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Based on 120 stem discs collected during 3 months of fieldwork along 12 km route, the history of fires in the Wari Maro Forest over the past century in savanna woodland and dry forest was reconstituted. By analyzing tree rings, 246 fire scars were identified. The scars were concluded to come from 51 fire years, with a mean interval of 2.23 years between two consecutive fires occurrence. However, from 1890 to 1965, only six years with fires were recorded from sampled trees, but since 1966, there has been no year without fire. The fire frequency point scale reached 14 years. This was the case of Burkea africana, which has been identified as a species tolerant to fire and could be a potential species for a natural firewall. However, Anogeissus leiocarpa is a highly sensitive species to fire, and in a dry forest ecosystem, which is seasonaly burned, the species deserves to have a special conservation plan. Two new concepts were described: the rebarking of trees after experiencing fire and the Mean Kilometer Fire Interval. The first one was observed with Daniellia oliveri (Rolfe) Hutch & Dalz trees, and the second one has been used to evaluate the spatial fire distribution. We demonstrate that savanna woodland and dry forest were subject to a degradation process coming from destructive fires related to vegetation cover clearance due to illegal logging. Three major ecological areas were characterized: one highly burnt zone between two relative less burnt areas. Key words: Fire ecology, Tree-rings, Woodland, Dry Forest, Conservation strategies

Theme: O05. Identifying discrete events in the tree-ring record
Presentation Type: Poster

THE AFRICAN BAOBAB - A HIGH-RESOLUTION ARCHIVE FOR CLIMATE VARIABILITY OF SEMI-ARID AFRICA?

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Prediction of the climate change impact on the African continent requires information about the past climate conditions preferably in high-resolution. However, there is a lack of trans-regional high-resolution proxy data. The African baobab, Adansonia digitata L., is widely distributed throughout semi-arid Africa. It has been revealed by 14C-dating to reach ages of 2000 years. The wood of this species can therefore be considered as a potentially important source of high-resolution palaeoclimatic information. We seek to evaluate the potential of baobab from different sites for crossdating and test the climate response of growth increments and of stable carbon and oxygen isotope ratios. Increment cores from two sites in Botswana (Kubu Island; 20°53' S, 25°49' E) and S-Africa (Musina; 22°17' S, 29°50' E) have been analysed. At the latter site climate variables (T, rH) and seasonal radial increment growth are monitored for a better understanding of the baobab's physiology. Ring-width measurements were done in WinDENDRO on accurately merged UV-light photos of the moist core samples from Kubu Island. By comparing ring width and precipitation data annual growth patterns could be identified. Although the results of stable isotope analysis revealed no clear relationship with tree-ring growth of the same year, the mean values of δ13C, δ18O and the tree-ring width chronology correlate significantly with climate data. We will present how increment cores can best be received from baobabs and prepared for tree ring analysis and discuss the potential of proxy data from baobab trees for future high-resolution climate studies in Africa.

Theme: O01. Tropical dendrochronology
Presentation Type: Poster

SPATIAL DISTRIBUTION OF NORWAY SPRUCE RADIAL GROWTH VARIABILITY IN HEAVILY POLLUTED ENVIRONMENT (THE SUDETES, POLAND)