

DX expedition to the Democratic Republic of Congo, 9Q2WX

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The Democratic Republic of Congo is a country in central Africa. It's the second largest state on the continent (after Algeria) and the eleventh largest in the world. With 97 million inhabitants, it's the fourth most populated country in Africa (after Nigeria, Ethiopia and Egypt) and the fifteenth in the world. The country's official language is French, which makes it the largest francophone region in the world. The DRC is also one of the world's richest countries in terms of its mineral reserves: it holds the world's largest deposit of cobalt, which is used to manufacture electronics, and significant amounts of diamonds, gold and copper. This is also why the north and the south of the country are locked in a perpetual state of civil war between rebel groups and government forces.



The idea to embark on a DX expedition in the DR Congo first came up in February 2023 when Elvira IV3FSH and I were in Burundi (DX expeditions 9U5R and 9Q2WX) near the border with the DRC. The city of Uvira, which is located on the Congo side of Lake Tanganyika, was only 30 km away. Elvira in fact already had a valid licence for the DRC, which I applied for as well. At this time, however, Uvira was unfortunately one of the many dangerous places in the DRC (second only to the infamous city of Goma) where the M23 rebel group was operating, occasionally making intrusions into Burundi to fire at the local airport. After consultations with the local authorities and the Italian consulate in Bujumbura, we decided to pass on the idea of continuing our DX expedition in the DRC.

So I decided to prepare a single operator DX expedition for September 2023, just before the rainy season, in the safer region of Bombala, which lies north of Kinshasa. In April, I received my 9Q3WX licence and officially announced the dates: 15 August – 3 September 2023. In the meantime, I started to look for a corresponding

QTH, which turned out to be the biggest obstacle. In May, my friends from Kinshasa told me they didn't consider the chosen location to be safe, because last autumn, violence erupted in Bandundu, the capital of Kwilu Province, and the rebels killed 140 people. Another 2,600 saved their lives by fleeing across the Congo on canoes to the neighbouring country.

For this reason, I decided to apply for a change of licence to 9Q2WX in the province of Bas Congo, which is south of the capital. This eventually succeeded. It turned out that I was the only station in the history of the DRC to operate under 9Q2. The vast majority of expeditions worked directly from Kinshasa as 9Q1, a few as 9Q5 and 9Q6, but never 9Q2. The overwhelming majority were foreigners. Even though the DRC has issued 23 licences (in a country of 97 million people), the most recently active station was the ARAC National Association's club station 9Q0AR with Robert 9Q1RE and Kahu 9Q1KS (the President and Vice-President of ARAC).

The search for the right QTH started again, this time south of Kinshasa. For safety reasons, I was looking for a very remote location with enough room for the antennas, a supply of drinking water and food, electricity and an internet connection. The last two items proved to be the biggest weaknesses of the selected spot, which was a family farm bearing the proud name of Ascado Eco Lodge in the valley of the mighty Congo River, overlooking the neighbouring Republic of Congo.

My journey to the DRC began on 17 August in Vienna on board the Ethiopian Airlines flight to Addis Ababa in a modern Boeing 787 Dreamliner, the first plane in the world made primarily of composite materials. The plane was half empty, which is probably why Ethiopian were offering business class tickets in an auction far below the usual price. I persevered and at the last minute, managed to buy a business ticket for a fraction of the price for the entire trip, including the next leg to Kinshasa, where I continued after a six-hour wait in another Ethiopian Airlines flight on board an Airbus 350. Because in business class, you can take three suitcases with 23 kg each instead of the usual two, I paid for all my 120 kg of luggage only 600 USD extra, which was a bargain hi (the 135 cm long ALU mast with tripod, 5-band Spiderbeam and full anchoring weighs exactly 32 kg).

But that was my last taste of luxury for quite a while.



