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Progressive greying in the white-eared bulbul (*Pycnonotus leucotis*)

Birds have long captured the fascination of ornithologists, in part due to their captivating and charismatic plumage colorations (Feduccia *et al*. 2016). Deviations from the normal in their plumage often result in what is known as aberrant plumage, a phenomenon that has been documented globally (Grouw 2012, Hudon *et al*. 2013, Trivedi 2016, Zbyryt *et al*. 2020).

We encountered a white-eared bulbul, *Pycnonotus leucotis* (Gould, 1836) exhibiting extraordinary plumage variations on 7 November 2022, at Jorbeer (27°58'15.1"N, 73°21'04.5"E), Bikaner, Rajasthan, India (Fig. 1). This individual deviated significantly from the species' normal coloration. The observed individual showed progressive loss of pigments in the head, wing, and tail feathers as well as the beak, but the distinct yellow vent of the bird remained intact. Later the observed anomaly was identified as progressive greying (Grouw 2021). At the time of recording the individual was observed feeding on *Prosopis juliflora* (Fabaceae) an invasive plant in India.

Figure 1. Progressive greying in White-eared Bulbul

Progressive greying is mainly used in mammalian genetics for the growth of white hairs and is characterized by the gradual diminishment of melanin cells resulting in the complete absence of melanin in specific parts or the entirety of the plumage (Grouw 2021, Zbyryt *et al*. 2020). This phenomenon is similar to the greying of human hair (Carello 2021). However, Grouw (2021) suggested that progressive greying in avian species does not correlate with age; it can manifest after a specific developmental stage. The bird's plumage initially exhibits color variations throughout the early stages of this anomaly, but eventually, it may turn completely white (Grouw 2021, Koparde *et al*. 2014). Nutritional imbalances and heritable disorders like vitiligo, in a few rare cases, can also promote pigment loss and lead to this condition (Grouw 2013). But there needs to be much more research done on the mechanism of progressive greying (Carello 2021). Previously, Ali (1961) reported colour aberration in white-eared bulbul due to a reduction in eumelanin resulting in a pale sandy or isabelline appearance, which was later described as a brown aberration (Mahabal *et al*. 2016), in which normal black plumages are brown due to qualitative reduction of eumelanin. Progressive greying is recorded in many species around the world, some of which include lappet-faced vulture (Grouw 2011), plain-flanked rail (Rodriguez-Ferraro *et al*. 2015), Eurasian oystercatcher (Quigley & Coitir 2016), Sykes's warbler (Trivedi 2016), and red-necked nightjar (Camacho *et al*. 2022). These studies collectively suggest that progressive greying is most likely an age-related phenomenon, caused by the consistent loss of pigment cells as individuals age. Apart from possible genetic disorders, environmental factors, and food deficiency are said to be major factors responsible for progressive greying (McGlothlin *et al*. 2007, Grouw 2013, Hudon *et al*. 2013).

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Literature cited

Ali, S. (1961). Colour Aberration in the white-cheeked bulbul (*Pycnonotus Leucogenys Leucotis* (Gould)). *The journal of the Bombay Natural History Society* 57(3): 658–658.

Camacho, C., P. Sáez-Gómez, P. Hidalgo-Rodríguez *et al*. (2022). Leucistic plumage as a result of progressive greying in a cryptic nocturnal bird. *Scientific Reports*, 12(1): 3411.

Carello, C. (2021). Learning to discern colour aberration in birds. *Colorado Birds*, 55(3): 148–152.

Feduccia, A., A.G. Elizabeth, L.M. Nicole *et al*. (2016). Ornithological Literature. *The Wilson Journal of Ornithology*, 128(1): 208–215.

Grouw, H.V. (2011). Short communications, notes and reports: lappet-faced vultures with white feathers. *Vulture News*, 60(1): 13–14.

Grouw, H.V. (2012). What colour is that sparrow? A case study: colour aberrations in the house sparrow (*Passer domesticus*). *International Studies on Sparrows*, 36: 30–55.

Grouw, H.V. (2013). What colour is that bird? The causes and recognition of common colour aberrations in birds. *British Birds*, 106(1): 17–29.

Grouw, H.V. (2021). What's in a name? Nomenclature for colour aberrations in birds reviewed. *BioOne Complete*, 141(3): 276–299.

Hudon, J., D. Derbyshire, S. Leckie & T. Flinn (2013). Diet-induced plumage erythrism in Baltimore orioles as a result of the spread of introduced shrubs. *The Wilson Journal of Ornithology*, 125(1): 88–96.

Koparde, P., P. Bangal & H.V. Grouw (2014). Brown kites and white crows: understanding colour aberrations in birds. *Hornbill*, 39(3): 10–13.

Mahabal, A., H.V. Grouw, R.M. Sharma & S. Thakur (2016). How common is albinism really? Colour aberrations in Indian birds reviewed. *Dutch Birding*, 38: 301–319.

McGlothlin J.W., D.L. Duffy, J.L. Henry-Freeman & E.D. Ketterson (2007). Diet quality affects an attractive white plumage pattern in dark-eyed juncos (*Junco hyemalis*). *Behavioral Ecology & Sociobiology*, 61(9): 1391–1399.

Quigley, D. & G. Coitir (2016). Eurasian oystercatcher *Haematopus ostralegus* at Skerries, County Dublin exhibiting progressive greying of plumage. *Irish Birds*, 10(3): 446–448.

Rodríguez-Ferraro, A., A. Rojas & M. Lentino (2015). High incidence of color aberrations in the plain-flanked rail (*Rallus wetmorei*). *Ornitologia Neotropical*, 26(2): 193–199.

Trivedi, R. (2016). Observations of some colour aberrations in birds seen in Gujarat. *Indian Birds*, 12(2&3): 74–75.

Zbyryt, A., P. Mikula, M. Ciach *et al*. (2020). A large-scale survey of birds' plumage colour aberrations reveals a collection bias in Internet-mined photographs. *Ibis*, 163(2): 566–578.

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