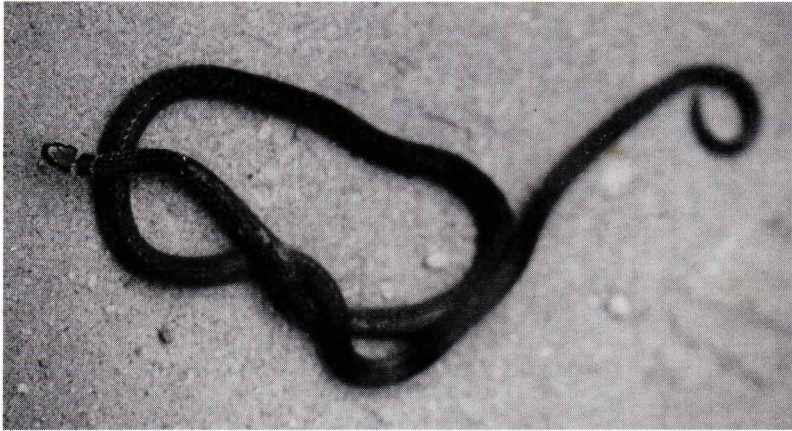


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Of the Chennai Snake Park Trust

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Cover

Striped coral snake (*Calliophis nigrescens*)

Venomous, endemic to India; found in Western ghats; grows upto 4ft 8in. Feeds on snakes, usually shieldtails, narrow-headed snakes and worm snakes. Lays eggs. When disturbed, will try to wriggle away or curl tail and will display brightly colored underside.

Photo : **P. Kannan**

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"I only know thee humble, bold,
Haughty with miseries untold,
And the old curse that left thee cold,
And drove thee ever to the sun
On blistering rock ... Thou! Whose fame
Searchest the grass with tongue of flame,
Making all creatures seem thy game,
When the whole woods before thee run,
Asked but – when all is said and done –
To lie untrodden, in the sun.

From *Crotalus*
by Bret Harte.

1972
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"I only know three numbers, bold,
 (Shri. Subramanyam Naidu, IAS (Retd.))

Handy with miscellanea
 Dr. Director, Zoology Dept.

And the old curse that fell the cold

And drove trees over to the sun

On blasting rock, I find whose fame

Searched the grass with tongue of flame

Head, Dept. of Zoology

Making all creatures seem to game,

(Dr. M. Anandaraman)

When the whole woods before thee run

Reginald Deputy Director (W.P.)

- Asked but - when all is said and done -

(Shri. P. Subramanyam, IAS)

To lie undebon, in the sun

Calligraphy

Dr. S. Thirumala

From Crotales

by B. G. Hanu

... and the crown was bright ... We in fact had failed to ...
 ... When ... taking ...
 ... brightly ...

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HUSBANDRY OF SOME PIT VIPERS AT CHENNAI SNAKE PARK

P. Kannan, R.Rajarathinam and V.Kalaiarasan

Chennai Snake Park

Rajbhavan Post

Chennai – 600 022

Pit vipers are small to medium-sized, slow moving, nocturnal/diurnal snakes found mainly in the Western Ghats and North-eastern India. The name is derived from the heat sensitive pit located between each nostril and the eye. The Western ghats is home to a highly distinctive reptile fauna, particularly snakes. Six species of pit vipers have been reported from Western Ghats – the hump-nosed pit viper, *Hypnale hypnale*, (Merrem, 1820), the large-scaled pit viper (*Trimeresurus macrolepis*) Beddome, 1862, the Malabar pit viper *T. malabaricus* (Jerdon, 1854), the horse-shoe pit viper *T. strigatus* Gray, 1842, the bamboo pit viper *T. gramineus* (Shaw, 1802) and the Hutton's pit viper *Tropidolaemus huttoni* (Smith, 1949). Pit vipers mainly feed on frogs, lizards, rodents and birds. The venom is not as toxic as venom of true vipers, but all strike fast and some species have caused human fatalities. Pit vipers are ovo-viviparous. Many pit vipers are terrestrial, while a few are highly arboreal. They range in size from 0.3m – 2m. They are sedentary in nature. They are fairly slender bodied with prehensile tail. The presence of a pair of heat sensitive pits enables the pit viper to accurately locate warm blooded prey. Most vipers are cryptically patterned; they rely on camouflage to blend with their surroundings – an essential feature of a sit-and-wait ambusher, allowing the prey to come within striking range. Most vipers have vertically elliptical cat-like pupils that maximize the use of available light in the low light jungle or nocturnal conditions.

The present paper is based on the observations of two species of pit vipers namely hump - nosed pit viper and Malabar pit viper at Chennai Snake Park. These snakes were collected from Siruvani foot hills in Nilgiri Biosphere Reserve, Tamil Nadu. These foot hills lie between 10° 56' and 10° 58' N and 76° 42' and 76° 44' E. The elevation of this area is between 625 to 650 m above sea level. Temperature ranges from 24°C to 38°C and the annual mean humidity is 51%. The area receives

both the south-west and the north-east monsoon and rain fall during south west monsoon (May-August) is heavy. The annual mean rain fall is about 1800 mm. The river Noyyal passes through the area. The vegetation is of Southern Tropical Moist Deciduous type (Champion and Seth, 1968) and it merges with Southern Tropical Evergreen Forests at higher elevations and the lower area mixes with scrub forests.

On 19th May 2005, while conducting a reptile survey in the dry deciduous forest of lower Siruvani, we located a pit viper which was identified as hump-nosed pit viper *Hypnale hypnale* (Merrem, 1820) based on the description in Whitaker and Captain (2004). The snake was basking on the root of a fallen tree and the substratum was wet as there was a stream close by.

