Tales from West Papua

When I was a child I used to spend hours looking at mammal books of animals from all around the world, and reading travel accounts of explorers or naturalists. One country that always fascinated me was Papua New Guinea. With its remote rainforest covered mountains and mysterious hilltribes, it seemed impossibly exotic. And yet, to the west of Papua New Guinea lay a land that was, if anything, even more remote and inaccessible. Known at the time as Irian Jaya, it constituted the Indonesian owned western half of the island of New Guinea. Closed to foreigners and tourists until recently without a special permit (which was seldom given), very little seemed known about the mammals of that area. The wildlife books I looked at showed large areas with few or no records, and when I spoke to researchers working in PNG, they would whisper longingly about the country and what species might occur in its remote reaches. It was the wildlife equivalent of the old maps of Africa where the interior of the continent was labelled with the tantalising warning 'Here be dragons!'.

So when my fellow podcast co-host Jon Hall, the world's top mammal lister, asked if I wanted to join him on a trip to West Papua, I didn't hesitate. He had been planning this trip for several years. For him it represented the last remaining large region on the planet where practically every mammal he would see would be a new species for him; such indeed are the drawbacks of having a mammal list exceeding 2000 species. Our main concern about the trip was how we were going to actually find the mammals. There are very few true National Parks on the New Guinea archipelago and most of the land is community owned where mammals are heavily hunted for meat. This means that they are typically rare and highly elusive. Add in the fact that most of the species are nocturnal and it became clear why exceedingly few mammalwatchers have ever visited New Guinea to look for mammals. I have met researchers who have spent years living in Papua New Guinea and only ever seen a handful of large mammal species. While birdwatching in New Guinea is considered some of the hardest in the world, at least birders can resort to using call-backs to bring in the birds, or watch them at baited hides. Neither of these approaches work for mammals so we would have to rely upon on other methods.

Fortunately we had two secret weapons to assist in our quest. The first was a Spanish bird guide in his mid-30's called Carlos Bocos. A larger than life character, Carlos had been guiding and living in Indonesia for several years, and knew the country intimately. I am fairly certain that Carlos fell into a cauldron of magic potion when he was a child, ala 'Obelix', as he had boundless energy, seemed to require very little sleep and was unceasingly enthusiastic. Fortunately for us, Carlos, despite being one of the world's top bird guides, was also a true mammal enthusiast. Over the years he had accumulated a deep knowledge on the mammals of West Papua - often painstakingly gathered after his birding clients had gone to bed – and, perhaps most importantly, had built a wonderful rapport with many local Papuan guides. This trip was his opportunity to test how successful a dedicated mammalwatching trip to the region might be.

Our second weapon was a bit more prosaic. Jon and Carlos had put together a team well versed in using thermal imagers to find mammals. Given the nocturnal nature of most of the mammals we were looking for, the thermal imagers, which pick up heat signatures and, unlike torches, don't require eyeshine, were going to be a critical tool to help us find animals. We were joined on the trip by Ian Thomson, a good-natured and unflappable Canadian doctor who had travelled regularly with Jon, Nils Bouillard, a Belgian bat echolocation specialist who had recently completed a big bat year, and Vencat Sanker, an American PhD student

with an astonishing ability to identify small mammals simply from text memorised from scientific papers and field guides. For the second part of the trip we were also joined by Juliana Senawi, a pleasant and convivial university lecturer from Malaysia, who specialised in bats.

Our trip would start with a week in the Arfak Mountains in the north-east of the Volgenkop peninsula, after which we would spend a week in the lowland forests near Sorong, and finally two nights on Waigeo island. The Arfak Mountains derive their name from the fact that they're 'Arfak-ing' long way from anywhere. To get there I flew 3 hours to New York where I met Jon, then 15 hours to Hong Kong, and 5 hours to Jakarta. After a 9 hour layover in Jakarta, we left at midnight on a 2 hour flight to Sulawesi followed by a final 2 hour flight to Manokwari. By the time I got to Manokwari, a sleepy town on the coast, I didn't know which way was up or down. Fortunately we had that day to sleep a bit and purchase some supplies.

