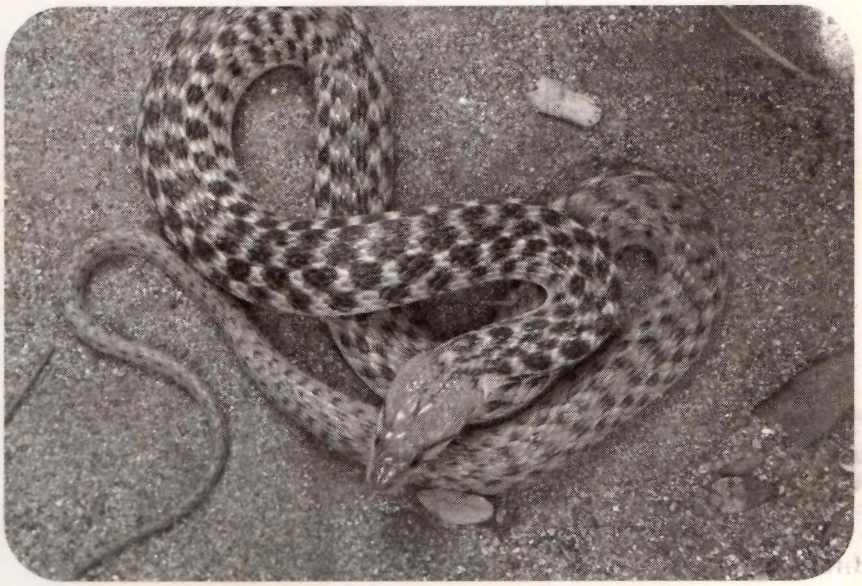
Cobra

Vol.-III Issue -3 July - September 2009



CHENNAI SNAKE PARK TRUST

Quarterly Journal of the Chennai Snake Park Trust

Annual subscription : Individual – Rs. 75/-. Institution – Rs.150/-.

Cover

Checkered keelback (*Xenochrophis piscator*)
Non-venomous. Almost throughout India. Found in and around freshwater bodies and paddy fields. Grows to about 2 feet. Feeds on frogs, fish, rodents and birds. Lays up to 90 eggs.

Photo : **P. Kannan**

Chennai Snake Park Trust, Rajbhavan Post, Chennai – 600 022. India.
Ph: 91-044-22353623 E-mail: cspt1972@bsnl.in / cspt1972@gmail.com

Cobra

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SNAKE WORSHIP*

B. Vijayaraghavan
Chennai Snake Park Trust
Rajbhavan Post, Chennai 600 022.
Email : cspt1972@gmail.com

How and where did snake worship originate? This is "that Serbonian bog betwixt Damiata and Mount Casius old where armies whole have sunk". (That's Milton in *Paradise Lost*,II, 592-4, albeit in a different context). I intend no more than to gingerly tiptoe on the bounds of the bog.

Some animals have been worshipped from ancient times in various cultures in different parts of the world but only in isolated pockets and with only half-hearted veneration. What is most remarkable about the worship of the snake is that it is universal and transcends geographical and cultural boundaries and it also takes on a fervour not seen in the worship of other animals.

Right from pre-historic times, man has attributed divine aspects to all forces of nature which he could not understand or comprehend or which he held in fear and awe. Hedged in by seemingly malevolent forces all round, man, in primitive times, found that worship of such forces gave him a level of comfort that made existence tolerable. The perceived omnipresence of snakes, more pronounced in times when wilderness was pervasive and untamed, their ability to appear out of nowhere almost at will and disappear equally suddenly, their many inexplicable features and habits and, more than anything else, their ability to deliver death with a single strike, much in the manner of a bolt shot by a god, the primitive man could do little else than propitiate them and pray for protection.

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* Excerpted from *400 Questions Answered About Snakes – with particular reference to snakes in India* by B. Vijayaraghavan, Chennai Snake Park Trust. Proposed for release in Mar.2010.

