



Dendroanatomy of *Copaifera pubiflora* and the prospect of oleoresin production

Patricia da Costa¹ , Mateus Natan Lee Cardoso², Tomaz Longhi-Santos² , Renata Cristina Bovi³

¹Embrapa Roraima, Boa Vista, Brasil; ²Universidade Federal do Paraná, Curitiba, Brasil; ³Universidade Estadual Paulista “Júlio de Mesquita Filho”, Instituto de Geociências e Ciências Exatas, Rio Claro, Brasil (patricia.da-costa@embrapa.br; zoso2622@gmail.com; longhi@ufpr.br; bovir@gmail.com)

Copaifera pubiflora Benth. (Fabaceae) is a medium-sized tree species recorded in Brazil, only in Roraima state, on river Branco Savannas, where it is observed in forest islands and gallery forests. It can also be found in small patches of tropical rainforests at its Southern boundary, in a transition area between the savanna formation and tropical rainforests. The word copaiba comes from the Tupi “kupa ‘iwa” and means “tank tree”, referring to the fact that the species produces and stores an oleoresin in its trunks. This oil is collected solely from native forests, mainly in Amazon. In spite a large number of studies conducted on copaiba oleoresin chemical composition and pharmacological activities, aiming the definition of potential applications, there are still gaps in species ecological aspects that must be filled to define its productive potential, contributing to the establishment of management plans and practices. In this work, preliminarily, we used a dendroecological approach to characterize *C. pubiflora*'s growth rings and its annual formation from non-destructive samples collected in two phyto-ecological units, in Roraima. With ring dating and data synchronization, we hope to quantify the secretory structures occurrence and density in *C. pubiflora*'s timber over time, relating them to oleoresin production (liters) and trees functional and structural attributes (age, diameter at breast height, total height, commercial height, crown area), from a dendroanatomic analysis. Funding: This work was supported by Embrapa through Kamukaia III Project – “Appreciation of non-timber forest products in the Amazon” [grant number SEG 12.13.07.007.00.00].

Prediction of tree-ring widths using climate data time-series modeling approach

Dejan Stojanovic¹, Milena Kresoja², Tom Levanič³, Bratislav Matovic¹, Vladimir Djurdjevic⁴, Sasa Orlovic^{1,5}, Srdjan Stojnic¹, Mirjana Stevanov^{1,6}

¹University of Novi Sad, Institute of lowland forestry and environment, Novi Sad, Serbia; ²University of Novi Sad, Faculty of Sciences, Department of Mathematics and Informatics, Novi Sad, Serbia; ³Slovenian Forestry Institute, Ljubljana, Slovenia; ⁴University of Belgrade, Faculty of Physics, Institute of Meteorology, Belgrade, Serbia; ⁵University of Novi Sad, Faculty of Agriculture, Novi Sad, Serbia; ⁶University of Goettingen, Faculty of forest sciences and forest ecology, Chair of forest and nature conservation policy Goettingen Germany (dejan.stojanovic@uns.ac.rs; milena.kresoja@dmi.uns.ac.rs; tom.levanic@gozdis.si; bratislav.matovic@gmail.com; vdj@ff.bg.ac.rs; sasao@uns.ac.rs; srdjan.stojnic@uns.ac.rs; mzavodj@gwdg.de)

Dendrochronology is a scientific discipline that performs dating of historical events allowing better understanding of environmental processes and human induced changes including past weather, forest fires, landslides, insect outbreaks, etc. Tree-rings, central paradigm of Dendrochronology, may be well used also