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RESEARCH ARTICLE

REPORT ON COLOUR ABERRATION FOUND IN WILD ANIMALS AT PENCH TIGER RESERVE, MAHARASHTRA, INDIA

Mr. Atul Rambhau Deokar
Asst. Conservator of Forest, Pench Tiger Reserve, Maharashtra, Deputy Director, Pench TR, FDCM Bhavan, Hingana Road, Nagpur, India, 440 036.

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Abstract

Pench Tiger reserve, Nagpur, Maharashtra is 25th Tiger reserve of India, located in central Indian landscape and spreads over 741.41 sq. Km. There are 71 mammal species reported by Zoological Survey of India (ZSI, 2004).The colour coat of animals is general character in morphological features to identify the animals. But sometimes colour variation is observed in wild animals due to variation in melanin pigment concentration cause of various reasons. There are six different terms as per morphological variations found in wild animals as Albinism, Leucism, Piebaldism, Melanism, Hypomelanism and Blue eyed morph (Mahabal, 2019). Out of these, there are three variations as Leucism, Piebaldism, Melanismfound in Pench tiger reserve, Maharashtra in Sambar& Spotted deer.

Introduction:-

Pench tiger reserve, Maharashtra is 25th Tiger reserve of India, declared in 1999. It is located in Central Indian landscape, encompassing area of 741.22 sq. Km in river basin of Pench, Kanhan and Teliya in foothills of Satpuda ranges. (Deokar, 2022) This area harbours 71 species of mammals including Tiger, spotted deer and Sambar, (ZSI, 2004) 310 species of birds and 44 species of odonata (Deokar, 2021). The characteristic skin in mammals is clothed withfurorhairanditsconcealmentmaybeeffectedbythecolourandpatternofthecoat.Generally, the coat colour change dependsonthesurroundingseasonalclimateconditionsandalsothe geographic regions where they are found (Menon2003).Besides this, the age, sex, health, and nutritionplayimportantrolesinthelooksofananimal.

Observation:-

During regular patrolling, author observed a white coloured Sambar deer(Rusaunicolour), a partial white coat (at neck portion) Spotted deer(Axis axis) and a blackish fur spotted deer (more black pigmentation at Neck portion and dark brown coloured coat) than normal one in spotted deer in Pench tiger reserve, Maharashtra. All these animals are photographed without disturbing them and keeping sufficient distance. The herd of species was found very normal in behaving with these special individuals.

Results and Discussion:-

The phenomenon of colour variation is common in birds and mammals. Melanin is the main pigment found in mammals which is responsible for the color of hair and fur. There are different types of melanin (eumelanin and pheomelanin), and they produce a huge color range, from black to sandy to red in different combinations. The

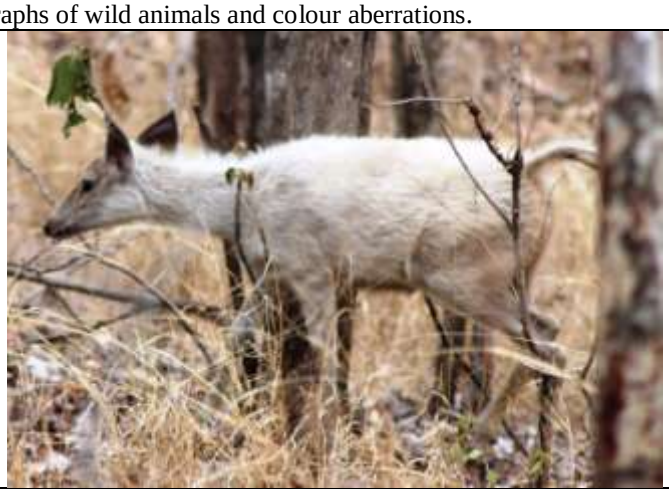
Corresponding Author:- Mr. Atul Rambhau Deokar
Address:- Asst. Conservator of Forest, Pench Tiger Reserve, Maharashtra, Deputy Director, Pench TR, FDCM Bhavan, Hingana Road, Nagpur, India, 440 036.

