



Recent records of snakes (Squamata: Serpentes) from Nicobar Islands, India

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The Andaman and Nicobar Islands have a fauna that shows distinct affinities towards the fauna of South East Asia (Smith 1940; Das 1999). Within these islands, the fauna of the Nicobar group of islands is derived from the Sundaic fauna, unlike the Andaman group of islands whose fauna shows affinities with the Indo-Malayan region (Das 1999). The distinctiveness of the fauna of the two groups of islands is maintained by the ocean barrier at the 10 degree channel (Das 1999). Several genera and species of reptiles and amphibians are common to the Sundaic region and the Nicobar Islands but are not found in the Andaman Islands (e.g. *Bronchocela* spp., *Hylarana nicobariensis*, *Hylarana chalconota* etc.). Nineteen species of non-marine snakes have been reported from the Nicobar Islands (Vijayakumar & David 2006; Harikrishnan et al. 2010). Two species of wolf snakes of the genus *Lycodon* Boie, 1826 are known from the Andaman and Nicobar Islands. *Lycodon capucinus* Boie, 1827 often considered as a subspecies of *Lycodon*

aulicus (Linnaeus, 1758) occurs on the Andaman Islands, while *Lycodon tiwarii* Biswas & Sanyal, 1965 occurs on the Nicobar Islands (Harikrishnan et al. 2010). However, according to the original description, the type of the latter originated in Andaman (Biswas & Sanyal 1965). The southern group of islands in the Nicobar that include the Great Nicobar and the Little Nicobar were not known to harbor any species of wolf snake. On 20 June 2008, we came across a wolf snake in the Great Nicobar Biosphere Reserve, which we identified as *Lycodon subcinctus* Boie, 1827 based on published keys by Smith (1943) and Lanza (1999). Since this is the first specimen of this species from the Nicobar Islands, we provide a short description of the specimen.

Lycodon subcinctus Boie, 1827

Snout broadly rounded and not depressed (Image 1). The rostral was wider than long; posterior nasal much longer than anterior, and it was in broad contact with prefrontal. Thus, it widely separated the loreal from internasal. The prefrontals were large, more than twice as long as internasals and were in contact with the eyes; preoculars were absent, and the loreal was in broad contact with the eyes (Image 2). Frontal was longer than its distance from the snout tip. Supraoculars were narrower than frontal and the parietals were almost twice as long as the frontal. There were two postoculars on either side of the head among which upper one was larger and was in contact with anterior temporal. A single anterior temporal and two posterior temporals were present among which the anterior was much larger than the posterior one. There were eight supralabials among which 1st and 2nd touched the posterior nasal, 3rd touched loreal, 3rd to 5th touched the eye, 6th in contact with lower postocular and anterior temporal, and 7th in contact with anterior temporal and posterior lower temporal. The mental was small and subtriangular. There were nine infralabials, among which the first pair was in contact with each other. The first four infralabials were in contact with anterior genial, while 4th and 5th infralabials were in contact with the posterior genial. The 5th infralabial was the largest. The genials were of almost equal length with anterior pair broader than posterior pair. The body scales, counted at one head length behind the head, at mid-body and one head length before vent, were in 17:17:15 rows, with those on the posterior half of the body weakly keeled. There were 223 ventrals (counted according to Dowling 1951) which were angular laterally. The anal was divided and there were 94 divided subcaudals. The subcaudal count is slightly higher than that reported for *L. subcinctus* so far (range 60-90) (Lanza 1999). The high ventral and subcaudal count place this individual in the nominate subspecies *Lycodon subcinctus subcinctus* Boie, 1827 (Lanza 1999). The specimen measured 660mm in snout-

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Image 1. *Lycodon subcinctus subcinctus* Boie, 1827 from Great Nicobar.

