



Black Buck Safety

(How they are safe in an ecosystem and why we human should conserve them)

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Abstract – This study has been undertaken to investigate the properties of Black Bucks that make them safe in a forest. As being an herbivorous animal, there is always a threat to their life from their predators as well as from the human beings, but this *Antelope* manage to survive in a tough competition. So, this paper includes some properties of Black Bucks which makes their population good in a forest. This paper also includes some point that why this Antelope is harmed by humans and why we should save/conserve them.

Keywords- Black Bucks, Antelope, Habitat, Grassland, Herd, Conservation, Pray, Predator, Herbivorous, Grassland.

● Introduction-

Blackbuck, (*Antelope cervicapra*) an Antelope (family Bovidae) indigenous to the plains of India. Blackbucks are primarily grazers and frequent open short grassland, but they can survive in semi desert where there is sufficient vegetation, and they often frequent nearly barren salt pans. The blackbuck is an antelope of the same tribe (Antilopini) that includes gazelles, the springbok, and the gerenuk. What sets the blackbuck apart from the rest is the adult male's horns, which are long (50–61 cm [20–24 inches], the record being 71.5 cm [28.1 inches]), spirally twisted, V-shaped, and covered with pronounced ridges nearly to the tips. In addition, there is a striking contrast between the black-and-white coloration of mature male blackbucks and the reddish yellow coloration of females and immature males—a much greater contrast than is found in any of the blackbuck's tribal relatives. They are active in daytime, tolerate the hottest sun, and seek shade for only two to three hours at midday.

Diet- Primarily grazers, feeding on fresh grass shoots. In winter they sometimes feed on seed pods of **Jand** (*Prosopis cineraria*) and **Mesquite** (*P. juliflora*).

Habitat- Known to favour open plain areas, but found in semi-arid grassland, open scrub, grassy clearings and open forest.

Male blackbucks weigh 34–45 kg (75–100 pounds) and stand 74–88 cm (29–35 inches) at the shoulder. Females are not much smaller, weighing 31–39 kg (68–86 pounds) and having shoulder heights only a few centimeters shorter than the males. Females also have the same white markings as males, including circular eye patches, mouth, underside, inner legs, and rump patch. The only obvious difference between females and immature males is the presence of horns. Even black males, which are most colorful at the end of the monsoon season, begin to fade in midwinter after the annual molt and turn quite brown by early April when hot weather returns. In fact there is one southern Indian population in which the males never turn black. Nevertheless, male blackbucks are still darker than females and immature males.

• Study Area-

The Black Buck Sanctuary [(25°02'46.00"N) (81°54'15.18"E)] is roughly 90KM from the Prayagraj city, which is flanked by Chand Khamaria and Mahuli villages. This is the Trans-Yamuna portion of the Prayagraj district and the first Blackbuck conservation reserve of Uttar Pradesh state. The protected area is supposed to have an area of 29 Hectare with 300-500 or more number of Blackbucks. The sanctuary is surrounded by the agricultural field. The sanctuary is fenced by the stone walls which prevents the entry of animals and humans to the sanctuary.

• What makes Black Bucks safe-

1. **Habitat-** They inhabit grassy plains and thin forest areas with easily available water resources. So in grasslands it become very difficult to spot a Black buck easily by their predators as well as by the human beings. So the grassland provides them a safe site and makes their appearance difficult.



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2. **Defense-** Fast running and perceptive eyesight are the important defensive factor for species. Although they lack a strong sense of smell and hearing but a good eyesight helps them to react quickly. Furthermore, study has illustrated that superior bucks defend their territory by ostentatiously peculiar postures such as they uplift snout, draw the ears backward, elevate tail, which is curved upward, making a white spot on buttock more discernible. Species position down the head till adjoining the land and insert the peaks of horns to the adversary. In this position, it can withstand the adversary for 15-25 minutes.

3. **Height-** The blackbuck is a moderately sized antelope. It stands up to 74 to 84 cm (29 to 33 in) high at the shoulder. Females are generally smaller than males and having shoulder heights only a few centimeters shorter than the males. So it provides them additional support to hide easily from the risk.

