Silky Oaks Lodge

Your Guide

History, Flora and Fauna

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Set in the heart of rainforest alongside the World Heritage listed Daintree National Park, Silky Oaks Lodge is a place to rest and to marvel in the biodiversity of Australia’s very own tropical rainforest. It is not without human impact, but now protected, it has reverted to its former tropical splendour.

Without doubt, RAIN is the key element for a rainforest – Enjoy the wet weather here because it sustains the lushness of Silky Oaks and the habitat of the Daintree National Park. If you reflect upon the vast arid expanse of much of the Australian continent, it is easy to understand why the forests of the northern Queensland coastal ranges are such oases. Here the warmth of the tropics and rain combine to nurture the rich variety of plants which support a wealth of mammals, birds, reptiles, amphibians and invertebrate life. There is so much that is unique here, and that has developed over a long time.

The greenery of ferns, shrubs, vines and trees envelop you. The Silky Oaks gardens merge seamlessly with the Mossman River and national park.
forests and provide an ever changing foreground of floral colour. Some of the wildlife is easily seen, much more can be easily heard, while still others are shy and secretive. Whether reclining on your balcony or ambling along the trails, a little patience may be required to observe the wonders that the broad-leaved habitat conceals.

This Guide will help you appreciate what you see as you stroll around the grounds of the Lodge or walk the Fig Tree Rapids and the Mountain trails. At the end of the Brochure is a reference guide to further reading as well as on line content, if you want to delve deeper into this magnificent environment. There are even applications for your mobile phone that can help you identify birds and their calls, flowers of rainforest plants, or the nocturnal creatures that you may hear but no see.

**SUSTAINABILITY AND INNOVATION**

At Silky Oaks Lodge it has always been our ethos to embrace the environment.

The Lodge was originally built on a 34 hectare portion of farmed and cleared land adjoining the Daintree National Park. For the past 25 years this land has been regenerated and replanted back to the original rainforest habitat. Therefore, our *Eco-Certified-Advanced Ecotourism* status has a solid sustainability foundation due to this reforestation of the land the Lodge occupies.
As you wander around the grounds of the lodge, you will see a variety of rocks, some dark and rather boring and others with bright colours of pink, white, grey – a jumble of big and small crystals. Let’s take the dark and boring ones first.

These are really the hardened remains of what were once sediments laid down in an ancient sea that covered the edge of an ancient continent, more than 360 million years ago (during a time period called the Devonian) and called by geologists the **Hodgkinson shales and slates**. These were once finely layered, horizontal muds and silts, but then as the sea basin filled up, these soft sediments were buried, compressed and hardened as a mountain range formed along the eastern side of the Australian continent. As these mountains rose these sediments turned into rocks, which is what you see in the gardens around the lodge and along the hiking trails as well as at Melaleuca Beach as giant, dark brown boulders eroded by the stream.
Granites (used as path markers around the Lodge) are around 310 or so million years old! These rocks began as molten melts that rose through the hardened Hodgkinson muds and silts, forming mountains as they rose. These melts cooled slowly leaving the beautiful large crystals as evidence. Granites can be found not only along the walkways near the Lodge, but also as big boulders in the river, and as polished countertop slabs near the checkin.

Nothing much more happened until about 310 million years ago (in the time period called the Late Carboniferous), when the great mountain range was all but worn down, and as the Australian continent, which had been located near the Equator as the Hodgkinson muds were being deposited moved south towards Antarctica. Then began another geologic episode of heating deep in the Earth’s outer crust, and that in turn led to the melting of rocks and the formation of molten magmas. These then rose up in giant blobs to form the granites and related rocks that characterize the pink and white crystalline rocks so apparent in the gardens of the lodge and form the big boulders at Picnic Beach – Wave Rock being a good example. These rocks have also left their mark in other ways – they erode down into tiny grains – which make up the sands that line the banks of the Mossman River. The mere fact that the crystals in some of these granites are large indicates that the cooling of these molten masses was slow, thus allowing the beautiful large crystals to form. At this time, Australia was now far south and formed part of a massive supercontinent we call Gondwana – which also included Africa, Antarctica, South America, much of India, and bits and pieces such as New Zealand and parts of Indonesia and SE Asia. Things remained relatively quiet, geologically speaking, until about 100 million years ago, in the Cretaceous Period (just after the Jurassic!), a time when dinosaurs roamed Australia and the world. At that time the Coral and Tasman Seas began to open and split away Australia from New Zealand, New Caledonia and New Guinea. A fault basin formed – the western side of it being a steep-sided fault delineating the eastern edge of the Atherton Tableland.
Beginning around 100 million years ago, the Coral and Tasman Seas began to form. Debris of the older sediments and granites began to pour into the Queensland seas as New Zealand and Australia began to drift apart. The Atherton Tablelands are one side of a great rift valley, like the younger one that is making the Red Sea and the East African rift.

