

Phylogeny of *Aprusia*, a spider genus endemic to the Western Ghats and Sri Lanka biodiversity hotspot (Aranea: Oonopidae)

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Spiders are a dominant group of invertebrates in terms of number of species in terrestrial ecosystem worldwide. However, some taxa are restricted to certain geographical areas. The genus *Aprusia* Simon, 1893 is one such example, it is endemic to the Western Ghats and Sri Lanka biodiversity hotspot. Among the five known species, four are confined to Sri Lanka. Our primary goal here is to assess diversity and infer their phylogeny using morphology and molecular markers.

Sampling was carried out in selected sites around Sri Lanka. Specimens were collected by sifting litter and identified using recently published work. Male palps and female epigyne were illustrated with the aid of an Olympus BX51 microscope with a camera Lucida attachment. Phylogenetic analysis using morphological characters was performed using the TNT 1.1 software package. Molecular phylogenetic tree was constructed using partial fragments of the 18S and 28S gene regions (2782bp) and analyzed in MEGA 6.06 using standard procedure.

Individuals of *Aprusia* were found from only ten sites out of more than a hundred locations sampled. Among forty-nine specimens examined, three new species of *Aprusia* were discovered, in addition to the four known species. The three new species are endemic to forests in the central highlands of the country. Heuristic searches in TNT under equal and implied weights ($K=3-10$) resulted in a single most parsimonious, fully resolved tree. The monophyly of the genus is recovered and is well supported. The three new species with *A. kerala* formed a well-supported clade, which is sister to *A. vestigator* and *A. veddah*. This clade is supported by four unambiguous synapomorphies; an extension of sternum posterior margin, presence of patches anterior to the spinnerets, presence of small, sinuous embolus and conductor. A key to *Aprusia* of the world is provided using unique male palpal and female epigyne characters.

Financial assistance by the National Institute of Fundamental Studies, Sri Lanka is acknowledged.

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