



P. GOWRI SHANKAR

# CHRONICLING A KING'S JOURNEY

By Sharmila Gowri Shankar

It was 2004. Every time I spoke to Gowri Shankar on the phone, stories of wild king cobra sightings seemed to drift through the conversation. That November, I ventured into the forests of the Someshwara Wildlife Sanctuary, Karnataka, where we turned over rocks, peered into crevices, scanned the canopy, and explored the edges of waterways – all with a singular goal: to find a king cobra in the wild. It was an exhilarating and unforgettable experience.

By then, Gowri had worked with king cobras in a zoo setting and had cared for 18 of them in captivity. What began as a spark of curiosity, ignited the first time he saw a king cobra at the

Bannerghatta National Park in Bengaluru, had since grown into a deep, abiding passion for these remarkable snakes.

**A N OPHIOPHILIST IN THE WILD** A year later, Gowri moved to Agumbe, into a dilapidated house in the rainforest, with no electricity, phone network, or neighbours. With a snake hook, a set of snake bags, and his trusty Royal Enfield Bullet, he began rescuing and relocating king cobras, slowly forging a bond with the people of Malnad, whose reverence for the snake he deeply admired.

In March, the peak of the king cobra breeding season, rescue calls typically doubled. One such morning, Gowri had already rescued two king cobras before 1 p.m. when a third call came in. Under the sweltering sun, he approached the snake, only to have it rear up defensively. With no snake bags but the largest one at hand, he attempted the rescue, but this king cobra was larger.

In a flash, its fangs pierced through the bag and grazed Gowri's left palm, leaving a bloody gash. He had just been bitten by the world's longest venomous snake, one for which there is no anti-venom available in India.

In no time, Gowri hung precariously between life and death in the ICU at Manipal Hospital.

Neither the polyvalent antivenom commonly used for other snakebites nor the king cobra-specific anti-venom from Thailand proved effective. In the end, it was the king cobra's restraint, which had delivered a dry or sublethal bite, that spared his life. The experience left him with a haunting question: *Why didn't the king cobra anti-venom from Thailand work?*

**FINDING ANSWERS** Over the next decade, Gowri not only continued rescuing and studying the king cobra, but played an important role in pioneering the world's first radio telemetry study on the species. He rescued more than 500 individuals, monitored breeding pairs, protected nests, and released over 500 hatchlings back into the wild. Yet, even after seven years, the question continued to linger at the back of his mind.

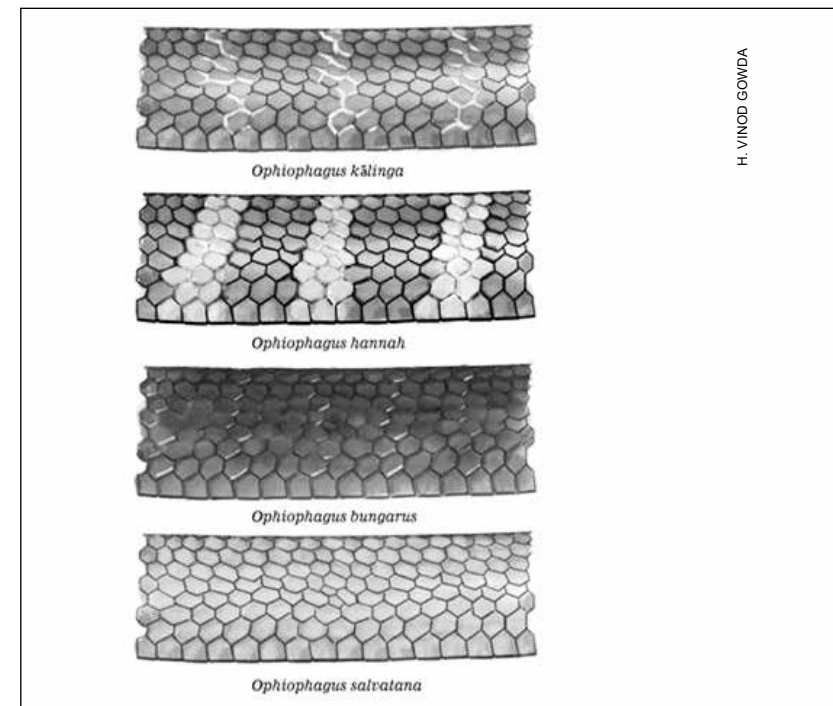
In 2012, that persistent unease set him on a quest for answers, one that would lay the foundation for a decade-long journey to uncover secrets hidden in plain sight, perhaps obscured by the very stripes on the king cobra itself.

