

Albino wild boar (*Sus scrofa*) in Tamil Nadu, Southern India

Jabalí albino (*Sus scrofa*) en Tamil Nadu, sur de la India

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Albinism is a hypo-pigmentary disorder with a total lack of melanins in hairs, eyes, and skin due to the heritable absence of functional tyrosinase enzyme in pigment cells affecting all skin and hairs, resulting in a total white fur with red eyes. On 10th August 2019, 11:30 am during a fieldwork we recorded an albino male wild boar in Sathyamangalam Tiger Reserve, Eastern Ghats, Tamil Nadu, Southern India. Unfortunately, numerous records of this kind of colour aberrations were not reported properly. In this note we highlight the importance of photographs as an important tool for documentation about natural history. This observation is limelight into the scientific community to better recognizing this phenomenon and the insights into the ecological and physiological implications of this situation, which has a major influence on animal survival.

Key words: Albinism; Eastern Ghats; Tiger Reserve; wild boar.

El albinismo es un trastorno hipopigmentario con una falta total de melanina en el pelo, los ojos y la piel debido a la ausencia hereditaria de la enzima funcional tirosinasa en las células pigmentarias que afectan a toda la piel y el pelo, lo que da como resultado un pelaje blanco total con ojos rojos. El 10 de agosto de 2019 a las 11:30 am durante un trabajo de campo, registramos un jabalí macho albino en la Reserva de Tigres de Sathyamangalam, Eastern Ghats, Tamil Nadu, sur de la India. Desafortunadamente, numerosos registros de este tipo de aberraciones de color no se informaron adecuadamente. En esta nota destacamos la importancia de las fotografías como una herramienta importante para la documentación sobre la historia natural. Esta observación centra la atención de la comunidad científica por reconocer mejor este fenómeno y comprender las implicaciones ecológicas y fisiológicas de esta situación, que tiene una gran influencia en la supervivencia animal.

Palabras clave: Albinismo; Ghats orientales; jabalí; Reserva de tigres.

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Mammalian color is almost entirely dependent on the presence (or absence) of the pigment melanin in the skin, hair, and eyes. Melanin is produced through a stepwise biochemical pathway in which the amino acid tyrosine is converted to melanin. The enzyme tyrosinase plays a critical role in this pathway, and alterations or mutations in the tyrosinase gene can result in a defective enzyme that is unable to produce melanin or does so at a reduced rate. Albinism is a hypo-pigmentary disorder with a total lack of melanins in hairs, eyes, and skin due to the heritable absence of functional tyrosinase enzyme in pigment cells affecting all skin and hairs, resulting in a total white plumage / fur with red eyes (Smielowski 1987). Albinism is controlled via inheritance by an autosomal recessive gene in all animal species (Hale et al. 2005; van Grouw 2006; van Grouw 2013). This note has portrayed the albinism in wild boar (*Sus scrofa*) in Sathyamangalam Tiger Reserve, Eastern Ghats, Tamil Nadu, Southern India.

Sathyamangalam Tiger Reserve (11° 30' 17.1936" N, 77° 14' 18.2256" E) is situated in the south-west corner of the Eastern Ghats, and covering 1,408.40 km². This protected area is an important wildlife corridor connecting the Western Ghats and the Eastern Ghats (Figure 1). A wide variety

of habitats can be seen from eastern to the western part of the sanctuary. The eastern part of this sanctuary is located in the rain shadow region of Western Ghats. The average minimum and maximum temperature of the study area are 21.5 °C and 32.8 °C, respectively. The average annual rainfall is 824 mm. The Sathyamangalam Tiger Reserve is represented by several forest types such as tropical and dry deciduous, tropical scrub, tropical moist deciduous, and tropical semi-evergreen forests (Champion and Seth 1968). The study area is very rich in wildlife harboring populations of Asian elephants (*Elephas maximus*), tiger (*Panthera tigris*), and numerous other wild fauna and flora species.

On 10th August 2019 at 11:30 am during a fieldwork, we recorded a male wild boar that was digging the soil surface for feeding. The male was completely white with pinkish snout, ears and hoofs, and reddish eyes (11° 38' 32.30" N, 77° 10' 8.22" E; Figure 2). We photographed the animal for further references, and finally we conclude that it was an albino wild boar.

