

WILDLIFE TRAVEL



NEW CALEDONIA

3rd to 17th September 2018

New Caledonia 2018: trip report and species lists

Leaders

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A gallery of photos from the trip is at <https://www.flickr.com/photos/wildlifetravel/albums/72157701374087024>

You might find the following three websites useful, especially for the flora of New Caledonia:

www.endemia.nc

includes maps and photos of many species

https://www.flickr.com/photos/ben_caledonia/albums

galleries of plants and animals of New Caledonia

www.botanique.nc/herbier/florical

a list of the flora of New Caledonia



Araucaria rulei on the mountains above Poro

New Caledonia 2018: trip report and species lists

4th September 2018. Mont Koghi and Tjibaou Kanak Cultural Centre

Our first morning in New Caledonia, and after a visit to the local bookstore to stock up on botanical references, we headed up to the forested Mont Koghi.

After winding our way up the twisting road, via a short stop at the roadside for a look at one of the iconic plants of New Caledonia, the showy yellow flowers of *Deplanchea speciosa*, we arrived at the Auberge de Mont Koghi.

Around the Auberge, both Barred Honeyeater and New Caledonian Friarbird hopped up to feed on the *Deplanchea* flowers, Satin Swiftlets flew low overhead, a pair of Metallic Pigeons did their best to hide from view in a garden, and our first Long-tailed Triller and Striated Starlings put in their first appearances in the tree tops, as well as a brief Southern Shrikebill. We could hear both Horned and New Caledonian Parakeets in the forest canopy nearby, but alas we couldn't spot them.

The same area was home to another two of the island's iconic plants: the Column Pine *Araucaria columnaris*, with its characteristic silhouette, and the superb New Caledonian Pitcherplant *Nepenthes vieillardii*, with an amazing variety of growth forms: in just one small roadside patch we found vine-like plants with pale green pitchers, a rosette-forming plant with several tiny squat pitchers and a very large, terrestrial, purple pitcher busy devouring an earwig.

We headed into the shade of the forest, a very different atmosphere to the forest edge, with towering rainforest trees, notably the wonderful buttresses of *Sloanea koghiensis*, and an abundance of mosses and ferns, including the giant Black Royal Fern *Ptisana attenuata*, several 'proper' tree ferns, the flimsy epiphytic *Hymenophyllum pallidum*, very primitive Fan-tailed Fern *Schizaea dichotoma*, an amazingly large, broad *Selaginella* clubmoss and the 'big moss' *Spiridens vieillardii* growing straight out from the trunks of some of the trees.

A sunny patch of forest was home to a pair of Melanesian Flycatchers, with Grey Fantail, Green-backed White-eye and Fan-tailed Gerygone all in the same area. Throughout our time in the forest, we could hear the low booming of Goliath Imperial Pigeons, the largest arboreal pigeon, and one was glimpsed as it flapped its way through the trees.

Back out in the sunshine for lunch, a couple of New Caledonian Myzomela were buzzing around the trees, one bright red male singing right above us, out in the open, and a couple of South Melanesian Cuckooshrikes were flying about the canopy, calling loudly but never really showing themselves off. At ground level, numerous Common Litter Skinks were zipping about amongst the grass.

Moss	<i>Spiridens vieillardii</i>	Big Moss growing straight out from tree trunks
Ferns	<i>Drynaria rigidula</i>	The 'perching fern'
	<i>Hymenophyllum pallidum</i>	a filmy fern
	<i>Ptisana attenuata</i>	Black Royal Fern.
	<i>Schizaea dichotoma</i>	The primitive, 'fan tailed' fern
Araucariaceae	<i>Araucaria columnaris</i>	
Bignoniaceae	<i>Deplanchea speciosa</i>	The yellow-flowered tree on Mont Koghi
Elaeocarpaceae	<i>Sloanea koghiensis</i>	The large buttress-rooted rainforest trees, endemic to Mont Koghi
Lamiaceae	<i>Oxera palmatinervia</i>	The orange-flowered liana
Lamiaceae	<i>Stachytarpheta</i>	A South American species, common roadside weed with purple flowers growing on a tall spike
	<i>cayennensis</i>	
Nepenthaceae	<i>Nepenthes vieillardii</i>	New Caledonia Pitcher Plant one of only 5 species of <i>Nepenthes</i> not found in South East Asia, and the easternmost species in the world.
Orchidaceae	<i>Eleuthroglossum</i> sp.	The orchid with papery basal 'bulbs'
Solanaceae	<i>Solanum mauritanium</i>	South American species, large shrub, glaucous leaves

From Mont Koghi, we travelled down through the eastern outskirts of Noumea to the Tjibaou Kanak Cultural Centre, with its impressive modern architectural 'villages' and the reconstructed traditional houses. Around the gardens, a Sacred Kingfisher dispatched an unlucky skink, several White-breasted Woodswallows hawked overhead, a little group

New Caledonia 2018: trip report and species lists

of Common Waxbills were shuffling about on the lawns, and several groups of Green-backed White-eyes made their way through the trees, while noisy Grey-eared Honeyeaters were calling around the mangroves.

5th September 2018. North to Koné.

After breakfast we met Veronique, our second driver and local francophone guide before checking out and heading on a quick tour of the city: first to another book shop, then to the Ouen Toro viewpoint, looking out towards Isle Ste Marie, where a little party of Common Waxbills zipped about, and finally to the Parc Zoologique et Forestier, where we visited the Kagu breeding facility and saw a number of endemic species up close, including New Caledonian Flying Fox and Horned Parakeet.

With some heavy rain arriving, we set off north from Noumea and up the west coast. Large parts of the landscape had been cleared for agriculture, while other areas seemed almost savannah-like, with dry forest dominated by the Paper-bark Tea Tree or Niaouli *Melaleuca quinquenervia*. Along the way we passed several groups of feral Wild Turkey, a single New Caledonian Crow perched up in a dead tree and the occasional Whistling Kite.

After lunch at La Foa, we continued north to Bourail, where we visited an area of dry coastal forest containing two particularly notable trees: the surprisingly tall cycads *Cycas seemannii*, a plant found in Fiji, Tonga and Vanuatu as well as New Caledonia and considered 'Vulnerable' by the IUCN; and the tall, buttressed 'Droopy' *Acropogon bullatus*, with its odd cup-like leaves, an 'Endangered' species now found at just four sites between Bourail and the Ile des Pins, but quite common here. On a smaller scale, we found a very energetic little Plant Pot Worm Snake under a log, and nearby we noticed that the orangey 'fungi' on the forest floor weren't mushrooms at all, but a parasitic plant *Balanophora fungosa*.

