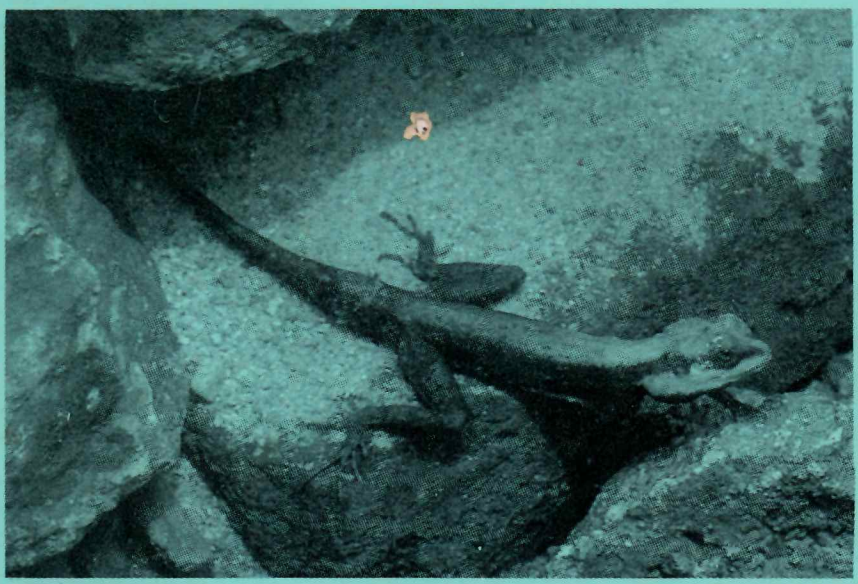
Cobra

Volume - 39 January - March 2000



CHENNAI SNAKE PARK TRUST

Quarterly Newsletter of the Chennai Snake Park Trust

Cover

Rock Lizard *(Psammophilus blanfordanus)*

A medium sized rock dwelling lizard found in the plains and up to 2000m in the hills of peninsular India. It is an agile and wary diurnal lizard darting into rock crevices at the least sign of danger.

Photo : **CSPT archives**

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Volume - 39 **January - March 2000**

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Editorial

The third millenium AD has brought with it a number of challenges; chief amongst these is sound environmental management for sustainable development. Sound environmental management in India is probably more complex than in any other developing country considering the following: a human population that has crossed the one billion mark, the ever-increasing emphasis on eradicating hunger and poverty amongst Indian citizens and, finally, the technological advancement envisaged by the nation.

Sustainable management of the environment focuses, amongst other things, on biodiversity, our physical environment and human livelihoods. These three are interdependent. A key factor in understanding the interdependencies of humans, their physical environment and biodiversity is education. It is, therefore, quite appropriate to highlight the role of education in meeting the future challenges of mankind especially in biodiversity-rich countries such as ours.

As we all know, India is one of the 12 megadiversity countries recognised globally. And distributed over its 10 biogeographic realms are 125,000 species of organisms known to science till date. Close to 450 of these are reptiles – snakes, lizards, crocodiles, turtles and tortoises. What do we know of these?

More than 25 years ago, the Chennai Snake Park (then Madras Snake Park) was established to disseminate the kind of information on reptiles around us, laying emphasis on snakes, that has today laid the foundation for sustainable management of India's reptiles. Thousands of people from India and abroad have benefited through the education and training programmes offered at the Snake Park and through its bilingual publications. Nevertheless, there are a number of gaps. People visiting the Park still ask questions like 'is it the hood where the jewel rests in a cobra? are all our snakes poisonous?', etc.

In a recent quiz programme conducted at the Park for children in the age group of 5-15 years, when asked about snakes, many replied by quoting names such as anaconda, rattle snake, spitting cobra, milk snake and other non-native species of snakes and lizards. Surprisingly, even when pictures were shown, few came up with the right identification of even our most common reptiles. While a detailed analysis of the response of children in the quiz is to appear in a future issue of *Cobra*, what I am keen on highlighting here is that our children are more aware of exotic reptiles than our own, thanks to the more powerful western television media.

The challenge of the Chennai Snake Park for the millenium is to create more awareness amongst our people through education. *Cobra* is in itself a means to achieving such an end. As you could see in this issue there is an article on the scope of education on reptiles in rural schools. There is also a short note on the experiences of a school student who worked as a volunteer during summer. An article on the reptiles of the Guindy National Park has been included just to create more awareness amongst readers of the reptile wealth that might show up at our doorsteps even in a metropolis as that of Chennai.

There have in the past been instances of resentment from herpetologists in India that *Cobra* publishes 'sub-scientific' articles. While every effort is taken to validate the information published, in *Cobra* we have not curtailed the opportunity provided, to a range of contributors from all over India, to share their experiences of reptile study/observations with fellow enthusiasts in a rather liberal style. *Cobra* will continue publishing such material even in future. Thus a short note on monitor lizards hunting dragonflies would be as welcome a contribution as would the trade in turtle plastron be. It is our wish that readers not only benefit by subscribing to *Cobra,* but also feel encouraged to contribute articles and short notes of their own experiences. Let all of us and all those who come after us work together to sustainably manage India's reptiles during the 21st century and through the millenium.

Editor.

AN ACCOUNT OF REPTILES IN THE GUINDY NATIONAL PARK

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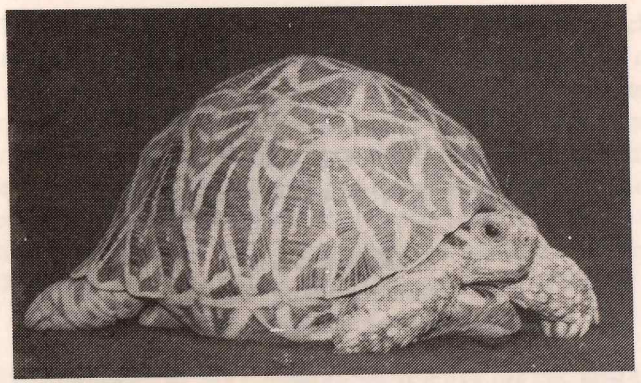
The Guindy National Park is situated in the Mambalam-Guindy taluk of Chennai district in the southwest corner of Chennai city. It spreads over an area of 270.57ha. at an altitude of about 8m ASL. This pocket of wooded forest is surrounded by a concrete wall. Terrain is almost plain, gently sloping towards the south and southeast. There are four tanks namely Applankolam, Bogi pond, Duck pond and Kathankollai tank. Of these, the first and the last serve as the prime water sources. Soil is red-gravelly. Originally, this park had southern tropical dry evergreen forests, now mixed with dry deciduous scrub jungle to which various non-native species have been added from time to time.

