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Note on Defensive Behaviour in Cochin Forest Cane Turtle (*Vijayachelys silvatica*)

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The Cochin Forest Cane Turtle (*Vijayachelys silvatica*) is a rare and cryptic species (Vijaya, 1982a,b,c; Groombridge *et al.*, 1983; Moll *et al.*, 1986) belonging to the family Geoemydidae (Praschag *et al.*, 2006). Unlike its close relative, the aquatic *Melenochelys trijuga* (Praschag *et al.*, 2006) cane turtle is terrestrial (Moll *et al.*, 1986). It is omnivorous and feeds on fruits, fungi, molluscs, beetles & millipedes (Moll *et al.*, 1986). There is no information on the ecology and behaviour of the species through *in situ* studies. A study is being carried out in Karian Shola, Indira Gandhi Wildlife Sanctuary, Tamil Nadu, India. On 14 January 2007 at 14.30hr a sub-adult male cane turtle was observed. While measuring the animal using a pair of vernier calipers, a pale yellow coloured, offensive smelling secretion squirted from below the plastron carapace bridge in the inguinal region. The squirted fluid traveled roughly 30cm from the turtle. After careful examination, it was observed that the secretion came out from the posterior part in the region where the infra-marginal and the seventh marginal scute meets (Image 1). We inferred that the secretion must have been from the Rathke's gland.

Rathke's glands are a pair of exocrine organs embedded in the ventro-lateral aspect of the trunk of many aquatic turtles (Waagen, 1972; e.g. North American Musk turtle *Sienotherus odoratus* - Eisner *et al.*, 1977; Australian snake necked turtle *Chelodina longicollis* - Eisner *et al.*,



Image 1. Arrow mark indicates the region from where the turtle squirted out the secretion.



1998; Kemp's Ridley turtle *Lepidochelys kempii* - Weldon *et al.*, 1990; Green turtle *Chelonia mydas* - Solomon, 1984; Loggerhead turtle *Caretta caretta* - Weldon & Tanner, 1990). Secretions from these glands are made through duct openings in the axillary, inframarginal or inguinal regions, when turtles are disturbed. It is hypothesized that these secretions repel predators because of their offensive smell (e.g. Ehrenfeld & Ehrenfeld, 1973).

Moll *et al.* (1986) described two forms of defensive behaviour in the Cochin forest cane turtle. In the first form a male-to-male combat was observed in captivity and a larger male moved towards a small male with its neck extended and mouth open. The small male defended itself by retracting its head and tipped the anterior portion of its carapace towards the aggressor. This kind of defensive behaviour may be intra-specific in nature. The second form of defensive behaviour was observed in both the sexes. The cane turtles defecated frequently when picked up from the ground and the male also extended its penis. We suspect that these defensive behaviour deter predators. The present observation indicates the third form of defensive behaviour in the species. Through this report we highlight the diversity of defense mechanisms in the species and emphasize the need to observe their behaviour *in situ*.

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Snakes of Rameshwaram

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Rameshwaram is a town in Ramanathapuram District in Tamil Nadu. It is located on an island separated from mainland India by the Pamban channel and is less than 40km from Sri Lanka. Rameshwaram is located at 9.28°N-79.30°E. It has an average elevation of 10m (32ft). The island is spread over an area of 61.8sq.km and happens to be in the shape of a conch.

Rameshwaram has a dry tropical climate with temperatures around 30-35°C, the highest ever recorded at Pamban station is 37°C and lowest 17°C. The average annual rainfall is 94cm, received mostly from the North East monsoon between October and January.

There is no information available on snakes of Rameshwaram. During our work on tarantulas (Parachute spiders) of Rameshwaram Island, we came across five species of snakes. The snake species spotted were Saw-scaled Viper (*Echis carinatus*), Bridal Snake (*Dryocalamus nympha*), Red Sand Boa (*Eryx johnii*), Russell's Kukri (*Oligodon taeniolatus*) and Common Wolf Snake (*Lycodon aulicus*). We did not catch the snakes as we do not have the necessary training to handle snakes to handle the snakes. We however took photographs of the snakes. Dr. S. Bhupathy helped us to identify the snakes.

Sea sand covers most of the island of Rameshwaram with hardly any other arable land. Plantations of Tamarind (*Tamarindus indicus*), Coconut (*Cocos nucifera*) and Palm (*Borassus flabellifer*) are common. We conducted our work mostly in Tamarind, Casuarina (*Casuarinaceae equisetifolia*) and Palm groves. Tamarind and Palm trees grow together in most places. The Casuarina groves are 10-12kms in length and 1-2kms in width.

We visited Rameshwaram nine times between 2004 and 2007. We sighted 5-6 snakes during each of our field visits. Apart from snakes, we saw scorpions, the Tree Frog (*Kaloula pulchra*), House Centipede (*Scutigera coleoptrata*), Whip Spider, termite and bark geckos.

Saw-scaled Viper (*Echis carinatus*) (Image 1): Mainly nocturnal, usually basks in the morning sun. Mostly found in open dry, sandy or rocky terrain in the plains and hills, and also in open, rocky regions with heavy rainfall; It rests under rocks, behind tree trunks and at the base of thorny plants during the day. The average size of the snake is 12-20cm. It is a highly venomous snake with venom being very toxic (Whitaker & Captain, 2004).



Image 1. Saw-scaled Viper (*Echis carinatus*)

Table 1. Snakes sighted during our visits.

Date of visit	Saw-scaled Viper <i>Echis carinatus</i>	Bridal Snake <i>Dryocalamus nympha</i>	Red Sand Boa <i>Eryx johnii</i>	Russell's Kukri <i>Oligodon taeniolatus</i>	Common Wolf Snake <i>Lycodon aulicus</i>
Sep - Oct 2004	+	+			+
Nov - Dec 2004	+	+			+
June - Jul 2005	+	-			+
Sep - Oct 2005	+	+			+
May - June 2006	+	+	+		+
Aug 2006	+	+			+
Nov - Dec 2006	+	+	+	+, +	+
Feb 2007	+	+			+
Nov - Dec 2007	+	+			+

It is one of the common snakes of Rameshwaram. We recorded this snake in all our field visits. It was found across all plantations, irrespective of the tree species. We spotted this snake species on the ground, example under the bark of Casuarina, yamarind and inside the fronds of young palm trees. We spotted this snake both during the day and night. During the day, it was found under the bark and under the roots of Casuarina and during the night, it was seen moving on the ground. At every visit we recorded a minimum of 3-4 snakes.

