



KRUGER2CANYON

NEWS

January 2023

The Farm House, R527, Zandspruit, Hoedspruit, Limpopo email: editor@kruger2canyon.co.za

UN biodiversity deal reached to protect 30% of world's lands by 2030



Don Pinnock

The agreement represents the most significant effort to date to protect the world's lands and oceans and provide critical financing to save biodiversity in the developing world.

The United Nations (UN) Biodiversity Conference (COP15) in Montreal, Canada, that began on 7 December ended on 19 December with a landmark agreement, when 190 nations adopted four goals and 23 targets to be achieved by 2030, known as the Global Biodiversity Framework.

The aim of the agreement is to ensure effective conservation and management of at least 30% of the world's lands, inland waters, coastal areas and oceans by 2030, with emphasis on areas of particular importance

for biodiversity and ecosystem functioning. Currently, only 17% of terrestrial areas and 10% of marine areas are protected.

It also intends to cut food waste in half by 2030.

The agreement represents the most significant effort to date to protect the world's lands and oceans and provide critical financing to save biodiversity in the developing world. One of the most important topics that took centre stage at COP15 is financing to reverse the loss of biodiversity and deciding who will pay for it.

However, the Wildlife Conservation Society and other environmental groups were concerned that the draft deal puts off until 2050 the goal of preventing the extinction of species, maintaining genetic diversity within populations, and preserving the integrity of ecosystems.

Here are the main conference outcomes:

- Global biodiversity framework has been adopted.
- Effective conservation and management of at least 30% of the world's lands, inland waters, coastal areas and oceans.
- Have restoration completed or underway on at least 30% of degraded terrestrial, inland waters, and coastal and marine ecosystems.
- Reduce to near ZERO the loss areas of high biodiversity importance, including ecosystems of high ecological integrity.
- Reduce by HALF both excess nutrients and overall risk posed by pesticides and highly hazardous chemicals.
- Progressively phase out or reform

by 2030, subsidies that harm biodiversity by at least USD 500 BILLION PER YEAR while scaling up positive incentives for biodiversity's conservation and sustainable use.

- Mobilize by 2030 at least USD 200 BILLION PER YEAR in domestic and international biodiversity-related funding from all sources – public and private.
- Raise international financial flows from developed to developing countries, in particular least developed countries, small island developing States, and countries with economies in transition, to at least USD 20 billion per year by 2025 and to at least USD 30 billion per year by 2030.

Cont. on Page 3

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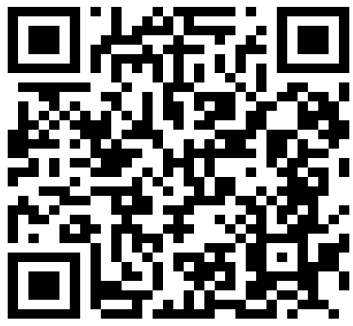
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From the editors desk...



As a forward, of types, to Don Pinnock's article in this month's publication, I would like to precis his article in the Daily Maverick of the 6th December 2022 titled: *The sad truth is, most humans don't give a damn about nature.*

Two international conferences were concluded in December 2022. One was about climate change, and the other about the use of wildlife. Both subjects are very relevant in today's world – it's really about the survival of the human race – and as Pinnock says, "both issues are code red".

The 'common-garden-human' puts their trust in scientists, politicians, lobbyists, NGO's and global multilateral conferences to deal with these sorts of subjects and relies on them to "put things right"! Sadly, it seems that most of us regard this as 'someone else's problem'... but it's not, and we are being let down very badly by those supposed to help us out!

CITES has no policing abilities and works on consensus being reached amongst the 184 member nations. It appears to have

been set up to fail, and according to a *Nature Needs More* report, the CITES database "...was the worst designed and most impenetrable data source they have ever investigated". Permits are forged, fraud is endemic and illicit wildlife trade continues unabated. For no reason at all, the digital permitting system that was promised, has not been implemented.

The difference between the legal and illegal trade is valued at about USD 70 billion per year (total combined value about USD 570 billion per year!) and most of these products, from both sources, satisfy the demand from fashion houses to traditional medicine, to exotic pets, and more. Pinnock states that "in the wildlife business, CITES is fit for purpose".

CITES focusses on illegal international trade of species but what happens inside the boundaries of a country is really of no concern to them.

At COP27 (the climate conference) in Egypt, developed nations promised more money to the developing world because of their part in climate damage, but on the reduction of fossil fuel use, nothing substantial was concluded. The Ukraine crisis and the 'domino effect' of the gas problem had African nations developing their own fossil fuel sectors.

More than 600 delegates at the conference were there to achieve the goal of perpetuating the fossil fuel industry! Pinnock points out that in the past 50 years, the oil sector has netted USD 3 billion per day! And in 2021 the value of the coal industry was R571 billion. At this price and the cor-

responding levels of profit, nothing is easily going to change.

Also in December was the UN Convention on Biological Diversity (COP15). It had three targets: conserving biodiversity, ensuring its sustainable use and the sharing of benefits from the use of genetic resources, part of which was to push to protect 30% of land and sea by 2030.

Of importance, is to note that at COP14 in 2018, it was acknowledged that NONE of the targets adopted in 2010 had been achieved! And then there are the costs – funding the gap for biodiversity protection, existing investment needs, and so on – and who pays?

Why is there a lack of action and care, and in effect the discussion and resolutions are the same old, same old? The Australian physicist Peter Lanius (in the *Lynn Johnson News*) states that the lack of caring is the same across all economic systems – capitalist, socialist or autocratic – and is also prevalent across all socioeconomic groups in both developed and developing countries. Lanius goes on: "They favour economic growth and unchecked extraction of natural resources over any attempts to create balance and sustainability". We as humans are predators, and our prey is the wild environment, and although self-reflection and rational thought might get us to behave differently, we are still predators and continue to do what predators do. Lanius also points out that we are all born into a guided ideology with assumptions that we take for granted, and never question, and that becomes self-reinforcing and is geared to-



Mark Bishop Editor

wards consumption as the ground floor of progress. "We do not equate earth/nature to a goodness that gives life" – "Nature has no inherent meaning and hence no inherent value" and as such there are no constraints at all on what we do with it!

Pinnock continues: "When a belief system is global, it takes great effort to create an opposing narrative that people find acceptable and are prepared to act on". It is simply that most people don't give a damn.

Pinnock concludes that "It's always someone else's problem. Except it isn't. It's your and my and our children's tomorrow".

Very sobering – I just hope that I have done Dons' article justice. But wow, it makes one think. In my humble opinion, unless we ALL put our resources to good collaborative use, the landscape and view ahead is not pretty. But read on and see what Don Pinnock reports on the United Nations (UN) Biodiversity Conference (COP15).

Hope you all enjoy the publication, until next time.

Letters to the Editor

Dear Ed,

I trust that you have had a good break. I have nagging questions regarding the construction of the mall – nowhere in sight of the construction site is there any board detailing who the surveyors are, who the developers are, was there an EIA done, who the architects are, etc., etc.? This does not seem above board. Please can you try and get some information on this?

Ed: Firstly I have no idea who you are, but I will pick up the baton. I have sent the Mayor's office an email to which (almost as expected) I have had no response. I have contacted a local Councillor who has also tried to find out about the site – not much is known. I contacted a certain Nanki Hooeane (sp?) SPED New Municipal Manager – who had Mr Robert Hare give me a call. True to the promise the call came in from Robert at around 13:00 and some matters were revealed, which he was happy to 'divulge'.

Robert Hare is a co-developer of the mall – to be known as the Maruleng Mall, he also happens to own the construction company building the mall. The developer is Hebrides Investments. The first phase of the development will be 9 000m² with the total development being 13 000m².

Robert made it very clear that there is no law stipulating that a board of the type in the letter above has to be displayed on site – he went on to state that they actually preferred to not put up a board because of the influx of calls with objections and the like. He did state that there was a 'board' at the gate to the site, on the fire station side. The picture submitted shows a "no unauthorised entry" board with the usual safety signs on it – maybe there should be more of those around the site.

He also stated that he was angry as there was supposed to be a security fence around the site. From the pictures one can see that in fact the fencing leaves a lot to be desired where it is present – there are clear areas where it is not present at all.

Robert also made it quite clear that NO EIA was required as the development was done as part of the Hoedspruit Wildlife Estate development. He assures me that SDP and building plans have all been submitted and approved by the required statutory bodies.

He did mention that they are still in talks with SANRAL regarding their expropriation of land and the new traffic intersection.

There will be a press release in or about two weeks time, clarifying matters regarding the whole development.

In assimilating this information I would have a few questions. The site is by no means secure – see the pictures submitted to Kruger2Canyon News and as per my comment above. Surely this site needs to be made secure before any continuation of building or earth moving. It simply is currently a dangerous hazard.

There were many trees on the site that have now been removed – a reader suggests that there are only three trees left! Is there no environmental impact in the removal of the trees and who monitors that?

We look forward to the press release to understand the status further, although I suggest that this should have been done BEFORE earth was moved. So let's see.



The "Fire Station" entrance to the building site of the Maruleng Mall. Image supplied



The insecure perimeter of the Maruleng Mall building site Image supplied

Dear Editor,

I am a tour operator based in Johannesburg. My clients were on a Cemair flight from Hoedspruit to Cape Town the other day and were rerouted through Johannesburg. Needless to say that caused them to miss other connections in Cape Town.

I called Cemair and was told something to the effect that they had to go to Johannesburg to refuel ... surely there is enough fuel in Hoedspruit to refuel? I probed further and eventually got the 'real story' out of a person at Cemair. There is a pothole on the runway at Eastgate which does not allow full planes to land and take off from there and hence the refuelling!?! Also they had to take other passengers that were bumped off other flights to Johannesburg. Really!?! I think this should be investigated – the potholes on the road to the airport is one thing, but now a pothole on the runway? OMG! Regards SB

Ed: Dear SB, this really is amazing! I sent an email to the relevant people at Kapama asking for clarification. I also spoke to Tersia van der Westhuizen (Management of Eastgate Airport) who was good enough to respond via email to me, BUT made it quite clear that for more information I would need to get hold of the Airforce Base itself – which I did.