Based on the detailed systematic study undertaken in 1990 –1992 and subsequent occasional visits, the following species have been recorded in Guindy National Park.

1. Starred Tortoise *Geochelone elegans* (Schoepff)

Maximum length 280mm. The domed carapace has conspicuous humps. Each hump has a yellow areola and radiating yellow streaks. Shell elongate, markedly convex with the back and front margins slightly turned up. Head with small irregular shields. Hind limbs cylindrical and club shaped. Front limbs flattened. Large scales on limbs. Tail ends in a spur like scale. This tortoise is fairly common in sandy tracts and the semi arid land and deserts of peninsular India. However, this common species is reported only occasionally in GNP.



Starred Tortoise

2. Madras Pond Turtle *Melanochelys trijuga* (Schweigger)

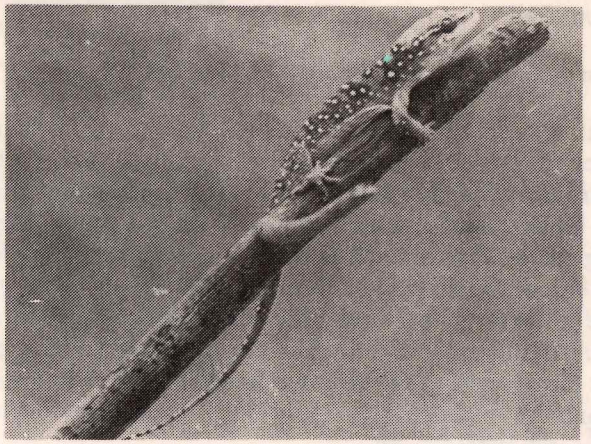
Maximum length 220mm. Shell light brown in young, darker brown or blackish in adult. Plastron has yellow border, which is prominent in the young. *M.trijuga* is distributed throughout India. This turtle is found in ponds and rivers. Not restricted to water as it can be found in meadows, forest paths as well as close to villages. It is frequently seen in GNP.

3. Indian Flapshell Turtle *Lissemys punctata* (Bonnaterre)

Maximum length 275mm. Carapace low and oval. Flaps of plastron present under which the hindlimbs may be retracted. The anterior lobe is hinged and capable of some movement. Colour of upper shell highly variable depending on the locality; may be uniform olive brown or strikingly patterned, sometimes with numerous pale green spots on a dark green background. Head greenish with three oblique parallel black streaks in the young, the markings sometimes persisting in the adult. Yellow spots on head never present. Under surface pale coloured. This turtle is found in ponds, reservoirs, slow water, rarely in fast rivers. Swims well but prefers to lie half buried in the mud and snap at passing prey with an extremely fast thrust of the long neck. Those living in non- perennial waters aestivate in the mud or move into shrub cover if available. This is frequently reported in GNP.

4. Termite Hill Gecko *Hemidactylus triedrus* (Daudin)

Maximum length 170mm. A handsomely marked gecko with three white edged olive green cross bars on back; greenish above eye. Back with large tubercles. A ground dwelling lizard commonly associated with termite hills. Found under stone piles and leaf litter and is very common.



Termite Hill Gecko

5. Brook's Gecko *Hemidactylus brooki* Gray

Maximum length 135mm. The commonest of the Indian *Hemidactylus* geckos occurring throughout the Indian subregion. Colour brown or varying shades of grey with brown spots; whitish below. Lives in a variety of habitats such as on trees, rocks, under stones and on buildings and is very common.

6. Southern House Gecko *Hemidactylus frenatus* Schlegel

Maximum length 125mm. The gecko most often seen in houses in Southern India. Occasionally on trees. Dark brownish dorsally and dirty white below. A dark stripe through the eye, the sides and groin. Flanks with dark spots. Tail may be reddish in young. This species is very common.

7. Bark Gecko *Hemidactylus leschenaulti* Dumeril and Bibron

Maximum length 166mm. A common gecko of the Indian peninsula. It is the house gecko in Madras city but frequently found in avenue trees particularly banyan and tamarind which have numerous nooks and crannies on the trunk. The dark grey colour of this gecko with wavy bands on the back merges with the colour of the tree bark in such situation. Frequently reported from GNP.

8. Fanthroated Lizard *Sitana ponticeriana* Cuvier

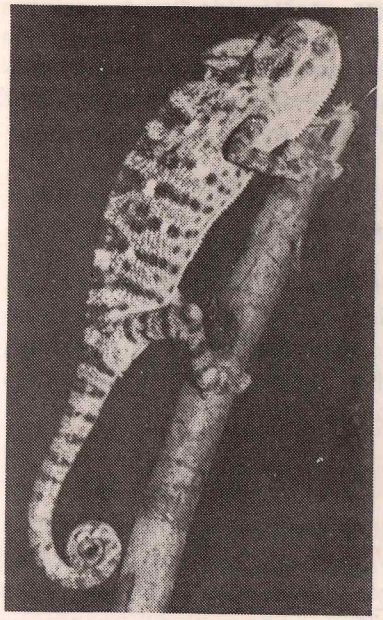
Maximum length 180mm. A small lizard easily distinguished by the presence of only four toes as against five in all other agamids. The fan-like throat appendage in the male is an additional distinguishing character. Brown above, with a series of darker, black edged vertebral spots along the midback, flanked by a light line on each side. Whitish below. The fan of the male is brilliantly coloured in the breeding season, being blue anteriorly, turning blue-black in the centre and reddish posteriorly. It inhabits all biotopes except perhaps the heavy rainfall forests and the deserts. The preferred habitat is scrub and sandy country. Not very common in GNP.

9. Garden Lizard *Calotes versicolor* (Daudin)

Maximum length 490mm. A common medium-sized arboreal lizard with oval head and laterally compressed body. Brown or sand grey above, uniform or with a pattern of spots and bars on the back and sides. Occupies all biotopes from dry desert to thick forests and is very common.

10. Indian Chameleon *Chamaeleo zeylanicus* (Laurenti)

Maximum length 300mm. A laterally compressed arboreal lizard, with a conical casque on top of the head. Body covered with granular scales. Eyes large and except for a small aperture for the pupil are covered by granular scaled lids. Tympanum absent. Tongue very extensile and club-shaped at the tip. The digits of the hand are in two opposed sets; two directed away from and three towards the body. The number is reversed in the arrangement in the foot. Tail prehensile.