The following morning we were up at 3.30 am to drive to the village of Mupi Gunung and start the climb up to the site where we would be staying for the next 6 days. I knew about the climb of course. Jon had blithely mentioned in an email that it would take around 8 hours or so, although the only birding report we could find to the area mentioned that it was 'remarkably strenuous'. But we comforted ourselves with the thought that the birders were probably older and more decrepit than us, and, besides, how hard could it really be? We found out soon enough. Twenty minutes into the climb I realised that my 'training regime' which had consisted of dragging a glacially-paced corgi around a small park twice a day, had some major flaws in it. The first two hours were a steep and arduous sweat-filled climb through thick forest, after which the path fortunately flattened out a bit for the next two hours as we criss-crossed a largish river using fallen tree trunks. At the final river crossing we stopped for a quick dip in the water to cool down. 'Where do we go from here?' I asked Hans, one of the village headmen and our principal guide. He pointed to the steepest part of the mountain and said gleefully 'Now we go up, up, up.' He wasn't kidding. At some points the path was so steep that the villagers had strapped together makeshift railings out of bamboo that we could hold onto and use to hoist ourselves up. We staggered up, sweating profusely and taking increasingly frequent stops to catch our breath. We even had a few leeches crawling up our legs to add to the general merriment. This went on for four hours. By hour eight the thought occurred to me that it was no surprise that there were still large mammals up there as you would have to really, really want to hunt one (or see one) to drag yourself all the way up there.

After eight and a half hours we finally emerged into a small clearing and discovered, to our astonishment, several wooden huts and a white church! Someone must have been really, really keen to have built a church that high up the mountain. That said, I had assumed that we would be camping in the mountains, so having wooden structures to sleep in felt slightly luxurious. Three of us ensconced ourselves in the church and the others in one of the cabins. Apparently the huts and church were here because one of the families in the local community had been living at the site until about ten years ago, when they decided that life would be more comfortable down by the main road close to the beach. Can't say I blame them. The community members would use the settlement every so often either when patrolling their land or on the few occasions that they had some visiting birding tourists. The area had several display sites for both lesser and black sicklebill birds of paradise, which attracted some very intrepid bird watchers, although the guest book suggested these visits were very infrequent and none had visited since COVID began.

The community had turned out in force for our trip. At any one time there were at least 30 people in the camp. There were guides, porters, elders, cooks, children of all ages, hunters with dogs, and at one point even a pig materialised, although we weren't sure if it had been brought up the mountain or if it was a young wild boar that they had caught around the camp. The community members were wonderful, although for some reason they all seemed to wake at 5.30 am and would talk and holler loudly in the camp. Not so great when we were going to bed in the wee hours, but we were generally so tired that we slept through the racket. During the day we hung around camp eating and chatting, and waiting for dark. At this point I should say something about Papuan food. Actually there's not much to say other than it's awful. Our meals consisted of boiled white rice, spicy ramen noodles, boiled water spinach, some tomato and onions in water, and occasionally a plate of sardines (which neither Jon, Carlos nor I eat) or some very tough chicken. This combination was repeated for breakfast, lunch and dinner, day after day after day. Eventually we came to subsist mostly off chocolate cookie snacks and white bread laced with peanut butter, purloined from the stash we used to bait the traps. Suffice to say, the meals were not a highlight of the trip, and should anyone ever invite you for a meal at a Papuan restaurant I suggest you start second-guessing their intentions.

Once the sun had set that first evening we went for a short, two hour walk along one of the paths close to camp. Our modus operandi was to walk about 20 meters and then stop and scan with our thermal imagers. We would scan up and down the trees ahead of us as well as side to side, and occasionally look backwards to make sure we hadn't missed something. Walk, stop, scan. Walk, stop, scan. When someone located a heat signature, they would call it out (sometimes using a laser pointer) and the rest of us would try to get on it with our imagers. We would then transition to getting the animal in the light of a torch, after which someone would take a quick photo or two for identification purposes in case the animal took off. Most of the animals would sit still in the light at which point everyone who wanted to could take photos. Usually we also had two or three local guides with us who would walk about 50 meters on either side of us if the terrain allowed, or behind us using spotlights to locate animals. This combination of spotlighting and using thermal imagers was extremely effective in helping us find mammals. On the first night, before we had even left camp, Jon had already spotted a Sugar glider, a small rodent sized animal that closely resembles a flying squirrel. After that the animals came thick and fast. We saw an Arfak ringtail, a small arboreal marsupial with a long, partially hairless prehensile tail that is endemic to the Arfaks, a feather tailed possum (a rat sized possum with two lines of short hairs along opposite sides of its tail), and a striped possum, an attractive black and white animal with dense fur and a thick, bushy tail. We also saw a couple of bat species, including the impressive Dobsonia fruit bat, a large, dark bat which made a characteristic whooshing sound with its wings whenever it flew by. By the end of the walk the realisation began to dawn on us: we were going to see many, many great mammals in Mupi Gunung.

