**Fungal flora associated with canker and dieback disease in *Adansonia digitata* and *Sclerrocarya birrea* in two agro-ecological zones in Eastern Kenya.**

Domestication of indigenous fruit trees in drylands agroforestry systems has been threatened by canker and dieback diseases which could cause food insecurity. However magnitude, distribution and identity of associated pathogen has not been documented in Kenya on *Adansonia digitata* and *Sclerrocarya birrea*. Morphological, molecular and phylogenetic analysis, were done for the isolated fungal pathogen and analysis done using ANOVA and GenStat. About 360 samples were collected from five farms spread over two Agro-ecological zones (Kitui and Kibwezi). Five fungal genera viz; Botryosphaeria, Pestalopsis, Fusarium, Alternaria spp. and *Phomopsis* spp. were identified morphologically. Molecular data of internal transcribed spacer (ITS) rDNA revealed that 50 fungal species were associated with both trees. Members of *Botryospheriaceae* comprised of 50 % of total isolates with five species most frequently occurring. Phylogenetic analysis and closest matches in GenBank showed that the fungal species associated with the fruit trees also occurred in other plant species. Hence plurivorous nature of these pathogens threatens trees and crops in agroforestry systems. The occurrence of main canker and dieback pathogen were significantly correlating with disease in dry season (< 0.01, Pearson corr. =0.72) indicating the hot conditions favouring their growth. However occurrence of Alternaria was higher in humid areas and during wet season. This study will provide a comprehensive study on fungal flora associated with *A. digitata* and *S. birrea* in Eastern Kenya which clearly document the need for detail study of host-pathogen dynamics. It also demonstrate the ability of this indigenous fruit trees to share pathogens with other crops and possibly act as source of reservoir or inoculum for agricultural crops which could compromise disease management strategies on farms. This study will contribute towards epidemiological and management strategies for fungal pathogens in Arid and semi-arid lands (ASALs).

Keywords: *Adansonia digitata*, Agroforestry, *Botryospheriaceae*, Canker and dieback, fungal flora, Pestalopsis, *Sclerrocarya birrea*