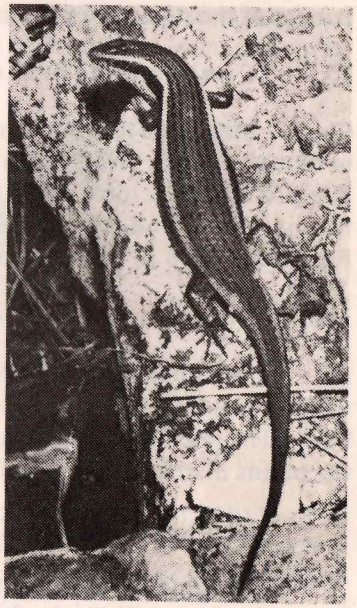


Indian Chameleon

Basically the colour is green suffused with patterns of yellow or grey. The ability to match colours with the background is apparently limited to shades of green, yellow or grey. The chameleon is arboreal and prefers wooded areas. This species is reported frequently and dead specimens often found along the peripheral roads of GNP.

11. Common Skink *Mabuya carinata* (Schneider)

Maximum length 260mm. Large size. Shiny brown, olive or bronze, darker spots often present. Flanks darker. A light band from behind the eye to the base of tail. Upper lip white; lower parts white or yellow. Flanks of the male scarlet during the breeding season. Primarily a ground dweller. Actively searches through the ground litter for prey. This is very common in GNP.



Common Skink

12. Striped Skink *Mabuya trivittata* (Hardwike and Gray)

Maximum length 160 mm.Greyish brown with three broad, black-edged yellow longitudinal stripes extending the whole length of the body to the base of the tail. Found, under leaf litter, rock crevices and stone piles. This is very common in GNP.

13. Snake Skink *Riopa punctata* (Gmelin)

Maximum length 90mm. An elongated snake like slender skink with feeble five toed limbs. General colour is brown above; each scale having a basal black spot. Yellowish white below with each scale having a black central spot. Widely distributed but not often seen as it spends much of its life underground. Very common in GNP.

14. Common Indian Monitor *Varanus bengalensis* (Daudin)

Maximum length 900mm. Adult olive, grey or brownish above with sparse black spots. Yellowish below, plain flecked with black. It is widely distributed and lives in all biotopes from evergreen forests to the fringes of the desert. Very common in GNP.

15. Common Blind Snake *Ramphotyphlops braminus* (Daudin)

Maximum length 120mm. Common worm snakes are reddish brown or black and their widely overlapping smooth scales have an iridescence. Superficially they look like earthworms. They live underground in ant and termite nests and also under logs and moist leaves and in forests. Frequently seen in GNP during the rainy season.

16. Red Sand Boa *Eryx johni* (Russell)

Maximum length 650mm. The overall colour of the red sand boa varies considerably from reddish brown and speckled-grey or yellowish to black. The thick body is well adapted for burrowing. It is mostly a snake of the plains distributed throughout India. Not very common in GNP.

17. Common Sand Boa *Eryx conicus* (Schneider)

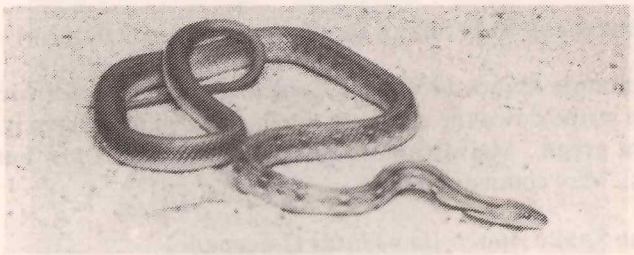
Maximum length 750mm. The overall colour of the common sand boa varies from yellowish white to dark brown, with irregular blotches of

reddish brown to black forming on uneven chain down the back. It is a stumpy snake with a very rough tail and square nose. Distributed throughout India on the plains and hills. It inhabits sandy soil, rat burrows, brick piles and rocky areas. Frequently reported in GNP.

Common Sand Boa

18. Trinket Snake *Elaphe helena* (Daudin)

Maximum length 900mm. The trinket snake is tan and chocolate brown with two prominent dark stripes on the latter part of the body and light bands on the forepart. The long head is unmarked, the eyes are prominent. The two short dark line on either side of the neck may join medially to form an inverted 'V'. Trinket snakes live deep in termite mounds, rock piles and crevices. Not very common



Trinket Snake

19. Rat Snake *Ptyas mucosus* (Linnaeus)

Maximum length 3500mm. Common Indian snake, usually varying considerably in colour. It has a thin head which is distinct from the neck. The eyes are large. The tail is long and slender. It inhabits plains, hills and human habitations. Frequently seen in GNP.

20. Banded Kukri Snake *Oligodon arnensis* (Shaw)

Maximum length 550mm. Banded Kukri is reddish or greyish brown with 10-20 black or dark brown bands. The top of the head has a distinct chevron or arrow head design. Most common snake found throughout the drier parts of India. Occupies termite mounds, cave, crevices, tree-hole and stone piles. Not very common.

21. Russel's Kukri Snake *Oligodon taeniolatus* (Jerdon)

Maximum length 500mm. The back is buff or brown with either large black spots or cross bars. There are two black streaks on the nape. It occurs all over India and inhabits tree holes, under stone piles and crevices. Not very common.

22. Common Wolf Snake *Lycodon aulicus* (Linnaeus)

Maximum length 500mm. Common wolf snake is grey, brownish or black with 10-20 thin white or yellow banks. The jet black eyes protrude slightly and the pupil is invisible. The head is flattened and somewhat pointed, the scales are smooth and slightly glossy. Found in and around caves, stone piles, hollow trees, under bark and other dry secure places. Not very common.

23. Bronzeback Tree Snake *Dendrelaphis tristis* (Daudin)

Maximum length 1250mm. Long and slender snake with a wide light bronze stripe down the centre of the back. The underside is whitish, grey or light green. Mainly an arboreal snake occupies low bushes and thorny trees. Very common in GNP.

24. Vine Snake *Ahaetulla nasutus* (Lacepede)

Maximum length 2000mm. Vine snakes are long and thin with pointed snout. The body is a uniform parrot green often with a thin white or yellow line separating the back scales from belly scales. They inhabit low bushes and trees in the plains to large rainforest trees and as a result distributed throughout India. Frequently reported in GNP.

