

MEETING WITH RAY JANSEN – TRANSCRIBED

RAY: People listen to the international news all the time. But the problem with pangolins here is just as bad. It's not that it's under ground; it's just that the people and the police aren't aware of it – because they don't know what it is. Our law enforcement just isn't aware of this problem. I think that if they become more aware of it (which we are working on now), I think we are going to intercept more of the trade. It's an ongoing thing in South Africa; we just need to get the SA public more aware of this huge problem. I think it is just as severe here as it is anywhere in Asia and other parts of Africa.

ALEXIS: When you say the public, are you talking about people in general, or people who come in contact with pangolins often?

RAY: The public in general. It is very difficult to reach the rural communities. They don't have a TV, let alone a radio. And those are the people that come into contact with pangolins most regularly. But there is your tourist going to the Kruger Park.... it is critically important that we get them onto our database too. We got a lovely sighting in last week from Pilansberg National Park, with video footage; then we got a Crocodile Bridge sighting in last month and an Orpen Gate sighting. The public going in to the Kruger are our eyes. So yes, all echelons of society.

People don't know the level of trade. It is extreme. But the trade in South Africa isn't so much for the Asian market. It's for traditional medicine.

I've had a student working on a project for 3 years now, going to all the regional areas where pangolins still occur in South Africa and interviewing 11 tribal communities – different tribes – the SiSwati, the Ndebele, the IsiZulu, and chatting to sangomas and elders – asking “have you seen this animal; do you hold it in high regard; what do you use it for?” They all know it. But they hadn't seen them for a while. I think their numbers are going down. When they do see it, they harvest it. That's for traditional medicine. One pangolin can exchange for up to 12 cattle. So, we are looking at a valuable animal here. Scales aren't so expensive yet. But they are going to become very expensive when they become rare. And they are used to cure anything from nosebleeds, menstrual cramps.

What was important from this study is that we understood that the blood and fat is also very important to the sangomas and the elders. We thought it was just scales that they grind up into powder and wipe into their wounds, but it's not. They use the blood and the fat for the mixture that they smear into the kraal; as well as onto their animals and their houses to ward off evil. So, the trade in fresh produce is high and it's big.

The other important aspect that came out of this is that the trade in the large markets in big cities is limited, but the trade between rural people out there is big, and that is where the trade is. So, previously, we would do all these studies in the traditional muti markets, and go and catalogue, catalogue, catalogue – but

that's not where the trade is. The trade is out there. In the far rural hills. Not so much for money, but for gifts. Cattle, sheep, chickens, goats.... whatever.

The traditional healers out there are not commercial traditional healers. They are held in high regard within the rank of the tribal rural communities. And they are not given so much money; they are given gifts and status. To have a pangolin is big, strong muti because it can cure a multitude of ailments – specially warding off evil.

The need for it just grows and grows.

ALEXIS: And.... what about pangolins as a dwindling resource, your student must have spoken to the tribal communities about that – how do they feel about that?

RAY: Of the 400-odd people interviewed, only 90 had seen a pangolin before. So, that tells you already. The majority of people that were interviewed had heard about it and had seen body parts of it. If you are living out there your whole life, you see things, you get an idea of how many there are. And if less than a quarter had seen it, it tells us that the numbers are dwindling.

A resource in tribal medicine is important because if you loose that resource you loose a large component of your cultural beliefs that are many thousands of years old. If you get that message through to the rural people, they start protecting them.

Like in Zimbabwe, the IsiZulu people hold the pangolin in the highest regard. As soon as they see it, they want to give it to the Chief. So, they take it out of it's habitat, keep it in captivity.... it's dead in 10 days. As a result, they are extremely rare in KZN. My student who interviewed the people there said that not one person had seen one in the last 5 – 10 years

ALEXIS: Aren't tribal people aware that it has become a dwindling resource?