Compared to Addis Ababa Bole International Airport, Kinshasa International Airport is like stepping into

another world. The runway is bumpy and full of patches; everything is broken down, worn out and barely works. Here I understood why it's not recommended to fly domestically within the DRC, because the local airlines have some of the worst safety profiles in the world. That was also one of the reasons why in my search for the QTH I ruled out a comfortable and safe resort on the Atlantic coast, which is some 860 km from Kinshasa. The journey by car would take over 30 hours and by plane would be far too risky.



Another thing that strikes you upon landing in Kinshasa are omnipresent soldiers with machine guns. They're not a rare sight in Africa generally, but here you see them literally everywhere and can't shake the feeling that something bad is about to go down. The DRC will hold elections in December, which has so far in the country's history always meant violence and military coups.

That was also the official reason for the change of plans in Silvano I2YSB's expedition (9Q1AA, 9Q1ZZ), originally scheduled to start in Kinshasa in September but then moved to July.

Unlike in Burundi, where I had extensive documentation for the import of equipment, applied for months in advance, in the DRC everything is handled after arrival and fully depends on the arbitrary ruling of the local immigration and customs officials, all corrupt to the bone. After several discussions with the customs officials, my local team agreed on a fee of USD 450. But in practice, everything is eventually decided on the spot, regardless of what was agreed.

When I arrived on the afternoon of 18 August, the small arrivals hall was extremely chaotic and I was slowly getting desperate I would never see my bags again. Thankfully, I was wearing a T-shirt with 9Q2WX on in capital letters, and so someone from my support team quickly found me and took charge of the search for my luggage.

After two hours, he found the first suitcase, and I thought that the worst was over. It was not. After another hour, two more suitcases appeared, but the crate with the mast and antennas was gone, even though the plane had been fully unloaded. Luckily, I had a wire antenna for 80 m and a vertical for 30 and 40 m in one of the suitcases, so I was coming to terms with the idea of working only on lower bands. In the end, it turned out that the local authorities saw the size and contents of the crate as suspicious, and were examining it in the customs warehouse. Five hours after arrival, and many discussions and X-rays later, I found myself with all my luggage in front of the airport hall where a car was waiting for me with a driver and with Robert 9Q1KE and Kahundira 9Q1KS. To leave the airport, which is armed to the teeth, we had to pay the local soldiers a ransom of USD 100 and could finally embark on our 80 km journey.

I managed to buy a local SIM card at the airport, so I fired up Google Maps and was looking forward to arriving at my destination after about 3 hours. I told the driver and he only smiled and explained the traffic was bad. I've been to 76 countries. I have crossed Kenya and Tanzania in a jeep. But traffic in Kinshasa was the worst thing I have ever seen. Old trucks were pressing forward, regardless of any instinct of self-preservation, and pushed smaller cars off the road, demanding right of way because they're bigger and stronger. Clouds of black smoke poured into our car and I had to learn how to breathe like a diver: just inhale, hold and wait. This would be completely unthinkable in Europe.

Kinshasa has 12 million people who live, work and do business even in close proximity to roads, which are mostly dirt. Young people keep coughing, have no idea what their lung X-ray would look like and there's no cleaner air alternative anywhere in the city.

After driving some 30 km, we got stuck in completely clogged traffic for two hours. Because I knew we were going to a secluded farm on the Congo River, I kept telling myself things would get better once we leave the city. But I didn't know what kind of terrain we were going to drive through. Once we left the road behind, we were well and truly off road. Our jeep had a locked differential for maximum traction, but still we repeatedly drove over sharp inclines and into huge holes, so some of our wheels were in the air and the others struggled to find purchase in the brown-red dust. I held on to anything I could and bounced around the car. During rainy season, this terrain would be completely impassable. After seven hours, around midnight on 19 August, we finally reached the destination: the Ascado Eco Lodge. I silently apologised to my patron Kahundira who had been looking for a QTH



for me. He had to go through this once before when he went to check out the situation on site and arrange everything.

After a short welcome and after I received the necessary supply of bottled water and moved into my room, I fell asleep like a log.