Birds in the dry forest included Metallic Pigeon and Rufous Whistler, as well as the 'usual' Grey-eared Honeyeater, Green-backed White-eye and Grey Fantail.

Cycadaceae	<i>Cycas seemannii</i>	Vulnerable.
Balanophoraceae	<i>Balanophora fungosa</i>	Parasitic. Also found in southern/South East Asia and Queensland
Malvaceae	<i>Acropogon bullatus</i>	Endemic. Endangered. Odd upsidedown-cup-like leaves, buttressed roots.
Myrtaceae	<i>Melaleuca quinquenervia</i>	Niaouli. Pale trunks, small tree dominating the secondary dry forest along the coast. Used for distilling oil.
Rubiaceae	<i>Morinda citrifolia</i>	Noni, Beach Mulberry. Lumpy fruits that smell of cheese
Sapindaceae	<i>Cupaniopsis glomeriflora</i>	Small shrub with blackish stems bursting into 'cauliflorous' bud

Back on the road, and we put some more miles behind us, arriving at Koné in time for dinner.

6th September 2018. Coeur du Voh and Katepaick Massif

We started the day climbing the Katepaick Massif as the morning warmed up, heading for a viewpoint overlooking the coastal flatlands and the famous 'Coeur du Voh' in the mangroves below us, with the amazing blue of the lagoon behind.

Plenty of interesting plants held our interest along the way, including the parasitic *Cassytha filiformis*, looking very similar to Dodder, but with berry-like fruits; the white-flowered *Grevillea exul*; and the lovely orangey passionflower *Passiflora aurantia*.

Several butterfly species were on the wing, including the Common Egg-fly; we found several wonderful Red-spined Orbweaver spiders *Gasteracantha rubrispinis*; and birds included a displaying White-breasted Goshawk near the top, and a pair of Brown Goshawks chasing down towards the town and over our heads, as well as plenty of noisy Grey-eared Honeyeaters.

New Caledonia 2018: trip report and species lists

Ferns	<i>Cheilanthes sieberi</i>	Small fern
	<i>Odontosoria deltoidea</i>	The fern with red stems. Was <i>Sphenomeris deltoidea</i>
Bignoniaceae	<i>Deplanchea speciosa</i>	Over. Endemic.
Euphorbiaceae	<i>Bocquillonia sessiliflora</i>	Shrub with red colyflorous flowers
Fabaceae	<i>Canovallia sericea</i>	The shrubby pea with a single cherry-red flower
Fabaceae	<i>Macrophilium lathyroides</i>	The black-purple flowered pea
Fabaceae	<i>Tephrosia leratiana</i>	Spindly, woody pea with pale pink flowers
Goodeniaceae	<i>Scaevola cylindrica</i>	Endemic
Lauraceae	<i>Cassytha filiformis</i>	False Dodder. Pan-tropical plant
Mimosaceae	<i>Acacia spirorbis</i>	Gaiac. The acacia with spiral fruits
Myodocarpaceae	<i>Myodocarpus fraxinifolius</i>	
Myrtaceae	<i>Melaleuca quinquenervis</i>	Niaouli. Found in southern Papua, the east coast of Australia and New Caledonia
Passifloraceae	<i>Passiflora aurantia</i>	Tropical eastern Australia and New Caledonia
Proteaceae	<i>Grevillea exul</i>	White Grevillea. Endemic
Rutaceae	<i>Psychotria coptosperma</i>	White flowers, leaves with pale 'zig zag' pattern down main vein
Rutaceae	<i>Psychotria monanthus</i>	Solanum-like flowers, 4 or 5 petals
Sapindaceae	<i>Dodonaea viscosa</i>	Hopbush with heart-shaped, three-winged, pinkish fruits

From Voh, we headed northwards again, stopping for lunch in a beach restaurant just outside Koumac, where as well as some great food we had a Wandering Tattler on the beach and a single Brown Booby swooping out over the increasingly-windy bay.

Another drive north took us through some good dry forest to our base for the next couple of nights on the shores of Nehoue Bay.

7th September 2018. Tiebaghi Massif

After breakfast we headed towards the Tiebaghi Massif and up to the 'old village' of Tiebaghi mine, the site of what was once the world's largest chromium mine, worked by Italian, Vietnamese and Javanese miners until the 1960s. We first walked the 'botanical trail' winding through the shrubby vegetation, before spending some time learning about the history of the village and the mine itself.

The ultramafic massif is home to a very specialised flora, with several very localised endemics. Perhaps most notable amongst these is *Virotia angustifolia*. The total world range of this Critically Endangered member of the Proteaceae is the 23km² of the massif: the plant is legally protected, but its habitat and range is not, and the entire population is projected to be affected by the expanding open cast mining operations now taking place.

Other impressive plants during the day included the palm-like *Lomandra insularis*; the orange-flowered endemic *Tristaniopsis guillainii* with its stamens clustered together into five groups; the stunning red bell-flowers of *Thiollierea campanulata*; and three species of orchid.

Asparagaceae	<i>Lomandra insularis</i>	Odd palm-like plant, endemic
Cyperaceae	<i>Costularia comosa</i>	The tall sedge with black 'knees'
Dilleniaceae	<i>Hibbertia pancheri</i>	Yellow-flowered bush
Ericaceae	<i>Dracophyllum ramosum</i>	Branched 'dragon tree'
Ericaceae	<i>Styphelia macrocarpa</i>	The shrub with long 'spike' terminal buds
Myrtaceae	<i>Syzygium kriegei</i>	The pale flowered myrtaceous bush on the botanical walk, very popular with honey bees
Myrtaceae	<i>Tristaniopsis guillainii</i>	Orangey flowered bush, stamens in five clusters.
Orchidaceae	<i>Dendrobium sarcochilus</i>	The tall orchid with many, drooping flowers, near the gate
Orchidaceae	<i>Eriaxis rigida</i>	The very tall 'wax orchid' just coming into bud along the botanical walk
Orchidaceae	<i>Thelymitra longifolia</i>	The pale lilac sun orchid

New Caledonia 2018: trip report and species lists

Phyllanthaceae	<i>Phyllanthus tiebaghiensis</i>	Tiny red flower buds, compound leaves: Tiebaghi Massif endemic
Proteaceae	<i>Beauprea gracilis</i>	fine, pinky flowers, on the botanical walk
Proteaceae	<i>Stenocarpus umbelliferus</i>	Endemic
Proteaceae	<i>Viotia angustifolia</i>	Tiebaghi Massif endemic
Rubiaceae	<i>Thiollierea campanulata</i>	The red bell flower, endemic
Solanaceae	<i>Solanum styraciflorum</i>	

Heading back towards the hotel, we stopped at the roadside to check out some flowering Niaouli and various other plants.

