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Colour aberration in Indian mammals: a review from 1886 to 2017

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Abstract: The phenomena of colour aberration (albinism, leucism, piebaldism, melanism, hypomelanism, and blue-eyed colour morph) is reported in various mammalian species throughout the world including India. A total of 239 such instances in Indian mammals was tabulated in this study along with maps showing locations of the records. The records from 1886 to 2017 (till July) were gathered from published scientific literature, magazines, and images uploaded on various websites. The records were reviewed along with their order-wise and family-wise representation and were analyzed. Appropriate identification of colour aberration was attempted on the basis of any presented evidence. Altogether, 56 (out of 421) mammalian species belonging to eight orders and 19 families were reported to exhibit various types of colour aberrations, amounting to 13.3% of the total mammalian species found in India. Of these, albinos constituted 21.8%, leucistic 14.2%, piebald 5.4%, melanistic 25.5%, hypomelanistic 18.4%, and blue-eyed white morph 1.3%; the remaining 13.4% was undetermined. The study highlights 1) the absence of records of colour aberrations in the largest mammal family Vespertilionidae, which contrasts with studies elsewhere, 2) the persistent occurrence of albinos in Spotted Deer and Blackbucks in Gujarat, 3) the high number of melanistic leopards in India over the years and recent instances of melanistic Asian Golden Cats in Sikkim, 4) regular records of hypomelanism in Gaurs of the southern Western Ghats except in the last few years. Overall, a need for further studies in colour aberration in mammals is urged.

Keywords: Albinism, blue-eyed colour morph, chromatic disorders, hypomelanism, leucism, mammals, melanism, piebaldism.

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INTRODUCTION

The characteristic skin in mammals is clothed with fur or hair and its concealment may be effected by the colour and pattern of the coat. The colouration in animals is a function of selective pressures that can be divided into three categories: concealment, communication, and regulation of physiologic processes (Caro 2005). Generally, the coat colour change depends on the surrounding seasonal climate conditions and also the geographic regions where they are found (Menon 2003). Besides this, the age, sex, health, and nutrition play important roles in the looks of an animal. Mammals also show individual coat or pelage differences even within the same race and this is particularly so in the case of genetic mutations such as albinism, melanism (Menon 2003), and other types of colour aberrations such as leucism, piebaldism, hypomelanism, and blue-eyed white morph.

The colour aberrations are variously termed as colour variation (Hofreiter & Schöneberg 2010), anomalous colouration (Abreu et al. 2013), atypical colouration (Zalapa et al. 2016), and chromatic disorder (Lucati & Lopez-Baucells 2016). The phenomenon of colour aberration is not uncommon in vertebrate groups including birds and mammals. The most common pigment in both birds and mammals is melanin (Fox & Vevers 1960) and the pigmentation process in mammal hair is identical to that in bird feathers (Lubnow 1963; van Grouw 2013). There are two forms of melanin: eumelanin and phaeomelanin (Lubnow 1963). Depending upon the concentration and distribution within skin and fur, eumelanin is responsible for black, grey, and/or dark brown colours whereas phaeomelanin is responsible for warm, reddish-brown to pale buff colours. Both melanins together can give a wide range of greyish-brown colours (Lubnow 1963; van Grouw 2013). The development of melanin is the result of a biochemical process called melanin synthesis in melanin-producing cells (melanocytes); the amino acid tyrosine and enzyme tyrosinase are necessary to start this synthesis. Further, every disturbance or the heritable cause, i.e., genetic mutation, at every stage of melanin synthesis affects the concentration and distribution of melanin resulting in an aberrant colour (van Grouw 2013).

The colour aberrations in mammals were described using various terms such as albinism (pure/complete), partial albinism, melanism, and erythrism. There is no consensus on standard terminology to describe the aberrations accurately. Recently, van Grouw (2006, 2013) and Mahabal et al. (2016) produced an excellent identification key to name the colour aberrations in birds. Although identifying colour mutations in the field can be extremely difficult, this key makes it possible to name many mutations correctly. The mammals await such imminently usable identification key.

Abreu et al. (2013) and Lucati & Lopez-Baucells (2016) attempted to classify the aberrations for their study of bats. We mostly continued the use of terminology based on these literature. The terms used in this study are summarised in Table 1 and further details are provided below.

Albinism is a hypo-pigmentary disorder with a total lack of both 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. Albinism is controlled via inheritance by an autosomal recessive gene in all animal species (Hale et al. 2005; van Grouw 2006, 2013).

Leucism is a total lack of pigmentation in the whole body due to an inherited defect in the pigment transfer process effecting white or whitish hair, pale skin, but normal coloured eyes (van Grouw 2006; Abreu et al. 2013; Lucati & Lopez-Baucells 2016).

Piebaldism is a type of hypopigmentation in which the absence of pigment is localized and is due to an absence of melanocytes in the affected skin and hair follicles as a result of genetic mutation. This is similar to leucism but differs in that the melanocyte development is only locally disrupted. Piebald animals have a variable distribution of white spots on the body but have normal coloured eyes (Lucati & Lopez-Baucells 2016). Although not used widely, it seems to be the least confusing term to denote those cases where the colour aberration affects only part of the body.

Hypomelanism is another type of hypo-pigmentation wherein an inherited colour aberration results in a fawn, cream, grey, grey-brown, ashy, whitish-yellowish, light golden-brown, or orange to light red individual with insufficiently pigmented skin. This is mainly due to mutations affecting melanin biosynthesis resulting in pigment reduction in one or both of the two melanin forms leading to various colour morphs (van Grouw 2006, 2013; Lucati & Lopez-Baucells 2016; Mahabal et al. 2016).

Melanism is the opposite condition of albinism wherein there is an excessive synthesis of melanin pigment in the skin resulting in a melanistic (black to dark reddish-brown morph) animal (van Grouw 2006, 2013; Lucati & Lopez-Baucells 2016; Mahabal et al. 2016).

Blue-eyed white morph: Blue-eyed white morph in some instances of tigers and leopards is a morph with dominant genes seen effecting a light ivory-coloured to white or creamy white fur with typical black-brown stripes, pink nose and pads, and pale blue eyes (Pant & Dhariyal 1979). In tigers, this mutation primarily affects the red/yellow pheomelanin pathway (Xu et al. 2013).

A number of instances of colour aberrations occurred and were recorded in various vertebrate species throughout the world including India. In this context, instances of colour aberrations were reviewed in herpetofauna (Mahabal & Thakur 2014) and birds (Mahabal et al. 2016) in India from 1886 to 2013 and 2015, respectively. Indian mammals needed detailed attention in this regard. In other parts of the world, some researchers tackled this topic sporadically in various species (Macnaghten 1918; Allen 1939; Setzer 1950; Pirlot 1958; Jones 1973; McBride 1977; Howell 1980; Smith 1982; Morris & Tutt 1996; Uieda 2000; Hsu 2003; Acevedo & Aguayo 2008; McCardle 2012; Abreu et al. 2013).

The current communication intended to review the instances of all types of colour aberrations recorded in Indian mammals since 1886, including the 54 records (marked * in Table 2) assessed by Singh (2014). The study by Singh (2014) made a scientometric analysis of the availability and dissemination of information on 'true albino' and 'white' mammals accessed for the period 1886–2014 in Indian sources usually consulted by wildlife and natural history workers. Our focus of study, however, was a comprehensive compilation of all types of colour aberrations recorded in various mammalian species, its order-wise and family-wise representation, and its analysis. The geographic distribution pattern of these aberrations was also provided.

METHODS

In this study, the scattered records on colour aberrations (albinism, leucism, piebaldism, melanism, and others) in Indian mammals were gathered from published scientific literature available in print as well as in digital databases such as JStor, EBSCOHost, and open access journals. We also searched for photographic records available in various print resources such as newspapers and magazines and in electronic media including platforms and websites (such as India Nature Watch, Flickr, and Facebook). The reviewed records range from 1886 to 2017 (till July) including some historic records dating back to the years 1561, 1608, and 1820.

For tabular presentation of the data on records of instances of colour aberrations of the species, we followed taxonomic sequence and scientific and common names as per Pradhan & Talmale (2012); we also provided the type and description of aberration as per the original author, our interpretation of the aberration, locality with geographic coordinates (if available), date, sex, remarks (if any), and the source of information. In some instances, we noticed possible misidentification of the type of colour aberration and tried to deduce the more appropriate type based on any evidence present in the text or any accompanying images. Wherever the evidence was insufficient to accurately determine the aberration, for example, missing details of the colour of eyes which is essential to separate albinism from

Table 1. Terminology used to describe colour aberrations adopted from van Grouw (2006, 2013), Abreu et al. (2013), Lucati & Lopez-Baucells (2016), and Mahabal et al. (2016) except for the blue-eyed white morph.

Aberration	Effect on melanin	Resulting phenotype	Other names
Albinism	Total lack of both melanins in skin, hair follicles, and eyes due to the heritable absence of the enzyme tyrosinase in pigment cells.	All-white hair, pale skin, and red eyes.	Total/pure/complete/perfect albinism; total amelanism
Leucism	Total lack of both melanins in all of the hair follicles and skin due to the heritable absence of pigment cells caused by the failure of melanocytes to migrate to the skin and hair follicles.	All-white or whitish hair, pale skin; eyes and/or body extremities normally coloured.	
Piebaldism	Total lack of melanin in part of the skin and/ or hair follicles due to the heritable absence of melanocytes in the affected part.	All-white fur/skin patches; eyes always normally coloured.	Part albino
Melanism	Abnormal deposition of melanin (not necessarily an increase of pigment) in the skin and/or hair follicles.	Increase of black and/or reddish-brown or altered pattern.	Nigrism
Hypomelanism	Mutations affecting melanin biosynthesis, pigment granule trafficking, or membrane sorting.	Beige, brown, golden, yellowish or reddish fur; skin and eyes always normally coloured.	Erythrism; flavism; rufism; silvering; tawny; dilution
Blue-eyed white morph	Pheomelanin is largely absent, eumelanin is present in the eyes and in the hairs of stripes. Mostly seen in tigers and leopards.	Blue eyes, pale/white fur, stripes/ spots brown/sepia/dull orange.	

leucism, we marked them as undetermined.

Geographic information and mapping

For each occurrence, we tried to ascertain the precise geographic location based on the information provided. Some of the records, especially the recent ones, give the exact geographic coordinates. In many records, however, the coordinates associated with the locality have the limitation of not being the exact location of the observation due to lack of precise information. In such cases, a central point within the locality/area was taken. The data was plotted and georeferenced onto the map of India using QGIS v. 2.12.2 (Open Source Geospatial Foundation, Lyon).

RESULTS AND DISCUSSION

Altogether, 239 instances of various colour aberrations recorded in Indian mammals over a period of 130 years were compiled in Table 2. The Indian mammalian fauna is represented by 420 species belonging to 48 families and 14 orders (Pradhan & Talmale 2012). This communication has one additional species (Indian Cheetah *Acinonyx jubatus*), which has since become extinct and hence is excluded from Pradhan & Talmale (2012). The family-wise distribution of the known species, number of aberrant colour species, and occurrence of the number of instances in various types of colour aberrations were summarized in Table 3.

The analysis of Tables 2 and 3 reveals that only 56 species (out of 421 known mammalian species, including 420 extant and one extinct species from the region) belonging to eight orders and 19 families were reported to exhibit various types of colour aberrations amounting to 13.3%. Of these, albinos constituted 21.8%, leucistic 14.2%, piebald 5.4%, melanistic 25.5%, hypomelanistic 18.45%, and blue-eyed white morph 1.3%; the remaining 13.4% was undetermined. Most of the records under 'undetermined' were either albinos or leucistic animals; however, the eye colour, which is red/pink in albinos and normal in leucistic animals, was not noted by the original authors.

Figures 1 and 2 illustrate the spread of the occurrences of colour aberrations on the map of India. The reports of colour aberrations were recorded from various regions of India with a noticeable gap in the Deccan plateau region of Maharashtra, Telangana, Andhra Pradesh, and Karnataka states, possibly due to lack of published records. Very few instances of colour aberrations in mammals were reported from this region. Records of albinism and leucism are widespread across the country. Blue-eyed white morph, however, seems to be mostly from the eastern and central parts. Records of melanistic animals were mostly from the forested areas of the Western Ghats, the foothills of the Himalaya, and central India. The instances of hypomelanism are peculiarly concentrated in the southern Western Ghats straddling the states of Kerala and Tamil Nadu. The bulk of these records is those of the Gaur. Both melanistic and hypomelanistic instances were almost negligible in the northwestern states of Punjab, Haryana, Rajasthan, and Gujarat. In fact, there is no record of any colour aberration in mammals from the states of Haryana, Arunachal Pradesh, Tripura, and Mizoram (Table 4). While states like Maharashtra, Madhya Pradesh, and Tamil Nadu have many records of colour aberration compared to other states, states like Chhatisgarh, Jammu & Kashmir, Jharkhand, Meghalaya, Nagaland, and Telagana have only one record each of any colour aberration. The gaps mentioned above indicate a need for more observations.

The instances of colour aberrations were more pronounced in the families Felidae (76), followed by Bovidae (42) and Cervidae (36). Felidae also exhibited the maximum number of instances of melanistic animals (46), particularly in leopards (32), tigers (8), and jungle cats (3). The highest number of instances of hypomelanism (11) was noticed in Gaur (Bovidae), followed by Sloth Bear (8; Ursidae) and macaques (7; Cercopithecidae). Cervids showed the highest number of albinistic animals (16), followed by squirrels (10; Sciuridae). Blackbucks (Bovidae) showed the highest number of instances of leucism (6). Piebaldism was quite uncommon with most instances in Muridae (5). Similarly uncommon, almost all instances of blue-eyed white morph animals were recorded in leopards and tigers (Tables 2 & 3).