Our top target in the Arfaks was the Vogelkop or Ursine Tree kangaroo. There are about 14 species of Tree kangaroos across New Guinea and Australia, and, as the name suggests, they are kangaroos that have transitioned to being mostly arboreal. Any large mammal in New Guinea is a prime target for hunters and as a result the majority of the Tree kangaroo species are either very rare or very difficult to see, or both. Carlos had specifically selected this site because the local community did not hunt the Tree kangaroos (or at least not much), and there had been several sightings by birding groups in the area in the past. Carlos figured our best bet to see one was to have the hunters track them down, so during the day several hunters would head out to search for them in the forest, sometimes using their dogs to help pick up

the scent. On our second day at the site, we were sitting around camp when we heard a loud yodel from the forest above us. Immediately the camp, which had been fairly quiet until then, exploded into life, with people running around and people answering with their own loud whoops. This could only mean one thing - someone had found a Tree kangaroo! Apparently the animal was a 45 minute walk away up a hill, so we grabbed our equipment and made our way up to the site. Once we got there we found several villagers sitting close to the base of a tree about 7 meters tall. Peering down at us from the upper branches were two adorable looking animals, with teddy bear-like faces. They had long, sleek black fur on their backs and tails, with creamy white bellies and a white collar around their necks. One animal was larger than the other and we surmised that it was a mother and her sub-adult offspring. We could clearly see their long, powerful claws that they use to climb and cling onto the tree trunks. These were the first kangaroos or wallabies of any description that I had seen and I stared at them, fascinated. As Jon put it (though in slightly more florid terms), it was a bit like going out on your first ever date with a supermodel. Trust me, I wasn't complaining. As we watched them, the villagers, who's numbers had now swelled to about 15 people, started cutting down some of the surrounding trees to give us a better view and shouting excitedly to each other. Full marks for enthusiasm, and clearly they were very eager to please us, but the commotion was obviously disturbing the kangaroos, so we decided to move on and leave them in peace.

A couple of days later we had a far more satisfactory encounter with the same species. On our evening walk we set off up the mountain and after about 40 minutes we reached an area where the ground flattened out. Here we found an enchanted forest. The trees were simply magnificent; huge and ancient, with enormous trunks that rose high into the sky, and vast, sinuous crowns. Abundant fern trees, up to five meters tall and perhaps 50-60 years old, adorned the lower canopy, giving the place a distinctly Tolkein-esque feel. The mammal life was similarly spectacular. Every five to ten minutes we were stopping to look at another species, with ringtails, cuscus, bats and rodents abundant. After about three hours of walking, Venkat called out that he had a couple of animals in his thermal scope. Looking up in the trees where he was pointing I saw what appeared to be a fairly large animal, though it was slightly blocked by the vegetation. Moving position slightly I gasped: in the thermal I could clearly see a long tail hanging down, and that could only be a tree kangaroo. We had stumbled across another mother and sub-adult which were sitting quietly in the lower branches of a tree. The animals were extremely calm and allowed us to manoeuvre to within a few meters of the tree, looking down at us with a perplexed expression. We were thrilled to have found them, proving that our method also worked for the larger species, and it was wonderful to see them so relaxed and unconcerned with our presence.

Once we had finished watching the Tree kangaroos, our guides suggested that we took a shortcut up the slopes to gain some altitude so we might find another interesting mammal, the Stein's cuscus, which typically occurred at higher elevations. This turned out to be a mistake. With the guides up ahead, cutting a path, the trail became increasingly narrow and steep, until we were eventually crawling on hands and knees up a very muddy and precipitous mountain slope, getting savaged by Rattan thorns that we grabbed for support to stop us slipping backwards. After 90 minutes of stumbling and swearing we eventually reached the intended path, only to find that somehow we'd somehow only gained about 100 meters in altitude. Tired and soaked through with sweat, we had little choice but to head downhill on the treacherously steep path back to the camp. Oh well. I guess you win some you lose some.