Some scholars hold the view that snake worship had a common source somewhere in the East or the Near East from where it spread to Asia, Africa, Europe and the Americas. Other scholars hold the view that snake cults in different parts of the world developed independently, the parallels that have been noticed being explained by the tremendous power that the snake as a basic image exerts over the human psyche everywhere. Joseph Campbell (1904 - 1987), the American mythologist, points out (*The Masks of God: Oriental Mythology,* 1962), though not about snake worship in particular, that while during the 19th and early 20th centuries, scholars held the view that analogous mythologies developed independently in different parts of the world in accordance with common psychological laws, subsequent archaeological discoveries have promoted the view that it could have been more a case of diffusion, radiation and dispersal from a common source. Where the truth lies, we do not know for sure.

In many cultures such as India and other parts of Asia, the Aztecs and Mayas of South America, the Red Indian tribes of North America, and the aborigines of Australia, the snake is the symbol of fertility. The 'snake dance' of the Hopi Amerindians of northern Arizona, U.S. is a particularly eloquent tribute to snakes as messengers sent to propitiate the rain god. The Australian aborigines associated snakes with rain and water sources. In ancient Japan, the god of thunder was a snake. The ancient Egyptians identified the snake with the River Nile and fertility.

Other people revered the snake in other manifestations. To the African tribals, python was the god of war. The early Greeks associated the snake with Askelepios or Aesculapius, the god of medicine, who they believed was originally a snake; later, when the god assumed a human form, he had snakes in his motif. Both the ancient Greeks and the ancient Romans encouraged snakes to be present near their temples and homesteads. This was so also in parts of India, especially Kerala and Bengal. Snake worship also existed in Egypt, Indonesia, Southeast Asia and China.

As Ramona and Desmond Morris (*Men and Snakes*, 1965) point out, "snake worship reached its peak of development in India".

In Indian mythology, snakes are manifestations of divine forces. They keep guard over the fortunes of the home and the village. The spirits of long–departed ancestors indwell in them. They keep company with the most powerful of the gods of the Hindu pantheon. Lord Vishnu reclines on the coils of a gigantic snake, Anantha.

Lord Siva has snakes for his adornments. Lord Ganesha has a snake for a girdle.

The serpent cult developed in India over a period of some three millennia. From the confines of religion, the cult permeated into folklore, literature and art and held such sway over people's imagination as little else has done. Serpent-lore found a significant place in the Brahminical and Buddhist literature of India from the Vedic times. Though there is no reference to serpent worship in Rig Veda, there are many references in Yajur Veda and Atharva Veda and in Vedic literature in general. The chief repositories of serpent lore are the *Mahabharata*, the *Jataka* tales in Buddhism and Kalhana's *Rajatarangini*.

Ancient literature in India refers to serpents as *Nâgâs*. Who or what were *Nâgâs*? Scholars have subscribed to different theories. One of the earliest expositions on this is found in James Ferguson's *Tree and Serpent Worship*, 1868. Even though the Sanskrit word *Nâgâ* denotes serpent, he believed that the Nâgâs were not originally serpents but serpent-worshippers, an aboriginal race of Turanian stock inhabiting northern India who were conquered by the Aryans. He was of the view that neither the Aryans nor the Dravidians worshipped the serpent and that references to serpent worship in the Vedas or similar early writings of Aryans must have been subsequent interpolations – a not-unusual feature attributed to many ancient texts.

C.F. Oldham (*The Sun and the Serpent: A Contribution to the History of Serpent Worship*, 1905) believed, just as Ferguson did, that the N*âgâ*s were not serpents but serpent-worshippers but he differed from Ferguson on who these people were. His view was that Nâgâs were people who claimed descent from the sun and had the hooded serpent for their totem. They were deified humans or demi-gods. They had Takshasila, now Taxila in the present Pakistan, as their capital and the serpent Takshaka as one of their chiefs. According to Oldham, the Asuras, and the Sarpas of the Rig Veda, the Asuras and Nagas of Manu and the Asuras or Demons of Brahminical literature, all represent hostile tribes who opposed the Aryan invasion of India.

Hendrik Kern (1833-1917), the Dutch orientalist, had a totally different take on the subject. He was of the view that Nâgâs were essentially water spirits and personified forces of Nature. This was much in line with beliefs elsewhere in the world associating snakes with water sources.