AUSTRALIA, THE GREAT WANDERER – MORE THAN 3 BILLION YEARS OF HISTORY

Today we take for granted that Australia is an island continent with a fauna and flora so different from all other places on planet Earth – except for a few additions such as the English Sparrow, foxes, rabbits and other successful “weeds,” which have either invaded on their own or been introduced by humans. This has not been the case in times past, and indeed it is our past connections with Antarctica, South America and even Africa that have resulted in the very unique biota that Australia hosts. Understanding this past history helps in demystifying some enigmas – such as the occurrence of fossil relatives of the platypus and echidna in Argentina in times past!
Some of the oldest rocks on Earth occur in Western Australia, but the oldest in the Daintree region of north Queensland are just a little over 360 million years old – long ago to most people, but to the geologist – just yesterday. When the sediments that were squashed and twisted into the rocks that occur near Silky Oaks Lodge were deposited in an ancient shallow sea, Australia was not far from where it is today, but after that it went on a long trip – south to Antarctica, where it parked itself and remained for nearly 100 million years – then turned around and moved back north.

Just after the formation of the granites in the Daintree region, the world was a very different than it is today – most all of the continents formed one supercontinent, which bears the name of Pangaea. Shortly after that it began to split apart and divided into two big continents, but each smaller than Pangaea – Australia was then a part of one super-big- continent - Gondwana. It remained connected to South America and Antarctica until around 100 million when again it began to slowly, relentlessly break away, eventually severing its connection entirely and moving north at the top speed of 15 cm a year! It is still moving north and crashing into SE Asia. Give it another 40 or 50 million years, and it will be firmly connected to China!
FROM THE COLD TO THE TROPICS

The tropical forests of the Daintree are quite unique, because many of the plants that make up this forest began as forms well adapted to a cool temperate climate. Fossils of 50 million year old plants from near Melbourne bear witness to the beginnings of the Daintree tropical rainforest. Flowering plants (angiosperms) had begun to evolve around the time when Australia began breaking away from Antarctica to slowly move northwards (around 100 million years ago). The Australian tropics only began to develop in the last 20 million years as the continent moved nearer to the Equator and Asia. So, the ancestors to the modern Daintree forest plants had prospered in isolation at cool temperate latitudes (initially more than 60 degrees south). There was no Great Barrier Reef in Australia during that period either. Near Silky Oaks, there are still small patches of rare remnants of this cool, temperate, ancient forest that have not changed much – the pine-like Gymnostoma along a creek north of the Daintree River.

Interestingly, most plants in the present day Daintree region are more closely related to those of South America and even the fossil forms known from Antarctica, than to the SE...
Asian flora. Once Australia broke away from Antarctica and began its northward journey towards Asia, for millions of years it remained a very isolated continent, and myrtaceous plants, such as eucalypts developed quite separately, as well as many other species, to give Australia a quite distinctive flora. The temperate flora had to adapt to an increasingly warmer climate as Australia moved north. In the centre of Australia, plants had to survive increasing aridity across coastal northern Australia they had to adapt to humid monsoonal conditions. So, a majority of the plants that make up the Daintree rainforest are uniquely Australian and very different to rainforests elsewhere, and have been able to adapt to very different environments from those where they had their beginnings.
THE RAINFOREST ITSELF: WHAT IS IT LIKE TO BE A PLANT IN A RAINFOREST?

Your experience of nature here is to be treasured, for rainforest habitats are diminishing. Humanity’s appetite for resources and living space is far from achieving sustainable practices! You can easily appreciate the value of rainforest for the timber resources alone, when you consider the rich colours and textures of the tropical woods that have been used to accent the restaurant and your room furnishings at Silky Oaks Lodge. These need to be used wisely.

To discover what else is special about the rainforest, there are patterns to life within it that you can easily observe. And so, you may appreciate some pointers before you walk the nearby trails and stroll the Lodge’s gardens. There are really two worlds in a rainforest - the canopy, where a great deal of activity takes place, where most of the flowers are, and where most of the birds and butterflies are active - and the forest floor that is much more familiar to us, for it is the place we can easily reach. Unlike the canopy, light is very limited on the forest floor. It is a pace of

Did you know...?

Buttress-roots have a dual purpose: They provide support for the tree as it grows ever taller reaching for the sunlight, and they also inadvertently concentrate leaf litter around the base of the tree, trapped between the buttresses, that provides additional nutrients.
coolness and humidity, a place of limited resources that are fiercely competed for. It is often an area that has low plant diversity and is sometimes quite open. Once disrupted and light penetrates, an invasion takes place by a great variety of plants, only to be shaded once again by the new tall growth.