The Arfaks were turning out to be a magnificent place for mammals. We saw three species of Ringtails, two species of cuscus, two species of bandicoots, and many species of rodents including what may be a new species of mouse. And then there were the bats. There were Tube-nosed fruit bats with green-tinted wings and fluorescent ears, looking like a prom queen who went a bit over-board with the glitter. We found tiny Mosia bats that snuggled 4 or 5 animals tightly together in a row under large leaves. There were also Syconycteris or blossom bats, tiny little fruit bats with long snouts, that we came across frequently as they stopped to catch a breather on the lower branches of trees.

What I had not realised during our email discussions prior to the trip, was that the village of Mupi Gunung was also home to a second species of tree kangaroo, the Grizzled tree kangaroo. We had planned on targeting this species in the lowland forests during the second half of our trip, but the community assured us that they were relatively common in their area and that we would have a good chance of finding one. And once again the Arfaks didn't disappoint. The evening after seeing the Volgenkop tree kangaroos we returned to the area with the huge trees which had proven so productive the previous night. There were plenty of cuscus in the area and we were examining each one carefully in case we stumbled across a Stein's cuscus at a lower elevation than usual. We were already heading back to camp when my thermal imager lit up with the heat signature of a large mammal in a tree. We made our way rapidly towards it and, to our great joy, discovered two Grizzled tree kangaroos sitting half way up a large tree. These animals looked more 'kangaroo-like' than the teddy bear Volgenkops. They were larger and had powerful rear legs that looked more suited to living on the ground than in a tree. Once again we'd come across a mother and her sub-adult offspring, and just like with the Volgenkop's, they simply sat watching us curiously as we shone our torches at them. The mother had a speckled grey back and tail, white underparts and a black face. When Jon posted his pictures of the animals online, Fiona Reed (a renowned mammalwatcher who had been due to accompany us on the trip until she damaged her knee), noticed that there was a little ear sticking out of the mother's pouch, so there were in fact three animals present. Seeing one species of Tree kangaroo was feat enough. Seeing two different species within two days was practically unheard of. The village of Mupi Gunung was turning out to be a mammalwatching paradise.

Aside from the Tree kangaroos, my other highlight from the Arfaks was a fascinating encounter with a ground cuscus, a large cat sized marsupial with a prehensile tail. Most cuscus are predominantly arboreal, but the ground cuscus typically sleeps in burrows on the ground and consequently has huge front feet and claws for digging. This species was high on all of our lists of wanted species. We had been walking along a path not long after dark when one of the guides called out that he had found something. When we arrived we saw a large grey cuscus high in a tree, peering down at us. As we circled the tree taking pictures, one of the guides tugged on one of the tree branches. What happened next left us all stunned. The cuscus launched itself out of the tree, arms spread-eagled in a belly flop, and hit the ground with a solid, reverberating thud. My first thought was that we had somehow knocked it out of the tree and it had fallen to its death, as it had been high up in the tallest branches. Yet the moment it hit the ground, the cuscus took off running, outpacing the guides who tried to catch it and disappeared into the undergrowth. Wow! Clearly this was a clever behaviour designed to escape from predators, presumably the large New Guinea Harpy eagles that live in that area that would happily prey on a portly cuscus. It certainly gave us all a considerable shock.

After 6 nights it was time to leave Mupi Gunung. Frankly I think we could have profitably spent at least another night or two in the area as we were still seeing new species on every walk. There is no doubt the area is very special. The forest is pristine, you wake up every morning to the sounds of birds of paradise calling, and the density and diversity of mammal life is remarkable. It's probably as close to a non-hunted area as you are likely to get in West Papua, and the mammalwatching certainly rivalled some of the best forest experiences I've had in Africa. The downside is that it takes some effort to get up there - and down again. Some of the paths that skirt along the edges of rivers or ravines can be quite steep and treacherous and you really need to pay attention to where you're stepping, particularly if it's wet. We fortunately only had one afternoon of rain, but rainfall is one of the big variables in that part of the world and Carlos has had trips where it rained uninterruptedly for 3 days straight.