On 20th May 2005, while surveying the upper Siruvani in the evergreen forest patches, two Malabar pit vipers *Trimeresurus malabaricus* (Jerdon, 1854) were observed. One was found on a twig close by a stream which was surrounded by rocky boulders, the ambient temperature was very low and the surrounding area was very wet and leach menace was high. Another Malabar pit viper was found on a tree branch in slightly open forest at an altitude of 1200 m above sea level.

Hump-nosed pit viper *Hypnale hypnale* (Merrem, 1820)

Diagnostics

The tip of the snout is sharply turned up. Triangular head. The tail ends as a black spike. Body light brown in colour with dark markings running down the middle of the back and tail. The sides of the head are yellow in colour and are separated from the top of the head by a thin light coloured line.

Husbandry

The snake was kept in a cage at Chennai Snake Park from 21st May 2005. The medium-sized enclosure was 97 cm high and 80 cm wide. The substratum was sandy and vegetation was provided. A bowl of water was placed inside and some stones were also provided as shelter and to facilitate sloughing. Everyday while cleaning the cage water was sprayed on the sandy area to maintain the optimum temperature. From the beginning (May, 2005), the snake is being fed twice a week with small mice and baby rats.

Malabar pit viper *Trimeresurus malabaricus* (Jerdon, 1854)

Diagnostics

Triangular head broader than neck. Vertical pupil. Tail short and prehensile; Olive green in colour with prominent black spots forming a zigzag pattern. There are scattered yellow spots along sides. Underside pale green / yellow with scattered brown markings. Tail black in colour.

Husbandry

The medium sized enclosure in the Chennai Snake Park in which the snake was kept from 21st May 2005 was 97 cm high and 80 cm wide. Sandy substratum was provided. Potted plants were kept in the cage and also shoots of bamboo for the snake to rest on and also facilitate sloughing. A bowl of water was placed inside and some stones were also kept inside for shelter. Everyday while cleaning the cage water was sprayed inside to maintain temperature. Of the two individuals kept in the cage one is fed with small mice once a week from the beginning (May, 2005). But the other is not taking feed so far and so is force-fed with egg yolk and liver soup once a week.

Acknowledgement

We are thankful to Mr.B.Vijayaraghavan, Chairman, Chennai Snake Park Trust for his constant encouragement and support to our research activities.

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**OBSERVATIONS ON HOOK-NOSED SEA SNAKE
ENHYDRINA SCHISTOSA (DAUDIN) AND BLACK AND
YELLOW SEA SNAKE *PELAMIS PLATURUS* (LINNAEUS) AT
RUSHIKULYA, ORISSA, INDIA**

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On 08th February 2004, while investigating the congregation of olive ridley sea turtles along the coastal waters of Rushikulya rookery in Orissa, a pair of sea snakes was observed, coiled around each other and floating on the sea surface. They were approached closely and photographed. Upon close examination of the photographs with the help of Whitaker & Captain, 2004, the species was identified as the hook-nosed sea snake *Enhydrina schistosa* (Daudin). However, it was not possible to confirm whether they were mating or whether it was some kind of behaviour interaction. One of the individuals was distinctly smaller, which indicated that they were not of the same sex.

Similar behaviour has been observed elsewhere along the Indian coast (Smith, 1943) but whether such behaviour is related to mating can only be ascertained if copulation is observed. This species is common in shallow coastal waters of India (Smith, 1926). Sea snakes are known to form aggregations on slicks i.e., regions where warm and cold currents meet. The nearshore waters of the Rushikulya are shallow. The continental shelf in this region does not exceed 30 m in depth, even at a distance of 10 kms from the shore. Upon my return to the shore, I learnt from the fishermen that this species is commonly found entangled in their nets during February-March but coiling/mating is rarely seen.

On 21 Feb, 2004 early morning, while walking on the beach of Rushikulya rookery for counting nesting tracks of olive ridleys, I found a live black and yellow sea snake, *Pelamis platurus* (Linnaeus) on the beach. This species was confirmed

based on its external features (Whitaker and Captain, 2004). The head and the dorsal surface was blue-black and underside was canary yellow. Total body length of the snake was 72 cm. This species is reported to be common along the east coast of India (Ahmed, 1975). *P. platurus* is commonly known as black and yellow sea snake. It is rarely caught in the nets of fishermen but often seen washed ashore.

There is little information on the diversity, distribution and biology of sea snakes occurring in the coastal waters of India. This is especially true of the coast of Orissa (Murthy and Rama Rao, 1988; Venkateswarlu *et al.*, 1995). The conservation status based on the IUCN categories has been assigned only to five out of 25 species of sea snakes known from the Indian waters. All the five species are placed in 'data deficient' category (Anon, 1998).

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NOTES ON ABNORMALITIES / DEFORMITIES IN ANURANS (AMPHIBIA)

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Amphibians are one of the biological indicators of environmental health. Abnormalities in Indian anurans are reported by Kurulkar and Deshpande, (1932).

While studying the amphibian fauna of North East India in the holdings of ERS/ZSI, Shillong, the authors came across some specimens with abnormalities/deformities. Interestingly, of the 27 specimens (SVL 43-58 mm) of *Fejervarya sp.* Collected on 2nd June, 2004 from a rain fed field near a petrol bunker in Shillong, 5 specimens have one or the other defect such as:

- i) One male specimen is without left forelimb and its left foot has a rudimentary 3rd toe and 4th and 5th toes are absent (Plate I A)
- ii) One male specimen has only four digits each on hind limbs (Plate I B)
- iii) One male specimen has an incomplete 4th toe on its right leg (Plate II A)
- iv) One female specimen is with an incomplete 4th toe on its right leg (Plate II A)
- v) One male specimen has its 4th toe on left leg with a bulbous tip.