RAY: No...no. It has just become more difficult to see. There is a very fine line between something that's going extinct and something that's less frequently seen. They see these things as some sort of message - it may be evil, or it may be good luck. When you don't see it, it means no message is brought. It's very difficult for them to perceive something as rare, it's just that the spirit is not giving the message or "whoever" is conveying the message. To transfer the concept of going extinct is very scary to them. And they take that very seriously. That's what we need to get through. .

The problem about Africa is bringing in Western policing into a culture where policing is very foreign. Policing for them is a tribal instruction from an elder or a leader. That is far more severe than being locked up. So, this whole move afoot of going into Central and West Africa and locking everyone up is not going to work. They are just going to go completely underground. What we're doing in Ghana and Sierra Leone is we are going to tribal leaders and that filters down to the community.... we are already working with the Ghanaian tribal leaders. The

concern is that all the work that we want to start doing is now being influenced by greed for money. As soon as culture disappears, it is replaced with financial gain. The Asians are going to bring in huge money and greed will take over..... in any type of culture. Money is much more important to the modern youth than tribal culture.

ALEXIS: That's an interesting point. And it was a point that I wanted to bring up and ask you about.... in terms of traditional medicine, how do the youth view it, and are they interested in it – and does it have long term viability or traction?

RAY: I think it does, but it depends on how you manage it. Traditional medicine will always be around, considering that 80% of South Africa's population consults traditional healers, rather than Western doctors. So, there are in the region of around 22 000 traditional healers in South Africa. And they're growing. But there is a huge difference between a rural traditional healer and a city commercial traditional healer. The city commercial traditional healers simply go on a course and become a traditional healer. The rural traditional healers get trained as an apprentice for up to 10, 15 years. So, in the city it's for money, in the villages it's for spirituality. The guys here (Pretoria), do they really firmly believe in it? Probably not. Do they want to make money from it? Probably yes. In the rural communities, they strongly believe in their medicine and a lot of it works – particularly plant material. I have my severe doubts about animal material. Using animal material is mainly to cure spiritual ailments. So, you will take a herbal remedy from a plant and it probably will work, but you take an animal remedy, it is not to cure an ailment, it is to cure some or other spiritual cause. So, it's a belief system. There's a big difference – like the guy who was caught robbing a bank with a scale in his pocket, thinking that he would become bullet proof, and he believed it. Traditional healing and traditional medicine will always have a part to play in Africa.

I've got a big project on the go now, with a doctoral student, and we've interviewed 3 000 people, young people moving from rural areas into Tembisa, and we've asked them what traditional knowledge they have and what they've lost. And there's a huge move afoot towards Western medicine.

ALEXIS: That's what I would expect. And possibly the same in Asia?

RAY: Yes and no. I think that Asia is much more deeply rooted in traditional medicine. It is many thousands of years old. They are so entrenched in their belief system; I don't think it will disappear as quickly as it will in Africa. The southern African community, historically speaking, is a very young community. It is only really a thousand-odd years old. The Central and West African communities are many many thousands of years old – like the Asian communities. There, it is very deeply entrenched. The problems with Africa (in terms of pangolins) is, rather, the bush meat trade..... Central and West Africa.... not so much traditional medicine. It does exist. But the bush meat trade is very very big

ALEXIS: And the bush meat trade here - is that pretty much non-existent?

RAY: No, it exists...but it's not a huge source of protein. In Central and West Africa 80% of your protein is bush meat. In rural areas in this country, hunting with dogs and snares is maybe 10 – 15% but it's not nearly as big.

It's easy to go and shop in the tropical forests of Ghana, so they rely heavily on protein from bush meat. And that's where Ebola came from. So, this is the problem we're facing.

But in South Africa, I think that harvesting for traditional medicine is much higher than harvesting for bush meat. It's relatively easy to go and buy commercial meat here and it's still reasonably affordable - if you look at bones and soup mixes. It's easier to go and get cheap meat from your local butchery. In many cases, here, bush meat is more expensive.

