A PRELIMINARY STUDY ON MOLECULAR DIVERSITY OF CHRYSILLINES (ARANEAE: SALTICIDAE) IN SRI LANKA

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Jumping spiders are small, diurnal hunters remarkable for their excellent vision, diverse body forms and behaviours. They are known from all non-polar terrestrial ecosystems with more than 5935 species described in 620 genera. Among these, chrysillines are small to medium sized, shiny foliage-dwelling jumping spiders classified under clade Saltafresia of Family Salticidae. During recent field work around the country, "similar-looking" groups of species were provisionally identified as members of genera *Chrysilla* and *Phintella*. However, detailed drawings of genitalia revealed that at least six of our morphospecies might be distinct from both genera. To validate our primary assessment, we performed a series of phylogenetic analysis based on both morphological and molecular data. Sampling was carried out in 15 districts of Sri Lanka. Collected specimens were preserved in either 70% for morphological identification or 100% ethanol for molecular identification. Spiders were identified and illustrated using a Leica M205C, an Olympus SZX7 and an Olympus BX51 microscopes using standard methodology. Total genomic DNA was extracted from leg tissues for 46 specimens using DNeasy Tissue Kit. Partial fragment of mitochondrial protein-encoding gene cytochrome c oxidase subunit I (CO1~600 bp) and two nuclear ribosomal genes, 18S rRNA (18S ~1600 bp) and 28S rRNA (28S ~800 bp) were amplified for species level molecular identification of arachnids. DNA sequences were assembled and edited using Geneious 6.1.5 software. Maximum likelihood and parsimony analysis were performed for single gene (CO1, 28S), concatenated two genes (CO1+ 28S) and concatenated all genes (CO1 + 18S + 28S) matrices in MEGA 6.06. Under tribe Chrysillini, two new genera and seven new species to science are discovered. *Phintella vittata*, *Chrysillalauta* and *C. volupe* are redescribed based on new materials from Sri Lanka. Further, female of *C. volupe* is described for first time. All separated (CO1 and 28S) and concatenated (CO1 + 28S, CO1 + 18S + 28S) phylogenetic trees corroborated the phylogenetic placement of two new genera under tribe Chrysillini as well as monophyletic origin of *Phintella* that formed a sister clade with proposed new genera.

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