Tersia explained in an email to me as follows:

1. No fuel issues at all during the time.
2. One runway was closed for a period of time due to a break in the tar that has been fixed in the meantime.
3. The runway that was in use during this time is shorter and some aircraft can only use it with restriction.

The military were a little cagey about answering my questions. First I spoke to two people in the tower – not very helpful and one stated that it "was above his paygrade to respond"! I then was told to contact Base Ops, which I did. I spoke to another two people there and was told that the base's 'Corporate Communications' be in touch with me via email. Surprisingly, I did receive an email on time, on the 20th January which (in part) reads as follows:

Media Statement

20 January 2023

Subject: Eastgate airport runway operations

Flight operations to Eastgate Airport were diverted from use of main runway 18/36 to runway 09/27. Runway 18/36 was closed for repairs due to the damage on the surface of the runway caused by lightning strikes. The runway was closed for repairs over period 02 December 2022 to 06 January 2023. Runway 18/36 was repaired and declared operational on 02 January 2023. NOTAM was issued to all relevant parties.

Issued by: Air Force Base Hoedspruit Corporate Communication
Enquiries: Col E Gherbavaz (Acting Officer Commanding, Air Force Base Hoedspruit)

So there we have it – lightning strikes. What does concern me is that the runway was declared operational on 02 January 2023 but the repairs were only concluded on the 06 January 2023! But at least we got an answer and things are back to normal again. Thank you to SB for bringing this to our attention.

UN biodiversity deal reached to protect 30% of world's lands by 2030

Cont. from Page 1.

- Prevent the introduction of priority invasive alien species, and reduce by at least HALF the introduction and establishment of other known or potential invasive alien species, and eradicate or control invasive alien species on islands and other priority sites.
- Cut global food waste in HALF and significantly reduce overconsumption and waste generation.
- Require large and transnational companies and financial institutions to monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity through their operations, supply and value chains and portfolios.

The day before the conference wrapped up, Bert Wander, the acting CEO of the campaign website Avaaz made an impassioned plea to delegates to do the right thing by planet Earth and all its creatures:

"My name is Bert Wander and I'm the acting CEO of Avaaz, a campaigning community of millions of people from all over the world.

"Avaaz means voice or song. And I'm speaking today to deliver more than three million citizens' voices from all over the world who are part of Avaaz's campaign to put half the Earth under protection by 2030.

"But I'm also speaking to you today on behalf of all the non-human voices that aren't heard at political negotiations like this.

"I'm speaking on behalf of the last Kauai O'o, whose song rained down from a

treetop at sunset calling for a mate who would never come. I'm speaking on behalf of Spix's Macaw. The Western Black Rhino. The Golden Toad.

"All torn from the great tapestry of life. Wiped out by a single species of bald ape that emerged from East Africa just 200,000 years ago. Humans. Us. And if we are the cause, we can stop it.

"Today a million species are clinging on in the face of extinction. Birds and plants and animals whose fate is being decided here. Decided now. Decided by you.

"If they could speak, they'd tell us that the Earth doesn't belong to us. They'd tell us that everything we do to the Earth, we do to ourselves. That their fate is our fate.

"That is the wisdom at the heart of many of our longest-surviving cultures. And it is wisdom that we desperately need. Because the truth is we aren't here to protect nature. We ARE nature, trying to protect itself. And for all the hard work and the rare successes we've seen, species by lost species, habitat by lost habitat, to date, we have failed.

"But here, now, you have a chance to begin to turn this around. To miss it would be unforgivable. But to take it would be historic.

"That means protecting half the Earth by 2030. It means making sure the money is there to pay for it. It means real protections and direct funding for Indigenous Peoples and local communities, based on respect, humility, and partnership.

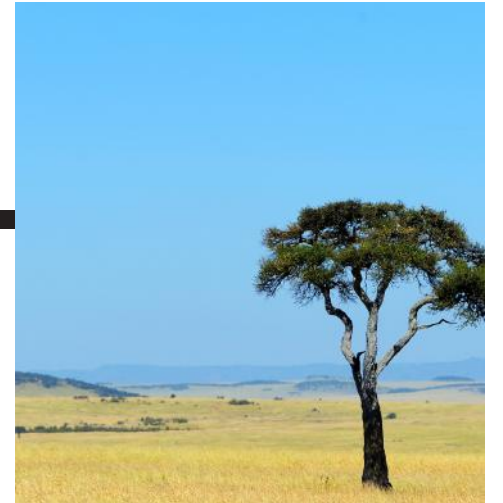
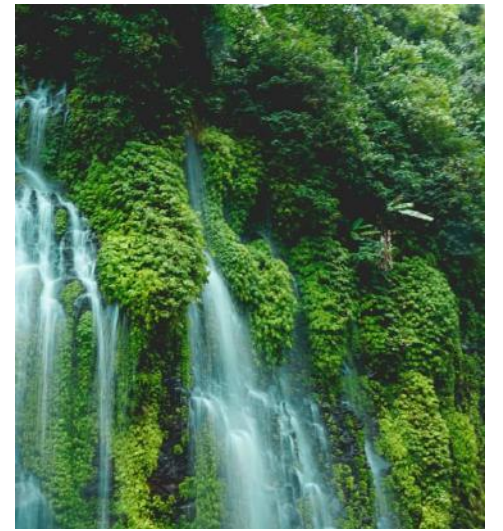
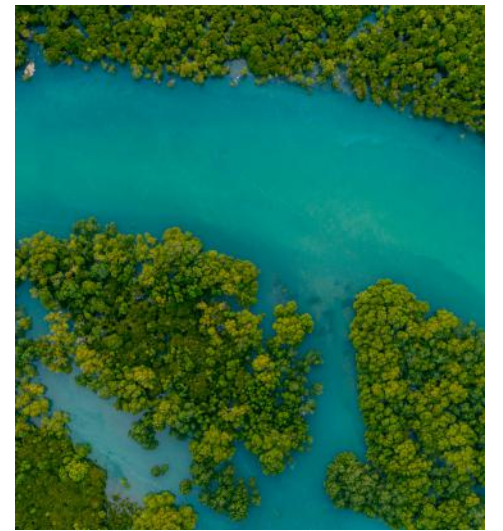
"To succeed, we must all be prepared to compromise. Not to do what is easy, but to do what is necessary in the face of this extinction crisis.

"You have all the public support you need. Three million, two hundred and ninety-eight thousand, one hundred and

thirty-five Avaaz members from almost every country on this beautiful Earth, urging you to end the destruction of the web of life.

"They are urging you to do it together. And they are urging you to do it now."

This article was previously published by the Daily Maverick



Images: Canva Pro

SUDOKU # 01

SUDOKU # 02

INSTRUCTIONS

Use the numbers 1 to 9 to complete the Sudoku. Only use each number once in each row, column and grid.

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	7		1	4	3			9
		6	8					7
2	9		4	7	8			1
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- ✓ Cement

What to pack for a three-day walk in the wild

Lauren Dold
On-the-move correspondent

Walking trails are regarded as one of the best ways to explore the bushveld. With your feet, eyes and ears to the ground, you tune into things you otherwise miss out on from the safety of a car.

On these kinds of trails, especially in Kruger National Park or greater Kruger, you have to bring all your clothes, food and equipment with you, and everything you'll need for a good night's sleep under the stars. You also need to be prepared to take everything out of the bush with you, so keeping trash to a minimum is in your best interest.

Here's a comprehensive packing list for anyone new to walking trails, or for experienced trail lovers looking to pick up a tip or two.

A good place to start is with a 70 litre backpack. Anything smaller and you won't be able to fit in everything you need, any bigger and it would become too cumbersome to carry through the bush.

It's also important to pack the right sleeping bag for the right environment and season. For winter, it would be advisable to pack along a sleeping bag inner. Not pictured is a pillow, which is optional as it takes up space, but even an inflatable airplane pillow can go a long way in terms of comfort when you're sleeping on the ground.

Optional, but strongly advised is a decent poncho. Keeping your backpack dry is essential, and a canvas poncho could

save you and your belongings from having to hang your life up in a tree after it rained. A poncho also doubles up nicely as a makeshift groundsheet to unpack your things in the evening.

Packing list:

- Foam mattress
- Sleeping bag
- Travel pillow
- Headlamp
- Torch (plus extra batteries)
- Poncho
- Binoculars (not compulsory, but great for a trail in the bush. The small Nikons pictured above are ideal)
- Quick-dry towel (small and lightweight)
- Gas cooker and pot/kettle
- Insulated flask for hot and cold drinks
- Pocket knife/ multi-tool
- Toiletries (best kept to a minimum and packed in a small bag)
- Wet wipes
- Suncream
- Mosquito repellent
- Medical aid kit (your guide would likely have one but things like plasters and painkillers are always good to have on hand)
- 'Rehidrat' sachets (Since you can only carry so much water, Rehidrat or Game sachets are great to add to your water bottle to help you stay hydrated).
- Water purification tablets (if nec-

essary, depending on the location of the trail).

When it comes to packing clothes, it's best to pack as light as possible but if you plan for a fresh set of clothes each day, then be prepared to carry the weight. It's best to wear neutral colours for trails in the bush.

Essentials:

- Comfortable socks (plus an extra pair or two kept dry in a plastic bag. Wet socks can ruin a walking trail)
- Comfortable walking shoes
- Gaiters (essential for walking in the bush, to keep your feet, socks and ankles free from grass seeds and ticks)
- Tracksuit pants (for sleeping, and cold mornings and evenings)
- Long-sleeve top
- Shorts
- Tights (for walking in the cold)
- T-shirts
- Lightweight anti-UV button-down shirt (not compulsory but ideal for sun protection on hot days)
- Buff
- Sun hat
- Beanie
- Sunglasses
- Underwear (here you are allowed a fresh pair each day!)

Packing food for a trail can be tricky, but you don't have to completely

sacrifice deliciousness for comfort. This is a suggested shopping list for a non-vegetarian, but the biltong and tuna can be substituted with other things.