Traditional medicine – in South Africa – is probably the single biggest threat for pangolins.....besides electric fences.

ALEXIS: Something like Cites – does it have any affect on local legislation?

RAY: No. Cites will have the greatest impact in the ports off our shores. Big ports like Kenya's Mombasa, Maputo, Durban, Richards Bay, and Cape Town. That's where Cites will have a big influence in the future, because Pangolin commodities are on the increase. We are going to move from the traditional medicine trade, very soon, into a commercial trade. Here in South Africa – within the next 5 years. Cites is going to have a huge impact - if we can stop pangolin parts leaving the shore. But this just gets exchanged for trading inland.... through Botswana, Zimbabwe, Namibia – into easier ports. That's what they're doing in Nigeria at the moment, and Cameroon. They are transferring pangolin parts into countries across the border and flying them out into the horn of Africa, which has no port control. And from there, they both ship and airlift. They're flying them into Europe now – into France. And from France it's going to Asia.

ALEXIS: Live pangolins?

RAY: Live and dead. As soon as we put port authorities in place there, it stopsbut then they find other routes. Cites will have an impact in the courts, if we uplift pangolins to Cites Appendix 1, when the courts may offer a longer jail sentence and a heftier fine. It will be somewhat of a deterrent. This is a good thing.

ALEXIS: So the courts take Cites seriously?

RAY: It won't have so much of an effect in terms of moving internal trade, but it will have an effect in the courts - the fines will get heavier, jail terms will get heftier because of the up listing.

Our courts also look at the IUCN listing; is it near threatened, vulnerable, critically endangered....the closer it is to critically endangered, the heftier the fine will be.

We've just up listed all Africa's pangolins to 'vulnerable'. They were at 'threatened'. We don't want to go to the next level, which is 'endangered', and then 'critically endangered'. If they go to 'endangered' then they're in real trouble. 'Critically endangered' means they've dropped below minimum viable population size. That means that the population is too small to regenerate itself genetically. In a low population size, you've lost integral genetics – forever. This means they've lost good DNA and results in sterility, deformities, and other things. You've lost the genes to make them a healthy, viable, genetically powerful population group. The bigger and more diverse your population, the more genetically strong you are.

So, if we stay at the level we are at now, we're okay.

ALEXIS: But Ray, how do you account for any of this, when we don't know the numbers out there?

RAY: That's the problem. At COP 17 now, the big argument against up listing to Appendix 1 is that "you don't know how many there are". They are so rare on the ground; so quiet and nocturnal – unobtrusive. Counting them is almost impossible. I'm starting a huge project to fit transmitters and study white bellied tree pangolins in the tropical forests of Ghana. So, we're going to do that for 2 years. We'll get 10 individuals, put the transmitters in – they're smart transmitters, they can tell altitude, they can tell GPS location down to 5 meters, they can tell temperature, they can tell movement or no movement – so sleeping, or foraging. Then we can determine a home range and determine the neighbour's home range – we can follow them for a year and extrapolate that home range into how many pangolins there are in the forest. Then we can determine numbers. But, we have to do that. So, we can say – if a forest is in that condition, it holds say 10 000 pangolins.

We want to develop a base in Ghana called The Gulf of Guinea or West African Centre for Biodiversity. This is what my student Maxwell wants to do. We are going to have a station up there – not only pangolins – diversity of species, but with a focus on pangolins. We will have ongoing research there. They've got a diversity of animals there.

ALEXIS: Just going back to inland trade – South African trade – and legislation and confiscation around it. Where are we with that?

RAY: Every province has got its own legislation. Some are quite strict and some are not. Our provincial governments and law enforcement can basically stipulate their own magisterial district laws. You can go to the Eastern Cape and it can be quite severe – you can get 15 years for having a pangolin in your possession. And then, you can go to Mpumalanga and get one year. So, there is also this inter-

provincial trade – “well let me get this animal out of Mpumalanga, into KZN and then it’s easier to move”.