The total abnormalities / deformities amount to 18.5% from a single lot.

Another male specimen of *Fejervarya limnocharis* (Gravnhort) (SVL 30mm Regd.No.V/A/436) collected from Baghmara Reserve Forest, South Garo Hills, Meghalaya in May 2003, has an incomplete right foot (it is only upto tarsus and there are no digits).

Of the 12 examples of Indian pond frog *Euphlyctis hexadactylus* (Lesson) (SVL 33-51 mm, Regd. No.V/A/349) collected from Umblei, Narpuh Reserve Forest, Jaintia Hills, Meghalaya in March, 2003, one female specimen has an abnormal right leg (only upto tibia) (Plate II B).

Of the 10 examples (SVL 31-54 mm, Regd. No.V/A/393) of *Euphlyctis hexadactylus* collected from Prang river, Narpuh Reserve Forest, in March, 2003, one female specimen has only two fingers on left hand and two male specimens have incomplete 4th and 5th toes i.e. a total of 30% deformity.

In another case, two female specimens (SVL 45-62 mm, Regd. No.V/A/407) of *E. hexadactylus* collected in March, 2004 from Rymplang in Narpuh Reserve Forest are with deformed feet (incomplete digits).

A specimen of *Amolops gerbillus* (Annandale) (SVL 26 mm, Regd. No.V/A/357) collected from Baghmara Reserve Forest in August, 2002, has its right foot without digits (Plate III A).

A specimen of *Hyla annectens* (SVL 11 mm, Regd. No. V/A/264) collected from Zunheboto, Nagaland in July, 1991 has its right leg without foot (Plate III B).

The authors collected some tadpoles from the nearby forest area on 11th July, 2005 which were later metamorphosed to *Polypedates* spp. Of the eight specimens emerged thus, one specimen is without a limb and a second one is with an abnormal foot (Plate III C, D) – a total of 25% abnormality/deformity.

A wide variety of factors has been implicated as causative agents of amphibian abnormalities. Parasite infestation and predators are natural phenomena. Besides toxin contamination, ultra-violet radiation, radioactive salts, ground level ozone, excessive heating of eggs, cosmic rays and reformulated gasoline also may cause abnormalities (Reaser and Johnson, 1997).

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 and laboratory facilities.

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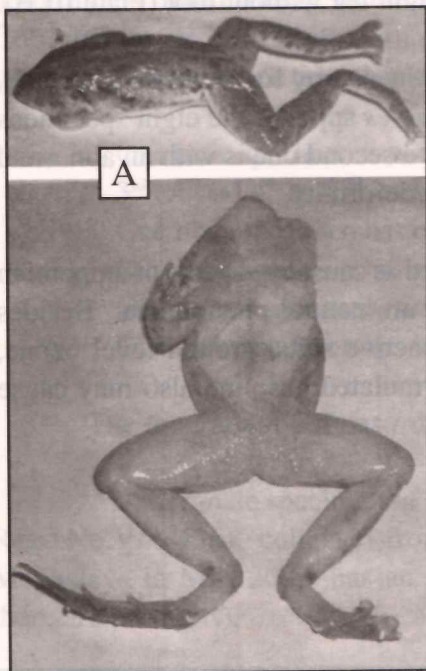
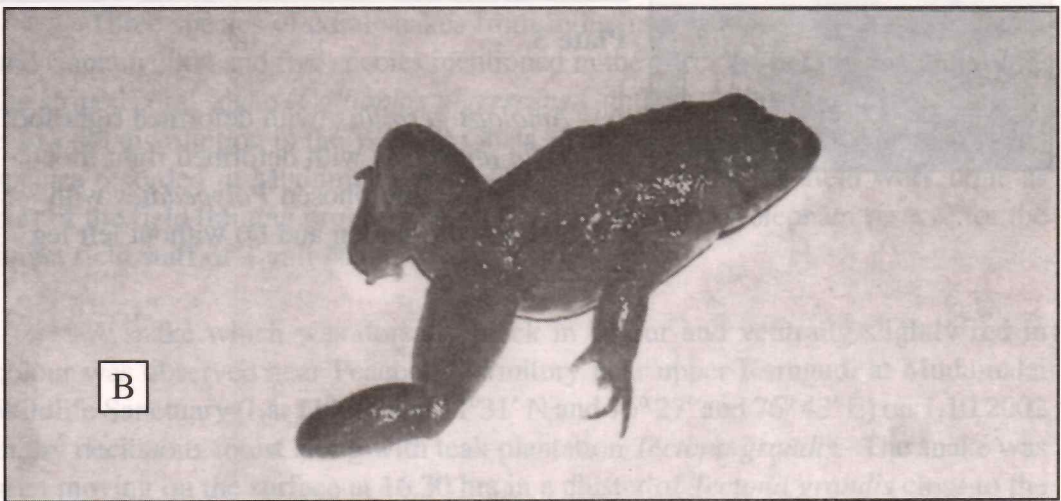
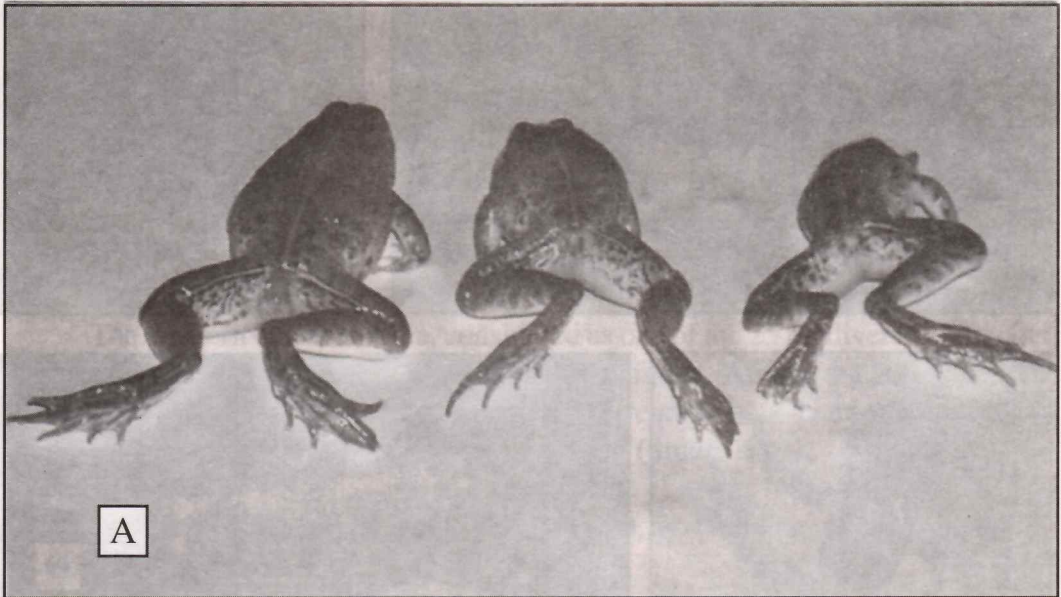


