

(ID 190)**Above-Ground Biomass Partitioning of Selected Fewer Common Trees with Timber Value****Hansamali, A.P.U.*, Subasinghe, S.M.C.U.P.***Centre for Forestry and Environment, Department of Forestry and Environment, University of Sri Jayewardenepura, Nugegoda, Sri Lanka**[*uma.hansamali@gmail.com](mailto:uma.hansamali@gmail.com)***Abstract**

Information on the allocation of above-ground biomass between stems and branches is important in managing the structure and function of the forest ecosystem. Therefore, this study aimed to estimate the above-ground biomass partitioning between the main stem and branches of selected, less-used five tree species, which bear timber value, which are *Alstonia* (*Alstonia scholaris*), *Hulanhik* (*Chukrasia tabularis*), *Hurimara* (*Albizia odoratissima*), *Lunumidella* (*Melia azedarach*), and *Ketakela* (*Bridelia retusa*), growing in roadsides and home gardens. Data were collected from three mature trees of each species grown in Moratenne Division in Muwankanda Estate of Lalan Agri Division, Lalan Rubbers Pvt. Ltd. Breast height diameter (dbh) and stem height of the selected trees were measured after felling. Tree stems and large branches, viz., branches with a base diameter larger than $1/3^{\text{rd}}$ of the stem diameter, were divided into 3-meter sections and the length and bottom, middle, and top diameters were measured for each section to estimate its volume using Newton's formula. The final section of each component was assumed as a cone to estimate its volume. The total volume of the stem and branches were separately estimated by adding section volumes. Then, two samples representing the top and bottom sections of each component were taken to the laboratory and oven-dried at 105°C until a constant weight was obtained. The dry weight (biomass) of each component was estimated by converting the sample dry-weight-volume ratio to its volume. The dbh measurements for the tree species *Alstonia*, *Hulanhik*, *Hurimara*, *Lunumidella*, and *Ketakela* ranged from 25-34 cm, 30-52 cm, 20-43 cm, 25-60 cm, and 25-46 cm, and the stem biomasses ranged from 100-230 kg, 200-900 kg, 160-220 kg, 100-400 kg, and 50-225 kg respectively. The lengths of branches of the tree species ranged from 8-13 m, 11-19 m, 8-16 m, 4-11 m, and 10-15 m, and their branch biomasses varied between 15-55 kg, 200-900 kg, 10-35 kg, 20-140 kg, and 70-105 kg, respectively. The findings illustrated that the stem biomasses were higher than the branch biomasses of all the species. The highest branch biomass stem biomass partitioning percentage was observed in *Ketakela*, and the least was in *Hurimara*. The findings of this study contribute to the understanding of above-ground biomass partitioning and the timber value of the selected tree species.

Keywords: Above-ground biomass, Biomass partitioning, Stem biomass, Branch biomass