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Short Communication

GRYPHOTYPHLAS ACUTUS- AN UNCOMMON SIGHTING IN SUBURBS OF CHENNAI

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ABSTRACT
The Scolecophidia represent an early divergence in the extant snake lineages. As a group they are of little human interest due to their burrowing habits, small size and lack of danger to people. Beaked worm snake or a beaked blind snake is the largest blind snake in the south Asian region. Though it is thought to be a significantly found in peninsular India south of the Ganges and Rajputana basin *i.e.* south of Rajasthan its presence south of latitude 160 is rare or disputed. There is very little known or studied literature about the habitat, behaviors and numbers of these snakes. The snake has been variously classified under different genus before. Here we report the finding of this species in Thiruporur (12.720910N latitude & 80.186650E longitude), a suburb of Chennai city and also try to collectively present published facts and current taxonomic classification of the snake.

KEY WORDS: Beaked worm Snake, blind snakes, worm snake, Thiruporur.

INTRODUCTION

On 20th October 2013, our department laboratory technician Mr. V Krishna Kumar was intrigued with what he had found on his way to college. That morning when he was on his way to college he noticed a group of children gather around the college gate. When he curiously went there to have a look he found that the children were amazed to see a snake which seemed to have two heads, one on each pole of its body. Considering this to be of academic value to show to the students as a part of their study in toxicology Krishna brought this unfortunate road kill to the department. Though at the department we are trained to treat a snake bite and identify the common snakes resulting in the bites, we are quite amateur at the taxonomy and identifying rare reptiles as we are not herpetologists ourselves. Initially at the first glance we felt that this could be a small sand boa, or a shield tail (which are rare in our area) or more probably a worm snake as we have seen a lot of Brahminy worm snakes *Ramphotyphlos Braminus* (Daudin, 1803) in our area (Whitaker & Captain, 2008a). On careful examination we could successfully conclude that this snake was the Beaked worm snake *Grypotyphlops Acutus* (Dumeril & Bibron, 1844) (Whitaker & Captain, 2008a). This was also later confirmed by Mr Vikas Upadhay a zoologist and a personal friend of ours. In the process we found that the locals who claimed to have seen these snakes before called them "Munnulli Pambu" meaning that which dwells in the soil. They considered them to be peculiarly poisonous that its bite would result in skin rash with scaling of the skin. Also some believed these snakes really have two heads, at both its ends. Little is been studied and reported about these snakes as they spent most of their life time in soil and rarely come out. Finding of this species in the suburban areas of Chennai *i.e.* Thiruporur (12.72091^0N latitude & 80.18665^0E longitude), the misconceptions about these nonpoisonous snakes among the locals and lack of any extensive research about these snakes have inspired us to try to collectively present here the current understanding of theses snakes.

Measurements and Description of the specimen

Though the snake we found was dead the features of the head were remarkably preserved (fig 1 & 2). The body was uniformly cylindrical with smooth scales and blunted head. The snout of the snake was pointed with a large hooked beak like scale. Nostrils were below the beak. The eyes of the snake were like black dots covered by a thin scale. Mouth was over the ventral surface appearing like a small slit with teeth present only in the upper jaw. The snake measured 47.3cms in length with the snout to vent length measuring 46.5cms and the tail measuring 0.8 cms. The mid body circumference was 18mm. The scales were arranged in 34 rows around the body and there were 457 transverse rows of scales. Belly scales were not broader than the body scales. The dorsal body was grayish brown in color with the belly lighter than the dorsum.

FIGURE 1: - *Grypotyphlops acutus* found in Thiruporur, a suburb of Chennai

FIGURE 2: -Lateral and top view Head of the *Grypotyphlops acutus* found in Thiruporur, a suburb of Chennai