Plate 1

- A) *Fejervarya limnocharis* without left limb and deformed toe digits (Lateral and Ventral view)
- B) Showing 4 digits on hind limbs

Plate 2

- A) *Fejervarya* spp. Showing deformed digits
B) *Euphlyctis hexadactylus* without right foot.



domatory. It was long, slender, cylindrical, black coloured and belly scales coral

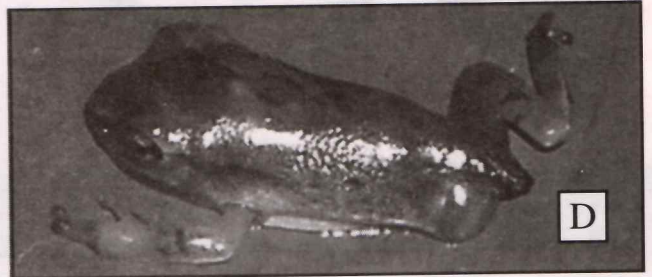
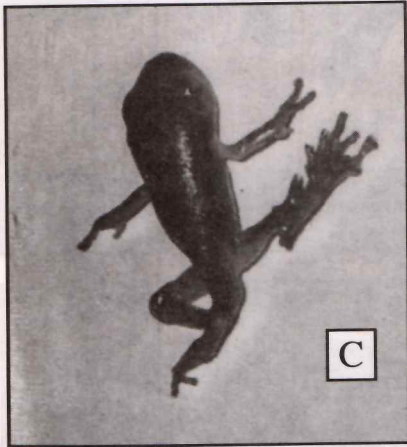
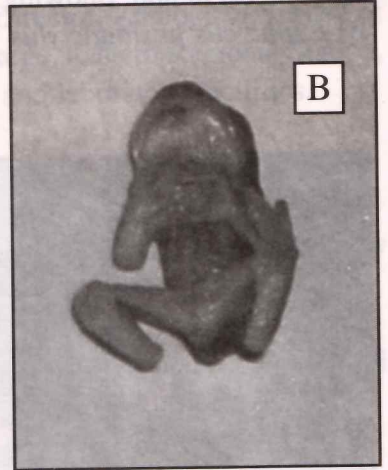
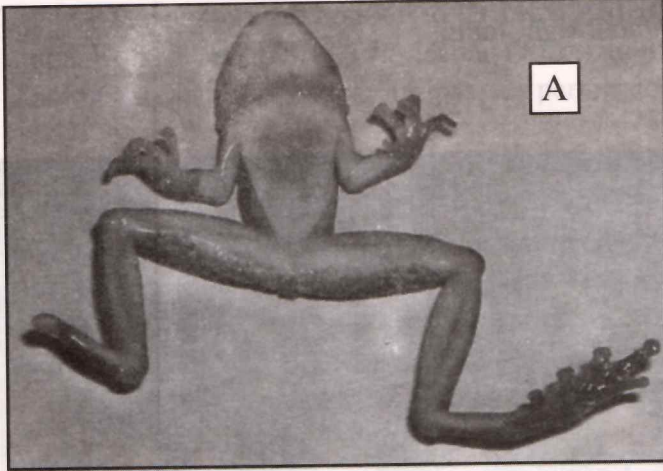


Plate 3

- A) *Amolops gerbillus* with deformed right foot
- B) *Hyla annectans* with deformed right foot
- C) newly metamorphosed *Polypedates* with deformed right leg and D) without left leg

OCCURANCE OF THE STRIPED CORAL SNAKE (*CALLIOPHIS NIGRESCENS* GUNTHER) IN MUDUMALAI WILDLIFE SANCTUARY, SOUTHERN INDIA

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The Western Ghats of India, considered as one of the 25 biodiversity hotspots in the world (Myers *et al.* 2000), is rich in reptilian fauna. Among the 500 species of reptiles known from India about 160 species of reptiles have been reported from this hill range and over 50% of them are endemic (Smith 1943).

The coral snakes are small to medium sized, slow, slender, brightly coloured and nocturnal.

Three species of coral snakes from India have been described by Whitaker and Captain 2004 and five species mentioned in the checklist in the book. Of these, the striped coral snake (*Calliophis nigrescens* Gunther) is endemic to India and has restricted distribution in the Western Ghats. This note provides information on this species recorded in Mudumalai Wildlife Sanctuary during the field work done as part of the field training programme on the management of elephant reserve for the forest field staff of Tamil Nadu.