The high rainfall and warm humidity that occurs predominantly during the wet season (the "wet" from November to February) ensures that plant growth is rapid and there is fierce competition for light and height. However, contrary to the appearance of the rich vegetation, the soils of rainforests are notoriously poor. The abundant run-off from the ‘wet’ ensures that the soils are constantly leached of nutrients. Most of the nutrients are thus really restricted to a shallow band of top-soil and humus. Fortunately, the leaf-litter of the forest is broken down by bacteria, fungi and invertebrates to be rapidly recycled back into the biomass of the standing vegetation.

While “fast, straight and tall” is the common strategy to reach sunlight, massive trees need a strong foot-hold, but there is little advantage to sending down deep roots if they are not going to be able to absorb further nutrients. You will notice that many rainforest trees develop buttress-roots. These provide stability and confer a characteristic shape to the base of the tree trunk. It is as if they possess a radiating, (sometimes curving) set of upright brackets. When you chance upon a fallen tree, you will see how these buttresses connect the trunk to a shallow, disc-like pedestal of root fibres, and just how shallow the root system was. There is a second important advantage provided by buttress roots. They inadvertently concentrate leaf-litter at the base of the tree providing additional nutrients.

Such an abundance of tall trunks that are crowned by broad-leaves may form a closed canopy, thus allowing little light to penetrate to the forest floor. Seedlings and ground plants find it difficult to grow in such
shaded circumstances, and you will see that the jungle floor is relatively devoid of low level vegetation in areas of well-established forest. When the canopy is opened by a falling, aged tree, damaged by cyclones, or a patch of forest is cleared, there is an immediate and prolific response to the increased light levels. In these areas the germination of grasses, sedges, shrubs, vines and saplings will make the forest nigh impenetrable.

A jungle would not be a jungle without **vines**! There is such an abundance of vine species at Silky Oaks. These exemplify another common strategy that plants from many different families have developed to quickly reach toward the light. Why invest so much energy to develop a massive woody trunk for support when you can take advantage of those of other species? The **“twine and climb”** lifestyle is so successful that vines can be seen to festoon the crowns of some of the tallest trees in the forest. One such plant to watch out for is the climbing palm called the **Wait-a-While Vine**, which climbs using tendrils armed with hooks – hooks that can ensure a passer-by does it no harm! Be careful, they may scratch you. Such vines further link the top of the canopy – giving it some added strength against winds.

The profusion of vines that entangle the forest canopy also ensures that the tall trees become interconnected. In essence, the canopy is tied together by vines and this further protects the integrity of the forest from damage by cyclones.

The **Strangler Fig** (*Ficus* sp.) is an impressive climber that sends it roots to the ground while wrapping its branches up around its host tree. The Strangler Fig may eventually take over, kill or out-live the tree on which it has been a hitchhiker. The original tree may rot away leaving the Strangle Fig as a tubular network of branches as a ‘trunk’ to support itself.
There is yet another way that plants have evolved to take advantage of the taller, more robust trees. This is the strategy employed by epiphytes - smaller plants (often those groups that are commonly ground cover species like ferns, lilies and orchids), which can germinate to gain purchase on the bark of trunks and boughs. So, like the patches of lichens and furry-green mosses that cover many tree trunks, these vascular plants have developed a variety of ways to obtain sufficient nutrients in their multi-storey lifestyle, far above the soil. Mistletoes are an extreme example as they partially parasitise a host tree, taking nutrients directly from the host’s sap to supplement growth from their own photosynthesis. Mistletoes are important flowering plants in the forests, providing nectar for birds and insects as well as fruit. The fruits have especially developed to be eaten - the seeds cannot germinate without being partially digested! This process is an important aspect of rainforest ecology and applies in different ways to special relationships between specific plants, animals and birds. In the case of mistletoes, there is a little colourful bird, the Mistletoebird (*Dicaeum hirundinaceum*), who in consuming the fruit and defecating the sticky seeds directly upon branches, is responsible for propagating the plants throughout the forest canopy. With a keen eye, you can find clumps of mistletoes in the trees around the Lodge and the Mistletoebirds are common – they have left their mark in more ways than one would expect!

Strangely as it seems, too much water can become a problem for plant foliage. But plants have clever ways of getting rid of this problem, and fast. Look at the leaves of rainforest plants. Most have shiny...
upper leaf surfaces while the underside is not so shiny or slick. Most rainforest plants also have a “drip tip” – a very long point at the end of each leaf. All this insures that when the rains fall, leaves rid themselves of rainwater as fast as possible. Lots of water on a leaf weights it down and can encourage lichen and algae to grow. A cloak of hitchhikers would rob the plants ability to make its own food, blocking light for photosynthesis.

