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STUDIES ON GENUS *PIPER* L. (PIPERACEAE)

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Genus *Piper* includes several commercially important species such as *P.nigrum* L., *P.longum* L., *P.betle* L.,*P.cubeba* L.F., *P.methysticum* D.C. of which the first three are of economic importance to Sri Lanka. Germplasm collection of wild species was initiated in 1977 and a total of 69 accessions were collected. These accessions were identified as *P.sylvestre* Lam., *P.argyrophyllum* Mig., *P.thwaitseii* C.D.C.,*P.zeylanicum* Mig., *P.trineuron* Mig., *P.attenuatum* Ham., *P.chuvya* C.D.C., *P.longum* L. and *P.betle* L. on the basis of Morphological, anatomical and cytological features.

Basic chromosome number for the genus is 13 and the cultivated species were found to be tetraploids having 2n=52 chromosomes. Most of the South American species obtained from the Royal Botanic Gardens, Kew, U.K. and some wild species available in our germplasm collection were found to be diploids. Significant interspecific variation in DNA amounts was observed. DNA amount per basic genome decreased with increasing ploidylevel.

Flavonoid vitexin-7- glucoside is found to be common to all the species and hence chemotaxonomic marker for the genus. Cytisoside 2'-O- rhamnoside was observed only in the wild species of Sri Lanka and hence useful for identifying interspecific hybrids involving *P.nigrum* and wild species.

D^2 cluster analysis of some selections of *P.nigrum* and wild species based on yield and quality parameters highlights that there are high genetic distances between selections and species and will be of use in the future crop improvement programme by breeding.