The night before we left the Arfaks we had dinner with all of the community members and presented them with a generous donation to thank them for protecting their tree kangaroos. Hopefully this, along with the potential of future groups following in our footsteps, will lead them to view the tree kangaroos as a potentially valuable source of revenue, and help keep them out of the cooking pot. On the day we left we had made grandiose plans to descend rapidly (anticipating it would take about 5 hours), and then visit another part of the mountain to look for Stein's cuscus. By hour six of the hike down, treacherous thoughts began to enter our minds of burgers, chips and beers, and by hour seven, when we finally made it to the waiting vehicles, all thoughts of further mammalwatching had been banished. Instead we checked into a nice hotel and treated ourselves to the best pizzas and mango milkshakes that Pizza Hut has ever made. The following night we made good on our plan and went part-way up the route towards German camp, which is where most of the birders go to see birds of paradise in the Arfaks, and finally found a Stein's cuscus to add to our bourgeoning tally of mammals.

After a pleasant night in a soft bed in Manokwari we took a short flight to Sorong, on the far west of the island. Here we did some last minute shopping and jumped into two of the blinged up Toyota Highlux's that were the vehicle of choice in the remote communities. These vehicles all had enormous tires and were sprung as high as they could go; several also had snorkels, suggesting that they kitted out for the heavy rains of the wet season. I was a bit alarmed to learn that our driver was only 14 years old, but he turned out to be quite proficient behind the wheel. Clearly they start 'em young in West Papua.

Our destination was a village several hours drive inland. Here one of Carlos's contacts, a highly gregarious, barrel-chested guide called Absalom, had discovered that there had been recent sightings of long-beaked echidnas. Long-beaked echidnas are the holy grail of mammals in New Guinea. One of only two families of mammal that lay eggs (the other being the Duck-billed platypus), female echidnas produce a single egg and then carry their young, known endearingly as a 'puggle', in their pouch for a month or two. Let's face it. Any mammal that lays eggs, and has a young called a puggle falls into the 'absolutely must-see' category for any self-respecting mammalwatcher. Unfortunately though, the Western long-beaked echidna is also vanishingly rare. When I was researching the mammals we might see on this trip, I noted that the IUCN red list website claimed there had not been any definitive records for this species since the 1980's! This was not strictly true: there had been a couple of

recent sightings posted on iNaturalist (a nature-based website), although Carlos's information suggested they were no longer being seen in those particular villages. Hence Carlos and

Absalom's efforts to find a new location for us to try to see the animal. The new village certainly sounded promising; community members reported that they had been seeing echidnas fairly regularly, sending Carlos tantalising photographs as proof. Our plan therefore was simple. We would stay in the area as long as it took to find an echidna, and then move on to another village, called Malagafuk.

Our arrival in the village was heralded by a welcoming committee of the village elders. An older woman wearing a large red flower in her hair presented Carlos with a scarf and some beaded necklaces, and we were invited to plant some trees in the centre of the village. Apparently we were the first foreigners ever to stay in the community, and our arrival was clearly an important event. The village, positioned next to the road, did not look a particularly propitious place to see one of the rarest mammal species on the planet, but we were both excited and increasingly hopeful. We ensconced ourselves in the – extremely hot – buildings that the community had made available to us and waited for nightfall. After the obligatory rice dinner (washed down with some highly palatable beers), we were ready for the echidna search to begin. As we entered the forest we were surprised to find a large group of villagers waiting for us. Every last man and child in the community had a torch and was determined to find us an echidna. The community members knew that this was their big chance to put the village on the map and they had no intention of letting it slip. We let the villagers surge ahead and took our time looking for some of the smaller mammals. We found a cute black-tailed antechinus, a small, squirrel-like creature with a long-snout, a lowland ringtail which was new for us, and a brightly coloured Red-breasted paradise kingfisher. After a couple of hours Carlos, who was slightly ahead of us, gave a shout. 'Guys, a triok!' When we caught up with him we saw he was holding a large, squirrel-sized creature in his hand that had been caught by one of the hunters. The animal had black and white striped fur, bulging eyes and Yoda-like ears. The most astonishing thing about it though was its front feet, and, more specifically, its fourth digit which was extremely elongated. It very much resembled the long middle finger of the Aye-aye from Madagascar, and, like the Aye-aye, it presumably also uses it to extract grubs from holes in bark. A neat example of convergent evolution. Once Carlos released it, the triok rapidly and awkwardly scrambled up a large tree, its long finger clearly hindering its ability to climb. We were puzzled by how the triok had been caught. One of the villagers told us that when the hunters came across a triok at night feeding on the ground or in the low vegetation, they would creep up on it with their torches off, and simply grab it with their hands. We switched off our torches to see how much light there was to pull off such a feat. It was pitch black and we could see nothing. Clearly the hunters eyes were better than ours.

