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Southern African Institute of Forestry



Delivering a professional service to forestry

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Photograph by Izette Greyling (KZN): "Just Chilling"

From the President's desk The Amazon

What do you think about when you hear the word "Amazon"? In these times **Amazon.com**, the Amazon Jungle or the ancient Greek mythical female warriors called, Amazons come to mind. All are synonymous with power, size, victory and the notion that they will outlast the rest. If we consider Amazon.com, which started as an online marketplace for books, it has adapted and morphed into a multi-billion-dollar organization through its capacity to respond to changing market conditions using technological innovations and mass scale approach. This has allowed it to become a leader in this sector of the market. Similarly, the mighty Amazon Jungle is also faced with changing conditions due human encroachment, habitat loss and climate change, which threaten species diversity and leave it poorer rather than richer as the forest is unable to adapt and maintain ecosystem health and thus species diversity. The Amazon is the largest and most diverse rain forest in the world, where approximately ten percent of all known species on Earth can be found. The name Amazon is said to arise from a war Francisco de Orellana fought with the Tapuyas and other South American tribes. The women of the tribe fought alongside the men, as was their custom. Orellana derived the name Amazonas from the Amazons of Greek mythology, described by Herodotus and Diodorus. Orellana likened the forest to the brave female warriors, naming it in their honour.

Recently, researchers have found that only a few hundred of the Amazon's thousands of tree species dominate the rain forest canopy.















This new analysis can help reveal which Amazon tree species face the most severe extinction threat and which areas need the most protection. Until now, researcher's knowledge of tree species and their distribution in the Amazon has been based on analyses of separate regions, but due to the rain forest's vast expanse, surveying its entirety has been a challenge. For instance, scientists didn't even know which was the most common tree species in the Amazon

To help shed light on this giant rain forest's tree composition, more than 120 scientists catalogued any trees with stems thicker than 10 centimeters at 1,170 different locations throughout Amazonia, an area covering 6 million square kilometers, which includes Brazil, Bolivia, Colombia, Ecuador, Peru, Venezuela, Guyana, French Guiana and Suriname. They found that about 16,000 tree species made up this region. Of these 16,000 species, scientists unexpectedly discovered that only 227 species (1.4 percent of all the types of trees in Amazonia) made up half of the nearly 400 billion total trees estimated to live there. Hardly any of these "hyper-dominant" species, as the researchers refer to them, are consistently common across habitats within the Amazon.

Hyper-dominant (or most dominant) tree species typically found in the French Guiana, which forms part of the Amazon include *Symphonia globulifera*, *Euterpe edulis* and *Mauritia flexuosa*. In Brazil, the Brazil nut tree, *Bertholletia excelsa*, falls into the hyper-dominant tree category. It remains unclear what makes any given species hyper-dominant. One possibility is that hyper-dominant species are unusually resistant to disease and herbivores.



A view from the Amazon rainforest's canopy

There are two schools of thought, one which considers that hyper-dominant trees are common because pre-1492 (i.e. pre-Christopher Columbus) indigenous groups farmed them (edible fruits and nuts) and the other is that these trees were dominant long before modern humans ever arrived in the Americas. The most common tree species in the Amazon is the palm species, *Euterpe precatoria*, a relative of the açaí palm (*Euterpe oleracea*), whose sweet berries are growing in popularity. The researchers estimate that 5.2 billion *Euterpe precatoria* trees can be found across the Amazon.



The most common tree species in the Amazon rainforest, *Euterpe precatoria*.

Scientists also estimated that 11,000 of the Amazon's tree species are very rare. These rare types are composed of fewer than 1 million trees and in total account for just 0.12 percent of all trees in the Amazon. Many of these tree types run a high risk of becoming extinct, even before biologists can discover and document them. Another important role of the Amazon is its contribution to the global carbon cycle, assimilating and storing more carbon than any other ecosystem on Earth.

















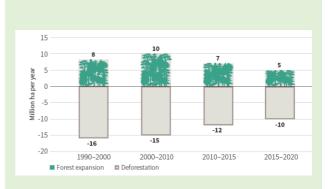
The Brazil nut tree, Bertholletia excelsa.

It has been reported that only about 1 percent of the Amazon tree species are responsible for 50 percent of carbon storage and productivity. Now that scientists have a better idea of where populations of tree species are located, they can formulate conservation strategies to reduce the impacts and ensure tree species facing the most severe threats of extinction are protected.