Mimosaceae	<i>Mimosa pudica</i>	Sensitive Plant, pinky purple flowers, roadside weed
Myrtaceae	<i>Melaleuca quinquenervia</i>	Niaouli
Passifloraceae	<i>Passiflora tarminiana</i>	Yellow Banana Passionfruit
Polygalaceae	<i>Polygala paniculata</i>	Tiny white-flowered milkwort, roadside weed

8th September 2018. Driving across the top of the island

Our first stop of the day was at a large weedy pool we'd passed a couple of times already, where we found one or two Grey Teal amongst the Pacific Black Duck, and a Swamp Harrier displaying overhead.

Heading across to the east coast, via a scenic stop at 'Amos Hill', we paused at Ballade, where we visited the church of St Denis and learned about various beheadings, and then stopped for lunch a little further along the road, where we met Fernando and sampled the local coconuts, as well as hearing about the forthcoming independence referendum from the Kanak point of view.

The east coast was noticeably lushier than we were used to, with a much more 'tropical' feel to the vegetation. Near Pouébo, we saw several New Caledonian Crows at the roadside, and then stopped near Hienghène to view the 'broody chicken' just offshore, and found a part of Red-throated Parrotfinches feeding around the grassy lawns.

Apocynaceae	<i>Cerbera manghas</i>	'False Mango' (one of many)
Asteraceae	<i>Centrantherum punctatum</i>	False Knapweed. The purple-flowered weed at the 'Amos Hill' viewpoint.
Lecythidiaceae	<i>Barringtonia neocaledonica</i>	The tree with long drooping flower spikes, opening in spiral pattern
Passifloraceae	<i>Passiflora foetida</i>	Running Pop. Roadside weed.

9th September 2018. Hienghène and Islot Hiengu

This morning we took a boat trip out to the tiny Islot Hiengu just offshore, where we snorkelled over the reef and explored the island.

We had a free afternoon to relax around the lodge grounds, where Red-throated Parrotfinches were adding a splash of colour around the rooms.

For some, there was a late afternoon visit to Hienghène village, where we enjoyed the interesting architecture of the modern town hall with its totems telling the story of the arrival of the French. Here we also found Red-throated Parrotfinches, South Melanesian Cuckooshrike, Melanesian Flycatcher, New Caledonian Friarbird and a small party of Chestnut-breasted Mannikins in the trees.

10th September 2018. East coast to Poro, and across to Poe

Today we set off driving down the east coast, picking up grocery supplies and a caffeine boost along the way, where Striated Starling and South Melanesian Cuckooshrike were feeding in the trees.

New Caledonia 2018: trip report and species lists



Flying into Noumea over the World Heritage lagoon



View of the Poro mining area



Sunset from our hotel in Noumea

New Caledonia 2018: trip report and species lists

Around Poro, we struck inland, heading up into the hills and an area of nickel mining. As well as some staggering scenery, with great chunks of the mountains sculpted and excavated by the mining operations, we also found plenty of botanical interest to attract our attention.

At the roadside we found our second species of *Araucaria*. New Caledonia has an amazing collection of these ancient Gondwanaland conifers, with 14 of the world's 20 species endemic to this island. Here, in the nickel-rich hills above Poro, we found *Araucaria rulei*, with larger leaves than the 'usual' *columnaris*, and with secondary branching.

In the same area we found plenty of impressive *Nepenthes* pitcher plants, two species of *Grevillea* growing side by side, the very elegant white bell flowers of *Dubouzetia elegans*, and the little white orchid *Caladenia catenata*.

Nearby, on the edge of the active mine, we found what can only be described as a 'jumble' of petroglyph-bearing rocks, apparently removed from the mine and dumped at the roadside.

Araucariaceae	<i>Araucaria columnaris</i>	Common along the coast, planted around villages
Araucariaceae	<i>Araucaria rulei</i>	on the hilltops in the mining area behind Poro. Considered 'Endangered' by IUCN: only grows on ultramafic soils, threatened by Nickel mining
Casuarinaceae	<i>Gymnostoma dammarifolia</i>	The 'fluffy' Casuarina tree around the mining area, with spiny cones
Clusiaceae	<i>Montrouziera sphaeroidea</i>	The yellow flower with waxy red bracts, near the petroglyphs
Elaeocarpaceae	<i>Dubouzetia elegans</i>	Very aptly named: elegant white flowers hanging down in clumps.
Epacridaceae	<i>Dracophyllum ramosum</i>	
Ericaceae	<i>Styphelia dammarifolia</i>	
Orchidaceae	<i>Caladenia catenata</i>	White 'sun orchid', 4 or five in flower
Orchidaceae	<i>Dendrophyllum</i> sp.	Enormously long stems, up to 4m tall! Not yet in flower...
Proteaceae	<i>Grevillea exul</i>	the creamy-white flowered <i>Grevillea</i>
Proteaceae	<i>Grevillea gillivrayi</i>	the red-flowered <i>Grevillea</i>
Sapindaceae	<i>Dodonea viscosa</i>	

Continuing on our way, we travelled across the centre of the island, passing through some very lush areas, and enjoying a stunning rainbow along the way, along with roadside New Caledonian Crow, Metallic Pigeon and, as we crossed the appropriately-named 'Col des Rousettes', a single Ornate Flying Fox, considered 'Vulnerable' by the IUCN and one of only 6 species of native land mammal.

We finished the day with some very good food in our lodgings just behind the beach at Poe.

11th September 2018. Around Poe.

A busy day!

We started with a very short drive just up the coast to a spot on the beach, where we boarded a glass-bottomed boat for a trip into the lagoon and out towards the reef.

Just offshore we spent some time in an area of sea grass, where we found at least four Green Turtles grazing quietly on the grass, giving amazing views through the glass. One animal was host to an enormous remora, a strange fish that hitches a ride on the larger animal using suckers on the top of the fish's head. Nearby we also found a large Sting Ray. Out to the coral, and we cruised slowly over the reef, with a wonderful diversity of both coral and fish beneath us. A couple of us did some snorkelling, with Crested Terns flying about the boat, before we heading back into land.