One hour went by, then two, three and four. We kept returning to a spot where the main trail petered out at the base of a hill and sat waiting there for a while. 'Well, it looks like the echidna isn't playing ball' said Carlos. Not 30 seconds later we heard an eruption of noise coming from the direction of the hill. An echidna had been found. Trying to supress our excitement, we walked quickly in the direction of the noise for about 15 minutes and came across a small group of villagers looking at something on the slope. They parted and I saw a bizarre looking animal. It was about the size of a small dog, with pinkish-grey skin, small spikes and weirdly shaped rear feet. The truly odd thing about it was that I couldn't figure out which was the front and which was the back. That is because the echidna, when threatened, sinks its beak into the ground and stays still, hoping the world will go away. I know mate, I know, I feel like doing exactly the same sometimes. When we had quieted down a bit, the echidna withdrew its beak and waddled over Jon's feet. I was sitting on the floor with my legs apart and the echidna walked up to me, lifted up its beak and jabbed me hard in the

proverbials. Whoa. I was surely one of the first people on the planet to have been abused by an echidna. What a privilege! Pressing home its advantage, the echidna rubbed up against the outside of my leg, until, exhausted by its endeavours, it paused for a rest nestled against me. I can attest that the spines are sharper than they look. I could see why the echidnas are so rare. They are 12+ kilos of waddling protein that will walk right up to you with seemingly no concerns, and all a hunter needs to do is pick them up and put them in a pot. But what a truly magnificent creature. We followed it as it made its way along the edge of a stream where we eventually left it to its own devices. We were ecstatic at the sighting (this was a new species even for Carlos), and it was a very buoyant troupe of mammalwatchers and community members that made its way back to the village that night.

The following day we once again gave the community a nice donation for looking after their echidnas, and we assured them that if they continued to conserve echidnas on their land, our group would most definitely not be the last foreigners to visit them. We then drove on to the village of Malagafuk, where we would spend the next 6 nights. Malagafuk has become fairly well known as a birding destination, and during COVID the community had built a 3 km long boardwalk from the main road to the village. It was an impressive effort though with one downside. Every time the boardwalk got wet, which was pretty much every day, it became slippery as ice from the algae growing in the wood. Several of us ended up on our arses before figuring out that we needed to take small steps to stay upright. Over the following days each of us honed our own particularly technique of mincing along the boardwalk in a geriatric shuffle, looking like a right old bunch of bananas.

The village itself was one of the neatest, most orderly villages I have ever seen in the tropics. It had long thoroughfares which were kept immaculately trimmed, and all of the wooden houses, which were raised about a meter off the ground, had manicured gardens with flowers and fruiting trees in them. We stayed at a homestay in the village that we shared with a local family. Jon and I got a room together with two mattresses on the floor. Mine had a faded Manchester United sheet on it, while Jon's had little teddy bears blowing kisses, and saying 'I love you'. It was very sweet. Mind you, after 6 nights of us sleeping and sweating on them, they were looking (and smelling) very far from sweet. Sweating is something that you do a lot of in Malagafuk. The lowland forest is perpetually humid and the house had no veranda or any sort of ventilation, so during the day we simply stripped down to our shorts and perspired copiously. After a couple of days we realised that putting on new clothes was a useless exercise as they got soaked through within a few minutes, so we just mostly went grunge, wearing the same nasty clothes day after day. The bathroom facilities were both cramped and hot, and shared with a couple of non-trivially sized spiders, so washing rather went out of the window as well. That said, on two bliss-full occasions we walked about 20 minutes to the local river and spent an hour wallowing in the water, scrubbing at least some of the sweat off.