In India 34 mammalian species has been recorded with albinism condition. Regarding wild boars, there are only two official records in the Indian region (Mahabal et

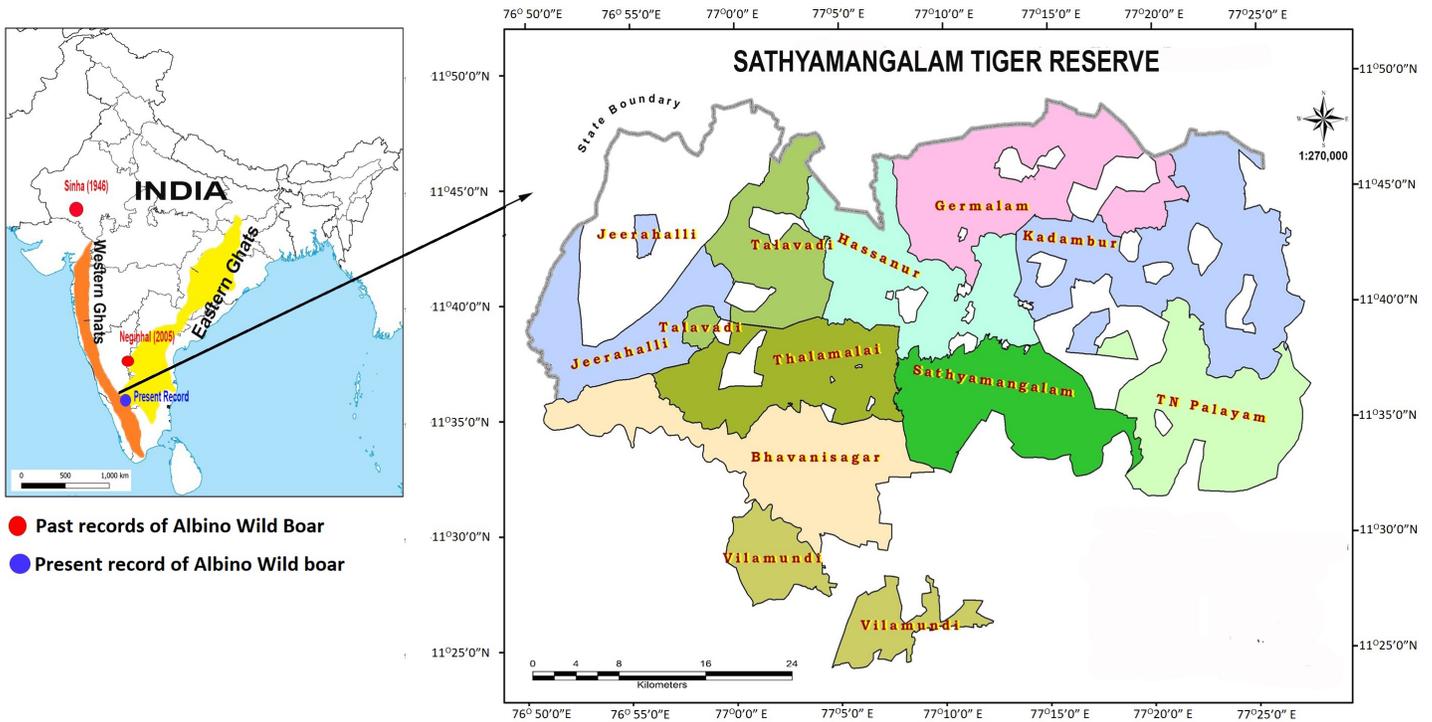


Figure 1. Map showing the study area Sathyamangalam Tiger reserve, Tamil Nadu, India.