Bridal Snake (*Dryocalamus nympha*) (Image 2): Smooth-scaled, dark brown or black back with creamish-white bands that widen on the sides and break up on hind body. Poorly known, nocturnal, found in plains and low hills, and a



Image 2. Bridal Snake (*Dryocalamus nympha*)

good climber. The maximum size of the snake is 21in. It is a non venomous snake (Whitaker & Captain, 2004).

We recorded this snake eight times out of nine visits. According to Whitaker and Captain (2004) it has not been recorded near coastal areas, only interior parts of the mainland. This is the first record in a coastal area. We found this snake species in tamarind and palm groves during our night surveys. Once we observed a young Bridal Snake along with a parachute spider in a palm tree, the snake was less than 15cm. It went behind the bark of palm tree. Even though they were both very close to each other (less than 10cm), they did not interact with each other.

Red Sand Boa (*Eryx johnii*) (Image 3): Thick-bodied. Head thinner than neck; with a wide, shovel-shaped scale at the tip of the snout. Nocturnal, prefers dry places and sandy soils. Often lives in rodent burrows. Kills most prey by constriction. The maximum size of the snake is 39in. It is a non venomous snake (Whitaker & Captain, 2004).

During our surveys we recorded this snake twice. We sighted this species in two different places in Rameshwaram. It was on the sand and moving very slowly.

Russell's Kukri (*Oligodon taeniolatus*) (Image 4): Scales smooth, head slightly or not broader than neck, with typical ^ shaped marks seen on most kukri snakes. Though active both by day and night, frequently seen at dusk. Found



Image 3. Red Sand Boa (*Eryx johnii*)



Image 4. Russell's Kukri (*Oligodon taeniolatus*)



Image 5. A Cat Snake *Oligodon* sp. on Rameshwaram Island

in forests as well as near human habitation. Climbs well. The maximum size of the snake is 23in. It is a non venomous snake (Whitaker & Captain, 2004).

We recorded this snake twice. We saw this snake on the ground at night, it moved very fast when it was disturbed. During the day time we found this snake inside the tree hole



Image 6. Common Wolf Snake (*Lycodon cf. aulicus*) with a Rameshwaram Parachute Spider (*Poecilotheria hanumavilasumica*) on a Tamarind (*Tamarindus indicus*) tree



Image 7. Three forms of Wolf Snakes *Lycodon* sp. on Rameshwaram Island

of a tamarind tree. We observed different colour variations in this species (Image 5).

Common Wolf Snake (*Lycodon aulicus*): *Lycodon* one of the most widespread Asiatic snakes. Over 25 species have been reported to date, and 11 of them occur within Indian subcontinent (Mukherjee & Bhupathy, 2007). Strictly nocturnal. Found in and around caves, wells, stone piles, hollow trees and often in houses. Climbs rough vertical walls with ease. It is a non venomous snake (Whitaker & Captain, 2004).

It is one of the common snakes of Rameshwaram. We recorded 2-3 species during each of our visits. We found this species in the night time in Tamarind trees and during the day time, it was observed resting inside tamarind bark. During our survey, we once sighted this snake with a Rameshwaram Parachute Spider (*Poecilotheria hanumavilasumica*) (Image 6). They both were very close, less than 25cms away. The snake was moving but the spider did not move. After 3-4min the snake went inside a tree hole. Even though they both were very close, they did not attack each other. We observed three different forms of this species (Image 7).

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First record of *Uropeltis ellioti* and study of their habits and habitat in Melghat Forest in Satpuda

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On October 22nd 2005, one dead snake specimen of Shield Tail Snake (*Uropeltis ellioti*) was found on the road at Chikhaldara (21^o21'N-77^o22'E) district Amravati. Chikhaldara is situated at a height of about 3600ft. Melghat Tiger Reserve starts just after the hill station on one side. The observed specimen was dead as a result of a vehicle crash but had little injury. We collected the specimen, photographed it and preserved it into 10% formaldehyde. Scale count study revealed Sub caudal 7, Body scales 17-17, ventral 156, supra labial 5. We could identify the specimen as *Uropeltis*. Photographs were sent to Bombay Natural History Society for identification. The specimen has been added to the collection at the Bombay Natural History Society (B.N.H.S. 3354 and 3355).

In the rainy season of 2006, on July 30 and 31, we found another two live Elliot's Shield Tail Snakes. We studied the habit and habitat of the snakes carefully. The live snakes were found under the rocks on slopes and under decaying leaves in wet soil. It made tunnels under rock and was found moving with the help of his pointed head in humus and smooth and moist soil. Movement in reverse direction in the soil tunnel was not seen. It feeds on earthworm in moist soil. The species was found to be endemic to Chikhaldara with discontinuous distribution. It is known as a *Malan* by local people and in Marathi it is called as a *Khapar Khawalya*. In Chikhaldara people believe that this snake moves in the forward direction for up to 6 months and then in reverse direction for another 6 months. So *Dutondya* (double headed) is also another local name for this snake.

03 dead specimens were also reported during July to October 2006. All were victims of road accidents. This indicates that they come out of the soil tunnel when the soil gets saturated with water after heavy rains. Scale count was carried out (Table 1). The specimens have been handed over to the Department of Zoology, Sant Gadge Baba Amravati University, Amravati.

Supra labial scales are 5 and 3rd scale touches eye. From the scale study, it is confirmed as a *Uropeltis ellioti*.

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Table 1. Scalation data of three dead specimens of *Uropeltis elliotti*

Sp.No.	Date of found	Length	Diameter	Body Scales	Ventral	Subcaudal
01	29/07/2006	166mm	18mm	17-17 smooth	151	10 divided
02	13/08/2006	220mm	26mm	17-17 smooth	156	06 divided
03	10/10/2006	180mm	20mm	17-17 smooth	152	07 divided



Elliotts Shieldtail in life



Elliotts Shieldtail UP anal end



Elliotts Shieldtail UN Tail

and Mr. Ashok Captain, Renowned Herpetologist for their cooperation time to time. I am thankful to Prof. Dr. G.N. Vankhede, Head, Department of Zoology, S.G.B. Amravati University,

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Notes on the Distribution and Natural History of Lined Supple Skink *Lygosoma lineata* (Gray, 1839) (Squamata: Sauria: Scincidae)

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The Lined Supple Skink *Chamela lineata* was described by Gray in 1869 without any specific locality. Later Boulenger, 1887 allocated it to the genus *Lygosoma*. This species was reported to occur in Bombay district between Poona and north Kanara (Smith, 1935). It was later reported from Chidambaram district, Tamil Nadu and Salsette Island (Chari, 1960) and Gujarat state (Naik & Vinod, 1994), (Gayel, 1999) and (Vyas, 2001). Vyas (2001) suggested *L. vosmaerii* (Gray, 1839) as a synonym under *L. lineata* (Gray, 1839). Das (1997) mentions *L. vosmaerii* in his checklist; whereas Das (2003) does not mention it in his list of updated reptile taxonomy and nomenclature. If the type locality of *L. vosmaerii* (Gray, 1839) being a synonymy under *L. lineata* (Gray, 1839) is correct (Bengal), than *L. lineata* probably occurs in Bengal as well.