The earliest record of colour aberration in India is of a tigress with her cubs in 1561 in the Mughal period from Gwalior-Malwa area of central India (Divyabhanusinh 1987a; Xu et al. 2013). Thereafter, from 1820 to 1978, a number of wild 'white' tigers were reported from the central and eastern states of India. It is unclear whether these were albinos, leucistic, or blue-eyed white morphs as the colour of eyes of the species were not recorded.

In May 1951, a wild 'white' tiger was caught and reared in the Maharaja's palace of Govindgarh in Rewa State (Madhya Pradesh), which was later named 'Mohan' (Oswald 1960; Divyabhanusinh 1987a). Singh (1999) described the 12 known types of body colours in

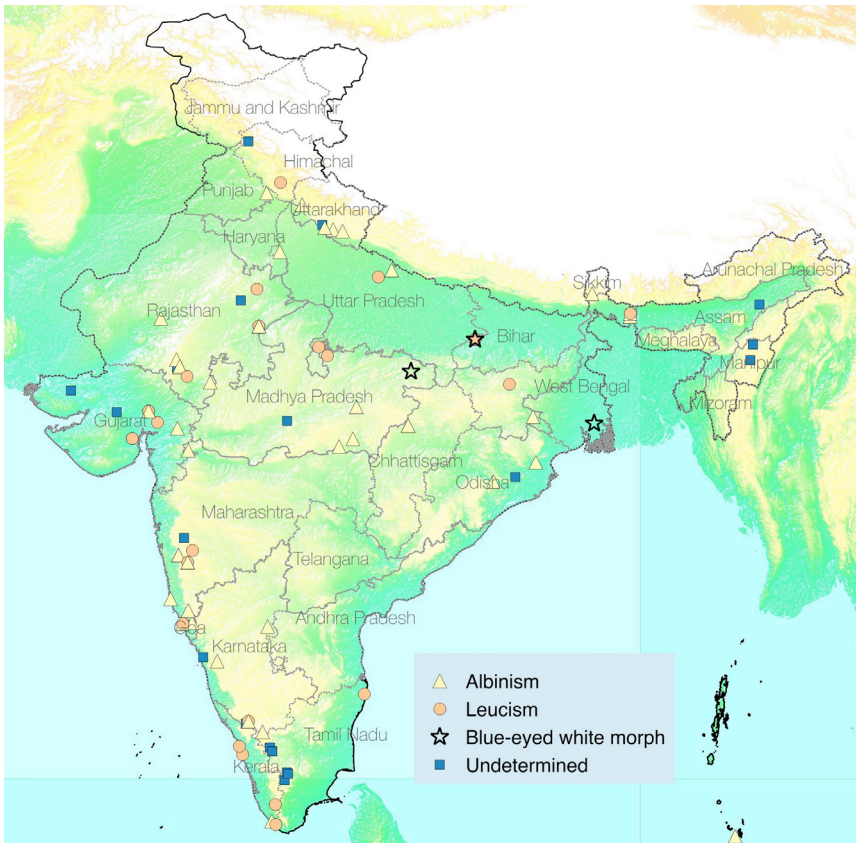

Figure 1. Occurrence of mammals with colour aberrations such as albinism, leucism, blue-eyed morph, and those that are undetermined in India.

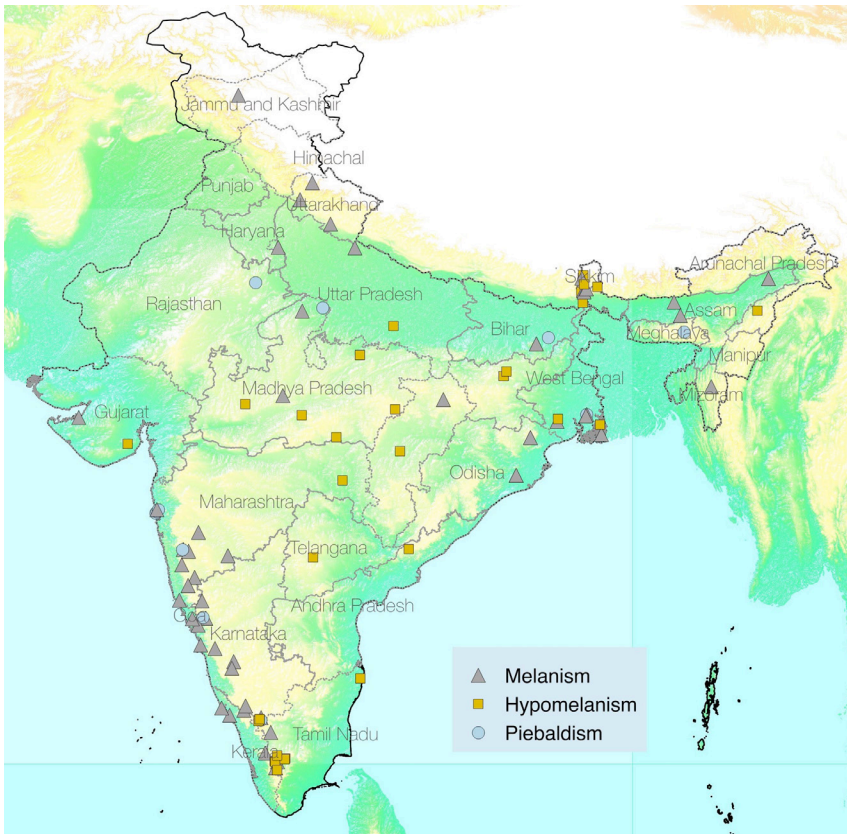

Figure 2. Occurrence of mammals with colour aberrations such as melanism, hypomelanism, and piebaldism in India.

tigers over a normal distribution curve and mentioned that there was an inclination to stretch the ancestry of most captive white tigers to Mohan of Rewa. Mohan was a blue-eyed white morph. A programme of captive breeding of this tiger was undertaken and its descendant stock is now in various zoos all over the world including India. Its genealogy was described by various authors (namely, Oswald 1960; Gee 1964; Sankhala 1969; Pant & Dahariyal 1979; Mishra et al. 1982; Singh 1996).

These captive instances of blue-eyed white morph tigers were not considered in this communication. Further, it is remarkable to note that after 1958 till date there are no published records of the occurrence of wild white tigers from any forested tracts of India. Singh (2010), during his stay from 2009 to 2010 in the white tiger country of Rewa forest in Madhya Pradesh, did not see any wild white tigers (Table 2). Therefore, it can be safely said that the wild strain of blue-eyed white morph tiger has diminished from India; however, it needs a scrupulous search from time to time.

The order Chiroptera with 117 species stands rich among the class Mammalia; however, looking at the instances of colour aberration occurrences, it is negligible (Table 3). Only one type, i.e., albinism, was reported in seven species of bats belonging to four different families covering nine instances. This shows that albinism is rare in bats as also opined by Khajuria (1973) and Hsu (2003). Hsu (2003), however, stated that the highest number of known albino cases was recorded in evening bats of the family Vespertilionidae at the global level (42.2%), as reviewed by Uieda (2000). In India, this family contains 58 known species of evening bats; however, it is intriguing to note that there is not a single instance of any type of colour aberration recorded from this largest family of Indian mammals. One of the reasons for this could be that "bats have not received adequate attention in biodiversity research in India" (Debata & Palita 2018) and the other could be that the occurrence of albinism is indeed rare in the group. Calderon-Alvarez & Marin-Vasquez (2018) studied colour aberration in the Short-tailed Fruit Bat *Carollia perspicillata* and support the view that the cause of variation in instances of albinism in families is unknown, but it appears to occur in species that are both social in their breeding habits and also fairly sedentary.

Albino individuals are more conspicuous as compared to normal individuals. In prey species, they are at a definite disadvantage in the struggle for existence and very few albinos manage to escape their natural enemies and survive to attain sexual maturity. For this reason, albino individuals are only sporadically reported. Albinism, however, is regularly reported in Spotted Deers across various regions of the country. Also, we see persistent records of albino Blackbucks in the region around Ahmedabad in Gujarat, including the Velavadar Blackbuck National Park (Table 2). The albinos in these populations, therefore, can make good candidates for studies about the effect of albinism on prey-predator relationship as well as on social behaviour within the herd. Additionally, the phenomenon of persisting albinism in Blackbucks of Velavadar Blackbuck NP is worth investigating.

Instances of black or melanistic leopards were recorded in various states from 1889 onwards almost regularly, indicating that the population of melanistic morph is well established in the country (Table 2). This was substantiated by the camera trapping studies since 2008 by Karanth (2014) in several wildlife sanctuaries, namely, Anshi, Dandeli, Bhadra, and Bandipur in Karnataka and Waynad in Kerala. About 10% of captured images of leopards belong to black leopards, appearing less rare than originally thought. Bashir et al. (2011) hypothesized that a number of melanistic forms of Asiatic Golden Cat captured in camera traps in different parts of Prek Chu catchment area of Khongchendzohga Biosphere Reserve, Sikkim, were either all melanistic or of a different subspecies. It is apparent from the above information that molecular study needs to be undertaken on priority to establish the genetic identity in different populations of melanistic leopards spread over the country and the Asiatic Golden Cats from Sikkim.

Singh (1999) is of the opinion that except for black panthers (leopard), all other leopards and tigers with colour aberration were discarded by natural processes; in the case of leopards, the black forms, although regularly seen, have not succeeded yet in replacing the normally spotted forms as the former are comparatively less fecund and viable.

Many hypomelanistic Gaurs *Bos gaurus* were regularly recorded by observers (Morris 1933, 1934, 1935, 1936b; Williams 1936, 1969; Davidar 1970; Gouldbury 1971; Ajith et al. 1998) between 1932 and 2000 in the mountains of Tamil Nadu and Kerala (Table 2). Since then, however, there are no published records of abnormal colouration in this species from that region. Naturalists visiting these mountains should carefully make notes of any colour aberrations in Gaur.

Table 2. Records of colour aberration in Indian mammals between 1886 and 2016 (taxonomy and sequence follow Pradhan & Talmale 2012).

	Taxa and common name	Description of aberration as given by the original author (with remarks, if any)	Most likely aberration (sex, if any)	Aberration as named by the original author	Locality (with decimal coordinates) and date (if any)	Source
	Order: Proboscidea Family: Elephantidae					
1*	*Elephas maximus* Linnaeus, 1758 Asian or Indian Elephant	Light pink skin with white hairs prominent on head, except at tip of tail giving pinkish-grey colour. Pearl eyes; mouth and palate light pink, toe and nails white. Usual black colour not visible. No change in colour even after a year.	Leucism (one female)	Albino either partial or complete	Karippanthode, 13 miles from Koni Central Forest Division, Travancore (9.096^{0}N & 77.085^{0}E) April 1945	Simon (1946)
	Order: Primates Family: Cercopithecidae					
2	*Macaca assamensis* (McClelland, 1840) Assamese Macaque	Dorsal fur colouration exceptionally bright burnt orange (as per author, no albino cases reported in this species).	Hypomelanism (one female)	Erythrism	Rongli (27.175^{0}N & 88.747^{0}E), Sikkim (in collection of BNHS, Mumbai, Specimen No. 5119) Between 1916 and 1938	Fooden (1982)
3	*Macaca assamensis*	Dorsal fur colouration exceptionally bright burnt orange.	Hypomelanism (one male)	Erythrism	Manshitang (27.596^{0}N & 88.240^{0}E), Sikkim (in collection of Z.M.B. Berlin, Specimen No. 91098) Between 1916 and 1938	Fooden (1982)
4	*Macaca assamensis*	Dorsal fur colouration exceptionally bright burnt orange.	Hypomelanism (one male)	Erythrism	Mokokchung (26.319^{0}N & 94.512^{0}E), Nagaland (in collection of BNHS, Mumbai, Specimen No. 5115) Between 1916 and 1938	Fooden (1982)
5	*Macaca assamensis*	Dorsal fur colouration exceptionally bright burnt orange.	Hypomelanism (one male)	Erythrism	Sookia Pokhari (26.998^{0}N & 88.167^{0}E), W.B. (in collection of BNHS, Mumbai, Specimen No. 5121) Between 1916 and 1938	Fooden (1982)
6	*Macaca assamensis*	Dorsal fur colouration tends to bright burnt orange; bright patch of deep chestnut on ventral surface of tail.	Hypomelanism (one adult female)	Erythrism	Gopaldharan (26.607^{0}N & 88.220^{0}E), W.B. (in British Museum, London. Specimen No. 25.1.11) Between 1923 and 1932	Hill (1974) as cited by Fooden (1982)
7	*Macaca mulatta* (Zimmermann, 1780) Rhesus Macaque	Completely white-bodied pair having red face, pink eyes and nails.	Albinism (one male and one female)	Albino	Zoo of H.H. Maharawat of Pratapgarh (24.033^{0}N & 74.781^{0}E), Rajasthan In 1942	Bahadur (1942b)
8*	*Macaca mulatta*	An individual with very pale, golden fur with normal coloured eyes. Image by Kedar Tambe.	Hypomelanism (young)	Albino	Pench N.P. (21.762^{0}N & 79.338^{0}E), M.P. May 2014	Anonymous (2014)
9*	*Macaca mulatta*	-	Albinism	Albino	Desert town of Bikaner, Rajasthan	Singh & Mohnot (2009)
10	*Macaca radiata* (E. Geoffroy, 1812) Bonnet Macaque or Monkey	A captive male with white fur and skin but brown irises	Leucism (one male)	White/ pigment absence	India, but exact locality not given (kept in London Zoo) In 1836	Ogilby (1838) as cited by Fooden (1981)
11	*Macaca radiata*	Pale golden brown in colour with abnormally reduced pigmentation.	Hypomelanism (one female sub-adult)	Pigment reduction	India, but exact locality not given (kept in US National Museum of Natural History (Species No. 1221717), Washington, D.C., U.S.A.	Fooden (1981)
12	*Macaca radiata*	A captive albino male with pink irises.	Albinism (one male)	Albino	Trivandrum Zoo (8.510^{0}N & 76.955^{0}E), southern India In 1936	Hill (1937) as cited by Fooden (1981)
13*	*Macaca radiata*	A medium-sized macaque with absolute white fur all over body including crown. Limbs and snout pinkish. Eyes reddish (image).	Albinism (one female)	Total albino	Valpoi Village (15.527^{0}N & 74.136^{0}E), Sattari, North Goa District, Goa November 2002	Mahabal et al. (2012)