Up in the canopy leaves guzzle sunlight. Each leaf acts like a solar cell, transforming the light energy from the sun, combining it with carbon dioxide to produce sugars – that’s photosynthesis! As a by-product of their sugar production, plants produce oxygen. A single hectare of rainforest can take in up to 500,000 litres of carbon dioxide a day, and at the same time generate oxygen. With this sort of cycling, the entire atmosphere of the Earth is recycled about every 250 years. Forests essentially act as the lungs of our planet. They are precious to us, as they help to maintain the climate and produce rain and oxygen. So, we need to preserve and nurture our forests! We need the modest Greenhouse Blanket that keeps Earth just right for the survival of life, and that includes us! Humanity needs resources, but we need to keep a balance, or we could end up with limited resources and a planet which is quite unfavourable for most life. Bacteria, on the other hand might just be able to cope!
The rich diversity of birds in the tropics ensures that bird watching at and around Silky Oaks Lodge can be incredibly inspiring. Aside from the distinctive habitats along the tropical coast - such as mangrove, eucalypt woodland and agricultural land - the tall forest and riverside vegetation at Silky Oaks are home to some of the true rainforest specialists. Many of these species live within the Lodge grounds. You will not fail to notice the Brush-turkeys (*Alectura lathami*), as they strut along the pathways, constantly raking out the leaf litter with their big feet. In fact, they are not really turkeys at all, they are megapodes, a family that is named in recognition of their big feet. They are an unusual family of birds, because they do not incubate their eggs, nor do they deceive other birds to do it for them, as cuckoos do. Remarkably, they rake together soil and leaf-litter to form huge compost mounds in which to lay their eggs. For example, the raucous Orange-footed Scrubfowl (*Megapodius reinwardt*) can build mounds 10 m across and 3 m high to incubate their eggs. Megapodes have the ability to detect the mound temperature with their beaks and daily regulate the heat produced within the mound by adding or removing the soil and litter covering the buried clutch. Why such big mounds? Very small mounds would not generate the incubation temperature required (35-38 degrees Celsius). The intrepid megapode chicks are well developed, and upon hatching they must dig their way out of the mound to survive in the forest without parental care or protection!

Parrots love rainforests. There is such a variety of large seed-producing and fruiting plants upon which to feed, that there is no lack of...
variety of parrots around the Lodge. From the familiar “White Cockies,” the **Sulphur-crested Cockatoos** (*Cacatua galerita*) that screech overhead to the vibrant red and green of the rare **Eclectus Parrot** (*Eclectus roratus*), each species relies on hollows in the tall trees for nesting sites. Lorikeets, such as **Scaly-breasted Lorikeets** (*Trichoglossus chlorolepidotus*), are common here thanks to the constant cycle of blossoming trees they seek for nectar. At Silky Oaks Lodge you may also observe the rare, tiny **Fig Parrots** (*Cyclopsitta diophthalma*). While they are colourful, they are also shy and spend most of their time in the forest canopy seeking out ripe figs. Their high-pitched screeches, (which are neither as raucous nor melodious as the larger lorikeets), will signal their presence in the trees about the Lodge.

Fruit-doves are beautiful tropical pigeons. A number of species are present in the Daintree region. The large **Wompoo Fruit-dove** (*Ptilinopus magnificus*) is easily recognised around the Lodge by its deep plum-coloured breast. Another resident around the Lodge is the **Brown Cuckoo-dove** (*Macropygia amboinensis*). This species can regularly be heard calling from the trees, and while it is also a large pigeon, its plumage is a blend of ochre browns. The **Emerald Dove** (*Chalcophaps indica*) is a small, plump bird with spectacular green wings and a light brown body. You may see pairs of these on the forest floor searching for seeds and fruits. The **Pied Imperial-Pigeon** (*Ducula bicolor*) is a beautiful black and white migrant species that breeds in colonies on the off-shore islands and mangroves along the coast. They can often be seen on the bank of the river, opposite the Lodge Restaurant, during summer. Low Isles near Port Douglas boasts a breeding colony of over 30,000 birds between August and April. The parent Imperial Pigeons take turns to guard their chicks from predation by the **Eastern Ospreys** (*Pandion cristatus*) and **White-bellied Sea-eagles** (*Haliaeetus leucogaster*) while their
partners fly to the mainland to feed on the fruiting trees. You may see these birds regularly during the late afternoon at that time of year as small flocks make their way from the forest to the island to roost.

