

## FRUITING PHENOLOGY OF EIGHT *Shorea* SPECIES IN SINHARAJA MAN AND BIOSPHERE RESERVE

B K H C Munidasa, C V S Gunatilleke and I A U N Gunatilleke  
Department of Botany, University of Peradeniya

The canopy of Sinharaja rain forest is dominated by *Mesua* and *Shorea* spp., which are endemic to Sri Lanka. Information on the fruiting phenology of *Shorea* is vital, in terms of identifying trees as mother trees and collecting seeds for restoration and reforestation of degraded forest areas in the south-western part of Sri Lanka.

The phenology of eight *Shorea* species, [*S. affinis*, *S. congestiflora*, *S. trapezifolia* and *S. zeylanica* belonging to the Thiniya group and *S. cordifolia*, *S. megistophylla*, *S. worthingtonii* and *S. disticha* belonging to the Beraliya group] were examined for eighteen years. Fruiting of selected individuals was recorded fortnightly as a percentage of the observable part of the crown in flower. The effect of environmental parameters on fruiting was assessed using Spearman rank correlation coefficient.

In all species, the number of trees participating in a given fruiting event differed greatly between years. Individuals of *S. trapezifolia* and *S. zeylanica* had more intense fruiting activity (>50%) in most years while, it was only 1-50% in *S. congestiflora*. Fruiting intensities of individuals of the Beraliya group varied relatively little among different fruiting episodes. An annual fruiting pattern among the Thiniyas and a supra-annual pattern in the Beraliyas were observed. The number of flowering episodes per tree was high in members of the Thiniya group. Fruit fall was tightly synchronized among the Beraliyas, but sequential among the Thiniyas.

The monthly rainfall and the fruiting intensities of all *Shorea* species, except in *S. cordifolia* and *S. zeylanica*, were significant. The seasonal rainfall and fruiting intensities of four *Shorea* species were significantly correlated. The timing and intensity of fruiting was observed to coincide with favorable environmental conditions.

This project was funded by grants from by the USAID (Grant No: DPE-5542-G-55-4073-00) through Harvard University, U. S. A. and the John D. and Catherine T. MacArthur Foundation and the Britin Scholarship Fund