INTERESTING FACT

Globally, deforestation continues, but this is happening at a lower rate with an estimated 420 million hectares of forest lost since 1990. The rate of forest loss has declined substantially, with the estimated loss in the most recent five-year period being 10 million hectares, down from 12 million in 2010-2015. To coin a phrase "we are not out of the woods yet" and an "Amazonian" conservation effort is required to keep this trend moving in the right direction.

See Graph showing Annual rate of global forest expansion and deforestation from 1990-2020 (FAO, 2020).



Annual Rate of global forest expansion & deforestation

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The Rob Thompson Column: Now is the time for a journey

Some readers of this newsletter may have been fortunate enough to have done all of, or sections of the Camino de Santiago, known in English as the Way of St. James. This pilgrimage is situated in north west Spain and comprises a network of routes or pilgrimages leading to the shrine of the apostle Saint James the Great in the cathedral of Santiago de Compostela in Galicia. Many follow the pilgrimage as a form of spiritual path or retreat for their spiritual growth. It is also popular with hiking and cycling enthusiasts and organized tour groups. (Reference: Wikipedia).

Here in South Africa we have our own Camino that many say is far tougher than the Spanish version. Now in existence for roughly 10 years, the Tankwa Camino is a 250 km long walk, ranging from Calvinia to Ceres. Anyone who has driven or cycled through the Tankwa, will immediately have an understanding for the harsh, hot and taxing terrain that a participant would have to tackle and endure. Anyone completing this trek certainly has achieved something remarkable, that few people have managed, and of which they can be immensely proud.

On the topic of Caminos and pilgrimages, an appropriately named pilgrimage in the Cape is gradually gaining traction. Called the Pilgrimage of Hope, the route initially went from Robertson to Agulhas but has been amended to now start in Stellenbosch. Renowned South African journalist Erns Grundling documented this route in a series called "Elders / Elsewhere". Walking it during the Covid pandemic meant that he had to adhere to all social distancing protocols but, despite this, he interacted with many interesting personalities on route. One of the personalities he met was "one of our own" in terms of the greater forestry community, Dave Pepler. In true form, Dave explained to Erns the stresses that humankind has placed on nature's balance with the global Covid crisis providing some welcome, albeit temporary relaxation of some environmental pressure.

He encouraged Erns to take the opportunity during his pilgrimage to look at the smaller things, appreciate the detail of nature and "ground" himself once again to the pulse of the natural earth. Which got me thinking... Whilst here in South Africa we are relatively fortunate not to have too many restrictions on us currently, travel has, for many, certainly lost its patina given the inherent risks that still remain along any journey undertaken, either domestic or international. So it is unlikely that many of us will be taking on any Caminos over the medium term, but that does not imply that we should forsake the concept of a pilgrimage.

These are, after all, interesting and unique times that have been thrust upon us, and, in my opinion, very worthy of some introspection. Delving again into the vast repository of Wikipedia (yes, yes, I'm not an academic and it's an easy go-to... ok?), I discovered the following definition of a pilgrimage:-

A pilgrimage is a journey, often into an unknown or foreign place, where a person goes in search of new or expanded meaning about their self, others, nature, or a higher good, through the experience. It can lead to a personal transformation, after which the pilgrim returns to their daily life.

The three Caminos that I mentioned earlier on, expose the traveller to sights and places that have been around, in some cases, for millennia. There is nothing new there. It is up to the traveller to interpret the old sights and draw in new and appropriate experience and learning for application in life, further along the way.

Conversations between people these days more often than not, reveal details about new skills that have been honed or new appreciation gained for some of the simpler "normal" things...walking the dogs, going for a run, developing new recipes, being outdoors etc. The feeling attained from honing that new skill is likely to be akin to reaching the <u>cathedral of Santiago de Compostela</u>, or that final km before entering Ceres or even the satisfaction of taking that selfie at Cape Agulhas.















It is something that you have achieved under difficult circumstances and you deserve to feel proud. As a complete aside, the Thompson's have developed what we consider to be awesome lockdown beer brewing skills, which we continue to practice despite the freedom now bestowed upon the populace by our benevolent state (sarcasm intended). The consumption of a mere three bottles of our nectar, provides such pilgrimage-worthy levels of self- enlightenment and insights that we concur, without an element of doubt, that the answer to life the universe and everything is 42.