It was well known that king cobras were found in the tropics, subtropics, and temperate regions, i.e., the Western and Eastern Ghats, the Andaman Islands, the Himalayan foothills, Northeast India, southern China, Myanmar, Thailand, Vietnam, peninsular Malaysia, Sumatra, Borneo, Java, Bali, Sulawesi, and Mindanao in the Philippines. Looking at this widespread distribution, Gowri hypothesised that king cobras may not be a single species as believed. Probably, multiple species existed. Many scientists had proposed similar hypotheses earlier but could not establish them.

He approached Dr. Sushil K. Dutta, from the North Orissa University, a rainmaker for herpetology in India, who agreed to be his supervisor. Later Dr. Gunanidhi Sahoo assumed the role. Dr. Kartik Shanker from IISc, and Prof. Jacob Hogland from Uppsala University, Sweden accepted to be his co-supervisors. The team grew stronger with Dr. S.P. Vijay, Dr. S.R. Ganesh, Priyanka Swamy, Prashanth P., Dr. Wolfgang Wuster, Dr. Indraneil Das, Rhiannon C. Williams, Matt Moss, and H. T. Lalremsanga teaming up. This collaboration saw over 14 scientists



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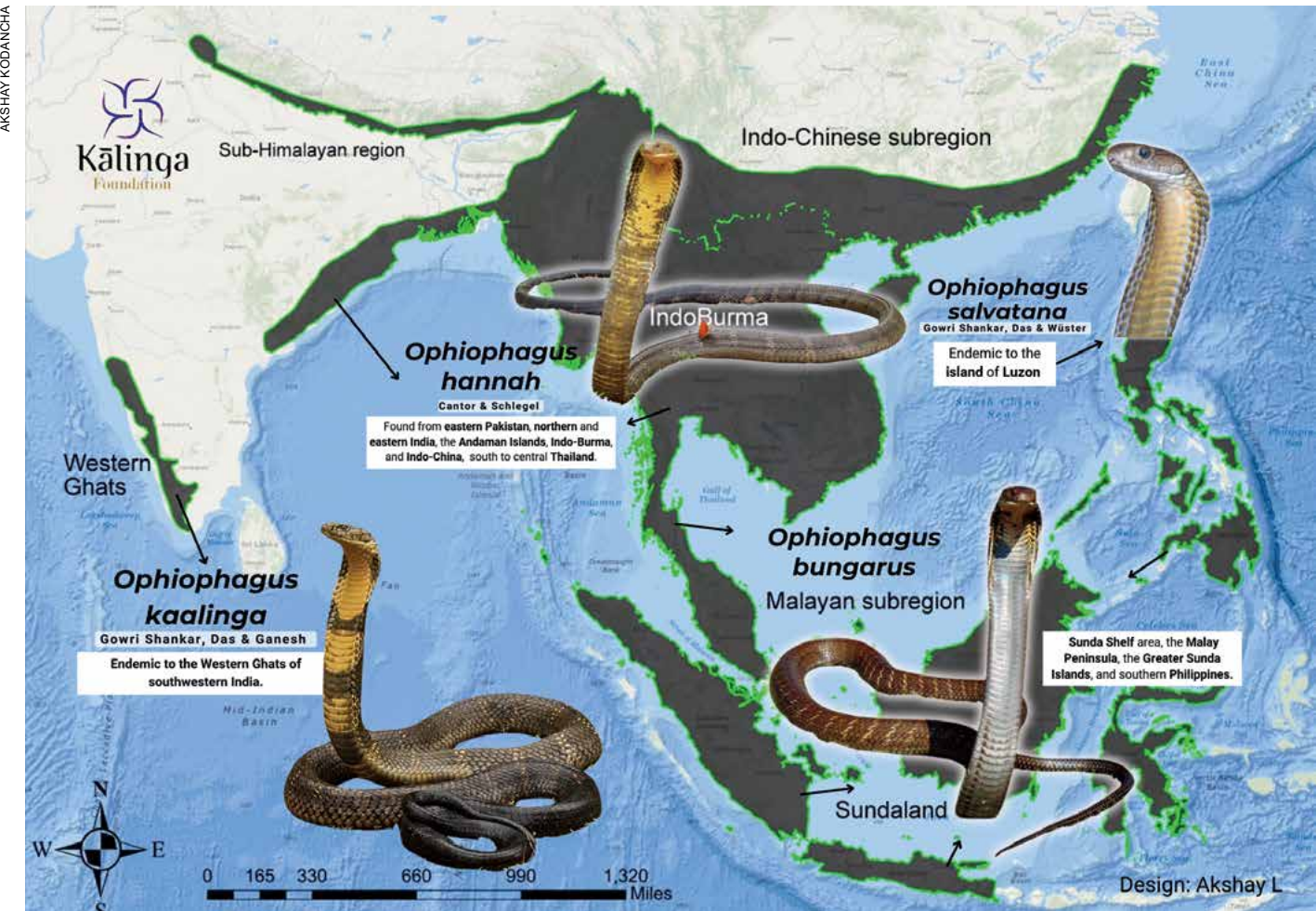
TOP Gowri Shankar collecting tissue samples from the Bombay Natural History Society, Mumbai.

ABOVE A sketch depicting the morphological variations among the four different species of king cobra.

FACING PAGE Gowri's next mission is to secure the habitat of the newly identified Western Ghats species, Ophiophagus kaalinga, while deepening our understanding of the species as a whole.

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ABOVE A poster depicting the distribution of the four new species.

