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Nadine Amusant

I was born on 3 April 1970 in the Paris area of France, but I spent all my childhood in French Guiana.

I'd like to take advantage of this exercise to first tell you about this region in which I live. French Guiana is a French overseas department situated in South America (near Brazil and Suriname). For as long as I can remember, I have always been surrounded by forest, as it covers 90% of the territory. It is characterised by its significant biodiversity: there are 5,700 plant species including 1,700 tree species, 691 bird species, 500 species of fish, 167 species of reptile, 134 amphibian species and 420 to 590 mollusc species: it is the European region richest in biodiversity.

Surrounded by this ever-present nature, I naturally opted for a career path related to this environment, with a vague hope to return and make my contribution to the development of this territory. When I was 19 years old, I left my family to first study organic chemistry at the University of Montpellier in France, then prepare a DESS (Scientific and Technical Studies Diploma, equivalent to Masters) in Wood Science. At 24 years old, I was eager to work and I accepted a position as a laboratory manager at the "Bois de Thiérache" Center at Trélon in the north of France. I was interested in the durability of beech. We developed a system to treat beech logs through axial impregnation, directly in the forest, using a copper/tannin mixture. This treatment was intended to contribute to the wood decay resistance also to improve its dimensional stability.

However, I had not given up on the idea of returning to French Guiana, and I needed to learn more about wood tropical species. To do this, I joined The Agricultural Research for Development (CIRAD), an international cooperation research organization where I had the opportunity to defend my thesis on the chemical determinism of the natural durability Amazonian wood species in 2003. I was lucky enough to be recruited at the CIRAD to continue my work, to acquire knowledge on the origin of natural durability in tropical species, particularly with those, which showed natural durability variability. Understanding the origin of the natural durability by focusing on wood chemistry enabled me to identify chemical markers for resistance to decay fungi, and therefore propose tools to predict this resistance.

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In 2009, accompanied by my husband and my two children (Cillian and Cyriana), I was finally able to return to French Guiana and take advantage of this large open-air laboratory. I was then able to focus on understanding natural durability directly from standing trees: I was able to focus on the wood properties for the tree, before focusing on wood as a material for mankind. Trees have developed passive defence mechanisms, such as the heartwood formation. According to the effectiveness, they influence tree species longevity, and on a larger scale, the functioning of the forest ecosystem. Therefore, the development of the tree is strongly influenced by environmental factors, which, over time, impact the physical-chemical composition of the wood, and therefore the wood natural durability. Does high tree growth is detrimental to synthesis of secondary metabolites and therefore wood natural durability? To answer these questions, the diversity of the Amazonian forest allows us to choose biological models and environmental factors in order to better understand the variability of natural durability on an inter- or intra-species level. I am also interested in the valorisation of biodiversity, particularly wood extractives that could have several applications in various sectors (cosmetics, phytopharmaceutical, food services, etc.).

However, the Guianese forest is not only my place of work, it is also a place for leisure and relaxation. On the weekend, I love going bivouacking with my family in the forest. We sleep in hammocks under the stars. You instantly forget the city - cooking over a wood fire, swimming in rivers and rediscovering tranquillity: taking the time to live in harmony with nature. These moments allow me to recharge my batteries. But I also love city life: gastronomy, good wine, listening to jazz and travelling.

I could not finish this presentation without talking about my joy of being part of this large IRG family. I joined the group in Slovenia in 2004. I appreciate this human warmth and the closeness between members. I appreciate the love we share for this noble, up-and-coming material: **WOOD**.

Editor's Addendum

For more information on French Guiana take the time to visit some of these websites:

https://en.wikipedia.org/wiki/French_Guiana

https://wikitravel.org/en/French_Guiana

https://www.lonelyplanet.com/the-guianas/french-guiana

https://www.worldatlas.com/webimage/countrys/samerica/gf.htm

http://me.france.fr/en/discover/french-guiana-1