Cobra

Volume - 59 January - March 2005

CHENNAI SNAKE PARK TRUST

Quarterly Newsletter of the Chennai Snake Park Trust

Editor:

Dr. G. Thirumalai

Cover

Keeled Grass Skink (*Mabuya carinata*)

The commonest skink in India. " Equally at home in semi-urban areas and the forest".Diurnal and terrestial, frequently seen basking or foraging in open areas. Feeds mostly on insects.

Photo: P. Kannan

"From the eagerness of people to look for the marvellous in all that concerns snakes, the observations of non-scientific enquiries are always open to suspicion. On this subject, the safest plan is to believe nothing that you hear, and only half of what you see yourself. guarding carefully against the liability of your visual impressions being influenced by your expectations and pre-conceived ideas."

- Nicholson.
(*Indian snakes: An Elementary Treatise on Ophiology* (1874)

Cobra

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FEJERVARYA TERAIENSIS (DUBOIS) (RANIDAE: ANURA: AMPHIBIA) IN NORTH EAST INDIA

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Dubois (1984) described *Fejervarya teraiensis* (Dubois) from Terai region of Eastern Himalayas. Subsequently it was reported by Bordoloi, *et al.* (2002) from Arunachal Pradesh and Ao *et al.* (2003) from Nagaland. It is quite interesting to note how a medium to large-sized, terrestrial, fairly common species like *Fejervarya teraiensis* evaded the prying eyes of researchers for nearly two decades. Presumably, this species was mistaken for the more common *Fejervarya limnocharis* Gravenhorst. We collected quite a few specimens of this species from Baghmara Reserve Forest in South Garo Hills District of Meghalaya between April and August 2003. We observed very distinct differences in the specimens from that of the *Fejervarya limnocharis* specimens. After ascertaining the identity of these specimens as *Fejervarya teraiensis,* we wanted to confirm its presence in other parts of North East India. A thorough scrutiny of *Fejervarya limnocharis* specimens in the holdings of Eastern Regional Station, Zoological Survey of India, Shillong, revealed just a few *Fejervarya teraiensis* specimens collected earlier from Manipur, Mizoram and Tripura.

Material examined

We examined 34 examples comprising of 6 males and 28 females of SVL 41-65mm from Meghalaya under registration numbers V/A/ERS/ZSI 472-478, 523-525, 531-535 and 538; 1 example, a female of SVL 45mm from Mizoram under registration number V/A/ERS/ZSI/78; 1 example a female of SVL 48 mm from Tripura under registration number V/ERS/ZSI 9086 1 example, a female of SVL 55 mm from Manipur under registration number V/ERS/ZSI/2048.

Abbreviations

SVL : Snout to vent length
TTA : Tibio tarsal articulation
V/A/ERS/ZSI: Vertebrata/Amphibia/Eastern Regional Station/Zoological Survey of India.

Though very close to *Fejervarya limnocharis, Fejervarya teraiensis* can easily be distinguished by the following characters.

Moderate to large size (SVL 41-65 mm) and stout build; head broader or as broad as long, convex; snout oval, projecting, longer than horizontal diameter of eye; canthus rostrails rounded; loreal region concave; inter orbital space flat, lesser than the internarial distance; distance between front of eye almost 2/3rd distance between back of eyes; nostril oval, placed dorso-laterally on an elevated area close to snout; pupil indistinct; tympanum distinct, darker on the upper posterior 1/3rd, rounded, 2/3rd the diameter of eye, placed at a distance of about 1/4th of its diameter; a whitish depressed mark from eye to shoulder covering tympanum; pineal ocellus present; vomerine ridge bearing few small teeth obliquely placed, closer to each other than to choanae, longer than the distance between them; tongue thick, broad, moderate, bilobed, broadly round; supratymapnic fold distinct; jaws with darker or lighter vertical bars; lower jaw with distinct symphysial knob; rectal gland present; forelimbs short, stout; fingers moderate, relative length