Having mentioned two impressive coastal birds of prey, you might have noticed the large **Osprey** nests on the power poles as you approached Port Douglas. There are also a couple of rainforest predators that you might even glimpse here at Silky Oaks. These are the **Grey Goshawk** (*Accipiter novaehollandiae*), which hunts other birds, and the **Pacific Baza** (*Aviceda subcristata*), preferring to dine on large insects. Five kite species are also found in this region, but they are birds of more open habitats, and their abundance varies. During Sugar Cane harvesting season, **Whistling and Black Kites** (*Haliaster sphenurus* and *Milvus migrans*) circle above the fields in large flocks to prey on the mice and reptiles fleeing the harvesters.

Various owls are denizens of the rainforest, and it is best to seek local guidance and appropriate night gear to find these. However, **Eastern Barn Owls** (*Tyto javanica*) are frequently seen at night along the roadside to Silky Oaks Lodge, as they hunt for mice in the open fields. You might be lucky enough to find a frogmouth roosting during the day around the Lodge and along trails, because although they are masters of camouflage, they sometimes roost in smaller trees near buildings. These large-eyed, nocturnal birds are not owls, but a large form of Nightjar. Frogmouths do not have powerful raptorial feet and claws, differing from owls, but instead, rely on capturing prey with their large bills. The **Tawny Frogmouth** (*Podargus strigoides*) generally prefers more open habitats, while the **Papuan Frogmouth** (*P. papuensis*) is a real rainforest specialist.

Above the tree-canopy you may observe **swifts, martins, swallows, woodswallows** and **Scaly-breasted Lorikeet**
Rainbow Bee-eaters (*Merops ornatus*). With a river-view from the Lodge, you may observe these arial species hawking for insects over the rapids too. Flocks of White-rumped Swiftlets will often do this in the late afternoon.

The Mossman River and its tributaries are home to kingfishers, and the Azure Kingfisher (*Ceyx azureus*) can often be seen from the vantage point of the Lodge Restaurant. These brilliant blue and rufous gems will zip up and down the river seeking their own vantage points from which to observe small fish. They will plunge into the water to emerge with a struggling fish, fly back to their perch and smack the poor fish against the branch to kill it. The Azure Kingfisher often follows the Platypus as it searches, stirring up the river-bed for invertebrates. These birds quickly take advantage of any fish that this furry Australian disturbs. So, if you see the Azure Kingfishers, look to the water and you may glimpse the resident “Silk Oaks” Platypus.

Kookaburras are large forest kingfishers. The Laughing Kookaburra (*Dacelo novaeguineae*) is the most common, but the Blue-winged Kookaburra (*Dacelo leachii*) can also be found here. Their distinctive laugh and cackles, respectively, alert you to their presence in the forest. Despite being kingfishers, kookaburras have a preference for a reptile diet, but will take frogs, beetles and yabbies as well. The ‘wet’ sees the arrival of the beautiful Buff-breasted Paradise-Kingfisher (*Tanysiptera sylvia*) from New Guinea. They nest here in the terrestrial termite mounds.

The male of the Black Butcherbird (*Cracticus quoyi*), as the name suggests, is an all-black bird, but the females and juveniles are an orange-brown colour. They are predatory birds too, and the “butcher” title comes from their habit of wedging or hanging prey on branches to assist in tearing it apart and sometimes to keep such morsels for a later snack. They come to the main lodge building at dusk especially to seek the nocturnal geckos emerging from hiding to feed.
There are also many species of honeyeaters around the Lodge, and you will often hear them wherever you go. Some of the most common include the **Yellow Honeyeater** (*Lichenostomus flavus*), **Bridled Honeyeater** (*Lichenostomus frenatus*), **Yellow-spotted Honeyeater** (*Meliphaga notata*), **Lewin’s Honeyeater** (*Meliphaga lewinii*) and larger **Helmeted Friarbird** (*Philemon buceros*). These birds are attracted to the flowering plants and trees around the Lodge and some also relish fruit.

Two small species that resemble honeyeaters are the **Olive-backed Sunbird** (*Nectarinia jugularis*) and the **Silvereye** (*Zosterops lateralis*). They love nectar and fruit too. The Sunbirds “weave” a decorative suspended-domed nest that has a long slender tail reaching 30 to 50 cm. These nests are often fixed to a thin branch of a shrub or tree, but are sometimes hooked to beams of verandahs or rafters. Look out for their nests between October and February.

