

**A COMPARATIVE VEGETATIVE ANATOMICAL
STUDY OF THE GENUS *GARCINIA* L. (CLUSIACEAE)
IN SRI LANKA**

BY

P. S. K. PATHIRANA

**BOTANY DIVISION
FACULTY OF NATURAL SCIENCES
THE OPEN UNIVERSITY OF SRI LANKA**

REFERENCE ONLY

**A THESIS SUBMITTED IN FULFILLMENT
OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF PHILOSOPHY
TO THE FACULTY OF NATURAL SCIENCES OF THE
OPEN UNIVERSITY OF SRI LANKA**

OCTOBER, 1996

42067



ABSTRACT

Vegetative anatomical investigations of ten *Garcinia* species represented in Sri Lanka recognized by earlier workers were carried out. Anatomical features of lamina, petiole, young stem and wood, together with ecological influences were studied in detail and the results were statistically analysed. On the basis of vegetative anatomy, the study agrees with the previous workers in that there are ten *Garcinia* species in Sri Lanka. Further, this study reveals that the boundaries between the Sri Lankan species of the genus could be successfully established based on vegetative anatomical features. Interpreting the overall anatomical data obtained for each species in the light of possible lines of structural specialization together with the results of statistical analysis, a possible evolutionary trend within the genus has been suggested. On this basis, the non-endemic species *G. mangostana*, *G. spicata* and *G. xanthochymus* centering *G. morella* form the basic stock from which two lines of specialization have arisen. The doubtful endemic *G. echinocarpa* could be considered as the most specialized species, and the two endemics *G. quaesita* and *G. terpnophylla* could be the coupling group between the basic group and *G. echinocarpa*. The endemic *G. zeylanica* is observed to be an off shoot of *G. quaesita*. The exotic species *G. xanthochymus* could be interpolated between the basic group and the group which includes the two endemics *G. thwaitesii* and *G. hermonii*.

Further, based on the overall anatomical data, results of statistical analysis, ecological distribution and the findings with respect to degree of specialization, it could be suggested that the most specialized species *G. echinocarpa* is endemic to Sri Lanka.