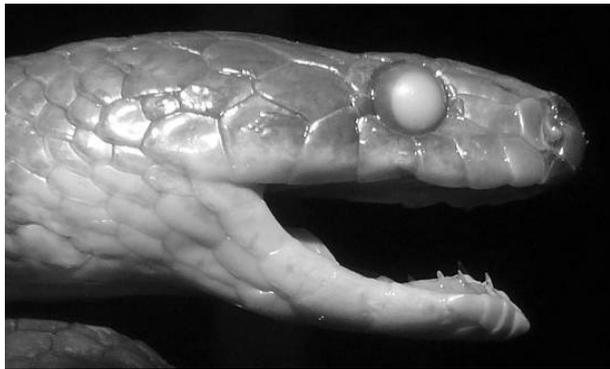


Image 2. Lateral view of head of *Lycodon subcinctus subcinctus* Boie, 1827 from Great Nicobar. Note the absence of a preocular and the elongated loreal which is in contact with the eye.

vent length and the tail length was 180mm.

The head was very dark brown above with a slightly lighter mark near the occiput. The body was grayish brown on sides with this colour extending to the part of ventrals outside the lateral notch. There were no bands on the body (Image 1). The supralabials were off white with black spots. The ventrals and subcaudals were grey with off white edges while the lower jaw and throat was white in colour.

The snake was found at 1900hr near the edge of a stream in a rainforest in Great Nicobar Biosphere Reserve, approximately 1km from Govind Nagar, at the 10km point, along the East-West road. It was fast and active, and shook its tail from side to side when it was cornered. The snake was preserved in rectified spirit and deposited at ZSI, Port Blair, Andaman and Nicobar Islands (Catalogue # 10643).

Lycodon tiwarii Biswas & Sanyal, 1965

This snake was described from Mayabunder in North Andaman (Biswas & Sanyal 1965). The paratype of the species is suspected to originate from Car Nicobar, based on the information that it was donated by the Government Hospital, Car Nicobar (Biswas & Sanyal 1965). Das (1999) considered this species to be restricted to Andaman Islands. Vijayakumar & David (2006) recorded this species from six islands in Nancowry group of islands in central Nicobar. The paratype remains the only specimen collected from Car Nicobar which is the northernmost island in Nicobar archipelago. During our survey in April 2008, we encountered two individuals of this species on Car Nicobar (Image 3). The first individual, found on 16 April 2008, was killed by local people, and the examination of the stomach revealed a freshly ingested Gliding Gecko *Ptychozoon nicobarensis* Das & Vijayakumar, 2009 measuring 80mm in snout-vent length. The snake itself measured 559mm in snout-vent length and 155mm in tail length. The second individual was found coiled up in a Pandanus leaf at 1700hr on 21 April 2008. This individual measured 854 mm in snout-vent length and 179mm in tail length. In Car Nicobar, this snake is referred to as *kulinga* and gliding gecko as *katamaey*.

Coelognathus sp. from Great Nicobar Biosphere Reserve

Daniels & David (1996) reported the presence of Black-tailed Trinket *Coelognathus flavolineatus* (Schlegel, 1837) on Great Nicobar. Vijayakumar & David (2006) excluded this species from their checklist owing to the lack of a voucher specimen. We had a sighting of a large and dark colored Colubrid snake on Great Nicobar, in the same area where the Malayan Wolfsnake *Lycodon subcinctus subcinctus* Boie, 1827 was found. It was found on 29 May 2008 at 1600hr, moving along the side of the road, when it was raining. We did not collect this snake; owing to the lack of a voucher specimen and lack of information on taxonomy of species belonging to this genus from the Sunda region, we refrain from assigning it a specific name. We hope that our description of the species will help in identifying it. We tentatively allocate this snake to the genus *Coelognathus* Fitzinger, 1843, which was resurrected by Helfenberger (2001) based on visceral organ topography, vertebral characteristics and allozyme variations. The genus cannot be diagnosed based entirely on external morphology (Helfenberger in Schleich & Kästle 2002). It was allocated to this genus because of the resemblance of this snake to *Coelognathus flavolineatus* (Schlegel, 1837) in general pholidosis, particularly the ventral and subcaudal counts, and the mid-body scale rows. There are several other characters that differed in this snake from *Coelognathus flavolineatus* (Schlegel, 1837) and they are discussed below.