Breakfasts:

- Coffee sachets (don't forget milk!)
- Ready-to-go-oats

Lunch:

- Tuna sachets (easier to pack and handle than the tins)
- Crackers or wraps, any vehicle for the tuna will do.

Dinner:

Dehydrated *Trail Food Co* packs. Any ready-made dehydrated food pack will do, but these are delicious. Options include mushroom risotto, chilli con carne, red lentil dahl and a range of other meals, many of which are vegetarian-friendly. All you have to do is add hot water and you have a hearty meal prepared, in the middle of the bush.

Snacks:

- Biltong/ droëwors
- Dried mango
- Protein bars
- Apples (avoid soft fruit like bananas which will bruise)
- Peanuts and raisins

This article originally appeared on get-away.co.za: 23.05.2022



Packing list 1 : Everything you need to sleep out



Packing list 2: Essentials



Packing list 3: Food and snacks

Images Lauren Dold



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RAPTORS VIEW WILDLIFE ESTATE R 5 200 000
Beds 3 | Baths 3 | Floor size: 210 m²

This home is in excellent condition and offers a turn-key solution. It comes fully furnished plus a traverse right on Khaya Ndlovu. The open plan kitchen, lounge and dining room all have direct access to the covered patio, with pool and boma.

Yvette Thompson - 083 655 7176 Ref: 2093300



RAPTORS VIEW WILDLIFE ESTATE R 5 995 000
Beds 3 | Baths 3 | Floor size: 350 m²

This beautiful, furnished home is privately located in the third phase. The elevated home is set along a dry riverbed, amongst iconic lowveld trees. The setting is picture perfect, peaceful and quiet with no visible neighbours.

Michelle Severin - 083 469 3821 Ref: 2089919



MAKGOKOLO PRIVATE GAME RESERVE R 5 000 000
Floor: 297m² | Stand: 1.5 ha

This site is situated in a 2,500 ha reserve which was previously used as a conference centre. The infrastructure can be converted to a spectacular private lodge at modest cost. The reserve has a private airstrip, photography hide & picnic spots.

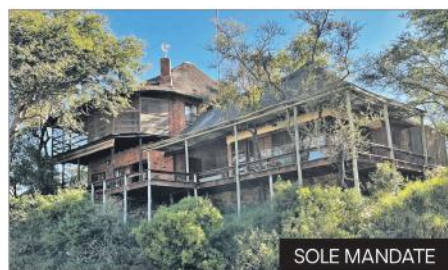
Rob Severin - 083 469 3820 Ref: 2088781



KAMPERSRUS R 1 980 000
Stand size: 2.18 ha

This stand in Kampersrus has it all, breath takingly beautiful mountain views and wonderful Lowveld bush and iconic trees. The setting is truly something special and the stand is tucked away from the main road. The possibilities are endless!

Jason Jones - 083 267 4794 Ref: 2093598



NDLOPFU, UMBABAT R 11 500 000
Bedrooms 4 | Bathrooms 3.5 | Floor size: 240 m²

The house is privately situated on the banks of the seasonal Tsiri river. Ndlopfu is a share block in the heart of a Big 5 Greater Kruger, with only 32 member sites on 2,500 ha of pristine bushveld in the sought-after Umbabat Private Nature Reserve.

Yvette Thompson - 083 655 7176 Ref: 2032793



KARONGWE - BIG 5 R 8 900 000
Bedrooms 4 | Bathrooms 4 | Traverse: 8,000 ha

Be one of 14 private owners within Karongwe Nature Reserve which offers pristine game viewing with 4 seasonal river systems. The home is situated on a dry riverbed and comes fully furnished. Harvey tile roof for lower maintenance.

Rob Severin - 083 469 3820 Ref: 2063307



HOEDSPRUIT WILDLIFE ESTATE R 1 200 000
Stand size: 4,900 m²

Vacant stand available on the ever-popular Hoedspruit Wildlife Estate. With the estate almost fully developed, vacant sites don't come onto the market often. Don't miss this opportunity to secure your stand now.

Yvette Thompson - 083 655 7176 Ref: 2078050



NDLOPFU PRIVATE NATURE RESERVE R 7 600 000
Site: 10,000 m² | Reserve: 2,500 ha

This vacant site in Big 5, Greater Kruger allows you to build your own exclusive bushveld getaway with traverse over the reserve and a neighbouring farm. Membership is limited to ensure the exclusivity of the Ndlopfu Share Block.

Yvette Thompson - 083 655 7176 Ref: 2072996



GRIETJIE, GREATER KRUGER R 8 800 000
Big 5 | Floor size: 400 m² | Stand size: 21.4 ha

This property offers elevated views of the surrounding bushveld, with peace and quiet only the bushveld can provide. This beautifully maintained property offers 3 dwellings - a 3-bedroom main home, a 2-bedroom cottage and a rondavel.

Yvette Thompson - 083 655 7176 Ref: 2050020



GREATER MAKALALI R 20 000 000
Bedrooms 5 | Bathrooms 5 | Farm size: 640 ha

This farm within Greater Makalali Nature Reserve, which has the Big 5 with 20,000 ha of traverse. Approvals in place for 10 commercial beds. There is a main 2-bedroom home and 3 guest chalets. Ideal for syndication, families, or convert to boutique commercial lodge.

Jason Jones - 083 267 4794 Ref: 1459112



MAFUNYANE, KARONGWE R 15 000 000
Bedrooms 4 | Bathrooms 4 | Traverse: 8,000 ha

This property is stunning and has a wow factor that will take your breath away! Very exclusive, modern bush home, overlooking a seasonal river bed, located in a Big 5 reserve with 8,000 ha traverse. Sold furnished & including game viewer.

Rob Severin - 083 469 3820 Ref: 1443333



NDLOPFU - Greater Kruger R 13 000 000
Bedrooms 4 | Bathroom 3 | Floor size: 350 m²

This large home is situated in the exclusive Ndlopfu Private Nature Reserve. The home is privately located overlooking the Tsiri river. Sold fully furnished and including a game viewer. Solar power backup and recently redone thatch.

Mike Dodds - 082 906 7004 Ref: 2063033



LISSATABA R 3 500 000
Bedrooms 3 | Bathrooms 3 | Floor size: 220 m²

Stunning Olifants river views! This newer home has been well constructed, is in good condition and is perched on the hillside overlooking the river. There is an open plan kitchen, dining room & lounge, leading out to a patio with gorgeous views.

Rob Severin - 083 469 3820 Ref: 1458608



NDLOVUMZI R 3 750 000
Bedrooms 4 | Bathrooms 3 | Floor size: 380 m²

This 21-ha Olifants river property has a 2 bedroom main home and a separate 2-bedroom cottage, all located under large indigenous riverine trees. The outdoor entertainment area has captivating views of the garden, pool & river.

Jason Jones - 083 267 4794 Ref: 1459005



ZANDSPRUIT BUSH & AERO ESTATE R17 000 000
Bedroom 4 | Bathroom 3.5 | Floor: 515m²

Sold fully furnished, decorated and equipped. Price includes a double hangar-stand with plans drawn up. Features include a separate library, TV room, gym, double garage, 2 carports, staff quarter and store-room, just naming a few.

Yvette Thompson - 083 655 7176 Ref: 2050871



OLIFANTS RIVER PROPERTY R 4 500 000
Bedrooms 4 | Bathrooms 4 | 50% share

By purchasing this 50% share in Parsons Nature Reserve you will have access to 2080 ha of prime Big 5 game viewing in Greater Kruger. This quaint bush home also has a lapa, pool and lush garden. The sale includes the use of a game view vehicle.

Mike Dodds - 082 906 7004 Ref: 2048251

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The Picky view...

Hello to everyone – hoping all of you had a good break and are looking forward to 2023 with gusto!

Now back in ‘the Hoed’, it’s back to work on getting to know and sample the numerous dining offerings around town. We have gone to, and experienced Sleepers and Anne’s Cotton Club, so let’s see what the new year has in store for us.

This month it is the chance of The Thirsty Giraffe – slightly out of town but not a problem to get to ... just drive slowly when you get onto the sand road!

Nicely out in the bush, a simple structure that serves its purpose perfectly. I might do without the donkey, but one can go upstairs which has a good view.

We ordered a selection of cheeseburgers, fish and chips, prawns, potato skins, rump steak and salads, with drinks.

The service was initially very good – drinks were well explained, and the order taken, and once served (correctly!) the food order was taken. The waitrons’ knowledge was good, and she was very accommodating.

We are all aware of the load shedding crisis, so we were suitably impressed when we were advised that we had to get our order in so that it could be completed before the darkness fell upon us. Good.

Unfortunately, it was obvious that there was a staff shortage, and some drinks (in the second round) were not forthcoming.

The food presentation was fair, and at least the order was correct. The queen

prawns were deliciously cooked, firm, and scrumptious - the lemon, butter and garlic sauce was a good additional condiment. The peri-peri sauce was also very good. This is without doubt a ‘come back for’.

The other fish and chips order – I guess it was hake - was also very good, firm, and flaky. I felt that there should have been a sauce with it of some kind.

The potato skins were delicious – a little too much cheese for me, but great, nonetheless.

To the burgers – a good size and well presented. Sadly, a little undercooked even though there was a request for ‘well done’ patties. Did the loadshedding have an influence?

Salads, nice and fresh, tasty, and good value. Great to see the dressing being given separately – nothing worse than having a salad dressed for you! Well done on that score.

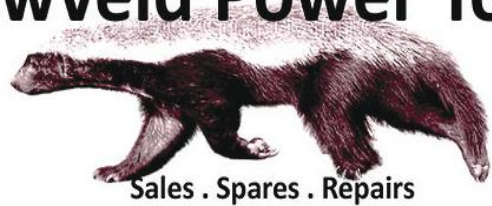
The rump steak was to die for – perfectly cooked, again tasty, and well presented, vegetables were nice and crunchy. All in all, a great serving.

There is no doubt that an extra hand on the service floor would have helped. A venue well recommended for a great casual bushy vibe. It really is fun with a good ‘bush’ ambience.