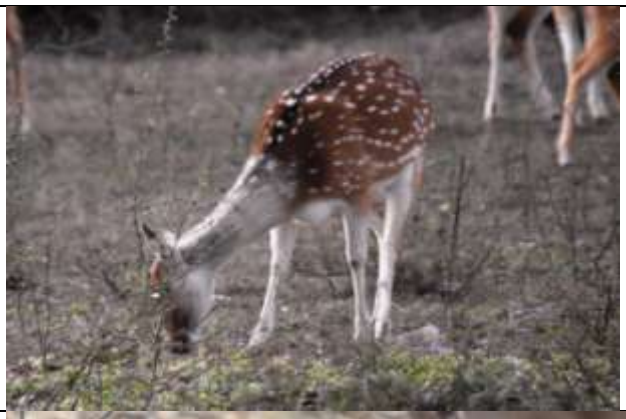
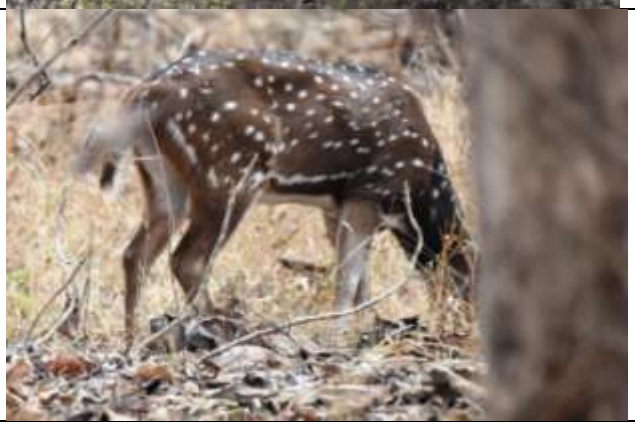
development of melanin is depend upon biochemical process called melanin synthesis which is affected by any disturbance or the heritable cause, i.e., genetic mutation, at every stage of melaninsynthesisaffectstheconcentrationanddistributionofmelaninresultinginanaberrantcolour (vanGrouw 2013).

Table 1:- Terminology used to describecolour aberrations adopted from van Grouw (2006, 2013),Abreu et al. (2013), Lucati& Lopez-Baucells(2016),and Mahabalet al.(2016) exceptblue-eyedwhitemorph(Mahabal et al, 2019).

Aberration	Effectonmelanin	Effect on Eyes	Effect on Skin	Effect on Hairs
Albinism	Totallackofbothmelaninsinskin,hairfollicles,and eyes due to the heritable absence of the enzymetyrosinaseinpigmentcells.	Red	Pale	White
Leucism	Total lack of both melanins in all of the hair folliclesand skin due to the heritable absence of pigmentcellscausedbythefailureofmelanocytestomigratetothe skinandhairfollicles.	Normal	Pale	Whitish
Piebaldism	Total lackofmelanininpartoftheskin and/orhairfolliclesduetotheheritableabsenceofmelanocytesinthe affectedpart.	Normal	Normal	Normal except white patches
Melanism	Abnormal deposition of melanin (not necessarily anincreaseofpigment)intheskinand/orhairfollicles.	Normal	Normal	Black or reddish-brown
Hypomelanism	Mutationsaffectingmelaninbiosynthesis,pigmentgranuletrafficking,ormembranesorting.	Normal	Normal	Brown, Golden, Beige
Blue-eyedwhite morph	Pheomelaninislargelyabsent;eumelaninispresentin the eyes and in the hairs of stripes.Mostly seenintigersandleopards.	Blue	Pale	White stripes/spots, Brown spots

Table No. 2:- Showing photographs of wild animals and colour aberrations.

1	Leucism observed in Sambar deer	

2	Piebaldism in Spotted deer		
3	Melanism observed in Spotted deer		

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