

New Records of Albino Spectacled Cobra Snakes (*Naja naja*) in Madhya Pradesh

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Abstract

Bhopal the capital of Madhya Pradesh is home of an estimated 1.798 million population with a total area of 285.88 (square kilometres). Bhopal and nearby areas is rich in terms of its faunal & floral diversity. It is a home to several endangered, endemic and rare species. It is surprising that big cat like Tiger (*Panthera tigris*) Panther (*Panthera pardus*) mammals like Sloth bear (*Melursus ursinus*), Hyena (*Crocuta crocuta*), Jackal (*Canis aureus*), Blackbuck (*A. cervicapra*) are wandering near human settlements in search of prey, shelter and water. It's also home of large no of bird's species, migratory birds' herpetofauna (Crocodile, lizard snake and amphibians) and fishes.

This is rarest sighting in recent history of India Albino wild animal or other animals are extremely rare, albino animals, including the Cobras. First report of albinism in Spectacled Cobra is recorded in Madhya Pradesh. Earlier to this no published studies on Albino snake in Madhya Pradesh but few sighting evidence reported.

Keywords: Albino; Herpetofauna; Genes; Species; Diversity; Melanin; Pigmentation; Spectacled cobra

Introduction

Albinism is caused by several different genes [1], Albinism is a disease in which a person has partial or complete loss of pigmentation (colouring) of the skin, eyes and white hair. Albinism is best recognized by abnormal coloration of the skin, hair, feathers, scales or eyes [2]. Some older articles have defined albino as an animal with too lack of pigment on the body, while others use the term leucistic for what should, by these definitions, be termed partial [3]. Albino, partial albino wild animal animals are extremely rare.

As per Cobras.org, Berlin (Germany) 12159, website in albino animal's body colour remains normal at the time of newborn. When it becomes adult colour it is changed into white due to lack pigment disorder. Melanism is the opposite of albinism and is caused by excessive melanin pigment deposition. It is even more in frequent than albinism and results in individuals with a very dark appearance and a dark brown or black coat [4].

Objective

The goal of this study is to provide documentation of rare Albinism species.

Materials and Methods

The taxonomical features can be used to construct an image only feature database from individual snake [5].

Morphologically feature of species observed or identity by image (photo) use as a tool in study. Photo has been taken and draw the scale on the photo then matched scale from different literature.

Observation

There are some reports on albinism in Indian snakes for instance. I have sighted an adult albino Spectacled cobra (*Naja naja*) near the village Khathotia (Rabiyabad) forest area (23 04 '29.1 N, 77 0 23 '22.4 E) (Figure 1) Block-Phanda, District sehore on October 28 2015 at 2.46 pm. The captured live specimens were photographed with Niccon Camera Model- D 90 with EFS 18-55 mm image stabilizer.

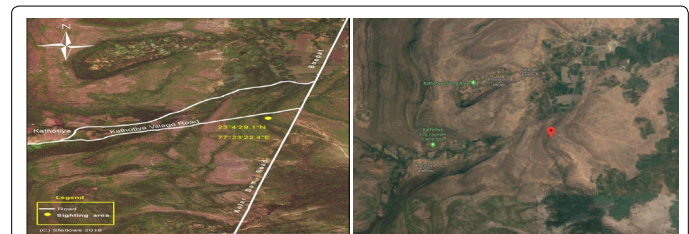


Figure 1: (A) Map of sighting location (B) Google image of study area (23°04'29.1" N, 77°23'22.4" E).

Captured 10 images of live specimens & morphological feature like Head,body shape, eye, scale head, body etc. taxonomical details were minutely observed It was fully grownup healthy, approximately 5-51/2 feet in length, off-white /whole creamy white, in colour with "U "Shape (Spectacled hood pattern) marked hood. I have seen albino two animal species Indian Gour (*Bos gaurus*) and Spectacled Cobra (*Naja naja*) in my overall service period, (Figures 2-7). Quite a long time I was posted in Satpura Tiger Reserve there is also albinism seen in the Indian Gour. Sightings of albino snake and Gour details are given below (Table 1).

Species morphological feature identity by images

Head triangular with rounded edge, hood mark appears back side; eyes are large in size with rounded pupil, short and rounded snout with large nostrils, scale on head top (pic from front view,dorsal side of head) 1 rostral, 2 internasal, 2 prefrontal, 1 frontal 2 parietals scales

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Figure 2: Albino spected cobra (*Naja naja*).



Figure 5: Albino cobra defensive behaviour.



Figure 3: Normal spected cobra (*Naja naja*)

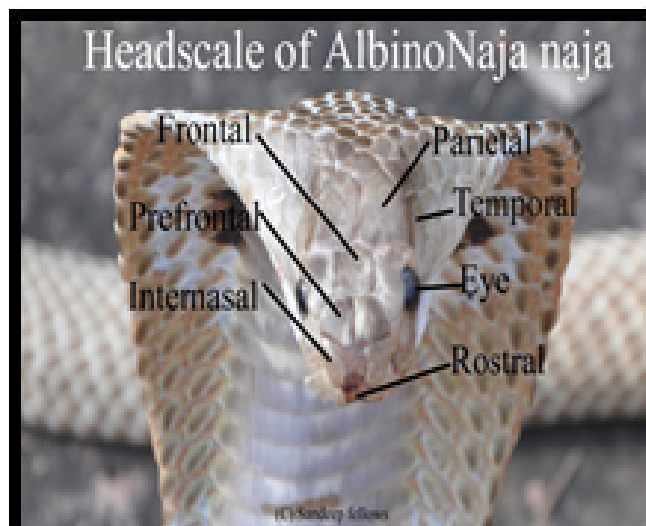


Figure 6: Head scale of Albino cobra.