A snake which was dorsally black in colour and ventrally slightly red in colour was observed near Peacock Dormitory near upper Karugudi at Mudumalai Wildlife Sanctuary (Lat 11° 30' and 11°31' N and 76° 27' and 76° 43' E) on 1.10.2002 in dry deciduous forest along with teak plantation *Tectona grandis*. The snake was seen moving on the surface at 16.30 hrs in a cluster of *Tectona grandis* close to the dormitory. It was long, slender, cylindrical, black coloured and belly scales coral

red coloured and underside of the tail red and white in colour and was identified as coral snake. Photograph was taken and later verified and identified by reference to Whitaker and Captain, 2004 and Das 2002 as striped coral snake *Calliophis nigrescens*.

Description

The overall colouration of the specimen was black above, with five black stripes edged with white on body. The top of the head was black in colour. A broad black bar found on the nape. Underside of the tail was red and white coloured.

Calliophis nigrescens is endemic to India and is reported to have distribution in the Western Ghats including the Nilgiris (Smith, 1943; Whitaker and Captain, 2004) and the present note is an added piece of information on the precise locality in Mudumalai Wildlife Sanctuary.

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**RECORD OF ORNATE FLYING SNAKE
CHRYSOPELEA ORNATA (SHAW) IN MUDUMALAI
WILDLIFE SANCTUARY, SOUTHERN INDIA**

P. Kannan

Chennai Snake Park
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The ornate flying snake *Chrysopelea ornata* (Shaw) has distribution in the foot hills of Himalayas to Uttar Pradesh, north eastern India and Southern Gujarat and south to the Western Ghats (Das, 2002, Whitaker and Captain 2004). This is the record of this species from Mudumalai Wildlife Sanctuary in the Western Ghats of Tamil Nadu. While surveying reptiles of the Nilgiri Biosphere Reserve, Murthy (2001) had commented that ornate flying snake could not be sighted.

The author observed an ornate flying snake on low bushes in dry deciduous forest patch near Theppakadu in Mudumalai Wildlife Sanctuary on 13.9.2002 at 15.30 hrs. It was a brightly coloured snake, medium sized, slender with depressed head. The head was black with yellow cross bars, belly pale green with series of black lateral spots. The present observation confirms the distribution of this species in Nilgiris.

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**NORTH-EASTERN WATER SKINK
TROPIDOPHORUS ASSAMENSIS ANNANDALE
(REPTILIA:SAURIA:SCINCIDAE)
IN MIZORAM, NORTH EAST INDIA**

Rosamma Mathew

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Risa Colony
Shillong – 793 003

Key words:

VR/ERS/ZSI – Vertebrata Reptilia/ Eastern Regional Station/ Zoological Survey of India.

Annandale (1912) described North-eastern water skink *Tropidophorus assamensis* on the basis of a specimen collected from Haraigaj range, 550', Sylhet hills of Assam and deposited at the Indian museum under Type.no. 17029 by G. Mackrell. There has been no subsequent report of this species.

A single specimen of this species was collected from a bamboo thicket by the side of a stream in Phai Ruangai, Lungsen Block, Lunglei district of Mizoram, (Alt. 978m above mean sea level, Lat 22° 49' 29", Long. 92° 28' 33"), on 21.9.2005 by R. Mathew and party.

Diagnostic characters

Snout sharply pointed, narrow; rostrum convex; nasal single; tympanum large; lower eyelid scaly; frontonasal concave; two prefrontals in contact with one another; frontal large; five upper labials and as many as lower labials; no supra nasals; four supra oculars; three scales form a border for each parietal; mental large; three submaxillary scales on either side; upper head scales strongly ridged; 30 scales round the body, strongly keeled and spinously produced; two large preanal plates; ninety five caudal plates; legs when stretched scarcely reach the wrist. Dark brown above,

obscurely marbled with yellow; three cross bars of latter colour, one across hind limbs, another across forelimbs and a third, less distinct than these two, across the back of neck; yellow spots on limbs; (Plate.1), four or five broken bands of the same colour between forelimbs and hind limbs; tail obscurely banded; lips bordered black; ventral surface yellowish; snout to vent length 45mm, tail 56 mm. The specimen is registered VR/ERS/ZSI/ 241. Measurements are in millimeters.

Acknowledgements

I am grateful to Dr. J.R.B. Alfred, Director, Zoological Survey of India, Kolkata and to Dr. N.Sen, Officer-in-charge, Eastern Regional Station, Zoological Survey of India, Shillong for permission to study the material and for laboratory facilities. I thank Dr.Aaron Bauer, Villanova University, USA, for kindly identifying the specimen. Thanks are also to Dimos Khyntiam and Shri. Niraml Sapkota for assistance in the field.

Reference

Annandale, N 1912. Description of three new Indian lizards. *Rec. Indian. Mus.*viii, 56-59.



Plate 1. *Tropidophorus assamensis*

**OBSERVATION ON THE COURTSHIP OF BAMBOO TREE FROG
POLYPEDATES LEUCOMYSTAX (GRAVENHORST) (ANURA:
RHACOPHORIDAE)**

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The bamboo tree frog *Polypedates leucomystax* (Gravenhorst, 1829) is a widely distributed species, having been recorded from India to Southeast Asia (Dutta, 1997). Within this range, it inhabits in both urban and semi-evergreen forest areas. During a field survey on 23rd June 2004, for the study of amphibian diversity of Bongaigaon district, I spotted some calling males of *Polypedates leucomystax* in an urban area full of weeds and herbs, among miscellaneous vegetation at about 1810hrs. The ground surface was covered with 80cm deep stagnant rainwater. Besides *Polypedates leucomystax*, some other species like Indian bull frog *Hoplobatrachus tigerinus*, Skipping frog *Euphlyctis cyanophlyctis* etc were also observed. I selected four calling males for my observation. The morphometric measurements of these males which were later collected are given bellow.