Now onto the next venue.
AE



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This month Veggie Diva indulges in stuffed sweet potatoes

Do you have a family where half the members are meat eaters and half are vegetarians? This recipe is an easy prep for both and in fact can be easily prepared as a vegan dish.

Ingredients:

- 4 x sweet potatoes
- 4 x handfuls baby spinach
- 1 x red onion finely chopped
- 2 x cloves crushed garlic
- 1 x tin chickpeas
- 2 x chicken breasts cubed
- 4 x sundried tomatoes
- Chopped parsley
- Olive oil
- Salt pepper

Tahini butter:

- 8 x tbs melted butter. Substitute with vegan butter for a vegan dish
- 4 x tbs Tahini
- 3 x tsp soya sauce
- 1 x tbs maple syrup
- Juice of one lime

Method:

Preheat the oven to 180°C. Rub a little olive oil on the skins of the sweet potatoes and bake in the oven until lovely and soft. While the potatoes are baking, gently fry the chicken in a little olive oil and season with salt and pepper. Gently fry the drained chickpeas in a little olive oil until they are slightly crispy on the outside 3-4 minutes. Set the chicken and chickpeas aside and keep warm. Fry the chopped onion until tender and translucent add the minced garlic and the baby spinach. Allow the spinach to wilt tossing slightly, season. Set aside. Combine all the sauce ingredients and blend well together, taste and adjust to your pallet. Once the potatoes are cooked spilt them down the middle taking care to not cut all the way through. Gently press the potatoes open. Layer the potatoes with the spinach mixture then top with either the chicken cubes or chickpeas. Drizzle the sauce over the top and sprinkle with chopped sun-dried tomatoes and chopped parsley. Serve with a side salad and enjoy.



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HOEDSPRUIT

Camouflager supreme – the Puff Adder



1. Male Puff Adder from Hoedspruit, Limpopo.

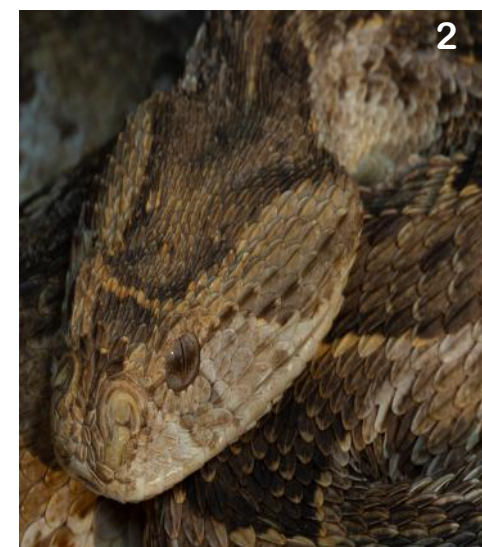
2. Puff Adder. Note the heavily keeled scales.

3. Puff Adder from Port Elizabeth.

4. Puff Adder fangs. Note second fang on left.

5. Puff Adder in striking mode.

Copyright Johan Marais



Johan Marais
African Snakebite Institute

If you Google “...most snakebite deaths in Africa”, the answer is as follows: The Puff Adder (*Bitis arietans*) is responsible for more human fatalities than any other snake species in Africa (snake-facts.weebly.com). This is very far from the truth, and one must be very careful when seeking information on Google.

The World Health Organisation reports around 20 000 fatal snakebites a year for Africa, and most of those deaths are because of Carpet Viper (*Echis* sp) bites in the Sahel district of North Africa.

In South Africa, the 10-12 snakebite deaths every year are largely because of Black Mamba or Cape Cobra bites. The only reason why a snakebite victim dies in the short term, is because the potent neurotoxic venoms affect breathing. Puff Adder venom is potently cytotoxic, causing pain, swelling, large blisters and, in many bites, severe tissue damage that may require surgery. Some victims have limbs amputated.

The venom of this snake is slow in acting and, in severe cases, may result in swelling extending up a limb at a rate of around 10 - 15 cm per hour. After such a bite one has ample time to get to a hospital for proper treatment and fatalities from Puff Adder bites are extremely rare. Small children are mostly at risk.

The fangs of a Puff Adder may exceed 2 cm in length, enabling to snake to deposit its venom deep into muscle where it does most of the damage. From a first aid point of view there is very little that one can do – get the victim to the nearest hospital. Avoid cutting and sucking as well as bandages – an arterial tourniquet will do a great deal of damage after such a bite. One can elevate the affected limb just above the heart to reduce pain.

All bites from Puff Adders are not serious and patients are observed for at least 24 hours to assess the severity of a bite. This involves tracking swelling and analysing blood samples to see how severe a bite is. In serious bites, patients are treated with 6 - 12 vials of Polyvalent antivenom. The cost per vial is just over R2 000 and treating a snakebite is expensive – anything from R100 000 to over R1 million, depending on the severity of the bite.

The Puff Adder is widespread throughout

much of Southern Africa but avoids high mountain tops and dense forest. It is a slow-moving snake that spends most of its life well camouflaged. Research has shown that individuals will often live in an area half the size of a tennis court for most of the year, whereas males, in the breeding season, may move several kilometres. This snake is an ambush hunter and will select a suitable ambush site where it may lie in ambush for weeks. If a passing rodent gets close enough the strike is quick – supposedly the fastest striking snake in Africa. Yet half the time the snake misses as rodents are quick to jump and escape. Toads are lured closer by slowly protruding the tongue and wriggling it to mimic an insect or worm.

Professor Graham Alexander and his team at Witwatersrand University did some fascinating research in the Dinokeng Reserve, just north of Pretoria. Several Puff Adders were fitted with radio trackers, and they were followed by students for several years. Some of the students, while tracking individuals, accidentally stood on snakes but were not bitten.

An experiment with gumboots filled with rocks was conducted, and Puff Adders that were well camouflaged were targeted. The gumboot was moved towards the snake like a person approaching on foot, and the snake was then ‘stepped on’. Not a single Puff Adder bit or hissed.

These snakes are perfectly camouflaged and near impossible to see, and it is obviously not in their interest to give away their presence. Further experiments were done with dogs trained to locate snakes, and the dogs could not find the Puff Adders. More experiments followed, using meercat and even elephant, and none of them could find the Puff Adders in camouflage. These snakes, when well camouflaged, are also chemically camouflaged and cannot easily be smelt by predators.

So why do so many people get bitten by this snake? As mentioned, it is a slow-moving snake and is largely active at night. If you accidentally step on one in the dark, the snake will bite.

People often question the usefulness of snakes, and the standard answer is that they are important when it comes to controlling pests like rodents. Just to point out, that there are many predators that control rodents, including predatory birds and small carnivores. The big difference is that these warm-blooded predators eat a near-

constant number of prey items every day, and in times of rodent explosions they do not have the ability to double or treble their food intake. Snakes, on the other hand, can survive with 6-30 meals a year (or even less) but in times of abundance they can increase their food intake twentyfold! They can also go down into rodent burrows and consume an entire family.

The Puff Adder gives birth to 20-40 young, each measuring 15-26 cm in length and are perfect replicas of the adults. The record for the most offspring produced by any vertebrate belongs to the Puff Adder – 156 young produced by a female from Kenya in a Czech zoo.



Innovation in elephant dung analysis offers endless benefits for conservation



By combining existing methodologies scientists have developed an effective way of using non-invasive samples from elephant dung to generate genome-scale data. Photos: iStock (above) Canva Pro (above middle and right)

Shaun Smillie

Every pile of elephant dung holds a story that tells of forgotten migrations, ancient hook-ups and a population's well-being, and now scientists are unlocking these secrets thanks to a new way of collecting DNA.

It used to be that when scientists needed to collect DNA from a wild elephant, it required a dart gun, lots of money and a good dollop of bravery.

Then, once those blood samples had been gathered, there were the added complications of securing proper refrigeration in which to store them, and having chemicals at hand that were dangerous to handle.

Recently, researchers from the universities of Illinois Urbana-Champaign and Pretoria pioneered an inexpensive alternative that involves the use of treated, postcard-sized, data collection cards. Dung samples are smeared on those cards and can be kept for months without refrigeration.

"We combined existing methodologies in such a way that we are now able to use non-invasive samples to generate genome-scale data," said Alida de Flamingh, in a statement. She is a postdoctoral researcher at the University of Illinois Urbana-Champaign in Illinois, USA. "This allows us to assess wildlife populations without having to dart, capture or immobilise animals," she said.

The team's research appeared in the latest issue of the journal, *Frontiers in Genetics*.

Collecting DNA from elephant poop is not new, but it has its challenges. De Flamingh came up with this approach after working with co-author Ripan Malhi, whose laboratory focuses on ancient DNA. Extracting

DNA from source material that is sometimes tens of thousands of years old is difficult. But ancient DNA laboratories have pioneered ways of collecting this genetic material.

"Ancient DNA can be problematic because samples are degraded and may yield very low levels of target species DNA," De Flamingh explained. "Obtaining genomic data from dung can be similarly challenging, with lower elephant DNA concentrations than are available from blood samples. I thought, this sounds like an excellent opportunity to test whether the same methodologies can be applied to non-invasive samples to generate the same type of data."

To test their new technique, the team at first turned to collecting samples from zoo elephants. They wanted to see how fresh the dung needed to be to provide genomic data. The subjects in this experiment were African savannah elephants from the Jacksonville Zoo and Gardens in Florida, and the Dallas Zoological Gardens.

The researchers would retrieve the dung immediately after defecation, then after 24, 48 and 72 hours. What they found was that even three-day-old faeces had enough DNA to study. The team then moved their experiment to Africa.

Co-author of the study, Prof Rudi van Aarde, of the Department of Zoology and Entomology at the University of Pretoria, and his colleagues used the cards to collect elephant dung across southern Africa. And it worked — even better than expected.

The collected samples didn't just provide elephant DNA, but also genetic material from microbes, plants and parasites. This

data provided details about the elephant, the microbial composition of its gut, habitat and diet. They were even able to detect the DNA of butterflies that had landed and fed on the dung after the elephant had left.

