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New locality record of the slender day gecko *Cnemaspis gracilis* (Beddome, 1870) from Ernakulum district, Kerala, India (Reptilia: Gekkonidae) with behavioural observations

Neethu M. Unnikrishnan^{1,*}, Joyce Jose¹, and Roby T. Jose²

The genus *Cnemaspis* Strauch, 1887 is the second most species-rich genus within the family Gekkonidae, with 176 currently known species (Uetz et al., 2020) and 48 nominal species reported from India (Sayyed et al., 2020). *C. gracilis* was originally described from near the Palakkad Gap in the Indian State of Kerala and later reported from few regions in Tamil Nadu (George et al., 2018). Due to variations in body colouration, body proportions and scale pattern, the species is considered to be a species complex (Manamendra-Arachi et al., 2007). In recent times the species was sighted from Palakkad district, the Marayoor hills of Idukki district (Rajkumar, 2013; Palot, 2015), the Chevayur area of Kozhikode (George et al., 2018) and the Thrissur district (Unnikrishnan et al., 2019). Though, most previous studies report the species from areas around dry and moist deciduous forests (George et al., 2018), the present report is from a densely populated urban area. The present study and previous observations (Unnikrishnan et al., 2019) found *C. gracilis* in anthropogenically created microhabitats, like crevices of walls and stacked timber along with natural microhabitats such as tree trunks and rock boulders. *C. gracilis* was relatively more active in the mornings and evenings (see Tab. 1)

In December 2019, 14 individuals of *C. gracilis* were observed, among them 2 specimens were collected, photographed in life, euthanised, fixed and preserved for further studies, during field visits at Tripunithura Hill Palace Garden (Fig. 1; 9.5708°N, 76.2149°E, elevation 52 m), Ernakulum district. Specimens were identified following Manamendra-Arachi et al. (2007), with an

overview of some diagnostic morphological characters presented in Fig. 3–6). All the photographs (Fig. 3–6) are taken from a single specimen collected from Tripunithura Hill Palace Garden (Fig. 1).

This observation from Ernakulum district is a new report as the species has been reported only from the vicinity of Palakkad gap, Kozhikode and Tamil Nadu (George et al., 2018). The present observation and those from Thrissur district by the same authors are more than 130 km away from the type locality of the species *C. gracilis* (Fig. 1). Hence, this is a clear indication that the range of *C. gracilis* spans a wider distributional area than previously assumed. But further surveys in different districts of Kerala, particularly in and around human habitations are needed to get a more complete picture of the geographic range of this species.

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Table 1. Activity pattern of *C. gracilis* during particular periods of observation.

Activity	Morning	Afternoon	Evening
Foraging	+++++++	-	+++++++
Feeding	++	-	++++
Hiding	-	+++	-
Resting	-	++	-
Sexual behaviour	-	-	+
Eliminative behavior (defecation)	+	-	-

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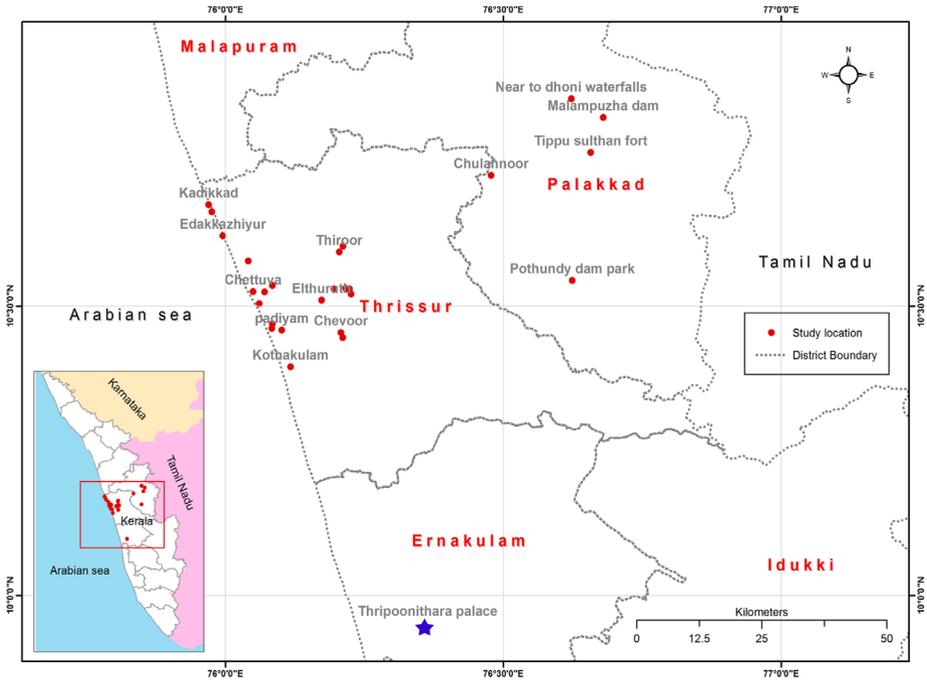


