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# Range extension of *Kaestlea beddomeii* (Boulenger, 1887) (in part) (Reptilia: Sauria: Scincidae)

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THE lygosomine skink genus *Kaestlea* (Eremchenko & Das, 2004) comprises five nominate species of small, semi-fossorial lizards that are endemic to the Western Ghats of southern India (Eremchenko & Das, 2004). They are recognized by the following combination of characters; lacking supranasals, a transparent disc in the lower eyelid, four supraoculars, six or seven supralabials, one or two pairs of enlarged preanals (Eremchenko & Das, 2004). So far no authenticated report on the natural history of these species has been reported. The IUCN status of *Kaestlea* sp. has been declared as Vulnerable (VU). But in accordance with the Indian Wildlife (Protection) Act, 1972, it is listed in Schedule IV (Anonymous, 2001). Smith (1935) stated that the distribution of *Kaestlea beddomeii* ranges from the Travancore hills, Nilgiris (Coonoor), while Murthy (1985) stated this species to be distributed in Nilgiris and the hills of south Kerala, all of which are located in the southern Western Ghats (8° to 11° N lat.). The sighting recorded herein is based on a live specimen of *Kaestlea beddomeii* recorded during reptile surveys in Agumbe Rainforest, Karnataka, India.

## METHODS AND MATERIALS

We used visual encounter surveys (Crump & Scott, 1994) to spot the taxa and collect ecological data. The sighted specimen was subjected to physical diagnosis and photo-documentation. Physical diagnosis (i.e., meristic and mensural data) was recorded using a hand lens and without using any restraints or chemical immobilizing agents. The specimen was released after recording data and was not retained or preserved, due to the want of permits. Lepidosis nomenclature followed Andreone

& Greer (2002). Symmetrical head scalation character values were given in left first and then right. Mensural data included snout-vent and tail lengths (in millimeters) and were measured using a standard measuring tape (Butterfly® brand, L. C = 1 mm). All photographs of the skink were taken in life, on respective natural habitat background, using a Canon® Powershot S3 IS model camera. Geographic coordinates and altitude of the locality were recorded using a Garmin® 12 channel Global Positioning System. Habitat type followed Champion & Seth (1968). Generic name followed the latest accepted, which is *Kaestlea* (Eremchenko & Das, 2004) and we use this name to refer to all congeneric taxa throughout this paper, including while quoting reference citations from previously (i.e., pre- 2004) published literature.

## Colour in Life (Fig. 1, 2 & 4)

Dorsum brown with two dark dorso-lateral stripes extending from post nasal region to the base of tail. Lateral sides of tail were bluish. Ventral, labial, gular, humeral and femoral scales grayish with a dark crescentic band. Para-vertebrals were lighter than lateral scales.

## Habitus

Head depressed, body slender, neck slightly distinct, limbs moderately developed and relatively short. Tail relatively long.

## Ecological Notes

The specimen was found in mid-elevation evergreen forest, in dense, moist leaf litter, close to a hill-stream. Other skink species *Eutropis macularia*, *Ristella beddomeii* were recorded to be syntopic with *Kaestlea beddomeii*.



Figure 1. *Kaestlea beddomeii* (entire) showing general external morphology



Figure 2. Head showing divided fronto-parietals

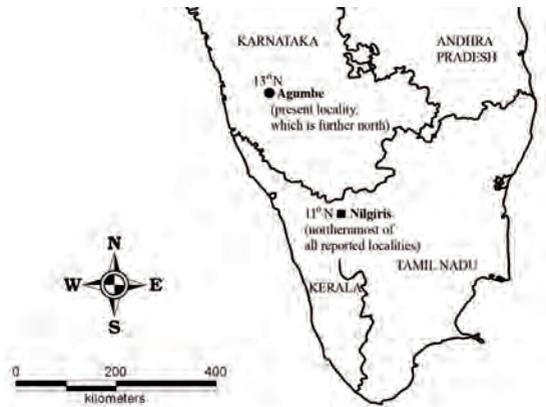


Figure 3. Map showing range extension



Figure 4. *Kaestlea beddomeii* showing nuchals and paravertebrals

**Locality** (Fig. 3)

The specimen was observed in Agumbe (13° 50.87' N, 075° 09.59' E; 557 m asl.), located within the Central Western Ghats, Tirthahalli taluk, Shimoga district, Karnataka state in July 2008, during the southwestern monsoon season.