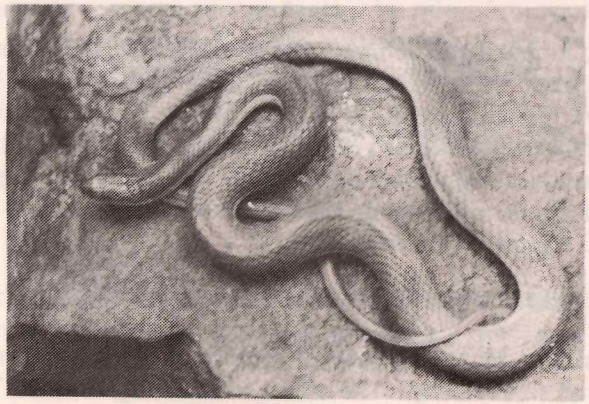
25. Checkered Keelback Water Snake *Xenochrophis piscator* (Schneider)

Maximum length 1200mm. Checkered keelback water snake varies in colour from black with light markings to bright yellow with the characteristic black and white checkered pattern. One or two black eye streaks are distinctive and the head is obtusely pointed and distinct from the neck. The scales are strongly keeled and overall, the heavy bodied snake is glossy. It inhabits lakes, ponds, wells, rivers, streams and rice fields. Frequently reported in GNP.

26. Striped Keelback Water Snake *Amphiesma stolata* (Linnaeus)

Maximum length 600mm. The overall colour is light or dark brown with two tan or yellow stripes running down the body. These stripes are especially bright on the last half of the body. The head is light brown and the sides of the head, lip areas and chin are white or yellow. Found in rice fields, thick grass patches, bushes and pond edges. Frequently reported.

27. Olive Keelback Water Snake *Atretium shistosum* (Daudin)



Olive Keelback Water Snake

Maximum length 750mm. The olive keelback is a thin headed snake. The colour is a rich olive green, sometimes bordered with a red streak along each side of the body. The underside is yellow or orange.

Common in peninsular India. Found in still waters of tanks and ponds where it occupies crab and other holes. Not very common.

28. Common Krait *Bungarus caeruleus* (Schneider)

Maximum length 1200mm. Common kraits are smooth, glossy bluish-black snakes with rounded head slightly distinct from the neck. There are normally about 40 thin white cross bands. They inhabit sandy soil mounds, burrows of small rodents and piles of brick. Not very common.

29. Slender Coral Snake *Callophis melanurus* (Shaw)

Maximum length 250mm. The slender coral snake is light brown and faintly speckled. The head and neck are black with two conspicuous yellow spots on the top of the head. There is a ragged black ring at the tail base and at the tail tip. The underside is uniform pinkish red (coral), bright scarlet at vent and the under side of the tail. Tail is blunt and has the same width as the neck. It inhabits leaf litter, brick and rubble piles. Occasionally reported in GNP.

30. Indian Cobra *Naja naja* (Linn.)

Maximum length 2000mm. The spectacled cobra is a smooth scaled snake with black eyes, wide neck and head and medium sized body. Colouring varies from black or dark brown to yellowish white. The underside is usually white or yellowish with a speckled white or yellow pattern; sometimes ragged bands. Widely distributed throughout India and occupies almost all habitats such as plains, hilly country and human inhabitation. Frequently seen in GNP.

31. Saw Scaled Viper *Echis carinatus* (Schneider)

Maximum length 220mm. A rough scaled snake with large eyes, wide head and stocky body. The scales are heavily keeled. The body is brown greyish or sandy with a darker zigzag pattern on the back and a distinct cross or lance mark on the head. The tail is short and stubby. Distributed throughout India and found in dry sandy or rocky terrain of the plains, under rocks, behind bark in thorny plants, areas of laterite soil, boulders, light scrub jungle with small hills and open dry tracts. This snake is frequently seen in GNP.

OUTREACH PROGRAMME OF CHENNAI SNAKE PARK TRUST

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Introduction

In India there is not much scientific awareness on reptiles amongst people and there are many superstitions, myths and false beliefs. Many people thus either avoid them or wantonly kill them without knowing their ecological significance.

Reptiles play a key role in the ecosystem and remarkably supress the pest population by feeding on them. More particularly, snakes keeps the rodent population under control in agro-ecosystems and protect our crops from rodent depredation which amounts 10% to 25%.

The Chennai Snake Park Trust has been conducting several environmental education programmes for many years, aimed at developing awareness among teachers and students. As part of this programme the schools of Sriperumbudur and Ponneri taluks of Kanchipuram and Thiruvellur Districts, respectively have been covered during April 1998 - March 1999. (This was a contiunation of the programme in 1997-98. The programme was contiuned also in 1999-2000 and will be contiuned in 2000-2001).

Objectives

The orientation programme was aimed at developing certain level of awareness among teachers and students in 3 phases. They are as follows:

1. Workshop for Teachers

Two days teacher's workshops were conducted in Ponneri Taluk schools. Minimum of one teacher from each school participated and gained knowledge on reptiles, their role in the ecosystem, snake bite and treatment

through video filmshows and teaching aids. The teachers are expected to create similar awareness among students.

The module for the teacher workshops includes

1. Environment and Pollution – Soil testing methods.
2. Role of Reptiles in the Ecosystem.
3. Wildlife and Conservation.
4. Man and Environment, Snake bite and Treatment.
5. Teaching techniques in Environmental education.

For the above subjects, course materials are prepared and supplied to all the participants.

2. Workshop for students

In the second phase of the project, one day workshops were conducted in 51 schools of Sriperumpudur and Ponneri taluks. The schools were selected out of 93 schools from which teachers participated in the teachers workshop. This workshop included the following modules.

1. Talks on environment.
2. Role of reptiles in the ecosystem.
3. Live demonstration of reptiles.
4. Video film on snake bite and treatment.

3. Evaluation

1. To assess the impact of the orientation programmes, a questionnaire was prepared and sent to all the teachers who participated in the Teacher's Workshop. In addition, several schools were evaluated for the performance of the teachers in the transfer of knowledge to the students. The results were good.

2. To evaluate the extent to which the students acquired knowledge from the workshop an essay writing competition "on role of reptiles in the ecosystem" was conducted in each school.

3. The teachers had also assigned some project work (group project) to the students of classes 6 to 8. Almost all the schools prepared checklists of common plants, shrubs, medicinal plants, common birds and common reptiles of their area. Some schools had also prepared charts about the project and displayed these in their schools.

