

## Episode 1

Kia ora, gday and welcome to the History of Aotearoa-New Zealand, Episode 1: The Land Time Forgot. Before we get started on the first real step on our journey, if you haven't listened to the episode before this, Episode 0, I suggest you do so. It outlines what this podcast is about and will give you a better understanding of some of the things you will hear going forward.

So, let's crack into it and cast our minds back way way way into the past, before humans and prehumans when mammals mostly consisted of things like shrews. Back to when the world was made up of a few supercontinents connected together with dinosaurs ruling them in all their terrifying might. It's the late Cretaceous, about 80 million years ago, velociraptors, triceratops and T. Rex have not yet appeared but they are on the horizon, a few million years away from arriving on the in the areas that will become Asia and North America. Our focus is on Gondwana, the southern supercontinent that has been breaking away from the larger Pangean continent for tens of millions of years already. Here we find Theropod dinosaurs, the same suborder as T. Rex along with Titanosaurs, humongous sauropods related to Brachiosaurus and Diplodocus. There is also one animal in particular you may recognise from today, the tuatara. The name coming from the Maori word for 'peaks on the back' on account of their spines, these animals have been around for nearly 200 million years and haven't really evolved much since then and will continue to not evolve right up until the present day. It's these animals that dominate the landscape of the area that is beginning to break away from Gondwana, never to return to become New Zealand.

Other parts of the Gondwana super continent would go on to become Africa, South America, Antarctica, India and Australia. New Zealand broke away from the area that would become Australia due to plate tectonics although I like to think it was because Papatuanuku saw all the deadly shit Australia was getting and just said, nuh uh, not on my land. Interestingly, the land mass that became Aotearoa was much larger than the one you see today, however, as it has been recently discovered that New Zealand is part of a much larger continent called Zelandia. The thing is though, sometime between then and now, 93% of Zelandia got submerged, leaving behind the distinctive shape of the land we know today, along with some islands such as New Caledonia. It's not fully known how or why this submerging happened and in fact it is a topic of debate whether Zelandia is even a continent to begin with. Some argue given it's size and the thickness of the crust it should be classed as a continent. Others argue that continents aren't really allowed to be under the sea, given real life isn't like the movie 2012 where Africa just pops on out of the ocean like the Flying Dutchman.

As New Zealand is pulled away from Australia and Gondwana gradually, it is situated smack bang on top of the fault between the Indo-Australian and Pacific tectonic plates. This gives rise to two of the main features of the New Zealand landscape, the Southern Alps on the South Island and the volcanoes on the North Island (Yeah, Europeans are a real imaginative bunch when it comes to naming things). It's one of these volcanoes that actually gives rise to New Zealand's first real impact on the world stage. Lets briefly fling ourselves forward to the 180sCE, historians writing the Hou Han Shu, a Chinese chronicle describe that in the reign of Emperor Ling Ti the sky was "red with blood" for many days. This is further confirmed by the Histora Augusta and the historian Herodian, saying

the sky “burst into flame” and “stars remained visible by day and others elongated, seeming to hang in midair”. Although we can’t be certain, it is theorised that this event that was recorded in two separate parts of the planet was caused by the eruption of the Taupo Volcano, which expanded the crater lake of the same name. This eruption was the largest eruption in New Zealand during the last 20,000 years and one of the most violent on the world stage in the last 5,000 years. It has been compared to the Minoan eruption of Thera that gave us the myth of Atlantis, on account of the entire island being mostly destroyed. To just illustrate the scale of this even more, go look at an image of New Zealand today. You see the big blue bit in the middle of the North Island? THAT is Lake Taupo with the Taupo volcanic zone covering a large area of the central North Island, from Mount Tongariro and Ruapehu to Rotorua.

Lets go back again now to when the land was still young and not long distanced itself from Australia, a time honoured tradition still followed today. New Zealand is what you might call a Biological Ark on account of all the weird and wonderful things that are here and have been cut off from the wider world due to our early separation giving a lot of animals weird characteristics. Primordial ferns and conifers or podocarps cover the landscape that have given the forests an ancient feeling, like stepping back through time. Anyone who has spent time in the New Zealand bush will know the feeling I am describing. Coastal beach and forest, swamps, inland plains sub-alpine ranges and mountains gave Aotearoa its distinctive face. The flora was also unique compared to other areas on the planet, frogs that don’t croak or have a tadpole stage evolved with ancestors of the weta, a native insect, one species the size of your hand. Freshwater fish, galaxxids or whitebait, eels and koura, or freshwater crayfish, sat in the rivers. This was all to say nothing of the abundance of marine mammals like seals and dolphins, fish, stingray and shellfish in the sea.