On the second day, 19 August, I started exploring the site and its possibilities. I had had some idea from satellite maps and the photos sent by Kahu, but as always, reality was a bit different.

First of all, the promised internet connection wasn't there, so keeping an online diary was a pure utopia. One after another, I tried SIM cards from all three carriers in the DRC, and even one from the neighbouring Republic of Congo, but none had any signal here at the "end of the world". Throughout the expedition, I walked many kilometres up a steep hill with a laptop in hand so I could upload the diary for the previous day to servers in Italy. Even though we said so repeatedly on our website, there were many hams who complained they were not in the log a few hours after they connected.

I stayed in a valley, quite close to the river, open to EU/NA and South America, but uphill to JA/VK/ZL, so I started looking for other places higher up the hill. The family farm was large, with extensive orange orchards, but unfortunately most of the buildings up the hill were adobe and without electricit



Ultimately I chose the largest bungalow with two bedrooms and bathrooms, which I of course had no need for. But it had a good position and enough room for the antennas, set as far apart as possible. Water ran only occasionally, always cold, and at night I had to make sure everything was sealed tight because of mosquitoes, spiders and snakes, so my closed ham shack with no air conditioning ran quite hot at night.

There were about five bungalows on the farm, clearly long unoccupied and neglected. Helping me was Leonardo, a chef and waiter in one, who cooked simple meals. Rice, beans, chicken, fish. He had two kinds of local beer, not very drinkable, which is brewed in Kinshasa under a Heineken licence. Early on, he also offered a few bottles of imported French and Portuguese wine, which I eventually drank. No coffee, sugar or other alcohol. Whenever I wanted to go further inland to get some exercise, I was always accompanied by someone wielding a machete.

I regularly applied various repellents from the Centre of Tropical Medicine with guaranteed DEET content, but they didn't do anything. I was bitten all over. Every day I took antimalarial medicines and probiotics. The DRC requires yellow fever vaccination, to which I added vaccination against hepatitis, pneumococcus, dengue fever, cholera and typhoid.

Unfortunately, the farm didn't have a workshop or any tools they could lend me, so even finding a number 17 wrench or an extension cord for soldering a broken lead to the wire antenna was a problem.

The first thing I did after unpacking all suitcases was to set up both verticals for 30 and 40 m and lead the radials and coaxial cables to the ham shack. On the first evening, I was pleasantly surprised that with the exception of QRN, there was no interference from LED lights on 30 and 40 metres in the region, so it could be expected there wouldn't be any on the upper bands, either.



Because the vegetation was low and there was only one tall tree around, I decided to stretch the dipole as an inverted V with an axis of 0 degrees north, pointed directly to the EU. The top of the antenna was unfortunately only 10 metres high, because there were no trees taller than that.

Time passed quickly. Soon it got dark, which meant the mosquitoes came out and with them the risk of malaria. I was still tired from the long journey and the UV light on the equator is intense even if the sky is cloudy, so even with 100 SPF sunscreen, I could only spend a limited amount of time outside.

On the next days, 21 and 22 August, I finally set up and anchored the 5-band Spiderbeam, and after several attempts managed to tune it with SWR under 1.5, with the exception of 24 MHz where I had 1.9



Because there was no one at the resort besides the chef and the manager, I did most of the work by myself. If you've ever tried to raise a Spiderbeam in the wind solo without holding at least two anchors, you know how tough it can be.

At that time, I still didn't know we were on a typical off-grid island and were making all our electricity ourselves by a small hydro turbine. On about the fifth day, still clueless, I noticed that if I broadcast for more than 10 to 15 minutes with PA, the hum in my headphones starts getting stronger, then I get a bang, the linear switches off and the radio resets. At first, I thought it was some stray high frequency from imperfectly grounded equipment, even though I had my favourite galvanized rod 70 cm deep in the ground. I followed advice from Italy and the Czech Republic and put ferrites everywhere, connected the grounds wherever I could, but nothing helped.