across the globe coming together, along with several snake rescuers, zoo keepers, curators, enthusiasts and family supporting him. His next uphill task was to obtain permissions from all states across king cobra habitats. After over two years and with permissions secured from eight states, the work began in full earnest. Gowri and his team travelled across India and over 14 countries to collect tissue samples by clipping the ventral scales (similar to cutting nails or hair) from king cobras in zoos, during rescues, and in museums. This task was done in tandem with his ongoing life's work, where he travelled the country conducting

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awareness programmes on the rescue and relocation of snakes, training local snake rescuers, sharing rescue kits, and helping procure samples for the study. In situations where he could not obtain enough data from the field, he turned to museums, studying specimens in India, Paris, and London.

**A**N UNPRECEDENTED DISCOVERY Back home, the team processed these samples to obtain the DNA sequences. During his tours, he photographed king cobras from different regions, and for those places that he could not visit he sourced images from friends and supporters. The team spent months analysing volumes of data. One fine evening as they sat mapping the coloured bands to find semblance in patterns, the discovery revealed itself. The mind-blowing results silenced all doubts and speculations, and affirmed their hypothesis that the king cobra was indeed a species complex! The team had just discovered not one or two but four different species of king cobras, solving a riddle that had remained unsolved for 185 years! Gowri's life had come full circle. The 'Aha' moment finally came and he learnt why the king cobra anti-venom had not worked on him more than a decade ago.