There is a diversity of forest birds around the Lodge that describing them all would take an entire volume. Some of the main groups that you are likely to see include oligoies, figbirds, drongos, and variety of flycatchers and robins. For example the **Spectacled Monarch** (*Symposiarchus trivirgatus*) and **Rufous Fantail** (*Rhipidura rufifrons*) are flycatchers that regularly hunt of insects in the undergrowth around the Lodge. There is a bird of paradise here! The male **Victoria’s Riflebird** (*Ptiloris victoriae*) performs a remarkable courtship dance, but you are more likely to see their vigorous foraging behaviour as they strip bark from branches in search of insects. The **Spotted Catbird** (*Ailuroedus melanotis*) is a relative of the bowerbirds and you are likely to hear their ‘meow’ calls.

A surprise visitor who you might catch sight of flying up and down the river in the early morning is the **Little Pied Cormorant**
(Microcarbo melanoleucos), which one might normally associate with the seaside.

These cormorants search out fish wherever they might find them – on ponds, rivers and estuaries.

Did you know...?

Sunbirds (above) “weave” a decorative suspended-domed nest that has a long slender tail reaching 30 to 50 cm. These nests are often fixed to a thin branch of a shrub or tree, but are sometimes hooked to beams of verandahs or rafters. Look out for their nests between October and February. You may also notice the male Sunbird protecting his mate while she sits patiently on her eggs.
**Mammals**

**Marsupials – The Ones with Pouches**

Unlike all other continents on Earth, most Australian mammals are marsupials – mammals that give birth to their offspring at a very young age, they then crawl to their Mother’s pouch, attach to the teat and spend of the rest of their early development there. Kangaroos and Koalas are obvious examples, but there are a great variety of other species - such as bandicoots, possums and quolls. These may be viewed at night around Silky Oaks Lodge.

The **Northern Brown Bandicoot** (*Isoodon macrourus*) and **Long-nosed Bandicoot** (*Parameles nasuta*) are often seen along the paths and in the gardens around the Lodge, so if you hear a rustle in the gardens, be quick to turn around and you might see them. They are about the size of a small domestic cat but have pointed noises and short tails. They forage for a wide variety of invertebrates as well as seeds, fruit and tender roots of plants. They breed between August and April and you may be fortunate enough to see their very cute joeys.

The **Striped Possum** (*Dactylopsila trivirgata*) is a striking black and white species that are extremely agile and negotiate the heights of the upper canopy with great ease. With a torch you may stop their dull red
eyeshine, but you are likely to hear them as they are very noisy and often crash through the foliage moving from bough to bough.

Placentals – The Ones Without Pouches

We are placental mammals, of course. But we are a recent addition to live on the Australian continent. Likewise, many of the placental mammals in Australia have also made their way here from other part of the world. Europeans have introduced rabbits, foxes, pigs etc. and these have become pests. The Dingo (*Canis lupus dingo*) is a native, but it too was originally brought to Australia some 4000 years ago. They have now become an integral part of the ecosystem and our culture. Other placentals have made their own way here, some by flying and others by rafting from Asia. Bats and rats are two of the success stories.

Most bats are insect eaters – the sonar emitting **micro-bats** are hard to see at night for they are fast flyers and hunt insects over the canopy around Silky Oaks Lodge. The larger, big-eyed **Flying Foxes**, however, do not frequent the Lodge area, but are present in abundance in the trees of Port Douglas and elsewhere in the Daintree region. Unlike the micro-bats, they are fruit eaters and have a very fox-like face. Both sorts of bats have been in Australia for many millions of years, immigrants from Asia and probably one of the first advanced placentals to reach Australia, more than 40 million years ago. Their fossils have been recovered from cave deposits in the north of Australia on Riversleigh Station as well as many other sites. The rats and mice that occur in Australia (other than the pest rats and house mouse introduced by Europeans) managed to travel to Australia more than 7 million years ago, without human help. There are many species in this area and around the Lodge at night you may sight something scurry across the path, something of a fur-ball with a long tail! This is likely to be the **Giant White-tailed Rat** (*Uromys caudimaculatus*). They are the largest of the Aussie rats and can easily gnaw though thick seeds, including coconut shells! To distinguish between the rat species of the Daintree area you’ll need sharp eyes, persistence and probably a good bit of luck. For example, the **Water Rat** (*Hydromys chrysogastes*) also has a white tail but it is an inhabitant of the river side.
The Platypus – a Monotreme (along with the Echidna)

Silky Oaks Lodge is ideally set to observe the river. The Platypus (Ornithorhynchus anatinus) is a unique mammal because it lays eggs and provides milk to its young from skin glands. It is a shy creature that can be seen swimming on the surface during the day and particularly at dusk or dawn. It has a long fossil record in Australia, the oldest fossils being more than 120 million years. Surprisingly, fossils of platypus and echidna relatives are also known from Argentina, so this group once lived across much of Gondwana.

Did you know...?