of fingers from shortest to longest, II<IV<I<III; tips of fingers blunt, rounded, not enlarged, without dermal fringe; webbing absent; subarticular tubercles well-developed; palm cushioned; hind limbs short, stout, tibia longer than femur but shorter than the distance from the base of inner matatarsal tubercle to the tip of toe; metatarsi bound together at base (Fig.1A) (free in *F. limnocharis, Fig.* 1B); toes long; subarticular tubercles conical, smaller than that on the forelimbs; relative length of toes from shortest to longest I<II<V<III<IV; tips of toes blunt, rounded, not enlarged; webbing extensive (Fig. 1B) (Moderate in *F. limnocharis,* Fig. 1B), web formular I ½ -1 II o-2 III ¾ -2 IV 2-0 V; 2 phalanges of 4th toe free; TTA reaching shoulder when hind limb is brought forward; a dermal fringe along 5th toe; inner matatarsal tubercle elongate, prominent, outer metatarsal tubercle indistinct; tarsal ridge present; dorsum predominantly minutely granulated, with or without a thin or broad mid dorsal line; back with distinct symmetrical longitudinal folds often corresponding to the dark blotches and warts of varied sizes; limbs with symmetrical blotches, that on the hind limbs prominent; thighs with black and white network; ventrally pale; female larger in size and males with beautiful 'M' shaped black colour pattern (Fig. 1C) in vocal sac region.

Acknowledgements

The authors are grateful to Dr.J.R.B.Alfred, Director, Zoological Survey of India, Kolkata and to Shri.S.J.S.Hattar, Officer-in-Charge, Eastern Regional Station, Zoological Survey of India, Shillong for permission to undertake the work and for laboratory facilities. Dr.J.Meren Ao, Principal, Kohima Science College, Nagaland and Dr.Sabitry Bordoloi, Associate Professor-in-Charge, Resource Management and Environmental Division, Institute of Advance Study in Science and Technology, Guwahati lent us a specimen of *Fejervarya teraiensis* confirmed earlier by Dr.Annemarie Ohler of Museum National d' Histoire Naturelle, Paris, France. Dr.Ohler also gave us valuable literature on the subject.

References

Ao, Meren, J., Sabitry Bordoloi and Annemarie Ohler, 2003. Amphibian fauna of Nagaland with nineteen new records for the state including five new records for India. *Zoos' Print* 18(6): 1117-1125.

Bordoloi, S., Mohini Mohan Borah, Pankaj Kumar Sarmah and Jnanashree Sharma, 2003. Amphibian and Insect fauna of amphibian habitats Dehang-Debang Biosphere Reserve, Arunachal Pradesh *Himalayan Biosphere Reserve* Vol. 4(1&2), 33, 38.

Dubois, A. 1984. Note prelimiaire sur le groupe de *Rana limnocharis* Gravenhorst, 1892 (Amphibiens, Anoures) *Alytes* 3 (4): 143-159.

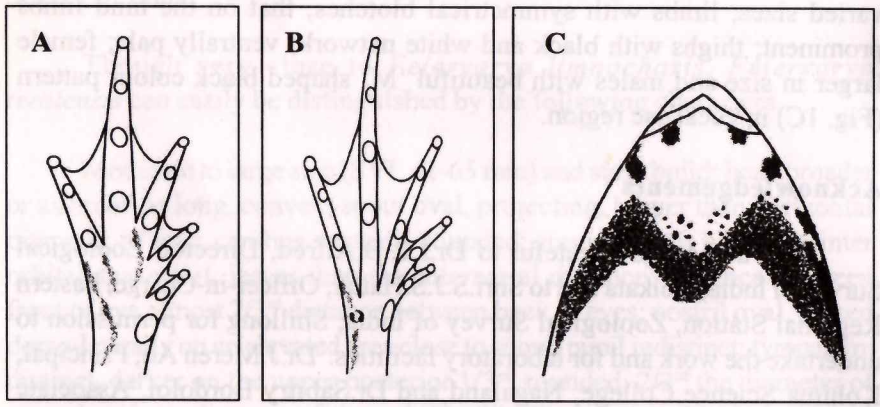

Figure 1. Diagrammatic representation of

A. Ventral view of foot of *Fejervarya teraiensis* showing web pattern and metatarsi.

B. Ventral view of foot of *Fejervarya limnocharis* showing web pattern and metatarsi.

C. Ventral view of *Fejervarya teraiensis* showing "M" shaped black colour pattern in the vocal sac region.

A SHORT TERM STUDY ON AMPHIBIANS OF PALNI HILLS

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Introduction

Monitoring amphibian populations in natural and man-modified habitats can be used to track species declines and their correlation to environmental changes since, for various reasons, amphibians, more than any other class, are susceptible to environmental changes. Such studies can therefore be of help in conservation. The present study was started against this background with two prime objectives:

1. to know the diversity of amphibians in disturbed and semi-disturbed habitats of mid-Palni hills and
2. to document the factors influencing the amphibian population in this zone.

