

## Range extension of parambikulam large burrowing spider *Haploclastus kayi* Gravely, 1915 (Araneae: Theraphosidae)

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### Abstract

New distributional records of *Haploclastus kayi*, Gravely, 1915 is reported from Chimmini Wildlife Sanctuary, Central Kerala. The distributional map, illustrations and diagnosis are provided.

**Keywords:** *Haploclastus kayi*, new distributon, endemic, western Ghats, chimmini wildlife sanctuary

### 1. Introduction

The genus *Haploclastus* Simon, 1892 is a group of large burrowing mygalomorph spiders endemic to the Western Ghats of India and comprises of seven species: *Haploclastus cervinus* Simon, 1892, *H.kayi* Gravely, 1915, *H.nilgirinus* Pocock, 1899, *H.satyanus* Barman, 1978, *H.tenebrosus* Gravely, 1935 and *H.validus* Pocock, 1899 (Siliwal & Raven, 2010) <sup>[1]</sup> and *H.devamatha* (Prasanth & Jose, 2014) <sup>[2]</sup>. Recently Jose (2016) <sup>[3]</sup> redescribed *Haploclastus kayi* Gravely, 1915 based on female specimens collected from the Western Ghats of India. *H.kayi* is categorized as the endangered in IUCN Red List due to its restricted range and highly fragmented distribution (Molur *et al.*, 2008) <sup>[4]</sup>. It is known only from Parambikulam, Palakkad district (Gravely, 1915) <sup>[5]</sup> and Nilambur, Malappuram district (Jose, 2016) till now. The present record further extends its distribution to south in the Western Ghats. In this present paper, the current distributional data of *H.kayi* (female) is mapped and new images are provided on the basis of the specimen collected from Chimmini Wildlife Sanctuary, Kerala.

### 2. Materials and Methods

The specimen was collected during survey of spiders of Western Ghats. Live images were taken with a Canon EOS 550D Digital Camera. Collected specimen was examined and preserved in 70% alcohol. The identity of the species is confirmed by referring to Gravely (1915) and Jose, (2016). The specimens are deposited at the Arachnological Collections, Zoology Museum, Deva Matha College, Kuravilangad, Kerala, India.

**Abbreviations:** DMCK- Deva Matha College, Kuravilangad, ZSI- Zoological Survey of India, Kolkata, PLS- posterior lateral spinnerets.

### 3. Results and Discussions

#### Taxonomy

**Fam.** Theraphosidae Thorell, 1869

**Gen.** *Haploclastus* Simon, 1892

The *Haploclastus* can be distinguished by the presence of a distinct maxillary heel, the digitiform nature of apical segments of the PLS, the presence of claw tufts and absence of a rastellum (Dippenaar-Schoeman 2002) <sup>[6]</sup>, the deep and

slightly procurved fovea; numerous horizontally aligned thorn-like setae in two to three rows above and below the maxillary suture along with long tapering modified setae aligned vertically in diffuse pattern on prolateral side of maxilla (Raven 1985) <sup>[7]</sup>.

#### *Haploclastus kayi* Gravely, 1915

*Haploclastus kayi* Gravely, 1915: 278 (Df)

*Haploclastus kayi* Sunil Jose, 2017b: 6, f. 1A-B, 2A-F, 3A-B, 5A-G (f)

**Material examined:** One female DMCK 20/344, Chimmini Wildlife Sanctuary, Thrissur district, Kerala state, India (GPS: 10°25'51.60"N, 76°29'27.60"E) collected by Aswathy S. on 21<sup>st</sup> January, 2020 from burrows on mud embankment.

**Colour in life** (Fig 1): Carapace golden with coffee brown hairs, basal half dark brown. Abdomen and legs covered with a thick mat of golden hairs. Femora I-IV covered with blackish hairs; patella I-II and proximal region of metatarsi I-II covered with silvery white hairs giving a distinct pattern.



**Fig 1:** *Haploclastus kayi* female from Chimmini Wildlife Sanctuary (Thrissur District, Kerala)

**Description:** For detailed description see Gravely (1915) & Jose (2016).

**Distribution** (Map 1): Chimmini Wildlife Sanctuary, Kerala (New Record), INDIA.



**Map 1:** Distribution of *H. kayi*: 1) Chimmini Wildlife sanctuary 2) Parambikulam Tiger Reserve 3) Nilambur

**Natural history:** One female was found in silk lined burrows on mud embankments along forest roads. The habitat at the collection site is dominated by moist deciduous forests (Fig 2). The burrow was found at a height of 50cms from the ground level. The diameter of the burrow was about 2cms. The burrows have single entrance with circular opening adorned with dried leaves together using silk (Fig 3). During our rearing in the lab, they were found to feed on cockroach nymphs and caterpillars. During nocturnal observations, tarantula remained at the entrance of their burrow (Fig 4). When offered a prey they emerged from the burrow, put their anterior legs and palps on the prey and dragged them back to the burrow. Remains of the prey were found surrounding the burrow.



**Fig 3:** Burrow of *H. kayi* with single opening entrance



**Fig 2:** Collection site at Chimmini Wildlife Sanctuary



**Fig 4:** *H. kayi* at the entrance of their burrow

**4. Conclusion**

This species is recorded from Central Kerala for the first time. Its discovery from this region points to a wider distribution of the species in the southern Western Ghats. The species builds unbranched burrows lined with silk on the road side embankments, which goes horizontally to a depth of 20 cms. The burrows are similar to that made by the *Thrigmopoeus* species. In fact the survival rate of this

species is under threat as they build their burrows predominantly on the roadside mud embankments, which are often damaged due to anthropogenic activities like soil removal, development of roads and logging of wood. The decline of forest cover also put additional pressure on the species.

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