**Relationships between wood, leaf and life-history traits of African tropical tree species**

E. Kearsley1,2,3, M. Rousseau3, H. Verbeeck4, P. Boeckx2, H. Beeckman3

*1 Laboratory of Plant Ecology, Ghent University, Belgium*

*2 Isotope Bioscience Laboratory – ISOFYS, Ghent University, Belgium*

*3 Laboratory for Wood Biology and Xylarium, Royal Museum for Central Africa, Belgium*

*4 Computational and Applied Vegetation Ecology – CAVElab, Ghent University, Belgium*

**Corresponding author:** elizabeth.kearsley@ugent.be

**Keywords:** Africa, functional traits, tropical

Relationships between plant functional traits of different species contribute to knowledge on differences in species performance and distribution. However, most studies have focused on either leaves or stems, while wood anatomical traits have largely been overlooked. Within this study, we bridge this gap by integrating leaf, wood anatomical and life-history traits using a dataset of approximately 80 African tree species. We specifically focus on relationships between wood vessel and fibre characteristics with leaf nutrient status, leaf area and water use efficiency parameters. We identify differences in functional traits of species with different light requirements and potential tree size.