Kern also believed that there was a possibility that serpents were worshipped by the aboriginal tribes of Southern India.

But Oldham, earlier, had held the view that the veneration of the serpent in India was not handed down by the aboriginal tribes but that "it was intimately connected with the worship of the sun, and is thus closely related to the orthodox Hindu religion".

J.Ph. Vogel in his *Indian Serpent-lore or the Nagas in Hindu Legend and Art,* 1926, discredited Oldham's thesis. Vogel incidentally believed that there was basis for the assumption that, in ancient India, deceased rulers were, sometimes, worshipped in the form of snakes.

In between, other theories had sprung up such as that of the German scholar and Indologist, Hermann Oldenberg (1854-1920), that N*âgâ*s were demoniacal beings who were really snakes but could assume human form at will.

Even a cursory examination of the forms of snake worship in different cultures will show that various legends and beliefs had, over time, come to be woven together into a complex matrix. Adoration of the snake as a creature because of its many inscrutable features, so unlike all other animals, terror inspired by its very appearance because of its terrible potential to deliver death in a trice, belief that, with its perceived power over life and death, it could, in mysterious ways, exercise a certain judgement over man's conduct and dispense justice accordingly, worship of the deities of rivers and other water-sources for their life-sustaining power and the association of the snake with these, probably because of its wavy form, the many shapes that the snake assumes even as the ever-changing contours of rain-bearing clouds that herald the sprouting of life in the parched earth, worship of ancestors whose spirits indwelt in snakes or with whose spirits snakes living in some equally unknown subterranean realm held communion, its psycho-sexual body imagery, the fact that, for complex reasons, it is the most frequently occurring creature in dreams of men in all cultures – all these coalesced into a focussed worship of the snake as a divine force invoking awe, fear and veneration all at the same time as indeed is the case with most divinities. But, as regards the exact origin of this body of beliefs and the related practices, the evidence available, be it in India or elsewhere, is so fragmentary and so fractured that ethnologists have not been able to convincingly reconstruct its history. Such history as has been pieced together is as fragile as the skeleton of the snake itself which has made the fossil evidence of the ancestry of snakes speculative to an extent.

HERPETOFAUNAL DIVERSITY OF SHAJAPUR DISTRICT, MADHYA PRADESH

Mukesh Ingle
Director
Reptile Conservation & Research Centre,
Vasant Vihar, C- Sector,
Nanakheda, Ujjain 456010 (M. P.)
Email: mukeshingle@gmail.com

Pawan Verma
Education Officer
Snake Research Organization,
Vasant Vihar, C- Sector, Nanakheda, Ujjain 456010 (M. P.)

Anil Sarsavan
Field Assistant
Vasant Vihar,
C- Sector, Nanakheda, Ujjain 456010 (M. P.)
Email: anilsarsavan@gmail.com

Shajapur district (23°06′- 24°19′N to 75°41′-77°02′E, 453 meters asl) lies in the north of Malwa Plateau and is a fertile part in the area. It has eight blocks namely, Agar, Barod, Kala Pipal, Shujalpur, Berchha, Nalkheda, Akodia Mandi and Shajapur and covers an area of 6196 square kilometers. The terrain is hilly and undulating, Most of the area is covered by Deccan trap and hills come under Vindhyan hill range. Chambal is the main river which is a tributary of Yamuna. The climate of the area is tropical monsoon type in general. The average annual rainfall is 938.3 mm. The minimum and maximum temperature is 3°C and 45°C respectively. The flora of the area comprises mixed deciduous forest along with grass land and consists of *Acacia catechu, Azadirachata indica, Butea monosperma, Dalbergia latifolia, Diospyros melanoxylon, Ficus bengalensis, Ficus glomerata, Ficus religiosa, Mangifera indica, Syzygium cumin, Tamarindus indica, Carissa opaca*, etc.