With the use of satellite tracking, the study will, Van Aarde believes, assist in identifying different elephant populations and help scientists see how they are related to one another. "This could help in developing corridors to restore those associations and provide a new positive platform for conservation in Africa," Van Aarde told *Our Burning Planet*. In the future, the examination of

the poo left by other animals might help scientists to also delve into their hidden lives.

But for Van Aarde, who has spent decades studying elephants, this new technique offers a lot. "We can actually pick up on disease and health and all these details on elephants. Using all these wonderful, lovely new technologies, the benefits this will have for conservation are going to be endless."

This article was previously published in the Daily Maverick

SUDOKU # 01

SOLUTION

5	4	9	3	7	6	1	2	8
8	7	2	5	1	4	3	6	9
3	1	6	8	9	2	5	4	7
2	9	5	6	4	7	8	3	1
6	8	1	2	3	9	4	7	5
7	3	4	1	8	5	6	9	2
4	6	8	9	2	1	7	5	3
1	2	7	4	5	3	9	8	6
9	5	3	7	6	3	2	1	4

SUDOKU # 02

SOLUTION

1	9	8	6	2	4	3	7	5
7	5	2	1	3	8	6	9	4
4	6	3	5	9	7	2	8	1
9	1	4	3	8	6	7	5	2
2	3	7	9	5	1	8	4	6
6	8	5	4	7	2	9	1	3
8	4	1	7	6	3	5	2	9
5	2	6	8	1	9	4	3	7
3	7	9	2	4	5	1	6	8

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Advancing your ability to recognise features in identifying birds

Mike Meidlinger

With the holidays in the rear-view mirror and life's rhythm building itself up to normal again, we find ourselves squarely in the grip of our undeniably subtropical climate.

The heat of mid-summer bears down, constant and somewhat nefarious, like an oppressive forcefield precipitated by the constant and equally fierce work of the sun. This, alongside the draining, persistent humidity, means the brisk mornings of winter are a far, but oddly fond memory.

Dawn these days, represents a short respite of delicate coolness, but this well and truly dissipates by breakfast. Birding during this, and the afternoon's equally thin slice of ideal conditions, can be excellent as most species are packing in as much as possible while the heat is not intolerable. Despite this intense period of the year, sporadic rainfall has offered it's obligatory flushes of moisture with a somewhat semi-regularity, while hot conditions can always indicate more on the way.

This has predictably resulted in the propagation, and growth of almost all guises of vegetation which are all in full flourish, even at the time of writing. As with last year, and the one before that, and even the one previous to that, where there are flushes of humidity, moisture and heat, comes an explosion of arthropods. These emergences are a direct consequence of, and reaction to, the accumulation of not just one, but many advantageous conditions.

As mentioned in previous before, this explosion of botanical, invertebrate and other food sources, support the vast variety of birds found here during a typical Lowveld summer. Both those rearing broods of chicks and those taking a break whilst on a non-breeding sabbatical from Europe or Asia, have more than enough food to survive, if they have the correct skillsets. These repertoires are a combination of innate knowledge received genetically, and behaviours learned and assimilated through experience or via communication. They thus vary from individual to individual. Those that have adequate skills and behavioural traits survive and breed, while those that do not, or which are unfit in other ways, perish.

When it comes to tools however, in order to achieve their nutritional needs, birds have only a handful available. Having said this, those that do have tools at their disposal are usually highly modified and intricately designed for their purpose. The primary tool that all birds have in their armoury is their bill. This keratin creation is unique. It offers a lightweight, tooth-free appendage which is used to access and ingest an almost infinite variety of food stuffs which are gleaned, hawked, probed, sallied, fished, plucked or stabbed from the environment.

The exact types of food, whether it be the wide variety chosen by generalists, or the particular preferences of those that are specialists, in many ways define the lifestyles of each bird. As a result, the diet of a bird largely defines its niche. This complex concept can be thought of the birds position within the ecosystem, carved out amidst the riot of inter-specific competition found in nature.

With the bill being the primary tool for work needing a prehensile approach, including the highly essential task of accessing birds' energy-rich dietary requirements, it is an important feature in separating one kind of bird from another. Therefore, an understanding of the various types and shapes of bill, usually offers a good indication of what to expect in terms of what that

particular bird might eat, and thus where it might be found.

When speaking of these different designs, in most cases birds that are in the same family or even phylogenetic order, share the same general bill structure. From here they may have subsequently radiated out into a variety of genera and species, but their bills and thus lifestyles are usually quite similar. These individual species are either competitors within a single area, or have segregated into a variety of terrains with differing climates. Thus, by adapting, different species have differing habitat requirements compared to similar members of their genus or family. Because of the wide variety of food types and quantities available, this has allowed families that consume either a range of, or singular but very common materials, like grass and other plant seeds, to diverge into many species over time.

Each specific bill type usually falls into one of several categories that include hooked and predatory, wedge-shaped and conical, small, fine and pointed, long straight and spear-shaped, curved for probing and more. Having isolated the bill type accurately, a shortlist of suspect families emerges.

Those with predatory hooked bills possess a sharp notch near the tip which is designed for severing the vertebrae of prey. This bill shape can be found in raptors like Eagles, Vultures, Kestrels as well as in smaller passerine predators like Shrikes, their allies, as well as Drongos. Birds with conical bills, are usually small as this form is primarily designed for its mechanical power when cracking the husks of small resistant grains. Thus this shape is shared by seed-eaters like Waxbills, Pytilias, Weavers, Sparrows and Widowbirds to name a few. Those with big wedge-like bills tend to be generalists like Barbets, Honeyguides and others. Small, dainty sharply-pointed bills belong largely to insectivorous passerines. From hawkers to those that forage through foliage, many of these birds live a largely arboreal existence, with a few exceptions. Families such as Flycatchers, Warblers, Cisticolas, Pipits, Batises and many more, share this kind of bill. Spear-shape bills are found in many, primarily aquatic families like Herons, Egrets and Kingfishers of various kinds. Long recurved bills belong to big birds like Ibises and mudflat waders such as Curlew and the Whimbrel species, as well as the more modest nectar feeding Sunbirds.

In some cases, the bills of birds have become so specialized for particular kinds of food, that it gives them a unique structure, one that is unto their own. For instance, the overlapping bill of Crossbills in the northern hemisphere pine forests, helps them access energy-rich pine nuts from their protective cones. Closer to home, the bill of the African Openbill is a fascinating utensil. It has a requisite gap of 5 to 7mm in order to precisely crack open the clamped shells of bivalves, such as the African Freshwater Mussel, as well as others. This logically gives them an advantage, one which is possessed by none of their competitors including other Storks and Herons.

Having isolated the bill shape, and arrived with some degree of comfort on a particular family, the next step is to use other features to try and reach a conclusion. Aspects such as plumage, structure, voice and proportions are often used to ascertain a handful of critical features which are particular to that individual species, and nothing else. These features, those that define each species as unique from all others are known as field characters.

In many cases, bill shape and bill colouration may be featured in the list of field characters for a particular species in relation to its relatives and similar cohorts that live nearby. One species having a slightly



Orange breasted bushrike

Image: eBird

larger, chunkier, paler, brighter or colour-patterned bill, for example, may make the difference between it and other species that are similar to it. In a few cases, such as in the curious Cuckoo Finch, specific knowledge of the structural components of the bill can make all the difference. In this charismatic little brood parasitic seed-husker, the sharp angled nature of the culmen gives the cutting edge of the bill a slightly different shape to the very similar Southern Red Bishop. This sounds complicated, and it is to some degree, but once the ability to recognize this feature has been developed, the identification of this bird is sealed, even when non-breeding and thus at its most cryptic.

In many similar species the concept of proportion is often an essential one when comparing species with families. Waders like Sandpipers, Stints, Plovers and Godwits have bills that vary in proportion to their body size, in a way that makes each species unique. Various species of Woodpecker can be identified by their bill size relative to their body size, which is then used with other features for confirmation. In many species, the coloration of the bill, and the pattern of that colouration can be useful for identification. An example of this is when comparing the chunky, bicoloured, black-tipped and

bright yellow-based bill of the juvenile African Harrier Hawk. It is quite different from the more slender, more curved-tipped, darkish bill of the similarly plumaged in some, but highly variable, European Honey Buzzard. Both Black-crowned Tchagra and Grey-headed Bush Shrike have very large and heavily hooked bills in comparison to the smaller billed Brown-crowned Tchagra and Orange-breasted Bush Shrike respectively.

When out and about in the field this month, take a closer look at both birds that are unfamiliar, as well as those that are known. Check out for the bill shapes of these birds and see if you can figure out a short cut to help get each one down to family level. The bills of birds can be both fascinating and useful while offering a window into the amazing complexity and achievement, that can come about in terms of evolution and adaptation. Even more amazing in terms of acknowledgement, just for the power of observation applied by those few dedicated birders who look for and define identification criteria. It is their eye for detail that has resulted in the concrete features, however simple or technical, that we have at our fingertips today, which allow us to confidently separate one species from the next.

Happy birding!

