**Tree rings identification in woody species from dry Miombo woodlands in Tanzania**

E. E. Mwakalukwa1, M. De Ridder 3,4 , H. Meilby2, T. Treue2 and H. Beeckman3

*1 Department of Forest Biology, Faculty of Forestry and Nature Conservation, Sokoine University of Agriculture, Tanzania*

*2 Department of Food and Resource Economics, Faculty of Science, University of Copenhagen, Denmark*

*3 Wood Biology Service, Royal Museum for Central Africa, Belgium*

*4 Laboratory of Wood Technology, Faculty of Bio-Science Engineering, Ghent University, Belgium*

**Corresponding author:** ezedwa@yahoo.com

**Keywords:**  Age, growth rings, growth models, miombo, radial increment, wood anatomy

Age and radial growth of trees estimated by repeated forest inventories and annual growth rings measurements are basic information for studies on forest dynamics, with direct implications for forest management and silviculture as well as for ecological and global climate change studies. The aim of this work was to analyze the formation of growth rings of 44 tree species collected from Gangalamtumba Village Land Forest Reserve in Iringa, Tanzania. The generated growth data will be used as a basis for further studies on the estimation of growth increments and the development of growth models. These models can aid during the preparation of management plans and the estimation of the potential for carbon sequestration in dry Miombo woodlands. All IAWA-listed features describing growth-ring boundaries were studied and described for all species based on microtome slides and close examination those slides under the microscope. Comparison with other samples from the Tervuren Xylarium slide database was also undertaken. In some species, growth rings can be identified by the diffuse–porous species and formation of terminal parenchyma bands though in other species the ring boundary was not really clear. The rhythmic (inter annual) growth due to the dry seasons (one dry season per year) may have resulted in annual growth ring formations across the species studied.