

Mutation 'Brown' in Gadwall *Mareca strepera* from Gujarat, India

While birding at Mahi River (22.35°N, 73.04°E), near Kotna village, Vadodara District, Gujarat, on 20 May 2019, we spotted a colour aberrant duck. As the colour was unusual we took some photographs and tried to identify it with the help of Grimmett et al. (2011), and Rasmussen & Anderton (2012). A typical black eyeline, as well as an orange beak with a black lining on the upper mandible were visible, indicating a female Gadwall *Mareca strepera* [179]. The colour of this individual's plumage was pale or weak, indicating that it was not a case of albinism as it had normal, black coloured eyes, and all the features resembled those of a female Gadwall, except for the body colour. Its white belly extended, typically, up to its chest and it had paler body feathers instead of prominently scaled ones. Subsequently, when we visited the same place on 20 June 2019, we spotted the same individual foraging amidst submerged vegetation in the reserve water of the check dam on Mahi River. We were surprised that it had remained around Vadodara during its breeding season, whereas no other Gadwalls were found in the nearby area. Later, it flew away along with a Lesser Whistling Duck *Dendrocygna javanica* [180]. After 20 June 2019, we did not see this individual bird in the area.



179. Dilution in Gadwall



180. Gadwall in flight with Lesser Whistling Duck

Both: Keyur H. Naria

Our literature survey could not help towards conclusion, hence the photographs were sent to Hein van Grouw, Senior Curator, Bird Group, Department of Life Sciences, The Natural History Museum, UK (van Grouw 2006, 2013), and Jugalkishor Patel (Patel 2018). The aberration involved is not progressive

greying because, there, the pigmented feathers would still be their normal colour and that was not the case with this bird (Hein van Grouw, *in litt.*, e-mail dated 19 August 2019). Further, this bird, which looks pale/white is the result of the mutation 'Brown' in combination with the bleaching effect of the sunlight (Hein van Grouw, *ibid.*; Jugalkishor Patel, *in litt.*, e-mail dated 19 August 2019). On the basis of their responses we concluded that the colour aberration of Gadwall observed is a case of mutation 'Brown'.

A qualitative reduction of eumelanin is known as mutation 'brown'. In this mutation, the number of the eumelanin pigment granules remains unaffected, but the appearance of the eumelanin is altered; as a result of which, normally, black pigment turns dark brown, and the phaeomelanin is unchanged (van Grouw 2006, 2013). Nevertheless, feathers of such mutant individuals are sensitive to sunlight and will bleach quickly; it is also hard to distinguish this mutation in the field, as the original colour would have been lost (van Grouw 2006, 2013). Further, the eye colour is not much affected, but the feet and bill are most likely to acquire a paler colour (van Grouw 2013). The inheritance of mutation 'brown' is recessively sex-linked and the affected individual is always a female and is very rarely a male (van Grouw 2006). The mutation 'brown' is the most frequently encountered colour aberration in birds after progressive greying (van Grouw 2013).

An albino Gadwall was reported from Bharatpur, Rajasthan (Harrison & Harrison 1972), which was later corrected as a mutation 'brown' by Mahabal et al. (2016). This is, probably, the second record of mutation 'brown' in a Gadwall from India. We wonder why it could not migrate back with other individuals and if mutation 'brown' played any physiological role in preventing the migration of this individual.

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