MORPHOLOGICAL AND CYTOGENETIC STUDY OF SOME SPECIES OF SOLUNUM

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The study was carried out at the CARI, Gannoruwa using 16 cultivars and 3 wild non-tuber forming accessions of solunum belonging to three species.

First, the morphology of the nineteen different accessions was studied using 18 quantitative and 30 qualitative characters. Almost all the quantitative characters were highly variable. Correlations ranging from +0.925 to -0.68 were obtained for the characters in stem, leaf, flower and fruit. More obvious variation could be observed in qualitative traits. The flower and fruit characters were found to be more important than the vegetative ones, in both inter- and intra- species classification.

Several important characters were employed in a cluster analysis with the help of the SYSTAT programme. Two different types of clustergrams were revealed for quantitative and qualitative traits separately. The analysis based on quantitative traits was more likely to agree with the known classification of the species.

Guided by the results of morphological study 3 representative accessions were selected from 3 species and their meiosis was studied at the first prophase and anaphase. The diploid chromosome number was 2n=2x=24 for all 3 species: S.melongena, S.indicum, S.xanthocarpum. Therefore, the inter- specific variation can not be correlated with the number of chromosomes. No evidences of chromosomal aberrations were found.