

## Through the centuries, the

### mysterious king cobra has

inspired myth & mythology.

# and water article & photos by indraneil das

onsoon Asia in May. The last of the foliage has turned brown under the relentless sun. The bare soil is parched and cracked. There is a stillness in the air. It is also a time of death-the old, the weak and the injured have only a small

chance of making it to the next season.

Finally, the heavens open and bring the monsoonal rain, and with it, the annual return of the snakes. For more than a millennium, snakes, especially the king cobra, have been associated with the rejuvenation of the earth that the monsoons bring. The king cobra symbolizes rebirth. This symbolism is evident in the Hindu symbol of fertility-a stone phallus, often entwined with a king cobra.

One of the Nats, or forest spirits of Mount Popa, central Myanmar, A May Shwe N Bay, holds a king cobra.

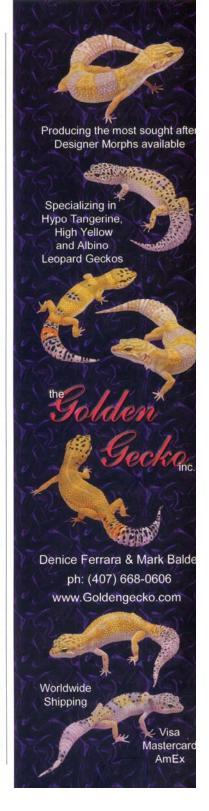
Theodore Cantor, the Danish physician employed by the British East India Company and discoverer of the king cobra. Ophiophagus hannah, named the species from the Greek, meaning "spirit that dwells in trees." Evidently, this natural historian of the last century was very familiar with the lifestyle of the king cobra. Modern textbooks, on the other hand, routinely fail to mention that these impressive snakes are arboreal.

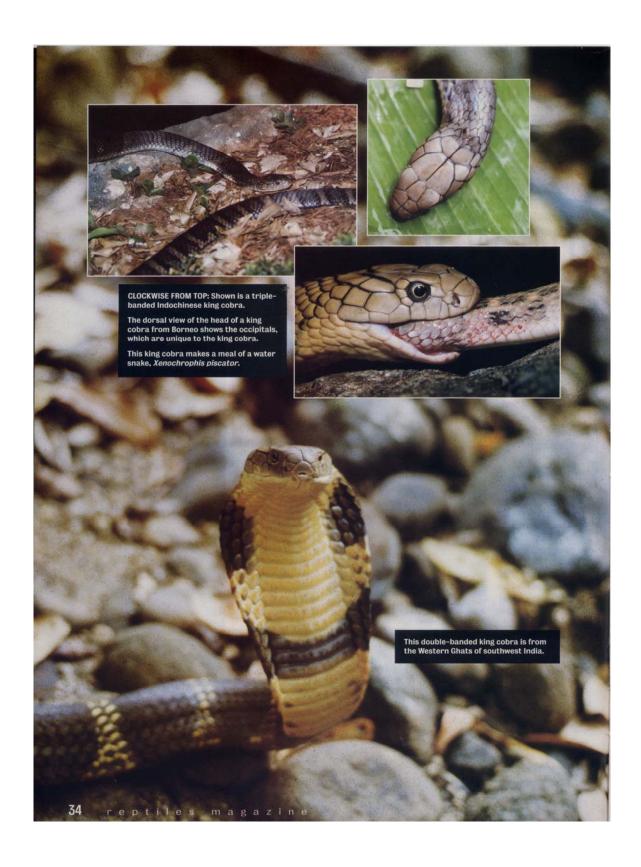
There is little known about the early history or evolution of the king cobra, but it is possible that more than a single species is involved. The evolution of distinct forms on the islands of Southeast Asia may be the result of a sea level rise following the melting of the polar ice caps during the last glaciation, separating once continuous populations. On the mainland itself, the gradual drying up of land masses during

the creation of the Himalayas may have isolated populations in the remaining wet areas (in the Western Ghats and the Himalayan foothills). There are no fossil records (although fossil cobras, genus Naja, have been found in Europe).

The king cobra attains about 5.7 meters in length, making it the world's longest venomous snake. Its body coloration is extremely variable, and may be dark brown, olivebrown or gray-black,

with pale yellow or orange bands in the young that may (as in the Indian, Chinese and Indochinese populations) or may not (Thai, peninsular Malaysia, Indonesia or Philippine populations) persist into adulthood. Among several unique characteristics that separate the king cobra from other cobras of Asia and Africa is the presence of a pair of large occipital scales on the forehead of the king cobra. Also, the king cobra has just 15 scale rows in the middle of the body, tail scales (the subcaudals) comprising an alternate series of fused and split scales, a series of tracheal air-sacs, grooved





teeth on the upper jaws and a proportionately longer and more deeply bifurcated hemipenis.