The team looked through the images they had collected and made clear morphological distinctions between the species, which confirmed their results. They listed four species:

1. *Ophiophagus hannah* (Cantor, 1836) – Restricted to eastern Pakistan, northern and eastern India, Andaman Islands, Indo-Burma, Indo-China, and Thailand. These snakes usually have 40 to 70 bold white bands with black edges;
2. *Ophiophagus bungarus* (Schlegel, 1837) – Found in the Sunda Shelf area, including the Malay peninsula, Greater Sunda Islands, and parts of the southern Philippines. They are covered in over 70 light-coloured bands, with the young ones having up to 135 bands;
3. *Ophiophagus kaalinga* – Endemic to the Western Ghats of southwestern India, these snakes have fewer than 40 bands, with three to four rows of dark scales between each white band;
4. *Ophiophagus salvatana* – Found in Luzon Island in the northern Philippines. The adults have faint or mottled bands that are barely visible.

The team released their first paper highlighting the species boundaries of the king cobra in *Elsevier Science Direct's Molecular, Phylogenetics and Evolution Journal* and published their second paper revising the taxonomy of the king cobra *Ophiophagus hannah* species complex and assigning scientific names in *The European Journal of Taxonomy*. This sent waves of excitement through the science community, enthusiasts, and students.

**M**AKING A DIFFERENCE However, what mattered most was ensuring this discovery reached the grassroots. Two decades earlier, the people of Malnad had won Gowri's heart with their reverence and respect for the king cobra. He was determined to honour that spirit, and to show the world that coexistence with this majestic species was not only possible, but already thriving.

With deep gratitude, Gowri chose to name the Western Ghats species of the king cobra after its colloquial name in the region. To ensure the message reached the people it was meant to celebrate, he enlisted the support of Karnataka's most influential voices.

On November 22, 2024, a landmark event, *Namma Kaalinga, Namma Hemme* (Our King Cobra, Our Pride) – was held in Bengaluru, likely the first of its kind dedicated to honouring a snake. At this historic gathering, Karnataka's Minister of Forests, Eshwar Khandre, officially announced the scientific name of the Western Ghats king cobra as *Ophiophagus kaalinga*, proudly affirming that the world would now speak of this snake in Kannada.

The event brought together over 2,000 participants, including students, politicians, celebrities, snake rescuers, academics, philanthropists, writers, and wildlife enthusiasts from across borders. It was a moment of pride, not just for Karnataka, but for the entire country.

Dr. Gowri's decades-long study invites reflection: Why does such a study matter? The answer lies in what it reveals, not just about snakes, but about the stories, values, and relationships we share with the natural world.

The king cobra is currently classified as *Vulnerable* on the IUCN Red List (2012), and listed under Appendix II of CITES. Habitat loss, the skin trade, use in food and medicine, and the exotic pet market pose serious threats to its survival. Despite this, we know very little about its venom. This study is vital to identify which species require urgent conservation and to inform



ABOVE The *Ophiophagus hannah*, one of the four newly-identified species. It is restricted to eastern Pakistan, northern and eastern India, Andaman Islands, Indo-Burma, Indo-China, and Thailand. These snakes usually have 40 to 70 bold white bands with black edges.

venom research, improve anti-venom efficacy, and guide updated management and protection plans.

Gowri believes that for conservation to succeed, science must resonate with the public. Unless people feel connected to and proud of the king cobra, they are unlikely to protect it or its habitat. As forests vanish and new species emerge, we are caught in a delicate balance that leans dangerously toward ecological collapse. Habitat protection is essential for these species to survive.

As a flagship species, the king cobra faces an uncertain future amid rising human-wildlife conflict. Gowri's next mission is to secure the habitat of the newly identified Western Ghats species, *Ophiophagus kaalinga*, while deepening our understanding of the species as a whole.

For me, what began two decades ago in the forests of Someshwara Wildlife Sanctuary with Gowri has become a lifelong commitment – to support his dream and to believe, with hope, that the mighty king cobra will continue to reign in its rightful home. 🐍

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