I don’t think that the trade in South Africa is increasing; I think it has been high all the time. It’s only now that our magistrates and our customs and ports authorities and police stations are learning about pangolins.

Last month, I addressed the SAPS wildlife unit for the first time. So, that’s where there is a lot of work to be done. And we’re applying for funding to launch that part of the project.

ALEXIS KRIEL: In your opinion, the role played by Cites in safeguarding the pangolin and wildlife in general, are they effective?

RAY: Yes – they’re effective. I think the laws are stringent enough. I don’t think that the magistrates always apply the full extent of the law. In Zimbabwe they get 10 years every time. Here, our guys get a one year suspended sentence. That has to change.

ALEXIS: I wanted to ask you – the spike in pangolin poaching seemed to coincide with the spike in rhino and elephant poaching. Did it?

RAY: I think there are very close links between increased figures and the awareness we’ve created around it. Remember that the same syndicates transport the same products. There’s been a renewed interest in rhino and ivory and the pangolin scales are going along with that – as part of the same shipments. I think it’s more a matter of awareness around pangolin poaching than that there’s been a sudden increase.

ALEXIS: Why do people feel that the pangolin possesses none of the popular appeal of other better known and threatened wildlife species – like rhino or elephant? I think that it’s an extremely alluring creature. It has been said that biologist consider them to be the unicorns of the animal world and that seeing one is like shaking hands with a deity. Why is it said that they do not possess the same allure?

RAY: Because if you don’t see it, you will have no affinity for it. It’s as simple as that. The public will only relate to something that they can see. You are not going to sell the romantic; the alluring; or the concept of something as special as a rhino or elephant if you can’t see it. You can go to Pretoria Zoo, JHB Zoo – to see rhino’s; you can go to Kruger Park and see elephant. They are easily accessible. If something is not easily accessible to the public, they’re not going to buy into it.

RAY: Have you seen the stamps I developed for COP 17?

ALEXIS: No

RAY: With the South African post office. We’re launching them at Cites – four stamps, just for this – all four species... launched at Cites for the South African

post office. They're stunning. The South African post office worked with me. This is how important it is to the Republic. The Republic recognizes this. They approached me.

You heard about the big bust in Hong Kong last week?

ALEXIS: And that was white-bellied pangolin scales?

RAY: White bellied and black bellied – we are waiting for samples. With samples from last year, we identified all three species, except *Smutsia Temminckii*. Giant, white bellied and black bellied were traded in Asia last year.

Then there were 4 tons earlier this year in March. Now, 7 tons last week. My estimate is 12.7 tons this year alone.

ALEXIS: And how many pangolins does that account for?

RAY: 30% of bodyweight in scales, so you're looking at a couple of thousand – between 5 and 10 thousand animals...

ALEXIS: We're talking about a million over 10 years – so...

RAY: about 100 000 a year, roughly speaking. It is a moderate estimate

ALEXIS: And *Temminckii* Ground Pangolin scales – are you coming across those overseas?

RAY: Ya, there was a huge shipment last year – the shipment was from Durban.

ALEXIS: So, they are trading with Asia already?

RAY: Ya – big... huge. We identify them forensically through DNA at the bio bank in Pretoria.

ALEXIS: Are pangolin scales the same price as rhino horn?

RAY: It's not as expensive as rhino horn, but it's traded a lot more, because it is available more – so per annum, it accounts for the same amount.

ALEXIS: How are we going to deal with Cites and Appendix 1 in terms of local trade and subsistence harvesting?

RAY: So, we want to up list all 8 species - which includes the 4 African species - to Appendix 1. Then South Africa will have to fall in with up listing and legislation. And the spin-off from that will be probably stronger legislation, more jail time, and higher fines - if you're in possession of a pangolin, or its body parts.

ALEXIS: Even one pangolin?

RAY: One scale.

ALEXIS: So then, what about traditional use and the fact that this goes back generations and it's part of the culture?

