

Taxonomic Account of *Strobilanthes* sp. in Sri LankaRajapakse N.^{1*}, Wijesundara S.², Bandaranayake P.³¹Department of Wildlife Conservation, Jayanthipura, Battaramulla, Sri Lanka.²National Institute of Fundamental Studies, Kandy, Sri Lanka³Agriculture Biotechnology Centre, Faculty of Agriculture, University of Peradeniya, Sri Lanka

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Abstract

Strobilanthes is the most species-rich genus coming under Family Acanthaceae which was first described by Blume (1826) from specimens collected in West Java. This is one of the largest and interesting genera in the flora of Sri Lanka. *Strobilanthes* is widely distributed over tropical South and South East Asia and individual species are restricted to isolated islands. While more than 300 Nelu plant species in which various colorful flowers bloom have spread in Asian countries, more than half of them have been confined to Indian sub-continent. Thirty one species have been reported in Sri Lanka and out of them 26 species are endemic. Shrubs of the genus *Strobilanthes* dominate the montane forest understory in Sri Lanka. Species delimitation remains problematic, essentially because many species are poorly known and rarely collected, mainly because of their seasonal flowering pattern. Nevertheless, new species have been described in the past decade and it is possible that others still remain to be discovered. There are some more varieties under few of those species. Also further taxonomic reviews would be resulted with discovering of new species as well in future. In the current study specimens of 15 *Strobilanthes* species were collected from the different locations of the island for both preparation of herbarium samples and extraction of DNA. Distribution maps were prepared using Arcview GIS. Herbarium samples were prepared and deposited in the national herbarium, Peradeniya. Universally accepted regions of the genome was used for the barcoding study. DNA was extracted from the tissue samples, and the barcode portion of the rbcL, matK and trnH-psbA genes were amplified by PCR. The amplified bands were gel-purified and submitted for sequencing in both directions. The sequencing results for each fragment was used to search available DNA databases. Close matches were quickly identify species that are already present in searched databases. However, if it is a new barcode, not previously deposited in databases, a phylogenetic tree will be built with near relatives for identification of unknown species. Our results show that the DNA barcoding technology can effectively be used for discrimination of Nelu species in Sri Lanka. DNA barcoding together with morphological characterization can be used to resolve the phylogeny of the Genus *Strobilanthes*.

Keywords: *Strobilanthes* sp., PCR, DNA barcoding, Herbarium