We observed several live specimens at Mumbai, Khopoli, Kolad, Nashik and Phansad Wild Life Sanctuary in Maharashtra from the year 2005 to 2007. In Mumbai it has been found at Aarey Milk Colony (19°9'57"N-72°51'32"E), Film City (19°9'46"N-72°53'31"E), Marol (19°7'31"N-72°52'76"E) and Sanjay Gandhi National Park (Borivali). This shows that this species occurs not only in the Western and Eastern Ghats, but also in Gujarat and may indeed be a more wide spread



species than collection records indicate. Here we take the opportunity to add some data on the natural history of this little known lizard based on specimens observed in parts of Maharashtra.

Lygosoma lineata is mostly found under rocks, under driftwood and among leaf litter with other sympatric species like *Calliophis melanurus*, *Eutropis carinata*, *Eutropis macularia* and *Ramphotyphlops braminus*. The Lined Supple skink also occurs in coastal forests of Phansad Wildlife Sanctuary up to hilly regions of Khopoli and Kolad with altitudes ranging from 150-457m. In Mumbai it is found in varied habitats such as forests, grass and scrub areas and also in gardens. It was commonly observed actively foraging around termite mounds in the early mornings and late evenings. A total of five specimens were found taking refuge under large boulders on the slope of a small hillock in an area of less than 1000ft². Adults are golden brown above, with each scale marked with a central black dot forming longitudinal lines from head to tail tip. Two juveniles possessing navy blue tails were found in Mumbai, measuring ca. 20mm TBL. It has been found near ant hills and termite mounds. One individual measuring 58mm TBL was retained for observation in captivity for 45 days with filter sand as the substrate and fed upon termites, house flies and mosquitoes, even accepting prey

approximately thrice the size of its head, which were actively pursued and subdued by hitting against the substrate prior to being consumed. The individual was also observed swallowing sand grains, probably to aid the digestion process. A specimen captured whilst consuming a Brahminy Worm Snake *Ramphotyphlops braminus* regurgitated it, probably owing to the stress of capture. *Lygosoma lineata* is probably preyed upon by sympatric predators like Giant Centipedes *Scolopendra sp.*, Slender Coral Snake *Calliophis melanurus*, and Cantors Black Headed Snake *Sibynophis subpunctatus*. Though not a rare lizard as previously reported to be (Naik & Vinod, 1994), its numbers are in decline owing to loss of habitat.

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Indian Eyed Turtle *Morenia petersi* (Anderson, 1879) in the Deepor Beel, Ramsar site Chittaranjan Baruah¹ & D.K. Sharma²

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The Indian Eyed Turtle, *Morenia petersi* (Anderson, 1879) (Family: Geoemydidae) has been recorded from only a few localities in Northeast India. Its distribution in India is reported as the Eastern part of the Ganga and Western part of the Brahmaputra (Iverson, 1986; Das, 1990). Earlier, this species was recorded from Bettiah in northwestern Bihar (Moll & Vijaya, 1986) and Sunderbans TR (Bhupathy *et al.*, 1994). Its major habitat is slow flowing rivers and standing water bodies or oxbow lake (Das, 1991). It is the second most traded species in Bangladesh and significant numbers are exported to food markets of China (Bhupathy *et al.*, 2000). However, in India records of export trade are very obscure.

Deepor Beel, the lone Ramsar site in Assam, is one of the five most important riverine wetlands situated at the southern fringe of the river Brahmaputra having great biological and environmental significance (Deka & Goswami, 1992). Deepor Beel (Protected area 4.14km²) is located within the coordination of 26⁰03'26"-26⁰09'26"N & 90⁰36'39"-90⁰41'25"E and lies 50-56.4m above MSL (Saikia & Bhattacharjee, 1987). The Beel has a perennial water-holding area of about 10.1sq.km, which extends up to 40.1sq.km during floods (Gogoi, 2007; Bera *et al.*, 2008). The Beel is home to about 122 species of birds and 50 species of fish in addition to other bio-resources (Saikia, 2005). Certain parts of the Deepor Beel are utilized as corridor by herds of wild elephants. Though efforts are made to provide protection of the wetland under the Wildlife protection Act, 1972 through creation of a Wildlife Sanctuary, yet a number of turtles, mostly the females (prized for their size) are captured illegally by fishermen.

On February 22, 2008, while surveying the turtles of Assam, we obtained an Indian eyed turtle, *Morenia petersi* as an accidental victim of a soil digging truck in Deepor Beel, the Ramsar site. The shell was collected and measured for confirmation. The details of size and colouration are as follows:



Image 1. Indian Eyed Turtle *Morenia petersi*
a - Carapace, b - Plastron

straight line carapace length 13.9cm; curved carapace length 15.8cm, straight line carapace width 10.2cm; curved carapace width 12.7cm. Identification of the species was followed after Das (1995). The carapace with slightly domed, black colored with narrow yellowish mesial line vertebrals and the last four vertebrals with a yellowish linear horseshoe mark with the ends directed forward, above which some irregular looped lines of similar colour with yellowish plastron were observed (Image 1 a&b). However, the sex of the individual could not be determined due to damaged condition of the specimen.

Earlier, Sengupta *et al.* (1998) reported its first occurrence in Assam from Pobitora wildlife sanctuary, yet its occurrence had not been reported from the district of Kamrup, Assam (Sengupta *et al.*, 2001). Recently, Saikia (2005) recorded 9 species of turtles from the Deepor Beel without the reference of *Morenia petersi*. The recorded species are *Pangshura tecta*, *Pangshura smithii*, *Pangshura sylhetensis*, *Geoclemys hamiltoni*, *Hardella thurgii*, *Lissemys punctata*, *Aspideretes hurum*, *Chitra indica* and *Aspideretes gangeticus*. The present observation is the first report of *Morenia petersi* from the Kamrup district of Assam and that too from the Deepor Beel.

The recent digging of the Deepor Beel bed in a number of locations in northern boundaries and heavy encroachment

for settlement caused tremendous loss of wetland area. The newly constructed railway line through the southern and eastern periphery of the Deepor beel is a major threat to the ecosystem particularly in view of encroachments, forest destruction, erosion and disturbance (Saikia, 2005). Large-scale encroachment of the government as well as private owned low lying area of the Deepor Beel for settlements, institutions, and business establishments causes tremendous threat to the chelonian diversity in the Beel. The increasing numbers of brick making factories and extensive soil cutting within the Beel ecosystem, is a growing threat in the Ramsar site.