The present paper is mostly based on the study of reptiles and amphibians collected from Shajapur and its surrounding areas. The studies are based on 17 species of reptiles and 4 species of amphibians belonging to 13 families. Smith (1935, 43), Gharpuery (1962), Deoras (1970) Whitaker (1978), Daniel (1983) and Murthy (1986), Whitaker & Captain (2008) has focused our attention on the reptiles occurring in Madhya Pradesh. Some of the recent works which deals with the ophiofauna of Malwa are those of Ingle (1996), Vyas (1998), Ingle (2001, 2002, 2004). This is the first report on the Herpetofaunal diversity of Shajapur district of Madhya Pradesh. The study made during January 2007-November 2008.

Table 1. Amphibians and Reptiles of Shajapur District.

S. No.	Scientific Name	Common Name
	Class AMPHIBIA	
	Order: Anura	
	Family: Bufonidae	
1.	*Duttaphrynus melanostictus* (Schneider,1799)	Common Asian toad
	Family: Microhylidae	
2.	*Microhyla ornata* (Dumeril & Bibron, 1841)	Ornate narrow-mouthed frog
	Family: Ranidae	
3.	*Hoplobatrachus tigerinus* (Daudin, 1803)	India bull frog
	Family: Rhacophoridae	
4.	*Polypadates maculatus* (Gray, 1834)	Common tree frog
	Class: REPTILIA	
	Order: Squamata	
	Suborder: Sauria	
	Family: Gekkonidae	
5.	*Hemidactylus brooki* (Grey,1834)	Brook's house gecko
6.	*Hemidactylus tridrus* (Daudin,1802)	Indian termite hill gecko
	Family: Agamidae	
7.	*Calotes versicolor* (Daudin,1802)	Indian garden lizard
	Family: Scincidae	
8.	*Eutropis carinata* (Schneider,1801)	Keeled grass skink
	Family: Varanidae	
9.	*Varanus bengalensis* (Daudin,1802)	Bengal monitor
	Suborder: Serpents	
	Family: Typhlopidae	
10.	*Ramphotyphlops braminus* (Daudin,1802)	Brahminy worm snake

S. No.	Scientific Name	Common Name
	Family: Boidae	
11.	*Gongylophis conicus* (Schneider,1801)	Common sand boa
12.	*Python molurus* (Linnaeus,1758)	Indian rock python
	Family:Colubridae	
13.	*Amphiesma stolatum* (Linnaeus,1758)	Buff-striped keelback
14.	*Argyrogena fasciolatus* (Shaw,1802)	Banded racer
15.	*Ptyas mucosa* (Linnaeus,1758)	Indian rat snake
16.	*Xenochrophis piscator* (Schneider,1799)	Checkered keelback
17.	*Macropisthodon plumbicolor*(Cantor, 1839)	Green keelback
	Family: Elapidae	
18.	*Bungarus caeruleus* (Schneider,1801)	Common Indian krait
19.	*Naja naja* (Linnaeus,1758)	Spectacled cobra
	Family: Viperidae	
20.	*Daboia russelii* (Shaw & Nodder,1797)	Russell's viper
21.	*Echis carinatus* (Schneider,1801)	Saw-scaled viper

Acknowledgements

The authors are grateful to members of Advisory Board & Scientific Research Committee of Snake Research Organization, Ujjain for providing necessary facilities and funding. We are also thankful to Dr. K. Chandra, Joint Director, Central Regional Station, Zoological Survey of India, Jabalpur for providing technical support for identification.

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OCCURRENCE OF INDIAN TERMITE HILL GECKO *HEMIDACTYLUS TRIEDRUS* (DAUDIN, 1802) FROM UJJAIN DISTRICT, MADHYA PRADESH

Mukesh Ingle, Akshay Dubey and **Anil Sarsavan**
Snake Research Organization, Vasant Vihar, C- Sector,
Nanakheda, Ujjain, 456010, Madhya Pradesh, India.
Email: mukeshingle@gmail.com

The Snake Research Organization is preparing an inventory of the biological diversity of Ujjain district since last year. During the survey, we observed some interesting reptilian species. One of these is the termite hill gecko *Hemidactylus triedrus* (Daudin, 1802).

