D-65 Flavonoid and pollen study of the genus *Solanum* L in Sri Lanka

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Solanum, (Family Solanaceae) is an economically important genus with species of medicinal value. 16 *Solanum* species were studied for their flavonoid distribution and pollen morphological features.

Flavonoids are secondary metabolites with high systematic value and have been extensively used in plant systematic studies. Standard chromatographic techniques were used in isolation and identification of flavonoids. According to the flavonoid aglycone distribution, flavonols were found in leaves and flowers of all the species examined, while flavones were recorded in 60% of leaves and 38% of flowers of different species. Quercetin, kaempferol and luteolin were common while myricetin was found only in *S. hispidum.* Proanthocyanidins were not recorded from any of them. Therefore, the rareness of proanthocyanidins and myricetin agreed with their herbaceous habit and can be considered as an evolutionary advanced character.

One of the objectives of this study was to determine the controversy of the taxonomic position of tomato *(S. lycopersicum).* It was revealed, that there was no great difference in flavonoid composition between *S. lycopersicum* and other *Solanum* species. Further it was found that the flavonoid distribution was similar in both cultivated and wild species of the genus *Solanum.* So this preliminary work provides important information regarding the systematics for the genus *Solanum.*

Palynological studies were carried out, measuring the polar length and by microscopic observation of pollen grains. Tricolpate pollen grains with smooth exine were the common pollen type and the polar length varied significantly between species and within species ($p \leq 0.05$). It is concluded that the use of pollen characters for systematic purposes for the genus *Solanum* is not very reliable.