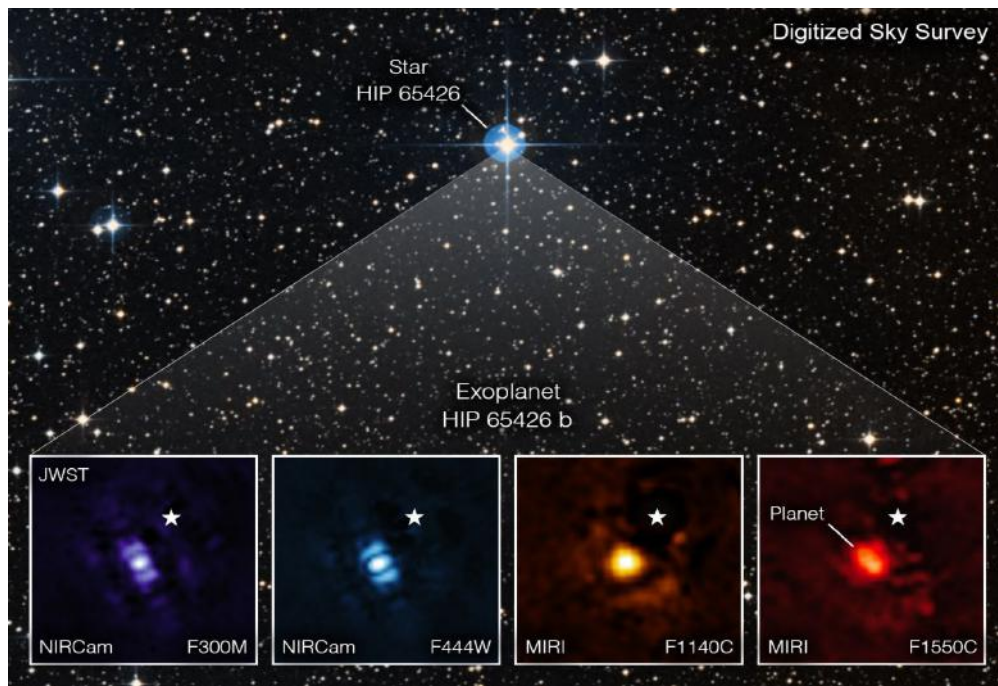


African Openbill (above)
Orange-breasted Bush Shrike
Red Crossbill



Image : NaturePhoto-CZ
Image: ebird
Image: Tony Dodds

Surfing with the Webb



Ben Coley

On Christmas Day 2021, the James Webb Space Telescope launched from Earth and now resides some 1,5 million kilometres away! It's 6 metre mirror has been scanning the cosmos ever since its arrival, and sent its first images back in July last year. Unlike its predecessor, Hubble, the Webb sees in the infrared (IR) spectrum, allowing astronomers to see deeper into the Universe than ever before.

What it has discovered and achieved in just 5 and half months is simply astounding. Let's have a look at some of the highlights from 2022.

Viewing Distant Galaxies

Thanks to James Webb's capacity to see in infrared, it has been able to peer deeper into space than ever before, viewing more distant, and thus older galaxies than Hubble

ever could. It has found evidence of galaxies 13,4 billion years old, that were formed when the universe was only two percent of its current age! These discoveries will aid astronomers in understanding our origins and shed light into galactic formation and evolution.

Viewing Exo-Planets

It has long been known that planets orbit other stars in the Milky Way, but Webb has been able to directly image these bodies. It has discovered great gas giants as well as rocky worlds, similar in size and composition to Earth. It can even decipher the chemical make up of these exo-planets' atmospheres and is actively searching for bio-signatures, and ultimately evidence of life on other worlds.

The Birth of Young Stars

Stars are born from great glowing clouds of molecular hydrogen and other elements.

In the visual spectrum, seeing through the dust is impossible, but Webb's IR camera is unaffected and has been able to directly view baby stars in their stellar womb. These emission nebulae are common and many can be seen with backyard telescopes from Earth. Webb's most significant image was of the 'pillars of creation', and area within the famous Eagle Nebula in the constellation of Serpens. Other well-known nebulae visible from Earth include the Orion Nebula and the Lagoon Nebula (Sagittarius).

Mapping Titan's Atmosphere

Webb is not only being used to explore deep space. It has also turned its massive eye on our own solar system. Titan is Saturn's largest moon, and the only known moon with an atmosphere. It shows evidence of clouds, as well as housing lakes and rivers of liquid methane on its surface. Webb has been studying atmospheric composition in preparation for future missions

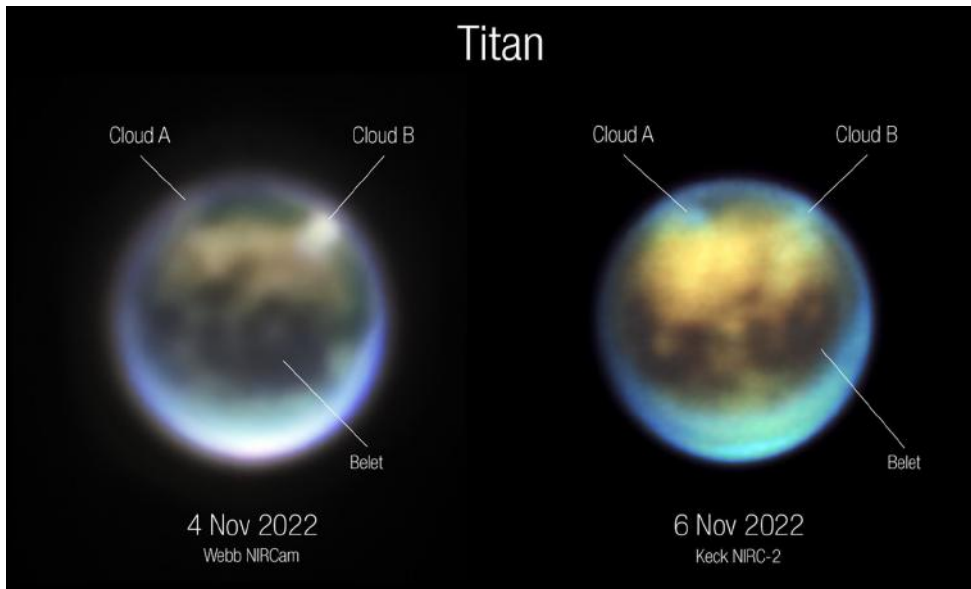
to explore its surface for signs of life.

Jupiter

Jupiter is the largest planet in our solar system and although we have probes orbiting the planet photographing it features, they are not able to see features privy to Webb. Thanks to its IR capabilities, Webb has seen auroras at Jupiter's poles, and extracted previously unseen detail in its rings and the great red spot, a huge anticyclonic storm twice the size of Earth.

The data that Webb has documented and sent back to Earth since July last year has defied every expectation, and its discoveries have caused astronomers to rethink various models of our understanding of the cosmos. As Webb continues to examine the depths of space and time, 2023 will no doubt bring with it many more surprises and incredible insights into our universe.

See Celestial Events SA advert for contact details



Galaxies (top left) and Exoplanets (top right)

Titan (above left) and Jupiter (above)

Pillars of Creation (left)

Images: Supplied

Butterflies: Elegant garden visitors

Ian Sharp

Having taken a journey down the 'Caterpillar Rearing Group road', reader interest has been shown in the butterflies that may visit gardens or occur in the Hoedspruit area.

Considering that there are in the region of 660 butterfly species in southern Africa, and that 266 species have been recorded in the Mariepskop Mountain area, it is difficult to cover all possibilities that may venture to the delights of a specific garden. This is wholly dependent on the availability of nectar-producing flowers that are favoured by the specific butterfly, what larval host plants are present in the garden, and whether there are opportunities for mud-puddling activity.

The 'mud-puddling' aspect may need some further explanation here. It is an important activity in the biology of butterflies. Soils that are damp and high in mineral content may attract many butterflies as they source moisture and required minerals contained

in the soils. Some are also noted to 'puddle' on the dung of a variety of animals for the same reason.

Other than using the garden vegetation as the sole attractant to butterflies, similar to that when doing the bird-feeder thing, providing 'bait' that is fruit-based, fermenting and strong smelling, may attract species from the diverse Nymphalid group. Gum extruding from certain tree species at specific times of the year additionally is sought after by some butterflies. They even confront beetles and wasps that are also trying to access the rich fluid. See image 1

Fairly common Charaxes (or Emperors) seen in the area, are the Foxy Charaxes, White-barred Charaxes and Demon Charaxes. Some of their larval host plants are Natal Mahogany (*Trichilia emetic*), Weeping Boerbean (*Schotia brachypetala*) and Knobthorn (*Senegalia nigrescens*). These are large butterflies with quite an attitude – even in the larval stages, where the head capsules are adorned with appendages, giving a mask-like appearance. They can also be aggressive

when disturbed. These are a few examples of the 'confrontational' butterflies. See image 2.

Another group from the Nymphalid stable that are a very common site in the bush and gardens, are the Yellow and Blue Pansy butterflies (*Junonia h. cibrene* and *J. o. oenone*), Spotted Joker (*Byblia ilithyia*), Painted Lady (*Vanessa cardui*) and Guineafowl Butterfly (*Hamanumida daedalus*). Common larval host plants for some of these species are the herbaceous flowering plants, that are often seen as weeds in our manicured gardens. *Barleria* and *Ruellia* species are utilized by the Pansy larvae. The name 'Joker' is apt as this species uses a stinging nettle (*Taglia rupestris*) as a larval host plant. A small herb similar to a thistle, named *Dicoma tomentosa*, is the most often selected larval host plant for the Painted Lady, but other species from the Asteraceae plant family are also often used. The Guineafowl Butterfly commonly uses members on the Bushwillow (*Combretum* spp.) family as their larval host plant. The larvae of this

species is spectacular, and when at rest on the under surface of a leaf, they are so well camouflaged that it is very difficult to spot them. See image 3.

The citrus industry in the region does contribute to the prevalence of the Citrus Swallowtail, and the Green-banded Swallowtail. Planting citrus fruit trees in the garden, or natural larval host plants such as the White-ironwood (*Vepris lanceolata*), Knobwood (*Zanthoxylum* spp.) or Horsewood (*Clauseana anisata*), would attract females of these species for ovipositing. Having the larvae of these species munching away in the garden is a point of interest. When disturbed the larvae extend a glandular appendage from behind the head, called an osmeterium, and this emits a very disagreeable odour. The strong citrusy odour serves as a chemical defence mechanism, more particular against other invertebrates. See image 4.