	Taxa and common name	Description of aberration as given by the original author (with remarks, if any)	Most likely aberration (sex, if any)	Aberration as named by the original author	Locality (with decimal coordinates) and date (if any)	Source
	Order: Rodentia Family: Sciuridae					
14	*Ratufa indica* (Erxleben, 1777) Indian Giant Squirrel or Malabar Squirrel	A more reddish-brown body with varying shades of colour on face, between the ears and both the feet. Tail not completely black but dark reddish-brown patchily distributed between base and the tip, forehead and ear-tips darker.	Hypomelanism (one male)	Colour variation	Five miles north of Gungavadori Evergreen Forest (3,000ft; 10.200°N & 77.499°E) in Palani Hills, T.N. (in collection of BNHS, Mumbai) Before 1952	Abdulali & Daniel (1953)
15*	*Ratufa indica*	A pure white albino squirrel with pink eyes in the company of other normal-coloured squirrels.	Albinism (one adult)	Albino	Mahabaleshwar (4,000ft; 17.922°N & 73.656°E), Western Ghats, Satara District, Maharashtra (in collection of BNHS, Mumbai) 29 December 1952	Abdulali & Daniel (1953)
16	*Ratufa indica*	Totally white squirrel including tail, pink mouth and ears, pinkish limbs and blood red eyes. Moving in company of normal squirrels (image).	Albinism	Albino	Evergreen forest, Mahabaleshwar (4,000ft; 17.922°N & 73.656°E), Western Ghats, Satara District, Maharashtra 22 February and 23 April 2013	Sayyed et al. (2014)
17	*Ratufa indica*	Total white body with pinkish snout and reddish eyes visible in image (image by Vishwatej Pawar).	Albinism	Leucism	Satara (17.666°N & 73.983°E), Maharashtra, 01 April 2015	Anonymous (2016a)
18	*Eupetaurus cinereus* Thomas, 1888 Woolly Flying Squirrel	A jet black above and brownish-grey on forelimbs and membrane. Cheeks, chin, throat, chest, belly brownish with grey line along the middle of belly.	Melanism (one adult)	Melanism partial	Kashmir (34.0740°N & 75.810°E) (kept in Leyden Museum as reported by J. Anderson) Before 1879	Chakraborty & Agrawal (1977)
19*	*Callosciurus pygerythrus* (I. Jeoffroy Saint Hilaire, 1833) Hoary-bellied or Irrawaddy Squirrel	Complete white, tail faded white, eyes red and ear untufted (image).	Albinism (12 individuals with a baby)	Albino	From five different villages in Sibsagar District, Assam Between 1992 and 2005	Kalita (2009)
20*	*Callosciurus pygerythrus lokroides* (Hodgson, 1836) Hoary-bellied Himalayan Squirrel	In a pair male normal-coloured, female total white with no line of demarcation between dorsal and ventral. Eyes red (image).	Albinism (female)	Albino	Samsing (27.164°N & 88.291°E), Darjeeling District, W.B.	Bhattacharyya & Murmu (2004)
21	*Funambulus palmarum* (Linnaeus, 1766) Three-striped Palm Squirrel	Totally white with pinkish snout, ears and limbs, but normal-coloured eyes.	Leucism (one adult)	Leucism	Fragmented forested habitat of Gudalur Forest Division, Tamil Nadu (11.493°N & 76.336°E) 22 September 2016	Samson et al. (2017)
22	*Funambulus tristriatus* (Waterhouse, 1837) Jungle Palm Squirrel	Total white, bushy-tailed with snout, ears, and forelimbs pinkish. Eyes blood red. This individual was mingling with four normal-coloured squirrels (image).	Albinism (two adults)	Albino	Miramar Residency (15.496°N & 73.808°E), Panjim, Goa 24 April, 06 & 07 July 2015	Sayyed et al. (2015a)
23	*Funambulus tristriatus*	Squirrel with white patches on hindlimb on lateral side. Identical on other side. White hairs mixed with normal-coloured hair in tail region. Eyes, ears, snout, and limbs normal (image).	Leucism (one adult)	Leucistic-partial with bilateral symmetry	Miramar Residency (15.496°N & 73.808°E), Panjim, Goa 24 April, 6 & 7 July 2015	Sayyed et al. (2015a)
24	*Funambulus pennantii* Wroughton, 1905 Five-striped or Northern Palm Squirrel	Entire dorsum cream-buff without any visible stripe. Dorsum and ventrum do not show any difference. Naked skin area, anal opening with pinkish tinge, nails pale.	Leucism (one adult male)	Albinistic partially	Oudh (27.757°N & 80.729°E), U.P. (in collection of Z.S.I. Kolkata, Regd. No. 3798)	Agrawal & Chakraborty (1979)
25	*Funambulus pennantii*	The whole body covered with spotless white fur, dorsum does not show any sign of striped pattern. Eyes pink.	Albinism (one female)	Albinism	Chandigarh (30.732°N & 76.779°E) April 1981	Chaturvedi & Ghose (1984)

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26*	*Funambulus pennantii*	A milky white albino sub-adult without dark-coloured stripes on back. Eyes bright red, ear pinnae also reddish.	Albinism (one sub-adult)	Albino	Udaipur City (24.603°N & 73.701°E), southern Rajasthan 06 September 2001	Sharma (2004)
27*	*Funambulus pennantii*	Total white adult with faint red spots and narrow stripes on the flanks. Forehead yellowish. Eyes pink. A young one total white with pink eyes near nesting site (image with editors).	Albinism (one adult and one young)	Total albinism	Deogad Fort (16.374°N & 73.378°E), Sindhudurg District, Maharashtra 22 November 2001, November 2002, and December 2008 at the same place by first author	Mahabal et al. (2005)
28	*Funambulus pennantii*	A white squirrel with a small brownish patch in the middle of dorsal side of the body. Eyes red (image with editors). Its father too was albino.	Albinism (two adults)	Albino	In residential area, northern Udaipur (24.619°N & 73.686°E), Rajasthan Mid-July 2005	Mehra et al. (2007, 2010)
29	*Funambulus pennantii*	Total white with pinkish snout, ears, and limbs. Two white median dorsal with whitish supplementary stripes. Eyes normal-coloured (image).	Leucism	Leucism	Andori (18.086°N & 74.150°E), near Lonand, Khandala Taluk, Satara District, Maharashtra 04 September 2015	Sayyed & Mahabal (2016)
30	*Funambulus* sp. Striped Palm Squirrel	Total white squirrel. No other details provided.	Undetermined (one adult)	Albinism	Near bungalow in Cutch (23.739°N & 69.853°E), Gujarat In 1886	Newnham (1886)
	Family: Muridae					
31	*Tatera indica* (*indica*) (Hardwicke, 1807) Indian Gerbil or Antelope	Pure white hairs all over the body including tail and eyelashes but iris black (unlike in albinos). Exposed skin devoid of pigmentation and translucent white, other three young ones normal-coloured.	Leucism (one young female)	White	Jodhpur (26.239°N & 73.025°E), Rajasthan In 1972	Prakash et al. (1973)
32	*Bandicota bengalensis* (Gray, 1835) Lesser Bandicoot Rat	A totally white with pinkish tinge, pink mouth and ears, red eyes (image).	Leucism (roadkill of adult)	Total albinism	Ajinkyadurg (17.666°N & 73.983°E), Satara, Maharashtra 17 January 2013	Sayyed et al. (2014)
33	*Bandicota bengalensis*	A totally white with pinkish tinge, pink mouth and ears, red eyes (adult captured live, photographed, and released).	Albinism	Total albinism	Ajinkyadurg (17.666°N & 73.983°E), Satara, Maharashtra 22 August 2013	Sayyed et al. (2014)
34	*Madromy blanfordi* (Thomas, 1881) Blanford's Rat	Out of 1213 rats trapped, one albino female captured, fur uniformly dull white along with tail, pink eyes. Mating experiment with normal male resulted all young ones normal-coloured in two litters.	Albinism (one female)	Albinism	Four miles from Sagar in forested area (14.167°N & 75.0270°E), Shimoga District, Karnataka 17 November 1966	Rajagopalan (1967)
35	*Niviventer niviventer* (Hodgson, 1836) Himalayan White-bellied Rat	A partial albino, white on posterior side while blackish-brown on anterior side of dorsal view, on both lateral side mixed with black and white. No mixing with Domestic Rat hence a pure wild partial albino collected out of eight specimens (image).	Piebaldism (one male)	Partial albinism	Dense, evergreen forest of Khasi Hills, Shillong Peak (25.547°N & 91.875°E), Meghalaya In 1965	Rajagopalan & Mandal (1965)
36	*Rattus norvegicus* (Berkenhont, 1769) Brown Rat or Norway Rat	A piebald (partial albino) rat having two-third body white on posterior side whereas rest of body black on dorsal side, ventral side white. Tail brown on upper side, terminal portion white (image).	Piebaldism (one female)	Piebald albino	Library Road, Dadar, Bombay (19.028°N & 72.839°E), Maharashtra (skin preserved in Haffkine Institute Bombay) 06 February 1960	Joshee & Kamat (1963)
37	*Rattus rattus* (Linnaeus, 1758) Common House Rat	Part albinos, individuals with white belly, rest of the body normal, several in population.	Piebaldism (several)	Part albino	Calcutta (22.580°N & 88.363°E), W.B. In 1907	Hossack (1907)
38	*Rattus rattus*	Part albinos with white belly (recorded by The Plague Investigation Commission in India).	Piebaldism (many)	Part albino	Bombay (19.079°N & 72.879°E), Maharashtra In 1912	Joshee & Kamat (1963)

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39	*Rattus rattus*	16 part albinos (white belly) out of 682 (examined in rat-flea survey).	Piebaldism (16)	Part albino	Bhandup, Bombay (19.150^{0}N & 72.931^{0}E), Maharashtra August to November 1959	Joshee & Kamat (1963)
40	*Rattus rattus*	The colour of body and tail completely black with no line of demarcation between dorsal and ventral aspects. Pinna lighter in colour.	Melanism (two males and three females)	Melanism	Calcutta (22.580^{0}N & 88.363^{0}E), W.B. (in collection of ZSI, Kolkata) In 1906	Bhattacharyya (1973)
41	*Rattus rattus*	One black rat	Melanism (one)	Melanism	Suburban areas of Bombay (19.156^{0}N & 72.874^{0}E), Maharashtra Before 1961	Joshee (1961)
	Family: Hystricidae					
42	*Hystrix brachyura* Linnaeus, 1758 Himalayan Crestless or Malayan Porcupine	An albino without any pigmentation. Absence of crest bristles on crown. Tail not brush-like.	Undetermined (one sub-adult female)	Albino	28km north of Imphal on Dimapur Road (25.367^{0}N & 93.983^{0}E), Imphal Dist, Manipur (in collection of ZSI, Kolkata. Reg. No. 11349) 29 November 1945	Mandal & Ghosh (2000)
43*	*Hystrix* sp. Porcupine	White	Undetermined	Albino	Nandankanan Biological Park, Odisha	Anonymous (2013 a)
	Order: Erinaceomorpha Family: Erinaceidae					
44	*Paraechinus micropus* (Blyth, 1846) Indian Hedgehog	Total white together with spines, eyes reddish. Seen with a normal individual (image).	Albinism (adult)	Albino	Amali Village (21.628^{0}N & 74.003^{0}E), Akkalkuwa Taluk, Nandurbar District, Maharashtra 08 August 2015	Mahabal et al. (2015)
	Order: Soricomorpha Family: Soricidae					
45	*Suncus murinus* (Linnaeus, 1766) House Shrew	An albino having general colour from pure white to dirty white, naked parts and colour of iris pinkish.	Albinism (one female)	Albinism	Jabalpur City (23.166^{0}N & 79.951^{0}E), M.P. (in collection of ZSI, Jabalpur) 16 October 1975	Khajuria (1983)
	Order: Chiroptera Family: Pteropodidae					
46	*Rousettus leschenaultii* (Desmarest, 1820) Fulvous Fruit Bat or Leschenault's Rousette	Albino but colour details not given.	Undetermined (one)	Albino	-	Karim (1983) cited by Bhati (1988)
	Family: Hipposideridae					
47	*Hipposideros diadema* (*nicobarensis*) (E. Geoffroy, 1813) Diadem Leaf-nosed Bat	In a colony of 500 normal-coloured bats, one single albino with pelage of entire body white, eyes red (image).	Albinism (one male)	Albino	Forest cave at Katchal Island (7.970^{0}N & 93.354^{0}E), Nicobar Archipelago, A.N. In November 2002–2003	Aul & Marimuthu (2006)
48*	*Hipposideros diadema* (*nicobarensis*)	The albino bat was disgorged by a Pit Viper.	Albinism (one dead)	Albino	Forest cave at Katchal Island (7.970 ^{0}N & 93.354^{0}E), Nicobar Archipelago, A.N. In November 2002–2003	Aul & Marimuthu (2006)
49	*Hipposideros lankadiva* Kelaart, 1850 Indian Leaf-nosed Bat	Albino specimen collected along with normal individuals but no other details provided.	Undetermined	Albino	Hoshangabad Dist. (22.666^{0}N & 77.500^{0}E), M.P.	Khajuria (1984)
50	*Hipposideros* sp. Leaf-nosed Bat	Albino from a large colony of bat in a cave, no colour details provided.	Undetermined (one)	Albino	A district in M.P. In 1972	Khajuria (1973)
	Family: Rhinopomatidae					
51	*Rhinopoma hardwickei* (*hardwickei*) Gray, 1831 Lesser Rat-tailed or Lesser Mouse-tailed Bat	General pelage, wing membranes, metacarpels, phalanges, and ears white to dirty white. Legs, arms, tail, face, chin, throat pinkish. Colour of eyes not mentioned. In a bat colony of 100 individuals.	Leucistism (one female)	Albinism	Cave near Jabalpur City (23.152^{0}N & 79.937^{0}E), M.P. (in collection of ZSI, Jabalpur) 26 April 1972	Khajuria (1973)