Each day, just before the sun went down the flying foxes would leave their day roosts and start flying over the village. These were enormous bats with long, slow wingbeats, flying purposefully as they searched for fruiting trees in the forest. We would then have our own dinner before heading out for our night walks. The tomatoes and onions in water had been replaced with what must have been the local Malagafuk speciality; eggplant cooked in soy sauce. This we were duly served - along with the mandatory boiled rice and spicy ramen noodles - for every meal of our stay. Once again packets of chocolate cookies and bread came to our rescue, though even those had run out by the end of our stay.

Our night walks were exciting though. We regularly saw Brown dorcopsis, a smallish kangaroo that bounced around on the forest floor, frequently in pairs. The individuals we saw were generally grey and white rather than brown as the name would suggest, but Carlos assured us that only this species was found in the area. Also common in the village were two species of bandicoot, the long-snouted and the common, which would occasionally run right up to us, perhaps disorientated by the light. Neither the community members nor the local dogs showed any interest in the bandicoots, which led us to surmise that they probably weren't very tasty. Besides these species there were few larger mammals around; we only saw one cuscus during our stay and the cassowaries that Carlos said used to come into the village pre-COVID had disappeared, suggesting that at least some level of hunting was taking place. What we did see was many smaller species, including the arboreal lowland ringtails, the three-striped dasyure (a small diurnal squirrel-like animal), and a proverbial smorgasbord of rodents and bats.

Perhaps our best finding happened one evening when we were walking along an area of swamp forest, close to a small stream. Carlos had mentioned that on a previous trip he had seen a small mouse that he thought might be the New Guinean jumping mouse. However this species had never been recorded in the Volgenkop peninsula before, so he was particularly keen to try to find it again. On this evening, as we shone our headtorches along the edge of the stream, we saw two small mice scuttling away from us. They had a very distinctive rapid shuffling run, keeping their bodies low to the ground, giving them the appearance of a large insect. 'Grab that mouse' yelled Carlos, and all hell broke loose. The three guides, Carlos and Vencat all piled in, chasing, yelling and occasionally diving at the largest mouse, which was flitting in and out of the vegetation, while the rest of us tried our best to corral it. Whenever someone got close, the mouse, demonstrating a hitherto unknown bag of tricks, would bounce a foot straight up into the air like a sprung toy, before racing off again. After two minutes of this one of the guides eventually managed to grab hold of it and we were able to inspect the animal properly. It had reddish-grey fur, bulging eyes and enormous whiskers, which were about 3⁄4 the size of the body. There was no doubt that it was a New Guinean jumping mouse, and this represented a huge range extension for this genus. In fact the taxomony of this genus is still being elucidated and there is a good chance that this will prove to be a new species to science (a collecting expedition is heading to the area shortly and hopefully they will be able to get specimens). We saw several more jumping mice on our night walks, suggesting that the species might be quite common in the area.

While we were at Malagafuk it rained almost every afternoon. Heavy, tropical downpours that would drum hard on the metal roof of the hut, making conversation almost impossible. Fortunately by evening time the rain had usually stopped which allowed us to head out. However on the final day our luck ran out, and it rained heavily throughout the day and intermittently into the evening, making this the first night of the trip on which we missed a long evening walk. By this time we were tired of the heat, the sweat, the damp and the eggplants cooked in soy sauce. We were therefore perfectly happy to leave Malagafuk the following day and head back to Sorong. Here we said goodbye to Venkat who had to leave early, and the rest of us caught the two hour ferry across to Waigeo, one of the islands of Raj Anpat, the fabled diving islands of Indonesia.

Carlos had booked us into a small beach resort which catered mostly to divers and holiday makers. However, Carlos knew of several limestone caves which were good for bats, so while other holiday makers sat on their deckchairs sipping cocktails, we crawled our way through hot, muddy, dark caves looking for small beasties. In one cave we came across a

fairly tame white-tailed giant rat which observed us pensively from his perch above us. We had seen this species before in Malagafuk, but this was by far the best look we got. In the evenings we looked for fruit bats and enjoyed watching the very relaxed Waigeo cuscus's which fed in the trees around the lodge as we sipped our beers.