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Notes on the effect of a bite from *Calliophis melanurus* Shaw, 1802 (Serpents: Elapidae: Calliophinae)

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The family Elapidae Boie, 1827 is represented by over 60 genera and 300 known species distributed throughout the tropical and sub-tropical region. The snakes of this family are further divided into six subfamilies namely Bungarinae, Calliophinae, Elapinae, Hydrophiinae, Laticaudinae and Maticorinae by McDowell (Kedar Bhide pers. com.). In the oriental region the Elapids are represented by 13 genera and 36 species (Whitaker & Captain, 2004). The snakes of the subfamily Calliophinae are one the least known in terms of their venom virulence and natural history. Oriental coral snakes are included in three genera namely *Calliophis*, *Hemibungarus* and *Sinomicrurus* by Slowinski *et al.* (2001). In India, the subfamily Calliophinae is represented by four species of the genus *Calliophis* namely *C. beddomei*, *C. bibroni*, *C. melanurus* and *C. nigrescens* (Whitaker & Captain, 2004). *Calliophis melanurus* Shaw, 1802 is more widespread of all the other species of the genus occurring in peninsular India and Sri Lanka (Daniel, 202); Whitaker and Captain (2004) state that it probably occurs in most of Peninsular India (except the extreme north-west), with definite records from Gujarat, Maharashtra, Karnataka, Kerala, Tamil Nadu and West Bengal; there is a single record from Dhar, Madhya Pradesh (Vyas & Vyas, 1981). Here we add some data on the effect of a bite received by a local snake rescuer from *Calliophis melanurus* at Ambernath, Maharashtra.

On 30th December 2007, a person (Age 43 and Weight 68kg) bitten on the base of the thumb, of the left hand while handling an individual at 1230hrs started to experience drowsiness by twilight. On the next day, i.e. the 31st of December the bitten area resembled a minor burn mark with slight swelling and by the third day i.e. 1st January, 2008 the bitten area was numb and appeared like a wart. The snake measured ca. 27.94mm and was rescued from a house at Badlapur (Thane District) Maharashtra.

Whitaker & Captain (2004) mention "Bites cause slight swelling and itching"; Whitaker (2006) states "Nothing is known about this little relative of the cobra but the striped coral snake becomes more than 1 meter long and could be dangerous to man"; Mirza and Ahmed (submitted) mention an individual being bitten by it in Mumbai due to an accidental tail breakage of the snake but did not experience any ill effect. Thus the present report adds some data on the virulence of the venom and the effects indicate that the venom might be of neurotoxic type. Coral snakes are slender bodied, narrow headed, with large venom glands and use their venom to subdue prey which mainly consists of snakes. *Calliophis melanurus* is known to feed on *Ramphotyphlops braminus* (Vyas & Vyas, 1981) and probably juvenile *Lygosoma sp.*, which are sympatric as well as fossorial. The authors thus conclude that *Calliophis melanurus* does not have as potent venom as compared to other elapids, being a fossorial serpent preying on other fossorial species, with Scolopendrans being one of the known predators (Mirza & Ahmed, submitted)



Coral Snake *Calliophis melanurus*

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Notes on the predation of *Cnemaspis* sp. by *Hemidactylus* cf. *brookii* Gray, 1845 (Squamata: Sauria: Gekkonidae)

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On 21 February, 2008 at 2330hr three juvenile *Cnemaspis* sp. measuring ca. 15mm were observed foraging on a wall alongside an adult *Hemidactylus* cf. *brookii* measuring ca. 90 mm in length, at a distance of ca. 150mm. apart, at Uday Hotel in the town of old Mahabaleshwar (Maharashtra). Subsequently, *H. cf. brookii* was observed lunging at the juvenile *Cnemaspis* sp. and swallowing two individuals in rapid succession using a sideways head jerk. On 22 February 2008 at 0630hr yet another individual of *H. cf. brookii* was observed capturing an adult *Cnemaspis* sp., stunning it by a series of rapid hits against the wall and consuming it.

The genus *Hemidactylus* is widely distributed throughout much of the Old World tropics and subtropics as well as in the Mediterranean region and in the Americas with at least 85 recognized species with majority of the species confined to southern Asia and Africa (Giri & Bauer, 2008). In India, the genus is represented by 21 species (Giri & Bauer, 2008). *Hemidactylus brookii* (Gray, 1845) is one of the most common member of the genus occurring from Borneo and south China through much of tropical Asia and the northern half of Africa, being introduced in west Indies (Minton, 1966); Daniel (2002) states "Widely distributed in Asia and Africa and has been introduced elsewhere in the tropics of the world". A common house gecko in India reaching a maximum length of 135mm., it is met with in the forest, around houses and also in houses, feeding on insects. Members of the genus *Hemidactylus* feed exclusively on insects with the exception of *H. flaviviridis*, *H. leschenaultia*, *H. maculatus* and *H. frenatus* which are known to be cannibalistic and/or to devour sympatric species of the same kind (Daniel, 2002). This report constitutes the first record of predation of a sympatric species by *Hemidactylus* cf. *brookii*.

Geckos of the genus *Cnemaspis* are represented by 42 recognized species in Asia and as many as 19 species are reported from India (Das & Ahmed, 2007). Most of which are confined to the Western Ghats and northeastern India. These geckos can be easily distinguished from other geckos by the presence of rounded pupil and undilated digits, the presence of the former leading to speculations of their diurnal habits. At Mahabaleshwar these geckos were fairly common and were observed on walls around human habitation immediately after dusk. Individuals were observed taking refuge in wall crevices, logs and boulders during the day and at a time three juveniles were observed sharing the same crevice. Smith (1935) states "It is generally said that the species of this genus are of diurnal habits, an assumption based, no doubt, upon the shape of the pupil. With the exception of *C. littoralis* I do not know of any observation to show that this statement is correct". Thus based on the observation made from the individuals at Mahabaleshwar, we conclude that the geckos of the genus *Cnemaspis* (except *C. littoralis*) might be nocturnal and not diurnal as assumed.

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Notes on the natural history of Common Smooth Water Snake *Enhydris enhydris* Schneider, 1799 (Serpentes: Colubridae)

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The Indian snakes of the genus *Enhydris* Sonn. & Latr., 1802 are represented by four species namely *E. enhydris*, *E. dussumieri*, *E. sieboldii* and *E. plumbea* (REF). Of these, the Common Smooth water snake *Enhydris enhydris* Schneider, 1799 is known to occur from North of river Godavari to Nepal and east to Assam and most parts of Southeast Asia (Smith, 1943; Whitaker & Captain, 2004). Throughout its range this species is poorly known in terms of natural history. In the present paper we provide information on its natural history based on observation in Howrah District, West Bengal.