After a coffee stop back at the hotel, we headed a short way in the other direction, to Baie des Tortues, where we enjoyed a wonderful grove of twisting Column *Araucarias*, in their natural, coastal habitat, while another couple of turtles were seen offshore, and large numbers of Satin Swiftlets were swirling around the cliffs, presumably where they nest.

New Caledonia 2018: trip report and species lists

Lunch was back down on the beach, at a 'snack' owned by a friend of Veronique's, where we were entertained by a fly-catching Grey Fantail and a South Melanesian Cuckooshrike in the treetops.

Our afternoon excursion was into the protected dry forest of the Domaine du DEVA. This reserve protects the largest remaining area of dry forest left on the island, a very endangered habitat now impacted by a large number of non-native species growing through the forest.

Notable among the plants were the little passionflower *Passiflora suberosa*, the 'spoon tree' *Acropogon bullatus* in flower and *Semecarpus atra* with its poisonous, black sap causing severe blistering and burns.

In the grassland outside the forest we found a large mixed flock of Common Waxbills and Chestnut-breasted Mannikins, with a Peregrine soaring over the nearby hilltop. At least three groups of New Caledonian Crows were seen in the forest, including one bird carrying his favourite (and famous) tool, and an adult bird showing its large youngster how to peel the bark off branches to reveal the grubs within.

A superb adult White-breasted Goshawk showed wonderfully well perched in a nearby tree, glaring at us with his bright red eyes and calling loudly, while some of us saw a second adult back near the car park.

And on the small lake within the forest, we found Grey Teal, Pacific Black Duck with at least two Mallards (a non-native species with which the Black Ducks can, and do hybridise), Australasian Grebe, both Little Pied and Little Black Cormorants, Dusky Moorhen and a couple of lovely Nankeen Night Herons

Finally, on leaving the Domaine, we found a pair of Eastern Barn Owls hunting near to the roadside.

Amaryllidaceae	<i>Crinum asiaticum</i>	The big clumps of broad 'lily' leaves
Anacardiaceae	<i>Semecarpus atra</i>	The tree with black sap, causing severe burns
Araucariaceae	<i>Araucaria columnaris</i>	A wonderful grove of trees behind the beach at Baie des Tortues
Fabaceae	<i>Erythrina fusca</i>	Orange Coral Tree orange-flowered tree, introduced
Malvaceae	<i>Acropogon bullatus</i>	The 'spoon tree', here in flower.
Malvaceae	<i>Hibiscus tiliaceus</i>	Large orange flowers
Myrtaceae	<i>Eugenia sp.</i>	'bobbly' bark
Myrtaceae	<i>Melaleuca quinquenervia</i>	a particularly impressive 'Giant Niaouli' on the edge of the marsh.
Passifloraceae	<i>Passiflora suberosa</i>	Small passion flowers
Solanaceae	<i>Solanum seaforthianum</i>	Purple flowers, in clusters on a scrambling vine: from Brazil
Thymelaceae	<i>Wikstroemia indica</i>	Small green flowers

12th September 2018. Parque des Grande Fougères, and back to Noumea.

Another packed day...

As we waited for Veronique to arrive in the morning, we finally noticed that the swiftlets overhead were slightly different to those we'd become used to: White-rumped Swiftlets, with their duller upperparts and less contrasting pattern beneath. A Whistling Kite came low overhead, while Chris watched New Caledonian Crows using their tools to feed in the nearby campsite before breakfast.

On the road, and up into the hills, where we arrived amongst the lush forest of the Parque des Grande Fougères, a recently gazetted reserve that protects a great chunk of humid forest.

Walking the 'bread oven' trail, we found plenty of interesting plants to keep the botanically-minded amongst us interested, while the birdlife included pigeons aplenty, with several Goliath Imperial Pigeons heard and seen, but best of all were the Cloven-feathered Doves: their mournful hooting was a common noise in the forest, and one was tracked down to its perch, where it sat in all its green and yellow glory, singing away for us, before flying off with its characteristic whistling flight. Other birds during the afternoon included a pair of White-bellied Goshawks circling high up in their display flight, a female New Caledonian Whistler, a couple of Yellow-bellied Robins and several New

New Caledonia 2018: trip report and species lists

Caledonian Streaked Fantails in the denser forest, and New Caledonian Crows and a small group of Striated Starlings around the treetops by the carpark.

Towards the end of the walk we found a grove of interesting Araucarias with smaller, finer leaves, which were *Araucaria subulata*, a specialist of these humid ridge-top forests, while back towards the car park we found an even more notable plant: *Amborella trichopoda*, an endemic tree, famous as the only surviving member of the most ancient lineage of flowering plants.

Our walk completed, it was time to head back towards Noumea, via a brief stop at a Niaouli distillery.

Amborellaceae	<i>Amborella trichopoda</i>	Amborella. The most ancient lineage of flowering plants
Araucariaceae	<i>Agathus lanceolata</i>	Southern Kaori
Araucariaceae	<i>Araucaria subulata</i>	The small-leaved Araucaria in the forest
Lamiaceae	<i>Oxera pulchella</i>	White flowers, in the beds by the visitor centre
Orchidaceae	<i>Phaius tancarvilleae</i>	The big white-and-brown orchid
Pandanaceae	<i>Freycinetia graminifolia</i>	The 'climbing palm'
Rubiaceae	<i>Gardenia aubryi</i>	The 'bunny eared' fruit

13th September 2018. Noumea

A free day, with some of us enjoying the museums and aquarium in Noumea and others visiting the lighthouse out on Amadee Island, home to sea snakes, Buff-banded Rail and a pair of Eastern Ospreys.

14th September 2018. Heading South

After our day off yesterday, we all re-convened after breakfast, clambered aboard our buses and set off for the deep South.

Heading out of Noumea, we passed one of the island's only three McDonalds and, soon after, the last supermarket in the south before striking out along the road to the wonderfully named Plum, where we made a short stop to fill up water bottles at the 'famous' roadside springs (famous being a relative term in New Caledonia...). While some sampled the waters, a quick look along the damp bank nearby revealed our first New Caledonian Sundews *Drosera neocaledonica*.

Heading further into the 'Great South', we travelled through more 'maquis minier' country, making plenty of roadside stops along the way, with orchids being something of a feature of the day: by the end of the day we had found six orchids in flower, as well as more of the very tall wax orchid *Eriaxis rigida*, none of which were yet out.

We made a short stop at the former convict centre of Prony before heading out to Cape Ndoua, where we walked up to the lighthouse, just about managing to avoid the rain that was chasing after us all day.