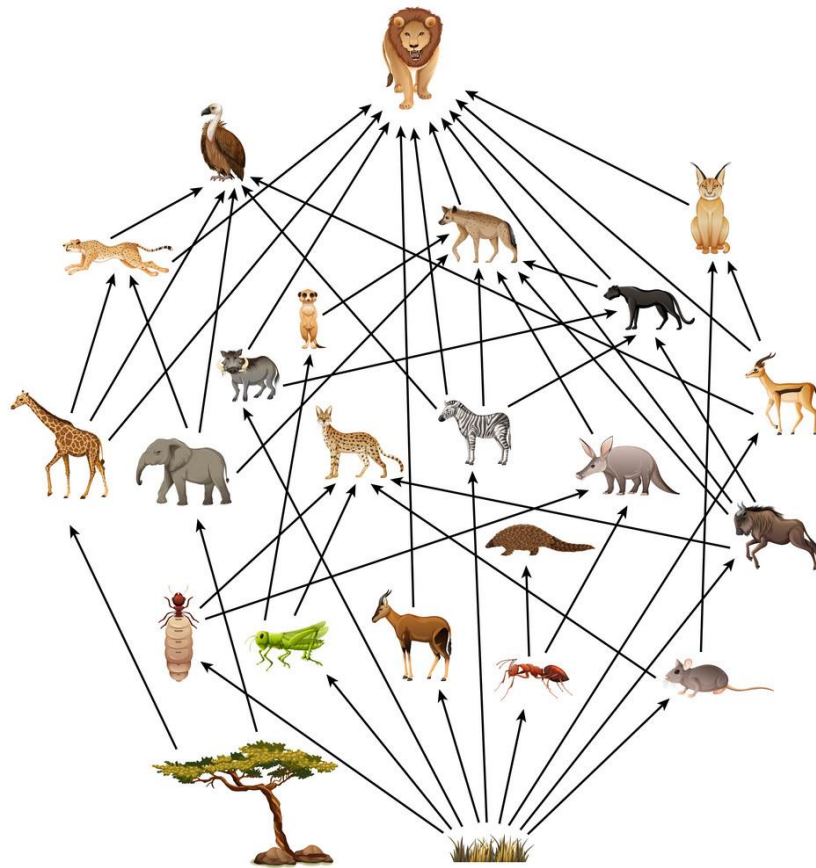


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4. **Speed-** Black buck is a swift animal with top speed of 80KM/H. This high speed makes conditions safe for them as they are quick to escape from the danger. Also the light weight of Blackbuck helps them to run fast. Males are 20-57Kg while females are 20-30Kg.
5. **Living in herd-** Black bucks generally prefer to live in a herd. Group size fluctuates and seems to depend on the availability of forage and the nature of the habitat. Large herd have an edge over smaller ones in that danger can be detected faster, through individual vigilance in the former. A disadvantage for large herd, however, is that travelling require more resources.

● **Why we should conserve Black Buck?**

- All life on earth is inter-related and interconnected. Living things are dependent upon their physical environment - the land, water and air. Vegetation makes the basic support to the life on earth. They also provide food and habitat for animals, insects and birds. Animal helps in dispersal of seeds of plants, parasites infest plants or animals. As being an herbivorous animal, Black bucks helps to disperse the seeds of various plants through their dung from one place to other.
- **Natural Cleaner-** The crow, the eagle, the hyena, and others who act as scavengers and bacteria aiding in decomposing the dead. They play an important role in returning the organic and inorganic components of dead animals and plants back to nature to be used and reused by subsequent living organisms.
- **Proper food chain And Food Web-** Black bucks plays an important role in food chain and food web; as being a part of this and helps in energy flow from one trophic level to next.



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- This is our **Natural Heritage** - A Heritage on which we ourselves among many species of animals depend for our sustenance and survival.
- The **Bishnois** of Jodhpur consider the **Black Buck** to be the reincarnation of their religious Guru Bhagwan Jambheshwar also known as Jambli. They can even sacrifice their life to save this Antelope.
- **How Black bucks be saved-**
 - Avoid construction and concreting, especially in the blackbuck habitat area. This is increasingly reducing the food availability of these animals. This area is heavily built up (about 25% including concreted and paved surfaces) and fragmented due to buildings coming up in key habitat zones dividing them and making them not accessible to animals.
 - Avoid creating lawns and return the existing lawns back to nature to recover native species.
 - Protecting trees alone will not help humans as well as other animals who feed on the ground. A habitat is healthy due to various species that exist there in harmony. Protect bio-diversity by protecting the native wild plants and trees.
 - Maintain their habitat area as open grassland and avoid planting more trees in those areas. As trees not allow grass and herbs to grow, on which the Black buck survive.