Conclusion

Most of the teachers were to some extent aware of reptiles. During teachers' workshop and students programme they learnt much more about reptiles and their importance. And also they gained knowledge on snake bite and first aid treatment.

Acknowledgements

My sincere thanks are to Shri.B.Vijayaraghavan, Chairman, and Dr.R.J.Ranjit Daniels, Hon.Secretary of Chennai Snake Park Trust for giving me an opportunity to conduct the Education programme. Also thanks are due to late Dr.A.V.Gopalakrishnan, trustee of the Chennai Snake Park Trust for co-ordinating this Education Programme and Dr.V.Kalaiarasan, Director and Mr.R.Rajarathinam, Dy.Director for assistance in the entire programme. I am thankful to District Education Officers, Assistant Education Officers of Thiruvallur and Kanchipuram for permission to conduct the programmes. Chennai Snake Park Trust is indebted to the Ministry of Human Resource Development, Govt. of India and C.P.R.Environmental Education Centre nodal agency for financial support.

A REVIEW OF THREATS AND CONSERVATION OF THE REPTILES OF GIR FOREST, GUJARAT, INDIA.

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The Gir Lions *(Pantherea leo persica)* roam in over 2500sqkm area, out of which 1412.13sq km area is of dry deciduous forest known as Gir National Park and Sanctuary (rest of the area are reserved forests, revenue and agricultural lands). Today the entire area of the Gir forest is facing great anthropogenic threats. The ten major threats recorded by Kamboj *et al* (1997) in Gir forest are in Table.1. These show very high to low level impacts on the entire ecosystem of the Gir, of which three 1) Poaching, 2) Forest fire and 3) Traffic & Transportation are directly affecting the reptile fauna.

Existing data on poaching (Table.2) indicate a small number of endangered reptilian species have been the target. Also, official data on forest fire shows that 9-10% forests are burnt annually (average of 7 years, 1989-96; Kamboj *et al* 1997), excluding the annual fire line practice (minimum 2% forest area is burnt under the practice), which deplete the population of terrestrial reptile species, including the Indian star tortoise *(Geochelone elegans)*.

Every day, over 400-500 vehicles and six trains pass through the forest, due to 100.9 km state highway and 15 km long railway track passing through the forest. These add not only to the pollution and disturbance (to the wildlife), but, also a population of the amphibians and reptiles die under the automobile wheels. Lions are also the victims of this threat. During the period 1983-96, a total of ten lions were killed by the railways.

Another anthropgenic problem also affects the population of the mugger *(Crocodylus palustris)*. Four large man-made water bodies, Hiran, Machhundri, Rawal and Singoda Dams of the Gir forest, hold a large population of mugger. The last crocodile survey (1995) showed 429 mugger

in the state, out of which 250 (58.27%) were recorded from the water bodies (Table.3) of the Gir (Vijayakumar 1997). These water bodies are not under the control of the state forest department, but are managed by the state irrigation department. The irrigation department releases large amounts of water from the reservoirs for agriculture, especially during periods of drought (once every 4-5years). The immense fluctuations in water level have affected the breeding of the species, resulting in low breeding success and recruitment.

A few reptiles (especially snakes) are also killed, due to fear, by the local people (7034 Maldhari and satellite villages as per the census 1992-93). It is necessary to plan an education programme for people in and around the Gir forest.

According to Bhatt *et al* (1998) and Vyas (1998a & b), a total of 42 species of reptiles (Table.4) inhabit the Gir forest. Detailed study of species affected by forest-fire (including fire line) and traffic & transportation and its proportion is suggested.

Table 1. Recorded anthropogenic threats to the Gir forest

No	Type of threat	Extent of the threat
1	Grazing of livestock	Very high
2	Encroachment	Moderate
3	Illegal forest product collection	Moderate
4	Poaching	Small
5	Traffic & Transportation	Very high
6	Pilgrimage	Very high
7	Developments for tourism	Moderate
8	Industrial and mining	High
9	Forest fire	Moderate
10	Man and wildlife conflict	High

Table 2 . Rate of poaching of Schedule I (Wildlife Protection Act of India, 1972) Species of reptiles in and around the Gir forest.

Species	86-87	87-88	88-89	89-90	90-91	91-92	92-93	Total
Crocodylus palustris	1 -	- -	- -	1 -	- -	- -	- -	2
Python molurus	2	- 1	- -	- -	2 -	2	3	10

Source : Singh and Kamboj (1996).

Table 3. Man-made water bodies and mugger *(Crocodylus palustris)* population of Gir forest.

No	Name of water Body	Submerged area in ha	Number of Mugger
1	Hiran*	764.00	201
2	Singoda	590.43	11
3	Machhundri	327.62	22
4	Rawal	139.52	16
	Total	1821.57	250

* an area of 764.00 ha. of Hiran Dam: deforested. Notification No: FLD/275040/6307/-A dtd 6.11.1960 of Agricultural land department, Govt. of Gujarat.

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Table 4. Checklist of reptiles of the Gir National Park and Sanctuary, Gujarat.

Crocodylidae
1. *Crocodylus palustris*

Testudinidae
2. *Geochelone elegans*

Trionychidae
3. *Lissemys punctata*

Eublepharidae
4. *Eublepharis fuscus*

Gekkonidae
5. *Geckoella collegalensis*
6. *Hemidactylus brookii*
7. *Hemidactylus flaviviridis*
8. *Hemidactylus triedrus*

Agamidae
9. *Calotes versicolor*
10. *Sitana ponticeriana*

Chamaeleonidae
11. *Chamaeleo zeylanicus*

Scincidae
12. *Lygosoma albopunctatum*
13. *Lygosoma punctata*
14. *Mabuya carinata*
15. *Mabuya macularia*

Lactertidae
16. *Ophisops jerdoni*

Varanidae
17. *Varanus bengalensis*

Typhlopidae
18. *Ramphotyphlops braminus*
19. *Typhlops porrectus*

Boidae
20. *Eryx conicus*
21. *Eryx johni*
22. *Python molurus*

Colubridae
23. *Ahaetulla nasutus*
24. *Ahaetulla pulverulenta*

25. *Amphiesma stolata*
26. *Argyrogena stolatum*
27. *Boiga trigonata*
28. *Dendrelaphis tristris*
29. *Elaphe helena*
30. *Lycodon aulicus*
31. *Lycodon striatus*
32. *Oligodon arnensis*
33. *Oligodon taeniolatus*
34. *Ptyas mucosus*
35. *Psammophis leithii*
36. *Sibnyophis subpunctatus*
37. *Xenochrophis piscator*

Elaphidae

38. *Bungarus caeruleus*
39. *Callophis melanurus*
40. *Naja naja*

Viperidae

41. *Vipera russelli*
42. *Echis carinatus*

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OCCURRENCE OF BROWN WHIP SNAKE *AHAETULLA PULVERULENTA*, FAMILY COLUBRIDAE, IN MT. ABU WILDLIFE SANCTUARY, RAJASTHAN.