What I'm getting to here is that there is so much value to be gained from consciously considering ourselves on a unique pilgrimage, rather than merely enduring a pandemic. The options are endless:-

- Every pilgrim on a journey interacts with people met on route. Consider making an effort to speak to that person in the office that you rarely speak to under normal circumstances. There definitely lurks a story for you both to discover once you make the effort.
- Drink decent coffee (just as you would find at a sidewalk café on a Camino route) and make a point of sharing time with someone over a cuppa.
- Carry someone's pack for them in a figurative sense.
 Everyone is burdened by the circumstances prevailing in one way or the other. Find a way to contribute even if it is only by way of taking time to listen.
- Navigate assertively. We are all at risk of losing direction if we over-think the pandemic. Adopt a pragmatic approach, take considered decisions and learn from lessons learnt by others.
- Enjoy the sights even the repeats. Observing your surrounds from the perspective of a traveller opens up a whole new dimension. You notice new things and appreciate anew that which had become mundane. You'll also see the bad that perhaps you can contribute towards repairing.

- Appreciate your profession. Many don't have one. Refresh your approach to your career by envisaging a route map and marking where you have been, where you currently are and where you are headed. Consider all of the alternative routes and determine the best one for your circumstances.
- Call home regularly. Don't forget family and friends in the midst of all that you are dealing with. Touch base and enjoy some time with them.

Forestry practitioners are a resilient lot. As we continue to deal with restricted markets, high material inventories and reduced product consumption on a global level, those individuals that I come into contact with have certainly remained positive and steadfast. This trait is as unique as our profession and one that we should recognise with pride.

If we all now steadfastly set off on our individual figurative pilgrimages aimed towards actively discovering expanded meaning and higher good, just imagine the collective positive impact this would have on ourselves and the industry?

Enjoy the journey pilgrims! Now is the time.



Cape Agulhas, the Southernmost point on the continent of Africa



Prof. Wilhelm de Beer receives the Distinguished Forestry Award of the SAIF

Prof. de Beer is a research leader and professor at the Forestry and Agricultural Biotechnology Institute (FABI) and the Department of Biochemistry, Genetics and Microbiology at the University of Pretoria.

His research focus is mycology, including fungi of bark and ambrosia beetles. He is one of the world leaders in this area of research, having published a book "Ophiostomatoid Fungi: Expanding Frontiers", numerous book chapters and about 150 papers in scientific journals.

Wilhelm's expertise in bark and ambrosia beetles and their associated fungi has been extremely fortuitous, given the recent introduction and spread of the polyphagous shot hole borer (PSHB), *Euwallacea fornicatus*. This beetle and its symbiotic fungi pose a serious threat to numerous trees in South Africa's urban and native forests, as well as some fruit crops such as avocado. It is perhaps one of the most serious insect invasions in the history of our country.

Since the PSHB was first detected in South Africa in 2017, Prof. de Beer and his team have worked tirelessly in response to this invasion. This has included numerous consultations and trips across the country to track the spread of this insect; increasing awareness of the PSHB through engaging with media, including newspapers, TV and radio; meetings with various stakeholders to provide information, including the public, municipalities and government; and initiating a number of research projects to address important questions for the management of this invasive pest.

The PSHB continues to pose a serious threat to urban and native forests in South Africa. But it is clear that without the work of Prof. de Beer and his team at FABI, the country would be in a far worse position. For more information on the PSHB visit https://www.fabinet.up.ac.za/index.php/pshb

We would like to congratulate Wilhelm on this major achievement and wish him well for his research and further intervention regarding this very important work done on PSHB.



Prof. De Beer with his special award

NEMBA (ACT NO 10. of 2004): PROPOSED EMERGENCY INTERVENTION NOTICE IN TERMS OF SECT 105A

The National Dept. of Environment, Forestry & Fisheries published a notice on 4th of September 2020 of an intention by the minister to declare an emergency intervention in terms of Section 105A of the National Environmental Biodiversity Act in respect of the shothole borer beetle *Euwalleceae fornicatus* (Polyphagous = PSHB). This intervention was necessitated by the devastation caused by the death of 21 species of trees which includes ornamental-, commercial fruit- and indigenous trees. A list of the indigenous as well as Exotic species killed by PSHB is attached as Annexure 1.

The basic symptoms of PSHB are described as well as the areas where it has been positively identified and recorded to date which include Kareedouw & Makhanda (E-Cape), Bloemfontein (Free State), several parts of Johannesburg and Thswane Metro (Gauteng), large parts of Kwazulu-Natal, Nelspruit in Mpumalanga, Hartswater in Norhern Cape as well as the Garden Route Area and Somerset West (W-Cape).

In terms of this Notice , and with the objective to control the breeding and spread of PSHB, any owner or occupier of land where PSHB occurs, must report the presence of PSHB to DEFF. Furthermore no person may sell or transport PSHB infected material.