➤ References-

1. Blanford, W.T. (1891). "*Antelope cervicapra. The Indian Antelope or black Buck*". *The Fauna of British India, Including Ceylon and Burma*. London: [Taylor and Francis](#). pp. 521–524.
2. [^] [Jump up to:](#) [↗] Nowak, R. M. (1999). *Walker's Mammals of the World* (6th ed.). Baltimore, Maryland: Johns Hopkins University Press. pp. 1193–4. [ISBN 978-0-8018-5789-8](#).
3. [^] Khan, M.A.; Akhtar, M. (2014). "*Antelopes (Mammalia, Ruminantia, Bovidae) from the Upper Siwaliks of Tatrot, Pakistan, with description of a new species*". *Paleontological Journal*. **48** (1): 79–89. [doi:10.1134/S0031030114010055](#). [S2CID 84227895](#).
4. [^] Vassart, M.; Seguela, A.; Hayes, H. (1995). "Chromosomal evolution in gazelles". *Journal of Heredity*. **86** (3): 216–27. [doi:10.1093/oxfordjournals.jhered.a111565](#). [PMID 7608514](#).
5. [^] Rebholz, W.; Harley, E. (July 1999). "Phylogenetic relationships in the bovid subfamily Antilopinae based on mitochondrial DNA sequences". *Molecular Phylogenetics and Evolution*. **12** (2): 87–94. [doi:10.1006/mpev.1998.0586](#). [PMID 10381312](#).
6. [^] Effron, M.; Bogart, M. H.; Kumamoto, A. T.; Benirschke, K. (1976). "Chromosome studies in the mammalian subfamily Antilopinae". *Genetica*. **46** (4): 419–44. [doi:10.1007/BF00128089](#). [S2CID 23227689](#).
7. [^] Bärmann, E.V.; Rössner, G.E.; Wörheide, G. (2013). "*A revised phylogeny of Antilopini (Bovidae, Artiodactyla) using combined mitochondrial and nuclear genes*". *Molecular Phylogenetics and Evolution*. **67** (2): 484–93. [doi:10.1016/j.ympev.2013.02.015](#). [PMID 23485920](#).
8. [^] Considine, G.D.; Kulik, P.H., eds. (2008). *Van Nostrand's Scientific Encyclopedia* (10th ed.). Hoboken, New Jersey (US): Wiley-Interscience. p. 183. [ISBN 978-0-471-74398-9](#).
9. [^] [Jump up to:](#) [↗] Grubb, P. (2005). "*Order Artiodactyla*". In [Wilson, D.E.](#); [Reeder, D.M](#) (eds.). *Mammal Species of the World: A Taxonomic and Geographic Reference* (3rd ed.). Johns Hopkins University Press. p. 678. [ISBN 978-0-8018-8221-0](#). [OCLC 62265494](#).
10. [^] [Jump up to:](#) [↗] Groves, C. (1980). "*A note on geographic variation in the Indian blackbuck (Antelope cervicapra)*" (PDF). *Records of the Zoological Survey of India*. **76**: 125–138.
11. [^] [Jump up to:](#) [↗] Groves, C.; Grubb, P. (2011). *Ungulate Taxonomy*. Baltimore, Maryland (US): Johns Hopkins University Press. [ISBN 978-1-4214-0093-8](#).
12. [^] Sontakke, S.D.; Kandukuri, L.R.; Umapathy, G.; Kulashekaran, K.M.; Venkata, P.O.; Shivaji, S.; Singh, L. (2012). "The 34,XY 1,der(13) Chromosome Constitution with Loss of Y 2 Is Associated with Unilateral Testicular Hypoplasia in the Endangered Indian Blackbuck Antelope (*Antelope cervicapra*)". *Sexual Development*. **6** (5): 240–246. [doi:10.1159/000339898](#). [PMID 22846804](#). [S2CID 27843494](#).
13. [^] Wurster, D.H.; Benirschke, K.; Noelke, H. (February 1968). "Unusually large sex chromosomes in the sitatunga (*Tragelaphus spekei*) and the blackbuck (*Antelope cervicapra*)". *Chromosoma*. **23** (3): 317–23. [doi:10.1007/BF02451003](#). [PMID 5658170](#). [S2CID 20620389](#).
14. <https://home.iitm.ac.in/prakriti/prakriti/protectblackbuck.html#:~:text=Maintain%20their%20habitat%20area%20as,shown%20on%20the%20campus%20map>.
15. <https://timesofindia.indiatimes.com/india/bishnois-worship-black-bucks-as-jambaji/articleshow/1423823.cms>
- 16.
17. [^] Schreiber, A.; Fakler, P.; Osterballe, R. (1997). "Blood protein variation in blackbuck (*Antelope cervicapra*), a lekking gazelle". *Zeitschrift für Säugetierkunde*. **62** (4): 239–49.
18. [^] [Jump up to:](#) [↗] Schmidly, D.J. (2004). *Mammals of Texas* (Revised ed.). Austin, Texas (US): University of Texas Press. p. 293. [ISBN 978-1-4773-0886-8](#). Archived from [the original](#) on 2015-02-22. Retrieved 2016-03-11.
19. [^] [Jump up to:](#) [↗] Deal, K.H. (2011). *Wildlife and Natural Resource Management* (Third ed.). Clifton Park, New York (US): Delmar Cengage Learning. p. 156. [ISBN 978-1-4354-5397-5](#).
20. [^] Smith, J. M. (1904). "*Melanism in black buck*". *Journal of the Bombay Natural History Society*. **16**: 361.
21. [^] Ganguly, N. (11 July 2008). "*Albino black buck attracts visitors to zoo*". *The Hindu*. Retrieved 11 March 2016.
22. [^] Bhatta, S.R. (2008). "*People and blackbuck : Current management challenges and opportunities*". *The Initiation*. **2** (1): 17–21. [doi:10.3126/init.v2i1.2514](#).
23. [^] [Jump up to:](#) [↗] Mallon, D.P.; Kingswood, S.C.; East, R. (2001). *Antelopes : Global Survey and Regional Action Plans*. Gland, Switzerland: International Union for Conservation of Nature and Natural Resources (IUCN). p. 184. [ISBN 978-2-8317-0594-1](#).
24. [^] "*Black Buck IITM campus*".
25. [^] Rejmánek, M. (2011). *Simberloff, D. (ed.). Encyclopedia of Biological Invasions*. Berkeley: University of California Press. p. 267. [ISBN 978-0-520-26421-2](#).