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Range Forest Officer
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Mt. Abu is one of the very important wildlife sanctuaries of Rajasthan as it is the only place in the State where semi-evergreen type of forests are found. Mt. Abu is a detached hill of Aravalli range situated somewhat south-east of the centre of the Sirohi district, between 24° 31' and 24° 43'N and 72° 38' and 72° 53'E. It is separated from Sirohi ranges by a narrow valley. Guru Sikar is the heighest peak of this hill station, towering 1722m above the sea level. It is the highest point between the Himalayas and Nilgris. *Mangifera indica, Carissa carandas, Michelia champaca, Salix babylonica, Strobilanthus callosus,* etc. are important plants which cloth the upper reaches of Mt. Abu.

During the first week of September 1999, at about 09.00hr, a whip snake of brown colour was noticed by the local wildlifers in the bushes of *Nerium indicum* near Arbuda Lodge at Mt. Abu. On September 15, 1999, I saw another specimen on Lantana bushes near 'Kodra Trail' also. It was brown in colour and identified to be brown whip snake *Ahaetulla pulverulenta*. Brown colour, pointed snout and blackish spots on the back of the snake were diagnostic. Since it was noticed inside the sanctuary area, collecting a voucher specimen was ruled out. After taking photographs, the snake was released in its natural habitat in the sanctuary area.

According to Murthy (1990), *A. pulverulenta* is found in the hills of South-western India. The present record extends its northward range upto Mt. Abu in Rajasthan. Identical habitat is avilable in many pockets of Mt. Abu hills.

A. pulverulenta has not been reported earlier from the state of Rajasthan (Sharma, 1995). This is the first report of occurrence of this species from the state, hence worth recording.

I thank Sh. Kiran Chawda and Sh. Shailesh Patel for bringing the snake to my notice. I also thank Sh. R.G. Soni, Sh. U.M. Sahai, Sh. M.K. Vijaivergia, Sh. Fatesh Singh Rathore and Sh. Vinod Tak for help and encouragements in field studies.

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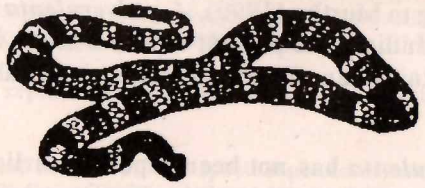

AERIAL FEEDING BY MONITOR LIZARD *VARANUS BENGALENSIS*

On September 29, 1998, I was returning from Phalasia Village to my Range Office at Jhadol in Udaipur District, Rajasthan by motor-cycle. On the road, near Jhadol village, at about 14.00 hr I saw a group of dragonflies flying close to the ground. When I was about to cross the flying insects, I saw a full grown monitor lizard (*Varanus bengalensis*) emerging from a roadside bush. It started chasing the insects raising its head above. I switched off my motor-cycle and kept standing slightly off the road. The lizard started catching the flying insects by 'jumping' in the air. In one instance, a dragonfly was flying nearly 20-25cm high in the air and the lizard chased one of the low flying insects for a short distance, then lifted its anterior half in the air, taking its fore-limbs off the ground and caught the insect in its mouth quickly. But the grip was poor and the insect made itself free and fell on the road (losing it's balance or hurt ?) and then quickly took off. The monitor lizard again darted behind the insects as it did previously. This time also the same thing happened and the insect made itself free. The monitor lizard made a third attempt without losing anytime and caught the insect mid air. This time the grip was good and it devoured the dragonfly quickly. While the monitor was trying for its next prey, a bus disturbed it and I could not make further observations.

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PROTECTION OF SNAKES BY THE BHILS IN SOUTHERN RAJASTHAN

The clans of Bhil tribe viz., Dindor and Bhuria in southern Rajasthan never kill their totemic snakes. Dindor seek their kinship with the checkered keelback *(Xenochrophis piscator)* which is locally called Dindu in Mewari dialect in southern Rajasthan. This species is very common in these area and it is present in all types of water bodies like wells, baoris (step-wells), rivers, dams, anicuts, mine pits, lakes, etc. This snake is also spared by the Kathodis in Rajasthan. While fishing by indigenous methods, checkered keelback is also trapped inside the bamboo baskets along with fishes but it is allowed to escape by the kathodis. Bhils of Bhuria clan never kill serpents which have brown coloured body (bhuria is a local term used for naming the brown or ash colours). There is a belief among Bhurias that their "Guru" used to rub ash on his body and used to sleep under the trees. Once upon a time, while the " Guru" was sleeping under a tree, a brown coloured snake came out from his "comandala" i.e. water-pot, which was taken as their ancestor by the followers. Even today brownish coloured snakes like Rat snake *(Ptyas mucosus), Xenochrophis piscator,* etc. are spared by the Bhurias. Like the Dindor and the Bhuria, all other clans also save their totemic plants and animals in the area.

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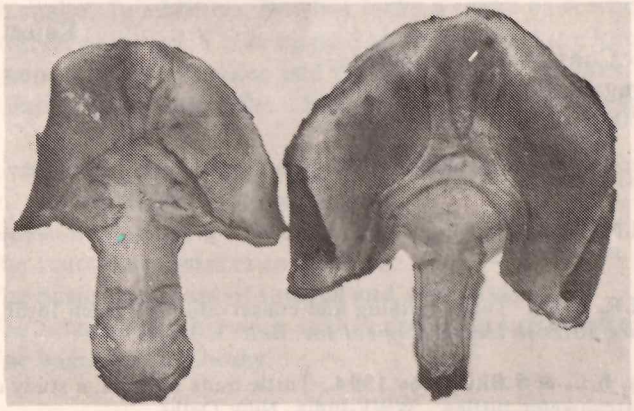
DRY PLASTRAL SKIN: A NEW RESOURCE FROM SOFTSHELLED TURTLES

Turtles are exploited for a variety of uses, namely meat and eggs as food and medicines, shells, ornaments and decorative materials, utensils and in religious practices (Acharji, 1950; Bustard,1986; Moll, 1990; Choudhury & Bhupathy, 1994; Sinha, 1995 and Narain & Chauhan, in press). I describe here a new form of turtle resource being exploited.