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52	*Rhinopoma hardwickei* (*hardwickei*)	-	Piebaldism (three individuals)	Partial albinism	Building	Senacha & Purohit (2005)
53*	*Rhinopoma microphyllum* (=*kinneari* Wroughton) (Brunnich, 1782) Rat-tailed or Greater Mouse-tailed Bat	Albino in a bat colony in the university campus. No other details provided (image).	Albinism (one male)	Albino	University of Jodhpur (26.291^{0}N & 73.031^{0}E), Jodhpur, Rajasthan During 1987–1988	Bhati (1988)
54	*Rhinopoma microphyllum*	A large colony of about 50,000 individuals in a cave mine, a single white-coloured pink-eyed albino sighted (image).	Albinism (one)	Albino	Sipa Mines (22.406^{0}N & 73.618^{0}E), border of Jambughoda WS, Gujarat 10 June 2009	Devkar et al. (2011)
	Family: Emballonuridae					
55	*Taphozous* sp. Tomb Bat or Sheath-tailed Bat	A roosting bat colony in fort groove /crevices of wall, a single white-bodied individual having reddish eyes with tinge of orange; mouth, ears and fore-arms orange-red (image).	Albinism (one)	Albino	Red Fort (28.656^{0}N & 77.241^{0}E), Delhi 20 October 2010	Dhanya et al. (2015)
	Order: Carnivora Family: Felidae					
56	*Catopuma* (=*Pardofelis*) *temminckii* (Vigors & Horsfield, 1827) Asiatic Golden Cat	Black-coloured morph (image).	Melanism (number of individuals)	Melanism	Prek Chu catchment of Khangchendzonga B,R. (27.491^{0}N & 88.184^{0}E), Sikkim January 2009 to August 2010	Bashir et al. (2011)
57	*Felis chaus* Schreber, 1777 Jungle Cat	Dorsum and underside, limbs including tail dark brown.	Melanism (one)	Melanism	Belgaum (15.868^{0}N & 74.500^{0}E), Karnataka (in collection of BNHS, Mumbai, Reg. No. 6035). 05 December 1912	Chakraborty et al. (1988)
58	*Felis chaus*	Entire dorsum, tail, limbs with dark brown hairs, sides of body and cheeks with pale cream hairs.	Melanism (one)	Partial melanism	Tikoli (26.308^{0}N & 78.109^{0}E), 22km from Gwalior, M.P. (in collection of BNHS, Mumbai, Reg. No. 6018) February 1914	Chakraborty et al. (1988)
59	*Felis chaus*	Entire dorsum, under surface, and tail dark brown with some fine pale cream grizzling except in mid-dorsal region	Melanism (one)	Melanism	Arcadia Tea Estate (10.078^{0}N & 77.221^{0}E), T.N. (in collection of BNHS, Mumbai, Reg. No. 6044) 22 February 1940	Chakraborty et al. (1988)
60*	*Felis chaus*	Pink colour of eyes was not obvious. Observed in camera trap.	Leucism (one)	Partial albinism	Amaravila area (8.390^{0}N & 77.098^{0}E), Neyattinkara Taluk, Thiruvananthapuram District, Kerala	Sanil et al. (2014)
61*	*Prionailurus bengalensis* Kerr, 1792 Leopard Cat	Two black-coloured individuals in camera trap by WWF.	Melanism (two)	Melanistic	Bonnie Camp, Sunderbans BR, (21.866^{0}N & 88.891^{0}E), South 24-Paragana Forest Division, W.B. February 2013	Anonymous (2013c)
62	*Acinonyx jubatus* (Schreber) Indian Cheetah	Due to lack of pigmentation of hairs, whitish body inclined to bluishness and light coloured spots also look bluish (instead of black spots) due to body colour. Colour of eyes not mentioned (in the memoirs of Mughal Emperor Jahangir). Only known historic record.	Leucism? (one adult)	White	Orcha (25.279^{0}N & 78.616^{0}E), M.P. In 1608	Divyabhanusinh (1987b, 1993)
63	*Panthera pardus* (Linnaeus, 1758) Leopard or Panther	Total black-coloured Leopard	Melanism (one)	Black	Calcutta Zoo (22.536^{0}N & 88.332^{0}E), W.B. In 1889	Buckland (1889)
64	*Panthera pardus*	Black-coloured, known to author.	Melanism (one)	Black	Madras Residency, T.N. In 1889	Buckland (1889)
65	*Panthera pardus*	Uniformly black-coloured pair, deep brown belly with black blotches, normal eyes, palate and pink tongue.	Melanism (one male and one female)	Melanism	Brought from northern China (?) 1902–1903	Ferris (1905, 1906a)

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66	*Panthera pardus*	Progeny of above pair. All black-coloured cubs in two litters.	Melanism (Two and five cubs)	Melanism	Captive breeding at Kolhapur Zoo, Maharashtra (16.719°N & 74.232°E) 1905–1906	Ferris (1905, 1906a)
67	*Panthera pardus*	Shot black-coloured animal with black tongue.	Melanism (one)	Melanism	Kanara (14.157°N & 74.967°E), Karnataka In 1905	Ferris (1906a)
68	*Panthera pardus*	Shot black-coloured animal with black tongue.	Melanism (one)	Melanism	Supa (18.336°N & 74.372°E), Maharashtra In 1905	Ferris (1906a)
69	*Panthera pardus*	Shot animal with very dark brown to black on upperparts, little lighter on ventral parts and limbs. Tongue and mouth pink, eyes and claws normal-coloured.	Melanism (one male)	Black	Dajipur Jungle, (16.425°N & 73.996°E), Kolhapur District, Maharashtra 12 May 1906	Ferris (1906b)
70	*Panthera pardus*	A black-coloured paired gave birth to six cubs in two litters in captive breeding. All cubs black-coloured.	Melanism (one male and one female adult; three males and three female cubs)	Melanism	Zoological Garden, Calcutta (22.536°N & 88.332°E), W.B. July 1925 to 1926	Ali (1927)
71	*Panthera pardus*	Black colour with pale blue eyes, caught and transported to Calcutta Zoo.	Melanism (two males and one female)	Black (two males and one female)	Forest of Dannig (26.629°N & 91.507°E), Assam 05 November 1931	Pizey (1932)
72	*Panthera pardus*	A black-coloured pair gave birth to six cubs in three litters. All cubs black in colour during captive breeding.	Melanism (one male and one female adult; three males and three female cubs)	Black	Jamnagar (22.472°N & 70.057°E), Gujarat January 1939 to June 1940	Bahadur (1942a)
73	*Panthera pardus*	Shining black-coloured coat with very faint brown spots.	Melanism (one)	Black	Bhaluharcar Cave, Meur Hot Spring, Eastern Kharagpur Forest Range (25.126°N & 86.546°E), Bihar Between 1990 and 1996	Sinha (1996)
74	*Panthera pardus*	Black in colour	Melanism (one)	Black	Morwe River near Sinhoul Village, West Kharagpur Forest Range (22.333°N & 87.294°E), Bihar Between 1990 and 1996	Sinha (1996)
75	*Panthera pardus*	Black leopard basking in sun during winter months.	Melanism (one)	Black	Gridhakoot Hill, Kharagpur Forest Range (25.126°N & 86.546°E), Bihar Between 1990 and 1996	Sinha (1996)
76	*Panthera pardus*	A captive black leopard.	Melanism (one)	Black	Nandankanan Park (20.397°N & 85.820°E), Orissa Between 1990 and 1996	Sinha (1996)
77	*Panthera pardus*	Black-coloured animal seen in wild state.	Melanism (one male)	Black	Corbett N.P. near Ramnagar (29.436°N & 79.129°E), Uttarakhand March 1958	Bedi (1998)
78	*Panthera pardus*	Black colour, transported from Assam to Nandankanan Park, Orissa.	Melanism (one male)	Black	Guwahati Aviary (26.146°N & 91.735°E), Assam 18 October 1972	Bedi (1998)
79	*Panthera pardus*	Black-coloured cubs in captive breeding born to a normal-coloured female and black male.	Melanism (one male and two cubs)	Black	Nandankanan Biological Park (20.397°N & 85.820°E), Orissa 02 August 1973	Bedi (1998)
80	*Panthera pardus*	Black-coloured.	Melanism (one)	Black	Delhi Zoo (28.601°N & 77.244°E), Delhi In 1998	Bedi (1998)
81	*Panthera pardus*	Black-coloured with black rosette hidden beneath the black pigmentation in wild state (probably the same individual sighted in different months at same locality; image with editors).	Melanism (one)	Melanism	Kas plateau, part of Western Ghats (17.721°N & 73.823°E), Satara District, Maharashtra 08 December 2010, 21 March 2012, 13 April 2012	Sayyed et al. (2013)

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82	*Panthera pardus*	Black in colour in hilly areas in wild state.	Melanism (one)	Melanism	Near Manohar Mansantosh Twin Forts (15.897°N & 73.684°E), Western Ghats, Sindhudurg District, Maharashtra. 03 June 2009	Sayyed et al. (2013); Anonymous (2009)
83	*Panthera pardus*	Black-coloured wild leopard sighted by local people and forest department personnel.	Melanism (one)	Melanism	Chandoli NP (17.168°N & 73.771°E), Sangli District, Maharashtra Between 2008 and 2012	Sayyed et al. (2013)
84	*Panthera pardus*	Black-coloured with black rosette (sighted thrice in the same area in wild; image with editors).	Melanism (one)	Melanism	Banks of Bhadra Reservoir in Bhadra TR (13.685°N & 75.641°E), Chickmaglur District, Karnataka 22 February 2012, April 2012, May 2012	Sayyed et al. (2013)
85*	*Panthera pardus*	One or more black leopards caught in camera traps (image by Ulhas Karanth).	Melanism (one or more)	Melanistic	Dandeli WS, (15.247°N & 74.634°E), Karnataka In 2008–2016	Karanth (2014)
86*	*Panthera pardus*	--do--	Melanism	Melanistic	Anshi NP (14.998°N & 74.358°E), Karnataka In 2008–2016	Karanth (2014)
87*	*Panthera pardus*	--do--	Melanism	Melanistic	Bhadra WS (13.446°N & 75.574°E), Karanataka In 2008–2016	Karanth (2014)
88*	*Panthera pardus*	--do--	Melanism	Melanistic	Bandipur NP (11.665°N & 76.628°E), Karnataka In 2008–2016	Karanth (2014)
89*	*Panthera pardus*	--do--	Melanism	Melanistic	Wynaad, Nilgiri BR (11.934°N & 76.004°E), Kerala In 2008–2016	Karanth (2014)
90*	*Panthera pardus*	Personal observations of black leopards by Tariq Badar during his treks and camping in the wild.	Melanism (several)	Melanistic	Shivalik Hills and Terai areas of Uttar Kashi Dist. (30.928°N & 78.475°E), Uttarakhand In 1994–2014	Badar (2014)
91*	*Panthera pardus*	--do--	Melanism (several)	Melanistic	Shivalik Hills and Terai areas of Dehradun Dist. (30.316°N & 78.031°E), Uttarakhand In 1994–2014	Badar (2014)
92*	*Panthera pardus*	--do--	Melanism (several)	Melanistic	Shivalik Hills and Terai areas of Pilibhit Dist. (28.583°N & 80.008°E), Uttarakhand In 1994–2014	Badar (2014)
93	*Panthera pardus*	Fur with dense deposit of melanin, closet black rosettes present but hidden beneath the black pigmentation. A roadkill (image).	Melanism (sub adult male)	Melanism	Mumbai-Bengaluru Highway near Satara City (17.658°N & 74.014°E), Maharashtra 27 March 2015	Sayyed & Mahabal (2015)
94*	*Panthera pardus*	A single black panther.	Melanism (one)	Melanistic	Sanguem (15.230°N & 74.150°E), Goa December 2015	Anonymous (2015)
95	*Panthera pardus*	Skin pale rich buff, spots dull orange, eyes bright sky blue but not pink-coloured. Black hairs at the tip of tail.	Blue-eyed white morph (one female)	Pale-coloured form	Calcutta (22.580°N & 88.363°E), W.B. In 1940–1941	Fooks (1941)
96	*Panthera pardus*	Animal shot had ground pale colour than usual with tan spots.	Hypomelanism (one)	Pale-coloured form	Dumraon State (23.965°N & 85.365°E), Hazaribagh District, Bihar (in British Museum, London) Before 1940	Fooks (1941); Pocock (1939)
97	*Panthera pardus*	A semi-albino was shot, had white body with pale background, rosette in darker shed of tan (image).	Hypomelanism (one)	White/semi-albino	Dumraon State (23.965°N & 85.365°E), Hazaribagh District, Bihar Before 1940	Ingen & Ingen (1941)
98	*Panthera pardus*	Killed animal had light sandalwood colour. Skin exists.	Hypomelanism (one)	Mutant	Jhinna, near Ajaigarh (24.726°N & 80.188°E), Panna District, M.P. In 1905	Divyabhanusinh (1993)

