
Record of the Albino Blue Bull (*Boselaphus tragocamelus*) from Katepurna Wildlife Sanctuary, Akola District, Maharashtra

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The Blue bull (*Boselaphus tragocamelus*), also known as the Nilgai, is the largest antelope in Asia and is classified as a species of least concern on the IUCN Red List and Scheduled II species under the Indian Wildlife Protection Act (1972). Blue bull is native to peninsular India, some parts of Pakistan, and Nepal and has been extinct from Bangladesh (Aryal et al., 2016). Taxonomically, it belongs to the family Bovidae, the subfamily Bovinae, and the tribe Boselephini. It is the only species in the genus *Boselaphus*, which was initially described by Peter Simon Pallas in 1766. Nilgai are social animals often found in herds ranging from 1 to 31 individuals (Vaghela et al., 2020). They have a physical appearance that is a mix between a horse and a cow, especially in males, with distinct sexual dimorphism. Male Nilgai are grey-blue in colour and have short, stout, conical, and smooth horns that are 15–20 cm in length and lack the ringed structure found in other bovids. They reach sexual maturity after four or five years. Female Nilgai do not have horns and are reddish-brown in colour, reaching sexual maturity after two years (Schmidly, 2004). Being a herbivore, it can browse and graze, consuming various grasses, leaves, shrubs, herbs, buds, flowers, seeds, and fruits (Rahmani, 2001). They are found near human settlements and crops fields outside the protected areas. Blue Bulls (*B. tragocamelus*) are often considered as the species responsible for severe crop damage in central and western India, as well as causing injuries to people and significant damage to infrastructure

(Desai et al., 2021). The Government of India has listed them as a pest species. They may be found in a range of environments, such as farmed plains, sparse shrubs with sporadic trees, and undulating hills, but they are not found in dense forests and steep slopes (Blanford, 1888; Prater, 1948).

Albinism primarily affects the integumentary colouration and epidermal features in majority of the animals including human due to a lack of melanin pigment. It is a condition characterised by abnormal colouration of the skin, hair, feathers, scales, or eyes (Hiler, 1983). Recessive nature of the albino gene series accounts for the rarity of albino animals. True albinism refers to the complete absence of pigmentation in the skin and eyes (Sandoval-Castillo et al., 2006), in contrast, pigment loss or decrease in particular parts, such the feathers, skin, or eyes, is known as partial albinism. (Berdeen and Otis, 2011). Leucism is a kind of partial albinism in which the legs, eyes, and beak are still coloured but other body parts do not have any pigmentation (Forrest and Naveen, 2000). One distinguishing character to recognize albinism and leucism is the colour of the eyes. Albinos typically have red eyes, while in leucism, the eyes retain their usual colour (Bensch et al., 2000). Albinism results from the action of multiple genes (Summers, 2009), whereas leucism is controlled by one recessive gene (Owen & Shimmings, 1992). According to Sage (1962), complete or partial albinism may be present from birth, emerge later in life, or diminish with age. Other possible causes of albinism include diet, senility, shock, infections, and injuries. Acevedo et al. (2009) proposed an additional cause of albinism, attributing it to a hereditary genetic deficiency affecting metabolism during prenatal development or leading to alterations in melanocyte development that change the spatial distribution or density of pigmentation across the body or within individual hairs.

The village of Mahan (District Akola) situated in Maharashtra state of India is a part of the Katepurna Wildlife Sanctuary. The temperature in this region ranges from 21 °C to 45 °C, with the dry deciduous forest type including abundant vegetation of Ain (*Terminalia tomentosa*), Dhawada (*Anogeissus latifolia*), Moha (*Madhuca longifolia*), Tendu (*Diospyros melanoxylon*), Khair (*Acacia catechu*), Salai (*Boswellia serrata*), Aola (*Emblica officinalis*), and Teude (*Dalbergia sissoo*). The sanctuary is known for its biological diversity, notably hosting species such as the four-horned antelope and the barking deer. In addition to these, there is a wide range of different animals in the sanctuary, including leopards (*Panthera pardus*), wolves (*Canis*

lupus), hyenas (*Hyaena hyaena*), blackbucks (*Antelope cervicapra*), wild boars (*Sus scrofa*), nilgai (*Boselaphus tragocamelus*), and jungle cats (*Felis chaus*) (Shirbhate & Shirbhate, 2017).