The species occurs in India north of lat 18' and south of lat 14' (Murthy 1990) and this is fairly common in Maharashtra and has been recorded also from the Sivagarh and Nilgiris, Western ghats, Ajmer, Rajasthan, Mysore, Madurai, Madras, and Trivandrum from Kerala (Daniel 2002; Das, 2002). Chandra (2005) showed its distribution in Indore and Seoni districts of Madhya Pradesh. Ingle (2008) recently presented the inventory of herpetofaunal diversity of Ujjain District, but this species was not reported. This is the first authentic record of Indian termite hill gecko from Ujjain.

On 25th Jan. 2009 at 12:15 am two specimens of termite hill gecko (one adult and one juvenile) were collected from *Hamukhedi Tekri* by us. They were collected from a rocky area and were under shrubs. The specimens were released back in the wild after taking photographs and collecting the morphometric details.

This gecko is marked with three white-edged crossbars on back; greenish olive eyes. It has 12 white bands with cylindrical brown body. This is a large-sized gecko with a heavy tuberculated body. The young one is light brown with white edged light brown crossbars, while the older one is buff- coloured. The tail is marked with regular black and light rings. The gecko is generally a surface-living species often associated with termite hills and seems to be primarily a termite-feeder.

Acknowledgements

The authors are grateful to the Advisory Board and Scientific Research Committee of Snake Research Organization; Ujjain for financial assistance and co-operation.

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RECORDS OF TWO MICROHYLIDS; ORNATE NARROW MOUTHED FROG (*MICROHYLA ORNATA*) AND MARBLED BALLOON FROG (*UPERODON SYSTOMA*) FROM AJMER DISTRICT, CENTRAL RAJASTHAN, INDIA

Sharma, K. K. and **Sharma Vivek**
Department of Zoology, Biodiversity Research Laboratory,
M. D. S. University, Ajmer, Rajasthan, India
Email: kksmds@gmail.com
sharmakeviv@gmail.com

The Rajasthan state of western India is known for the Thar Desert but it also comprises the most diversified types of habitats, such as Aravali mountain ranges, Eastern plains and Southern Malwa plateau. Generally people believe that Rajasthan due to hot climatic conditions and arid area, has little scope for amphibians. Due to this reason very few or negligible studies have been done on the Amphibian fauna from this region (McCann, 1942a, 1942b; Mansukhani and Murthy, 1964; Sharma, 1995a, 1995b; Sharma, 1997; Sharma, 1999; Sharma and Agnihotri, 2002; Sharma and Khan, 2002; Sharma et al., 2004; Sharma, 2005a; Sharma and Dube, 2005; Sharma, 2008; Sharma and Mehra, 2009; Sharma et al., 2009). These studies are also confined mainly to the southern and eastern part of Rajasthan and the western and central part is almost untouched.

The present note deals with the records of two Microhylid anurans namely; *Microhyla ornata* (Ornate narrow-mouthed frog) and *Uperodon systoma* (Marbled balloon frog) from Ajmer district of central Rajasthan. Family Microhylidae is represented mainly by these two anuran species from Rajasthan. Recently one more microhylid species i.e. *Kaloula taprobanica* has been reported by us from southern Rajasthan (Sharma *et al.*, 2009- communicated). These two species *Microhyla ornata* and *Uperodon systoma* have been reported by other workers from southern and eastern parts of Rajasthan (Sharma, 1992; Sharma and Dube, 2005 and Sharma and Mehra, 2007). There is no record of these two species from central Rajasthan specifically from Ajmer District. Microhylids are characterized by their small size; indistinct eardrum; burrowing habits, tadpoles without horny denticles and very short activity period in monsoon. They are observed in the study area for a shorter span.

Fig.1: *Microhyla ornata* (Ornate narrow-mouthed frog)

Fig.2:*Uperodon systoma* (Marbled balloon frog)
Photos by : K.K. Sharma

During the survey of amphibians in the preceding monsoon (July-September, 2009) we came across two distinct advertisement calls of anurans which were different from the previously recorded calls of anuran species of Ajmer district in our sound bank. We also checked the spectrographic patterns of these calls, which were different from the other spectrograms from Ajmer. Further analysis of these calls recorded by us during the breeding season, and compared from our Sound Data Bank of anuran species recorded from other parts of Rajasthan reveals that the calls and spectrograms belong to *Microhyla ornata* and *Uperodon systoma.* For the confirmation of our sound-based identification results we chased these frog species in the breeding ground and recorded their detailed morphological features. When these morphological features were compared with the diagnostic keys provided by earlier workers (Daniels, 2005; Daniel, 2002; Dutta, 1997 and Chanda, 2002) we confirmed the two species as *Microhyla ornata* and *Uperodon systoma* from Ajmer district of central Rajasthan.