Morphometric character	Male 1	Male 2	Male 3	Male 4
SVL	5.37cm	5.29cm	4.68cm	5.16cm
HL	1.72cm	1.23cm	1.49cm	1.32cm
HW	1.65cm	1.21cm	1.58cm	1.49cm
SL	1.24cm	1.35cm	1.37cm	1.51cm
ED	0.34	0.56cm	0.54cm	0.49cm
TD	0.37cm	0.45cm	0.42cm	0.39cm
IO	0.48cm	0.59cm	0.68cm	0.62cm
IN	0.26	0.41cm	0.28cm	0.32cm

SVL: snout-vent length, HL: head length, HW: head width, SL: snout length, ED: eye diameter, IO: inter-orbital length, TD: tympanum diameter, IN: inter-nostril distance.

The first male was sitting on a *Jatropha curcas* plant at c.123cm height, the third and fourth males were sitting on *Melastoma malabathricum* and *Alocassia* spp. Plant at c.75 and c.66cm height respectively. They maintained a distance of c. 120cm, c.98cm and 102 cm from each other. It was a rainy evening. As the rain fell the males started calling more loudly. After 1hour 55min a female was seen to approach towards the males. Just after the females (SVL 5.74cm) appeared, all the males followed the female and the second male held the female in amplexus. The other males were observed calling around the pair. Finally the pair moved some distance away and on a stem of *Cassia sophera* the female started to make a foam nest by discharging a fluid substance, after 3h. 12 min duration of amplexus. The nest was at a height of c.72cm from the substratum. During the construction of foam nest, the male helped the female to move its hind limbs from the ankles. The pair took about 17 minutes to complete the construction of the foam nest.

Though the above described event was observed under a torch light. The observation was not very close, the nearest was about 120 cm and the pair was not disturbed.

Acknowledgements

We are grateful to Dr. K.Deuti for his encouragement, to Mr.S.N. Sen and Mr. K.J.Mazumdar of Nature's Foster for providing all necessary facilities and to Mr. S. Banarjee and Mr.A.N.Dev for help in taking the morphometric measurements.

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Dutta, S.K. 1997. *Amphibians of India and Sri Lanka (Checklist and Bibliography)*. Odyssey Publishing House, Bhubaneshwar.

A NOTE ON SWIMMING HABITS OF BRAHMINY WORM SNAKE (*RAMPHOTYPHLOPS BRAMINUS* (DAUDIN, 1803))

Vikas Upadhyay

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Indore - 452012 (M.P.)

Worm snakes are well adapted to lead an underground life, but I have observed their swimming habits also. In my *pucca* water tank many worm snakes fall throughout the year and incidents increase in monsoon. Once in June 2002, I observed that a 100 mm long worm snake (*Ramphotyphlops braminus* (Daudin)) was swimming for 130 minutes continuously. For about 90 minutes its swimming was rather powerful with lateral undulations and head was well above the surface just like checkered keelback (*Xenochrophis piscator* (Schneider)). At times it came to the wall of tank apparently to get rid of water. For about 20 minutes it suspended itself on the water surface with head stuck to the wall. Then it made itself into a coil with head above the water surface and body beneath the surface.

On April 19, 2003 a 145 mm long *R. braminus* was floating on the water surface with tight coiled body for 30 minutes. I thought that it was dead but it vigorously escaped when rescued.

Acknowledgement

I am thankful to my nephew Naman for information received.

Acknowledgements

We are grateful to Dr. K. Debi for his encouragement, to Mr. S. N. Sen and Mr. K. J. Mazumdar of Nature's Foster for providing all necessary facilities and to Mr. S. Banarjee and Mr. A. N. Dev for help in taking the morphometric measurements.

**THE DECLINING STATUS OF BENGAL MONITOR
(*VARANUS BENGALENSIS*, DAUDIN 1802) IN MEEMCH
DISTRICT, MADHYA PRADESH**

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Indore – 452 012(M.P.)

The Jawad town is located in Neemuch district of northern M.P. (latitude $24^{\circ} 1.5' N$ and $75^{\circ} E$ and an altitude of 488 m ASL). The Neemuch district lies on the northern most limits of the Malwa plateau. The state of Rajasthan touches it on three sides. The easternmost ranges of Aravallis start from this region. The flora is typical dry deciduous. Due to all these reasons Jawad is rich in reptilian fauna. I had stayed in Jawad from September 2002 to February 2003. During my stay I observed the status of bengal monitor (*Varanus bengalensis*). It was quite common till 2002 and was equally at home in jungles as well as in human habitations. In rainy season these lizards used to come out from their hiding places and many were killed in road mishaps.

The native of Jawad kills it as soon as sighted as they believe that monitors are more venomous than cobra. The vernacular name for female *V. bengalensis* is "Goh" and that of male is "Goyera". This lizard is now becoming uncommon in Jawad area mainly because of wanton killings, road mishaps, heavy deforestation, human interference and fast rate of desertification.

Acknowledgement

I am thankful to my student Piyush and Indramal for field trips.



RANDOM HARVEST

Road kills

In writings by naturalists and wildlife biologists on reptile and amphibian populations in different tracts, one sometimes comes across references to road-kills or DORs (Dead-on-Road), that is, animals killed on the road by fast-moving traffic. The accidents happen when the animals attempt to cross the road or, in the case of cold-blooded creatures like snakes, when they bask on the road to absorb the surface warmth. Such road-kills can give valuable information on otherwise not-easily-noticed species. It has been pointed out that species previously rare in collections have been found in substantial numbers by road-sampling. Carl Kauffeld says in *Snakes and Snake Hunting* (1957): "My principal interest is always in finding the living snake, but a 'good' DOR is not to be despised. Much can be learned from it".