Please refer to Government Gazette No. 43686 dated 4 September 2020 for more details. (Ed.)















The Forestry programme at Tuks clocks 10 years!

By Prof. Paxie Chirwa

The University of Pretoria's Forestry Program started in earnest in late 2009 with Prof Paxie Chirwa joining the Faculty of Natural and Agricultural Sciences. The programme was established with funding for the Forestry Chair by SAFCOL. Unlike programmes at other institutions in South Africa, the forestry programme at UP only caters for postgraduate students at the Masters and Doctoral levels (see https://www.up.ac.za/forest-science-postgraduate-programme). In addition, the programme offers a taught MSc Forest Management and Environment through the Centre for Environmental studies. This program has been popular with students from other disciplines than forestry, including Geography and Environmental Sciences.

The forestry programme has been especially successful in harnessing collaborative research with other university institutions, especially in Africa and some European institutions. The Forestry Chair has also collaborated with scientists in the forestry industry in South Africa in building capacity in research, where many staff from industry have worked on their research and/or management programmes to earn their Masters and/or PhDs. These include SAPPI, Mondi, Merensky, York, SAFCOL, among others. In research, the programme has benefited from funding from the National Research Foundation (NRF), and internationally, from the African Forest Forum, MasterCard Foundations, AU/EU Mobility Funding, Borlaug Higher Education for Agricultural Research and Development (BHEARD), DAAD, etc.

Apart from local students, the programme is very popular internationally with many students from the SADC region, East- and West Africa. For example, in the 2019/20 Academic year, 16 students have graduated including 10 PhDs and 6 MSc. Most PhDs (80%) are international due to low enrolment of local students and the high attrition rate of local students. However, for Masters, out of the six students, three were local students. The applications not yet finalized for 2020 stood at approximately 14 Masters and 4

PhD's in August.

The low application rates for South African students currently is a cause of concern, and therefore, calls for promotion of recruitment through attractive from industry and bursaries government. Furthermore, the forestry programme through its postgraduate research has contributed to research in many parts of Africa in areas of forest ecology and management, socioecological, social forestry, agroforestry, forest engineering, among others. In terms of research outputs, in the last 10 years, over 80 papers and 15 book chapters have been published (https://www.up.ac.za/forest-science-postgraduateprogramme/article/2461742/recent-publications), with over 45 postgraduate students graduating.

In terms of contribution to the forestry industry and Africa in general, some of the graduate students are currently forest general managers in forest industry in South Africa, while others are in management position in governments both in South Africa and in other parts of Africa. The SAFCOL Forestry Chair is actively also involved in the advisory on the implementation of the South African Agroforestry Strategy.

The Faculty of Natural and Agricultural Sciences, and indeed University of Pretoria recognizes the support of all our partners especially the forest industry and research funding agents locally and internationally. Most importantly, the role of SAFCOL leadership for the foresight to fund the Forest Chair, aptly called 'SAFCOL Forestry Chair' at its inception.

We look forward to the continued growth of the programme with active involvement of the forestry industry, and other stakeholders in South Africa and beyond.

















Global forest sector and workers: providing solutions for pandemic recovery

On 9 October 2020, the global forestry advisory body to the Food and Agriculture Organization of the United Nations (FAO) released details on how sustainable forest management and forest products are well-positioned to drive a healthy, green, and inclusive recovery as we continue to face serious challenges related to COVID-19 around the world.

In its statement released in Rome, Italy today, the Advisory Committee of Sustainable Forest-based Industries (ACSFI) referenced the essential role that forestry and forest products have played during the pandemic – and how they can help drive much-needed economic recovery.

Derek Nighbor, president and CEO of Forest Products Association of Canada (FPAC) and president of the International Council of Forest and Paper Associations (ICFPA) released the following statement today: "This year has been incredibly difficult. Millions of lives have been forever changed – over 35 million people sick, over 1 million lives lost, and economic devastation and pain for too many families and businesses around the world.

"It has forced all of us to think about how we can help in our communities, how we can better provide for our people, and how we can support growth and economic recovery that is good for the planet and leaves no one behind. "ICFPA welcomes today's statement by ACSFI to align with United Nations ambitions to build a prosperous, inclusive, and sustainable future that involves beating the virus, addressing climate change, and creating economic opportunities for workers and their families.

The forest sector and its workers around the globe continue to embrace this call to action by delivering quality products with health and environmental benefits, practical solutions to lower our carbon footprint, and family-supporting jobs for our people. Today's global statement confirms that we have an opportunity to do even more."

