LEAF MORPHOLOGICAL CHARACTERISTICS OF
SOME UNDERSTOREY SPECIES IN
A SRI LANKAN LOWLAND RAIN FOREST

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Variations in leaf morphological characters were studied among tree seedlings of four
understorey species grown in shade houses (full sun and shade) in the Sinharaja lowland rain
forest over a one-year period from January 2000 to January 2001. Study species were Psychotria
nigra, Geartnera vaginans, Byrsophyllum ellipticum (Rubiaceae) and Agrostistachis
inramaginalis (Euphobiaceae). All are understorey specialists and Byrsophyllum ellipticum,
Agrostistachis intramaginalis are endemic to Sri Lanka. Measurements of leaf area, length of
drip tip, petiole length, petiole diameter, fresh weight, and margin length were taken and specific
leaf area was calculated. The greatest specific leaf area and margin length values were recorded
for all species in shade while smallest values were in full sun. In contrast the greatest leaf fresh
weight of these species were observed in fullsun. Petiole length of Psychotria nigra, Geartnera
vaginans, and Byrsophyllum ellipticum was highest the greatest in shade and for Agrostistachis
intramaginalis it was highest in full sun. The greatest length of drip tip and leaf area values were
recorded in shade and petiole diameter in full sun for Psychotria nigra and for Byrsophyllum
ellipticum. For other two species, length of drip tip and leaf area values were the greatest in
fullsun and petiole diameter in shade. A significant difference (p<=0.05) was found on specific
leaf area between sun and shade for all species except Agrostistachis intramaginalis. Leaf area,
margin length or drip tip showed no significant. The results indicate that these understorey
specialists showing similar morphological characteristics when grown in shade and in fullsun in
their early seedling stage. Studied two genera has differed by specific lead area than other
morphological characters. Continuation of this study with other leaf ontogenic characters is
important to understand the variation of understorey species.