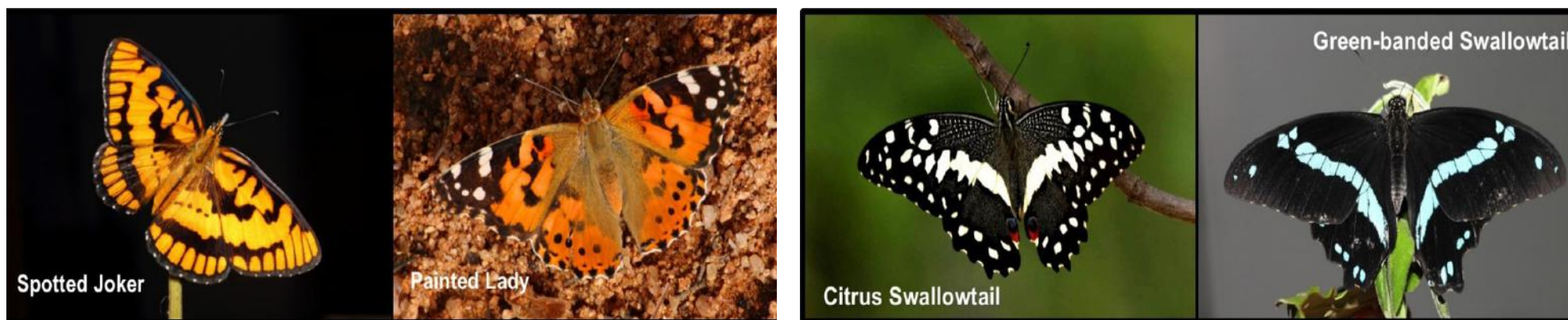
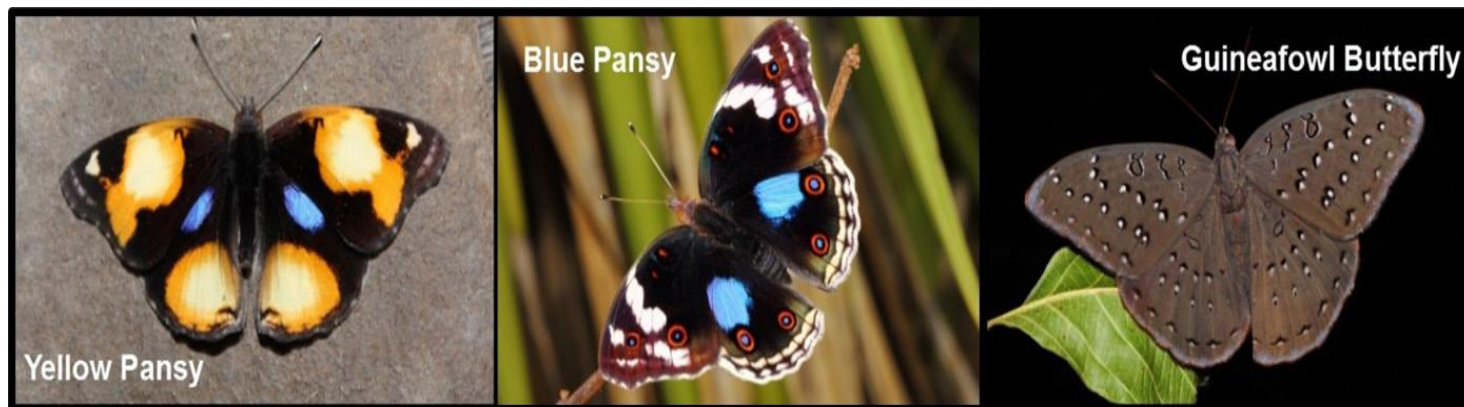
There are several specialist butterflies that are attracted for other reasons. Ant-associations are prevalent under many of the small Lycaenid ('Blues') butterflies. Not all butterfly larvae are phytophagous (plant eating) and are therefore, actually predatory! Here a good example is the Woolly-leg Butterflies that feed on Hemipteran nymphs. Planting the Potato Bush (*Phyllanthus reticulatus*) in the garden may attract the Hemipterans, and by extension the Woolly-leg Butterfly should follow shortly after to oviposit between the nymphs.

Seasonal flowering times of certain plants are important in providing food to butterfly species that may be on the wing throughout our mild winters. Here one should consider having aloes and euphorbias included in the garden as suppliers of nectar during the winter months.

This piece has only scratched the surface of what amazing butterflies may visit your garden. A property at the foot of Mariepskop in Kamperus has recorded around 77 different butterfly species visiting the garden, just to give you an idea of what may potentially traverse through your garden! Next month more of the common visitors from other butterfly groups will be discussed.

Image 1,2,3 left and Image 4 below right

All images supplied



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Xanthocercis zambesiaca – the Nyala tree or Mshatu



Brett Heasman
Guiding Naturally

A new year, a new me, and in my head, I thought I would kick the year off with an impressive beast-of-a-tree. This monster of a tree, which can grow up to 30m tall, towering above my head, was the one known as the mighty Mshatu.

I dug deeper to find out more, and soon realised that much like my new year's resolutions, it was a great idea at first but once I got into the nitty gritty of reading up on it, I started to understand that the Nyala tree is much like the month of January, impressive to kick off a new year, but offering very little in human interest. Okay, but traditionally it was used to treat diabetes, the wood is used for timber and fuel, and porridge is made from the crushed fruits, one can eat the fresh fruits – but to me that was somewhat disappointing.

Then it hit me, sometimes you don't have to be exceptional to make a difference. You don't always have to provide medicinal properties to make you iconic - you can provide in so many other valuable ways without being chopped down or hacked apart.

This large impressive, evergreen tree, with its fantastic dense wide spreading crown of glossy dark green leaves, plays a critical role in the environment - which comes down to one word, shade. The only reason I looked it up was because I was escaping the soaring summer lowveld temperatures whilst on trial. Thankfully I also

found many signs of animal activity or inactivity in and around the tree, with lots of tracks and signs indicating animal presence.

In addition to shade, Nyala trees provide a place to call home; the name Mshatu originates from up north near the Zambezi where the 'shato' is their totem. This translates to python, and the tree is known for the many snakes that hide in it. The tree is also known as a great food source to a variety of species. The fruit, which look like small yellow berries, are loved by many species of birds and mammals that include green pigeons, parrots, antelope, and elephants. Elephants make use of the Mshatu to take power naps away from the African sun, and one can often find impala and other antelope tracks around the base of these trees. Animals are often seen picking up the fruit that was ever so kindly dropped by the baboons and monkeys that were eating them in the tree. At night bush pigs will have their turn to feed on the fallen fruits and I personally witnessed this myself recently. The flowers are small sprays of creamy-white, rose-smelling flowers.

It grows in hot dry bushveld, on deep alluvial soils near rivers, and on termitaria. It is neither frost hardy nor drought resistant. The occurrence of the tree does indicate the presence of ground water.

So, the next time you see a Nyala tree (which can grow up 600 years old), spend a little time enjoying its grandeur, look up and down at this tree, as it holds many good values that will keep you cool for 2023. Happy New Year!



The mighty Mshatu tree in the Mapungubwe (above).

Nyala tree leaves (left).

Images: David Becking

Why do Zebras have stripes and some no tail ?

No one knows for sure, although most theories with regard to the reasons for their unique striping revolve around camouflage and defence.

The most popular of these is that predators without colour vision find zebra's visually difficult to isolate when they are bunched in groups. The stripes tend to blur the individual body outlines (called **disruptive camouflage**) - also believed to be one of the reasons why you seldom see lone zebras. Another is that the stripes make it easier for individuals to see one another in poor or hazy conditions, such as when individuals flee in the dust created by the herd, particularly at night. However, general zebra behaviour does not entirely support many of these theories. They prefer an open habitat, where they are conspicuous. They also tend to be quite noisy and make no attempt to remain inconspicuous, resulting in their becoming tempting targets. Indeed, if stripes were the miracle 'survival pattern', then why don't other animals have similar markings? After years of study, the question remains unanswered, but one phenomenon has become apparent. There is a greater concentration of capillaries below the black stripes than the white stripes, the function of which is thought to be an aid in dissipating heat. The black stripes get hotter than the white, resulting in a lower

pressure adjacent to the black stripes than at the white stripes. This pressure gradient causes cooler air to flow from the white stripes to the black stripes. These 'micro breezes' help to cool the blood and to dissipate heat from the black stripes. A big negative of stripes is that for some reason they are attractive to flies. In an effort to chase these pests away, zebra tend to swing their tails more actively than antelope.

It is interesting to note that each zebra has a unique pattern, and the left and right-side patterns are not a mirror image. The unique pattern of each zebra, along with its scent, enables the foal and mother to identify each other in the first few days after birth. During this vital imprinting phase, the mother protects the foal from seeing or coming into close contact with other members of the herd. It is not clear which part of the pattern, if not the whole pattern, is memorised. Indications are that it may be the face pattern between the eyes down to the nose and/or the shoulder pattern. The thickness, colour, and number of the stripes vary considerably and all the local subspecies, to a lesser or greater extent, have what is called **shadow stripes**. These are paler brownish coloured stripes that are on top of the white stripes of the flanks.

Individuals with stumpy tails are invariably stallions that have had some part of the tail



A herd of Zebras with their magnificent individual markings (above)
images: Canva-SG Wildlife Photography



bitten off by other stallions in fights over mares, or during fights in bachelor herds. Most people assume that the zebra has had a close encounter with a predator and was lucky to escape. Zebras that have had such escapes tend to have deep gashes from the predators claws on their flanks. Zebra stallions are not territorial, but set about establishing a harem by stealing young females one by one from stallions with existing herds. The resultant skirmish between the males can be very aggressive, with both individuals raring, kicking and trying to bite each other on the neck, ears, legs, and tail. They also often drop to their wrists (knees) and attempt to bite each other's

'ankles' (hoof area). The sharp, spade like front teeth in both jaws are formidable and, together with the large canines, are used as weapons during combat. If the timing is right, an appendage is easily lost or severely mauled. The tail is usually bitten off when one stallion bolts and runs off with the other in pursuit. Use of the tail as a deterrent to flies is sorely missed. These encounters can also happen within established herds between dominant and subordinate males.

Excerpts from 'Beat about the Bush – Mammals and Birds' by Trevor Carnaby, Published by Jacana Media, Second Edition reprint 2018.

Bushwise and aha Hotels & Lodges investing in local communities



Initial selection group : The lucky ones

Bushwise Marketing

Bushwise Field Guides, a leading FGASA-endorsed field guide training provider, has launched a new and exciting initiative in conjunction with Tourvest, aha Hotels & Lodges and Mankwe Gametrackers. This initiative offers fully sponsored safari guide training and employment to students from local communities in South Africa. This is part of the Bushwise Field Guides and aha Hotels & Lodges investment in upskilling students from local communities.