E. enhydris inhabits freshwater and estuarine habitats, and were often found on the edges of freshwater ponds and irrigated fields with the tip of their snouts projecting out of the water with their body buried in silt. This behaviour was found in captivity as well. A sluggish species and seldom seen on land. A female caught on land gave birth to 8 young ones in May. In irrigated paddy fields, these snakes were observed in fishing basket traps probably to feed on the trapped fishes (*Pangassus* sp. which dominate these fields and ponds) with other sympatric species like *Naja kaouthia*. This species is mostly active after dusk and early mornings indicating its crepuscular habit. *Enhydris enhydris* are not known to feed in captivity (Günther, 1864), however a specimen measuring 630mm. nonthlessly accepted juvenile fishes belonging to the order Siluriformes (Catfishes): family Pangassiidae including *Pangassus* sp. for which a distinct preference was exhibited. Other fishes fed upon were *Poecilia reticulata*, Anurans such as *Fejervarya* sp., *Euphlyctis cyanophlyctis* and the larvae of *Hoplobatrachus tigerinus* were accepted, whereas *Bufo melanostictus* was not preyed upon. Daniel (2002) reports "A bite on the hand became immediately swollen and the hand started throbbing 15 minutes after the bite and continued to throb for about an hour"; however the first author (SP) on being bitten while rescuing an individual did not experience any such symptoms.

Previously thought to be an uncommon species (Daniel, 2002), it is commonly found (Whitaker & Captain, 2004) in preferred habitat and known range, and may be in decline owing to destructive fishing practices. This species is consumed by some local communities.



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Mortality of Spiny-tailed Lizard *Uromastyx hardwickii* Hardwicke & Gray, 1827 in the Kachchh District of Gujarat

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According to Daniel (2002) the Spiny-tailed Lizard-*Uromastyx hardwickii* belongs to the family Agamidae locally called as "Sandho". It mostly habits in the dry and desert regions of Uttar Pradesh, Rajasthan, and Kachchh district of Gujara and in the neighboring country of Pakistan (Gayen, 1999).

During our Environmental Impact Assessment (EIA) survey in the Narayanan Sarovar Wildlife Sanctuary in Lakki taluka of Kachchh district, we had recorded two individuals of this species in mortality condition, one in the open scrub of the reserve forest and another on Koteswar to Lakki road. The first specimen was recorded on 18 August 2007 at 1148hr (23°40'59.5"N & 68°37'57.9"E) at 32m above sea level from the Godathad Reserve Forest. A female specimen was recorded inside the burrow deadwith its head facing inside, this may be due to fights with co specific and besides this mortality, fresh burrows and pellets were also observed.

The second specimen was recorded on 4 October 2007 at 1605hr in between Koteswar to Lakki forest road (Table 1). It was found dead in the 3m forest mid-road, the event most likely to have happened just a few minutes ago as blood was oozing out. It may be that while crossing and foraging towards the food plants, it was run over by some vehicle. It was an adult female. Basking on the road and using this substrate for thermoregulation is a likely reason for their increased vulnerability to vehicular traffic. After recording all the morphometric measurements, specimens are best kept away from the road to prevent further accidental deaths by being run over by vehicles. This is one of the threatened species under Schedule-II (IWPA, 1972) and hence needs high conservation priority.

Table 1. Morphometric data on Spiny Tailed Lizard *Uromastyx hardwickii* from Kachchh district, Gujarat

Measurements (in mm)	Specimen	
	Godathad RF	Koteswar to Lakki
Total body length TBL	261	385
Head length HL	33	48
Head width HW	24	40
From head to neck HN	-	50
From tip of snout to vent SVL	152	-
From cloaca to tail tip TL	111	170

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A report on endo and ecto parasitism in an Indian Rat Snake (*Ptyas mucosa*) from Namakkal District of Tamil Nadu

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Snakes of both venomous and non venomous varieties are highly prevalent in Namakkal area and they prey on species which could pose threats to the agricultural economy such as rats, frogs and other creatures. Snakes are affected by endo and ecto parasites and that result in major health hazards like gastro intestinal disturbances, anaemia and transmission of blood protozoan parasites. The paucity of information on the occurrence of endo and ecto parasites in snakes in Namakkal area necessitates the communication of the present report and is a first one of its kind in this area. A dead 6.5feet Indian Rat Snake (*Ptyas mucosa*, Family: *Colubridae*) was collected from an under-construction railway track between Salem and Karur at Latuwadi village, Namakkal. It was infested with ticks beneath the scales. About 20 ticks were collected manually and preserved in 70% alcohol for identification. A post mortem examination was also conducted and one gastro intestinal nematode was collected for further identification.

Based on the morphological features, the ticks were longirostrate, ornate, without eyes, body was round and flat and was identified as *Aponomma sp* which is in accordance with findings of Sen and Fletcher (1962). Tick infestation in snakes was also recorded by Sur *et al.* (2001) from West Bengal, India.

Based on the microscopic examination, the gastro intestinal nematode was identified as *Kallicephalus sp* belonging to the Strongylidae family which is an Intestinal hook worm of snake. The morphometry revealed that the female adults were relatively small, about 1.2cm in length and the other characteristics were closely related to the reports of Murray E. Fowler (1986). The association of *Aponomma sp* with reptiles was also reported by Stenos *et al.* (2003) and Pietzsch *et al.* (2006).

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Notes on a rescue of a Burmese Python *Python molurus bivittatus* Kuhl, 1820 (Family: Pythonidae) from an urban area of Bongaigaon District, Assam

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An effective approach towards gauging or monitoring habitat change is to study the response of a faunal group in terms of changes in diversity along a gradient of time and/or space. This can then be used to support conjectures about habitat degradation in terms of structural and functional attributes (Landres *et al.*, 1988; Noss, 1990). It is generally perceived that a well-defined response to disturbance (predictable, rapid, sensitive, analysable and as far as possible linear response) is desirable (Brown, 1991). However, an easily interpretable response may not always reveal the true extent of the situation. Therefore, what is needed is a comparative approach to actually understand the effects of habitat change on the functioning and structure of an ecological community. Assemblages of faunal groups with differing life histories are likely to show different responses to disturbance. In practice however, there has to be a compromise between the numerous limitations to attaining a true landscape approach and the need to adopt an approach broad enough to allow more than a taxon-restricted understanding of this problem (Weaver, 1995). The present observation reiterates the same problem faced by a large snake like Burmese Python *Python molurus bivittatus*.

