

Foliar Finger Printing of *Solanum* spp. from Kerala

V.S. Anil Kumar¹, Sruthy K. Pillai¹ and K. Murugan²

¹ Department of Botany, Govt. College for Women Thiruvananthapuram-678014, Kerala, India

² Plant Biochemistry and Molecular Biology Laboratory, Department of Botany, University College, Thiruvananthapuram-678034, Kerala, India.

ABSTRACT

Solanum is the largest and cosmopolitan taxa in Solanaceae with about 2000 species worldwide. The genus is represented by about 30 species distributed in different districts in Kerala. This investigation report for the feasibility of using the foliar epidermal characteristics such as foliar trichomes, stomatal index and vein islet numbers as a taxonomical aid in distinguishing seventeen *Solanum* species. Trichomes have considerable importance in comparative analysis in angiosperms. In *Solanum*, trichomes are glandular and non glandular and shows variations with respect to their structure as well as distribution patterns. Tetraradiate and multiradiate nonglandular trichomes were observed in *Solanum violaceum* ssp *multiflorum* whereas, *S. giganteum*, *S. erianthum*, *S. mauritianum*, *S. melongena* var *insanum*, *S. violaceum* ssp *violaceum* and *S. torvum* possessed multi radiate stellate trichomes only. Glandular trichomes were present in *S. erianthum*, *S. seaforthianum*, *S. trilobatum*, *S. mammosum*, *S. virginianum*, *S. macrocarpon*, *S. capsicoides* and *S. pseudocapsicum*. Stomatal index and vein islets are also reported to be characteristic of a particular plant species. The vein islets ranged from 2.56 in *S. violaceum* ssp *multiflorum* to 21 in *S. torvum*. Stomatal index was highest in *S. seaforthianum*. Foliar nature can be considered as a marker character in identifying plants at inter specific levels.

Key words: Foliar trichomes, *Solanum*, Stomatal index, Vein islet numbers

Abbreviations: ANOVA-Analysis of variance, SI- stomatal index

Author for correspondence: K. Murugan, e-mail: harimurugan@gmail.com