Figure 4: Albino Gour (*Bos gaurus*).



Figure 7: Albino spectacled cobra (U) Hood.

S. No	Common Name	Scientific Name	Date	Place	Coordinate	Type	Condition	Re visit Result
1	Albino Indian Gour	<i>Bos gaurus</i>	28/02/2012 (5:23 PM)	Satpura Tiger Reserve, Range-Madai Hoshangabad	22°33'35.9"N 78°08'51.4"E	Albino	Healthy	Outcome still survive
2	Albino Indian Gour	<i>Bos gaurus</i>	21/10/2014 (11:41 AM)	Satpura Tiger Reserve, Range-Madai, Hoshangabad	22°33'13.6"N 78°08'22.3"E	Partial Albino	Healthy Young	Survive
3	Spectacled Cobra	<i>Naja naja</i>	28/10/2015 (2:46 PM)	Division-Sehore (T)	23°04'29.1"N, 77°23'22.4" E	Albino	healthy	Not seen again

Table 1: Sighting records of albinism animal in Madhya Pradesh.

are present; body medium size, body slender with smooth oval white shaped scales. Behavioral of cobras are defensive displays, hooding, hissing, and raising the upper portion of their bodies to stand erect. Tail ends with pointed tip. When I tried to go to near this cobra it became defensive.

Indian cobra are found in colour ranging from brown to black most individuals have distinctive pale "Spectacled" marking on the back of hood. Snakes are found wide range of colour with variety of stripes, spots & texture. There are four species of cobra and they are, Indian Spectacled Cobra (*Naja naja*), Monocled Cobra (*Naja kaouthia*), Central Asian cobra (*Naja oxiana*) and Andaman Cobra (*Naja sagittifera*) are found in India. Spectacled Cobra has double eye shaped marked and monocled & Andaman Cobra have single eye shaped marked on their hood. Indian Cobra (*Naja naja*) is also known as Spectacled Cobra [6].

The facts regarding albino wild animal sighting were published rarely in newspapers in different parts of India, Albinism is very extremely rare in Snakes (as Compare to other animals) Albino Cobras (*Naja naja*) are extremely top 10 rarest albino animals in the world. Albinos usually occur as odd individuals in nature. It's very unusual for whole population to consist of albinos but in the Iwakumi city in Japan one strange case of an entire population of the rat snake (*Elaphe climacophara*) being albinos. This is protected as a Nation Monument. Record of albino Sand boa (*Gongylophis conicus*) from Sangli district, Western Maharashtra, India [7] April 7, 2015.

Disadvantage of albino in the wild animals

Supersizing problem faced by albino animal in the wild some disadvantage of albinism is given below:

Vision: Vision is always affected by albinism. The reduced amount of melanin can also cause other eye problems. This is because melanin is involved in the development of the retina, the thin layer of cells at the back of the eye. Possibly eye problems linked to albinism includes poor eyesight, astigmatism and photophobia.

Sun Burn: Sunburn is a burn on the skin and a kind of skin disease. It results from excessive harmful UV rays of the sun.

Skin cancer: Without pigment in the skin, you are more susceptible to non-melanoma skin cancers in keratinocytes. Normally, melanocytes distribute pigment molecules to keratinocytes, where they act sort of like umbrellas shielding the nucleus (and the DNA inside) from the sun's UV radiation.

Enemy: Albino are easier to see, and therefore. They are easier for a predator to catch. A white animal would stand out in a forest and field it would become another animal's food before too long. The main enemy is men and meat eating predator.

Digestion: Snake digest its food in genially about 10 day depending on the size of prey metabolism and their body temperature. Exposure to sunlight promotes easier digestion and activating many processes

of the body but white colour that is not helpful in protecting it from its enemy. Albinism animal avoid visiting open area they spend much of their time hidden holes, shrubs & rock shelter where it is difficult for predators to find them. Due to less time spend in sunlight there is change in metabolism, resulting week digestion system.

Defensive coloration: There are several techniques that an animal can use coloration for defense. Same reptiles are natural camouflage and their skin texture & color match with sowing Background.

Highest price demand: 16 January 2006 time it was reported that the snake has appropriately be named we price for six year old two headed albino rat snake is 1,50,000\$ owned by the world aquarium in St. Louis Missouri and offered for sale in reptileauction.com [8,9] March, 2010, due to its demand it is highly caught which can cause its deaths.

Rejected by the same species: In most animal species, albinos look abnormal and are often rejected by others of the same species. It may be picked on until it dies of until it leaves the group to live alone. In the wild, an albino is much less likely to find a mate and have offspring. Male animals tend to be more colorful than females of the same kind. The male often uses his coloration to attract a female. Lacking the necessary coloration, albino males cannot beat out the competition.

Result and Conclusions

The first case of albinism in the spectacled cobra, (*Naja naja*) is recorded in Madhya Pradesh. This rare disorder can become life-threatening as it leaves them without any camouflage Albino animals look beautiful but lack of Melanin in their body cause fair amount of hardship for pigment challenged creature. Albinism being a genetic disorder has limited treatment. Albino animals need help, special care and protection, especially if they are in captivity.

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