Eventually the local "engineer" took me to the small hydroelectric plant and my jaw dropped.



Everything was mechanical with no stabilisation anywhere.

When the water flew well, the grid had 230 V and maybe even 50 Hz. But at lower flow rates and generator speeds, the voltage and frequency in the island system started to fluctuate. First, we tried to solve the problem by accumulating water in the upper part of the pumping tank by closing the inflow to the turbine and switching on the petrol power generator. The condition of the generator and limited stock of fuel led to first serious arguments, because the South African manager insisted that the old generator could only run for two hours a day and because the delivery of petrol takes several days. Downtime caused by the unstable power grid of course led to delays, and so did the repeated uploads of the log, caused by internet outages during data transmission.



For this reason, I often only used 100 W on the upper bands, and at night, I broadcast on 40 and 80 m with PA at 800–1000 W running from the generator. The situation also fluctuated a lot; on some days, the grid was in a better shape than on others, where a few calls led to a collapse of the whole system. Because I didn't have internet access, I couldn't announce a spot on a given frequency. This was particularly noticeable on the lower bands, until someone discovered the weak 100 W signal on 80 or 40 metres and put me in a cluster.

I was very surprised that I didn't have to turn the Spiderbeam from its stable 0 degrees to EU/NA even to reach JA stations, which were coming on 20 and 17 metres in great strength on CW and SSB, even though they were effectively outside the antenna's main beam angle. Perhaps they were helped by the giant surface of the Congo River, which glistened like a mirror at sunset



The river comes directly from the north and the antenna was pointing in the direction of its flow.

Only in the morning, at 7–8 UTC, I rotated the antenna to 90–100 degrees, particularly on 12 and 10 metres, for VK/ZL. The Spiderbeam has two directors here and a slightly narrower radiation pattern.

After 00.00 UTC, the European pileup on 20 metres was replaced by an American pileup with many strong stations, including W6, KH7 and KL7.

On the other hand, I was disappointed by the traffic on 80 metres. The Inv Vee antenna hung 10 m high clearly performed worse than the 80 m delta loop hung on a palm 32 m high on my DX expedition 5H3WX. I was clearly missing a Beverage for listening and a vertical for broadcasting. But the 80 m band is not ideal in the summer, and I didn't expect to see much traffic there in August. The experience I had with queues of JA and W6 stations at 80 and 160 metres on 9U4WX and 8Q7WX in February did not repeat itself.





Not to mention that the bazooka tore off in the wind, in the place where the shorted coaxial cable with the soldered wire was fixed. The repair turned out to be a lot more complicated than it seemed at first. My little 30 W soldering iron for circuits couldn't heat the joint properly, so we opted for an "African-style crimp". All you need is a small copper tube, into which you lead the two ends of the broken wire, and a big hammer. The antenna continued to serve until the end of the expedition.

At least I made many JA and K stations on 80 m FT8 happy. Both quarter-wave verticals on 30 and 40 metres also performed excellently, both CW and FT8. In the times when I had an internet connection, I was in the right time window for JA,



and communicated with Hiro JA4DND in Tokyo over messenger. He gave me online reports on how the conditions were changing, what was my readability in dB and how many streams I should let on FT8 to make connections possible.



Unfortunately, I have once again seen that the rule of "listen first, then call" is completely forgotten these days. As usual, the Southern European and Russian stations were the worst; they keep calling all the time, regardless if there's a connection in progress. It's impossible to finish a connection even after a station repeats its call sign many times, because it's literally wiped out by ten other reckless callers. This was particularly problematic on the SSB; a split of 5–10 was often not enough to maintain a reasonable QSO rate. Jacek SQ8GKU sent me a nice video of the pileup from Poland, which he put on YouTube. On CW, I used the narrowest filter IC7300, which required constant retuning to be able to hear the entire call sign in one second. My QSL manager Antonio IZ9CCW has a good term for this: "ZOO as usual".