Material and methods

Palni Hills is located at the southern offshoot of Western Ghats, Southern India. The intensive study sites selected in this zone were near Othu (1100 mts) and Vazhagiri (900 mts) area. Some surveys were also made at the foothills (200 mts).

In the disturbed habitat, 90-95% of the forest has been depleted for cultivation purposes. Firewood collection, closure of channels, pesticide use, removal of canopy cover cattle grazing and litter collection are being practiced without any hindrance. Immediate conservation measures are needed to save at least the remnant species of this habitat. The predominant agricultural activity of mid-Palni hills is cultivation of coffee and legumes.

The semi-disturbed habitats are under the control of the forest department. Though disturbance is comparatively low here, drainage of sewage water into the streams, cattle grazing, fuel wood collection and occasional hunting are the principal threats in this habitat.

Results and discussion

A total of 30 hrs during the southwest monsoon (June – August) was spent in searching for amphibians in streams, rivers and small puddles. The total amphibian species recorded was 11 from semi-disturbed habitat and four from disturbed habitat. Amphibian fauna of this region belongs to one order viz., Anura comprising three families. Among families, the members of the family Ranidae predominated both by number of species and population. The predominant species among Ranidae are *Rana temporalis* (Gunther) and *Indirana beddomi* (Gunther).

Out of the three endemics, two species (*Micrixalus fuscus* (Boulenger) and *Nyctibatrachus sp*) were single sightings only in semi-disturbed habitat. None of the endemic species was recorded in disturbed habitat. This shows the lack of microhabitats suitable to endemic species. Thirty-two species have been recorded from the rainforest of Kalakad-Mundanthurai Tiger Reserve (KMTR) of which 25 are endemic to Western Ghats (Vasudevan *et al.* 2001). Babu (2003) has reported 25 species of amphibian fauna from three selected habitats of KMTR. In both studies, the altitudinal range is similar to that of Palni Hills.

Long term monitoring is required to understand the population fluctuations through various seasons in different habitats of these hill ranges. The factors that have influenced amphibian species richness in this zone are seen to be as follows.

1. Large-scale conversion of forest land into cultivated fields.
2. Increasing fuel wood collection.
3. Heavy use of pesticide during monsoon months, which particularly impacts tadpole populations directly.
4. Road kills.

References

Babu, S. 2003 (unpublished). Studies on amphibian fauna of Mundanthurai range of Kalakad-Mundanthurai Tiger Reserve. Tamil Nadu. M.Sc., dissertation submitted to A.V.C.College, Mayiladuthurai, South India.

Daniels, R.J.R. 1997. A field guide to the frogs and toads of the Western Ghats, India. Part I-III, *Cobra* Vol.: 27, 28 & 29.

Daniels, R.J.R. 1999. Status of amphibian diversity in India. *Cobra* Vol. 35 & 36; 25-28.

Daniels, R.J.R. 2001. Updated checklist of Indian Amphibians. *Cobra* Vol.46; 1-8.

Inger, R.F. and Dutta, S.K. 1987. An overview of amphibian fauna of India. *J. Bombay Nat. Hist. Soc. Suppl.* 83: 135-146.

Sathyamurthy, S.T. 1967. The South Indian amphibia, Bulletin, Madras Govt. Museum, NH/7(2) : 1-87.

Vasudevan, K. *et al.* 2001. Structure and composition of rainforest floor amphibian communities in Kalakad-Mundanthurai Tiger Reserve. *Current Science* 80(3).

