**Dendrochronological potential of *Brachystegia spiciformis* from dry Miombo Woodlands in Tanzania**

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Exactly dated tree-rings are important for estimating age, growth increment and understanding of the influence of environmental variables on tree growth. This study examines the potential for extending the chronology developed in Zambia by Trouet et al. in 2006 based on *B. spiciformis* trees collected from dry Miombo woodlands of Gangalamtumba village land forest reserve located in Iringa Rural District in the Central-Southern Tanzania. We examine annual tree-ring formation in *B. spiciformis*, estimating age of *B. spicifromis* trees and develop a site specific chronology of *B. spicifromis* trees using growth ring series. Stem disks were cut at 1.3 m above ground from 40 sample trees. Data on climate were collected from the nearby weather stations of Iringa airport and Tosamagaga station located about 30 km from the study site. Results show that tree rings *of B.spiciformis* from dry Miombo woodlands were annual based on successfully crossdated sample of 35 stem disks. The estimated mean annual diameter increment of *B. spiciformis* was 1.93 ± 0.14 mmyear-1 (mean ± SE). Climate (rainfall) was shown to have a strong positive effect on growth of *B. spiciformis*. A site chronology of 67 years which shows a strong correlation with local climate is reported.