

World's Cobra Snakes and Snake Farms on the Verge of Antivenom Production in the Country

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ABSTRACT

Based on the poison of elapid snakes, the cobra group of snakes is carrying more significance in ophidian group. There are lots of studies are going on these snakes in home and abroad. Venom has significant effect on mankind. Some traditional beliefs especially in India (good for conservation) and China (hunt them) the abundance of cobras was remarkable. To enhance the research on snakes' habitat and age especially elapids, need to produce antivenom locally in order to reduce snakebite mortality.

Keywords: Cobra, Naja, Venom, Elapid, Snake Farm, Snakebite.

INTRODUCTION

According to a snake charmer of the country, the flesh of snakes is hot. For this belief, some people eat snakes for maintaining their body temperature especially in cool season. People of circus team, zoo committee, intersex community, and bedo (nomads) collect snakes from the snake charmers. When a snake charmer catches a snake from the forest, at first, they cut the poison sacs of those snakes, and finally those snakes die due to their digestive disorders. In villages of Bangladesh, till now, traditional treatment of snakebite is still going on and a life-threatening treatment to the victim [1]. There are lots of superstitions about snakes from the very beginning not only Bangladesh but also in the world [2]. House-shrew, termite, insects, rats, mice, and lizards enriched areas are prone to the availability of all sorts of snakes. Moreover, snakes are important critters for the biological control especially insects and rats [3]. In snakes, chandrabora or Russell's viper are found in 17 districts around the country, especially in the northern and northwestern regions (Plate 3) [4]. The objective of this scientific report is to focus the status of some elapid snakes in the world and the present status of the antivenom production in the country.

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Cobras in the world

Table 1. Cobras with their global status

Names	Global status
Cape/Yellow cobra, <i>Naja nivea</i> (L., 1758)	LC
Red spitting cobra, <i>N. pallida</i> , Boulenger 1896	LC
Egyptian cobra, <i>N. haje</i> (L., 1758)	LC
Chinese cobra, <i>N. atra</i> , Cantor 1842	VU
Southern Philippine cobra/Samar cobra, <i>N. samarensis</i> , Peters 1861	LC
Spectacled cobra, <i>N. naja</i> (L., 1758)	LC
Arabian cobra, <i>N. arabica</i> (Scortecchi 1932)	LC
Dwarf water cobra, <i>N. nana</i> , Collet & Trape 2020	LC
Brown forest cobra, <i>N. subfulva</i> (Laurent 1955)	LC
Senegalese cobra, <i>N. senegalensis</i> (Trape, Chirio & Wuster 2009)	LC
West African banded cobra, <i>N. savannula</i> (Broadley, Trape, Chirio & Wuster in Wuster et al., 2018)	LC
Mali cobra, <i>N. katiensis</i> , Angel 1922	LC
Snouted cobra, <i>N. annulifera</i> , Peters 1854	LC
Philippine cobra, <i>N. philippinensis</i> , Taylor 1922	NT
Central Asian cobra/Caspian cobra, <i>N. oxiana</i> (Eichwald, 1831)	NT
Monocled cobra, <i>Naja kaouthia</i> , Lesson 1831	LC
Anchieta's cobra/Angolan cobra, <i>N. anchietae</i> , Bocage 1879	LC
Burrowing cobra, <i>N. multifasciata</i> (F. Werner 1902)	LC
Andaman cobra, <i>N. sagittifera</i> , Wall 1913	EN
Javan spitting cobra, <i>N. sputatrix</i> , F. Boie 1827	LC
Mandalay spitting cobra, <i>N. mandalayensis</i> , Slowinski & Wuster 2000	VU
Sumatran spitting cobra, <i>N. sumatrana</i> , Muller 1890	LC
Indochinese spitting cobra, <i>N. siamensis</i> , Laurenti 1768	VU
Nubian spitting cobra, <i>N. nubiae</i> , Wuster & Broadley 2003	LC
Blacknecked spitting cobra, <i>N. nigricollis</i> , Hallowell 1857	LC

Ashe's spitting cobra, <i>N. ashei</i> , Wuster & Broadley 2007	LC
Mozambique spitting cobra, <i>N. mossambica</i> , Peters 1854	LC
Congo water cobra, <i>N. christyi</i> (Boulenger 1904)	LC
Banded water cobra, <i>N. annulata</i> , Peters 1876	LC
Black forest cobra, <i>N. guineensis</i> (Wuster et al., 2018)	Newly recognized species
Sao Tome Island Forest cobra, <i>N. peroescobari</i> , Ceriaco, Marques, Schmitz & Bauer, 2017	EN
Black and white-lipped cobra, <i>N. melanoleuca</i> , Hallowell 1857	LC

Source: [5]

World's significant snake farms

Table 2. Snake farms in the world with their locations

Countries	Name of farms and locations
United States	Animal World and Snake Farm, Texas
Thailand	Queen Saovabha Memorial Institute, Bangkok
China	Snake Village, Zisiqiao
Brazil	Butantan Snake Institute
France	La Ferme des Reptiles
Germany	Animal Park with Snakes, Schladen
Costa Rica	Snake Garden
Russia	Siberian Serpentarium