al. 2019). [Sinha \(1946\)](#) recorded an albino wild boar on 27 May 1946, 45 miles from Udaipur (24° 50' 26.98" N, 73° 35' 11.72" E). [Neginhal \(2005\)](#) observed an albino wild boar in November 2004 in Daroji Sloth Bear Sanctuary (15° 23' 34.14" N, 76° 48' 45.06" E), Hospet, Bellary District, Karnataka (Figure 1). Both records were adult males. Albino individu-

als are more conspicuous as compared to normal individuals. Additionally, anomalous coloration tends to strongly reduce the survival of these organisms, as these deficiencies make them visible to predators ([Samson et al. 2017](#)). Similarly, visual problems are associated with albinism, as reduced amount of melanin can cause eye problems. This



Figure 2. Albino wild boar in Sathyamangalam Tiger Reserve, Eastern Ghats, Tamil Nadu. Photograph of Nagarajan Krishna Kumar.

is because melanin is involved in the development of the retina (Pérez-Carpinell et al. 1992; Grant et al. 2001; Garipis and Hoffmann 2003). In prey species, there is a definite disadvantage in the struggle for existence and very few albinos manage to escape their natural enemies and survive to attain sexual maturity (Mahabal et al. 2019). For this reason, albino individuals are only sporadically reported. Unfortunately, numerous of these were not on the record, maybe due to the lack of knowledge by the collectors and / or collection managers about the significance of this phenomenon (Samson et al. 2017; Samson et al. 2021).

We highlight the importance of photographs as valuable tool for documentation of natural history of species. In conclusion, further studies must be encouraged to report the records of colour aberration in wildlife. This is necessary for a better understanding of this phenomenon and its insights into the ecological and physiological implications of this condition considerably affecting the animal survival (Samson et al. 2017).

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Literature cited

- CHAMPION, H. G., AND S. K. SETH. 1968. A revised survey of the forest types of India. Government of India Publication. New Delhi, India. Available at <https://worldcat.org/title/revised-survey-of-the-forest-types-of-india/oclc/679918994>
- GARIPIS, N., AND K. P. HOFFMANN. 2003. Visual defects in albino ferrets (*Mustela putorius furo*). *Vision Research* 43:793-800.
- GRANT, S., N. N. PATEL, A. R. PHILP, C. N. B. GREY, R. D. LUCAS, F. G. FOSTER, J. K. BOWMAKER, AND G. JEFFERY. 2001. Rod photopigment deficits in albino are specific to mammals and arise during retinal development. *Visual Neuroscience* 18:245-251.
- HALE, W. G., V. A. SAUNDERS, AND J. P. MARGHAM. 2005. Collins Dictionary of Biology, 3rd ed. Available at <https://medical-dictionary.thefreedictionary.com/>. Accessed on 10 May, 2017.
- MAHABAL, A., R. M. SHARMA, R. N. PATIL, AND S. JADHAV. 2019. Colour aberration in Indian mammals: a review from 1886 to 2017. *Journal of Threatened Taxa* 11:13690-13719.
- NEGINHAL, S. G. 2005. Albino Wild Boar. *Hornbill* Oct–Dec:35.
- PÉREZ-CARPINELL, J., P. CAPILLA, C. ILLUECA, AND J. MORALES. 1992. Vision defects in albinism. *Optometry and Vision Science* 69:623-628.
- SAMSON, A., B. RAMAKRISHNAN, AND S. BARGAVI. 2017. Leucism in the Three-striped Palm Squirrel (*Funambulus palmarum*) at Gudalur Forest Division, Tamil Nadu, southern India. *Therya* 8:261-262.
- SAMSON A., K. A. HAKKEEM, AND J. LEONA PRINCY. 2021. First record on melanism in *Semnopithecus priam* from Tamil Nadu, India. *Nature Conservation Research* 6:98-99.
- SINHA, R. D. 1946. An albino boar. *Journal of the Bombay Natural History Society* 46:542-543.
- SMIELOWSKI, J. 1987. Albinism in the blue bull or nilgai, *Boselaphus tragocamelus* (Pallas, 1766). *Journal of the Bombay Natural History Society* 84:427-429.
- VAN GROUW, H. 2006. Not every white bird is an albino: sense and nonsense about colour aberrations in birds. *Dutch Birding* 28:79-89.
- VAN GROUW, H. 2013. What colour is that bird? The causes and recognition of common colour aberrations in birds. *British Birds* 106:17-29.

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