Table-1: Amphibians recorded from the study zone in Palni Hills

Sl. No.	SPECIES NAME	SEMI-DISTURBED HABITAT	DISTURBED HABITAT
	Family: Bufonidae		
1	*Bufo melanostictus*	+	+
2	*Bufo fergusoni*	–	+
	Family : Ranidae		
3	*Euphlyctis cyanophlyctis*	+	+
4	*Indirana beddomi*	+	–
5	*Limnonectes limnocharis*	+	–
6	*Limnonectes keralensis*	+	–
7	*Micrixalus fuscus*	+	–
8	*Nyctibatrachus sp.,*	+	–
9	*Rana temporalis*	+	–
10	*Hoplobatrachus crassus*	+	+
	Family : Rhacophoridae		
11	*Polypedates maculatus*	+	–
12	*Philautus sp.*	+	–
	Total	**11**	**4**

(+) = Recorded.
(–) = Not recorded.

RECORD OF MARBLED BALLOON FROG *UPERODON SYSTOMA* (SCHNEIDER) FROM POLO FOREST VANAJ, DISTRICT SABAR KANTHA, GUJARAT

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Phulwari Wildlife Sanctuary is one of the important sanctuaries of Rajasthan, situated near the Rajasthan-Gujarat border in southern Aravallis. Three forest-outposts namely, Mahad, Ambasa and Daiya, are present very near to Gujarat border. Since 'all-weather' road network is not available between the border outposts of the sanctuary, travelling becomes very tough and a time-consuming job during rainy seasons. To perform patrolling duty, Khedbramha – Antarsuba Ashram Tar road (which is in Gujarat) is preferred to reach Ambasa and Daiya. During rainy season 2004, while travelling on Khedbramha – Antarsuba Ashram road to reach Daiya, I heard the characteristic calls of a male marbled balloon frog *Uperodon systoma* (Schneider) from a borrow pit by the side of the road. I stopped my vehicle and made a search for the frog. The frog was calling from a small ditch which was full of *Cassia tora* plants. When I reached near, I was able to see the frog with inflated forwardly directed single tubular vocal sac. When it called, circular waves originated around it.

Presence of the marbled balloon frog has been reported from four districts of Gujarat viz., Anand, Vadodara, Mahesana and Panchmahal (Vyas *et al.* 2003). Presence of this frog between Khedbramha and Anatarsuba Ashram is the first record of its occurrence from Sabar Kantha District of Gujarat.

The marbled balloon frog (*Uperodon systoma)* is a fossorial species and, despite being common, it is only noticed during the breeding season at monsoon-time when the males become vocal.

Acknowledgements

The author is thankful to H.S.Solanki, Range Forest Officer, Panarwa and the forest officials of Mahad, Ambasa and Daiya outposts for help in field studies.

Reference

Vyas, R., B.M.Parasharya and K.B.Upadhyay (2003): Record of Marble Balloon Frog (*Uperodon systoma*) from Jambughoda Wildlife Sanctuary and its distribution in Gujarat State. *Cobra* 54: 9-10.

ON THE OCCURRENCE OF THE TOKAY GECKO *GEKKO GECKO* (LINN.) (REPTILIA: SQUAMATA:GEKKONIDAE) IN MEGHALAYA

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Pillai and Talukdar (1972), while reporting the tokay gecko (*Gekko gecko)* from Assam for the first time, gave an account of its habits, call and distribution. Their material was collected from the Forest bungalow inside the Darugiri Reserve Forest in East Garo Hills district of Meghalaya and a second specimen from Lakhipur in Goalpara district of Assam. According to Smith (1935), this species has its distribution in North Eastern India (Bengal, Bihar), Andaman Islands, Indochina, Southern China, Malay Peninsula and East India Archipelago. Annandale (1970) and Pillai and Talukdar (1972) suggested that its occurrence in West Bengal and Bihar respectively could be due to human interference. Analyzing the reported distributional pattern of the species and finding it to be of common occurrence in Garo Hills, the latter authors deduced it to be an inhabitant of the plains or areas of moderate elevation explaining thereby its absence from the adjoining Khasi Hills.