And from there it wasn't too far, albeit on roads full of 'chicken nests', to our lovely lodgings on the beach near Point Boise.

Araliaceae	<i>Meryta coriacea</i>	Yellow flowers, long broad leaves
Cunoniaceae	<i>Cunonia purpurea</i>	
Cunoniaceae	<i>Geissos pruinosa</i>	Red flowers coming straight from the trunk, in the mining area
Cunoniaceae	<i>Pancharia elegans</i>	Growing near the 'fountain'
Droseraceae	<i>Drosera neocaledonica</i>	New Caledonian Sundew
Epacridaceae	<i>Dracophyllum ramosum</i>	Small-flowered, branching 'dragon tree'
Epacridaceae	<i>Dracophyllum verticillatum</i>	Large-flowered 'dragon tree'
Flagellariaceae	<i>Flagellaria neocaledonica</i>	The 'reed' with twisty leaf-tips
Myrtaceae	<i>Syzygium ngoyense</i>	Growing near the 'fountain'
Myrtaceae	<i>Sannantha leratii</i>	White-flowered.

New Caledonia 2018: trip report and species lists

Orchidaceae	<i>Caladenia catenata</i>	
Orchidaceae	<i>Dendrobium odontochilum</i>	Delicate white flowered Dendrobium on the way up to the lighthouse
Orchidaceae	<i>Dipodium punctatum</i>	Pinky flowered orchid near the lighthouse
Orchidaceae	<i>Eriaxis rigida</i>	Wax orchid, not out
Orchidaceae	<i>Megastylis gigas</i>	The big white orchid
Orchidaceae	<i>Phaius tancarvilleae</i>	The big white orchid with brown centres.
Orchidaceae	<i>Spathoglottis plicata</i>	Pink orchid

15th September 2018. Chute de la Madeleine, Goro Plateau and Yate.

A day for the conifer-lovers!

We started with a stop amongst the grove of *Araucaria nemorosa* along the drive out of the hotel. This 'roadside' tree is listed by the IUCN as Critically Endangered, with the total population numbering well under 5000 individuals, all of which live in less than 10km² of this tiny corner of south east New Caledonia.

From here we moved to the Chute de la Madeleine, where the botanical trail took us down to the river and then back through the 'maquis'. New conifers came thick and fast here...

Between the carpark and the river, we found the 'false Araucaria' *Dacrydium araucarioides*, a Podocarp doing a very good impression of a slightly short, spindly Araucaria with upward-sweeping branches; and the lower growing, rather gnarled *Neocallitropsis pancheri*, a conifer with the honour of being the first tree to be officially protected in New Caledonia, in 1942.

Down at the riverbank we found two bizarre Podocarps, growing alongside each other, but both with their feet well and truly in the water: the broad-leaved *Retrophyllum minus* with very swollen lower trunks, and the finer-leaved *Dacrydium guillauminii*.

Planted along the way were a handful of very large-leaved Araucarias, with two large adult trees on the far bank of the river: identified at the time as *Araucaria muelleri*, this large-leaved population on the Goro plateau has recently been re-identified as another, new species, *A.goroensis*.

Amongst the many other interesting plants were two new orchids for our growing list, both Dendrobiums: the more delicate, lower-growing plant with purple-tinged leaves was *Dendrobium verruciferum*, with its flowers varying from deep red to greeny-yellow; while the (much) taller plant, with one or two just coming into (yellow) flower was *Dendrobium steatoglossum*. Familiar 'old friends' were *Megastylis gigas* and *Caladenia catenata*, with plenty of the wax orchid *Eriaxis rigida*, although try as we might we couldn't find any even close to flowering yet...

Back on the conifer hunt, as we headed over the hills and down to the coast again after lunch we found several Mountain Kaori *Agathis ovata* growing along the crest ridge, a wonderful tree with a characteristic martini-glass shape and aromatic sap.

In amongst all the conifers and orchids, the day was book-ended by a wonderfully photogenic White-bellied Goshawk in the trees around the hotel, while the drive back around the coast from Yate was characterised by some very confiding Goliath Imperial Pigeons on the roadside wires, a sign that this enormous pigeon must not feature on the menu in these villages.

Back at the hotel, as dusk fell, some small bats appeared, hawking high up over the treetops, one of the island's two species of *Miniopterus* bentwing bats.

New Caledonia 2018: trip report and species lists

CONIFERS

Araucariaceae	<i>Agathis lanceolata</i>	Southern Kaori. The 'typical' forest Kaori
Araucariaceae	<i>Agathis ovata</i>	Mountain Kaori. The 'martini glass' Kaoris at the top of the ridge. Endangered.
Araucariaceae	<i>Araucaria columnaris</i>	Column Araucaria. Common littoral tree
Araucariaceae	<i>Araucaria goroensis</i>	Goro Plateau Araucaria. The large-leaved Araucaria around Chute de la Madeleine, identified at the time as <i>A. muelleri</i> . This population has recently been recognised as a new species, restricted to the Goro plateau. Endangered.
Araucariaceae	<i>Araucaria nemorosa</i>	Port Boisé Araucaria. Along the entrance road to the lodge, with longer branches and more rounded silhouette. Critically Endangered, fewer than 5000 individual trees.
Cupressaceae	<i>Callitris (=Neocallitropsis) pancheri</i>	Common around Chute de la Madeleine.
Podocarpaceae	<i>Dacrydium araucarioides</i>	Like a small Araucaria, with upswept leaves. Common around Chute de la Madeleine
Podocarpaceae	<i>Dacrydium guillauminii</i>	Cat's Tail Rimu. Fine leaved podocarp growing with its feet in the water. Critically Endangered.
Podocarpaceae	<i>Retrophyllum minus</i>	The broad-leaved podocarp with swollen trunk, growing with its feet in the water. Endangered.
Araliaceae	<i>Myodocarpus fraxinifolius</i>	
Asparagaceae	<i>Lomandra insularis</i>	
Bignoniaceae	<i>Deplanchea speciosa</i>	Golden Crown
Casuarinaceae	<i>Casuarina equisetifolia</i>	Around the hotel, on the beach
Casuarinaceae	<i>Gymnostoma deplancheanum</i>	Southern Ironwood. The 'she-oak' in the mining areas
Clusiaceae	<i>Garcinia amplexicaulis</i>	Broad-leaves, small fleshy orange flowers
Clusiaceae	<i>Montrouziera sphaeroidea</i>	Red and yellow flowers
Cunoniaceae	<i>Pancheria hirsuta</i>	
Droseraceae	<i>Drosera neocaledonica</i>	New Caledonian Sundew
Epacridaceae	<i>Dracophyllum ramosum</i>	Small-flowered, branching 'dragon tree'
Epacridaceae	<i>Dracophyllum verticillatum</i>	Large-flowered 'dragon tree'
Ericaceae	<i>Styphelia longistylis</i>	
Ericaceae	<i>Styphelia veillonii</i>	Red young leaves
Euphorbiaceae	<i>Longetia buxoides</i>	
Flagellariaceae	<i>Flagellaria neocaledonica</i>	The 'reed' with twisty leaf-tips
Goodeniaceae	<i>Scaevola beckii</i>	
Loranthaceae	<i>Amyema scandens</i>	Red-flowered 'mistletoe'
Myrtaceae	<i>Melaleuca pancheri</i>	The yellow-flowered Melaleuca
Myrtaceae	<i>Tristaniopsis polyandra</i>	
Orchidaceae	<i>Caladenia catenata</i>	
Orchidaceae	<i>Dendrobium steatoglossum</i>	The very tall, yellow-flowered Dendrobium
Orchidaceae	<i>Dendrobium verruciferum</i>	The purple-leaved Dendrobium, with variable-coloured single flowers
Orchidaceae	<i>Eriaxis rigida</i>	Wax orchid, still not out!
Orchidaceae	<i>Megastylis gigas</i>	
Orchidaceae	<i>Spathoglottis plicata</i>	
Proteaceae	<i>Grevillea gillivrayi</i>	
Rhamnaceae	<i>Alphitonia neocaledonica</i>	The shrub with bronzy-brown undersides
Rubiaceae	<i>Atractocarpus heterophyllus</i>	'Courgette tree' in the hotel grounds
Rubiaceae	<i>Gardenia aubryi</i>	