	Taxa and common name	Description of aberration as given by the original author (with remarks, if any)	Most likely aberration (sex, if any)	Aberration as named by the original author	Locality (with decimal coordinates) and date (if any)	Source
99	*Panthera pardus*	Shot a white animal with sandalwood-coloured light spots all over the body.	Hypomelanism (one)	Mutant	Aramgang Village, Ajaigarh (24.726°N & 80.188°E), Panna District, M.P. (mounted trophy in Ajaigarh Palace) In 1965	Divyabhanusinh (1993)
100	*Panthera pardus*	White leopard shot but no other details.	Leucism? (one)	White or mutant	Dumraon (25.549°N & 84.150°E), Bihar In 1910	Divyabhanusinh (1993)
101	*Panthera pardus*	White leopard shot but no other details.	Leucism? (one)	White or mutant	Dumraon, (25.549°N & 84.150°E), Bihar In 1927	Divyabhanusinh (1993)
102	*Panthera pardus*	White animal was shot, at sides creamy towards centre with pale brown spots, tail normal. Eyes sky blue (no trace of pink in the eye when shot).	Blue-eyed white morph (one female)	White or mutant	15 miles from Sarasaran near Dumraon (25.549°N & 84.150°E), Bihar In 1930	Divyabhanusinh (1993)
103	*Panthera pardus*	The ground colour of the skin much paler than usual, almost cream and the pattern tanned.	Hypomelanism (one)	Mutant	Hazaribagh (23.965°N & 85.365°E), Bihar (in British Museum, London) In 1939	Divyabhanusinh (1993)
104	*Panthera pardus*	White (albino) leopard, but no other details provided.	Albinism? (one)	White or mutant	Not given Before 1907	Divyabhanusinh (1993)
105	*Panthera pardus*	White leopard skin but no other details provided.	Leucism? (one)	White or mutant	Tikamgarh near Orcha (24.974°N & 78.928°E), M.P. in 1967	Divyabhanusinh (1993)
106	*Panthera pardus*	The skin normal except for having light brown spots instead of black.	Hypomelanism? (one)	Mutant	No information Before 1929	Divyabhanusinh (1993)
107	*Panthera pardus*	Pure white (rare in nature). No other details provided.	Leucism?	White	Hazaribagh (23.965°N & 85.365°E), Bihar (in British Museum, London)	Bedi (1998)
108	*Panthera tigris* (Linnaeus, 1758) Tiger or Royal Bengal Tiger	Black-coloured animal was killed.	Melanism (one)	Black-coloured	West Bengal In 1889	Buckland (1889)
109	*Panthera tigris*	Total black animal basking on rocks in the evening.	Melanism (one)	Black-coloured	Harrow (9.866°N & 77.149°E), Cardamom Hills of Travancore, Kerala In autumn of 1895	Capper Stewart (1914)
110	*Panthera tigris*	Very dark coloured animal was shot.	Melanism (one)	Dark coloured	In forest of Central Province In 1912	Pitman (1912)
111	*Panthera tigris*	Animal with very pale yellow skin was shot.	Hypomelanism (one)	Pale yellow colouration	20 miles away from above forest of Central Province In 1912	Pitman (1912)
112	*Panthera tigris*	Black in colour.	Melanism (one)	Black	Lushai Hills, (23.585°N & 92.848°E), Assam In 1929	Pocock (1929)
113	*Panthera tigris*	A young tiger having dark brown body with black stripes on dark background shot.	Melanism (one)	Melanism	Central Province A few years before 1936	Prater (1937)
114	*Panthera tigris*	Black-coloured animal.	Melanism (one young)	Melanism	Dibrugarh (27.473°N & 94.912°E), Assam In 1915	Prater (1937)
115	*Panthera tigris*	A black tiger of Royal Bengal type.	Melanism (one)	Black-coloured	Forest in Dibrugarh, (27.473°N & 94.912°E), Assam 10 October 1936	Prater (1937)
116	*Panthera tigris*	Colour uniformly brown, stripes not visible (to camouflage in the open sandy tracks of Sunderban)	Hypomelanism (one)	Brown variety	Khulana or Backerganj (22.222°N & 88.839°E), Sunderban, W.B. (from dist. Gazetteer of Bengal)	Prater (1937)
117	*Panthera tigris*	Black skin with tawny stripes on back and white stripes on ventral side. Seen several times by forest officials (animal was shot).	Melanism (one female)	Melanism	Podagad Village, Bhandan River Valley, Similipal TR (21.750°N & 86.333°E), Orissa July 1993	Prusty & Singh (1996a)
118*	*Panthera tigris*	Black tiger caught in camera trap.	Melanism (one)	Melanistic	Similipal TR, (21.750°N & 86.333°E), Orissa July 2012	Anonymous (2012a)

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119	*Panthera tigris*	A wild white tigress with two full-grown light fawn cubs all with stripes (depicted in 'Akbar Nama', the earliest record of white tiger in India; image).	Piebaldism? (one adult female and two light fawn cubs)	Mutant or white	Near Gwalior, between Agra and Malwa (26.421°N & 78.850°E), M.P. During Mughal period, in 1561	Divyabhanusinh (1987a)
120	*Panthera tigris*	A wild white tiger skin. No details of stripes and eye colour.	Undetermined (one male)	White	Exhibited in Exeter Change In 1820	Lydekker (1907) cited by Editor BNHS (1910)
121	*Panthera tigris*	Wild white tiger was killed.	Undetermined (one male)	White	Poona (18.522°N & 73.852°E), Maharashtra In 1892	Lydekker (1907) cited by Editor BNHS (1910)
122	*Panthera tigris*	Wild white tiger shot and skin sent to Calcutta. No details of stripe and eye colour.	Undetermined (one male)	White	Upper Assam (26.787°N & 94.213°E) March 1899	Lydekker (1907) cited by Editor BNHS (1910)
123	*Panthera tigris*	Maharaja of Kuch Behar possesses a white tiger skin.	Undetermined (one male)	White	Kuch Behar (26.468°N & 89.645°E), Assam, Before 1907	Lydekker (1907) cited by Editor BNHS (1910)
124	*Panthera tigris*	Wild white tigress was shot having ground colour pure white, stripes deep reddish-black coloured.	Undetermined (one female)	White	Mulin Sub-division Forest of Dhenkand, (20.680°N & 85.574°E), Orissa May 1909	Lydekker (1907) Cited by Editor BNHS (1910)
125	*Panthera tigris*	Albino wild tiger was shot having cream-coloured skin throughout but paler on head, stripes chocolate brown, whiskers dark brown and white.	Hypomelanism (one)	Albino	Pendra Zamindari (22.767°N & 81.458°E), Bilaspur District, M.P. (specimen in Central Museum, Nagpur, Maharashtra) In 1910	D'Abreu (1916)
126*	*Panthera tigris*	A family party of four wild tigers was shot, two of which were normal-coloured adult male and female having two pure full-grown albino cubs with pink eyes (never seen such albinos by many shikaris).	Albinism (one male cub and one female cub)	Pure albino	18 miles in jungles of Cooch Behar (26.358°N & 89.631°E), Assam 08 May 1922	Narayan (1922), also cited by Gee (1959)
127	*Panthera tigris*	Number of pure white and cream-coloured wild tigers with black stripes, normal-coloured eyes but not albino. Either shot or seen by shikaris.	Piebaldism? (number of males and females)	White	Jungles of Bhagalpur District, (25.3478, 86.9822"E), Central Province (now Bihar) Before and in 1926	Robinson (1928)
128	*Panthera tigris*	A wild white tigress with stripes in darker shade of tan, black stripes at tip of tail.	Leucism? (one female)	White	Assam Before 1941	van Ingen & van Ingen (1941)
129	*Panthera tigris*	Number of pure white wild tigers with light black stripes, eyes with black pupil, nose grey-pink. Either shot or captured.	Leucism (number of males and females)	White	Jungles and hill ranges of Rewa State, forested areas of Bilaspur and Mandla districts, Sidhi Dist, Central Province (now M.P.) Between 1950 and 1951	Oswald (1960), also cited by Singh (1996)
130	*Panthera tigris*	A white tiger cub with dark-chocolate stripes on orange-red skin and 'ice- blue eyes' was caught and reared in Govindgarh Palace and named 'Mohan'.	Blue-eyed white morph (one male)	White (male cub	Bartari Forest, Yadwas RF, Sidhi District, M.P. 28 May 1951	Oswald (1960)
131	*Panthera tigris*	Number of wild white tigers shot.	Undetermined (number of males and females)	White	Forests of Assam, Meghalaya, Odisha, West Bengal, Bihar, M.P. & Maharashtra Between 1907 and 1958	Sankhala (1969, 1978), also cited by Sinha (1993)
132	*Panthera tigris*	A sub-adult tiger (eyes look normal-coloured in image).	Leucism (a single likely sub-adult, age and sex unknown)	Pale	Nilgiri BR, Tamil Nadu June/ July 2017 by Nalanjan Ray	Anonymous (2017a,b,c)
	Family: Viverridae					
133*	*Paradoxurus hermaphroditus* (Pallas, 1777) Common Palm Civet	Total white albino and no trace of black colour on its fur (no description of eyes given). Many Bhils also noticed this adult earlier.	Albinism (one adult)	Albino	Arjunapura Village, Phulwari WS (24.568°N & 73.683°E), Udaipur District, Rajasthan 13 April 2001	Sharma (2004)

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134	*Paradoxurus hermaphroditus*	White body without any black or grey markings, ears and snout pinkish, eyes reddish visible in image (image by Ayan Banerjee)	Albinism (one)	Albino	Kuldina WS (21.199°N & 86.299°E), Odisha 28 December 2013	Anonymous (2016b)
135	*Paradoxurus hermaphroditus*	Brownish-black coat colour on dorsal side, whitish under fur anteriorly, along with pinkish leg extremities (lack of black pigmentation). Half of the tail white while rest black.	Piebaldism (female)	Colour variant	Roadside Dandeli-Anshi TR (15.272°N & 74.535°E), Uttara Kannada District, Karnataka 02 July 2015	Chunekar et al. (2017)
136	*Paradoxurus hermaphroditus*	Same features as above.	Piebaldism (juvenile)	Colour variant	Kas Plateau (17.715°N & 73.798°E), Satara District, Maharashtra 01 November 2015	Chunekar et al. (2017)
137	*Paradoxurus jerdoni* Blanford, 1885 Common Jerdon's or Brown Palm Civet	A white-coloured albino civet (image by Chunekar & Bhat).	Albinism (one)	Albino	Amboli (15.962°N & 73.997°E; Western Ghats), Siidhudurg District, Maharashtra October 2013	Anonymous (2013b)
	Family: Herpestidae					
138*	*Herpestes edwardsii* (E. Geoffroy Saint-Hilaire, 1818) Indian or Common Grey Mongoose	Mother snow white in colour, with three normal-coloured young ones. Eye colour not mentioned (image).	Undetermined	Albino	Kallarwas Village (24.574°N & 73.604°E), 15km from Udaipur, Rajasthan 13 March 1993 and again in April 1993	Tehsin & Chawra (1994)
139	*Herpestes smithii* Gray, 1837 Indian Ruddy Mongoose	Total white-coloured wild albino mongoose with pinkish snout and red eyes (images by Raghunandan Kulkarni & Aditya Singh).	Albinism (one adult)	Total albinism	Ranthambore NP (26.017°N & 76.502°E), Rajasthan 31 May 2009, December 2009, January 2012	Anonymous (2012b); Kulkarni & Mahabal (2014)
	Family: Canidae					
140	*Canis aureus* Linnaeus, 1758 Asiatic (or Golden) Jackal	Black Jackal (shot).	Melanism (one)	Black-coloured	Honavar (14.283°N & 74.450°E), Kanara District, Karnataka 19 April 1924	Tuggerse (1925)
141	*Canis aureus*	Jet black adult male with thin white stripe down at the centre of chest and a normal adult female having three offspring of which one black a replica of adult.	Melanism (a male, female and a cub)	Black	Island of Dharmadam (11.753°N & 75.495°E), Tellicherry, Kerala October 1968 to April 1969	Neelakanthan (1969)
142	*Canis aureus*	Remaining two offspring of above pair (one fawn with white under parts and little black on tail, second one a mixture of grey-brown with terminal half of tail black).	Hypomelanism (one cub each)	Fawn and grey-brown coloured	As above	Neelakanthan (1969)
143*	*Canis aureus*	A completely black-coloured individual (image by Pramod Dhal).	Melanism (adult)	Melanistic	Ettikulam in Ezhimala Hill range, Kannur Dist. (12.014°N & 75.205°E), Kerala	Parida (2014)
144*	*Canis aureus*	Red colour of eyes was not obvious. Two observed in the eight camera trap images of jackals.	Leucism? (two individuals)	Partial albinism	Pulloni mangrove area, near Mangalam Dam, Bhagavathikavu (10.859°N & 75.925°E), Tirur Taluk, Mallapuram District, Kerala	Sanil et al. (2014)
145*	*Canis aureus*	Red colour of eyes was not obvious. Two albinos in the 12 jackal images, captured in camera traps.	Leucism? (two individuals)	Partial albinism	Near Chaliyam mangroves area (11.1573°N & 75.811°E), Kozhikode District, Kerala	Sanil et al. (2014)
146	*Canis lupus* (*pallipes*) Linnaeus, 1758 Indian Wolf	Total black-coloured animal with white patch on upper jaw and lower part of the chest, tail black (image).	Melanism (one)	Melanism	Agricultural field c. 5km southeast of Mangalwedha (17.500°N & 75.433°E), Solapur District, Maharashtra 26 September 2012	Lokhande & Bajaru (2013)
147	*Cuon alpinus* (Pallas, 1811) Wild Dog or Dhole	Total black except a white tip at tail.	Melanism (one)	Complete melanism	Gaddesal in northern Coimbatore Forest Division (11.136°N & 76.976°E), T.N. 11 January 1936	Morris (1936a)