The Burmese Python is a restricted range species to Indian subcontinent being only found in northeastern region (Whitaker, 2004). Though adaptable, the python needs a large, undisturbed area to hunt and hide in the wild. But due to the extensive loss of habitat and lack of prey, the species often comes out from the natural habitat to the near by human habitations in search of easy prey such as domestic animals. Though there are reports from various parts of northeastern region as well, the species is regularly rescued from the different human habitations of Bongaigaon District along with other species of snakes. Bongaigaon lies in the north-western parts of Assam and falls within the latitude of 26°28' - 26°54' N & 89°00' - 90°06' E. The district is generally plain, with some hillocks on the central and south-western part. The mighty Brahmaputra and its tributary Aie flow through the district. The district has 29% of its area under forest cover, 44258.73ha under reserve forest; 5037.45ha under proposed reserve forest and 408.53ha under unclassified forest area. Wetlands encompass an area of 1751sq.km of the total area of the district. The temperature of the district varies from 9°C to 32°C with an average annual rainfall of 250cm to 350cm.

Though there are several reports of Python rescue during attacks on domestic animals in the human habitation, there is an interesting case of rescue of the species from the heart of the Bongaigaon Town, when the 11.8ft-long snake was trying to feed on the nestlings of a seasonal heronry on a roadside coconut tree on July 24, 2008. The incident was reported by the house owner to the local forest officials and the conservation volunteers of Nature's Foster rushed to the site to rescue the same. A large crowd including some local

NGOs and media persons also gathered along the main road. After a close observation for a long time, the rescue team decided to use smoke from different angles to displace the snake from its position. With continuous smoking using straws and dry chilly, the snake was shifted to a nearby tree from where it was dropped down and finally rescued without any injury to the snake.

This incident is evidence that lack of suitable habitats force such large snakes in coming out to human habitations but even there, due to the rapid urbanization and lack of sufficient domestic animals, it has to target other prey. Additional observations on the feeding habit of Burmese Python in human dominated areas would be useful to understand whether it is a more common feeding habit than has been previously observed in such cases.

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Infighting injuries in male common Indian Lizard *Calotes versicolor* (Daudin) during breeding period

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With the commencement of the breeding season, each male *Calotes versicolor* (Daudin) maintains a territory and indulges in displays from an elevated site within it. During this stage, males become most pugnacious and aggressive towards other males. Display by rival males often ends in brief fights, with combatants standing on their hind legs, wrestling and biting till one of them turns away, when it is chased out of the territory by the victor (Smith, 1935; Tikader & Sharma, 1992; Sharma, 2001; Daniel, 2002). Due to infighting both the combatants may sustain severe injuries.

The present study was conducted from 2004 to 2006 to understand the infighting injuries sustained in the breeding season by males. *C. versicolor* in certain parts of Rajasthan, Gujarat and Madhya Pradesh. The survey was conducted from April to July every year which is the breeding period of this lizard in above said states. Males and females are dimorphic in this species. Males were identified by swollen muscular

Table 1. Infighting injuries in male *Calotes versicolor* in Rajasthan, Gujarat and Madhya Pradesh

State	Location of study	No. of males observed	injured or with injury marks										
			Biting marks present on intact tail	Tail with amputated distal part (remaining part lacking biting marks)	Amputated tail with biting marks	Total males with tail injuries	Amputated fore leg	Amputated hind leg	Amputated toes	Total males with limb injuries	Damaged eye	Total injured males	
1 Rajasthan	(i) Railwayside plantation from Harsauli to Kharthal, (Alwar district)	17	1	2	-	3	1	-	-	-	1	1	5
	(ii) Dhakwasan Mata plantation, Tatarpur, (Alwar district)	8	2	1	1	4	-	-	-	-	-	-	4
	(iv) Tiger Project Sariska, (Alwar district)	14	1	1	2	4	1	-	1	-	-	-	4
	(iii) Nahargarh Wildlife Sanctuary, (Jaipur district)	13	1	1	2	4	1	-	-	-	2	-	6
	(v) Jamwa Ramgarh Sanctuary, (Jaipur district)	8	1	1	-	2	-	-	-	1	-	-	3
	(vi) Sajjargarh Sanctuary, (Udaipur district)	17	1	2	2	5	1	-	-	-	1	-	6
	(vii) Banki Forest Research Farm, Sisarma (Udaipur district)	4	-	-	1	1	-	-	-	-	-	-	1
2 Gujarat	(i) Around Dahod town (Dahod district)	19	2	2	1	5	-	-	-	-	-	-	5
	(ii) Ratan Mahal Sanctuary (Dahod district)	6	1	-	1	2	-	-	-	-	-	-	2
3 Madhya Pradesh	(i) Around Agar (Malwa) town, (Shajapur district)	9	-	2	1	3	-	-	-	-	-	-	3
Total		115	10	12	11	33	2	1	1	2	5	1	39

Table 2. Percentage of tail, limb and eye injuries

Type of injury	No. of injured males	% injured males	Remark
1. Tail injury			
(i) Tail with amputated distal part	23	58.97	Injury caused by biting
(ii) Intact tail with biting marks	10	25.64	Injury caused by biting
Total cases of tail injury	33	84.61	
2. Limb injury			
(i) Amputated fore leg	2	5.13	Injury caused by biting
(ii) Amputated hind leg	1	2.56	Injury caused by biting
(iii) Amputated fingers/ toes	2	5.13	Injury caused by biting
Total cases of limb injury	5	12.82	
3. Eye injury	1	2.56	Probably an accidental injury caused by claws
Grand Total	39		



Image 1. Standing upright posture is quite safe for both the combatants against biting injuries



Image 2. A biting mark visible on tail of a male

cheeks and distinctive dorsal crest of lance-shaped scales from nape up to a level above the vent. Males can be identified by their colour pattern also. Their head, shoulder and parts of the forelegs turn bright scarlet or crimson with black patches on the sides of the throat. By behavior also, males can be identified easily (Daniel, 2002).

Fighting males were observed from a close range till the fighting ended. During and after fighting, pattern of injuries were recorded. Animals were also photographed for evidence. Scaling males on the trunk of trees and other elevated locations were observed minutely from close distance and injuries were recorded. Trampled males found on roads were also scrutinized and injuries were recorded. It

was presumed that all the injuries made by biting and marks present on tail and limbs were the result of infightings.

In-toto 115 male *C. versicolor* were recorded in ten localities of the three states. As many as 39 individuals were found either injured or with injury marks as evident in Table 1.

Nearly 33.91 per cent males get injured during infightings to defend their territories (Table 1). Maximum injuries are caused by the biting on tails (Table 2).