New Caledonia 2018: trip report and species lists

Rubiaceae	<i>Thiollierea macrophylla</i>	Red bell flower
Rutaceae	<i>Psychotria rupicola</i>	white-flowered 'coral plant', identified at the time as <i>Alstonia coreacea</i>
Santalaceae	<i>Exocarpos neocaledonicus</i>	Shrub with fleshy 'phylloclades', with flowers coming straight out of the 'leaves'
Santalaceae	<i>Korthalsella salicornioides</i>	The Salicornia-like mistletoe on Sannantha
Xyridaceae	<i>Xyris pancheri</i>	Yellow 'iris'

16th September 2018. Riviere Bleue.

For our last full day in New Caledonia, we headed to perhaps the island's most famous reserve, the Riviere Bleue Provincial Park where, after the rigmarole of paying for our entry tickets and booking on the next shuttle bus, we were whisked off to Pont Perignon and across the un-driveable bridge, onto the bus (which somehow managed to not have enough seats for us all, but still got us to where we needed to be) and into the cool, lush humid forest.

We started at the aptly named 'Sentier des Cagous' where after walking the entire trail, typically, we found our main quarry for the day, a Kagu feeding right by the road... So much for the 'ghost of the forest', this particular bird was anything but ghostly, scratching about right out in the open on the roadside, with an occasion toss of his luxuriant 'mane' of feathers as he posed for photographs.

Walking between here and the Grand Kaori, we came across more of these wonderful, flightless leftovers from Gondwanaland: Judith was hissed at by one who took exception to her, as he crossed the road; a trio came to investigate those of us eating our lunch at the Grand Kaori; and sixth bird put on a fine performance in the shade of the forest, hunting for earthworms and other invertebrates in the deep leaf litter, even flashing his wonderfully patterned wings at one point. The Kagu shares this habit of spreading its wings to reveal the startling pattern of black and orange bars with its nearest (but still very distant) relative, the Sunbittern of South America, Gondwanan cousins now separated by a very wide ocean and 100 million years.

Pigeons were certainly present in good numbers in the forest, with plenty of birds heard singing, but only one each of Notou, Metallic Pigeon and Cloven-feathered Dove were spotted as they each flew away. Equally noisy and equally hard to get anything more than the briefest glimpse of were the parakeets, with all three of New Caledonia's extant parakeets (Horned, New Caledonian and Coconut Lorikeet) heard flying overhead or along the river.

The forest was full of noisy New Caledonian Friarbirds; a mixed group of Green-backed White-eye, New Caledonian Myzomela and both species of fantail came past us; up in the canopy we had our first New Caledonian Cuckooshrikes, with a New Caledonian Crow flying through the trees giving its odd duck-like call as it went.

As we stopped for lunch we were joined by inquisitive Yellow-bellied Robins, flitting right down to check us out, perhaps hunting for insects disturbed by our arrival, with a pair of New Caledonian Whistlers joining them. The Grand Kaori itself was a very impressive old tree, a 1000+ year old *Agathis lanceolata*, apparently left standing as it was too big to be logged.

Back at the picnic spot/bus stop, we were just contemplating which bus to catch when a raucous squawk came from the trees above us, and a large black bird was chased across the road by a New Caledonian Friarbird: amazingly, a Crow Honeyeater, one of perhaps as few as 50 individuals left of this Critically Endangered inhabitant of the rainforest canopy, the island's rarest endemic. With another squawk, it was glimpsed a second time setting off at some speed further back into the forest, and away... Seconds later, the shuttle bus came into view, and our mind was made up for us.

Back to Noumea one last time for a farewell dinner with Veronique and her husband, and the more mundane task of re-packing ready for our flights the next day to Sydney, Auckland and beyond...

