B-91: Cytological and morphological studies of an interspecific hybrid between *Solanum macrocarpon* and *Solanum melongena* var.*insanum*

M A N de Silva, P K Samarajeewa, P Attanayake
(*Plant Genetic Resources Centre (PGRC), Gannoruwa, Peradeniya*)

Several *Solanaceous* species considered as wild or uncultivated to brinjal (*Solanum melongena*), have been collected and conserved at PGRC. This germplasm could be important in the improvement of brinjal. However crossability relationship between the species is poorly understood. An interspecitic hybrid has been produced between *S. macrocarpon* and *S. melongena* var. *insanum* as pollen parent, at the PGRC.

The morphological and cytological characters of the F1 hybrid were studied using plants grown in a plant house at PGRC. Plant height, leaf length, petiole length, flower diameter, pollen germination , pollen density and pollen viability were evaluated. Nature of leaf surface, flower colour, plant habit, leaf margin and spine location were recorded by visual observations. Cytological studies were carried out using pollen mother cells. Artificial self-pollination, reciprocal crosses and back crosses were made.

Reciprocal crosses were successful while self and back crosses of the hybrid with the parental species were unsuccessful. Observations of the pollen from the F1 plants indicated low viability, low density (28.6×10^4 pollen/ml) and no germination. Meiosis in the parents appeared to be normal. Cytological observations of hybrid pollen mother cells indicated abnormalities. This indicates the genetic distinctiveness of the parental genomes.