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Distribution, ecology and morphology of a newly discovered *Poecilotheria* species of Sri Lanka (Araneae - Theraphosidae)

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Abstract

Scientific studies on *Poecilotheria* in the wild are limited. In a broad perspective, their distribution, identification and their speciation are poorly studied. Therefore, their life requirements and any conservation issues are less well known. Only 16 *Poecilotheria* have been discovered in the Indian continent (with only 5 identified *Poecilotheria* from Sri Lanka), but there may be more species in the wild. The objective of this research was to clear the doubts of a possible new *Poecilotheria* species found in northern parts of Sri Lanka, and to find its distribution, taxonomic description and ecological requirements.

To assist understanding of the subject, a comprehensive literature search was conducted on reported Sri Lankan *Poecilotheria* and the one Indian species that show similar characteristics. This also assisted in finding out whether existing data support any evidence of a new species.

The field data collection was carried out in the northern part of Sri Lanka, in the North and North Central Provinces (around Vavniya District). An average 40 km radius was surveyed, with 30 individual sampling sites. Out of the samples, 5 sites showed the presence of the unknown *Poecilotheria* species, with healthy populations. This comprised 42 individuals: 11 adults (8 females and 3 males) and 31 juveniles. Field data on fauna and flora were also collected to show vegetation richness and diversity in the studied areas. These results proved that the areas contained rich vegetation cover with a high diversity of fauna and flora.

An identification key that consists of leg patterns and prominent features was then established with the aid of samples, drawings and images taken during the research. By comparing ventral leg patterns, none of the known Sri Lankan *Poecilotheria* resembled similar characteristics to the newly discovered species. Also, the closest match, to the Indian species *P. regalis*, shows differences in the ventral leg markings (on the 1st and 4th legs) to the new species. Additional morphological features of the new *Poecilotheria* was also collected and compared with known data to show correlations and differences between species. The geographical differences (between *P. regalis* and the newly discovered), also confirmed that the species is a new form. The species is proposed to be named as *Poecilotheria amarasekerai*, Perera (2012), with a supporting species description.

Keywords: *Poecilotheria amarasekerai*, *Poecilotheria*, Vavniya District