Worm snakes: - Also known as blind snakes are very small, nocturnal borrowers with tiny eyes, short tails, and smooth shiny scales. They are commonly found under the rocks, termite moulds, and ant nests. Females are larger than the males and all are oviparous except for one species (common worm snake *Ramphotyphlops braminus)* which is parthenogenetic (Whitaker R., 2008b). Worm snakes belong to the Infraorder Scolecophidia. The Scolecophidia represent an early divergence in the extant snake lineages. As a group they are of little human interest due to their burrowing habits, small size and lack of danger to people. However, because of a large number of known species, currently in excess of 300 has led to some very skilled taxonomists doing studies of these snakes on both a regional and a global basis (Hoser, 2012). All Scolecophidians are small: the longest species Schlegel's blindsnake *Rhinotyphlops schlegelii* (Roux-Esteve, 1974) reaches 100 cms, which is matched by a few other taxa in the West Indies and Africa, but few exceed 60 cm, and most are less than 30 cm long. It is not clear whether their small size, specialization for fossoriality and insectivorous diet, are primitive for snakes, or are they degenerate forms, only deceptively 'primitive' due to the loss or modification of features present in earlier snakes, and then generally retained since (Hoser, 2012). All Scolecophidians look superficially similar. They are smooth-scaled, cylindrical, slender snakes, usually with blunted heads, ventrally placed mouths, similar to that seen in sharks, eyes usually reduced to black spots under the scales, and short tails that often end in a spike (Whitaker R., 2008b, Hoser, 2012). Most species are pinkish brown in color and often with reduced body pigment and little if any pattern. In one genus Leptotyphlopids, the pelvis is complete, and a small femur is present (Hoser, 2012). Scolecophidians never bite people but do sometimes emit faint squeaking sounds. Flattened, sloping snouts and even tri-lobed snouts are also present. Tactile organs are present on the head and are visible as small specks on the head scales. Nearly all Scolecophidians appear to be dedicated arthropod

predators, mostly eating the larvae and pupae of ants and termites. Very few feed on larger prey like earthworms etc. There are about 400 currently described species of scolecophidians and nearly 300 belong to the genus Typhlopids (Hoser, 2012). A lot of new genera have been named or resurrected to include the diversity found among these snakes.

Beaked Worm Snake or Beaked Blind Snake

The beaked worm snake is an uncommon blind snake endemic to the peninsular India south of the Ganges and Rajputana basin i.e. south of Rajasthan (Wallach, 1994). Range extends in the west to Baroda and in the east to Kolkata. Finding the beaked worm snake south of latitude 16^0 is thought to be rare or uncertain. However there are published sighting of the snake in Tuticoren(8.8100° N, 78.1400° E), Madhumalai(11.5833° N, 76.5500° E) forest reserve(Joseph, 2013, Baskaran & Boominathan, 2010). There is also published literature confirming the presence of the snake in Gujarat, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu and Kerala (Joseph, 2013, Baskaran & Boominathan, 2010, Vyas *et al.*, 2001, Nivalkar et. al., 2012). It is the largest south Asian Worm snake (Whitaker & Captain, 2008.). A variety of similar blind snakes are also found in Srilanka. But we didn't find a clear reference of sighting of the beaked worm snake in this island nation (Somaweera, 2013).The exact locality of this blind snake is still not clearly known (Wallach , 1994). In India it is known from many sites in the Western Ghats. Elsewhere it is known only from south of river Ganges, occurring throughout forested tracts in peninsular India. There are no data on population size and trends on this species. This species occurs at elevations between 10 and 700 m above sea level (Srinivasulu, 2013).There are no known sub species documented. Taxonomically it is now grouped under the genera *Grypotyphlops*. *Grypothyphlops acutus* was described by Bibron and Dumérilin 1844. Since then it has been variously included under the genera *Typhlops (*Oppel, 1811), *Rhinotyphlops (*Fitzinger, 1843), *Onychocephalus* and *Grypotyphlops (*Peters, 1881) which came to be included under the genus *Typhlops*(Smith 1943). Though Das (2003) gave *Rhinotyphlops acutus* as the accepted nomen for this species basing on Wallach (1994), Wallach (2003) resurrected the genus *Grypotyphlops* and included this species under it (Srinivasulu, 2013). The current taxonomic classification and other synonyms of the snake are given in table 1.

TABLE 1: - Complete Taxonomic classification and synonyms for Grypotyphlops acutus.

