontrup-Nielsen, 1995; Ellegren et al., 1997; Møller & Mousseau, 2003).

The House Sparrow (*Passer domesticus*), a synanthropic species, is a small songbird in the family Passeridae. Native to Eurasia, it has been introduced worldwide (eBird, 2023). It is listed as a species of Least Concern (IUCN, 2016), yet its populations are declining due to factors such as pesticide and herbicide use, pollution, reduced food availability, and habitat loss (Summers-Smith, 2003; Anderson, 2006; BirdLife International, 2019).

This study documents an observation of a progressive greying House Sparrow (*Passer domesticus*) from Karnataka, India. On January 12, 2022, at approximately 14:43 h, during a casual walk, PC observed an unusually colored sparrow near a flock of 10-12 sparrows in Esthur Hosahalli (13.22°N, 77.86°E), a village in Bengaluru Rural District, Karnataka. The sparrow was perched on the roof of a washroom adjacent to a house on a sunny day. Two photographs of the individual were taken using a mobile phone

before it flew away. Initially misidentified as leucistic, the sparrow was later confirmed to exhibit progressive greying with assistance from Hein van Grouw (Figure 1). The bird was identified as female due to the absence of the black throat bib characteristic of adult males and displayed pale brown plumage. White feathers were scattered randomly, with the highest concentration on the head (van Grouw, 2013). Additionally, feathers on the belly and flanks were worn, exposing underlying down feathers. This represents the first documented instance of a progressive greying House Sparrow in Karnataka and potentially in India. Observations of this kind are rare in India, with only two prior records eliciting skepticism regarding their classification as progressive greying or other color aberrations (Tiwari, 1930; Sankpal, 2023).

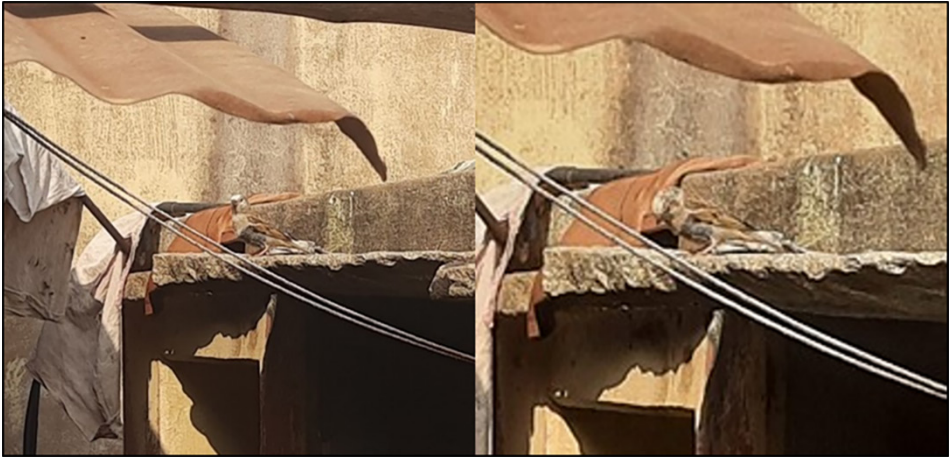


Fig. 1. Photographs of the female progressive greying House Sparrow

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REFERENCES

- 2019 – *Passer domesticus* (amended version of 2018 assessment). The IUCN Red List of Threatened Species 2019: e.T103818789A155522130 – BirdLife International. Webpage URL: <https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T103818789A155522130.en>. [Accessed on 04 November 2024].
- Anderson T.R. 2006 – Biology of the ubiquitous House Sparrow from genes to population – Oxford Univ. Press, Oxford, New York.
- Bensch S., Hansson B., Hasselquist D., Nielsen B. 2000 – Partial albinism in a semi-isolated population of great reed warblers – *Hereditas* 133(2): 167-170.

- Bonisoli-Alquati A., Møller A.P., Rudolfsen G., Mousseau T.A. 2022 – Birds as Bioindicators of Radioactive Contamination and Its Effects – In: Biomarkers of Radiation in the Environment, Eds. Wood M.D., Mothersill C.E., Tsakanova G., Cresswell T., Woloschak G.E. – NATO Science for Peace and Security Series A: Chemistry and Biology. Springer, Dordrecht.
- Ellegren H., Lindgren G., Primmer C.R., Møller A.P. 1997 – Fitness loss and germline mutations in barn swallows breeding in Chernobyl – *Nature* 389: 593-596.
- Guay P.J., Potvin D.A., Robinson R.W. 2012 – Aberrations in plumage coloration in birds – *Aust. Field Ornithol.* 29: 23-30.
- Møller A.P., Mousseau T.A. 2003 – Mutation and sexual selection: a test using barn swallows from Chernobyl – *Evolution* 57(9): 2139-2146.
- Parsons G.J., Bondrup-Nielsen S. 1995 – Partial albinism in an island population of Meadow Voles, *Microtus pennsylvanicus*, from Nova Scotia – *Can. Field-Nat.* 109(2): 263-264.
- Sankpal R. 2023 – What type of House Sparrow (*Passer domesticus*) plumage is this? Colour aberrant or normal – a case report – *Int. Stud. Sparrows* 45: 24-26.
- Summers-Smith J.D. 2003 – The decline of the House Sparrow: a review – *Brit. Birds* 96: 439-446.
- Tiwari N.K. 1930 – An albino House Sparrow (*Passer domesticus*) – *J. Bombay Nat. Hist. Soc.* 34(1): 253.
- van Grouw H. 2012 – What colour is that sparrow? A case study: Colour aberrations in the house sparrow *Passer domesticus* – *Int. Stud. Sparrows* 36: 30-55.
- van Grouw H. 2013 – What colour is that bird? The causes and recognition of common colour aberrations in birds – *Brit. Birds* 106: 17-29.
- van Grouw H. 2014 – Some black-and-white facts about the Faeroese white-speckled Common Raven *Corvus corax varius* – *Bull. Brit. Ornithol. Club* 134(1): 4-13.