RAY: The South African government, at the moment, has made it very clear that they support traditional medicine in this country very strongly. There is a council of traditional medicine practitioners, that sit (as a council) in parliament. Traditional healers get awarded a certificate of compliance, and they can practice legal trade. That, basically means, we haven't got a lot of say. If a pangolin is found in a muti market - too late. If it's found being transported, we have a say. So, once they're in any type of traditional medicine market or in possession of a traditional healer, it is authenticated, we have no say. We can't touch them. And if it has been prescribed to patients, so be it. But, if it's being moved, without permits, we have all the say. That is where it is. We have no say in traditional practice.

You will not be able to convict a traditional healer. Forget it. Don't even go there. It is not going to happen. But harvesting, and movement - yes...we've got a huge case.

ALEXIS: If it's just sustainability that's the issue, how are traditional healers and tribal people going to deal with it? The answers will be for them to come up with.

RAY: No - for us to come up with and for us to propose to them. We do get a lot of mortalities every year, road kills, electric fences...I do believe that we can make limited trade available to them.

If it is extinct, it is gone from their culture. That is HUGE. When they hear that, they get very upset. That's the message to get across. It's not that we're banning them from the culture - it's very important that the message is correct "we want to make it available to your culture, but please don't go and harvest live animals. We will make them available as a limited resource.

ALEXIS: So we supply them?

RAY: I think so.... I think it's the only way. We get dead ones all the time - we've got a bank of them. So, we can say "okay, we're giving you, as an individual - sign for it, here's your Cites permit, here's your trading permit, here's your personal permit - 5 scales, net weight: 800grams". Then he will prescribe a little bit of powder from one scale. You must understand, these things aren't used up quickly...one trader can have a skin for 5 - 10 years...he takes a bit of scale, grinds it up, says "okay, that's for my muti".

ALEXIS: And the fat and the blood?

RAY: That's very rare. That's traded in rural areas. We've found a few ampoules that individuals had and they'd paid a lot for it. That, we will not supply. No.

ALEXIS: What is the situation with the proposals for Cites? I'm aware that there's controversy around it.

RAY: We had 4 months to comment, and all the range states submitted their proposals. They were formulated into one proposal; it was posted onto Cites for global membership comment. It was a Wednesday, at 12 o'clock; the comments were going to close – after having been open for 3 to 4 months. And at 8 am on that day of closure, the Chinese came in, with a HUGE counter-argument. The final resolution from Cites was, "Right – these people from the People's Republic of China have made their statement / these individuals from the APWG have made their statements: now it will be tabled". That's where we are sitting. They hijacked us. So, it will now go to Cites

ALEXIS: They don't want it to go to Appendix 1?

RAY: No. No, no. I'm working with a Chinese Professor and we're launching a big South Africa-China research foundation. Busy with it right now, for next year. He is going to investigate, how many commercial Chinese medicine products are doing the rounds in China. I'm going to forensically identify how much of that product is pangolin scale – it's a muti – it's a mix. In Chinese medicine, it's always a mix. We'll use DNA, but I've got another very modern technique that we're going to use – spectrometer – to identify pangolin and the other species. Then I'm going to take pangolin scales of all 4 African pangolin species and I'm going to chemically analyse them for their components – the amino acids and their proteins. And then, look in the global literature to see if any of those components have ever been used in any medicine ever.

ALEXIS: And then try and exclude all African pangolins?

RAY: I want to get all 8 species excluded. And then to ascertain what is the scale of this commercial trade. How much do they want per year? And how much are they harvesting? So, from that, we'll be able to establish what the demand is and what's currently doing the rounds.

ALEXIS: But, in terms of the DNA of confiscations?