New Caledonia 2018: trip report and species lists

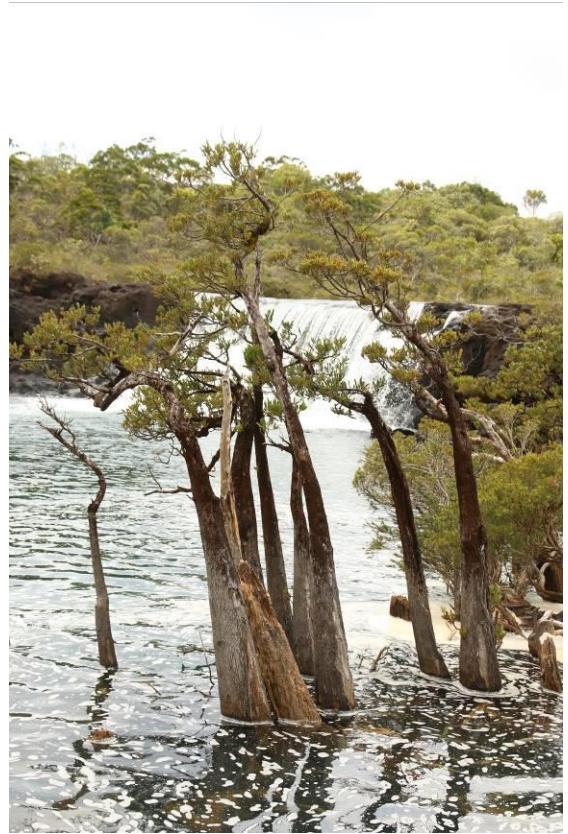


Orchids of New Caledonia

Clockwise, from top left: *Megastylis gigas*, *Dendrobium odontochilum*, *Dendrobium verruciferum*, *Caladenia catenata*

New Caledonia 2018: trip report and species lists

CONIFERS OF NEW CALEDONIA		
Cycadaceae		
	<i>Cycas seemanii</i>	Distribution: Fiji, Tonga and Vanuatu.
Araucariaceae		
	<i>Agathis lanceolata</i>	Southern Kaori The tall, forest Kaori seen in Riviere Bleue, notably the enormous 'Grand Kaori' Endemic, listed as Vulnerable by IUCN, with fewer than 10,000 mature individuals.
	<i>Agathis ovata</i>	Mountain Kaori The 'martini glass' Kaori on the ridges above Yate. Endemic, listed as Endangered by IUCN, found in just 8 locations
	<i>Araucaria columnaris</i>	Column Araucaria The 'common' Araucaria, native to the coastal areas of the island and widely planted. Endemic, listed as Least Concern by IUCN
	<i>Araucaria luxurians</i>	Coastal Araucaria Commonly planted in New Caledonia and used as a Christmas tree. Many of the more conical Araucarias in gardens were most likely this species. Endemic, listed as Endangered by IUCN, with fewer than 2500 individuals left in the wild.
	<i>Araucaria goroensis</i>	Goro Araucaria The large-leaved Araucarias on the Goro Plateau, formerly <i>A.muelleri</i> (and identified by us as such at the time) were recognised in 2017 as belonging to a new species. Endemic, listed as Endangered by IUCN, restricted to just three locations within the Goro/Yate area, all on Nickel-bearing substrates, threatened by mining.
	<i>Araucaria nemorosa</i>	Port Boise Araucaria The small grove of broadly-spreading trees along the road on the way to Kanua Tera. Endemic, listed as Critically Endangered by IUCN, restricted to 10km ² around Port Boise.
	<i>Araucaria rulei</i>	Rule's Araucaria Seen in the mining areas above Poro, and probably this species on the ridges in the distance at Tiebaghi. Endemic, listed as Endangered by IUCN, restricted to Nickel-bearing substrates, threatened by mining
	<i>Araucaria subulata</i>	Narrow-leaved Araucaria The Araucaria in the humid forest at Grandes Fougieres and Riviere Bleue. Endemic, listed as Near Threatened by IUCN.
Cupressaceae		
	<i>Callitris (=Neocallitropsis) Pancheri</i>	Chandelier Cypress. The common conifer around Chutes de la Madeleine. Endemic, listed as Endangered by IUCN. Found in an area of just 32km ² , with only three locations. Formerly known as <i>Neocallitropsis</i> , found to be <i>Callitris</i> by recent molecular studies.
Podocarpaceae		
	<i>Dacrydium araucarioides</i>	Candelabra Rimu The 'false Araucaria' around Chutes de la Madeleine Endemic, listed as Least Concern by IUCN.
	<i>Dacrydium guillauminii</i>	Cat's-tail Rimu The fine-leaved conifer growing with its feet in the water around Chutes de la Madeleine. Endemic, listed as Critically Endangered by IUCN. The total world population of this tree is fewer than 100 trees, all found with this one small area.
	<i>Retrophyllum minus</i>	Bois Bouchon The broad-leaved conifer growing in the water around Chutes de la Madeleine. This is the only known 'obligate' aquatic conifer. Endemic, listed as Endangered by IUCN. Restricted to the Plaine des Lacs, with the total world population fewer than 25000 individuals.



New Caledonia's endemic conifers

Clockwise, from top left:

Araucaria columnaris, *Retrophyllum minus*, *Araucaria goroensis* and *Agathis ovata*

New Caledonia 2018: trip report and species lists

BIRDS

Following recent taxonomic changes, New Caledonia is now home to 22 endemic species, of which three (Ouvea Parakeet, Large Lifou White-eye and Small Lifou White-eye) are only found on the Loyalty Islands.

An additional four endemics (New Caledonian Rail, New Caledonian Owlet-Nightjar, New Caledonian Nightjar and New Caledonian Lorikeet) are thought to be extinct.

Of the 19 'available' endemic birds, we saw 17 very well and glimpsed Crow Honeyeater on our last day in Riviere Bleue: only the New Caledonian Thicketbird evaded us.

E = New Caledonian endemic species, I = introduced. H = heard, D = dead, S = signs/tracks

	ENGLISH NAME	LATIN NAME	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th	12 th	13 th	14 th	15 th	16 th	17 th
Family Anatidae (Ducks, Geese and Swans)																	
	Grey Teal	<i>Anas gracilis</i>						X			X						
	Pacific Black Duck	<i>Anas superciliosa</i>			X	X	X	X		X	X	X					
I	Mallard	<i>Anas platyrhynchos</i>									X						
Family Podicipidae (Grebes)																	
	Australian Grebe	<i>Tachybaptus novaehollandiae</i>						X			X						
Family Sulidae (Boobies)																	
	Brown Booby	<i>Sula leucogaster</i>				X			X				X				
Family Phalacrocoridae (Cormorants)																	
	Little Black Cormorant	<i>Phalacrocorax sulcirostris</i>									X			X			
	Great Cormorant	<i>Phalacrocorax carbo</i>			X												
	Little Pied Cormorant	<i>Microcarbo melanoleucos</i>									X	X		X			
Family Phasianidae (Pheasants)																	
I	Wild Turkey	<i>Meleagris gallopavo</i>			X	X	X	X				X					
Family Ardeidae (Hérons)																	
	White-faced Heron	<i>Egretta novaehollandiae</i>		X	X	X				X		X		X		X	X
	Pacific Reef Heron	<i>Egretta sacra</i>							X	X			X			X	
	Nankeen Night Heron	<i>Nycticorax caledonicus</i>									X						
Family Rhynochetidae (Kagu)																	
E	Kagu	<i>Rhynochetos jubatus</i>														X	
		The sole member of the family Rhynochetidae. Listed as ‘Endangered’ by BirdLife International, with the total world population fewer than 1000 mature individuals, the majority in just two protected areas, Parc des Grandes Fougères and Parc Provincial Rivière Bleue. Threatened by predation by dogs, cats and rats.															
Family Accipitridae (Hawks and Eagles)																	
	Whistling Kite	<i>Haliastur sphenurus</i>			X	X	X	X		X	X	X				X	
	Swamp Harrier	<i>Circus approximans</i>			X			X			X	X					
E	White-bellied Goshawk	<i>Accipiter haplochrous</i>				X		X			X	X			X	X	
		Listed as ‘Near Threatened’ by BirdLife International.															
	Brown Goshawk	<i>Accipiter fasciatus</i>				X	X							X			
Family Falconidae (Falcons)																	
	Peregrine	<i>Falco peregrinus nesiotes</i>		X							X						
Family Pandionidae (Ospreys)																	
	Eastern Osprey	<i>Pandion (haliaetus) cristatus</i>				X			X	X			X	X	X	X	