Under this initiative, Bushwise will provide comprehensive field guide training to eight local students every six months, who will then go into positions at aha Hotels & Lodges around the country, and with Mankwe Game Trackers in the Pilanesberg.

The partnership hopes to train and employ approximately 40 candidates over three years, while promoting skills development and transformation in the wildlife tourism industry.

“We are very excited to have the first candidates arriving in a few weeks’ time. These candidates will go on to become full-time employees in our lodges, and we hope that they will continue to grow with us for many years to come. This partnership is a vital initiative to ensure that the communities which our lodges serve, continue to benefit from, and be the guardians of conservation in this country,” said Graeme Edmond, CEO of aha Hotels & Lodges.

The first group of eight future field guides began their training in January 2023 in the Greater Makalali Game Reserve, home to



The Bushwise team with the aha students

Images supplied

the aha Makalali Private Game Lodge and Bushwise’s Mahlaha campus. Uniforms have been generously sponsored by Ruggedwear, a leader in bush wear clothing, who are based and manufacture exclusively in South Africa.

Bushwise Director Eugene Relling commented, “It’s amazing to see our leading tourism brands coming together to create ambassadors of the natural world. What makes this transformation project even more special, is that these ambassadors will be given permanent employment.”

The training provided by Bushwise will include field guide qualifications, track and sign, trailing, 4x4 driving, guiding ethics, conservation, community engagement, first aid, and more. After graduation, participants will go on to work at lodges around

South Africa, including aha Makalali Private Game Lodge, aha Thakadu River Camp, Mankwe Game Trackers and Nkambeni Safari Camp.

“This partnership is about opening doors and creating opportunities for these young men and women that we hope will be life changing for them. We look forward to working with aha Hotels & Lodges and Bushwise, to make their dreams a reality,” said Howard Rogerson, MD of Ruggedwear.

Over the next three years the journey of these students will be closely followed in this exciting new initiative. Most sponsors will provide regular updates on the progress of the students.

Originally published on www.bushwise.co.za.

Spotlight time



Local Correspondent

I was walking along to the Hoedspruit Café minding my own business and trolling my WhatsApp when I suddenly had to take evasive action to stop walking into a table. At the table was a man fondly admiring a knife – not a penknife, not a run-of-the-mill piece of cutlery – a BIG knife. It looked like it had been painstakingly forged by some medieval craftsman – it was a beautiful piece of work, in fact a piece of art.

Being the curious type I stopped, looked at the knife and then questioned the man that was lovingly looking at it. It transpired that he had made the knife, almost as a labour of love, and was passionate about what he had created and the process of

that creation.

Enter Reuben Erasmus – bladesmith extraordinaire. Growing up in Parys in the Free State he developed a love for craftsmanship through honing his carpentry skills in his parents’ furniture factory. But since early childhood he had a fascination for knives – he even hammered nails flat to make swords and knives for his ‘little green army men’.

Naturally he started collecting knives, but that soon became boring after watching the series “Forged in Fire” and that is where he decided to try forging for himself. He started making knives as a hobby during studying, where he found it to also be a very therapeutic outlet.

It all began with a small hand-made forge, his grandfather’s bench grinder and You-



Tube! Reuben basically taught himself how to forge by watching hours and hours of videos on YouTube. He also happily turned to his carpentry skills and had to endure many occurrences of ‘error by trial’. Over time he began perfecting his skill, added equipment to his workshop and built most of what he needed himself. This man is really a dark horse.

In 2020, during lockdown, Reuben entered an international competition, “Four weeks of Forging”, hosted by a very well-known Blacksmith, Alec Steele, famous for his YouTube channel on forging. Reuben was placed in the top three contestants worldwide(!), for his artistic creation of forging tongs.

Reuben then went on to win the ‘Best in Show’ at the Lowveld Knife show in 2022

with his elaborate CuMai fighter knife, that sold later that day at the show.

He is now known for his self-forged Copper Damascus (CuMai) pieces, Brut-de-Forge, and his attention to detail. Most of his work is on commission, but he is always working on a challenging, extravagant showpiece on the side.

Reuben has a passion for functional art. He designs his knives based on function, comfort of use and aesthetics of the design. He enjoys creating chefs’ knives, axes, extravagant show pieces, weapon recreations of famous games and other pieces of art.

He is curious by nature and has always driven himself to learn new skills and expand his knowledge. He constantly challenges himself with new types of blades, techniques, and materials, and is currently busy working on a design for a hand-forged folding knife.

But hold on – it doesn’t end there!

Reuben completed his MTech Chiropractic degree from the University of Johannesburg (UJ) in 2021. During his time at UJ he worked with many athletes at events like the Arnold Classics, KEPS Rugby festival, 94.7 Cycle Challenge, Triathlons and Ironman events.

After completing his studying, he moved to Hoedspruit to open a chiropractic practice with his wife, Dr Rolene Rademan. This is a man with many hidden talents, humble and engaging - he has a great passion for helping people, animals and creating functional pieces of art.

Keep a look out for him – Dr Reuben Erasmus!

Vacancy

South African National Roads Agency SOC Ltd

VACANCY: PROJECT LIAISON OFFICER
X002-120-2019/1 ROUTINE ROAD MAINTENANCE

The South African National Roads Agency SOC Limited (SANRAL) is an independent, statutory company registered in terms of the Companies Act and established by Parliament. The South African government, represented by the Minister of Transport, is the sole shareholder and owner of SANRAL.

The Agency has a distinct mandate – to finance, improve, manage, and maintain the national road network (the ‘economic arteries’ of South Africa) and is committed to carrying out its mandate by protecting and preserving the environment through context-sensitive solutions.

SANRAL makes a significant contribution towards road safety by maintaining and improving our road environment, and by identifying and addressing road safety concerns. The organisation also aligns itself with local and international road safety authorities in order to learn and improve the safety of our road users.

SANRAL is seeking to appoint a Project Liaison Officers (PLO) for its Maruleng Routine Road Maintenance to ensure effective co-ordination, planning and implementation of the project.

PREQUALIFICATION CRITERIA

- Grade 12 matric certificate qualification or equivalent qualification
- Minimum of 5 years previous experience as a Community Leader
- Valid Driver’s license, own vehicle will be advantageous
- Good verbal and written communication skills in English.
- Must be fluent or at least proficient in the local vernacular language/s and must be based around Maruleng Local Municipality
- Must have experience engaging with Communities and other Stakeholders (negotiation, conflict resolution and relationship building).
- Should ideally be experienced in the workings of ward committees, engaging with councillors and council/provincial structures.
- Excellent coordination skills and project management experience will be advantageous.
- Problem-solving skills, assertive /self-starter.
- Must be reliable, impartial, and accountable to the success of the Project.
- Must have working knowledge of taking minutes of meetings and must be computer literate. Hardware will be provided at the Site office

APPLICATIONS

All applications must be dropped at Office No.6, Surgotrim, Near Wildlife Estate, Hoedspruit or emailed to katlego@wanoza.co.za
(All applications must include CV, certified copies of the qualification and application letter)

CLOSING DATE:

The closing date for this advertisement is 10 February 2023 at 16h00. If you have not been contacted within 2 months after the closing date of the advertisement, please accept that your application was unsuccessful. For Enquiries: 076 924 3871



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Hoeds Wildlife Est Pharmacy	015 793 1427
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What is an insect?... Junior FGASA

General Characteristics of Arthropods

Arthropods (Insects) are the largest Phylum in the animal kingdom. Scientists have estimated that there are around 1.4 million, billion insects on our planet. That is 200 million insects per human! Insects have many different characteristics. Here are a few of them:

- External skeleton - which is also called an exoskeleton
- Paired, jointed legs/arms
- Compound and/or simple eyes
- Specialised mouth parts
- Pair of antenna
- Breathe with a network of tiny tubes called tracheae
- Main body cavity is called a haemocoel - forms part of the circulatory blood system
- Their bodies are divided into different body segments



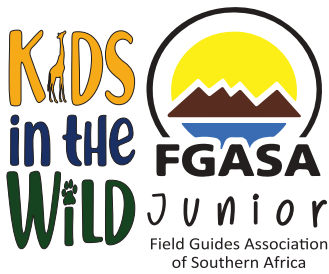
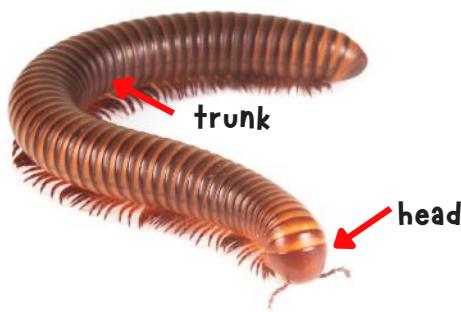
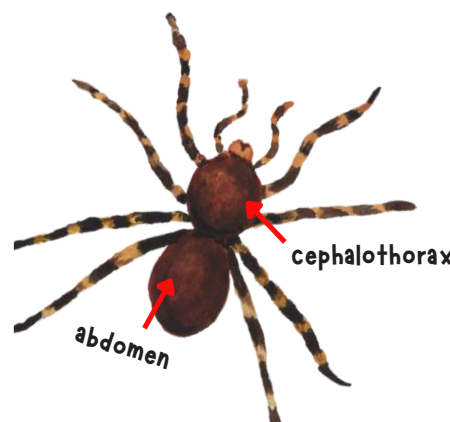
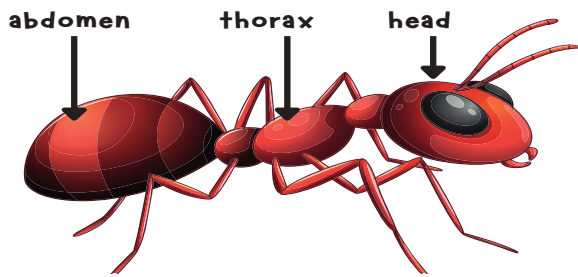
Dragonfly

Have fun colouring in the butterfly



These body segments can be:

1. Head, Thorax & Abdomen
2. Cephalothorax & Abdomen
3. Head & Trunk



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