Three types of fighting injuries, namely, tail, limb and eye injury are seen in male *C. versicolor*. Tail is a very susceptible body part which gets injured during infightings followed by the limbs and eyes. Tail and limb injuries are caused by biting. Accidental eye injury is also possible by clawing, not by biting. Since fighting is performed on the ground hence thorn and spines lying on ground may also damage eyes of the competing males. No cases of death due to infightings were recorded during the study period.

When combatant males are standing upright on their hind legs and tail in a "tri-podal" posture, this posture is quite safe for both the combatants against biting injuries (Image 1). But when they are flat on ground, or one below the other, or present in reverse direction, the posture becomes prone to biting injuries. Sometimes when fighting continues on a sloping surface, imbalance may initiate rolling movement in males, and possibilities of biting injuries also arise.

Due to biting on tail and limbs, a wide mark devoid of scale appears on the affected part. If biting is severe and deep, the organ becomes dead and dry beyond the bite mark in due course of time. After complete healing of the wound, the stumpy end becomes clearly visible. If biting is not severe, the organ remains intact, but with visible scar marks (Image 2).

It was noticed that thick body parts like head, neck, trunk and lumbar zones are quite safe against biting but thin parts like tail, limbs, fingers and toes, which can be gripped in the mouth are prone to biting injuries.

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Rearing of Juvenile Estuarine Crocodile (*Crocodylus porosus*) at Dhaka Zoo

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Throughout the world there are fewer than 25 extant crocodylian species existing today. All occupy fresh water or coastal ecosystems. All offspring require fresh water. Crocodylians are the largest, longest-living reptiles (Lloyd, 2003a). One of the most challenging areas in reptile husbandry is the rearing of juveniles. Housing juvenile reptiles is of utmost importance. Large litters should be divided into or housed individually, if possible. Observation of feeding is necessary in this practice. The cage should be provided with small branches, rocks and other shelters, since most juvenile seek security during their early life. Temperature should remain between 23.8 and 29.4°C (75° & 85°F). The animal should be moistened with a light mist of water several days a week to enhance shedding and drinking. The basic foods offered to juveniles in captivity are new born mice, crickets, mealworms, earthworms and minnows (Alamndar, 1986). Sliced raw fish and ground or sliced raw meat can also offered to juveniles. But, in this case only live lala fish (*Opicephalus punctatus*) were supplied in gradual increments and no rocks or small branches were introduced.

During the first week of April 2005, the Dhaka Zoo received an Estuarine crocodile (*Crocodylus porosus*) as a donation from the Coastal Regional District Livestock Office of Khulna, Bangladesh. While fishermen were netting in the river with the typical wide net Veshal (a locally devised netting for fishing in the flowing river). The donated juvenile was accidentally trapped and then it was rescued by a police officer who communicated the same to the District Livestock Officer, Khulna, Bangladesh. Finally it reached Dhaka Zoo on 05 April 2005. Since then it is being reared by hand inside the quarantine shed of the Zoo with special care and this will be continued till such time that the juvenile reaches a size big enough to stand exhibition to visitors. The rearing of crocodiles is still a new area in gathering knowledge for Dhaka Zoo officials. This study highlighted the rearing techniques applied for the crocodile in question and other related factors in this connection.

In Bangladesh, three crocodile species naturally exist, but as a species the crocodile is presently on the verge of extinction in Bangladesh. The Estuarine crocodiles are mainly found in the Bangladesh Sundarban, but this population appears to be far below its potential. Previous population estimates vary between 40 and 200, which is less than would be expected in this vast mangrove area of more than 6000km² (CSG newsletter, 2003). Specimens of all the three species of crocodiles that is the Estuarine (1 male + 1 female), Marsh (1 male + 4 female) (*Crocodylus palustris*) and Gaviel (3 male + 1 female) (*Gavialis gangeticus*) exist in the possession of the Dhaka Zoo.

A shedding nest has been prepared for the juvenile inside the quarantine zone. It is about 7.5 feet in length and 2 feet wide. The resting shed is divided into two portions. One portion containing water (4 feet) and the other, sand, (3.5 feet) in area. There is a slope from the sand portion of the resting shed to the water trough. Fresh water is supplied to the

Monthly variation of temperature, rainfall and humidity in Dhaka in 2005(Collected from Dhaka meteorological office)

Month	Temperature °C			Rainfall (mm)	Humidity (%)
	Min	Max	Mean		
January	14.1	23.1	18.6	04	58
February	18.3	29.1	23.7	03	55
March	22.5	32.2	27.35	155	58
April	24.1	34.4	29.25	91	70
May	24.2	33.2	28.7	298	63
June	26.8	33.4	30.1	260	79
July	26.1	31.1	28.6	542	79
August	26.7	32.0	29.35	361	76



water trough everyday through a tap. The resting shed made of bricks is about 2 feet high for protection and to ensure that the juvenile remains inside the nest. At every two days interval, live fish (Bangali name: Taki; English name: Lata fish (*Opicephalus punctatus*)) numbering 5 to 6 of about 200g is supplied for consumption to the juvenile in the water trough.

The climate of Dhaka Zoo, in which the juvenile is being reared, is similar to that of Dhaka city. It is characterized by hot rainy, humid summers and dry cool winters. Winter extends from November to February, summer from March to May and June to October is the monsoon season. Temperatures are very high in summer (variation ranges 30 to 39°C) (Sultana, 2007).

Thermoregulation is the most critical husbandry consideration for all ages of crocodilians. Hatchlings incubated at either extreme incubation temperature exhibit poor weight gain or die. They never achieve the physical capacity of cohorts. A range of 25°C to 35°C (77-95°F) is adequate, but maximum growth rates occur at 32-33°C (90-91°F). Below 25°C (78°F) and above 35°C (95°F) crocodilians become anorexic. A thermal gradient allows self-regulation. Elevated body temperature assists digestion. Solar ultraviolet radiation may be required for normal bone development, although some crocodilians are raised in darkness to minimize stress. Uterine contractile strength is affected greatly by temperature. Ambient temperature above 36°C (97°F) is lethal (Foggin *et al.*, 1989; Laddds, 1993 & McNease *et al.*, 1981). A very keen observation should be noted, during cold weather the juvenile never went to the water pool. For sufficient warming, in low temperatures, a 200 wt bulb was placed 2 feet above the floor area.

For thermoregulation, water quality is critical and soaking is essential to hydration. Large crocodilians survive

drought by aestivation; however, hatchlings can become 20% dehydrated in one day, with potentially lethal consequences. Incidental water is insufficient for juveniles. And salinity greater than 1‰ may result in juvenile mortality. All extant crocodilians require fresh water nesting sites. Water quality should be equivalent to that for fish, particularly the composition of ammonia, nitrite and pathogens. Adequate filtration or replacement for elimination is essential. Overflow systems should be calibrated to the biological load. Serial overflow pools spread infectious diseases and parasites. Water changes are to be made after feeding for minimizing contamination, but fresh water cold shock can occur (Lloyd, 2003b).