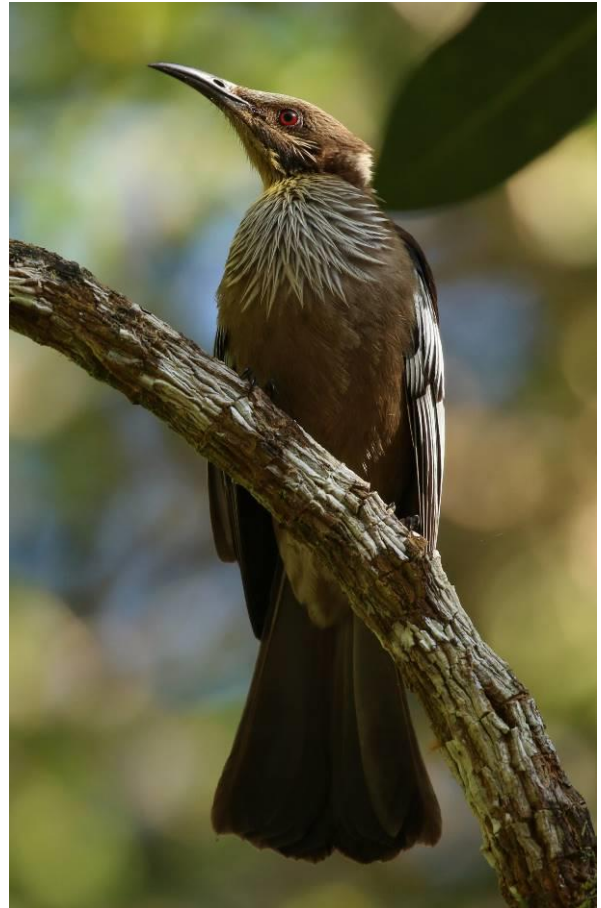
New Caledonia 2018: trip report and species lists

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New Caledonia 2018: trip report and species lists

	ENGLISH NAME	LATIN NAME	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th	12 th	13 th	14 th	15 th	16 th	17 th
E	Crow Honeyeater	<i>Gymnomyza aubryana</i>														X	
		Listed as 'Critically Endangered by BirdLife International, with the total world population fewer than 100 pairs.															
E	New Caledonian Friarbird	<i>Philemon diemenensis</i>		X		H		X	X	X	X	X		X	X	X	
	Family Acanthizidae (Thornbills)																
	Fan-tailed Gerygone	<i>Gerygone f. flavolateralis</i>		X	X	X	X	X			X	X		X	X	X	
	Family Pachycephalidae (Whistlers)																
	Rufous Whistler	<i>Pachycephala rufiventris</i>		X	X		X	X	X		X	X		X	X		
E	New Caledonian Whistler	<i>Pachycephala caledonica</i>										X				X	
		Split from Melanesian Whistler <i>Pachycephala chlorura</i>															
	Family Campephagidae (Cuckooshrikes)																
	South Melanesian Cuckooshrike	<i>Coracina c. caledonica</i>		X	X			H	X	X	X	X			X		
E	New Cal. Cuckooshrike	<i>Coracina analis</i>														X	
		Listed as 'Near Threatened' by BirdLife International.															
	Long-tailed Triller	<i>Lalage leucopyga montrosieri</i>		X				X		X	X	X		X		X	
	Family Artamidae (Woodswallows and Butcherbirds)																
	White-breasted Woodswallow	<i>Artamus leucorhynchus melaleucus</i>		X	X	X	X	X	X	X	X	X	X		X	X	
	Family Rhipiduridae (Fantails)																
	Grey Fantail	<i>Rhipidura albiscapa bulgeri</i>		X	X	X	X	X	X	X	X	X			X	X	
E	New Cal. Streaked Fantail	<i>Rhipidura verreauxi</i>										X				X	
		Streaked Fantail now split to include Vanuatu Streaked Fantail <i>R. spilodera</i> Fiji Streaked Fantail <i>R. layardi</i> and Taveuni Streaked Fantail <i>R. rufilateralis</i>															
	Family Monarchidae (Monarch Flycatchers)																
	Southern Shrikebill	<i>Clytorhynchus p. pachycephaloides</i>		X												H	
	Melanesian Flycatcher	<i>Myiagra c. caledonica</i>		X				X	X		X	X				X	
	Family Corvidae (Crows)																
E	New Caledonian Crow	<i>Corvus moneduloides</i>			X			X		X	X	X			X	X	
	Family Petroicidae (Australian Robins)																
E	Yellow-bellied Robin	<i>Cryptomicroeca flaviventris</i>		X								X			X	X	
	Family Hirundinidae (Swallows)																
	Welcome Swallow	<i>Hirundo neoxena</i>			X						X						
	Family Pycnonotidae (Bulbuls)																
I	Red-vented Bulbul	<i>Pycnonotus cafer</i>	X	X	X	X		X					X	X		X	X

New Caledonia 2018: trip report and species lists



New Caledonia's Endemic Birds. We had good views of 17 of New Caledonia's endemics, and glimpsed Crow Honeyeater.

Clockwise, from top left: Goliath Imperial Pigeon, New Caledonian Friarbird, White-bellied Goshawk and Red-throated Parrotfinch

New Caledonia 2018: trip report and species lists

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