RAY: We don't have numbers. We've got numbers traded, but we don't have numbers on the ground. You see, the scales traded from Africa are picked up off the floor. So, with the bush meat, what they do is that they kill the pangolin by hitting it over the back of the head, then they boil it, then they de-scale it, then they put it on an open fire and sell the meat. The scales are lying on the ground – so the guys are coming and filling bags and those are the scales that are ending up in Hong Kong. Pangolins aren't being killed for their scales in Africa. They're being eaten in Africa, and the scales lying on the ground are being picked up.

That's going to change. Because the bush meat market trader is going to ask "why are you picking up those scales?" And the Asian guy is going to say "Well, I want them – for strong medicine". And the price will go up for scales.

So, the trade in bush meat is going to go out the window. But at this point, those scales are just being picked up off the floor as discarded.

The amounts of scales that are being confiscated are titanic. It gives you a clear reflection of how big the bush meat market in pangolins is. It's considered a delicacy. If you're prepared to pay \$10 - \$15 for a pangolin and you only earn \$1 a week – you can understand that it's a luxury item. It is middle to upper end income Africans that are buying. The guy on the ground can't afford pangolin – so he goes for a duiker and a cane rat. It's a luxury delicacy in Africa. They will be actively hunted for their scales soon. But, they aren't now.

ALEXIS: What do you think will happen if there is an up listing?

RAY: I think it's going to be very difficult to move scales out of ports. And it's going to become a type of rhino-horn, underground thing. Rhino horn is very rarely shipped by container now, it is moved via hand-luggage, it is cocaine and heroin-ised – strapped to your body. Scales are going to move into that realm, it's going to become more difficult to move. And then it's going to become more expensive. And very valuable

We want the laws to be put in place, but at the same time, you are making it more valuable, more rare, and more expensive and you're making it a luxury item to get hold of. So, if you ban something and you make it illegal, it's got its negative impact. In saying that, I still feel we need to up list them.

ALEXIS: And do we have enough information, enough data to up list them?

RAY: They should be up listed – we've got the trade figures, but against what backdrop? We don't know how many there are on the ground. How many pangolins are left? We can't answer that. That's why we're doing the white-belly project in West Africa next year. By the end of 2018, I will be able to give you population estimates of white bellied in Africa.

ALEXIS: How long do they have?

RAY: 20 years. In 20 years, they're in huge trouble. At this current rate.... 20 years is not a long time. 20 years is in my lifetime.

ALEXIS: What are our reasons for protecting pangolins? Are they important for our global ecosystem?

RAY: No – not really. There are a lot of scientists, lay people, conservationists, biologists, people like you who are passionate, that want to find that thing we learnt at school 'that every organism is critical to the integrity and health of an eco system'. Pangolins eat large volumes of ants and termites and they make a huge impact on ant colonies and termite colonies, where they are. But, I don't think that if they disappeared that they would cause ants and termites to become so feral that they'd take over eco systems and destroy them.

ALEXIS: In the rainforest?

RAY: They may have a certain evolutionary link to arboreal ants that only live in trees. We have found that in the Kalahari, pangolins are quite specific about eating only certain species of ants and termites. So, yes – on certain species of ants, it will make an impact. I don't think they have a huge role in stabilizing or de-stabilising any particular eco-system. Unfortunately. They're an ancient animal, going back 87 million years, coming from certain parts of Europe and then evolving into Asia and then into Africa – they are related to cats and felines. It's more of a mystique animal than having a huge role in the eco-system. But in Africa and Asia, it plays a far greater role in customary belief systems.

ALEXIS: So, why are we trying to protect them?

RAY: I think that every species has got the right to live. It is as simple as that. I think it's our responsibility, and if they die on our watch, it's our fault. Any species. We can't individually save the world, but we can try and save one species. If pangolins go extinct, that's because of humans.

ALEXIS: In terms of the museum of life, the natural history that we are custodians for.... is that what it is?

RAY: Absolutely. And we're losing an estimated 100 species a day.

Pangolins have an impact on biodiversity and are a very special animal – not one aggressive bone in its body. If we can all be like pangolins, wouldn't it be a wonderful place?

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