Acknowledgement

This research work was supported by the financial assistance from the Department of Science and Technology, New Delhi.

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RECORDS OF NEW LOCALITY OF ROYAL SNAKE SPECIES IN CENTRAL SEMIARID REGION OF RAJASTHAN (OPHIDIA: COLUBRIDAE: COLUBRINAE: *SPALEROSOPHIS DIADEMA ATRICEPS*)

Sharma, K. K. and **Sharma Vivek**
Department of Zoology, Biodiversity Research Laboratory,
M. D. S. University, Ajmer, Rajasthan, India
Email: kksmds@gmail.com
sharmakeviv@gmail.com

Herpetological research in the state of Rajasthan, i.e. the arid areas of western India, has been neglected for a long time. Rajasthan is the largest state of India and having a most diversified climatic regime but the history of herpetological research has little to show. Such information as is available is confined mainly to the protected areas (Sharma, 1995; Das *et al.*, 2003; Shalni and Pandey, 2007 and Bhatnagar and Mahur, 2008).

The present note is a record on distribution of the royal snake *Spalerosophis diadema atriceps* (Schlegel, 1837) from a new locality of Rajasthan i.e. Ajmer district which is situated in the central part of Rajasthan with semiarid climatic condition. This snake is not evenly distributed in its range, and is rarely seen in the study area. Between June to September 2009 during the herpetological studies we encountered and recorded *Spalerosophis diadema atriceps* with other herpetofaunal species from Ajmer. Two individuals one adult and one juvenile were recorded from two different

parts of Ajmer district and their morphological characters were compared with taxonomic features given by Smith (1943); Marx (1959); Daniel, (2002); Sharma, (2003) and Whitaker and Captain (2004). Specimens have a characteristic pattern of yellowish brown to orange coloration with irregular black markings down the dorsal side. The head is blackish in color and its intensity decreases antero-posteriorly to yellowish brown-red in the neck region. The remaining portion of body is orange in color with irregular black patches at dorsal side whereas ventral side is glossy and rosy-pink. The adult measured 1.6 meter in length (snout to tail tip) and juvenile about 0.6 meters in length.

Distribution: It is reported by the earlier workers from the dry areas of western Rajasthan, Punjab, Uttar Pradesh, Kashmir and Himachal Pradesh up to 2000 meters above sea level but there is no record from central Rajasthan, and specifically from Ajmer district (Sharma, 2003).

Study Area: Ajmer is a district of the state of Rajasthan in western India. It is situated between 26°16′N 74°25′ E / 26°27′ N, 74°42′ E and at an Elevation 486 m (1,594 ft) with an area of 8,481 km^2. Eastern portion of the district is generally flat, with broken gentle undulations of Aravalli ranges. The western parts, from north-west to south-west, are intersected by the continuous Aravalli Ranges.

Habit and Habitat: It is a diurnal snake and generally stays in rat holes, inside crevices or under the rocks. It is an excellent runner and climber and mainly takes rodents and small birds as food. Sometimes it feeds on small lizards also. When disturbed, it coils and produces a loud hissing sound.

Current status and recent trend: Although it is not an aggressive snake, local people mistakenly associate its brilliant coloration to its being a dangerously venomous type and they kill it whenever seen. Its population is declining very fast and its global status is 'data deficient' while National status is 'near threatened' and IUCN considers it as a 'lower risk species'. Our observations and enquiries with the locals show this to be a very rare snake. There is need for awareness and conservation of this species.

Acknowledgements

This research work was supported by the financial assistance from the Department of Science and Technology, New Delhi.