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	Family: Ursidae					
148	*Melursus ursinus* (=*Ursus labiatus*) (Shaw, 1791) Sloth Bear	One cub was shot, skin thick, shaggy, tawny-brown throughout, light-coloured underneath, whitish collar on chest but no black colour anywhere.	Hypomelanism (one cub)	Colour variant	Jungles of Midnapore, (22.422^{0}N & 87.325^{0}E), W.B. November 1884	Sterndale (1886)
149	*Melursus ursinus*	It was shot, only hind quarters of body grey.	Hypomelanism (one)	Colour variant	Secunderabad (17.440^{0}N & 78.499^{0}E), Deccan, A.P. March 1886	Sterndale (1886) (from "Asian sporting" newspaper)
150	*Melursus ursinus*	It was shot, body grey to light grey; native shikaris called it 'safed bhalu'.	Hypomelanism (one)	Colour variant	Borders of Shahabad (25.770^{0}N & 81.399^{0}E), Mirzapur District, U.P. March 1886	Sterndale (1886) (from "Asian sporting" newspaper)
151	*Melursus ursinus*	Shot a sloth bear with two cubs—one was brown instead of black. Other cub normal black.	Hypomelanism (one cub)	Colour variant	Not mentioned 09 March 1886	Sterndale (1886) (from "Asian sporting" newspaper)
152	*Melursus ursinus*	It was shot. Uniformly brown in colour with grey snout, eyes blue and not brown, iris and pupil deep blue.	Hypomelanism (one)	Brown-variety	Sandy nalla in jungles of HazariBagh (24.131^{0}N & 85.468^{0}E), Bihar In 1914	Saunders (1914)
153	*Melursus ursinus*	Shikaris saw two sloth bears, one normal black and other one red-brown.	Hypomelanism (one)	Red-brown variety	Jungles of Orissa (17.740^{0}N & 81.948^{0}E) In 1914	Saunders (1914)
154	*Melursus ursinus*	A bear was shot having light golden brown long and thick hairs accompanied by other normal black-coloured bear.	Hypomelanism (one male)	Brown-variety	Rajpur (21.260^{0}N & 81.635^{0}E), Central Province Before 1929	Duke (1929)
155	*Melursus ursinus*	Author knows about another such specimen of similar light golden brown bear.	Hypomelanism (one)	Brown-variety	Not mentioned Before 1929	Duke (1929)
156	*Melursus ursinus*	A white-coloured adult male seen by tribals, possibly the father of three white cubs mentioned below.	Albinism (one male)	Albino	Madkote Village, Marwahi Block (22.5039, 81.7800), near Achanakamar WS, Bilaspur District, M.P. In 1988	Bharos (1988)
157*	*Melursus ursinus*	Three white cubs, completely white with pink eyes, snout and upper muzzle portion light pink. V-mark on chest difficult to distinguish. Mother normal-coloured.	Albinism (one female and two unsexed cubs)	Albino	Madkote Village, Marwahi Block (22.503^{0}N & 81.780^{0}E), near Achanakamar WS, Bilaspur District, M.P. In 1988	Bharos (1988)
158	*Ursus thibetinus* G [Baron] Cuvier, 1823 Himalayan or Asian Black Bear	Author knows about several cinnamon-coloured variety of sloth bears (not uncommon).	Hypomelanism (several individuals)	Brown form	Not mentioned Before 1940	van Ingen (1941)
159	*Ursus thibetinus*	One bear with cinnamon colour.	Hypomelanism (one male)	Brown form	In the Zoo of H.H. Maharaja of Dewas (22.960^{0}N & 76.059^{0}E), M.P. Before 1941	van Ingen (1941)
	Order: Artiodactyla Family: Suidae					
160*	*Sus scrofa* Linnaeus, 1758 Wild Boar or Wild Pig	Shot white albino boar having completely white hairs; nose, eyes, and hoofs pink in colour (attacking nature, possess harem).	Albinism (one male)	Albino	45 miles from Udaipur (24.839^{0}N & 73.583^{0}E), Rajasthan 27 May 1946	Sinha (1946)
161	*Sus scrofa*	Spotted big albino boar, completely white (image).	Albinism (one adult male)	Albino	Daroji Sloth Bear Sanctuary (15.394^{0}N & 76.813^{0}E), Hospet, Bellary District, Karnataka November 2004	Neginhal (2005)
	Family: Cervidae					
162	*Axis axis* (Erxleben, 1777) Spotted Deer or Chital	Total white deer, an albino, brought for experimental purpose.	Albinism (one male adult)	Albinism	Crawford Market for sell in Bombay, Maharashtra In 1942	Bahadur (1942b), also cited by Taibal (1945)

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163*	*Axis axis*	An albino chital shot; it was snow white, eyes and hoofs pink, faint silky white spots (image).	Albinism (one female)	Albino	Doon (now Dehradun) (30.318°N & 78.032°E), Uttarakhand November 1931	Atkinson (1932)
164*	*Axis axis*	Total albino with red-coloured eyes, bred in zoo.	Albinism (one adult)	Albinism	Ahmedabad Zoo (23.011°N & 72.600°E), Gujarat Before 1986	Smielowski (1987); Anonymous (1986)
165	*Axis axis*	In a herd of 24 Chital on a hillock, a single pure white individual with pink eyes and ears (image).	Albinism (one young female)	Albino	Ramganga, Palain River in Corbett TR (29.432°N & 79.128°E), Uttarakhand 20 August 1995	Singh Brijendra (1996)
166*	*Axis axis*	No details.	Undetermined	Albino	Sonanadi WS (29.594°N & 78.744°E), Nainital District, Uttarakhand	Anonymous (undated) as cited by Singh (2014)
167*	*Axis axis*	No details.	Undetermined (two adults)	Alibino	Panvel Zoo, Raigad District, Maharashtra	Dey (2000)
168*	*Axis axis*	White.	Undetermined (fawn)	Albino	Nagarhole, (11.955°N & 76.038°E), Karnataka	Panda (2009)
169*	*Axis axis*	White-bodied male Chital without pinkish colour on nasal region and eye (image by S.G. Neginhal)	Leucism (one adult male)	White	Nagarhole NP (12.041°N & 76.131°E), Karnataka In 2008	Anonymous (2008a)
170*	*Axis axis*	White Chital born in zoo with dark eyes and dark nose.	Leucism (one fawn)	White	Ahmedabad Zoo (23.011°N & 72.600°E), Gujarat April 2010	Anonymous (2010a)
171	*Axis axis*	White-bodied with dark eyes and nostrils (image).	Leucism (one female)	White	Ranthambore NP (26.017°N & 76.502°E), Rajasthan 08 March 2012	Parashar (2012a)
172	*Axis axis*	White-bodied calf (image).	Leucism (one young)	White	Ranthambore NP (26.017°N & 76.502°E), Rajasthan 29 July 2012	Parashar (2012b)
173*	*Axis axis*	White-bodied female and a fawn having pinkish nose (image).	Albinism (one female and one fawn)	Albino	Piplideh, Anantpura Chawki, Kundera Range, Ranathambhore TR (26.017°N & 76.502°E), Rajasthan 12 January 2012	Prabhu et al. (2013)
174*	*Axis axis*	Albino Chital.	Albinism? (one)	Albino	Jamshedpur Zoological Park (22.817°N & 86.199°E), Jharkhand	Mohan (2014)
175*	*Axis axis*		Albinism? (one)	Albino	Katerniyaghat WS (28.000°N & 81.200°E), near Bahraich, U.P.	Dasgupta (2014); Mishra (2014)
176*	*Axis axis*	In a normal-coloured herd of 13 Chital a snow white fawn with few faint creamy spots visible on body with pink-coloured eyes, nasal tip, and ears; white hairs on eyebrows (images).	Albinism (fawn)	Albino	Kantarsingh, Labangi section of Pampasar Forest Range, Satkosia TR (20.525°N & 84.793°E), Odisha 05 June 2014	Pradhan et al. (2014)
177	*Axis axis*	Total white with reddish eyes (image).	Albinism (fawn with adult)	Albino	Pench NP (22.033°N & 79.829°E), M.P. 23 January 2015	Sayyed et al. (2015 b)
178	*Axis axis*	A jet black coat coloured with typical spots of spotted deer hidden under the coat, in a herd of normal-coloured wild deer (image with editor).	Melanism (one adult)	Melanism	Reservoir in Parambikulam TR (10.393°N & 76.775°E), Kerala July 2009	Kumar (2012)
179	*Axis axis*	A blackish deer in a herd of normal deer whose antlers had rounded outgrowths (image).	Melanism (male)	Melanism	Muthanga Forest Range (11.709°N & 76.069°E), Wayanad WS, Kerala 14 January 2014	Anwar et al. (2015)
180	*Axis axis*	Pelage blackish to dark brown in a herd (image).	Hypomelanism (male)	Melanism	2km away from the above location on same date	Anwar et al. (2015)

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181*	*Axis axis*	White pelage with reddish eye seen in image (images by Rishiraj Deval & Manoj Parashar).	Albinism (female)	Albino	Ranthambore NP (26.017°N & 76.502°E), Rajasthan December 2008 & May 2011	Anonymous (2008b, 2012c)
182*	*Axis axis*	A white fawn with white pelage and pinkish eye seen in the image (image by Prabheer Patil).	Albinism (fawn)	Albino	Pench NP (21.762°N & 79.338°E), M.P. February 2007	Anonymous (2010b)
183*	*Axis porcinus* (Zimmerman, 1780) Hog Deer	Shot a full-grown female, white all over the body with hoofs and eyes pink, hence true albino (Shikaris had not seen such a white deer for the last 45 years). First record from India.	Albinism (one female)	True Albino	Cooch Behar State (26.468°N & 89.645°E), Assam In 1916	Adamson (1916)
184*	*Muntiacus muntjak* (Zimmermann, 1780) Indian Muntjak or Barking Deer or Red Muntjak	A total white Muntjac was sighted.	Undetermined (one adult)	White	Mutta (14.304°N & 74.530°E), thick forested area of southern India 25 August 1906	Charrington (1907)
185	*Muntiacus muntjak*	Very dark brown and nearly black Barking Deers reported commonly.	Melanism (many)	Melanism	Forest of Darjiling Dist. (27.046°N & 88.245°E), W.B., (one such mounted in Darjiling Natural History Museum). In 1952	Inglis (1952)
186*	*Muntiacus muntjak*	An image of albino deer shot by Raja Chandra Chud Prasad Singh of Udaipur.	Albinism (one)	Albino	Udaipur (24.603°N & 73.701°E), Rajasthan February 1959	Cited by Editor BNHS (1959)
187	*Muntiacus muntjak*	Conspicuous white spots above the hoofs.	Piebaldism (one young)	"White spots"	Shencottah, taken to Madumalai WS (11.575°N & 76.621°E), Udhagamandalam, T.N. In 1982	Johnsingh (1984)
188	*Muntiacus muntjak*	Dark-coloured.	Melanism (adult)	Melanism	Senchal WS (26.993°N & 88.265°E), Darjeeling District, W.B.	Sunar et al. (2012), cited by Choudhury (2014)
189	*Muntiacus muntjak*	Dark-coloured coat (sighted by Forest Department).	Melanism (two adults of which one injured)	Melanism	Kitam Bird Sanctuary (27.107°N & 88.350°E), Wildlife Wing, Namchi, Sikkim October 2013	Cited by Choudhury (2014)
190	*Muntiacus muntjak*	Dark brownish-grey.	Hypomelanism (adult)	Melanism	Legship (27.266°N & 88.266°E) near Pelling, West Sikkim, 15 June 2014	Choudhury (2014)
191*	*Rusa unicolor* (Kerr, 1792) Sambar	A white-albino Sambar, completely pigmentless, eyes and muzzle conspicuously pink, ears light pigmented, all hair on body white (in mixed forest of Sal and Chir).	Albinism (one adult)	Albino	1,500ft near Chaukhamb Hills of Kohtri Valley (29.380°N & 79.463°E), Landowne, Nainital District, Uttarakhand In 1938	Champion (1938)
192*	*Rusa unicolor*	In a herd of three, single white female with other two normal-coloured (first time seen albino).	Undetermined (one female)	Albino	Gunaithittu, Talamalai range (11.112°N & 76.892°E), North Coimbatore, T. N. May 1951	Pillay (1953)
193	*Rusa unicolor*	In a herd of six, one stag complete white other normal-coloured hinds (Shikaris have seen this herd number of times).	Undetermined (one male)	Albino	Gunaithittu, Talamalai Range (11.112°N & 76.892°E), northern Coimbatore, T.N. November 1951	Pillay (1953)
194*	*Rusa unicolor*	A young albino female caught and died later on in captivity (image shows normal-coloured eyes).	Leucism (one young female)	Albino	Near Jaisamand Lake & Forest (24.239°N & 73.959°E), 50km from Udaipur, Rajasthan (exhibited in City Palace Archaeological Museum, Udaipur) Before 1947	Tehsin (2006, 2012)