The present author collected a specimen of this species on 4th November 2004 around 11.30 a.m. from Umling, approximately 12 km from Nongpoh towards Guwahati, in the Ri-Bhoi district of Meghalaya. Ri-Bhoi

area consists of low hills and spurs which seldom attain heights above 600 meters, though a few isolated peaks reach heights exceeding 1000 meters. Therefore, the occurrence of this species in Ri-Bhoi district agrees with the opinion of Pillai and Talukdar (1972). This material, a large male, was caught from inside the house of Shri.Riwas Shadap by the side of the National Highway. The house has pineapple cultivation on the hills behind, paddy fields on its right, unutilized land on its left and the National Highway in front. Beyond the pineapple plantation lies the forest. This species is said to be commonly available in the forest. This particular specimen registered VR/ERS/ZSI/118 measures snout to vent 158 mm, tail 125 mm, 12 upper labials, 11 lower labials; 19 lamellae beneath the 4th toe and 20 preanal pores. The colouration is bluish slaty grey with brick red and whitish spots all over.

Acknowledgements

The author is grateful to Dr.J.R.B.Alfred, Director, Zoological Survey of India, Kolkata and to Shri.S.J.S.Hattar, Officer-in-Charge, Eastern Regional Station, Zoological Survey of India, Shillong for permission and facilities.

References

Annandale, N. 1907. The occurrence of the Taukte lizard (*Gekko verticillatus*) in Calcutta. *Rec. Indian Mus.,* Calcutta. 1 (2): 71.

Pillai, R.S. and S.K.Talukdar. 1972. First record with notes on the Tucktoo *Gekko gekko* (Linnaeus) from the Assam region. *J. Bombay Nat. Hist. Soc.* 69 (3) pp.656-658.

Smith, M.A. 1935. *The fauna of British India, including Ceylon and Burma. Reptilia & Amphibia, Vol. II-Sauria.* Taylor & Francis, London.

INDIAN FLAPSHELL TURTLE *LISSEMYS PUNCTATA* (BONNATERRE) OF JAWAI DAM

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Jawai Dam is one of the big dams of Rajasthan State, situated in Pali district near Sumerpur town. It had been declared as a "Closed Area" on May 8, 1983. It is spread over 5.0 sq. km. Marsh crocodile (*Crocodylus palustris* Lesson) and Indian flapshell turtle (*Lissemys punctata* (Bonnaterre) are important aquatic species of this 'Closed Area' besides fish fauna. Various wild species like leopard, Indian fox, wolf, jackal, striped hyaena, common langur, bluebull, pale hedgehog, pangolin, python, sarus crane etc. are commonly met with in the surrounding areas. Water of Jawai dam is mainly used for drinking and irrigation. A network of canals has been created to facilitate irrigation. When the sluice gates are opened for irrigation, the flapshell turtles get drifted away in the canals. These turtles are collected for meat at many places. Screens of wire meshes are erected in the canals at many places by the locals and the nomadic tribes to collect the turtles

Since turtle and crocodile, specially the young ones, are prone to get carried away into the canals, their entry into the canals should be checked at the dam itself. Towards this end, narrow spaced bars or wire-mesh screens should be erected near each sluice gate. This should be done in all irrigation dams.

Acknowledgements

The author is thankful to Jagdeesh Rao, D. Reddy, B.K.Sharma, Mitul Barua, Shailesh Nagar and members of Kadech village forest protection and management committee of Foundation for Ecological Security, Udaipur for help in the studies and for taking interest in the protection of the turtles.

ASSOCIATION OF INDIAN ROCK PYTHON *PYTHON MOLURUS* (LINNAEUS) WITH PORCUPINE *HYSTRIX INDICA* KERR IN ADIVAS FOREST BLOCK IN UDAIPUR DISTRICT, RAJASTHAN

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While working as Range Forest Officer in Jhadol (AAP) Range in Udaipur district, during the winter of 1996, I received information that some Bhil boys had placed some wire nooses near burrows of porcupine (*Hystrix indica*) in Adivas forest block in Udaipur district, Rajasthan to trap these nocturnal rodents for meat. I rushed to the spot with my staff and saw the wire nooses near burrows of porcupine in a dry nallah near Dhala village at the outskirts of Adivas forest block. Presence of pug-marks of porcupine near burrows indicated that the burrows were active. The traps were removed by us and we decided to stay on for the night to catch the culprit(s) red-handed. After sunset, two porcupines were seen going out for foraging toward the forest covers. We did not disturb the animals and stayed at our position quietly. Perhaps, the local shikaris suspected our presence and no one came during the night. Next morning, I instructed one of my forest guards to watch the spot regularly to protect the porcupines.