**DISCUSSION****Meristic Analysis** (Table 1.)

The following characters; smooth body scales, 4 supraoculars, absence of supranasals, 6-7 supralabials, and a transparent disc on sub-ocular region indicated that the specimen belonged to the genus *Kaestlea* (Eremchenko & Das, 2004). There are five species of *Kaestlea* in the south Indian region; *Kaestlea beddomeii*, *Kaestlea bilineata*, *Kaestlea palnica*, *Kaestlea laterimaculata* and *Kaestlea travancorica*.

Our specimen had completely divided fronto-parietals (vs. *K. travancorica*: single or partially divided; *K. palnica*: always entire) (Smith, 1943; Murthy, 1985) and thus could have qualifyably been recognised as either *K. laterimaculata*, *K. beddomeii* or *K. bilineata*. However, by possessing twenty mid-body scale rows and seventeen subdigital lamellae under the 4<sup>th</sup> pes respectively (vs. *K. travancorica*: 22-26 & 18-24; *K. palnica*: 28-

30 & 18-24; *K. laterimaculata*: 26-28 & 20-25; *K. bilineata*: 22-26 & 16-20) (Murthy, 1985; Smith, 1943), our specimen more closely resembled *K. beddomeii*.

**Historical Distribution**

The following are the type localities of all five species of *Kaestlea* (*K. travancorica*: Travancore Hills; *K. palnica*: Kodaikanal and Palni Hills; *K. beddomeii*: Travancore Hills; *K. laterimaculata*: summit of Sivagiri Hills and Tinnevely district; *K. bilineata*: summit of Nilgiris) (Smith, 1935).

Ishwar et al. (2001) stated that *K. laterimaculata* in particular, was the most common lizard in high elevation (c. 1200 m) forest sites of Kakachi, in Kalakkad-Mundanthurai in southern Tamil Nadu. Anonymous (2001) stated, that *Kaestlea* spp. occur in areas like Anaimalais, Palnis, Travancore / south Kerala Hills and Nilgiris (Coonoor) in the states of Tamil Nadu, Kerala and Karnataka respectively. However, as Anonymous (2001) lacked precise locality data, distribution of *Kaestlea* sp. in Karnataka State is dubious. Moreover, *Kaestlea* is reported to occur in relatively higher elevations of above 1000 m, such as the summit of Nilgiris (c. 2500 m) and Sivagiri Ghat (c. 1300 m), Kakachi (c. 1200 m) and Kodaikanal / Palnis (c. 2700 m).

**Characters**

Supralabials  
Suproculars  
Prefrontals  
Frontals  
Fronto-parietals  
Supraciliaries  
Nuchals  
Canthus rostralis  
Mid body scale rows  
Paravertebrals  
Subdigital lamellae (4<sup>th</sup> pes)  
Relative length of digits  
Mid-ventrals  
Preanals  
Subcaudals  
Snout-vent length  
Tail length

**Qualities / Numbers**

6, 7  
4  
completely separated from one another  
as long as fronto-parietal and interparietal  
completely divided  
7, 8  
4 pairs  
distinct, to post-circumorbitals  
20  
53  
17  
manus: 4>3>2>1>5; pes: 4>3>2>5>1  
57  
two pairs enlarged  
median row transversely enlarged; hexagonal  
49.0 mm  
79.0 mm

**Table 1.** Lepidosis and mensural data of the *Kaestlea beddomeii*.

Malhotra & Davis (1990) recorded *K. travancorica* from Srivilliputhur Hills (at 9° North latitude) due simply from surveying at higher elevation, 1060–1690 m, while Inger et al. (1984) did not record any *Kaestlea* sp. in Ponmudi Hills (at 8° North latitude), due to the relatively lower elevation in Ponmudi Hills (100 – 1095 m), despite the presence of similar wet evergreen forest habitat. It is interesting to note that the many *Kaestlea* spp. have been recorded only from higher elevation hills of the southern Western Ghats (elevation > 1100 m); from Travancore Hills (8° N), Nilgiris (11° N) (S. R. Ganesh, pers. obs.).

### CONCLUSION

Lepidosis of our specimen is in accordance with *Kaestlea beddomeii* and thus recorded from Agumbe (13° 50.87' N 075° 09.59' E; 557 m asl.), Tirthahalli taluk, Shimoga district, Karnataka state, in Central Western Ghats is the first authentic distribution record of the genus *Kaestlea* in the State of Karnataka. Our specimen was encountered in a locality, which is outside the known distribution range of the congeners. Therefore, our observation presents a range extension for the genus *Kaestlea* by approximately 250 Km further north and 644 m lower in altitude.

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