	Taxa and common name	Description of aberration as given by the original author (with remarks, if any)	Most likely aberration (sex, if any)	Aberration as named by the original author	Locality (with decimal coordinates) and date (if any)	Source
195*	*Rusa unicolor*	A birth of white-coloured fawn in Zoo Garden.	Undetermined (fawn)	White	Manipur Zoological Garden (24.817°N & 93.890°E), Iroishemba, Manipur 23 March 2010	Anonymous (2010c), cited by Pande et al. (2010)
196*	*Rusa unicolor*	A pure white albino with reddish snout and red eyes, inside of ears pinkish (image).	Albinism (one fawn)	Albino	Jamunagawd beat of Jhirna Range, core area of Corbett NP (29.504°N & 78.830°E), Uttarakhand 19 June 2010	Pande et al. (2010)
197	*Rusa unicolor*	Total white young with pinkish ears in a company of two normal adults (image by S.P. Bharath Kumar).	Albinism (fawn)	Albino	Bandipur TR (11.667°N & 76.632°E), Karnataka 12 October 2014	Anonymous (2016c)
	Family: Bovidae					
198	*Antilope cervicapra* (Linnaeus, 1758) Blackbuck or Indian Antelope	A dark-coloured throughout the body without usual white belly and legs (image).	Melanism (one adult male)	Melanism	Bhopal (23.261°N & 77.412°E), M.P. 06 September 1904	Smith (1905)
199	*Antilope cervicapra*	Brought a white albino for mating experiment but died.	Undetermined (one adult)	Albinism	Forest of Jaipur (26.928°N & 75.864°E), Rajasthan In 1942	Bahadur (1942 b)
200	*Antilope cervicapra*	Total albino with red eyes.	Albinism (one adult)	Albinism	Ahmedabad Zoo (23.011°N & 72.600°E), Gujarat Before 1986	Smielowski (1987)
201	*Antilope cervicapra*	Totally white single individual with normal eye seen in the image (images by Rajal Thaker).	Leucism (one adult)	Leucistic?/ Albinism	Outskirts of Ahmedabad (23.011°N & 72.600°E), Gujarat October 2009 & 27 December 2013	Anonymous (2011a)
202	*Antilope cervicapra*	A white-coloured Blackbuck seen by Mughal Emperor Jahangir.	Undetermined (one)	White	Central India From 1605 to 1627	Divyabhanusinh (1987b)
203	*Antilope cervicapra*	Total white body with normal eyes in a normal-coloured herd of 10 (image by Ajay Parmar).	Leucism (female)	Albino	Velavadar Blackbuck NP (22.044°N & 72.020°E), Gujarat 08 January 2016	Anonymous (2016d)
204*	*Antilope cervicapra*	A white-coloured fawn with normal-coloured eye seen in image (image by Jagadip Singh).	Leucism (fawn)	Albino	Velavadar Blackbuck NP (22.044°N & 72.020°E), Gujarat 09 April 2016	Anonymous (2016e)
205*	*Antilope cervicapra*	A white-coloured adult with normal-coloured eyes seen in the image (images by M.N. Jayakumar & Tejas Soni).	Leucism (male)	Albino/ Leucistic	Velavadar Blackbuck NP (22.044°N & 72.020°E), Gujarat April 2008 & 13 June 2012	Anonymous (2008c, 2012d)
206*	*Antilope cervicapra*	A white-coloured adult with normal eyes seen in multiple photographs of this individual. (Photographs by Mymoonmoghul, Sreelal TS, & Vinod Velu)	Leucism (male)	Albino	Guindy N.P./IIT Madras (13.001°N & 80.233°E), Tamil Nadu 29 April 2010, 14 January 2011 & 06 March 2011	Anonymous (2010d, 2011b, c).
207*	*Antilope cervicapra*	A white-coloured adult with normal eye and black coloured snout seen in the image (image by Ghanashyam Sarvaiya).	Leucism (male)	Albino	Kanjari (22.614°N & 72.915°E), Gujarat October 2015	Anonymous (2016f)
208	*Gazella bennettii* (Sykes, 1830–31) Indian Gazelle or Chinkara	A white-coloured Chinkara seen by Mughal Emperor Jahangir.	Undetermined (one)	White	Central India Between 1605 and 1627	Divyabhanusinh (1987b)
209	*Gazella bennettii*	Brought a total white (albino) for experimental purpose but died.	Undetermined (one adult)	Albinism	Dhrangadra (22.979°N & 71.470°E), Gujarat In 1942	Bahadur (1942b)
210	*Gazella bennettii*	Total white body with red eyes.	Albinism (one adult)	Albinism	Ahmedabad Zoo (23.011°N & 72.600°E), Gujarat Before 1986	Smielowski (1987)
211	*Gazella bennettii*	An albino individual observed by S.M. Mohnot.	Undetermined (one)	Albinism	Dhava-Doli wildlife closed area near Jodhpur, Rajasthan In 2006	Mehra et al. (2010)

	Taxa and common name	Description of aberration as given by the original author (with remarks, if any)	Most likely aberration (sex, if any)	Aberration as named by the original author	Locality (with decimal coordinates) and date (if any)	Source
212*	*Bos gaurus* H. Smith, 1827 Gaur	One male, one cow, and a cow with calf in three different herds, sandy or light fawn coloured body. Horns yellow-white with pink base.	Hypomelanism (one adult male, one female, and one female with young one)	White	Munnar Ghat crossing, (10.102°N & 77.117°E), Pambur River, forest of Coimbatore, T.N. 12 October 1932	Morris (1933)
213	*Bos gaurus*	White bison seen by others in this area.	Undetermined (one adult)	White	Further east of Munnar Ghat area in Kukkual Block (9.963°N & 77.410°E), T.N. In 1932	Morris (1933)
214	*Bos gaurus*	Occurrence of white bison (image).	Undetermined (one adult)	White	Southern Coimbatore (10.980°N & 76.972°E), T.N. Before 1935	Morris (1935)
215*	*Bos gaurus*	Controversy over light sandy or fawn coloured or 'dormouse' coloured white bison.	Hypomelanism (one adult)	White or light cream coloured	Chanda Dist. (20.209°N & 79.560°E"E; now Chandrapur, Maharashtra), Central Province Before 1935	Dunbar Brander (1933, 1935, 1936); Morris (1934, 1936b)
216	*Bos gaurus*	A white bison with no description.	Undetermined (one adult)	White	Kambu Forest Rest House, southern Coimbatore (10.980°N & 76.972°E), T.N. In 1930	Williams (1936)
217	*Bos gaurus*	A white bison with no description.	Undetermined (one adult)	White	Kodaikanal Hills (10.238°N & 77.489°E), Madurai District, T.N. In 1930	Williams (1936)
218	*Bos gaurus*	In a herd of 120 bisons and many other smaller herds, there were light-coloured bisons in most herds with varying colour from light red through duns.	Hypomelanism (few)	Light red and light coloured	River at Manjampatti tracks of Kilanavayal, (10.200°N & 77.500°E), Kodi Hills, Kukkal & Talanji area, Palni Hills Madurai District, T.N. Between 1929 and 1937	Williams (1969)
219	*Bos gaurus*	One herd of 20 bisons in which every animal was abnormal coloured.	Hypomelanism (20)	Abnormal coloured	--do--	Williams (1969)
220	*Bos gaurus*	Full grown white bulls and a cow known to author.	Undetermined (two males and female)	Pure white	--do--	Williams (1969)
221	*Bos gaurus*	All ash-coloured bisons.	Hypomelanism (four)	Ashy-coloured	Amaravathi Nagar (13.079°N & 80.204°E), southern India In 1965	Davidar (1970)
222	*Bos gaurus*	In two different herds, four and one respectively, were greenish grey and rest normal in colour.	Hypomelanism (five)	Greenish-grey-coloured	Udumal-Kamanuthu Munnar Ghat Road (10.077°N & 77.136°E), Kerala Before 1970	Davidar (1970)
223	*Bos gaurus*	Cattle keepers saw thousands of bisons but noticed only one strange (grey) coloured bison.	Hypomelanism (one)	Grey coloured	Kumulampatti (11.592°N & 76.576°E), Northern Slopes of ManjaMalai and MudianMalai, T.N. January 1969	Davidar (1970)
224	*Bos gaurus*	H.H. The Raja of Pudu Kottai saw seven white bisons in thirty years of his observations.	Undetermined (seven)	White	Koilan Alai (10.186°N & 77.534°E), near Palni Hills, Coimbatore, T.N Between 1940 and 1970	Davidar (1970)
225	*Bos gaurus*	Out of 111 bisons in seven different herds, one young cow with reddish-brown coloured and two light-coloured young ones were observed.	Hypomelanism (two young ones and a young cow)	Light-coloured	Mudian Malai Slope (11.545°N & 76.535°E), T.N. 1969–1970	Davidar (1970)
226	*Bos gaurus*	In a herd, one bull and four cows of which one young cow was rich chestnut in colour.	Hypomelanism (one female and a young one)	Chestnut coloured	Northern slopes of ManjaMalai and MudianMalai forests (11.613°N & 76.575°E), T.N. 1969–1970	Davidar (1970)
227	*Bos gaurus*	Head of white cow mounted, pelage almost cream-coloured.	Hypomelanism (one female)	White	Talanji area of Palni Hills (10.173°N & 77.478°E), T.N. (kept in High Range Club in Munnar, Kerala) Before 1939	Gouldsbury (1971)

	Taxa and common name	Description of aberration as given by the original author (with remarks, if any)	Most likely aberration (sex, if any)	Aberration as named by the original author	Locality (with decimal coordinates) and date (if any)	Source
228	*Bos gaurus*	In a herd of 11, four were normal-coloured, two were greyish-white, and remaining five were ranging from brick red to light red.	Hypomelanism (seven)	Greyish-white to light red-coloured	Cheevaparamala Slopes, Chinnar WS (10.306°N & 77.206°E), Idukki District, Kerala (contiguous with Majampatti Valley) 21 October 1997	Ajith et al. (1998)
229	*Bos gaurus*	In a herd of six, one was greyish-white juvenile, three were brick red to light red in colour and two were normal black bulls.	Hypomelanism (four)	Greyish-white to light red coloured	Koottar (9.778°N & 77.208°E), Idduki, Kerala 3 January,1998	Ajith et al. (1998)
230	*Bos gaurus*	Entirely snow white calf in a herd near a salt-lick has faint eyes (image).	Albinism (one)	Albino	Chikkapala Road, Nagarhole NP (12.041°N & 76.131°E), Kodagu District, Karnataka 11 April 2001	Neginhal (2002)
231*	*Bos gaurus*	Mostly fawn-coloured fur on dorsal part with darker brownish below (image by Prabheer Patil).	Hypomelanism (sub-adult)	Albino	Madhai in Satpuda NP (22.558°N & 78.092°E), M.P. April 2007	Anonymous (2010e)
232	*Bos grunniens* Linnaeus, 1766 Yak	Absolute white fur with normal eyes (tamed animal being used for tourism).	Leucism (one adult)	Leucistic	Kufri (31.097°N & 77.267°E), Shimla District, H.P. In 1991	Personal observation by author (AM)
233	*Boselaphus tragocamelus* (Pallas, 1766) Blue Bull or Nilgai	Shot a fawnish white-albino Nilgai having orangish mane and tassel (image).	Hypomelanism (one adult male)	Albino	Palitana (21.527°N & 71.820°E), Kathiawad, Gujarat In 1940	Trivedi (1941)
234	*Boselaphus tragocamelus*	White spots all over the body including neck, trunk, buttock, and shoulder. Numerous tiny spots on head and both limbs. No change in pattern of white spots over the years despite annual moulting. Next generation normal-coloured.	Piebaldism (one adult female)	Albinism	Probably Indian origin (from Amsterdam Zoo taken to Plock Zoo for breeding) November 1975 to April 1979	Smielowski (1987)
235	*Boselaphus tragocamelus*	A young male uniformly off- white. Eyes normal, accompanied by normal coloured Nilgai.	Leucism (one young male)	Unusual colouration	Kalighati (27.328°N & 76.433°E),Sariska NP, Rajasthan In 1986	Ranjitsinh (1987)
236*	*Boselaphus tragocamelus*	A normal-coloured with streak of white colouration from forehead to nostrils, lateral marking from eye to eye. Bare skin around nostrils cream-coloured.	Piebaldism (one adult female)	Unusual colouration	Kalighati (27.328°N & 76.433°E), Sariska NP, Rajasthan In 1986	Ranjitsinh (1987)
237	*Bubalus arnee* Kerr, 1792) Wild Buffalo	Claimed as albino but eyes were normal.	Leucism (one adult)	Albino ?	Probably in Cooch Behar (26.468°N & 89.645°E), Assam In 1916	Adamson (1916)
238	*Tetracerus quadricornis* (de Blainville, 1816) Four-horned Antelope	Shot a pair in which female was total black in colour. Male with normal colour.	Melanism (one female)	Melanism	14 miles from capital of Ambikapur (23.118°N & 83.195°E), Surguja State, Central Province (now Chattisgarh) In 1932	Ramanju of Surguja (1932)
239	*Naemorhedus goral* (Hardwicke, 1825) Himalayan Goral	A pair of albino gorals having white coat, multiplied to six in next 10 years (no other details).	Undetermined (one male and one female and six young ones)	Albino	Chanju Perganah (7,200ft) (32.553°N & 76.126°E), Chamba State (now H.P.) From 1916 to December 1926	Ram Singh Raja (1927)

* indicates the records also quoted by Singh (2014).