After a few days, the guard informed me that he had seen a full-grown rock python (*Python molurus*) living in one of the burrows in which porcupines were residing. The next day, I reached the spot and found crawling marks present there which were leading to the burrows.

There is an earlier record of the association of rock python with porcupine (Bhupathy and Haque, 1986). Python can prey upon porcupine (Daniel, 1983) and, therefore, the co-existence of prey and predator is unusual. Small sized snakes can pass winters and summers in rat holes and in holes in termite-hills but a full grown python cannot enter these. Caves in rocky area are their preferred habitation. Perhaps, many full grown pythons pass their winters and summers in burrows of big sized wild animals including porcupines.

References

Bhupathy, S. & M.N.Haque (1996): Association of Rock Python (*Python molurus*) with porcupine (*Hystrix indica*). *J. Bombay nat. Hist. Soc.* 83 (2): 449-450.

Daniel, J.C. (1983): *The Book of Indian Reptiles*. Bombay Natural History Society, Mumbai.

BOOK REVIEW

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SNAKES OF INDIA — THE FIELD GUIDE by Romulus Whitaker & Ashok Captain (2004) [Pp. xiv + 479 Indian pr. Rs.2,500/-, Draco Books, P.O.Box 21, Chengalpattu – 603 001, Tamil Nadu, India]

The publication of this book in 2004 marks a major event in the history of Indian ophiology. Snake-lovers who had heard of this book in the making have been waiting impatiently for well over ten years, but it has been worth waiting for. No other book on Indian snakes has made the impact that this has since the publication in 1943 of Malcolm Smith's volume on *serpentes* in the *Fauna of British India* series. The book combines unprecedented clarity in presentation with unusual quality of execution.

The book mentions that "over 270 species" of snakes are found in India. In his forward to the book, George Zug of the Smithsonian gives 300 species as "a reasonable guess". But the fact is that we are nowhere near knowing the precise number.

The book describes in detail 157 species out of the 276 listed by the authors which is undoubtedly a remarkable achievement. But what should give cause for concern is that 119 known species have been left out, though mentioned in the checklist (and in the note accompanying the checklist), presumably because even our leading field herpetologists know little or nothing about them. Not that the authors are to be blamed for this, perish the thought!

Many unknown species have been discovered in the recent past. Like the kukri snake found by chance in the Palni Hills, Tamil Nadu, by the son of Romulus Whitaker while he was all of four years old, and named after him as *Oligodon nikhili*. This is the only one of its species ever to have been found. Or the medo pit viper (*Trimeresurus medoensis*) or the groove-necked keelback (*Rhabdophis nuchalis*) which were found even as the book was under preparation. Or the Sind awl-headed snake (*Lytorhynchus paradoxus*) which was discovered in India just a year ago. Many, many more remain to be discovered.

While the process of discovery proceeds at a painfully slow pace, many species are likely to become extinct if not already so. Like the Indian egg-eater (*Elachistodon westermanni*) which has not been seen since the early 1900s and even preserved specimens are few in number. Or, Hutton's pit viper (*Tropidolaemus huttoni*) of which only two have been seen.

Against this background, meticulously and beautifully crafted works like the book under review should enthuse professionals and amateurs alike to go all out and contribute all that they can to enrich our knowledge of Indian snakes.

Mark the sub-title of the book: '*The Field Guide*', not '*A Field Guide*'. The self-assurance of the authors is fully vindicated.

Even though styled as a 'field guide', the comprehensive information furnished takes the book far beyond that.

The book has in its initial pages a check list of the 275 known species with their scientific names currently in use, names in Smith's *Fauna* and common names. (Add to this, the groove-necked keelback (*Rhabdophis nuchalis*) which a 'a note added in proof' says 'has just been reported from India', the total number comes to 276) Then follows 38 cameos of the different genera arranged in convenient groups, their characteristics

and places where found accompanied by representative illustrations. The diagrams on head scales, body scales and subcaudal scales are of great help to the researcher trying to identify a snake by scale counts.