Plastral skin of soft-shelled turtles were seen to be peeled off as one piece, dried and sold for the medicinal market (Plate .1). A few bags of the dried skin were confiscated at Etawah (U.P) in May-June 1999 & April 16, 2000. Though the dried skin is sold by locals at a price of Rs. 1000-2000 per kg., they are known to cost as much as Rs.6000-8000 per kg retail. It was learnt from poachers that the skin was not utilized locally but transported elsewhere for sale and it was suspected that Howrah (West Bengal) was the final destination for the bags of dried skins of turtles. The use of the plastral skin is unclear but it was suspected that the skin is used as an ingredient in the preparation of medicines.

This form of exploitation of turtles is a novel method and new to the best of my knowledge. Etawah and Mainpuri districts are previously known to be regions from where large scale exploitation of turtles for a variety of reasons has been taking place (Moll,1983; Choudhury & Bhupathy, 1994 and per.obs.). Several species are suspected to be killed for plastral skin, though locals prefer *Aspideretes gangeticus* (locally

recognised a 'Katawh'). Other species which may be poached for similar purposes, are *Chitra indica, Lissemys punctata* (as per information given by turtle poachers). Two of the above listed species feature in Schedule I of the Indian Wildlife (Protection) Act 1972 (Das, 1995). Poachers are not known to kill turtles exclusively for plastral skin. The skin of reasonably large turtles poached for meat is peeled off for commercial use. It is not known if this form of use of plastral skin is prevalent in other parts of the country.

Rajeev Chauhan

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576, Karamganj, Punjabi Colony,
Etawah – 206 001.

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EXPERIENCES OF A VOLUNTEER AT THE CHENNAI SNAKE PARK

Ever since I was a kid, reptiles, especially snakes, have fascinated me. Over the years, I had the occasional opportunity to observe snakes. However, living in a city like Bombay has drastically reduced my chances of seeing a snake. In addition, Bombay lacks a snake park where captive snakes could be observed. I also wanted to have a working knowledge of handling non-venomous snakes and identification of snakes. For these reasons, I decided to come to the Chennai Snake Park as a volunteer.

It was here that I was constantly able to observe snakes and their behaviour. Among the things I learnt were:

1. The reaction of snakes to captivity.
2. The basic treatment of injured and sick snakes.
3. The relationship between snakes and their surroundings.
4. The basics of taxonomy.

Besides these, I also learnt the art of handling snakes without hurting the snake or being bitten. I was also given the opportunity to help in the cleaning of cages and enclosures. This taught me that a great amount of hard work goes into maintaining a truly good collection of live reptiles. I also got the opportunity to avail myself of the facilities of the excellent library of the Snake Park.

Being at the Snake Park helped me to get rid of some misconceptions that I had about snakes and to understand them better. I have learnt a lot from the animal keepers at the Snake Park and now know a little more about snakes than when I came to the Snake Park. During this time I have also learnt to treat snakes with respect. I shall briefly describe one of the incidents that helped me cultivate this respect. I was bitten by a 'harmless' green whip snake *(Ahaetulla nasutus)* on my left index finger and in a short time I had a painful swollen finger! After this incident I have been more careful even when handling the 'harmless' snakes.

One of the highlights of my time in the Snake Park was being able to witness the rare event of a hook-nosed sea snake *(Enhydrina schistosa)* eating in captivity.

I would really like to thank the Director and the other staff of the Chennai Snake Park Trust for going out of their way to teach me and help me. The great success of my stay would have been impossible without their help and support.

Chinmay Kanchi

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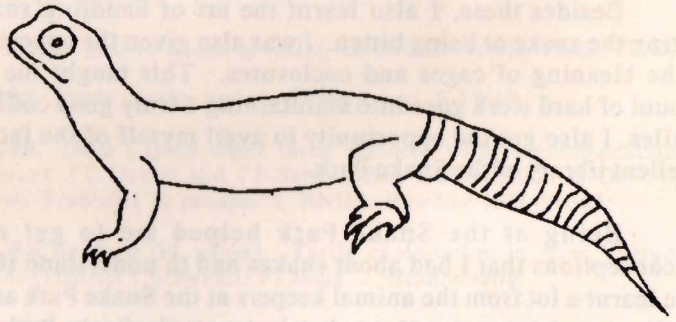


RANDOM HARVEST

Liz. *vs.* liz.

A rare lizard with no ears has forced the organisers of Queen Elizabeth's visit to Australia to abandon plans to start the royal trip in the national capital, Canberra. The endangered lizard lives in the areas around Canberra airport and this had stood in the way of attempts to widen the runways to accommodate the Queen's Boeing 747 which would stand diverted to Sydney.

(Source: *The Telegraph,* Mar.7, 2000)

Fair & Lovely (?)

The San Francisco Zoo has a rare white alligator.

(Source: *The Hindu,* Apr.15,2000)

A lucky strike for stroke victims.

Based on the findings of a study done between 1993 and 1998 of 500 people who had suffered acute ischemic stroke caused by blood clots blocking arteries and damaging the brain, an anti-clotting drug named 'ancrod' has been developed from the venom of the Malaysian pit viper and is being currently marketed in Canada. This has been reported by the University of Texas Health Service Centre in San Antonio. The study was published in the Journal of the American Medical Association.

(Source: *The New Indian Express* May 11, 2000 and the *Hindu Business Line* May12, 2000)

Early Reptile

"One of the early Dicynodonts, *Lystrosaurus*, a mammal-like reptile inhabited parts of Antarctica, South Africa and India. It was essentially an aquatic animal living near swamps and lived 220 million years ago. Fossils of *Lystrosaurus* are found in Antarctica, South Africa and Panchet

Beds of West Bengal indicating that these continents (Gondwanaland) were together during the Permo-Triassic period about 220 million years ago".

(Source: *The New Indian Express* May 9, 2000)

Turtle Highway

Using satellite tracking, a British led team of international scientists has discovered a 'turtle highway' running 2300 Km. between Ascension Island and the Eastern Coast of Brazil. Every year, about 10,000 green turtles brave the elements to make this long journey from their feeding to their breeding grounds and back. Dr. Graeme Hays of the University of Wales, Swansea, South Wales in conjunction with two others charted the route after attaching tiny transmitters to female green turtles linked to two polar-orbiting NASA satellites. The journey of 2300 Km. takes between 33 and 47 days. Dr. Hays, whose findings have been published in the *Proceedings of the Royal Society*, says that it is still a mystery how the young hatchlings born on Ascension Islands make their first journey back to Brazil.