By now we were winding down and, much to Carlos's disbelief, we decided to spend our final morning visiting a Wilson's bird of paradise display site. I should say something about the birds of West Papua here. The place is a hugely important birding destination and many people consider it to be the birding Mecca, mainly because of its numerous birds of paradise species. As a result, a bourgeoning bird watching industry has recently sprung up, with communities gradually setting up infrastructure (and competing with each other) to attract birders to their bird of paradise display sites. During our time there we saw some pretty spectacular bird species either during our night walks or while heading to bat caves during the day. These included many species of bird of paradise including the Magnificent, Lesser and King birds of paradise, as well as the Magnificent riflebird, Western parotia and Black sicklebill. There were also Brush turkeys, Papua pittas, Black lowries, as well as the massive and extremely impressive Western crowned-pigeon. These are all birds that make birdwatchers go weak at the knees. The thing is though, it's hard to combine birding and mammalwatching, particularly if you want to actually get some sleep as well. Most birding here takes place during the daylight hours and particularly in the early mornings (birders frequently get up at 4 am to be in a hide in time for sunrise). Mammalwatching in West Papua on the other hand, is a mostly nocturnal activity, and you're seldom in bed before 1 or 2 am. One has to make a choice of where you concentrate your efforts, and for us it was obviously going to be on the mammals. Not that we averted our eyes when a particularly attractive bird crossed our paths, although one of our group members was overheard to mutter upon discovering that what they thought was a mammal in their thermal imager proved instead to be a bird 'dammit, it's just another bird of paradise...'.

The Wilson's bird of paradise that we wanted to look for has been called by some the most spectacular bird in the world. It has the most outrageous colouration: a vivid green belly, sparkling red and yellow on its back, purple legs, long curled tail feathers, and a neon blue head with a black cross on it. This definitely puts in the category of an honourary mammal. Better yet, a male display site had been found that was very close to our lodge. After a 20 minute drive and a 15 minute walk we were sitting in a hide at 9 am, waiting for the bird to show itself. The guide scattered a few leaves on the ground of the display site and the fastidious bird flew down to clear the leaves away, showing itself beautifully. It really is an magnificent looking animal, and well worth the 90 minutes that we sacrificed trekking around bat caves.

And with that our trip came to an end. It had easily exceeded our wildest expectations. In the end we saw over 60 species of mammal (we are still in the process of identifying some of the small rodents) including our three top targets for the trip; the long-beaked echidna, and the Volgenkop and Grizzled tree kangaroos. We had also recorded major range extensions for at least two species and may have discovered a new species of mouse. Prior to the trip Jon had circulated a list of around 70 species that we might conceivably find. Astonishingly, we had recorded almost 90% of those. Better yet, we had good sightings and photographs of almost all the mammals we saw, not just the frustrating glimpses one often gets of an animal flitting across a road. For most of us this was our most successful mammal watching trip ever. Most importantly though, this trip exploded the widely-held perception that mammalwatching on the New Guinea archipelago is extremely difficult. It isn't. It's amazing. You just have to get

yourself to the right places with the right team, the right equipment and the right surveying style to be successful. Carlos was crucial to this effort, as without his hard won knowledge of the area and its wildlife and which local guides to use, we would not have seen anywhere near the mammals that we did.

Jon and I have long talked on the mammalwatching podcast about the potential for mammalwatching tourism to support conservation. An inescapable feature of our culture is that if humans gain financially from a sustainable resource, they are more likely to look after it. Birdwatching has already proven a valuable source of income for remote communities in parts of West Papua, and we believe that mammalwatching can have the same sort of impact. Even before we left West Papua, Carlos had received over 75 requests from people to do a similar trip to ours, based on his and Jon's social media posts. Even if only a small proportion of those groups end up visiting the area, it will hopefully be enough to kickstart a nascent mammal-based tourism industry in the country, and encourage further protection of these extremely rare animals within those communities. This trip helped prove that the mammals could be found, even the very rarest ones. Now if only someone can find a substitute to boiled rice, spicy noodles and eggplant in soy sauce....

Charles Foley