Tips given in the introductory pages on how to identify snakes and information on senses in snakes, feeding, breeding, mating, snake musk, venom and fangs, snakebite and anti-venom, snake removal, snake laws in India, snake conservation, suggested reading etc. are very useful to the beginners.

Each of the 157 species dealt with has at least one whole page to itself with very detailed descriptive accounts of appearance, scalation, natural history, behaviour and distribution. To the layman looking for the length of a snake, most books give misleading information since it will not be clear whether the length given is the average adult length or the maximum length known. This book gives distinct information on length at hatching/at birth, length of adults and maximum length, wherever available. The information on distribution is accompanied by a map.

The amateur will do well to study the list of 'look-alikes' furnished in respect of each species so that glaring mistakes in identification can be avoided.

Prominently displayed at the top of the account on each species is information on whether common, uncommon or rare. Also mentioned is whether venomous or mildly venomous or non-venomous and this is accompanied by a colour-coding which makes reference easy. Fortyone of the species described are categorised as 'venomous', 34 as 'mildly venomous' and 81 as 'non-venomous'; one — the Himalayan keelback (*Rhabdophis himalayensis*) — is mentioned as 'probably venomous'. The categorization 'mildly venomous' is note-worthy since most books include such species in the category of 'non-venomous' or 'harmless'. Of the thirtyfour species categorized as 'mildly venomous' two are racers of the

genus *Coluber,* two are flying snakes of the genus *Chrysopelea*, 12 are cat snakes of the genus *Boiga,* four are sand snakes of the genus *Psammophis*, four are vine snakes of the genus *Ahaetulla* and seven are water snakes of the genera *Enhydris, Cerberus, Gerarda, Fordonia* and *Cantoria.* The others are the Himalayan mountain keelback (*Amphisema platyceps*), the false cobra (*Pseudoxenodon macrops*) and the mock viper (*Psammodynastes pulverulentus*). It should be noted that eleven of these species are common. Even in regard to the non-venomous snakes, one should heed the authors' words: "...caution is advised... as recent studies show that several snakes previously considered non-venomous have toxic saliva".

Against the description of each species is a full-page photograph of the snake in its natural colours. These, mostly by Ashok Captain, are invaluable aids to identification even though, in some species particularly, one should be cautious in relying on the colour for purposes of identification. Equally, they are a delight to behold.

In their endeavour to make this book as authentic as possible, the authors have spared no effort and have liberally requisitioned the help of experts from far and near as will be seen from an article by Whitaker on the writing of this book in *Sanctuary Asia* of Feb. 2005.

That this book is indispensable to all those who deal with Indian snakes hardly needs to be said. But what needs to be urged is that it should be in the library of every school and college. Especially so in a country like India where mythology and folklore are replete with stories about snakes which whet the curiosity of our children from a very early age to be rewarded, sadly, with a bundle of false beliefs and superstitions which persist in their minds right into their adulthood and passed on from generation to generation.

RANDOM HARVEST

"No change for us, we are crocodiles!"

A report from Reuters in the *New Indian Express* of Feb. 25, 2005 says that a hitherto unknown species of crocodile which lived 65 million years ago and lasted till five million years ago has been discovered in tropical Australia filling a gap in the evolution of crocodiles. Two nearly complete skulls and a lower jaw that belonged to a group called Mekosuchinae were unearthed by miners in Queensland, said Australia's Monash University researcher Lucas Buchanan. The crocodile is seen to have been very similar to the modern-day freshwater crocodile suggesting that the crocodile had changed little in millions of years of evolution. "[This] is the beautiful thing about crocodiles. They found something that works and stuck with it all through history," said Buchanan.

Whodunnit: Whatsnksit?

The Speckled Band is a well-known Sherlock Holmes story by Arthur Conan Doyle in which a snake is used as an instrument of murder. But what species of snake is this? Holmes himself describes the snake as "a swamp adder ... the deadliest snake in India." The all-knowing Holmes is apparently not very well-informed about Indian snakes.

