

## **Lichens in Tropical Forests of Sri Lanka: Discovering Species New to Science**

Gothamie Weerakoon<sup>1</sup> and Siril Wijesundara<sup>2\*</sup>

*1Algae, Fungi and Plant Division, Department of Life Sciences, The Natural History Museum, Cromwell Road, London, SW7 5BD, UK. 2National Institute of Fundamental Studies, Hantana Road, Kandy, Sri Lanka\* <sirilw@ifs.ac.lk>*

### **Abstract**

Molecular phylogenies have greatly changed the understanding of generic classification within Graphidaceae, the largest family of tropical lichens. Quantitative extrapolations and molecular data for species complexes in tandem with new field work in under explored areas of tropics suggest that the family Graphidaceae contains over 2,500 species globally. The family was treated in several studies focusing on material from Sri Lanka, collected from variety of habitats within Sinharaja and KDN tropical forest complex, and Central mountain region, and unveiled a large number of taxa new to science.

Recent analysis of new collections yielded to the discovery of 25 new species in Graphidaceae. In total, 230 species in 35 genera were found, with 160 being new records for Sri Lanka in family Graphidaceae. The genus *Graphis* of family Graphidaceae is the most speciose genus to be recorded in the island with 90 species. The genus *Graphis* also included the highest number of new species, 15 species, described from Sri Lanka. A novel taxonomic key to identify *Graphis* taxa is in process of publication in a peer reviewed scientific journal, and can be used to distinguish all the species in the country.

Further, over 20 new lichen species that represent many different lichen families and genera have been described since 2014. These new species are reported from several different locations in tropical forests of Sri Lanka as point endemics and recorded from Sinharaja, Knuckles region, KDN complex, Pidurutalagala, Hakgala, Kitulgala, Nuwaraeliya, Horton Plains and Gampaha, Jaffna and Kalutara Districts. The total number of new lichen species and their endemism in Sri Lanka recognize the country as a Lichen “Hotspot” in the world.