The forest of Mahan being surveyed under our regular track and monitoring activities. On 2nd January, 2024, during one such session, Akash, Munna, and Keshav sighted a young albino blue bull in forest beat number C397 at 11:35 am. This individual found distinct from the other individuals (Figure 1 and 2), being completely white in colour. However, due to the distance and angle of observation, the colour of its eyes could not be observed. Notably, this albino blue bull was in the company of nine other normal adult individuals (7 females and 2 males). As much as we are aware of, this sighting marks the first record of an albino blue bull in India. As there is no existing literature specifically reported the albinism in blue bulls, highlighting the rarity of this occurrence.



Figure 1, 2: Photograph of Albino Blue bull (Juvenile)

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References

- Acevedo, J., Aguayo-Lobo, A., & Torres, D. (2009). Albino weddell seal at cape shirreff, Livingston island, Antarctica. *Polar Biology*, 32, 1239-1243.
- Aryal, M., Panthi, S., Bhatta, M., Magrati, T. P., Shrestha, A. K., Shrestha, P. B., & Karki, A. (2016). Population status, distribution and potential threats of the blue bull *Boselaphus tragocamelus* (Mammalia: Cetartiodactyla: Bovidae) along the Tinau River of Rupandehi District, Nepal. *Journal of Threatened Taxa*, 8(14), 9638-9642.
- 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.
- Berdeen, J. B., & Otis, D. L. (2011). An observation of a partially albinistic *Zenaida macroura* (mourning dove). *Southeastern Naturalist*, 10(1), 185-188.
- Blanford, W.T. (1888). The Fauna of British India, including Ceylon and Burma. Mammalia. Taylor and Francis. London. England, 617pp.
- Desai, S., Talluri, H., & Dharaiya, N. (2021). An assessment of farmers' attitudes towards crop damage by wildlife and its prevention methods in the arid landscape of Gujarat. *Uttar pradesh journal of zoology*, 42(21), 52-60.
- Forrest, S. C., & Naveen, R. (2000). Prevalence of leucism in pygocelid penguins of the Antarctic peninsula. *Waterbirds*, 283-285.
- Hiler, I. (1983). Albinos. Young Naturalist. *The Louise Lindsey Merrick Texas Environmental Series*, 6, 28-31.
- Prater, H.P. (1948). Indian Animals. Fourth addition. Bombay Natural History Society Bombay, 324pp.
- Rahmani, A. R. 2001. India. In: D.P. Mallon & S.C. Kingswood (Eds.), Antelopes. Part 4: North Africa, the Middle East, and Asia. Global Survey and Regional Action Plans, pp. 178–187. IUCN, Gland, Switzerland.



Sage, B. L. (1962). Albinism and melanism in birds. *British birds*, 55(6), 201-225.

Sandoval-CaStillo, J., Mariano-MEIEndEz, E., & Villavicencio-Garayzar, C. (2006). New records of albinism in two elasmobranchs: the tiger shark *Galeocerdo cuvier* and the giant electric ray *Narcine entemedor*. *Cybium*, 30(2), 191-192.

Schmidly DS. 2004. The mammals of Texas. Austin: University of Texas Press.

Shirbhate, M. V., & Shirbhate, A. M. (2017). Diversity and distribution of spider fauna (family-Araneidae) in and around Katepurna Sanctuary, Akola, India. *Environment Conservation Journal*, 18(3), 45-52.

Vaghela, M., Dodia, P., & Shukla, A. (2020). Study on group composition of blue bull (*Boselaphus tragocamelus*). *Ela Found*, 9, 747.