Forest dwellers throughout the range of the king cobra recognize the snake, and have given it specific names. For instance, in Bangladesh and eastern India the snake is referred to as raj gokhura, the king of spectacled cobras, or shankhachur, meaning conch-crested or conch-breaker. In Brunei Darussalam on the rest of Borneo the king cobra is referred to as ular sendok, the spoon snake. Because of its montane distribution, the snake has been referred to as the mountain cobra (pos vîk phnûm) in Cambodia. Because of its large size and lethal capability, it has also been given dramatic names, such as kalnag, meaning deadly snake in Assamese, karanjati meaning black striker and karu velan, which means black spear in Tamil.

Malays have two names for the snake, ular tedung selar for the adults and ular kunyet terus for juveniles, apparently believing the juveniles represent another species because of their strikingly different coloration, comprised of dark and pale bands on the head and body.

The Karen tribesmen of Myanmar refer to the king cobra as *u-thaw*, possibly referring to the growl aggressive snakes exhibit when they are about to attack. In northeastern India, the Nagas, a race of fiercely independent hill people, claim to have descended from the king cobra. In Thailand, Nag is a wise serpent, usually a king cobra, and god of the underworld. Nag controls the energy stored in springs and wells, in effect, guiding life itself.

The king cobra has an incredibly large distribution, extending from eastern Pakistan and northern and southwestern India, to eastern China, and south to Indo-Malaya, including the islands of Indonesia. The distribution crosses a variety of ecological conditions, including scrubland, grasslands, mangrove swamps and rain forests. It has also been sighted at the snowline, and is known to swim across creeks and rivers of tropical forests and mangrove swamps. Road kills in many urban areas in Southeast Asia indicate that this giant reptile has even managed to carve a niche for itself in heavily built-up areas. However, indications are that the snake is getting rare, and on some of the islands of Southeast Asia, the king cobra may be dangerously close to extinction because of a loss of forest cover and capture



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for zoos, snake charming and restaurants. A more bizarre use of these dramatic snakes is by riot police in one Indonesian city to control particularly unruly mobs!

The discovery of a king cobra in the wild is a truly stirring event for most people, which may explain some of the more farfetched field reports. For example, one king cobra was reported to have killed eight buffaloes and another was pur-

ported to chase people for hundreds of meters.

More scientific, careful observations of the king cobra reveal a shy, retiring nature, a general unwillingness to bite and an ability to sometimes live in close proximity to humans without being noticed.

There are, however, several documented records of king cobra bites on humans, but most of these seem to be the direct result of human intrusion. For example, the Englishman (surely mad from too much time under the midday sun) who put his foot on top of a basking king cobra. Certainly, the venom is extremely toxic, and large amounts can be pumped in a chewing motion, as the death of an elephant that stepped on one suggests. Bites are also occasionally sustained by Burmese snake charmers, who do the snake dance featuring apparently fully fanged king cobras at the Yangon (Rangoon) Zoological Gardens. Deaths in humans have been report-

ed within 20 minutes of a bite. Antivenin serum is only prepared at the Thai Red Cross in Bangkok, Thailand.

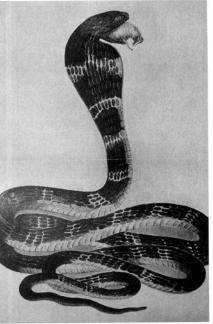
Little is known about the king cobra in the wild. Females construct mound nests by collecting fallen leaves with the aid of their bodies and tails. The eggs are deposited in the mound and guarded.

King cobras are known to growl well below that of most sounds produced by other snakes, with a dominant frequency of about 600Hz. The growl is produced as exhalent air passes over apertures in the tracheal region, the passage removing some frequencies of sound while amplifying others. Because the female makes nests and defends the eggs while the male stays nearby, it is assumed that vocalization serves as communication between the parents, and therefore has a defensive function.

The diet of king cobras is documented through several field observations. An al-

most exclusive snake eater, king cobras are also known to overpower and swallow monitor lizards, but nothing else. King cobras have been encountered in the coils of the reticulated python, *Python reticulatus*, but such an encounter may end in favor of either species.

Sometimes aquatic, the king cobra is often sighted swimming in forest streams



A fanciful representation of the king cobra in a 1929 book on treatment of snakebite shows it swallowing a sheep. King cobras are known for their specialized diet of snakes and monitor lizards.

or between islands in mangrove swamps. During the day it hunts its favorite food, the Asian rat snakes, *Ptyas mucosus* and *P. korros*. The prey is immobilized within minutes of a bite, then the deadly walk of the jaws begins.

The king cobra is threatened virtually throughout its range by habitat loss and capture for trade. No long-term studies have addressed questions on the ecology of the world's largest venomous snake. Local laws in many countries protect the king cobra, and the snake is also listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

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The king cobra gives a "show" at the Thai Red Cross, Bangkok, Thailand.



A member of the Yangon Zoo personnel models traditional arm tattoos done with king cobra venom, which is at least partially effective as an immunization against future bites.

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