Just to really get the point across as to how weird this land is I want to have a quick focus on one of my favourite animals, the tuatara. As I mentioned last episode, my background is in native animals and I have had the amazing privilege to work with these wonderful and interesting animals. So what is a tuatara? Well, if you go google a picture I’m willing to bet most of you will say ‘oh wow, it’s a cool looking lizard,’ No. We don’t use the L word when we talk about these guys, they are not lizards. They are reptiles but not lizards. If you think of a sort of tree of life you have reptiles at the as main branch with a smaller branch coming off it labelled lizards and another labelled Sphenodon. That is where tuatara sit, they are so unique they sit on the same level as all the lizards in the world, and there are only three extant species left. So, lets throw some numbers at you. Tuatara can live for up 200-250 years with the oldest one in captivity being around 120 years old. If you have ever seen one in real life, you know that they don’t do much. That’s because there isn’t much going on inside them, they can have one heartbeat every 15mins and one breath every 30mins to an hour. The funny thing about that is if you get bitten by one, they won’t let go until they take their next breath, which I thankfully never had happen to me. Now, anyone else in the animal conservation industry will likely tell you a good portion of their job involves to make rare animals, shall we say, get busy... But for tuatara it isn’t a case of putting a man and a woman in a room, putting on the Barry White with a nice glass of red and leaving them too it. Unfortunately, females want to see two males fight before she will breed with the victor, which is pretty metal. The thing about that though is that a tuatara won’t develop a gender until 20 years after hatching, which means you have two decades of them not really being useful. These odd creatures are also the only reptile to have a third eye, located on top of their head. It’s more like a photoreceptor, that is it only really detects light, it doesn’t have a retina or anything. They use this to detect UV light so they know if they should move

to sunnier or shadier spot. They use UV for vitamin D, just like humans so it's an important piece to have when looking after them in captivity.

Anyway, before I get too carried away, although all these made New Zealand a unique ecological system and landscape, there were two even more important features that made this land, well, weird. The first was that apart from three species of bat, we had no native terrestrial mammals. New Zealand separated from Australia and Gondwana before the rise of marsupials which would go on to dominate our long standing rival, Australia and if you couldn't swim or fly, you didn't have much hope of crossing the growing Tasman Sea. The second was that someone had to fit into the same ecological niches that mammals held in most other parts of the globe. Large insects like the weta or reptiles filled some of those but the majority were filled by birds. New Zealand is known for its abundance of bird species, most of which can't be found anywhere else on the planet. Some flew over from Australia, such as wattlebirds like the kokako and huia. Others were carried by the land and due to the lack of mammals, became flightless, like the kakapo. Even more were already flightless, like the takahe and the bird we take our namesake from, the kiwi. A small brown ratite, related to ostriches, with a long beak, nostrils on the tip with the largest egg to body ratio of any animal. Seriously, its nuts, humans got off light compared to them. A relative of the kiwi, another ratite that you may be familiar with is the moa. The largest species standing at 2 meters tall at the shoulder with a approx. 1m long neck, weighing in at about 230kg, they were a defining feature of the New Zealand bush. Although we don't know what they sounded like, the national museum in Wellington, Te Papa, attempted to recreate what they may have sounded like. I couldn't find a clip of that sound but they took the call from one of their relatives, cassowaries and lowered the pitch, among other adjustments. I encourage you to go look up cassowary calls and imagine hearing a deeper version of that in the middle of the dense bush only to have it cut off. Why? Because the main predator was an eagle with a 3m wingspan weighing up to 13kg, probably the most terrifying animal New Zealand ever produced.

Most of the animals we have talked about are, unfortunately, either extinct, in the case of the huia and moa, or severely endangered, which is pretty much the case for everything else I have talked about. There are three main reasons for this and it all comes back to the one thing we haven't talked about: humans. The first two are things we still deal with today, loss of habitat due to land clearance for a variety of reasons and hunting, which was a major factor in the extinction of the moa and huia as their feathers and the latter's unique beak were highly prized by Maori and later European settlers. The last reason is something that you will hear about if you do something even remotely related to the outdoors here in New Zealand, the introduction of exotic mammals. Now, exotic in this context doesn't mean cool or exciting. It means that the animals in question are not found naturally in that area, or in this case, group of islands. I could go on at length about this huge issue still facing the country today and we will likely discuss it more when the time comes but for now I'll keep it brief. The first introduced mammal to New Zealand was the kiore or pacific rat. Accidentally brought by Maori settlers in the 13<sup>th</sup> century, its cousins the Norway Rat and Ship's rat (of Bubonic fame) would follow with the arrival of European settlers. These rodents were brought accidentally, I mean, no one WANTS to bring rats with them, they eat your food stores and carry disease but they jumped onto waka and ships and eventually found themselves in a new land. They were and are a major problem as nest robbers, eating eggs of native birds and lizards, among other things. As I said, we will discuss this more as we progress but needless to say, this will be a fairly big

issue going forward as some mammals will be introduced on f\*\*king purpose cause some silly Englishmen wanted to make New Zealand more like England! (exhale) It's ok, I'm fine...

Next episode we discuss how the first humans came to New Zealand with the first voyages into the Pacific and the beginning of development of Maori culture. If you want to let me know how much you hate the forty million possums roaming in New Zealand's forests you can contact me through email at [historyaotearoa@gmail.com](mailto:historyaotearoa@gmail.com) or you can find me on Twitter at [HistoryAotearoa](#) or even Facebook at [History of Aotearoa New Zealand Podcast](#). Haere tu atu, hoki tu mai. See you next time!