Figure 1. Map showing locations of record of *C. gracilis* by the author from central Kerala (marked by red dots for the districts of Palakkad and Thrissur) and the first report from Ernakulam district (blue star).



Figure 2. A) A juvenile of *C. gracilis*. B) Specimen of *C. gracilis* on laterite compound wall. C) Specimen of *C. gracilis* on a timber log. D) A pair of eggs in a crevice between rocks. Photos by Neethu M. Unnikrishnan.

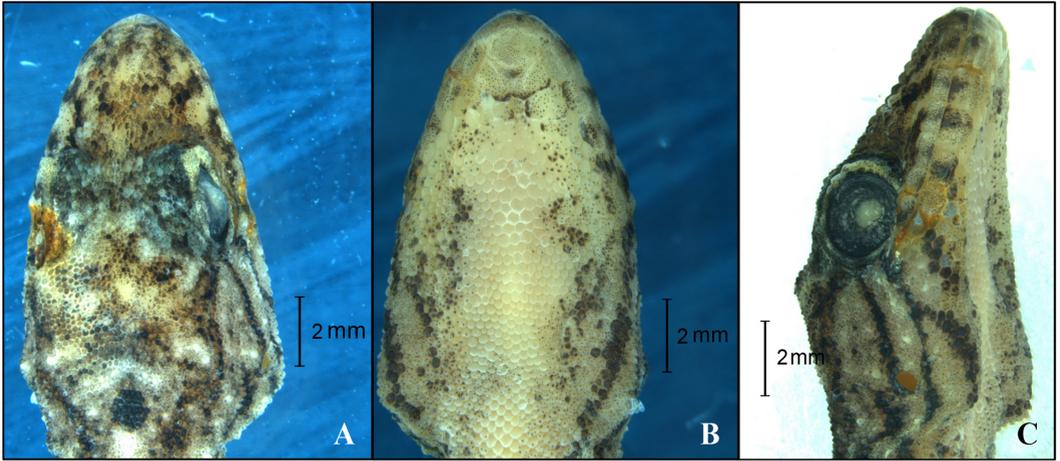


Figure 3. A) Dorsal scales on head. B) Ventral scales of chin region. C) Lateral view of head. Photos by Neethu M. Unnikrishnan.