The Platypus lays eggs, but it’s not a reptile. It has hair and produces milk for its young, which makes it a mammal. It is a shy animal and stays hidden most of the day, so pay particular attention to the water at dusk and dawn.
Reptiles are abundant in the Daintree rainforest and these include geckos, dragons, skinks and snakes. Around the Lodge you may hear geckos. These could be either the native Chameleon Gecko (*Carphodactylus laevis*) or introduced geckos from Asia. The Asian House Gecko (*Hemidactylus frenatus*) varies in colour from pale pink to grey and beige, and they have a very distinctive call - ‘chuck, chuck, chuck’. As the name suggests, they often frequent building and houses, feeding on insects and spiders. They compete with native geckos for food and...
In the small pond opposite Treehouse 19 (Emerald Dove Treehouse), you will sometimes see **Common Tree Snakes** (*Dendrelaphis punctularia*) swimming in the water, hunting for fish, tadpoles and frogs. These long, slender snakes are non-venomous and shy, often seeking escape when disturbed. Another tree snake you may see is the Brown Tree Snake. This snake is mildly venomous but is not considered harmful to people because their fangs are small and located at the back of their mouth. The **Amethystine Python** (*Morelia amethistina*) is a large and harmless snake of the rainforest canopy. Birds, however, need to find roosting sights that are well out of reach of these nocturnal predators.

If you look carefully in the gardens you’re also likely to see many different skink species. These little lizards are common around the Lodge and are very fast so that they can escape predators like birds and snakes. The best chance of seeing lizards is by hearing the rustle in the leaf litter first, and then look quick!

**Boyd’s Forest Dragon** (*Genocephalus boydii*) is unique to the wet tropics, and a very impressive lizard indeed. With its crested head and its bright colours, it can be seen both night and day. It is not so shy and can sometimes been seen perched vertically on a sapling. You may be able to quietly approach them as they rely on remaining still to avoid detection. If you take your eyes off it for a moment, you may find that it has skillfully moved to the opposite side of the trunk and out of sight!
Where there is water there are frogs and the Lodge is no exception. The large **White-lipped Tree Frog** (*Litoria infrafrenata*) is common throughout the lower areas of the Daintree. Tree frogs generally spend most of their lives high in the forest canopy, but they may select their daytime resting spots around the Lodge.

Lesueur’s Frog (*Litoria lesueuri*) sometimes known as the Rocky River Frog, rely on fast-flowing rivers, like the Mossman River. The female attaches her eggs to rocks below the surface of the water – lucky they are very sticky so they don’t detach and float down the river!

Unfortunately the introduced **Cane Toad** (*Rhinella marina*) is a prolific pest species across northern Australia. It possesses poison glands in the skin on its neck and is responsible for the decline of many native predatory mammals, reptiles and birds. You may see these about the Lodge – don’t touch!

There are also many fish in the river. One of the most common is the **Jungle Perch** (*Kuhlia rupestris*), a little fish that can be seen in the Mossman River, along with Side-Necked Turtles. Snorkelling in this clear (but cold!) water can reveal many more inhabitants of the water. Try it!
As night falls, the calls of birds in the trees are replaced by the chirping of insect life. The total number of insect species would be in the thousands, and as a general rule, wherever there are insects, there will be spiders. The **Golden Orb-weaving Spider** (*Nephila maculata*) is perhaps the most spectacular of the Daintree spiders. Its web is so large and strong it can break the momentum of small birds and bats!

You may also have noticed that the insects don’t flock around the lights here, as such as they do in other parts of the world. If you look up, you may notice something missing that generally characterises the night sky – for the moon is concealed by the forest canopy. The insects here rely less on the moonlight for navigation. Therefore, they won’t be attracted by lights like other flying insects.

During the day you cannot fail to notice that so many of the broad leaves are peppered with holes. This testifies to the activity of myriads of caterpillars. A lot of their activity occurs at night, but by day they must remain well concealed amid the foliage. There are some species which are brightly coloured such as the **Yellow Spiky Caterpillar**. Of course, the end result of these veracious vegetarians in the tropics is a profusion of brilliantly coloured moths and butterflies. The **Ulysses Butterfly**
(Papilio Ulysses) is a vigorous flyer, performing aerobatics around the forest canopy with flashes of vibrant blue. And beyond that, around the Lodge at night, though not heading directly for the light bulbs, a variety of most colourful and patterned moths can be seen.