Abbreviations: A.N.=Andaman & Nicobar Islands; A.P.=Andhra Pradesh; BNHS=Bombay Natural History Society; Bombay=now Mumbai; BR=biosphere reserve; Calcutta=now Kolkata; Dist.=district; H.P.=Himachal Pradesh; M.P.=Madhya Pradesh; NP=National Park; T.N.= Tamil Nadu; TR=Tiger Reserve; U.P.=Uttar Pradesh; W.B.=West Bengal; WS=wildlife sanctuary; ZMB=Zoologisches Museum des Humboldt-Universitat, Berlin; ZSI=Zoological Survey of India.

Table 3. Family-wise distribution of mammalian species (Pradhan & Talmale 2012) and aberrant colour species recorded in Indian mammals.

					Number of instances in various colour aberrations						
	Order	Family	No. of known species	Number of aberrant colour species	Albinism	Leucism	Piebaldism	Melanism	Hypo-melanism	Blue-eyed White Morph	Undeter-mined
1	Proboscidea	Elephantidae (Elephants)	1	1	-	1	-	-	-	-	-
2	Sirenia	Dugongidae (Dugong)	1	-	-	-	-	-	-	-	-
3	Scandentia	Tupaiidae (Tree-shrews)	3	-	-	-	-	-	-	-	-
4	Primates	Lorisidae (Loris)	2	-	-	-	-	-	-	-	-
		Cercopithecidae (Monkeys and Langurs)	20	3	4	1	-	-	7	-	-
		Hylobatidae (Ape)	1	-	-	-	-	-	-	-	-
5	Rodentia	Sciuridae (Squirrels)	27	7	10	4	-	1	1	-	1
		Dipodidae (Birch, mice)	1	-	-	-	-	-	-	-	-
		Platacanthomyidae (Dormouse)	1	-	-	-	-	-	-	-	-
		Spalacidae (Bamboo Rat)	2	-	-	-	-	-	-	-	-
		Cricetidae (Voles)	13	-	-	-	-	-	-	-	-
		Muridae (Gerbills, rats, mouse)	56	6	2	2	5	2	-	-	-
		Hystricidae (Porcupines)	3	2	-	-	-	-	-	-	2
6	Lagomorpha	Ochotonidae (Picas)	7	-	-	-	-	-	-	-	-
		Leporidae (Rabbits, hares)	4	-	-	-	-	-	-	-	-
7	Erinaceomorpha	Erinaceidae (Hedgehogs)	4	1	1	-	-	-	-	-	-
8	Soricomorpha	Soricidae (Shrews)	29	1	1	-	-	-	-	-	-
		Talpidae (Moles)	2	-	-	-	-	-	-	-	-
9	Chiroptera	Pteropodidae (Fruit bats)	14	1	-	-	-	-	-	-	1
		Rhinolophidae (Horse-shoe bats)	17	-	-	-	-	-	-	-	-
		Hipposideridae (Leaf-nosed bats)	13	3	2	-	-	-	-	-	2
		Megadermatidae (Vampire bats)	2	-	-	-	-	-	-	-	-
		Rhinopomatidae (Mouse-tailed bats)	3	2	2	1	1	-	-	-	-
		Emballonuridae (Tomb bats)	6	1	1	-	-	-	-	-	-
		Molossidae (Free-tailed bats)	4	-	-	-	-	-	-	-	-
		Vespertilionidae (Evening bats)	58	-	-	-	-	-	-	-	-
10	Pholidota	Manidae (Pangolins)	2	-	-	-	-	-	-	-	-
11	Carnivora	Felidae (Big cats)	16	6	2	9	2	46	9	3	6
		Viverridae (Civets)	9	2	3	-	2	-	-	-	
		Herpestidae (Mongoose)	6	2	1	-		-	-	-	1
		Hyaenidae (Hyenas)	1	-	-	-		-	-	-	
		Canidae (Fox, wolves, dogs)	7	3	-	2		5	1	-	

					Number of instances in various colour aberrations						
	Order	Family	No. of known species	Number of aberrant colour species	Albinism	Leucism	Piebaldism	Melanism	Hypo-melanism	Blue-eyed White Morph	Undeter-mined
		Ursidae (Bears)	4	2	2	-		-	10	-	
		Mustelidae (Otters, weasels)	15	-	-	-		-	-	-	
		Ailuridae (Red panda)	1	-	-	-		-	-	-	
12	Perissodactyla	Equidae (Horses)	2	-	-	-		-	-	-	
		Rhinocerotidae (Rhinoceros)	2	-	-	-		-	-	-	
13	Artiodactyla	Suidae (Wild boars)	2	1	2	-		-	-	-	
		Tragulidae (Mouse deers)	1	-	-	-		-	-	-	
		Moschidae (Musk deers)	4	-	-	-		-	-	-	
		Cervidae (other deers)	8	4	16	5	1	5	2	-	7
		Bovidae (Gaurs, antelopes, goats, yak)	21	8	3	9	2	2	14	-	12
14	Cetacea	Balaenopteridae (Baleen whales)	6	-	-	-		-	-	-	
		Delphinidae (Dolphins and other whales)	13	-	-	-		-	-	-	
		Phocoenidae (Porpoises)	1	-	-	-		-	-	-	
		Physeteridae (Sperm whales)	3	-	-	-		-	-	-	
		Platanistidae (River dolphins)	1	-	-	-		-	-	-	
		Ziphiidae (Beaked whales)	2	-	-	-		-	-	-	
Total	**14**	**48**	**421**	**56**	**52**	**34**	**13**	**61**	**44**	**3**	**32**

The list interestingly shows a total of 421 species against the list of 420 species in Pradhan & Talmale (2012). This is due to the record of colour aberration in Indian Cheetah which has since become extinct.

CONCLUSIONS

The present study indicates colour aberrations in 55 mammalian species belonging to eight orders and 19 families. No report of any type of colour aberration was reported so far from the six different mammalian orders, namely, Sirenia, Scandentia, Logomorpha, Pholiodota, Perisodactyla, and Cetacea from India (Table 3). Elsewhere in the world, there were recorded instances of colour aberration in marine mammals, such as in 25 Neotropical cetacean species (Abreu et al. 2013). The gaps in the knowledge in species belonging to many orders and families in India need attention from researchers, naturalists, and field workers to gather more evidence.

Singh (2014) pointed out that in the past the source of information and dissemination of data pertaining to wildlife and natural history was not as broad-based as it is today. The recent adoption of camera traps for surveys and the easy availability of photographic equipment offers a ray of hope to fill the gaps in knowledge. We highly recommend surveys with camera traps and visual observations in more and more areas to get a better understanding of colour aberrations in the missing species.

It is noticeable that the most commonly observed colour aberration as noted by the original authors is that of albinism. Partly this might be due to the tendency amongst naturalists to name most mutations resulting in white animals as albinos. This, however, is not always true as there are many other types of colour aberration that can result in a white or pale coat. Albinos can be distinguished by their red or pink eye colour along with pinkish snout, pinna, and limbs. Hence, there is a need

Table 4. State-wise records with known instances of various colour aberrations in mammals of India.

States	Number of records of each aberration							
	Albinism	Leucism	Piebaldism	Melanism	Hypo-melanism	Blue-eyed white morph	Undeter-mined	Total
Andaman & Nicobar	2							2
Assam	3	2		5			2	12
Arunachal Pradesh								0
Bihar		3	1	3	4	1		12
Chandigarh	1							1
Chattisgarh				1				1
Goa	2	1		1				4
Gujarat	4	6		1	1		2	14
Haryana								0
Himachal Pradesh		1					1	2
Jammu & Kashmir				1				1
Jharkhand	1							1
Karnataka	4	1	1	8			2	16
Kerala	1	4		6	5			16
Madhya Pradesh	5	4	1	4	8	1	2	25
Maharashtra	8	2	4	9	1		2	26
Manipur							2	2
Meghalaya			1					1
Mizoram								0
Nagaland					1			1
New Delhi	1			1				2
Odisha	2			4	1		2	9
Rajasthan	11	5	2				3	21
Sikkim				2	3			5
Tamil Nadu		3	1	3	9		8	24
Telangana					1			1
Tripura								0
Uttar Pradesh	1	1			1			3
Uttarakhand	4			4			1	9
West Bengal	1		1	7	4	1		14
Unknown	1	1	1	1	5		5	14
Total	**52**	**34**	**13**	**61**	**44**	**3**	**32**	**239**

for greater awareness of types of colour aberration in the naturalists' community to correctly name the aberration.

We encourage researchers and the nature loving community to either publish their observations in scientific journals and to upload photographic evidence on websites such as www.indianaturewatch.com or apps like iNaturalist. Observation and images of eye colour along with the rest of the body are very useful to determine the precise category of colour aberration. Whenever images are not available, a detailed description including eye colour, pattern, and amount of discolouration is necessary for the proper identification of the type of colour aberration in the species.

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सारांश

भारतासह जगभरात सस्तन प्राण्यांमध्ये वेगवेगळ्या रंगविकृती (जसे अल्बिनीझम्, ल्युसिझम्, पायबाल्डीझम्, मेलॅनिझम्, हायपोमेलॅनिझम् आणि निलनेत्रिय श्वेतरुप) आढळतात. या परिक्षणात भारतीय सस्तन प्राण्यांमध्ये आढळलेल्या अश्या एकूण २३९ नोंदी, त्यांचे स्थान दर्शविणार्या नकाशांसह, सारणीबद्ध केलेल्या आहेत. या नोंदी १८८६ ते जुलै २०१७ पर्यंतच्या काळात विविध वैज्ञानिक साहित्ये आणि नियतकालिकांमधून प्रकाशित झालेल्या, तसेच विविध वेबसाइट्सवर अपलोड केलेल्या प्रतिमांमधून एकत्रित केलेल्या आहेत. या नोंदींचे त्यांचे जैविक गण आणि कुळांनुसार परिक्षण व विश्लेषण केलेले आहे. त्यात मिळालेल्या माहितीनुसार योग्य रंगविकृतीची ओळख करण्याचा प्रयत्न केला गेला आहे. भारतात आढळणार्या सस्तनप्राण्यांच्या एकूण ४२१ जातींपैकी ५६ मध्ये, म्हणजेच १३.३% जातींमध्ये विविध प्रकारच्या रंगविकृती आढळून आल्या. या जाती आठ गण आणि १९ कूळांमधल्या आहेत. यापैकी २१.८% अल्बिनो, १४.२% ल्युसिस्टिक, ५.४% पायबाल्ड, २५.५% मेलॅनिस्टिक, १८.४% हायपोमेलॅनिस्टिक आणि १.३% निलनेत्रिय श्वेतरुपी आहे. उर्वरित १३.४% रंगविकृतींबद्दल माहितीअभावी निश्चित ठरविता आल्या नाही. या अभ्यासातील काही ठळक गोष्टी अश्या आहेत – १) जगभरातील इतरत्र झालेल्या अभ्यासांशी विसंगत असे वेस्परटीलिओनिडे या सस्तन प्राण्यांच्या सर्वात मोठ्या कुळात रंगविकृतींची एकही नोंद न दिसून येणे २) गुजरातमध्ये चितळ आणि काळवीटांमध्ये अल्बिनिझमचा सातत्याने आढळ, ३) भारतातील मेलॅनिस्टिक बिबळ्यांची मोठी संख्या तसेच अलिकडे गेल्या काही वर्षांपासून सिक्किममध्ये मेलॅनिस्टिक आशियाई सुवर्ण मांजरीच्या नोंदी, ४) पश्चिम घाटांच्या दक्षिण भागातील गव्यांमध्ये, मागील काही वर्षांचा अपवाद वगळता, हायपोमेलॅनिझमचा नियमित आढळ. एकूणच, सस्तन प्राण्यांमधील रंगविकृतींचा सखोल अभ्यास होण्याची गरज अधोरेखीत केलेली आहे.

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