

First report of colour dilution in Yellow-billed Babbler from Male Mahadeshwara Wildlife Sanctuary, India

Colour aberration can often take the form of a complete or partial lack of pigmentation which occurs frequently in domesticated species or populations bred in captivity but is a rare event in wild populations (Bensch et al. 2000; Srivastava 2013). Loss of pigmentation has been reported in mammals (Mahabal et al. 2019), birds (van Grouw 2013), reptiles (Kolenda et al. 2017), amphibians (Venu et al. 2021), and fishes (Bigman et al. 2016). Colour aberrations are caused due to genetic factors that are expressed in one of the following forms- 1. Albino, 2. Brown, 3. Ino, 4. Leucism, 5. Progressive greying, 6. Dilution, and 7. Melanism (van Grouw 2021). However, non-genetic (environmental) factors, such as injury and nutritional constraints, can also cause pigmentation anomalies (Camacho et al. 2022).

We report the first observation of a case of dilution in colour in a Yellow-billed Babbler *Argya affinis* in the Male



Yellow-billed Babbler with colour dilution (60X zoomed image). ©Arjun Kannan.

Mahadeshwara Wildlife Sanctuary (12.084N, 77.299E), Hanur Taluk of Chamarajanagar District of southern Karnataka, India. The individual with the colour anomaly was spotted flying with a group of more than 10 individuals in a free-ranging population although, occasionally the anomalous individual was found foraging independently away from the group. The Yellow-billed Babbler is endemic to southern India and Sri Lanka. It is a social species, forming groups of five to seven individuals. However, birds are also

found in larger groups while foraging. They inhabit forest edges, shrubs and agricultural lands. The reported bird was observed from a long distance (photographed with a Panasonic Lumix FZ80 digital camera with the lens at 60x). The eyes and the beak had a pale-yellow colour, however, we could not observe the feet as the individual was mostly found foraging within the vegetation. Considering both the rarity of the event and the colouration in the eyes and beaks, the bird reported here has a colour dilution.

The colour aberration terminology used in this report is following van Grouw (2021).

This is the first report on dilution in Yellow-billed Babbler from India. There has been a single previous photographic report of an amelanistic Yellow-billed Babbler from India but there was data deficiency regarding the location from where it was observed (Mahabal et al. 2016). We suggest two ways that can enrich the data on colour aberrations in wild animals and though focused on birds, these recommendations can be used for other taxa as well.

1. Web-sourced datasets are increasingly proving to be a valuable source of ecological data (Zbyryt et al. 2021). Photographs sourced from dedicated online social media platforms such as iNaturalist, Macaulay library, and Instagram can help to understand any existing patterns in the emergence of colour anomalies within wild populations.

2. As a first step to advance this study, we have created a project page on the iNaturalist platform entitled “Colour Anomalies in Nature” (<https://www.inaturalist.org/projects/colour-anomalies-in-nature>) for reporting colour aberrations in Indian birds and the metadata will be publicly available.

The project created as a part of this study can be a good starting point to collate more data for a better understanding of colour aberrations in wild population of birds.

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Deyatima Ghosh¹ & Arjun Kannan²

¹Laboratory of Animal Behaviour and Conservation, College of Biology and the Environment, Nanjing Forestry University, Nanjing 210037, China.

²SMS Foundation Centre for Biodiversity and Conservation, Ashoka Trust for Research in Ecology and the Environment (ATREE), Jakkur, Bangalore, Karnataka 560062, India.

²Manipal Academy of Higher Education, Manipal, Karnataka, India.

Emails: ¹deyatima@atree.org (corresponding author);

²arjun.kannan@atree.org

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