SOME STUDIES ON THE GENUS HORTONIA

H.E.M. D.K. EKANAYAKE, R.M.R P. RATNAYAKE AND
N.L.V.V. KARUNARATNE

Department of Chemistry, Faculty of Science, University of Peradeniya

The endemic genus *Hortonia* belongs to the plant family Monimiaceae, whose only three species in Sri Lanka are *H. angustifolia*, *H. floribunda* and *H. ovalifolia.*

Four different parts (leaves, stem, stem bark and roots) of the above three species were collected from nine different geographical locations of Sri- Lanka, namely, Wewalkandura, Deniyaya, Kotapola, Pitabeddara, Kanneliya, Atweltota, Kelabokka, Hakgala and Adam's peak They were sequentially and exhaustively extracted into dichloromethane. Next their chemical compositions were studied qualitatively and quantitatively using HPLC. Two new butenolides were isolated and purified using various chromatographic techniques (MPLC, flash chromatography & TLC). Then they were concentrated and dried by means of low pressure–rotary evaporation. The percentage yields of the above two butenolides in leaves, stem and roots of all the three species were calculated.

The highest percentage yield of these two butenolides, occurred in the root in all species. The stem of the three species consist the second highest yield of the two butenolides . The lowest yield of the two butenolides was found to be in leaves. The HPLC profiles of the extracts of the same plant part from different localities showed that they contained a similar number of compounds , approximately in similar amounts; but number of compounds and their abundance varied with the part of the plant.

These two butenolides exhibited mosquitolarvicidal activity against the second instar larvae of *Aedes aegypti* and the antifungal activity against the fungus *Cladosporium cladosporioides*.

Percentage yields of butenolides, from three different parts of the plant (leaves, stem and roots) seemed to be more or less similar in all the three *Hortonia* species. Therefore it is reasonable to assume that all the three species of *Hortonia* carry the two butenolides in same amounts in those three parts.

This investigation was conducted as a part of a study, which involved the chemical investigation, and bioactivity of the genus *Hortonia* in Sri Lanka.