Ants and termites are important to rainforest ecology. The **Green Tree Ant** (*Oecophila smaragdina*), demonstrates amazing cooperation in constructing their leafy nests. A chain of ants will form a bridge between leaves and branches and progressively draw these together while other ants from the colony apply an adhesive to glue the leaves together. In so doing they create a bag from living vegetation that shelters the colony. But beware; Green Tree Ants will aggressively defend their nests by biting intruders, regardless of size, and projecting a stream of ascorbic acid from their abdomens.
BEYOND THE LODGE – MORE TO EXPLORE

We encourage guests to further explore the Daintree National Park, which lies adjacent to the grounds of Silky Oaks Lodge and our trails. The Fig Tree Rapids and Mountain trail guides will introduce you to many more plant species of the forest and assist you in experiencing the wonderful biodiversity.

Further afield, north to the Daintree River you may find other remarkable or endangered flora and fauna. For example, the Southern Cassowary (*Casuarius casuarius*) is often known as the jewel in the crown of the now tropical rainforest, but one derived from and ancient cool temperate rainforest, where the ancestors of the modern cassowaries had their beginnings. The natural range of this magnificent flightless bird is becoming more and more restricted. The Cassowary is a focus for conservation efforts because they are a very integral part of the cycle of many rainforest trees. Without these birds, and their appetite for fruit, around 150 species of rainforest plants would be affected. For many plants, the Cassowary is the only species capable of ingesting and spreading the fruits and seeds because of its well-adapted digestive system. The seeds of the

Cassowary Plum (*Cerbera floribunda*) have 94% chance of germinating after passing through a Cassowary, opposed to only 4% success without. If the Cassowary became extinct, the dynamics of the entire forest could entirely change.

Yet another group of rare and peculiar marsupials of the Daintree Rainforest is the tree kangaroo. *Lumholtz’s Tree-kangaroo* (*Dendrolagus lumholtzi*) is only known
to the south of the Daintree River, whereas the Bennett’s Tree-kangaroo (*Dendrolagus bennettianus*) lives north of the river. These unusual kangaroos spend much of their life in trees, but do come down to the forest floor at night. The best time for seeing these rare marsupials is early dawn or dusk. It is astonishing to see how a hopping animal copes with life in the trees – it is a remarkable adaptive achievement and their long tail helps to counter balance their movement.

Among the threats to the rainforest and its native inhabitants include the introduced feral pig (*Sus scrofa*). Feral pigs now exceed 24 million in Australia and cause much destruction to the rainforest. They consume vast quantities of fallen fruit, completing with the Cassowary for food, and uproot fan palms and other plants to eat roots, earthworms and frogs. Controlling feral pigs is a huge challenge – they are large and dangerous and often the only effective method of eradication is hunting. You can see evidence of feral pigs in the forest by the deep wallows they create.

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**Did you know...?**

Male and female Eclectus Parrots look very different and for a long time scientists thought they were different species! Females are red, so they stand out in tree hollows, and males are green so they can camouflage with the rainforest leaves and fly long distances to find food for both himself and his partner.
Silky Oaks Lodge is an active contributor to Daintree Rainforest conservation. For the past 15 years Silky Oaks Lodge has followed its documented Integrated Environmental Management System (IEMS). The first principle of the system is that the long term effect of the Lodge on the local environment must be zero. The Lodge has its own Sewerage Treatment Plant, which is of a standard consistent with World Heritage guidelines. Grey water from the accommodation houses and main Lodge, including the Healing Waters Spa, passes through grease traps and then on to our treatment plant. This treatment plant is an open topped, packed steel system with a clarification step as well as aerators and sodium illuminate with a final sand filter used to reduce phosphorus. The final effluent emitted out into the grounds and surrounding forest is of a specification near tertiary standard.

All water from the Lodge is drawn from the Mossman River and is treated on site with a sand filter and chlorination plant with the result being a pure minimally treated spring water of a high standard. Operationally, the Lodge further adheres to sustainability of the environment with the following practices: Organic toilet amenities used in all guest rooms and bathrooms, energy efficient light bulbs used throughout the Lodge, environmentally responsible cleaning products used as much as possible in the laundry and throughout the Lodge, use of email for all correspondence whenever possible, use of recycled paper and both sides of all paper for internal use, sourcing of local produce for the Tree House Restaurant, sourcing of locally made art works and products in our gift store, electric buggies used throughout the Lodge grounds, an Australian produced natural organic product used in our Healing Waters Spa, all garbage from the Lodge including kitchen fats is sorted and recycled. Silky Oaks Lodge is also seeking to minimize the carbon footprint generated by each individual guest visiting the Lodge. And the lodge financially assists “Rainforest Rescue’ which is a not-for-profit organization committed to the future of the natural environment – be sure and buy a T-shirt!
FURTHER REFERENCES (If you should like more detail!)


Hero,


Barmanga Bubu Ngadimunku Inc., Mossman.