On Monday 28 August, a bush fire started not far from us, and the fire was spreading toward my QTH. I stood on the terrace, watching the flames and wondering whether to start packing my radios and PAs or just run straight to the river. The locals, however, were perfectly calm.



Later I found out that something was on fire all the time here and no one really cared. Time passes slowly. People sleep after lunch. No one is in a hurry. The only person running back and forth was me, trying to upload my diary whenever I had an internet connection.

After the experience I had during arrival, I started planning my departure. It was clear that I needed to go to Kinshasa at least a day before the flight leaves, and given the traffic in the city, would need a hotel near the airport. Kahu 9Q1KS promised he would come the day before to help take down the Spiderbeam, and I promised I would let him have it to support amateur radio in the DR Congo.

Because punctuality is not considered a virtue in Africa, I actually started dismantling the Spiderbeam a day earlier, on the afternoon of 8 September, so I would be done before dusk. For the night, I kept only the antennas for 80, 40 and 30 metres and the last night worked only on the lower bands.

Kahu arrived on the next day, 9 September, before lunch and together with Jeff, my "engineer" from the power plant, started packing the disassembled Spiderbeam into crates. I also gave Jeff a small cheap multimeter, which for him was worth its weight in gold. I also promised Kahu an older IC7300 which had returned from Burundi all battered because the suitcase got torn along the way. But it's fully functional and already up and running in the Kinshasa radio club.



The trip back to Kinshasa only took 6 hours. At the hotel, I had my first opportunity in more than three weeks to take a hot shower and wash off all the dirt.

The plane was leaving on the next day, 10 September, in the afternoon, but my team decided we would go to the airport already at 8 a.m. They knew why. You would think that leaving the country would be easier than coming in. But you would be wrong.

In the DRC, you don't just arrive at the airport and check in. On the way in, there were several inspectors who carefully examined all documents for a very long time. I had with me 5 people from my team, who after much discussion managed to get me past the second check and to the luggage inspection. They wanted to know what I had been doing in the DRC and what all the wires were for; then they inspected my documents again. My escort patiently explained everything in Lingala, of which I don't understand a single word. I just watched their facial expressions to try and guess whether things were going favourably for me or not. I was particularly worried they would ask for exorbitant bribes. After the third check, I was accompanied by just one bribed official who took me to the scale where I had to pay for the extra weight. Only then could I continue to check-in. As a bonus, I received a Priority sticker, which gave me hope that I might be reunited with my suitcases in Europe after all.



I also had to pay the official departure fee of USD 55 on the other side of the hall, which required standing in a queue for an hour. Believing that this part was over, I finally made my way to the immigration checkpoint with barriers and handed over my passport for inspection. The army immigration officer kept looking at my passport, examining it and asking questions full of suspicion and mistrust. Where exactly I had been, what was I doing in the DRC, what was my job and other questions like that. I had to write down the name of the farm on a piece of paper and point to it on a map, all the time expecting to be arrested. I don't know why, but I remembered the scene from Argo in which people from the Canadian embassy disguised as filmmakers are trying to get out of Iran.



When I finally made it to international transit, I started to believe I would actually get to leave the Democratic Republic of Congo. The next morning, on 11 September at dawn, the Boeing 787 Dreamliner from Ethiopia landed in Vienna. After 18 hours of travel, I was home.

A total 26.911 QSO were made, of which 10.601 CW/SSB and 16.307 FT8. Total 6 continents, 32 CQ zones, 38 ITU zones, 131 DXCC countries and max QRB 18.003 km.

QSO by Band/Mode					
	FT8	SSB	CW	Total	%
15m	4040	1821	1225	7086	26.3%
30m	2522		258	2780	10.3%
10m	2509	837	1126	4472	16.6%
12m	2301	544	954	3799	14.1%
40m	1700	13	370	2083	7.7%
20m	1668	985	823	3476	12.9%
17m	1275	668	926	2869	10.7%
80m	292		46	338	1.3%
Totals	16307	4868	5728	26903	

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