On arrival at the Dhaka Zoo, the body weight of the juvenile was 720g; length was 14 inches and the age was 6 months approximately. On 05 May 2007, at age 2 years 1 month, it weighed 1kg 750gms, measured 3 feet 1 inches (from snout to end of the tail) in length; with a head length of 6 inches (from snout to front leg); body length: 8 inches (from front to hind leg); tail length: 23 inches (from base of the tail to end); hind limb length (from top to end of the leg); 6 inches and front leg length: 5 inches (from top to end of the leg); width (abdominal diameter): 10 inches and mouth gap (opened): 5 inches. For determination of the sex, probe directions through cloacal opening were made but did not yet indicate the sex, however the juvenile is largely assumed to be a female. Crocodiles when hatched are about 7 inches long and grow rapidly for the first five years (Evans, 1986). For further study, various information needs to be collected in captivity. The present study was conducted in the laboratory of Research and Zoo Education section of the Dhaka Zoo, Bangladesh.

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Physical restraining gadget for Crocodiles

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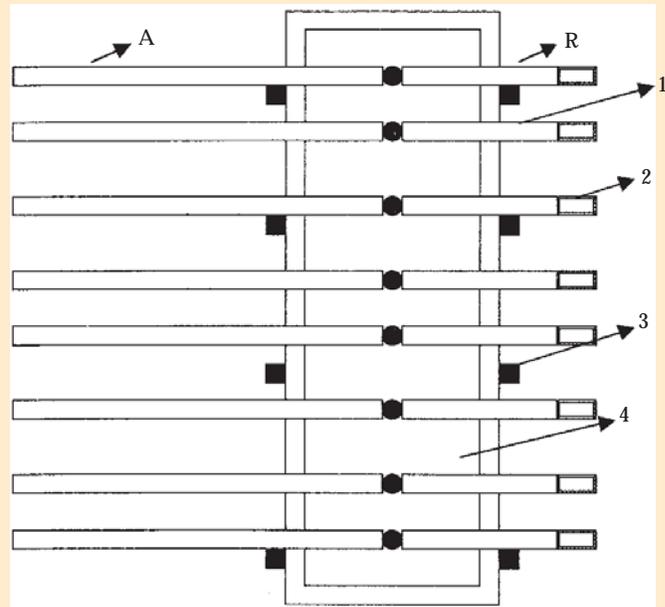
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Restraining wild animals is an art especially in the case of reptiles like crocodiles – a frequently neglected species. Crocodilians often pose a challenge to the restraining personnel in zoological parks. To the extent possible, the restraint needs to be executed in a minimal stress or in a stressless manner. A design suitable for the proper restraint of crocodile places was made and applied in crocodiles and was found to be satisfactory, the facts are discussed.

An even surfaced wooden plank was prepared with measurements of 184cm as length, 30cm as width and 2cms as thickness. Eight cloth-fibre woven straps were fixed at even distances from the centre of the plank, so that the lengthier part (A) is on one side of the plank and the shorter part (B) is on another side of the plank. Holes were placed on the lengthier part of strap at even but close distance to accommodate the pointer of the buckle placed in the end of the part B. The whole wooden plank had 4 pairs of small wooden rest (each of 4.5cm height and 2cm width). The Marsh Crocodile (*Crocodylus palustris*) at Chennai Snake Park Trust was restrained by animal keepers in the usual way and the crocodile was tied around the snout to prevent inflicting of injuries. The straps were placed around the body of the crocodile. Then the pointers of the buckles were inserted into the holes of lengthier part-A of the strap. The plank was lifted and there was no discomfort to the crocodile and however, to minimize the probably still existing stress factors for the crocodile, the eyes were covered with velcro straps. The gadget and the technique were observed to be satisfactory in crocodiles. The line diagram and restrained reptile have been presented.

The restraint of the captured crocodile needs to be properly designed, so that the animal experiences minimal stress. Fowler (1986) has stated that crocodilians suffer from hypoglycemia induced by stress features and hence, one has to take extra care in proper restraint of these group of reptiles which otherwise look so sturdy in appearance. The present gadget designed and used, was found to cause no injuries to the skin of crocodile and also there were no violent movements of the restrained crocodile, subsequent to the placement of the crocodile on the plank designed. Wallach and Boever (1983) emphasized the need for a proper technique for handling of reptiles to prevent injury to both the animal and the handler. Though both pain and stress are difficult to measure in any vertebrate species (Warwick *et al.*, 1995), the absence of any violent movement in the crocodile placed on the plank reflected the satisfactory control of the crocodile. Hence, this design was observed to be a satisfactory one which could be used in various captive facilities. The gadget designed for use in the crocodiles was found to be satisfactory not only in the proper securing of the crocodile, but also in ensuring safety to the restrainers or those who engage in the transport of crocodilians and this gadget may be utilized by zoo personnel.

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Crocodile - Restraining gadget

1 - Cloth-woven strap with 3cm width (A = 45cm length with holes for pointer of buckle; B = 23.5cm length); 2 - Buckle of the strap (3cm length); 3 - Small rest for plank (4.5cm height & 2cm width); 4 - Wooden plank (184 x 30cm, with 2cm thickness)

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Rectal Prolapse in an Indian Cobra (*Naja naja*)

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An Indian Cobra was presented to the surgery department of Orissa Veterinary College by members of "Snake Help Line" an NGO. The case history revealed that the snake was rescued from the kitchen of a house, whose owner was not staying in the house regularly. After catching it, the members noticed a muscular swelling in its anal region and brought it to the clinic for treatment.

The snake weighed around 2.5kg. It was anaesthetized with 50mg of ketamine hydrochloride injected intramuscularly. On close examination after 5 minutes, it was confirmed that the rectum was prolapsed out with some fecal material present on the rectal mucosa (Images 1-4). The prolapsed mass was washed with normal saline and one ice cube was touched gently over the mass with slight pressure for 1 minute and the prolapsed mass reduced smoothly (Images 5-6). The snake was kept back for observation by the



Image1 & 2. The rectal prolapse in the Cobra



Image3. Rectal prolapse Indian Cobra (closer view) some fecal material also seen



Image4. Rectal prolapse enlarged view



Image5. Ice cube application over prolapsed mass



Image6. Complete reduction of prolapse

volunteers and there was no report of any recurrence even after 15 days.

In the present case the prolapse might have occurred due to stress during capture. Since the prolapse was a fresh one without any damage to the rectal mucosa, it could be reduced easily by gentle manipulation.

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