Source: [6]

Problems of snakebite: Around six lakh people fall victim to snakebite every year in Bangladesh. In many cases, antivenom does not work. Snakes habitat and age are depended on the manufacturing of the venoms [7]. Imported antivenom hardly matched with the venoms of the snakes in the country. There is a chance of adverse reactions when the patients are administered antivenom, and for this reason sometimes physicians refuse to use them [8]. Administering antivenom needs special skills and proper care for the patients. One dose costs the government about taka 15000- 20000 [8]. We have a great dearth of knowledge about the types of snakes and the management after snakebite. In rainy season of Bangladesh, lots of poisonous snakes are found [9]. There is a large portion of Russell's viper bites happen in the country, and actually there is no proper antivenom against it (Plate 3) [10].

Antivenom production in Bangladesh: Used antivenom in Bangladesh is actually made for the venoms of four types of snakes of India. The venom of the snakes of a country always differs with other countries [10]. Goat IgG and chicken IgY are using to manufacture Russell's

viper antivenom. It will take 1.5 years to complete this antivenom [10]. The 'Venom Research Centre' is rearing and hatching poisonous snakes in their laboratory. The researchers would collect venoms from the snakes, analyze their properties, and develop techniques to produce the antidote [8]. Two types of venom collecting techniques are applying here—venom collection in a beaker, and in an artificial environment where a container is used as an enemy of snakes [8]. Making antivenom is a long process at all [10].

Success of keeping snakes: This centre already has collected 350 types of snakes of 11 species found in Bangladesh [10]. Chittagong Medical College (Medicine Department), Chittagong University (Department of Zoology), Toxicology Society of Bangladesh, and Gothe University of Germany are working jointly to maintain this venom research [10]. A total of 60 are belonging various species of cobra (Plate 1), krait (Plate 2), and viper (Plate 3). To feed the snakes rats, lizards, and chicks are also brought for them [7]. Till now, this laboratory could hatch 34 snakes successfully [8].



Plate 1. [11]



Plate 2. [12]



Plate 3. [13]

CONCLUSIONS

Venom is used in manufacturing not only antivenom for snakebite patients but also cancerous drugs for the welfare of human being. In this case, horses or other strong animals can be used for their antibody of blood. Recently, Medicine Department of Chittagong Medical College of Bangladesh is trying to produce antivenom vaccine locally. In order to solve another problem regarding snakes and snakebites,

our educational institutes could play a vital role through the teachers in their classes. We could introduce a chapter on 'Snakes' [14] in the syllabus of all classes. To produce antivenom, we should protect snakes as well as poisonous ones on the verge of reduce non-communicable snakebite mortality.

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CONFLICTS OF INTEREST

The author declares that there is no conflict of interest.

REFERENCES

1. Kabir A. (2018). Biography of a snake charmer in Saidpur, Bangladesh. *MOJ Biology and Medicine*. 3(4):151-152.
2. Kabir MA. (2014). Superstitions and traditional uses of animal in Bangladesh. *Standard Journal of Biological Sciences*. 1(1):5-8.
3. Kabir MA. (2013). Snakes' availability and its biting record in Rangpur Carmichael College, Bangladesh. *Journal of Biological and Chemical Research*. 30(1):319-328.
4. Ahsan F, Saeed MA. (2018). Russell's viper (*Daboia russelii*) in Bangladesh: its boom and threat to human life. *Journal of Asiatic Society of Bangladesh*. 44(1):15-22.
5. Wikipedia. (2025). Naja. Available at: <https://en.wikipedia.org/wiki/Naja>
6. Wikipedia. (2025). Snake farm. Available at: https://en.wikipedia.org/wiki/Snake_farm
7. Dey AB. (2022). VENOM: let there be cure. Available at: <https://www.thedailystar.net/chattogram/news/venom-let-there-be-cure-2993461>
8. Dey AB, Ahmed MF. (2019). CMC aims to make antivenom locally. Available at: <https://www.thedailystar.net/backpage/news/antivenom-cmc-eying-made-bangladesh-1766485>
9. Kabir MA. (2019). Cobra killing statistics in Bangladesh 2017. *CPQ Medicine*. 7(1):1-4.
10. Azad A. (2023). Ctg researchers developing Chandrabora antivenom. Available at: <https://www.tbsnews.net/bangladesh/health/ctg-researchers-developing-chandrabora-antivenom-669578>
11. Monocled cobra. Available at: <https://animalia.bio/indian-cobra>
12. Common krait. Available at: https://www.inaturalist.org/guide_taxa/1330037
13. Russell's viper. Available at: <https://www.dhakatribune.com/bangladesh/350520/russell-s-viper-panic-misinformation-and-the>
14. Kabir A, Fathy W. (2022). Thoughts on snake species, their bites as well as management. *Manipal Alumni Science and Health Journal*. 7(1):50-56.