Unlike in herpetological literature from other countries, studies of road-kills in India are few and far between. This could be either because, unlike in the West, we do not have that much of fast-moving traffic in our countryside or because comparatively fewer roads pass through wild areas or because few organized efforts have been made to collect road-kills and process the data or because of all these together.

In this context, the following account occurring in a biographical essay on Reeve M. Bailey, Ichthyologist, published in *Copeia* 2000(4) will be of interest: "In his own fieldwork, Reeve found there were then abundant amphibian and reptile DOR (dead on the road) remains on the highways and adopted the collecting technique developed by Lawrence Klauber of carefully monitoring these road kills... In those days cars had wide running boards. Reeve lay face down on the running board, grabbing DOR specimens, while his wife Marian drove slowly. There were few cars in those days to interfere with this novel collecting technique. Cruising on rainy evenings was especially productive, and safer then because of light traffic."

Snakes with legs

It is seen from *The Hindu* of 20th Apr. 2006 that a recent issue of *Nature* carries a report of a 90 million year old fossil snake discovered in the Patagonia region of Argentina. This is the most primitive snake known and it had two legs. This snake



retained the sacrum – a bony feature supporting the pelvis – which other snakes have lost during their evolution from land-living lizards. The anatomy of the fossil and the deposits in which it was found suggest that it lived on land. This provides new evidence that snakes evolved on land rather than in the sea as is sometimes believed.

The creature has been named *Najash rionegrina*. *Najash* is a Hebrew word for snake; Rio Negro is the province of Argentina where the discovery took place.

On the Net, *Nature* is at <http://www.nature.com/nature>

Reformed sea snakes?

All sea snakes are extremely poisonous. They generally feed on fish (and other marine organisms?): Mark O’Shea says in *Venomous Snakes of the World* (2005) that “three species feed on fish eggs and may be becoming non-venomous.” The names of the species have not been mentioned.

The “no – no” snakes

Jameson’s mamba (*Dendroaspis jamesoni*) is a venomous snake found in parts of Africa. It is a terrestrial/arboreal cobra measuring over two metres. Ludwig Trutnau says in *Venomous Snakes* (2004) that this snake behaves strangely when disturbed: it will shake its head back and forth horizontally as if saying ‘no’! The green mamba (*D. viridis*) also has this habit.

Snake venom to ease pain

The online edition of *The Daily Mail* quotes Ms. Naftali Primor, R & D manager at Shulor Institute of Sciences in Israel, as saying that the Institute’s research is likely to produce an analgesic based on snake venom which could be on sale within five years. This could alleviate pain from arthritis. The research was done with venom from the Palestinian viper. Ms. Primor said: “About 99% of the venom is non-toxic, which leaves us with a great source of possible drug components”.

(Source: *Economic Times*, 30.3.06)

“World’s largest turtle graveyard”

An alarming report in the *Hindu Business Line* of Apr. 23, 2006 quotes the United News of India to the effect that “over one lakh turtles have been found dead on the Orissa coast, the largest nesting site for [Olive Ridley] turtles, during the last 13 years making it the world’s largest turtle graveyard”. The State Government have been largely dismissive of such claims. But Operation Kachhap Coordinator Biswajit Mohanty says that last year alone, more than 9000 turtles died against the State Government’s figure of 3217. He alleged that the State Government was yet to implement the Central Empowered Committee Orders for turtle protection passed in Apr. 2004. According to Mahanty the endangered Olive Ridleys continue to be massacred despite the availability of a Rs.10 million fund donated by Indian Oil for buying speed boats for patrolling the coast to ensure protection of Olive Ridleys. He also adds that despite a law which mandates the use of Turtle Excluder Devices in trawlers not a single trawler had complied with the law.

* * *

A fabulous rat snake

“ \$ 150,000 [is the] asking price for six-year old WE, a two-headed albino rat snake owned by the World Aquarium in St. Louis, Missouri. The aquarium which bought the snake for \$ 15,000 in 1999 offered it to bidders in Reptile Auction.com”

(Source: *Time* Jan. 16, 2006)

* * *

A bad time for giant tortoises in captivity

A strange coincidence but so has it been! A few – very few – Giant Tortoises, particularly from the islands of Galapagos and Aldabra, have for over a hundred years lived rather uneventful lives in zoos in different countries. Strangely, in recent months, at least three of them have died.

Of these, the first to go was the Aldabra tortoise (*Geochelone gigantea*) which was a prized possession of the Chennai Snake Park. This was received as a gift from the Republic of Seychelles in 1979 and measured 4 ft. 4 in. in length, 2 ft. 2 in. in height and 169 kgs. in weight. Though its exact age was not known, considering its measurements compared to similar tortoises elsewhere, it was estimated to have been over 160

years old. Most unfortunately, the tortoise died on 28th Dec. 2005. The death was due to old age aggravated by respiratory complications.

Then came the death of the Aldabra tortoise in the Alipore Zoo at Kolkata on 24th March 2006. Its age was estimated as over 160 years though certain reports, apparently fanciful, claimed it to be even as old as 260 years. (The only giant tortoise in captivity now left in India is in the Hyderabad Zoo)

And, now comes a report from Agence France-Presse (*The Hindu Business Line*, 24th June 2006) about the death of the 176 year old Galapagos tortoise (*Geochelone elephantopus*) which went by the name Harriet, kept in the Australia Zoo in Southeast Queensland. It died on 22nd June 2006 after a short illness.