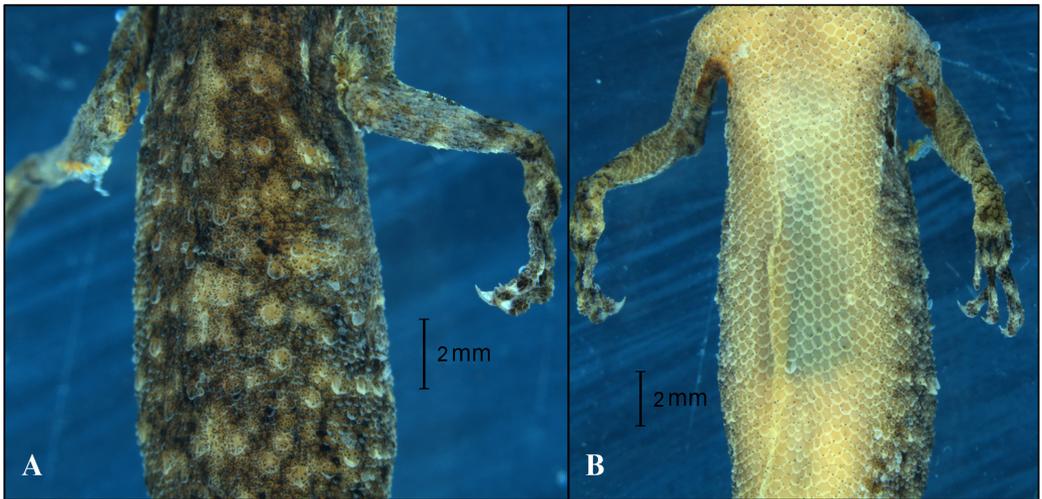


Figure 4. A) Dorsal view of body. B) Ventral scales of body. Photos by Neethu M. Unnikrishnan.

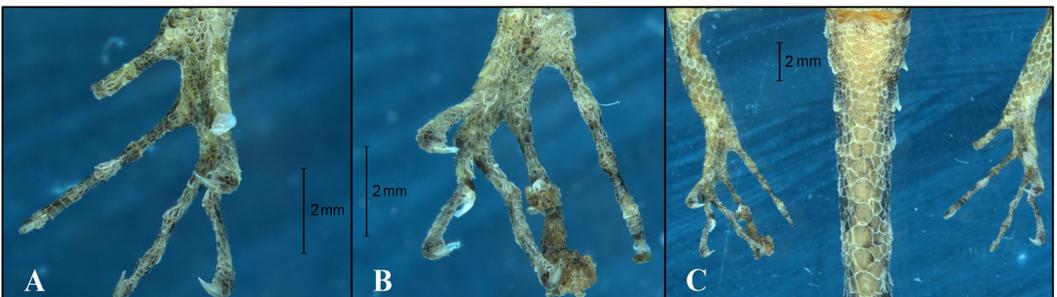


Figure 6. Sub digital lamellae of limbs. Photos by Neethu M. Unnikrishnan.

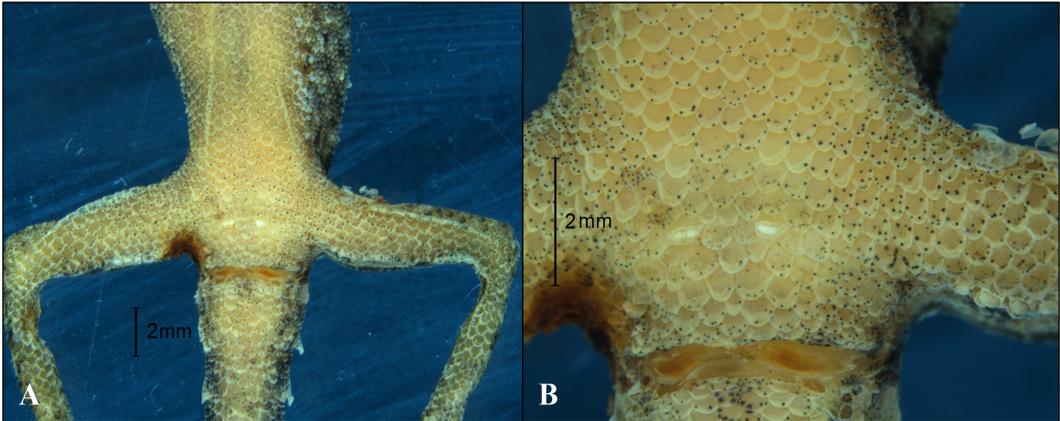


Figure 5. A) First part of tail in ventral view showing hexagonal subcaudal scales and femoral region with femoral pores. B) preloacal and cloacal region. Photos by Neethu M. Unnikrishnan.

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