Jane Molony, executive director of the Paper Manufacturers Association of South Africa, concurred: "While the South African pulp and paper sector has for the most part remained open and Covid-19 has been well managed by our member companies, the disruptions of 2020 have had a serious impact on our industry and indeed the country at large.

"Our sector continues to work with Government on various issues, including the planting of much-needed trees for renewable, carbon-storing products that we use every day."We hope that through our producer responsibility organisation Fibre Circle we can find innovative ways for people to benefit economically from paper recycling and by-product beneficiation. Forestry, pulp and paper sector companies are well-positioned to lead the way to a low carbon economy, making use of the "ultimate renewable" to address both climate change and stop the free fall in job losses."

Read the full ACSFI statement here: http://www.fao.org/forestry/industries/9530/en/

OPINION – "We are printing less – why this isn't a good thing" International Print Day, 21 October 2020 by Samantha Choles

There's long been a move towards less printing, a paperless society, and this is even more true in 2020. With many working from home, and schools closed for a large part of the year, there has been significantly less consumption of office paper. But that's not necessarily as good as it sounds.

Imagine I suggested that you eat less cornflakes or popcorn so farmers don't have to harvest all their mealie crops. This would be ludicrous. Similarly, in South Africa, paper products are produced from the wood pulp from sustainably managed plantations (not indigenous forests) and recycled paper fibre — which means that the less paper you use, the fewer trees are planted.

In short, by printing, you are playing your part in ensuring there are more trees being planted and growing. And while of course you don't have to go and print the whole Internet, you can print responsibly if you follow these guidelines:

- Use locally made office paper this is certified by the Forest Stewardship Council and it supports the local forestry and paper industry and its employees.
 - Recycled office paper is imported, carrying a hidden carbon footprint.
- <u>Print activity sheets</u> for your children, especially as exams loom. Paper has been shown to be best when it comes to studying and revision.
- need to refer to it again.
- Print, read and recycle. Always.

- If you're proofreading a report or article, print it.
- If you refer to a certain document often, print it.

 Opening it up on your computer every time uses energy.
- Print that email if it's important and you need to refer to it again.
- Print, read and recycle. Always.

South Africa's pulp and paper mills not only make paper for our printers. They make pulp for use in packaging (like your Friday pizza box) and hygiene products, as well as cellulose-based materials such as sponges, viscose fabrics and microcrystalline cellulose for foodstuffs and pharmaceuticals.

The Paper Manufacturers Association of South Africa (PAMSA) promotes the renewability and recyclability of paper products that we use every day. PAMSA represents 90% of South African pulp and paper manufacturers and also manages RecyclePaperZA, the paper recycling association of South Africa, which represents processors of recycled paper fibre. PAMSA provides a platform to the sector on pre-competitive issues such as research, energy, water and environmental matters as well as education, training and development

<u>www.thepaperstory.co.za</u> | Facebook, Twitter and Instagram @paperrocksza

The article was shortened from the original version



Tree of the week: *Combretum kraussii* – Forest bushwillow – Bosvaderlandswilg

The handsome Forest bushwillow is a hardy semideciduous tree with glossy dark green foliage that turns vivid red and purple in autumn. Its distribution in South Africa stretches from Eastern Cape, KwaZulu-Natal, Limpopo to Mpumalanga. This fast growing tree is classified as a medium to large tree and reaches a mature height of 4 to 10m in a favourable environment.

Combretum kraussii is well known for its foliage that changes colour highlighting the changing seasons in the garden. In spring, the tree produces new green leaves, some of these leaves turn white along with the white flowers born in summer. When in flower, this tree attracts insects to the garden, it is pollinated by a wide range of insect species including bees. The smooth dark grey bark of C. kraussii also adds on to the beauty of the tree. Four-winged pink to red fruits follow the flowers, these stay on the tree for a long time.

Although it prefers mild to warm climates, the Forest bushwillow is reasonably frost and drought resistant. Furthermore, this tree tolerates shade well and can be grown as a container tree for the patio. It is also an ideal as shade tree for gardens, pavements and along driveways or on paved areas as its root system is non-invasive.



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S.P. JALI	Nov 05		
D. VON BENEKE	Nov 08		
S. SNEYD	Nov 10		
R. GEVERS	Nov 12		
N.O. NGCOBO	Nov 14		
I.L. HORRELL	Nov 15		
R. J.WEBB	Nov 15		
A.X. COLVELLE	Nov 16		
S.B. DOVEY	Nov 21		
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