Three deaths of centenarian giant tortoises in different parts of the world within a period of six months!

* * *

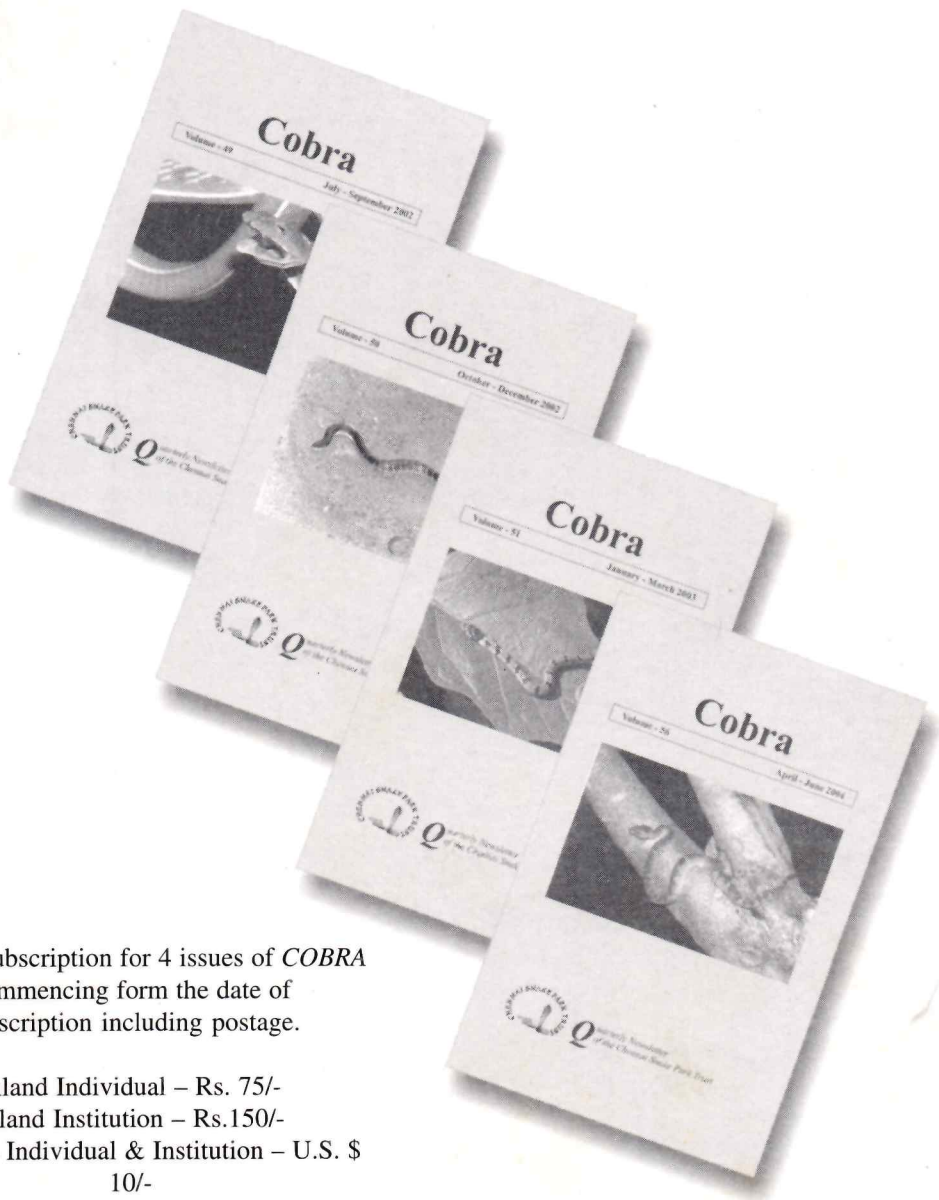
Without comment

Dr.Karl P. Schmidt, who retired as Chief Curator of Zoology at Chicago's Natural History Museum, wrote in his book, *Living Reptiles of the World*, published in 1957: "Only one of the rear-fanged snakes, the notorious boomslang of Africa, is potentially dangerous to man ... Ordinarily, it is a mild-tempered snake and takes considerable abuse before puffing out its neck in a threatening posture. It should be treated with respect, however, for several human fatalities have been attributed to the boomslang's bite."

A few months later, he was examining a boomslang at the London Park Zoo in Chicago. It bit him. He went home and collapsed. He was dead.

- **B. Vijayaraghavan.**

* * *



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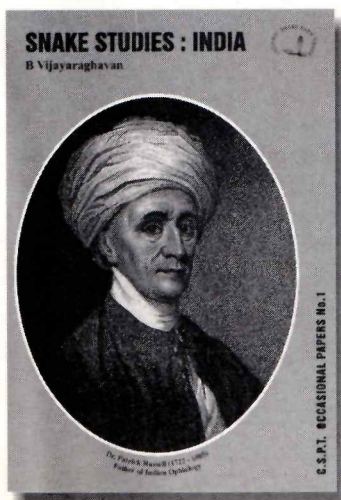
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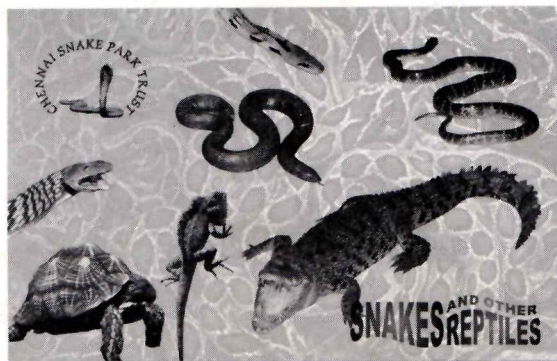
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