Description of the meristic characters and colour of this individual are as follows: Prefrontals were about twice



Image 3. *Lycodon tiwarii* Biswas & Sanyal, 1965 from Car Nicobar

as long as internasals. The frontal was a little longer than prefrontals. The supraoculars were slightly narrower than frontal. Parietals were broader and longer than the frontal. There were nine supralabials on either side, with 5th and 6th in contact with the eye. 8th supralabial was the largest. There were 11 infralabials on either side, among which 1st -5th were in contact with anterior genial and 7th was the largest. Anterior genials were shorter than posterior genials. There were two preoculars, of which upper one was larger. There was a small pre-subocular also on both sides of the head. The loreal was square and was in contact with both the upper and lower preoculars. There were two post oculars, among which upper one was larger. There were two anterior and three posterior temporal shields. The anterior pair of temporal was longer than the posterior pair. The anterior lower temporal was in contact with 6th to 8th supralabials. Body scales were in 21:19:17 rows at one head length behind the head at mid-body and one head length before vent respectively. All except the outer 1-2 rows of scales on the body were strongly keeled. The keels were most prominent on posterior half of the body and tail. There were 209 ventrals, with a lateral keel. Subcaudals numbered 75, and all were divided (tail incomplete). The anal shield was undivided. The specimen measured 1195mm snout-vent length, and 280mm incomplete tail length. The head was light brown on top, while the occipital region was much darker brown. The anterior dorsal body color was dark grey, which became paler and more pinkish on sides of the body. Posterior body and tail were black. An oblique dark bar on either side of the neck was visible faintly. Black and white inter-scale colors were visible when the snake inflated the body in defense. The ventrals were yellowish white with grey edges.

This snake differed from *Coelognathus flavolineatus* (Schlegel, 1837), that is the only other species of *Coelognathus* known to exist in Andaman and Nicobar



Image 4. *Coelognathus* sp. from Great Nicobar Biosphere Reserve

Islands, in having two pre-oculars (one in *C. flavolineatus*), presence of a pre-subocular (absent in *C. flavolineatus*), two supralabials in contact with the eye (three in *C. flavolineatus*), 8th supralabial largest (9th largest in *C. flavolineatus*). This specimen differed from *Coelognathus subradiata* (Schlegel, 1837) and *Coelognathus radiata* (Boie, 1827) in its low ventral counts (209 vs. 226-248 in *C. subradiata*, 222-250 in *C. radiata*). It differed from *Coelognathus erythrurus* (Duméril, Bibron & Duméril, 1854) in having 19 scale rows at mid-body (21 in *C. erythrurus*). Finally, it differed from *Coelognathus helena* (Daudin, 1803) in having 19 scale rows at mid-body as against 25-29 in *C. helena*. This comparison is based on published keys (de Rooij 1917; Smith 1943; Helfenberger in Schleich & Kästle 2002) as well as a live specimen of *C. flavolineatus* from South Andaman. As is evident from this brief comparison, the specimen cannot be allocated with confidence to any of these species. Collection of a voucher specimen is required to determine the taxonomic status of this species.

This snake was very slow in movements, coiled itself in a defensive position and inflated the neck and fore-body, in a manner typical of many other *Coelognathus* sp. when approached closely (Image 4). According to the information provided by a local person, this snake is found in thick vegetation, but is not common.

The addition of *Lycodon subcinctus subcinctus* Boie, 1827 and the *Coelognathus* sp. to the fauna brings the total number of snake species known from Nicobar Islands to 21. Vijayakumar & David (2006) reported on unconfirmed sightings of *Cantoria* sp. from these islands. Also, many other species of snakes are known from single records or original descriptions. Examples include *Boiga cyanea* (Duméril, Bibron & Duméril, 1854) (Das & Chanda 1994) and *Amphiesma nicobarense* (Sclater, 1891). It is likely that many reptile species await documentation in these islands.

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