(Source: *The New Indian Express*, May9, 2000)

Origins

"A team of Israeli, American and Brazilian researchers has discovered a snake with legs. The discovery could upset at least some theories about the evolution of snakes. The 'fossil' had been sitting in the museum drawer at the Hebrew University in Jerusalem since the snake's death in the early 1980s".

(Source: *The New Indian Express*, Mar.19, 2000)

Use and Abuse

The April, 2000 issue of *Froglog*, the Newsletter of the Declining Amphibian Populations Task Force carries a note by Nguyen Quang Truong, Working Group Co-chair for Vietnam, which details some of the factors responsible for the decline of amphibians in Vietnam and attributable to humans. *Bufo melanostictus, Rana guentheri, Rana kuhilii, Rana livida,*

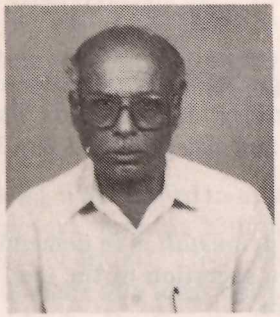
Rana limnocharis, Rana rugulosa, Rana spinosa and *Rana verrucospinosa* are hunted for food for humans. These species are also fed to pet animals and captive snakes.

(To prepare 400gm. of fluffy pemmican for human consumption, 200 adult *Bufo melanostictus* are required. The price of *Rana rugulosa* per Kg. is 0.7 to 1.5 US$ and may go up to 1.8 to 3 US$ if sold to restaurants or the Chinese market).

Paramesotriton deloustali is in demand as an ornamental exhibit in households. The skin secretion of the toad *Bufo melanostictus* is a valuable medical resource.

B. Vijayaraghavan

OBITUARY



Dr.A.V.Gopalakrishnan
1.1.1937 – 15.3.2000

Dr. A.V.Gopalakrishnan was born on 1st January 1937. Native of Chitoor District of old Madras Presidency (now in Andhra Pradesh), his parents moved to Chennai and he had his early education in R.B.C.C. High School, Perambur and Pachaiyappa's College, Chennai.

He graduated from the Madras Veterinary College in 1958. Even in his student days he evinced keen interest in Wildlife.

After serving as a Veterinary Asst. Surgeon in the Madras Animal Husbandry Department, Gopalakrishnan joined the Madras Municipal Corporation as a Zoo Veterinarian in the Madras Zoo in1961.

In 1976-77 the Govt. of Madras (Now Tamil Nadu) decided to shift the Madras Zoo due to severe pollution problem on account of its proximity to the Central Railway Station. Many of the Zoo animals had developed Anthracosis which was highlighted by Gopalakrishan.

In 1981 when the animals were shifted in phases to the Arignar Anna Zoological Park at Vandalur on the outskrits of Madras city, the Tamil Nadu Forest Department under whose control the new zoo was, obtained the services of Gopalakrishnan from the Madras Municipal Corporation on deputation.

Gopalakrishan by virtue of his rich zoo experience, was a tower of strength to the Director of the new Zoo in designing the various enclosures and cages for animals and was instrumental in building up a well equipped veterinary hospital which is considered as a model for all the zoos in the Country.

After having served the Zoo for more than five years he reverted back to his parent department in the Madras Corporation. As a senior person under the Public Health Department he proved to be an asset to the department in improving the slaughter houses, tackling the problem of stray dog menace and control of some of the dangerous zoonotic diseases prevailing in the city.

He was elected as a trustee in the Chennai Snake Park Trust in February,1995. He was a livewire in many of the activities of the Snake Park particularly the health care of reptiles. Through his efforts a nature awareness programme for school children in villages was taken up in collaboration with C.P.R. Environmental Education Centre. By his efforts funds could be procured from the Animal Welfare Board of India. He was one of the most active members of the Chennai Snake Park and his contribution to the improvement of the Park will be long remembered.

His sudden death on 15th March 2000 due to cardiac arrest has deprived the Chennai SnakePark of his valuable guidence.

Gopalakrishnan had a wide circle of friends and admirers. He was one of the seniormost Zoo Veterinarians in our country and many of the institutions will miss his counsel.

V.Krishnamurthy

OBITUARY

K.R.Venkatesan
28.2.1929 – 27.3.2000

K.R.Venkatesan, 'KRV' as he was known to his friends was born on 28.2.1929 in Kumaramangalam near Chidambaram, Tamil Nadu. After passing out from Annamalai University, he joined St.Joseph's College, Trichy for research in Botany. He had his Forestry Training in the Forest College, Dehradun, during 1953-56 and then joined the Tamil Nadu Forest Dept. as Asst. Conservator of Forests. He was selected to the Indian Forest Service in1961. He held various important posts such as District Forests Officer, Nilgiris, State Silviculturist and Director, Sandalwood Research Centre, Bangalore. His work in Sandal was of a pioneering nature and laid the foundation for further work in that institution. Later, he held the post of Chief Wildlife Warden and carried out various improvements in the management of wildlife sanctuaries in Tamilnadu. He retired as Addl. Chief Conservator of Forests, Tamil Nadu, on 28.2.87. He was a member of the Board of Trustees of Chennai Snake Park from 27.10.94 till his death on 27.3.2000. He took keen interest in the Snake Park and made it a point to attend to his duties as a Trustee in spite of his failing health. His death is a great loss to the Trust.

S.Subbarayalu Naidu

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AIMS AND OBJECTIVES OF

CHENNAI SNAKE PARK TRUST

i) To maintain and display a captive collection of snakes and other reptiles as a means of education of the public.

ii) To undertake captive breeding of vulnerable species of snakes and other reptiles.

iii) To promote knowledge on snakes, and other reptiles and amphibians and dispel the erroneous beliefs about them.

iv) To aid and assist research on reptiles and amphibians.

v) To provide facilities for the identification and classification of snakes and other reptiles and amphibians and, for this purpose, maintain a museum of study collections.

vi) To maintain a library of books and other literature on reptiles and amphibians

vii) To publish scientific and semi- scientific literature on snakes and other reptiles and amphibians.

viii) To undertake survey on the distribution and status of snakes and other reptiles and amphibians.

ix) To provide consultancy services on snakes and other reptiles.

x) To provide a common forum for interaction among amateur scientists and friends of reptiles and amphibians.