Complete taxonomic classification		Synonyms
Superregnum (domain)	Eukaryota	• Letheobia acutus (Duméril &Bibron, 1844)
Regnum (Kingdom)	Animalia	• Onychocephalus acutus (Duméril & Bibron, 1884)
Subregnum(subkingdom)	Eumetazoa	• Typhlops Russellii (Gray, 1845)
Cladus	Bilateria	• Onychocephalus westermanni (Lütken, 1862)
Cladus	Nephrozoa	• Onychocephalus acutus (Günther, 1864)
Superphylum	Deuterostomia	• T[yphlops]. excipiens (Jan InJan & Sordelli, 1865)
Phylum(Division)	Chordata	• Onychocephalus malabaricus (Beddome InGünther, 1875)
Cladus	Chordata Craniata	• Gr[ypotyphlops]. Acutus (Peters, 1881)
Subphylum	Vertebrata	• Typhlops acutus (F. Müller, 1885)
Infraphylum	Gnathostomata	• Typhlops acutus (Boulenger, 1893)
Superclassis	Tetrapoda	• Gryptotyphlops acutus (Boulenger, 1893)
Cladus	Amniota	• Typhlops psittacus (Werner, 1903)
Classis(Class)	Reptilia	• Typhlops acuta (Constable, 1949)
Cladus	Eureptilia	• Typhlops acutus (Rajendran, 1967)
Cladus	Romeriida	• [Typhlina] acutus (Whitaker, 1978)
Subclassis	Diapsida	• Typhlops acutus (Murthy, 1983)
Infraclassis	Lepidosauromorpha	• Rhinotyphlops acutus(Wallach, 1994)
Superordo	Lepidosauria	
Ordo (order)	Squamata	
Subordo	Serpentes	
Superfamilia	Typhlopoidea	
Familiae(Family)	Typhlopidae	
Tribe	Gryptotyphlopidini	
Genus	Grypotyphlops	
Species	Acutus	

The identification for the tribe Gryptotyphlopidini is the same as for the monotypic genus *Grypotyphlops* (Peters, 1881) and the species, Grypotyphlops acutus. This taxon is different from all other typhlopids by the following characters: The snout is pointed and hooked, with a very sharp horizontal edge and inferior nostrils. The rostral scale is very large and extending posteriorly far beyond the level of the eyes; nostrils are close to the rostral; nasal extending over the eye, in contact with and nearly as broad as the ocular. The eyes are distinguishable. The prefrontal and supraoculars are much broader than the scales on the body & four upper labials. Diameter of the body is 40 to 60 times in the total length. Tail is as long as or shorter than its diameter and terminates in a spine. There are 28-34 scales around the middle of the body, 30-36 anteriorly. It is pale brown on the dorsum. Each scale is with or

without a transverse streak. Belly is yellowish inferiorly (Whitaker R., 2008b, Hoser, 2012). There is one report of sighting of an albino beaked worm snake in Maharastra (Nivalkar et. al., 2012).

Natural history and behavior

Not much is clearly known about the snakes behavior and habitat. The beak nosed worm snake is fossorial (Hoser, 2012), and has been found in leaf litter, under dead trees, under stones or boulders in wet and dry habitats, both primary and modified. They are found in areas where moist soil is available like in cultivable areas as most the sightings are in agricultural fields. As is true with many other burrowing species that remain out of sight most of the time, little is known about their behavior or reproduction. Like other blind snakes they are thought to be oviparous. When they are dug out of their burrows, the snakes quickly try to bury themselves again. When challenged they poke the back of their tail spine towards the attacker (Wallach , 1994). They never bite and are non poisonous. Their hooked nose and tail are used to lever the body backwards and forwards when they move (Whitaker & Captain, 2008). They are known to feed on small insect and ant eggs and larvae. There are reports of them feeding on earth worms, soft bodied insects and their larvae. They are harmless to human beings and nothing is known about any threats to this species. There are no known species-specific conservation measures in place. *Grypotyphlops acutus* is listed as Least Concern in the International Union for Conservation of Nature and Natural Resources red list, as it is thought to be widely distributed. The snake might help in contributing to control the insect population in the fields and also provide food for other fossorial snakes.

Look-alikes

Though these snakes are thought to be widely distributed, their sighting is very rare. As suggested before their presence south of latitude 16^0 are disputed. There are a variety of more common species which can be mistaken for these snakes by commoners. In the list of lookalikes we can include all other worm snakes, shield tails and baby sand boas etc. There are very subtle differences between most of these blind snakes and only scalation pattern can help accurately differentiate one another.

CONCLUSION

Beaked worm snake is a harmless, non poisonous uncommon variety of blind snake found to be wildly distributed in the central and southern parts of India. However the sighting of this snake is rare as it spends most of its life in soil. Very few reporting have been published about this snake and that too most are from rural parts of India above 16^0 north latitude. This peculiar sighting of the snake in the suburbs of a metro like Chennai which is located south of 16^0 north latitude is quite surprising and affirms the shallowness of our understanding of this species or might also direct us to understand the rapidity of human intrusion into the wilderness.

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