A hefty tome of 1878 pages has recently come out titled *The New Annotated Sherlock Holmes* edited by Leslie S. Klinger (W.W.Norton & Co., 2004) which gives various theories, suppositions and speculations relating to the many incidents and observations in the Sherlock Holmes stories. From a review of this book (Guardian Newspaper Ltd., 2005) it is seen that the book devotes three pages of tables (no less!) to the Zoologists who have endeavoured to identify the snake, using the 'clues' in the story. That must have been quite some research in herpetology even if not entirely of the scientific kind!

DNA-typing to the rescue of star tortoises

During recent years, large consignments of baby star tortoises (*Geochelone elegans*) from India have been seized on many occasions at airports both within and outside the country while being attempted to be smuggled, packed in suitcases etc. These are suspected to be meant for the pet trade and fetch big prices abroad.

WAZA NEWS, Feb. 2004, reported that one of the largest ever of such consignments consisting of 1830 star tortoises was seized by the Singapore CITES authorities. In a unique joint effort by various agencies, namely, the Singapore Zoo, the CITES Management Authority of India and Singapore, Zoo Outreach Organisation, India, the Wildlife Trust of India, Singapore Airlines and Air India, the consignment was flown back to India. Thereafter, the tortoises were quarantined at the Hyderabad Zoo and released back into the wild "after ascertaining their home range through DNA-typing conducted at the Centre for Cellular and Molecular Biology at Hyderabad. The animals have been micro-chipped so that in the event of future smuggling incidents, it would be possible to identify the areas vulnerable to poaching" and take corrective steps.

Runaway crocodile

The Hindu of Feb. 28, 2005 reported that a crocodile climbed out of the Neyyar Reservoir, Kerala and strayed into a village triggering panic among the residents and leading to a joint operation by the Forest officials and the Police to trap it. It is not known whether the crocodile has since been trapped.

The Neyyar Wildlife Sanctuary, now with nearly 100 marsh crocodiles (*Crocodylus palustris*) in the reservoir, was established in 1977 to conserve the species which was then under widespread threat. The marsh crocodile is generally regarded as harmless to humans unlike its saltwater cousin (*Crocodylus porosus*). But, in recent years, incidents have happened at Neyyar of the marsh crocodiles attacking humans. (see Random Harvest in *Cobra* Vol. 42)

Marauding crocodiles

After being disturbed by the Tsunami in Dec. 2004, five saltwater crocodiles (*Crocodylus porosus*) have entered a village in South Andaman and are attacking villagers and their cattle. After the tsunami, a major portion of the village, 26 km from Port Blair, called New Wandoor, has gone under the sea, which has now become a hunting ground for the crocodiles. Cattle and dogs have been killed. Men have been injured but none killed so far.

(Source: *The Hindu* Feb. 8, 2005)

Frog safaris

It may look an unequal battle for tourist attention. But Alwyn Wentzel hopes to attract eco-tourists to his 'frog safaris' in Africa's game reserves unmindful of the competition from the many-splendoured mega-vertebrates. The tourists go out into the night fitted with head lamps and spot and identify as many frog species as they can in the run of a night.

(Source: *The New Indian Express* Feb. 2, 2005)

Olive ridley rides high

The Hindu of Feb. 4, 2005 reports that post-tsunami, there has been an increase in the number of olive ridley nests on the Chennai coast. Also, fewer dead turtles have been found washed ashore. (Because of less of trawling activity?) The Forest Department and NGOs have joined hands to put down poaching of turtle eggs.

Endangered amphibian newsletter?

Frog lovers will be sad to learn from the Feb. 2005 (No. 67) issue of *Froglog*, Newsletter of the Declining Amphibian Populations Task Force, that this is the 'last printed issue'. It has succumbed to the 'escalating printing and shipping costs'. However, this useful and interesting newsletter will continue to be available free on the website http://www.open.ac.uk/daptf/froglog.

- B.Vijayaraghavan

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"Chennai Snake Park Trust"
Payable at Chennai.

Chennai Snake Park Trust
Raj Bhavan Post
Chennai - 600 022. India.
Phone : 91- 044 - 2235 3623
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Printed on behalf of the Chennai Snake Park Trust
by *aad infinitum, alwarpet, chennai 600 018.*

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.