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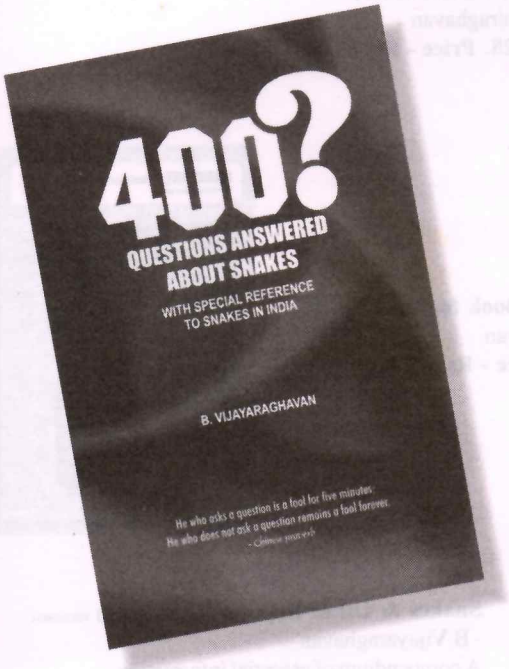

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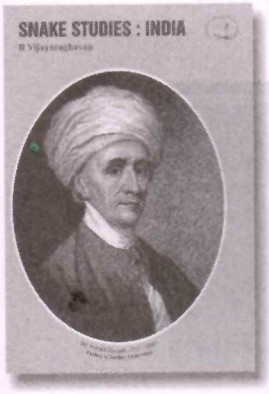

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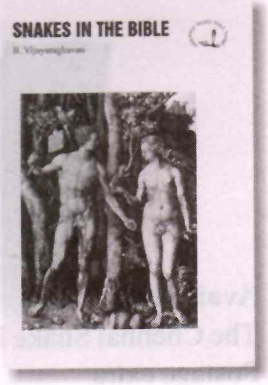

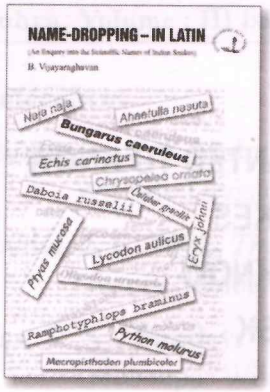

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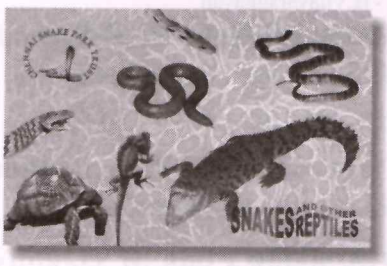

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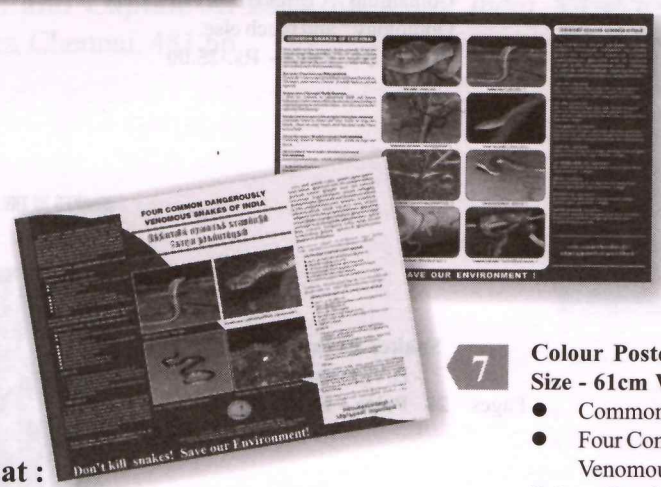

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Registered with the Registrar Office of Newspapers for India
(Ministry of Information and Broadcasting)
Registration No. TNENG/2007/19859
(*vide* letter dated 28.05.2007 of the Registrar of Newspapers for India)

Printer : **N. Arunachalam**, Students Offset Services
Shop No. 3, Apex Chambers, 20, Thiagaraya Road, Pondy Bazar, Chennai - 600 017.
Publisher : **R. Rajarathinam** on behalf of Chennai Snake Park Trust. Published by Chennai Snake Park Trust, Rajbhavan Post, Chennai - 600 022
Editor : **Dr. G. Thirumalai**
